

Somma

TOOL COMPANY, INC.

**PREMIER TOOLING FOR THE
MANUFACTURING INDUSTRY**

since 1939

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Customer Service

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Email: sales@sommatool.com

Your local Somma distributor will provide you with prompt service and knowledgeable assistance. We also offer excellent backup support from our factory. Here is a list of people to contact at Somma Tool Company for sales and technical assistance.

SALES / SALES ENGINEERS				BROACHING/ TECHNICAL SUPPORT		QC INSERT TOOLING/ TECHNICAL SUPPORT	
NAME	Ext.#	NAME	Ext.#	NAME	Ext.#	NAME	Ext.#
Matt Ciullo	105	Gina Somma	104	Dick Noti	108	Rob Somma	111
Jerry Somma	106	Raphael Santiago	107	Abel Rodrigues	110	Rick Grante	115

Material Selector

	Wear Resistance	Toughness	Red Hardness	Additional Notes
Forte				Best option for rotary broaching due to its superior toughness and increased wear resistance
M2				Economical solution for cutoff blades and form tools, also popular for rotary broaching
M42 Cobalt				Great but economical option for cutoff blades and form tools
T15PM				Great option for cutoff blades and form tools, can also be used for rotary broaching in tougher materials
76PM M48				Great option for form tools in short runs, low SFM, and/or interrupted cuts
86PM Maxamet				Great option for form tools - can be run near carbide SFM but is less prone to chipping in tough materials or interrupted cuts
C2 Micrograin Carbide				Great option for cutoff blades and form tools for long-running jobs, at SFM ≤ 250
C6 Micrograin Carbide				Great option for cutoff blades and form tools for long-running jobs, at SFM > 250

Wear Resistance: The relative ability of the material to withstand the abrasive action of difficult to machine materials

Toughness: The relative ability of the steel to withstand deflection and interrupted cuts without chipping

Red Hardness: The relative ability of the steel to withstand the heat generated when cutting hard materials without losing its own hardness

WHAT'S NEW IN THIS CATALOG

Somma Tool is indebted to you, our customers who have been demonstrating loyalty to us since 1939.

We hope you will find our new products listed to be of interest to you. Please feel free to contact our Sales Department with any inquiries for items not shown in this catalog.

Internal Broach Tool ER Collet Chuck Adapter.....	pg 7
New Design Adjustment Free Internal Broach Tool.....	pg 11
Broach GO/ NO-GO Gages.....	pg 16
Index Punch Broaches	pg 17
Expanded listing of RQC Gang Type Tool Holders.....	pg 21
Dovetail Sharpening Fixture for 12° & 17°	pg 35
Somma / Max-Bar Swiss Tooling.....	pgs 56 to 76
Carbide Countersinks	pgs 87 to 90
Tube End-Forming and Chamfering Tools.....	pgs 91 to 100
New Knurl Tool Holders	pgs 102 to 105
VDI Shank ER Collet Reamer Holder.....	pg 114
Morse Taper Shank ER Collet Reamer Holder.....	pg 115
Solid Carbide Reamers	pgs 116 & 117
Expanded Listing of ER Collet Chucks.....	pgs 124 to 127
Solid Carbide Drills	pgs 134 to 138
Flat Drill Blanks in T15PM	pg 139
Solid Carbide Endmills	pgs 181 to 185



INTERNAL ROTARY BROACHING



Simply stated, this is the process of forming an internal shape into an undersized pre-drilled hole. Generally used on blind hole applications where the length of the form does not exceed three times the diameter of the form. It also can be used for through hole applications. It is used on all types of machines to produce hundreds of items such as cap screws, faucet splines, involute gears, knurls and medical bone screws to name just a few.



The broach tool holder is designed with a live spindle which holds the cutting broach at a 1° angle. This design creates a wobble effect on the cutting broach which reduces the cutting profile and thus minimizes the required force that is needed to produce the internal shape.

Proudly made in the U.S.A.



View our broaching videos on YouTube!



THESE ARE EXAMPLES OF SPECIAL SHAPES THAT HAVE BEEN SUCCESSFULLY BROACHED - LET US QUOTE ON YOUR REQUIREMENTS.





ARE YOU **TOUGH** *ENOUGH?*

introducing



FORTE



ROTARY BROACHING *from* **Somma**

**The Toughest Broaching
Material Available**

**Improved Wear Resistance
for Better Tool Life**

**Industry Leading
Depth of Cut**

**Industry-Wide
Compatibility**

**Largest Stock of ANSI Hex
& Squares Available for
Same Day Shipping**

**Special Hex & Square
Sizes Available
in 1-2 Days**

How much value do you place on
increased tool life and reduced chipping?
Somma / Forte

ADJUSTMENT FREE INTERNAL ROTATING BROACH TOOLS FOR SWISS MACHINES

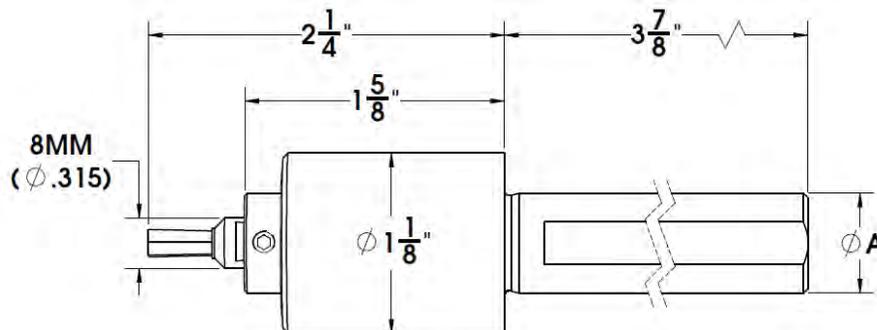
NOTE: USE ONLY SERIES# --SW BROACHES 8MM DIA X 28MM LONG(SHOWN ON NEXT PAGE)



Catalog Number	A
ORBSW-CT/10MM	10MM
ORBSW-CT/12MM	12MM
ORBSW-CT/14MM	14MM
ORBSW-CT/16MM	16MM
ORBSW-CT/20MM	20MM
ORBSW-CT/22MM	22MM
ORBSW-CT/25MM	25MM
ORBSW-CT/0.500	1/2"
ORBSW-CT/0.625	5/8"
ORBSW-CT/0.750	3/4"
ORBSW-CT/1.000	1"

- No center indicating required
- Adjustment free (with 28MM long broaches only)
- Smaller head diameter eliminates interference
- Short head length for limited back work space
- Built in wobble cutting features 1° angle
- Shank can be cut to desired length
- Fits most Swiss type & gang machines

Hex, Square and Six Lobed broaches in stock to fit these holders.



See page 17 for partial form index broaching

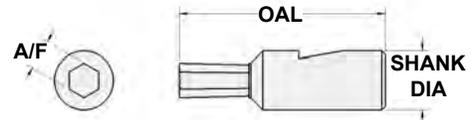
INTERNAL HEX FOR SWISS HOLDERS

INCH / Hex, for ORBSWS/...Holders			
8MM (.315) Shank Diameter x 28MM (1.103) OAL			
Nominal Hex Size	Actual A/F*	Max Cutting Depth*	Part Number
.050	.0505	.107	HXSW-050-F
1/16	.0630	.133	HXSW-1/16-F
5/64	.0786	.166	HXSW-5/64-F
3/32	.0947	.199	HXSW-3/32-F
7/64	.1106	.233	HXSW-7/64-F
1/8	.1265	.266	HXSW-1/8-F
9/64	.1421	.299	HXSW-9/64-F
5/32	.1582	.333	HXSW-5/32-F
3/16	.1895	.398	HXSW-3/16-F
7/32	.2212	.427	HXSW-7/32-F
1/4	.2525	.443	HXSW-1/4-F
9/32	.2837	.458	HXSW-9/32-F
5/16	.3152	.473	HXSW-5/16-F
11/32	.3467	.572	HXSW-11/32-F
3/8	.3782		HXSW-3/8-F

* Superior, Hardened **FORTE** material
 * Precision ground
 * Angular clamping flat prevents pull out



METRIC / Hex, for ORBSWS/...Holders			
8MM (.315) Shank Diameter x 28MM (1.103) OAL			
Nominal Hex Size	Actual A/F*	Max Cutting Depth*	Part Number
1.5MM	.0603	.127	HXSW-1.5-F
2.0MM	.0800	.169	HXSW-2.0-F
2.5MM	.1002	.211	HXSW-2.5-F
3.0MM	.1204	.253	HXSW-3.0-F
4.0MM	.1602	.337	HXSW-4.0-F
5.0MM	.1997	.420	HXSW-5.0-F
6.0MM	.2395	.436	HXSW-6.0-F
7.0MM	.2789	.456	HXSW-7.0-F
8.0MM	.3187	.475	HXSW-8.0-F
9.0MM	.3583	.572	HXSW-9.0-F
10.0MM	.3979		HXSW-10.0-F



INTERNAL SQUARE FOR SWISS HOLDERS

INCH / Square, for ORBSWS/...Holders			
8MM (.315) Shank Diameter x 28MM (1.103) OAL			
Nominal Square Size	Actual A/F*	Max Cutting Depth*	Part Number
1/16	.0630	.133	SQSW-1/16-F
5/64	.0786	.166	SQSW-5/64-F
3/32	.0947	.199	SQSW-3/32-F
7/64	.1106	.233	SQSW-7/64-F
1/8	.1265	.266	SQSW-1/8-F
9/64	.1421	.299	SQSW-9/64-F
5/32	.1582	.333	SQSW-5/32-F
11/64	.1739	.366	SQSW-11/64-F
3/16	.1895	.398	SQSW-3/16-F
7/32	.2209	.427	SQSW-7/32-F
1/4	.2522	.443	SQSW-1/4-F
9/32	.2837	.458	SQSW-9/32-F
5/16	.3152	.473	SQSW-5/16-F



METRIC / Square, for ORBSWS/...Holders			
8MM (.315) Shank Diameter x 28MM (1.103) OAL			
Nominal Square Size	Actual A/F*	Max Cutting Depth*	Part Number
1.5MM	.0603	.127	SQSW-1.5-F
2.0MM	.0800	.169	SQSW-2.0-F
2.5MM	.1002	.211	SQSW-2.5-F
3.0MM	.1204	.253	SQSW-3.0-F
4.0MM	.1602	.337	SQSW-4.0-F
5.0MM	.1997	.420	SQSW-5.0-F
6.0MM	.2392	.436	SQSW-6.0-F
7.0MM	.2789	.456	SQSW-7.0-F
8.0MM	.3187	.475	SQSW-8.0-F

Hexagon go / no-go gages (with handle) are available upon request. See page 16 for Broach Centering Gages.

* Custom A/F & Depths of Cut available to quote upon request

INTERNAL 6 LOBED BROACHES FOR SWISS HOLDERS



* Superior, Hardened **FORTE** material
 * Precision ground
 * Angular clamping flat prevents pull out

6 Lobe for ORBSWS...Holders		
8MM Shank Diameter x 28MM		
Nominal 6-Lobe Size	Max Cutting Depth*	Part Number
T5	.047	TOSW-T5
T6		TOSW-T6
T7	.063	TOSW-T7
T8		TOSW-T8
T9	.078	TOSW-T9
T10		TOSW-T10
T15	.109	TOSW-T15
T20		TOSW-T20
T25	.156	TOSW-T25
T27		TOSW-T27
T30	.219	TOSW-T30



* Custom depths of cut available to quote upon request

Available in T15PM H.S.S.
 (Prices on application)

INTERNAL ADJUSTABLE ROTATING BROACH TOOL

This tool is used to produce hexagonal, square, and other non-round shapes on conventional lathes, mills, and screw machines without the need for a secondary operation. Due to the spindle offset, the turret forces needed to produce a part are minimized. The tool holder spindle is mounted in bearings allowing it to rotate or stop independent of the body without requiring auxiliary driving attachments.

Can be used on B&S, Davenport, and multi-spindle screw machines, as well as turret lathes and CNC machines.



Also available with
CAT, VDI, CAPTO C6, HSK &
Morse Taper Shanks

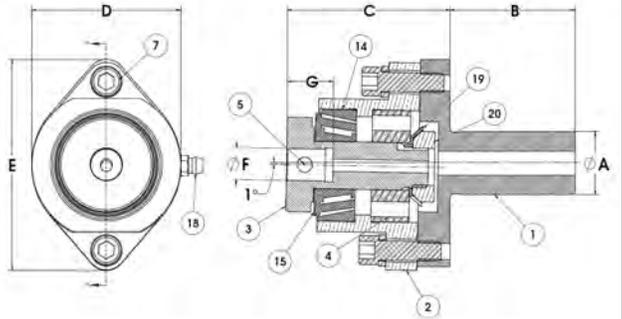
Catalog Number	A	B	C	D	E	F	G
ORB00/0.625	5/8"	1-1/2"	1-7/8"			8MM	9/16"
ORB00/0.750	3/4"	2"	1-29/32"			Use	
ORB00/16MM	16MM	1-1/2"	1-7/8"	1-1/2"	2-7/16"	Broach	
ORB00/20MM	20MM					Series	
ORB00/22MM	22MM					--00	

ORB2/0.750	3/4"	2"	2-9/16"	2-3/8"	3-5/16"	1/2" Use Broach Series --2	3/4"
ORB2/1.000	1"						
ORB2/1.250	1-1/4"	3"					
ORB2/1.500	1-1/2"						
ORB2/20MM	20MM	2"					
ORB2/22MM	22MM						
ORB2/25MM	25MM						
ORB2/32MM	32MM						

ORBHD/1.000	1"	3"	4-15/32"	3-1/2"	5-1/4"	3/4" Use Broach Series --HD	1-1/4"
ORBHD/1.250	1-1/4"						
ORBHD/1.500	1-1/2"						
ORBHD/1.750	1-3/4"						
ORBHD/32MM	32MM						
ORBHD/40MM	40MM						

Standard from stock H.S.S. broaches shown starting on page 12.
Broach gages available - see page 16.

Parts List			
Part Description	ORB00/... Cat. No.	ORB2/... Cat. No.	ORBHD/... Cat. No.
1. Shank	CALL	CALL	CALL
2. Body	ORB00-2N	ORB2-2N	ORBHD-2
3. Spindle	ORB00-3N	ORB2-3N	ORBHD-3
4. Radial Bearing	ORB00-4N	ORB2-4N	ORBHD-4N
5. Set Screw	ORB00-5	ORB2-5	FARH2-10
7. Clamp Screw & Washer	ORB00-7	ORB2-7	ORBHD-7
14. Angular Bearing	ORB00-14N	ORB2-14N	ORBHD-14
15. Seal	ORB00-15	----	----
18. Grease Fitting	ORB00-18	ORB00-18	ORB00-18
19. Spindle Nut	ORB00-19	ORB2-19	ORBHD-19
20. Spindle Washer	ORB00-20	ORB2-10	ORBHD-20



COLLET CHUCK STYLE ADJUSTABLE BROACH TOOL HOLDERS

More versatile, just change the collet to accept any shank diameter broaching tool within the collet range. For example, you can purchase three size collets, 0.315 (8mm), 0.472 (12mm), and 0.500 for the ER20 broach tool holder. This will allow you to use one holder for all common broach shank sizes. Built in stop screw allows you to adjust for different length broaches or to compensate for lengths on re-sharpened broaches. Eliminates necessity of centering cutting tool to "spindle" of broaching holder. No screws to knock cutting tool off center.



Standard from stock HSS broaches shown starting on page 12.
Broach gages available - see page 16.

Use only exact size **High Precision** DIN6499 ER collets.



Catalog Number	A	B	C	D	E	Nut Dia	Collet I.D. (Standard)	Broach Series #
ORB00-ER16M/0.625	5/8"	1-1/2"	2-7/16"	1-1/2"	2-7/16"	22MM	8MM	--00
*ORB00-ER16M/0.750	3/4"	2"	2-1/2"					
ORB2-ER20H/0.750	3/4"	2"	3-1/2"	2-3/8"	3-5/16"	1.348	1/2"	--2
ORB2-ER20H/1.000	1"							
ORB2-ER20H/1.250	1-1/4"							
ORB2-ER20H/1.500	1-1/2"							

NOTE: COLLET NUT, COLLET WRENCH, SPINDLE WRENCH AND STANDARD HIGH PRECISION COLLET INCLUDED.
PRECISION COLLET INCLUDED WITH EACH CAT. NO.

ALSO AVAILABLE WITH METRIC SHANKS

*Limited Davenport applications due to 47/64" longer projection than standard broach holder ORB00/0.750 shown above.

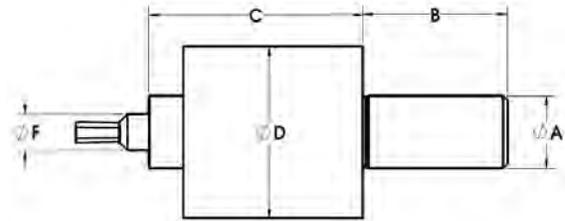
**HIGH PRECISION
REPLACEMENT COLLETS
(Common Broach Shank Sizes)**

CAT. NO.	I.D.
ER16-8HP	8mm / .315
ER20-8HP	8mm / .315
ER20-12HP	12mm / .472
ER20-1/2HP	.500

FULL RANGE OF HIGH PRECISION
COLLETS AVAILABLE

CNC LATHE, ADJUSTMENT FREE, INTERNAL BROACH TOOL HOLDER

Introducing a wobble broach tool that can be quickly setup for use in CNC lathes.
(Not for use on milling machines)

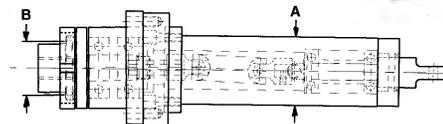


- No center indicating required
- Hex and square broaches in stock for these holders starting on page 12.
- Requires X-Axis machine adjustment only for broach lengths other than the standard designated lengths of 1.250" OAL for ORB00 holders and 1.750" OAL for ORB2 holders.

Catalog Number	A	B	C	D	F	Broach Series #
ORB00-CT/0.625	5/8"	1-1/2"	1-7/8"	1-1/2"	8MM	--00
ORB00-CT/0.750	3/4"					
ORB2-CT/0.750	3/4"	2"	2-15/16"	2-3/8"	1/2"	--2
ORB2-CT/1.000	1"					
ORB2-CT/1.250	1-1/4"					
ORB2-CT/1.500	1-1/2"					

DRIVEN ROTATING BROACH HOLDERS FOR MULTIPLE SPINDLE AND CNC MACHINES

- Rotated by machine drive shaft
- Mounts in endworking tool holder block
- Rotates broach at same RPM as workpiece
- Eliminates spiralling
- Eliminates skidding action at start of cut
- Produces accurate straight broached forms
- Available for external and internal cutting
- Spline drive shafts available
- Can remove shank to center it off the machine.



CAT. NO.	INTERNAL BROACHING	
	"A"	BROACH SHANK DIA.
DB-1.50-ORB2	1.500	.500
DB-2.00-ORB2	2.000	.500
DB-2.25-ORB2	2.250	.500
DB-50MM-ORB2	50MM	.500

CAT. NO.	EXTERNAL BROACHING	
	"A"	"B"
DB-1.50-ORBX2	1.500	1.575
DB-2.00-ORBX2	2.000	1.575
DB-2.25-ORBX2	2.250	1.575
DB-50MM-ORBX2	50MM	1.575

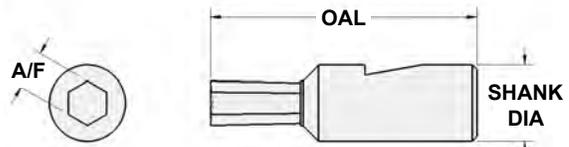
Standard from stock
HSS broaches
shown on pages 12 - 14.
Broach gages available 16.

ALL BROACH HEAD DIMENSIONS SAME AS ORB2/... AND ORBX2/... AS SHOWN ON PAGES 10 & 18.

INCH / Hex, for ORB00/...Holders			
8MM (.315) Shank Diameter x 1-1/4" (1.250) OAL			
Nominal Hex Size	Actual A/F*	Max Cutting Depth*	Part Number
.050	.0505	.107	HX00-050-F
1/16	.0630	.133	HX00-1/16-F
5/64	.0786	.166	HX00-5/64-F
3/32	.0947	.199	HX00-3/32-F
7/64	.1106	.233	HX00-7/64-F
1/8	.1265	.266	HX00-1/8-F
9/64	.1421	.299	HX00-9/64-F
5/32	.1582	.333	HX00-5/32-F
3/16	.1895	.398	HX00-3/16-F
7/32	.2212	.465	HX00-7/32-F
1/4	.2525	.531	HX00-1/4-F
9/32	.2837	.596	HX00-9/32-F
5/16	.3152	.621	HX00-5/16-F
11/32	.3467	.656	HX00-11/32-F
3/8	.3782		HX00-3/8-F
13/32	.4097		HX00-13/32-F
7/16	.4412		HX00-7/16-F
15/32	.4727		HX00-15/32-F
1/2	.5042		HX00-1/2-F



METRIC / Hex, for ORB00/...Holders			
8MM (.315) Shank Diameter x 1-1/4" (1.250) OAL			
Nominal Hex Size	Actual A/F*	Max Cutting Depth*	Part Number
1.5MM	.0603	.127	HX00-1.5-F
2.0MM	.0800	.169	HX00-2.0-F
2.5MM	.1002	.211	HX00-2.5-F
3.0MM	.1204	.253	HX00-3.0-F
4.0MM	.1602	.337	HX00-4.0-F
5.0MM	.1997	.420	HX00-5.0-F
6.0MM	.2395	.503	HX00-6.0-F
7.0MM	.2789	.586	HX00-7.0-F
8.0MM	.3187	.623	HX00-8.0-F
9.0MM	.3583	.656	HX00-9.0-F
10.0MM	.3979		HX00-10.0-F
11.0MM	.4376		HX00-11.0-F
12.0MM	.4774		HX00-12.0-F



Available in T15PM H.S.S.
(Prices on application)

- * Superior, Hardened *FORTE* material
- * Precision ground
- * Angular clamping flat prevents pull out
- * Fit all brands of Rotating Broach Tools

INCH / Hex, for ORB2/...Holders			
1/2" (.500) Shank Diameter x 1-3/4" (1.750) OAL			
Nominal Hex Size	Actual A/F*	Max Cutting Depth*	Part Number
3/32	.0947	.199	HX2-3/32-F
7/64	.1106	.233	HX2-7/64-F
1/8	.1265	.266	HX2-1/8-F
9/64	.1421	.299	HX2-9/64-F
5/32	.1582	.333	HX2-5/32-F
3/16	.1895	.398	HX2-3/16-F
7/32	.2212	.465	HX2-7/32-F
1/4	.2525	.531	HX2-1/4-F
9/32	.2837	.596	HX2-9/32-F
5/16	.3152	.662	HX2-5/16-F
11/32	.3467	.729	HX2-11/32-F
3/8	.3782	.794	HX2-3/8-F
13/32	.4097	.860	HX2-13/32-F
7/16	.4412	.875	HX2-7/16-F
15/32	.4727	.890	HX2-15/32-F
1/2	.5042	.906	HX2-1/2-F
17/32	.5357	.924	HX2-17/32-F
9/16	.5672	0.969	HX2-9/16-F
19/32	.5987		HX2-19/32-F
5/8	.6302		HX2-5/8-F
21/32	.6617		HX2-21/32-F
11/16	.6932		HX2-11/16-F
23/32	.7237		HX2-23/32-F
3/4	.7562		HX2-3/4-F



METRIC / Hex, for ORB2/...Holders			
1/2" (.500) Shank Diameter x 1-3/4" (1.750) OAL			
Nominal Hex Size	Actual A/F*	Max Cutting Depth*	Part Number
2.0MM	.0800	.169	HX2-2.0-F
2.5MM	.1002	.211	HX2-2.5-F
3.0MM	.1204	.253	HX2-3.0-F
4.0MM	.1602	.337	HX2-4.0-F
5.0MM	.1997	.420	HX2-5.0-F
6.0MM	.2395	.503	HX2-6.0-F
7.0MM	.2798	.588	HX2-7.0-F
8.0MM	.3187	.670	HX2-8.0-F
9.0MM	.3583	.752	HX2-9.0-F
10.0MM	.3979	.836	HX2-10.0-F
11.0MM	.4376	.873	HX2-11.0-F
12.0MM	.4774	.893	HX2-12.0-F
13.0MM	.5170	.912	HX2-13.0-F
14.0MM	.5566	.969	HX2-14.0-F
15.0MM	.5968		HX2-15.0-F
16.0MM	.6369		HX2-16.0-F
17.0MM	.6770		HX2-17.0-F
18.0MM	.7169		HX2-18.0-F
19.0MM	.7568		HX2-19.0-F

Hexagon go / no-go gages (with handle) are available upon request.

See page 16 for Broach Centering Gages.

- * Custom lengths, A/F, & Depths of Cut available to quote upon request

INCH / Square, for ORB00/...Holders 8MM (.315) Shank Diameter x 1-1/4" (1.250) OAL			
Nominal Square Size	Actual A/F*	Max Cutting Depth*	Part Number
1/16	.0630	.133	SQ00-1/16-F
5/64	.0786	.166	SQ00-5/64-F
3/32	.0947	.199	SQ00-3/32-F
7/64	.1106	.233	SQ00-7/64-F
1/8	.1265	.266	SQ00-1/8-F
9/64	.1421	.299	SQ00-9/64-F
5/32	.1582	.333	SQ00-5/32-F
11/64	.1739	.366	SQ00-11/64-F
3/16	.1895	.398	SQ00-3/16-F
7/32	.2209	.465	SQ00-7/32-F
1/4	.2522	.531	SQ00-1/4-F
9/32	.2837	.596	SQ00-9/32-F
5/16	.3152	.621	SQ00-5/16-F
11/32	.3467	.656	SQ00-11/32-F
3/8	.3782		SQ00-3/8-F
13/32	.4097		SQ00-13/32-F

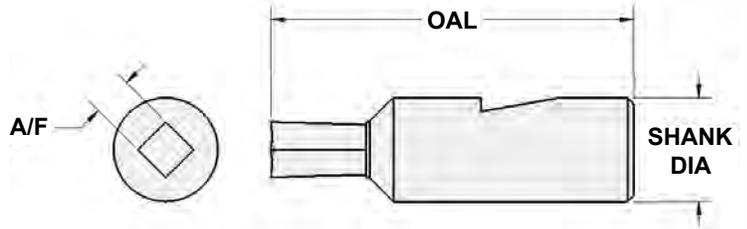
- * Superior, Hardened FORTE material
- * Precision ground
- * Angular clamping flat prevents pull out
- * Fit all brands of Rotating Broach Tools

INCH / Square, for ORB2/...Holders 1/2" (.500) Shank Diameter x 1-3/4" (1.750) OAL			
Nominal Square Size	Actual A/F*	Max Cutting Depth*	Part Number
3/32	.0947	.199	SQ2-3/32-F
7/64	.1106	.233	SQ2-7/64-F
1/8	.1265	.266	SQ2-1/8-F
9/64	.1421	.299	SQ2-9/64-F
5/32	.1582	.333	SQ2-5/32-F
3/16	.1895	.398	SQ2-3/16-F
7/32	.2209	.465	SQ2-7/32-F
1/4	.2522	.531	SQ2-1/4-F
9/32	.2837	.596	SQ2-9/32-F
5/16	.3152	.662	SQ2-5/16-F
11/32	.3467	.729	SQ2-11/32-F
3/8	.3782	.794	SQ2-3/8-F
13/32	.4097	.860	SQ2-13/32-F
7/16	.4412	.875	SQ2-7/16-F
1/2	.5042	.906	SQ2-1/2-F
17/32	.5357	.924	SQ2-17/32-F
9/16	.5672	.969	SQ2-9/16-F
19/32	.5987		SQ2-19/32-F
5/8	.6302		SQ2-5/8-F
11/16	.6932		SQ2-11/16-F

Available in T15PM H.S.S.
(Prices on application)

* Custom Lengths, A/F, & Depths of Cut are available to quote upon request

METRIC / Square, for ORB00/...Holders 8MM (.315) Shank Diameter x 1-1/4" (1.250) OAL			
Nominal Square Size	Actual A/F*	Max Cutting Depth*	Part Number
1.5MM	.0603	.127	SQ00-1.5-F
2.0MM	.0800	.169	SQ00-2.0-F
2.5MM	.1002	.211	SQ00-2.5-F
3.0MM	.1204	.253	SQ00-3.0-F
4.0MM	.1602	.337	SQ00-4.0-F
5.0MM	.1997	.420	SQ00-5.0-F
6.0MM	.2392	.503	SQ00-6.0-F
7.0MM	.2789	.586	SQ00-7.0-F
8.0MM	.3187	.623	SQ00-8.0-F
9.0MM	.3583	.656	SQ00-9.0-F
10.0MM	.3979		SQ00-10.0-F



METRIC / Square, for ORB2/...Holders 1/2" (.500) Shank Diameter x 1-3/4" (1.750) OAL			
Nominal Square Size	Actual A/F*	Max Cutting Depth*	Part Number
2.0MM	.0800	.169	SQ2-2.0-F
2.5MM	.1002	.211	SQ2-2.5-F
3.0MM	.1204	.253	SQ2-3.0-F
4.0MM	.1602	.337	SQ2-4.0-F
5.0MM	.1997	.420	SQ2-5.0-F
6.0MM	.2392	.503	SQ2-6.0-F
7.0MM	.2798	.588	SQ2-7.0-F
8.0MM	.3187	.670	SQ2-8.0-F
9.0MM	.3583	.752	SQ2-9.0-F
10.0MM	.3979	.836	SQ2-10.0-F
11.0MM	.4376	.873	SQ2-11.0-F
12.0MM	.4774	.893	SQ2-12.0-F
13.0MM	.5170	.912	SQ2-13.0-F
14.0MM	.5566	.969	SQ2-14.0-F
15.0MM	.5968		SQ2-15.0-F
16.0MM	.6369		SQ2-16.0-F



See page 16 for
Broach Centering
Gages.

6 Lobed for ORB00/...Holders		
8MM Shank Diameter x 1-1/4"		
Nominal 6-Lobe Size	Max Cutting Depth*	Part Number
T5	.047	TO00-T5
T6		TO00-T6
T7	.063	TO00-T7
T8	.078	TO00-T8
T9	.078	TO00-T9
T10	.109	TO00-T10
T15	.109	TO00-T15
T20	.156	TO00-T20
T25		TO00-T25
T27	.188	TO00-T27
T30	.219	TO00-T30
T40	.250	TO00-T40
T45	.313	TO00-T45
T50	.344	TO00-T50
T55		TO00-T55



- * Superior, Hardened **FORTE** material
- * Precision ground
- * Angular clamping flat prevents pull out
- * Fit all Rotating Broach Tools

6 Lobed for ORB2/...Holders		
1/2" Shank Diameter x 1-3/4"		
Nominal 6-Lobe Size	Max Cutting Depth*	Part Number
T5	.047	TO2-T5
T6		TO2-T6
T7	.063	TO2-T7
T8	.075	TO2-T8
T9	.078	TO2-T9
T10	.109	TO2-T10
T15		TO2-T15
T20	.156	TO2-T20
T25		TO2-T25
T27	.188	TO2-T27
T30	.219	TO2-T30
T40	.250	TO2-T40
T50	.344	TO2-T50
T55		TO2-T55
T60	.469	TO2-T60
T70		TO2-T70
T90	.969	TO2-T90
T100		TO2-T100

Broach gages available - see page 16.

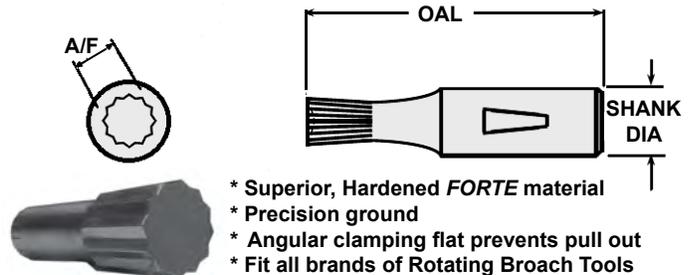
* Custom Lengths & Depths of Cut available to quote upon request

INCH / Double Hex, for ORB00/...Holders			
8MM (.315) Shank Diameter x 1-1/4" (1.250) OAL			
DOUBLE HEX SIZE	Actual A/F*	Max Cutting Depth*	Part Number
1/4	.2525	.289	DHX00-1/4
9/32	.2840	.367	DHX00-9/32
5/16	.3155	.434	DHX00-5/16
11/32	.3467	.629	DHX00-11/32
3/8	.3785		DHX00-3/8
13/32	.4097	.688	DHX00-13/32
7/16	.4415		DHX00-7/16
15/32	.4725		DHX00-15/32
1/2	.5045		DHX00-1/2

METRIC / Double Hex, for ORB00/...Holders			
8MM (.315) Shank Diameter x 1-1/4" (1.250) OAL			
DOUBLE HEX SIZE	Actual A/F*	Max Cutting Depth*	Part Number
6.0MM	.2395	.133	DHX00-6.0
7.0MM	.2785	.352	DHX00-7.0
8.0MM	.3185	.499	DHX00-8.0
9.0MM	.3575	.688	DHX00-9.0
10.0MM	.3985		DHX00-10.0
11.0MM	.4365		DHX00-11.0
12.0MM	.4775		DHX00-12.0

INCH / Double Hex, for ORB2/...Holders			
1/2" (.500) Shank Diameter x 1-3/4" (1.750) OAL			
DOUBLE HEX SIZE	Actual A/F*	Max Cutting Depth*	Part Number
1/4	.2525	.320	DHX2-1/4
9/32	.2840	.356	DHX2-9/32
5/16	.3155	.381	DHX2-5/16
11/32	.3467	.438	DHX2-11/32
3/8	.3785	.486	DHX2-3/8
13/32	.4097	.539	DHX2-13/32
7/16	.4415	.602	DHX2-7/16
15/32	.4725	.678	DHX2-15/32
1/2	.5045	.946	DHX2-1/2
17/32	.5357		DHX2-17/32
9/16	.5675		DHX2-9/16
19/32	.5987		DHX2-19/32
5/8	.6305		DHX2-5/8
21/32	.6617		DHX2-21/32
11/16	.6935		DHX2-11/16
23/32	.7242		DHX2-23/32
3/4	.7565		DHX2-3/4

METRIC / Double Hex, for ORB2/...Holders			
1/2" (.500) Shank Diameter x 1-3/4" (1.750) OAL			
DOUBLE HEX SIZE	Actual A/F*	Max Cutting Depth*	Part Number
6MM	.2395	.305	DHX2-6.0
7MM	.2785	.349	DHX2-7.0
8MM	.3195	.399	DHX2-8.0
9MM	.3575	.454	DHX2-9.0
10MM	.3985	.520	DHX2-10.0
11MM	.4365	.592	DHX2-11.0
12MM	.4775	.693	DHX2-12.0



- * Superior, Hardened **FORTE** material
- * Precision ground
- * Angular clamping flat prevents pull out
- * Fit all brands of Rotating Broach Tools

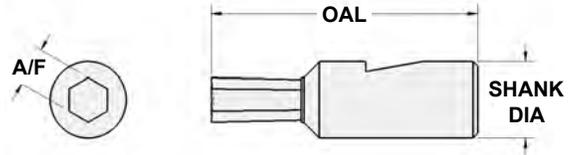
INCH / Hex, for ORBHD/...Holders			
3/4" (.750) Shank Diameter x 2-3/4" (2.750) OAL			
Nominal Hex Size	Actual A/F*	Max Cutting Depth*	Part Number
1/4	.2525	.531	HXHD-1/4-F
9/32	.2837	.596	HXHD-9/32-F
5/16	.3152	.662	HXHD-5/16-F
11/32	.3467	.729	HXHD-11/32-F
3/8	.3782	.794	HXHD-3/8-F
13/32	.4097	.860	HXHD-13/32-F
7/16	.4412	.927	HXHD-7/16-F
15/32	.4727	.993	HXHD-15/32-F
1/2	.5042	1.059	HXHD-1/2-F
17/32	.5357	1.125	HXHD-17/32-F
9/16	.5672	1.191	HXHD-9/16-F
19/32	.5987	1.257	HXHD-19/32-F
5/8	.6302	1.323	HXHD-5/8-F
21/32	.6617	1.338	HXHD-21/32-F
11/16	.6932	1.354	HXHD-11/16-F
23/32	.7237	1.369	HXHD-23/32-F
3/4	.7562	1.385	HXHD-3/4-F
25/32	.7882	1.400	HXHD-25/32-F
13/16	.8202	1.469	HXHD-13/16-F
27/32	.8522		HXHD-27/32-F
7/8	.8842		HXHD-7/8-F
29/32	.9180		HXHD-29/32-F
15/16	.9517		HXHD-15/16-F
31/32	.9855		HXHD-31/32-F
1"	1.0192		HXHD-1-F



- * Superior, Hardened **FORTE** material
- * Precision ground
- * Angular clamping flat prevents pull out
- * Fit all 3/4" I.D. Rotating Broach Tools

METRIC / Hex, for ORBHD/...Holders			
3/4" (.750) Shank Diameter x 2-3/4" (2.750) OAL			
Nominal Hex Size	Actual A/F*	Max Cutting Depth*	Part Number
6.0MM	.2395	.503	HXHD-6.0-F
7.0MM	.2798	.588	HXHD-7.0-F
8.0MM	.3187	.670	HXHD-8.0-F
9.0MM	.3583	.752	HXHD-9.0-F
10.0MM	.3979	.836	HXHD-10.0-F
11.0MM	.4376	.919	HXHD-11.0-F
12.0MM	.4774	1.003	HXHD-12.0-F
13.0MM	.5170	1.086	HXHD-13.0-F
14.0MM	.5566	1.169	HXHD-14.0-F
15.0MM	.5968	1.254	HXHD-15.0-F
16.0MM	.6369	1.338	HXHD-16.0-F
17.0MM	.6770	1.346	HXHD-17.0-F
18.0MM	.7169	1.366	HXHD-18.0-F
19.0MM	.7568	1.385	HXHD-19.0-F
20.0MM	.7972	1.405	HXHD-20.0-F
21.0MM	.8375	1.469	HXHD-21.0-F
22.0MM	.8779		HXHD-22.0-F
23.0MM	.9173		HXHD-23.0-F
24.0MM	.9566		HXHD-24.0-F
25.0MM	.9960		HXHD-25.0-F
26.0MM	1.0354		HXHD-26.0-F

Hexagon go / no-go gages (with handle) are available upon request.
See page 16 for Broach Centering Gages.



INCH / Square, for ORBHD/...Holders			
3/4" (.750) Shank Diameter x 2-3/4" (2.750) OAL			
Nominal Square Size	Actual A/F*	Max Cutting Depth*	Part Number
9/32	.2837	.596	SQHD-9/32-F
5/16	.3152	.662	SQHD-5/16-F
11/32	.3467	.729	SQHD-11/32-F
3/8	.3782	.794	SQHD-3/8-F
13/32	.4097	.860	SQHD-13/32-F
7/16	.4412	.927	SQHD-7/16-F
15/32	.4727	.993	SQHD-15/32-F
1/2	.5042	1.059	SQHD-1/2-F
17/32	.5357	1.125	SQHD-17/32-F
9/16	.5672	1.191	SQHD-9/16-F
19/32	.5987	1.257	SQHD-19/32-F
5/8	.6302	1.323	SQHD-5/8-F
21/32	.6617	1.338	SQHD-21/32-F
11/16	.6932	1.354	SQHD-11/16-F
23/32	.7237	1.369	SQHD-23/32-F
3/4	.7562	1.385	SQHD-3/4-F
25/32	.7882	1.400	SQHD-25/32-F
13/16	.8202	1.469	SQHD-13/16-F

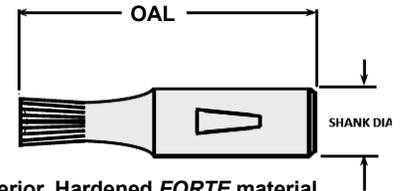
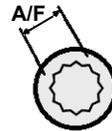


METRIC / Square, for ORBHD/...Holders			
3/4" (.750) Shank Diameter x 2-3/4" (2.750) OAL			
Nominal Square Size	Actual A/F*	Max Cutting Depth*	Part Number
6.0MM	.2392	.503	SQHD-6.0-F
7.0MM	.2798	.588	SQHD-7.0-F
8.0MM	.3187	.670	SQHD-8.0-F
9.0MM	.3583	.752	SQHD-9.0-F
10.0MM	.3979	.836	SQHD-10.0-F
11.0MM	.4376	.919	SQHD-11.0-F
12.0MM	.4774	1.003	SQHD-12.0-F
13.0MM	.5170	1.086	SQHD-13.0-F
14.0MM	.5566	1.169	SQHD-14.0-F
15.0MM	.5968	1.253	SQHD-15.0-F
16.0MM	.6369	1.326	SQHD-16.0-F
17.0MM	.6770	1.346	SQHD-17.0-F
18.0MM	.7169	1.366	SQHD-18.0-F
19.0MM	.7568	1.385	SQHD-19.0-F
20.0MM	.7972	1.405	SQHD-20.0-F

Available in T15PM H.S.S. (Prices on application)
*Custom Lengths, A/F, & Depths of Cut are available to quote upon request

INCH /Double Hex, for ORBHD/...Holders			
3/4" (.750) Shank Diameter x 2-3/4" (2.750) OAL			
DOUBLE HEX SIZE	Actual A/F*	Max Cutting Depth*	Part Number
13/32	.4097	.700	DHXHD-13/32
7/16	.4415	.730	DHXHD-7/16
15/32	.4725	.761	DHXHD-15/32
1/2	.5045	.796	DHXHD-1/2
17/32	.5357	.831	DHXHD-17/32
9/16	.5675	.872	DHXHD-9/16
19/32	.5987	.912	DHXHD-19/32
5/8	.6305	.959	DHXHD-5/8
21/32	.6617	1.011	DHXHD-21/32-F
11/16	.6935	1.071	DHXHD-11/16-F
23/32	.7242	1.438	DHXHD-23/32-F
3/4	.7565		DHXHD-3/4-F
25/32	.7877		DHXHD-25/32-F
13/16	.8195		DHXHD-13/16-F
27/32	.8512		DHXHD-27/32-F
7/8	.8845		DHXHD-7/8-F
29/32	.9157		DHXHD-29/32-F
15/16	.9470		DHXHD-15/16-F
31/32	.9781		DHXHD-31/32-F
1"	1.0095		DHXHD-1-F

METRIC /Double Hex, for ORBHD/...Holders			
3/4" (.750) Shank Diameter x 2-3/4" (2.750) OAL			
DOUBLE HEX SIZE	Actual A/F*	Max Cutting Depth*	Part Number
10.0MM	.3985	.689	DHXHD-10.0
11.0MM	.4365	.725	DHXHD-11.0
12.0MM	.4775	.766	DHXHD-12.0
13.0MM	.5165	.809	DHXHD-13.0
14.0MM	.5565	.857	DHXHD-14.0
15.0MM	.5965	.909	DHXHD-15.0
16.0MM	.6355	.967	DHXHD-16.0
17.0MM	.6775	1.039	DHXHD-17.0
18.0MM	.7145	1.118	DHXHD-18.0
19.0MM	.7575	1.247	DHXHD-19.0
20.0MM	.7945	1.438	DHXHD-20.0
21.0MM	.8355		DHXHD-21.0
22.0MM	.8785		DHXHD-22.0
23.0MM	.9155		DHXHD-23.0
24.0MM	.9565		DHXHD-24.0
25.0MM	.9935		DHXHD-25.0
26.0MM	1.0335		DHXHD-26.0



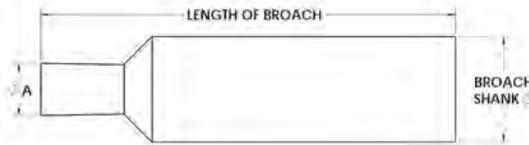
- * Superior, Hardened *FORTE* material
- * Precision ground
- * Angular clamping flat prevents pull out
- * Fit all brands of Rotating Broach Tools

INTERNAL ROTARY BROACH SETUP TOOL GAGE

Using this gage will allow you to center your broach tool in minutes.

To order:

Match the broach **shank diameter** and **broach length** of the broach currently using with the corresponding catalog number shown in the chart.



BROACH SHANK O.D.	LENGTH OF BROACH	CAT. NO.	A
.315 (8MM)	28MM (1.103")	CPSW-1.103	.156
.315 (8MM)	1-1/4"	CP00-1.25	.156
.315 (8MM)	1-1/2"	CP00-1.50	.156
.315 (8MM)	2"	CP00-2.00	.156
.500	1-1/2"	CP2-1.50	.250
.500	1-3/4"	CP2-1.75	.250
.500	2"	CP2-2.00	.250
.500	2-1/4"	CP2-2.25	.250
.500	2-1/2"	CP2-2.50	.250
.500	2-3/4"	CP2-2.75	.250
.500	3"	CP2-3.00	.250
.750	2-1/2"	CPHD-2.50	.250
.750	2-3/4"	CPHD-2.75	.250

GO / NO-GO GAGES with Handle



PART NUMBER	FOR CHECKING HEX SIZE	PART NUMBER	FOR CHECKING HEX SIZE
HEX GAGE SET-050	0.0500 / 0.0510	HEX GAGE SET-7/32	0.2187 / 0.2217
HEX GAGE SET-1/16	0.0625 / 0.0635	HEX GAGE SET-1/4	0.2500 / 0.2530
HEX GAGE SET-5/64	0.0781 / 0.0791	HEX GAGE SET-5/16	0.3125 / 0.3160
HEX GAGE SET-3/32	0.0937 / 0.0952	HEX GAGE SET-3/8	0.3750 / 0.3790
HEX GAGE SET-7/64	0.1094 / 0.1111	HEX GAGE SET-7/16	0.4375 / 0.4420
HEX GAGE SET-1/8	0.1250 / 0.1270	HEX GAGE SET-1/2	0.5000 / 0.5050
HEX GAGE SET-9/64	0.1406 / 0.1426	HEX GAGE SET-9/16	0.5625 / 0.5680
HEX GAGE SET-5/32	0.1562 / 0.1587	HEX GAGE SET-5/8	0.6250 / 0.6310
HEX GAGE SET-3/16	0.1875 / 0.1900	HEX GAGE SET-3/4	0.7500 / 0.7570

Custom made to your specifications or choose from Somma standard sizes shown

TORX STYLE PART NUMBER

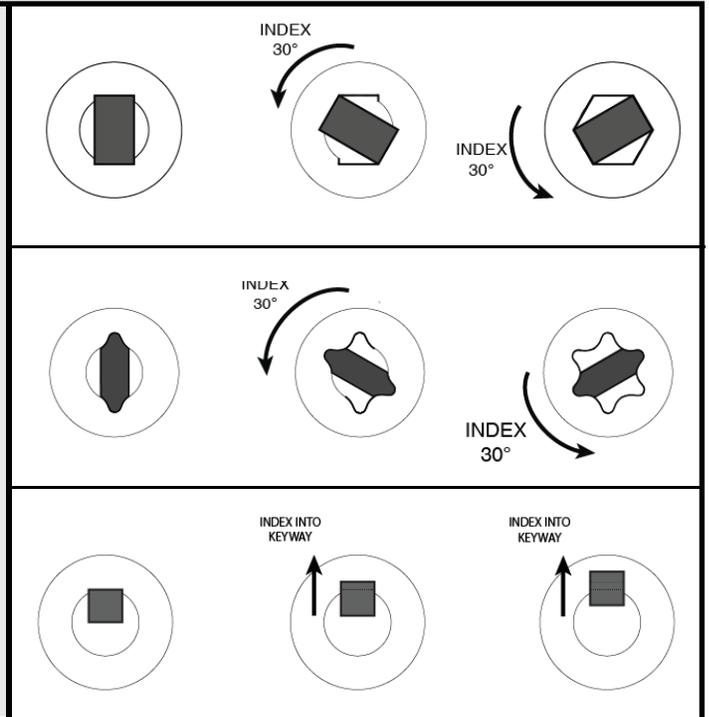
- T5 GAGE SET
- T6 GAGE SET
- T7 GAGE SET
- T8 GAGE SET
- T10 GAGE SET
- T15 GAGE SET
- T20 GAGE SET
- T30 GAGE SET
- T40 GAGE SET
- T45 GAGE SET
- T50 GAGE SET
- T55 GAGE SET

Index punch broaching is typically used on CNC machining centers for applications:

- Where the machine cannot generate enough thrust to form the entire shape desired.
- With more stringent requirements on the straightness of the form than can be achieved with rotary broaching.

The process involves punching a partial form in a prepared hole and indexing the spindle the required number of times to produce the finished form.

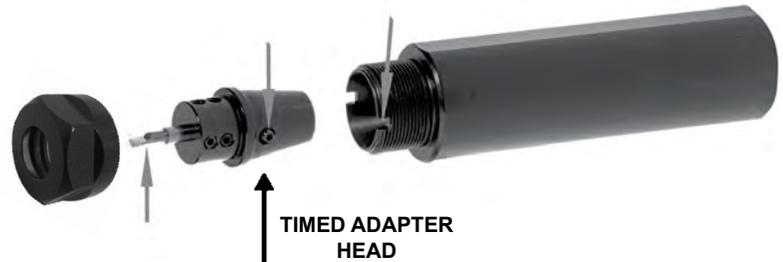
All Indexing broaches are made to order from superior Forte material to suit your application. Email Sales@sommatool.com for a quote



INDEX PUNCH BROACHING ER16 SERIES SHANKS (Collet nut not included)		
SHANK DIA	OAL	SHANK PART#
1/2"	4-1/2"	SS050BTER16
5/8"	4-1/2"	SS062BTER16
3/4"	4-1/2"	SS075BTER16
1"	3"	SS100BTER16
1"	4-1/2"	SS100BTER16
16MM	4-1/2"	SS16BTER16
20MM	71MM	SS20BTER16
20MM	114MM	SS20BTER16
22MM	118MM	SS22BTER16
25MM	60MM	SS25BTER16
25MM	95MM	SS25BTER16

INDEX PUNCH BROACHING SHANKS ER32 SERIES SHANKS (Collet nut not included)		
SHANK DIA	OAL	SHANK PART#
1"	4-1/2"	SS100BTER32
1-1/4"	4-1/2"	SS125BTER32
1-1/2"	6"	SS150BTER32
2"	6"	SS200BTER32
32MM	4-1/2"	SS32BTER32

Indexing Punch Broach Holders & Timed Adapter Heads



ADAPTER HEADS ARE PERFECTLY CENTERED DUE TO 90° TIMING OF THE FLAT ON THE SHANK OF THE TOOLHOLDER TO THE I.D. NOTCHES ON THE FRONT OF THE TOOLHOLDER AND THE SAME TIMING OF THE PINS ON THE ADAPTER HEADS TO THE SCREWS HOLDING THE BROACH TOOL.

HEADS FOR INDEX PUNCH BROACHING (COLLET NUT INCLUDED)			
SERIES	I.D.	NUT O.D.	PART#
ER16	8MM	25MM	ER16BT8MM
ER16	1/2"	25MM	ER16BT0500
ER32	8MM	50MM	ER32BT8MM
ER32	1/2"	50MM	ER32BT0500



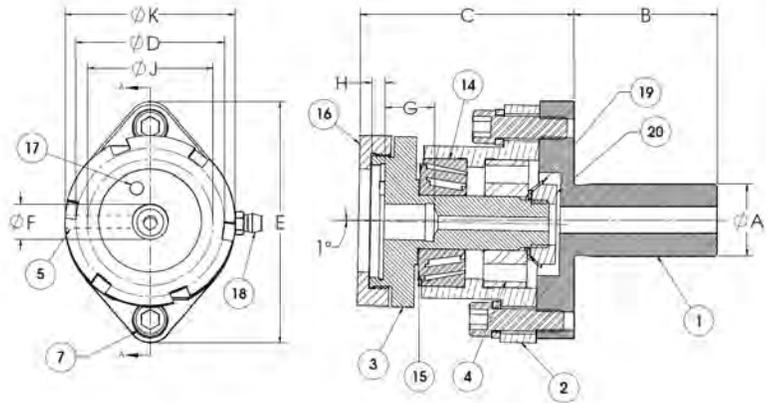
EXTERNAL ROTARY BROACHING



The process of forming an external shape on the turned O.D. of a part. This tool is used on all types of machines to produce hundreds of items. These include hex and square drivers, faucet splines, involute gears and knurled parts to name a few. Adjustable to compensate for machine misalignment.



Also available with
CAT, VDI, CAPTO
C6, HSK &
Morse Taper Shanks



EXTERNAL ADJUSTABLE ROTATING BROACH TOOL HOLDER

Catalog Number	A	B	C	D	E	F	G	H	J	K
ORB00/0.625	5/8"	1-1/2"	2-1/32"			3/8"	.300			
ORB00/0.750	3/4"	2"	2-1/2"			1/2"	11/16"			
ORB00/16MM	16MM	1-1/2"	2-1/32"	1-1/2"	2-7/16"	3/8"	.300	3/16"	24MM	1-5/8"
ORB00/20MM	20MM									
ORB00/22MM	22MM									
ORB2/0.750	3/4"	2"	2-31/32"	2-3/8"	3-5/16"	1/2"	.700	3/16"	40MM	2-3/8"
ORB2/1.000	1"									
ORB2/1.250	1-1/4"	3"								
ORB2/1.500	1-1/2"									
ORB2/20MM	20MM	2"								
ORB2/22MM	22MM									
ORB2/25MM	25MM									
ORB2/32MM	32MM									
ORB2/32MM	32MM	3"								
ORBHD/1.500	1-1/2"	3"	4-3/4"	3-1/2"	4-17/32"	-----	-----	3/16"	2-1/2"	3-5/8"
ORBHD/1.750	1-3/4"									
ORBHD/32MM	32MM									



Standard from stock H.S.S. external broaches shown on pg 19.
Note: The ORB00/0.750 & all ORB2/... external holders can also be used for internal broaching!

Diagram#	Part Description	Part # for ORB00/...	Part # for ORB2/...	Part # for ORBHD/...
3	Spindle	ORB00-3N...	ORB2-3N	ORBHD-3
16	Spindle Cap	ORB00-16	ORB2-16	ORBHD-16
17	Drive Pin	ORB00-17	ORB2-17	ORBHD-17
	Spanner Wrench	ADH00-3	ADH2-3	ORBHD-SP

All other features & parts are the same as the internal broach tool holders shown on top of pg. 10

INCH / Hex, for ORBX00/...Holders

.9445 MOUNTING DIAMETER

HEX SIZE	A	L = 3/8"	L = 1"
		CAT. NO.	CAT. NO.
1/4	.2435	EHX00-1/4	EHX0S-1/4
9/32	.2745	EHX00-9/32	EHX0S-9/32
5/16	.3045	EHX00-5/16	EHX0S-5/16
11/32	.3355	EHX00-11/32	EHX0S-11/32
3/8	.3665	EHX00-3/8	EHX0S-3/8
13/32	.3965	EHX00-13/32	EHX0S-13/32
7/16	.4275	EHX00-7/16	EHX0S-7/16

INCH / Hex, for ORBX2/...Holders

1.5745 MOUNTING DIAMETER

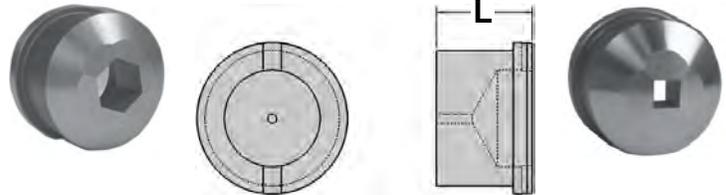
HEX SIZE	A	L = 1"	L = 1-3/4"
		CAT. NO.	CAT. NO.
1/4	.2435	EHX2-1/4	EHX2L-1/4
9/32	.2745	EHX2-9/32	EHX2L-9/32
5/16	.3045	EHX2-5/16	EHX2L-5/16
11/32	.3355	EHX2-11/32	EHX2L-11/32
3/8	.3665	EHX2-3/8	EHX2L-3/8
13/32	.3965	EHX2-13/32	EHX2L-13/32
7/16	.4275	EHX2-7/16	EHX2L-7/16
15/32	.4625	EHX2-15/32	EHX2L-15/32
1/2	.4885	EHX2-1/2	EHX2L-1/2
17/32	.5195	EHX2-17/32	EHX2L-17/32
9/16	.5505	EHX2-9/16	EHX2L-9/16
19/32	.5815	EHX2-19/32	EHX2L-19/32
5/8	.6115	EHX2-5/8	EHX2L-5/8
21/32	.6425	EHX2-21/32	EHX2L-21/32
11/16	.6735	EHX2-11/16	EHX2L-11/16
23/32	.7045	EHX2-23/32	EHX2L-23/32
3/4	.7355	EHX2-3/4	EHX2L-3/4
25/32	.7665	EHX2-25/32	EHX2L-25/32
13/16	.7975	EHX2-13/16	EHX2L-13/16
27/32	.8285	EHX2-27/32	EHX2L-27/32
7/8	.8595	EHX2-7/8	EHX2L-7/8
29/32	.8905	EHX2-29/32	EHX2L-29/32
15/16	.9215	EHX2-15/16	EHX2L-15/16
31/32	.9515	EHX2-31/32	EHX2L-31/32
1"	.9815	EHX2-1	EHX2L-1

METRIC / Hex, for ORBX00/...Holders

.9445 MOUNTING DIAMETER

HEX SIZE	A	L = 3/8"	L = 1"
		CAT. NO.	CAT. NO.
6MM	.2275	EHX00-6.0	EHX0S-6.0
7MM	.2665	EHX00-7.0	EHX0S-7.0
8MM	.3055	EHX00-8.0	EHX0S-8.0
9MM	.3455	EHX00-9.0	EHX0S-9.0
10MM	.3845	EHX00-10.0	EHX0S-10.0

Note: External square broaches also available.

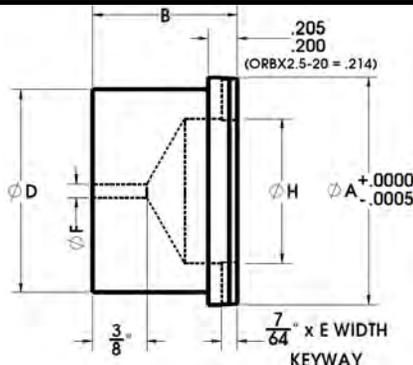


METRIC / Hex, for ORBX2/...Holders

1.5745 MOUNTING DIAMETER

HEX SIZE	A	L = 1"	L = 1-3/4"
		CAT. NO.	CAT. NO.
6MM	.2275	EHX2-6.0	EHX2L-6.0
7MM	.2665	EHX2-7.0	EHX2L-7.0
8MM	.3055	EHX2-8.0	EHX2L-8.0
9MM	.3455	EHX2-9.0	EHX2L-9.0
10MM	.3845	EHX2-10.0	EHX2L-10.0
11MM	.4235	EHX2-11.0	EHX2L-11.0
12MM	.4615	EHX2-12.0	EHX2L-12.0
13MM	.5005	EHX2-13.0	EHX2L-13.0
14MM	.5395	EHX2-14.0	EHX2L-14.0
15MM	.5795	EHX2-15.0	EHX2L-15.0
16MM	.6185	EHX2-16.0	EHX2L-16.0
17MM	.6585	EHX2-17.0	EHX2L-17.0
18MM	.6975	EHX2-18.0	EHX2L-18.0
19MM	.7365	EHX2-19.0	EHX2L-19.0
20MM	.7745	EHX2-20.0	EHX2L-20.0
21MM	.8135	EHX2-21.0	EHX2L-21.0
22MM	.8525	EHX2-22.0	EHX2L-22.0
23MM	.8925	EHX2-23.0	EHX2L-23.0
24MM	.9315	EHX2-24.0	EHX2L-24.0
25MM	.9695	EHX2-25.0	EHX2L-25.0

EXTERNAL BROACH BLANKS



TO FIT	A	B	D	E	F	H	Forte H.S.S.	T15PM H.S.S.
							CAT. NO.	CAT. NO.
ORBX00/...	0.9448	3/8	.750	.094	3/32	-	ORBX00-20	ORBX00-20-P
		1"	.750	.094	3/32	1/2	ORBX0S-20	ORBX0S-20-P
ORBX2/...	1.5740	1"	1.403	.188	3/32	1"	ORBX2-20	ORBX2-20-P
		1-3/4	1.403	.188	3/32	1"	ORBX2-20L	ORBX2-20L-P
ORBXHD/...	2.500	1-1/4	2.313	.188	3/16	1-13/16	ORBXHD-20	ORBXHD-20-P
Non Somma	2.312	1"	2.060	.086	3/32	1-1/2"	ORBX2.5-20	ORBX2.5-20-P

See pages 11 and 18 for holders for these external broaches.

THE ORIGINAL AND THE BEST RESHARPENABLE QUICK CHANGE FORM AND SHAVE TOOL SYSTEM

FEATURES OF SOMMA RESHARPENABLE QUICK CHANGE INSERT SYSTEM

- The Somma RQC insert system offers the most expansive line up of tool holders available in the industry.
- Inserts are resharpened by grinding material from the top surface and reused without resetting the holder.
- Huge cost savings because inserts can be resharpened as many as 20 to 30 times.
- Inserts can be changed in less than one minute.
- Once the insert is set to center it never needs to be reset after resharpening.
- Once the insert is set to proper diameter, it never needs to be reset after resharpening.
- Lateral positioning of form never changes.
- Form tool standard insert widths range from as narrow as 3/8" to as wide as 2-3/4".
- Resharpenable inserts do not require matching backup anvils for support.
- Somma is the only company to offer all the tooling and support needed to manufacture finished inserts at your plant.
- Inserts designed and manufactured based on your part print upon request.
- The RQC system also offers the option of using "Throw Away" inserts.

Inserts available in C2 micrograin carbide, C6 micrograin carbide, 76PM and Maxamet / 86PM high speed steel with a wide variety of coating options available. (See material selector chart on page 4 for more information).

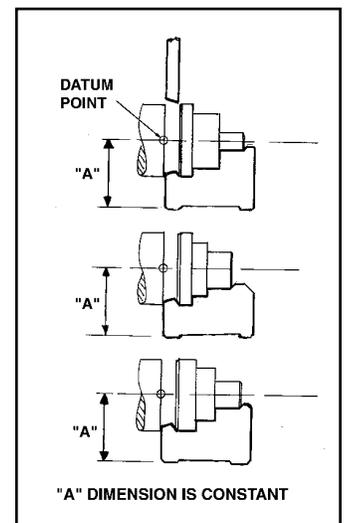
"DATUM POINT" TECHNOLOGY... *for speedy job changeovers*

"Datum Point" designed tooling (whereby a family of similar parts can be made by simply changing the form tool) has been made simple with the introduction of Somma's patented "Resharpenable Quick Change" Insert Type Form Tool Holders.

Once the insert holder is set to the proper center height and lateral location for one job, it never has to be moved. When changing to a new job all that is required is to change the insert.

The form on each insert is calculated so that it will produce the diameters and lengths as required for each job. The inserts are mounted into a pocket in the toolholder of controlled width and depth, in relation to which the form of each insert is calculated.

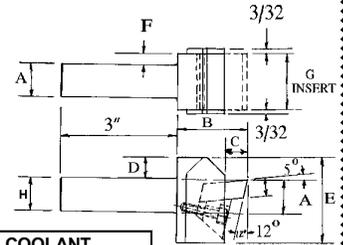
Contact Somma to find out how "Datum Point" tooling can work for you!





RESHARPENABLE QUICK CHANGE INSERT SHANK TYPE TOOL HOLDERS (Patent No. 5,345,846)

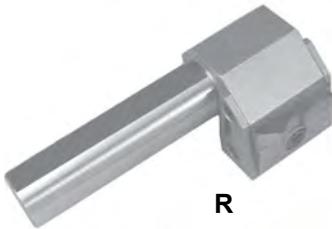
- Replaces full length H.S.S. toolbits
- Replaces brazed on type carbide tools



SEE PAGE 28
FOR INSERT
BLANKS.

CAT. NO.	W/ COOLANT ATTACHMENT	H	A	B	C	D	E	F	G INSERT SIZE	COOLANT ATTACHMENT ONLY
RQC-312	--	1/2	5/8	1-1/4	5/16	3/8	1-1/4	--	5/16 X 5/16	--
RQC00-1/2	RQC00-1/2-CS	1/2	1/2	1-3/32	5/16	13/32	1-3/8	1/8	3/4 X 5/16	RQC5/16-CA
RQC00-5/8	RQC00-5/8-CS	5/8	5/8	1-3/32	5/16	13/32	1-3/8	1/16	3/4 X 5/16	
RQC00-3/4	RQC00-3/4-CS	3/4	3/4	1-3/32	5/16	13/32	1-3/8	--	3/4 X 5/16	
RQC-5/8	RQC-5/8-CS	5/8	5/8	1-5/8	1/2	1/2	1-15/16	5/16	1-1/4 X 3/8	RQC3/8-CA
RQC-3/4	RQC-3/4-CS	3/4	3/4	1-5/8	1/2	1/2	1-15/16	1/4	1-1/4 X 3/8	
RQC-1.0	RQC-1.0-CS	1"	1"	1-5/8	1/2	1/2	1-15/16	1/8	1-1/4 X 3/8	
RQC-1.0-W	RQC-1.0-W-CS	1"	1"	1-5/8	1/2	1/2	1-15/16	1/8	1-3/4 X 3/8	
RQC-1.25	RQC-1.25-CS	1-1/4	1-1/4	1-5/8	1/2	1/2	1-15/16	--	1-1/4 X 3/8	
RQC-1.25-W	RQC-1.25-W-CS	1-1/4	1-1/4	1-5/8	1/2	1/2	1-15/16	1/4	1-3/4 X 3/8	

Eliminate Single Point Turning with RESHARPENABLE QUICK CHANGE INSERT GANG TYPE TOOL HOLDERS

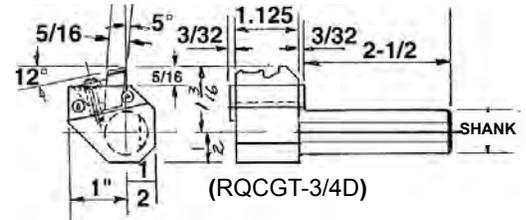


R

- Center height adjustment never has to be reset after sharpening insert.
- Machine downtime less than one minute for insert resharpenings or replacement.

SHANK DIA.	ROUND CAT. NO.
5/8"	RQCGT-5/8D
3/4"	RQCGT-3/4D
16MM	RQCGT-16D
20MM	RQCGT-20D

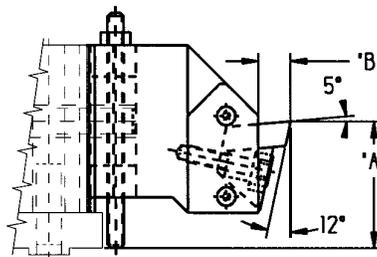
SQUARE SHANK	SQUARE CAT. NO.
5/8"	RQCGT-5/8S
3/4"	RQCGT-3/4S
16MM	RQCGT-16S
20MM	RQCGT-20S



Insert size is 1-1/8" x 5/16"
See page 28 for Insert blanks

(Patent No. 5,345,846)

RESHARPENABLE QUICK CHANGE INSERT SERRATED TOOL HOLDERS FOR GILDEMEISTER AND EUROTURN MACHINES (Patent No. 5,345,846)



- Fits serrated tool blocks.
- Inserts offset close to spindle
- Reversible for upside down positions.
- Replaces horizontal dovetail form tool holders.
- Center height adjustment never has to be reset after sharpening insert.
- Machine downtime less than one minute for insert resharpenings or replacement.

SEE PAGE 28
FOR INSERT
BLANKS.

CAT. NO.	WITH COOLANT ATTACHMENT	MACHINE	"B"	INSERT SIZE	COOLANT ATTACHMENT ONLY
RQCGLD20	RQCGLD20-CS	GM16/20 &	5/16"	5/16 X 1-1/8	RQC5/16-CA
RQCGLD20-W	RQCGLD20-W-CS	EUROTURN 6/20	5/16"	5/16 X 1-3/4	RQC5/16-CA
RQCGLD35-42-A	RQCGLD35-42-A-CS	GM35/42	1/2"	3/8 X 1-3/4	RQC3/8-CA
RQCGLD35-42-1.25	RQCGLD35-42-1.25-CS		1/2"	3/8 X 1-1/4	RQC3/8-CA
RQCEUR-32-1.25	RQCEUR-32-1.25-CS	EUR6/32-8/32	1/2"	3/8 X 1-1/4	RQC3/8-CA
RQCEUR-32-1.75	RQCEUR-32-1.75-CS		1/2"	3/8 X 1-3/4	RQC3/8-CA

RESHARPENABLE QUICK CHANGE DOVETAIL FORM TOOL HOLDERS FOR MULTIPLE SPINDLE MACHINES

(Patent No. 5,345,846)

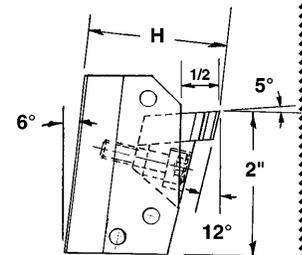
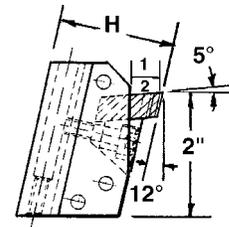
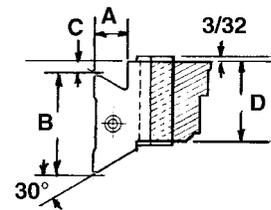
**NOW AVAILABLE WITH
COOLANT ATTACHMENT**

- Increases insert life
- Improves part finish

Coolant attachment assembly
available for updating existing holders.



COOLANT
ATTACHMENT STYLE



WICKMAN STYLE

SEE PAGE 28
FOR INSERTS

DOVETAIL SIZE	A	B	C	INSERT SIZE	H	CAT. NO.	W/COOLANT ATTACHMENT CAT. NO.
FOR NATIONAL ACME MACHINES							
5/8	19/64	.951	3/16	1-1/4 WIDE	1-1/2	RQC5/8DT	RQC5/8DT-CS
1	35/64	1.614	3/16	X	1-7/8	RQC1DT	RQC1DT-CS
1-1/4	35/64	1.882	3/16	3/8 THICK	1-7/8	RQC1-1/4DT	RQC1-1/4DT-CS
5/8	19/64	.951	7/16	1-3/4 WIDE	1-1/2	RQC5/8DT-W	RQC5/8DT-W-CS
1	35/64	1.614	7/16	X	1-7/8	RQC1DT-W	RQC1DT-W-CS
1-1/4	35/64	1.882	7/16	3/8 THICK	1-7/8	RQC1-1/4DT-W	RQC1-1/4DT-W-CS
5/8	19/64	.951	3/16	3/4 WIDE	1-5/8	RQC5/8DT-N	RQC5/8DT-N-CS
1	35/64	1.614	3/16	X	2"	RQC1DT-N	RQC1DT-N-CS
1-1/4	35/64	1.882	3/16	5/16 THICK	2"	RQC1-1/4DT-N	RQC1-1/4DT-N-CS
1-1/4	35/64	1.882	7/16	2-1/4 WIDE	1-7/8	RQC1-1/4DT-XW	RQC1-1/4DT-XW-CS
1-1/4	35/64	1.882	7/16	X 3/8 THICK			
1-1/4	35/64	1.882	7/16	2-3/4 WIDE	1-7/8	RQC1-1/4DT-WW	RQC1-1/4DT-WW-CS
1-1/4	35/64	1.882	7/16	X 3/8 THICK			
2-1/8	43/64	2.883	5/32	2-3/4 WIDE	2"	RQC2-1/8DT-WW	RQC2-1/8DT-WW-CS
2-1/8	43/64	2.883	5/32	X 3/8 THICK			
FOR NEW BRITAIN MACHINES							
5/8	19/64	.951	3/16	1-1/4 WIDE	1-1/2	RQC5/8DT	RQC5/8DT-CS
1.253	35/64	1.253	3/16	1-1/4 WIDE	1-7/8	RQCNBDT	RQCNBDT-CS
1.827	37/64	1.827	3/16	X 3/8 THICK	1-7/8	RQCNBDT-1.827	RQCNBDT-1.827-CS
1.253	35/64	1.253	7/16	1-3/4 WIDE	1-7/8	RQCNBDT-W	RQCNBDT-W-CS
1.827	37/64	1.827	7/16	X 3/8 THICK	1-7/8	RQCNBDT-1.827-W	RQCNBDT-1.827-W-CS
1.253	35/64	1.253	3/16	3/4 WIDE	1-7/8	RQCNBDT-N	RQCNBDT-N-CS
1.827	37/64	1.827	3/16	X 3/8 THICK	1-7/8	RQCNBDT-1.827-N	RQCNBDT-1.827-N-CS
FOR WICKMAN MACHINES							
.951"	21/64	.951	3/16	1-1/4 WIDE	1-5/8	RQCWK-951	RQCWK-951-CS
1.433"	25/64	1.433	3/16	X	1-5/8	RQCWK-1433	RQCWK-1433-CS
1.845"	33/64	1.845	3/16	3/8 THICK	1-7/8	RQCWK-1845	RQCWK-1845-CS
1.897"	33/64	1.897	3/16		1-7/8	RQCWK-1897	RQCWK-1897-CS
.951"	21/64	.951	7/16	1-3/4 WIDE	1-5/8	RQCWK-951W	RQCWK-951W-CS
1.433"	25/64	1.433	7/16	X	1-5/8	RQCWK-1433W	RQCWK-1433W-CS
1.845"	33/64	1.845	7/16	3/8 THICK	1-7/8	RQCWK-1845W	RQCWK-1845W-CS
1.897"	33/64	1.897	7/16		1-7/8	RQCWK-1897W	RQCWK-1897W-CS

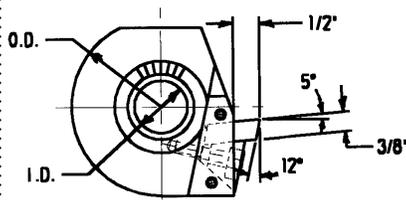
Special coolant attachments are available.

RESHARPENABLE QUICK CHANGE CIRCULAR FORM TOOL HOLDERS FOR MULTIPLE SPINDLE MACHINES

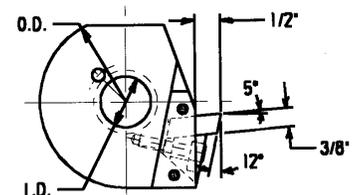
(PATENT NO. 5,345,846)

Available:

- 2-3/8" and 3-3/8" O.D. with pinholes or side teeth for National Acme Machines
- 2-1/4", 2-1/2", 3" and 3-1/2" O.D. with pinholes for New Britain and other machines
- with 3/8" x 1-1/4", 3/8" x 1-3/4", 3/8" x 2-1/4" re-sharpenable or throw-away inserts
- with coolant attachment



SIDE TEETH STYLE



PINHOLE STYLE

RESHARPENABLE QUICK CHANGE SHAVE TOOL HOLDERS FOR MULTIPLE SPINDLE MACHINES

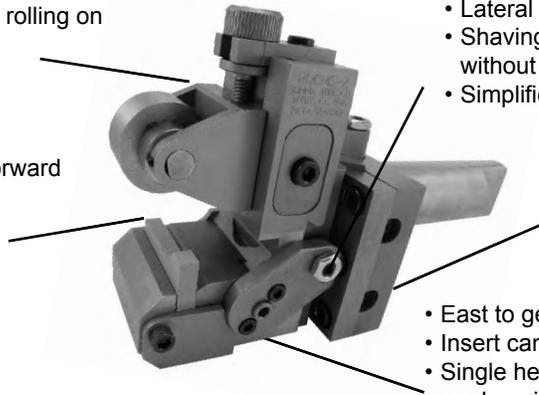
(Patent No. 5,848,562)

THE ONLY QUICK CHANGE SHAVE TOOL INSERT THAT CAN BE
RESHARPENED **WITHOUT AFFECTING ITS ORIGINAL:**

- Center Setting
- Part Diameter Setting
- Lateral Setting

- Roll slide can be rotated 180° for rolling on out board end of workpiece.
- Carbide roll pin

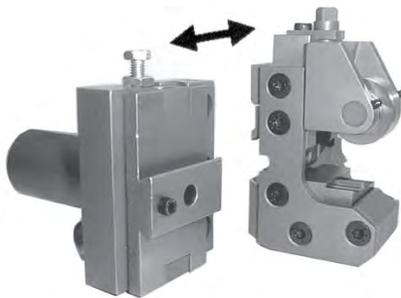
- Patented design clamps insert forward against holder face.
- Insert always located on roll centerline.
- Maintains part diameter and lengths even after resharpening.



- Lateral fine adjusting screw
- Shaving head can be moved sideways without moving shank or tool holder block.
- Simplifies alignment with roughing tools.

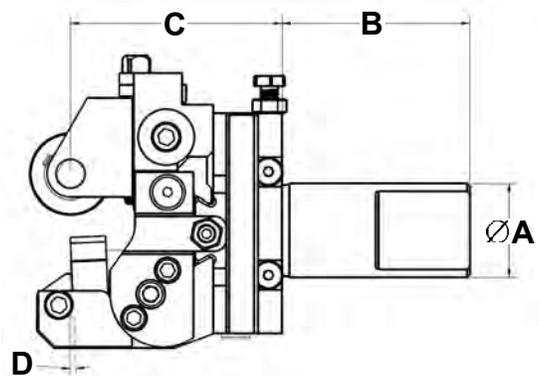
- Adjustable dovetail gib eliminates chatter due to normal wear.
- Adjustable spring tension to suit size of workpiece.

- East to get at from the side clamping of insert.
- Insert can be changed in less than a minute.
- Single hex wrench adjustment for clamping and unclamping of inserts.
- Swing away side plate for easy insert replacement.



- Shaving head presettable for diameter off the machine.
- Shave tool roll head easily removable from body.
- Settings not affected because shank and body of shave toolholder remain clamped in machine.
- Easy one screw clamping locks head in place.
- Simplifies diameter setup of holder when changing jobs.

PART #	CAPACITY	INSERT SIZE	A	B	C	D
RQCMS-0	0-7/8"	1-1/8 X 3/8	1"	3-1/2	2-3/8	
RQCMS-0-1	1/8-1"	1-1/8 x 3/8	1"	3-1/2	2-3/8	2-1/2°
RQCMS-1	1/8-1"	1-1/8 X 3/8	1-1/4	4"	3-1/8	
RQCMS-2	1/8-1-1/4"	1-3/4 X 3/8	1-1/4	4"	3-1/2	
RQCMS-3	1/2-1-5/8"	1-3/4 X 3/8	1-1/2	4-1/2	3-1/2	0°
RQCMS-5	1-1/8-2-1/4"	1-3/4 X 3/8	1-1/2	4-1/2	3-1/2	

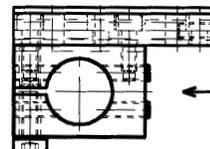


- Can also be used with throw-away inserts

- Ideal for datum point applications



CAT. NO.	CENTER HEIGHT	SHANK DIA.
RQCGLD20-SB	30MM	1.000"
RQCGLD50-SB	50MM	1.500"



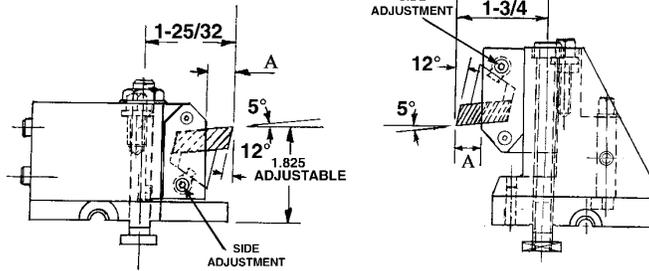
SHANK HOLDING BLOCK CAN BE REPOSITIONED ON BASE PLATE CLOSE TO SPINDLE FOR UPSIDE DOWN CROSS SLIDE POSITIONS.

RESHARPENABLE QUICK-CHANGE INSERT TOOL POSTS FOR DAVENPORT MACHINE With Side Adjusting Insert Clamp

(Patent No. 5,848,562)



1st Position
Shown with
Coolant Attachment



2nd Position

NOW AVAILABLE WITH COOLANT ATTACHMENT

- Increases tool life
- Improves part finish

COMPLETE TOOL POST 1ST POSITION

COMPLETE TOOL POST 2ND POSITION

CAT. NO.	W/COOLANT ATTACHMENT CAT. NO.	INSERT SIZE	A	COOLANT ATTACHMENT ONLY
RQCDV-S	RQCDV-S-CS	1-1/4W X 3/8	1/2"	RQCDV-CA
RQCDV-W-S	RQCDV-W-S-CS	1-3/4W X 3/8	1/2"	RQCDV-CA
RQCDV-N-S	RQCDV-N-S-CS	1-1/8W X 5/16	5/16"	RQC5/16-CA
RQCDV-NN-S	RQCDV-NN-S-CS	3/4W X 5/16	5/16"	RQC5/16-CA

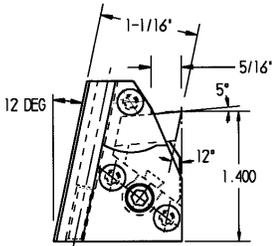
CAT. NO.	W/COOLANT ATTACHMENT CAT. NO.	INSERT SIZE	A	COOLANT ATTACHMENT ONLY
RQCDV-B-S	RQCDV-B-S-CS	1-1/4W X 3/8	1/2"	RQCDV-CA
RQCDV-B-W-S	RQCDV-B-W-S-CS	1-3/4W X 3/8	1/2"	RQCDV-CA
RQCDV-B-N-S	RQCDV-B-N-S-CS	1-1/8W X 5/16	5/16"	RQC5/16-CA
RQCDV-B-NN-S	RQCDV-B-NN-S-CS	3/4W X 5/16	5/16"	RQC5/16-CA

REPLACEMENT SIDE ADJUSTING INSERT SLIDES ONLY - TO FIT EXISTING RQCDV & RQCDVB HOLDERS	CAT. NO.	CAT. NO.	FITS	INSERT
SEE PAGE 28 FOR INSERT BLANKS.	RQCDV-SA	RQCDV-SA-CS	RQCDV RQCDVB	1-1/4 WIDE X 3/8
	RQCDV-W-SA	RQCDV-W-SA-CS		1-3/4 WIDE X 3/8
	RQCDV-N-SA	RQCDV-N-SA-CS		1-1/8 WIDE X 5/16
	RQCDV-NN-SA	RQCDV-NN-SA-CS		3/4 WIDE X 5/16

RESHARPENABLE QUICK CHANGE INSERT DOVETAIL FORM TOOL HOLDERS

With Side Adjusting Insert Clamp
Fit Davenport Cross Slide Tool Holders

(Patent No. 5,848,562)

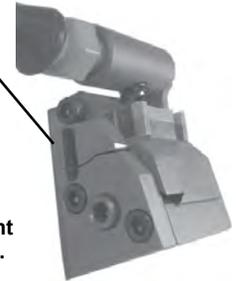


SEE PAGE 28 FOR INSERT BLANKS.

- Replaces HSS form tools and brazed on carbide form tools.

DOVETAIL SIZE	INSERT SIZE	CAT. NO.	W/COOLANT ATTACHMENT
5/8	1-1/8 WIDE X 5/16 THICK	RQCDV-DT	RQCDV-DT-CS
COOLANT ATTACHMENT ONLY		CAT. NO. RQCDV-DT-CA	

SWINGING SIDE PLATE FOR EASY INSERT REMOVAL

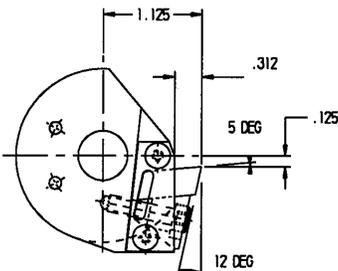


With coolant attachment.

RESHARPENABLE QUICK CHANGE INSERT CIRCULAR TOOL HOLDERS FOR DAVENPORT MACHINES

(Patent No. 5,345,846)

- Machine downtime less than one minute for insert resharpenings or replacement.
- Replaces conventional circular form tools.



SEE PAGE 28 FOR INSERT BLANKS.

DIA.	CENTER HOLE	INSERT SIZE	CAT. NO.	W/COOLANT ATTACHMENT CAT. NO.
2"	9/16" DIA.	3/8 X 5/16"	RQCDV-C-N	RQCDV-C-N-CS
2"	9/16" DIA.	3/4 X 5/16	RQCDV-C	RQCDV-C-CS
2"	9/16" DIA.	1-1/8 X 5/16	RQCDV-C-W	RQCDV-C-W-CS
COOLANT ATTACHMENT ONLY			CAT. NO. RQCDV-C-CA	



RESHARPENABLE QUICK CHANGE SHAVE TOOL HOLDERS FOR DAVENPORT MACHINES (Patent No. 5,848,562)

AT LAST... A SHAVE TOOL WITH ALL THE FEATURES YOU ALWAYS WANTED:

THE ONLY QUICK CHANGE SHAVE TOOL INSERT THAT CAN BE RESHARPENED WITHOUT AFFECTING ITS ORIGINAL:

- CENTER SETTING • PART DIAMETER SETTING • LATERAL SETTING
- CAN ALSO BE USED WITH RESHARPENABLE OR THROWAWAY INSERTS • IDEAL FOR DATUM POINT APPLICATIONS

PATENTED DESIGN CLAMPS INSERT FORWARD AGAINST HOLDER FACE. INSERT ALWAYS LOCATED ON ROLL CENTERLINE. MAINTAINS PART DIAMETER AND LENGTHS EVEN AFTER RESHARPENING.

OFFSET ROLL CARRIER AVAILABLE FOR WORKING CLOSER TO SPINDLE. CAT. NO. RQCDS-C-3

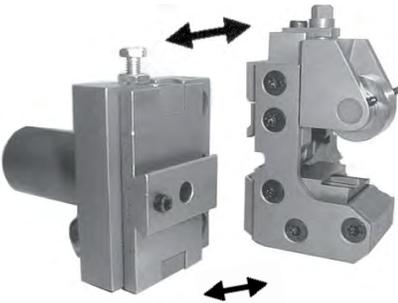
LATERAL FINE ADJUSTING SCREW. SHAVING HEAD CAN BE MOVED SIDEWAYS. WITHOUT MOVING SHANK OR TOOLHOLDER BLOCK. SIMPLIFIES ALIGNMENT WITH ROUGHING TOOLS.

PIPE THREAD COOLANT CONNECTION

ADJUSTABLE DOVETAIL GIB ELIMINATES CHATTER DUE TO NORMAL WEAR.

SPRING TENSION ADJUSTABLE TO SUIT SIZE OF WORKPIECE.

EASY TO GET AT FROM THE SIDE CLAMPING OF INSERT. INSERT CAN BE CHANGED IN LESS THAN A MINUTE. SINGLE HEX WRENCH ADJUSTMENT FOR CLAMPING AND UNCLAMPING OF INSERTS. SWING AWAY SIDE PLATE FOR EASY INSERT REPLACEMENT.



SEE PAGE 28 FOR INSERT BLANKS.

SHAVING HEAD PRESETTABLE FOR DIAMETER OFF THE MACHINE. SHAVE TOOL ROLL HEAD EASILY REMOVABLE FROM BODY. SETTINGS NOT AFFECTED BECAUSE SHANK AND BODY OF SHAVE. TOOL HOLDER REMAIN CLAMPED IN MACHINE. EASY ONE SCREW CLAMPING LOCKS HEAD IN PLACE. SIMPLIFIES DIAMETER SETUP OF HOLDER WHEN CHANGING JOBS.

CAT. NO.	STYLE	CAPACITY	INSERT SIZE	SHANK
RQCDS-A	A	0-7/8"	1-1/8 X 3/8	1"
*RQCDS-SL	A	0-7/8"	1-1/8 X 3/8	1"
RQCDS-DV	A	0-7/8"	1-1/8 X 3/8	1-1/8"

* CENTERLINE OF SHAVE HEAD OFFSET 1/8" FROM CENTERLINE OF SHANK FOR USE WITH SLITTERS OR SLATER ADAPTER BLOCKS OR STC-DVAB-3 BLOCK SHOWN BELOW.

FORM & SHAPE

CONVERT YOUR RQC SHANK TYPE SHAVE TOOL HOLDER (SHOWN ABOVE) TO A CIRCULAR SHAVE TOOL HOLDER (SHOWN BELOW) WITH THIS PART;

CAT NO. **RQCDS-C-MOUNT**

SHAPE TOOL HOLDERS FOR DAVENPORT CIRCULAR POSITIONS (Patent No. 5,848,562)



Cat. No. **RQCDS-C**

- MOUNTS ON SWING ARM-SAME AS CIRCULAR TOOLS
- ALL FEATURES SAME AS ABOVE SHANK TYPE SHAVE TOOL
- CAN BE ROTATED TO CENTER SAME AS CIRCULAR SHAVE TOOL HOLDERS
- ADJUSTABLE FOR PART TAPERS

USES 1-1/8 X 3/8 INSERT BLANKS SHOWN ON PAGE 28

SHAPE TOOL ADAPTER BLOCKS FOR DAVENPORT MACHINES



- MOUNTING HOLE FOR 1" DIAMETER SHANK
- FINE PITCH SCREWS FOR EASIER TAPER ADJUSTMENT
- HEAT TREATED ALLOY STEEL FOR DURABILITY

Ref 711-229A
SECOND POSITION
ADAPTER BLOCK
Cat. No. **STC-DVAB-2**

FOR RQCDS-A SHAPE TOOLS
- OR -
ANY DAVENPORT SHAPE TOOL WITH A 1" DIA. SHANK
THAT IS ON CENTER WITH MACHINE SPINDLE



Ref 711-313S
THIRD POSITION
ADAPTER BLOCK
Cat. No. **STC-DVAB-3**

FOR RQCDS-SL SHAPE TOOLS
- OR -
SLITTER/SLATER SHAPE TOOLS
THAT ARE 1/8" OFF CENTER

To be used with
Davenport Tool
Arm #5080-64-1

RESHARPENABLE QUICK CHANGE INSERT TOOL POSTS FOR BROWN & SHARPE MACHINES (Patent No. 5,345,846)

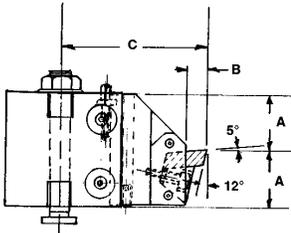
- Replaces circular and dovetail form tools
- Can be used on front slide or rear slide
- For right hand or left hand operation
- Flange screw adjustment for center setting of insert holder slide



CAT. NO.	W/COOLANT ATTACHMENT	A	B	C	INSERT SIZE	COOLANT ATTACHMENT ONLY
RQC00	RQC00-CS	1"	5/16	2-3/16	3/4 WIDE X 5/16	RQC5/16-CA
RQC00-W	RQC00-W-CS	1"	5/16	2-3/16	1-1/8 WIDE X 5/16	
RQC0	RQC0-CS	1-5/16"	5/16	2-7/8	3/4 WIDE X 5/16	RQC3/8-CA
RQC0-W	RQC0-W-CS	1-5/16"	5/16	2-7/8	1-1/8 WIDE X 5/16	
RQC2	RQC2-CS	1-7/16"	1/2	3-5/8	1-1/4 WIDE X 3/8	RQC3/8-CA
RQC2-1-3/4	RQC2-1-3/4-CS	1-7/16"	1/2	3-5/8	1-3/4 WIDE X 3/8	
RQC2-3/4	RQC2-3/4-CS	1-7/16"	5/16	3-5/8	3/4 WIDE X 5/16	RQC5/16-CA
RQC2-1-1/8	RQC2-1-1/8-CS	1-7/16"	5/16	3-5/8	1-1/8 WIDE X 5/16	

CONVERT THE INSERT WIDTH SIZE OF YOUR EXISTING
HOLDER WITH INTERCHANGEABLE INSERT SLIDES

COMPLETE INSERT SLIDES ONLY					
CAT. NO.	W/COOLANT ATTACHMENT	FITS		INSERT SIZE	COOLANT ATTACHMENT ONLY
RQC00-.75-SL	RQC00-.75-SL-CS	RQC00	RQC0	3/4 WIDE X 5/16	RQC5/16-CA
RQC00-.375-SL	RQC00-.375-SL-CS	RQC00-W	RQC0-W	3/8 WIDE X 5/16	RQC5/16-CA
		RQC16/20-A	RQC16/20-B		
RQC00-1.125-SL	RQC00-1.125-SL-CS	RQC16/20-A-N	RQC16/20-B-N	1-1/8 WIDE X 5/16	RQC5/16-CA
RQC2-.75-SL	RQC2-.75-SL-CS	RQC2	RQC2-3/4	3/4 WIDE X 5/16	RQC5/16-CA
RQC2-1.125-SL	RQC2-1.125-SL-CS			1-1/8 WIDE X 5/16	
RQC2-1.25-SL	RQC2-1.25-SL-CS	RQC2-1-3/4		1-1/4 WIDE X 3/8	RQC3/8-CA
RQC2-1.75-SL	RQC2-1.75-SL-CS			1-3/4 WIDE X 3/8	



SEE PAGE 28 FOR
INSERTS BLANKS.

RESHARPENABLE QUICK CHANGE INSERT CIRCULAR TOOL HOLDERS FOR BROWN AND SHARPE MACHINES (Patent No. 5,345,846)



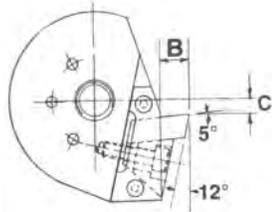
SHOWN WITH
COOLANT ATTACHMENT

- Replaces conventional circular form tools.
- Pinholes provided both sides for right or left hand operation on B&S machines.

- Machine downtime less than one minute for insert resharpenings or replacement.

SEE PAGE 28 FOR INSERTS BLANKS.

CAT. NO.	W/ COOLANT ATTACHMENT	MACH. SIZE	DIA.	CENTER HOLE	B	C	INSERT SIZE	COOLANT ATTACHMENT ONLY
RQC00-C-N	RQC00-C-N-CS	#00 B&S	1-3/4	3/8-16	5/16	1/8	3/8 X 5/16	RQC5/16-C-CA
RQC00-C	RQC00-C-CS						3/4 X 5/16	
RQC00-C-W	RQC00-C-W-CS						1-1/8 X 5/16	
RQC0-C	RQC0-C-CS	#0 B&S	2-1/4	1/2-13	5/16	5/32	3/4 X 5/16	RQC5/16-C-CA
RQC0-C-W	RQC0-C-W-CS						1-1/8 X 5/16	
RQC2-C-NN	RQC2-C-NN-CS	#2 B&S	3"	5/8-11	5/16	1/4	3/8 X 5/16	RQC5/16-C-CA
RQC2-C-N	RQC2-C-N-CS						3/4 X 5/16	
RQC2-C-NW	RQC2-C-NW-CS						1-1/8 X 5/16	
RQC2-C	RQC2-C-CS	#2 B&S	3"	5/8-11	1/2	1/4	1-1/4 X 3/8	RQC3/8-C-CA
RQC2-C-W	RQC2-C-W-CS						1-3/4 X 3/8	



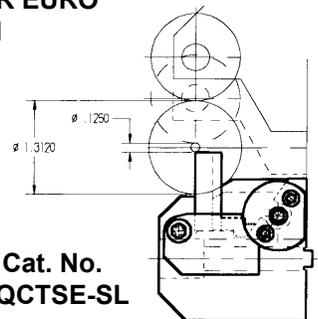
RESHARPENABLE QUICK CHANGE INSERT SLIDE ADAPTER FOR EURO TSE SHAVE TOOL HOLDERS 760200-1, 760600-1, 766000-1 (Patent No. 5848562)

Can be used with "RQC" Resharpenable inserts or with
throwaway (Single usage) inserts.



Insert dims:
Resharpenable = 1-3/4 X 3/8
Throwaway = 1-3/4 X 1/8

Max Part Length = 1.750"
Max Part Dia. = 1.312"
Min. Part Dia. = .000"



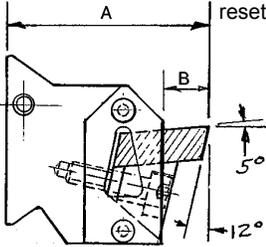
Cat. No.
RQCTSE-SL

RESHARPENABLE QUICK CHANGE INSERT

TOOL HOLDERS FOR TRAUB TNM28 AND TNM42 MACHINES

(Patent No. 5,345,846)

- Replaces horizontal dovetail form tool holders.
- Center height adjustment never has to be reset after sharpening insert.
- Machine downtime less than one minute for insert resharpenings or replacement.



CAT. NO.	W/COOLANT ATTACHMENT	"A"	"B"	INSERT SIZE
RQC-TNM28-.75	RQC-TNM28-.75-CS	57MM (2.244")	5/16	3/4" X 5/16
RQC-TNM28	RQC-TNM28-CS	57MM (2.244")	1/2	1-1/4" X 3/8
RQC-TNM28-1.75	RQC-TNM28-1.75-CS	57MM (2.244")	1/2	1-3/4" X 3/8
RQC-TNM42-1.25	RQC-TNM42-1.25-CS	80MM (3.150")	1/2	1-1/4" X 3/8
RQC-TNM42-1.75	RQC-TNM42-1.75-CS	80MM (3.150")	1/2	1-3/4" X 3/8
RQC-TNM42-.75	RQC-TNM42-.75-CS	80MM (3.150")	5/16	3/4" X 5/16

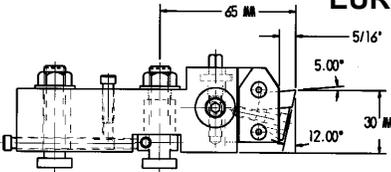
SEE PAGE 28 FOR INSERT BLANKS.

RESHARPENABLE QUICK CHANGE INSERT

TOOL HOLDERS FOR TORNOS SAS16 MACHINES EUROTURN 6/20 AND GILDEMEISTER MACHINES

(Patent No. 5,345,846)

- Replaces dovetail form tools
- Replaces circular form tools
- Center height adjustment never has to be reset after sharpening insert.
- Machine downtime less than one minute for insert resharpenings or replacement.



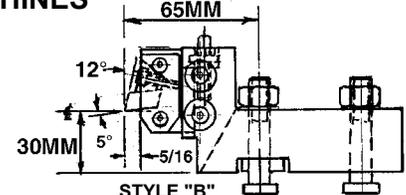
STYLE "A"

CAT. NO.	W/COOLANT ATTACHMENT	INSERT SIZE
RQC16/20-A	RQC16/20-A-CS	1-1/8 X 5/16
RQC16/20-A-N	RQC16/20-A-N-CS	3/4 X 5/16
RQC16/20-A-NN	RQC16/20-A-NN-CS	3/8 X 5/16
COOLANT ATTACHMENT ONLY		RQC5/16-CA

Fits:
Tornos SAS16 **Euroturn 6/20**
Positions 1,2 **Positions 1,4,6**
Gildemeister GM20
Positions 1,4



SEE PAGE 28 FOR INSERT BLANKS.
 FOR INSERT SLIDES ONLY, SEE RQC00 TOOLPOSTS PG. 26 .



STYLE "B"

CAT. NO.	W/COOLANT ATTACHMENT	INSERT SIZE
RQC16/20-B	RQC16/20-B-CS	1-1/8 X 5/16
RQC16/20-B-N	RQC16/20-B-N-CS	3/4 X 5/16
RQC16/20-B-NN	RQC16/20-B-NN-CS	3/8 X 5/16
COOLANT ATTACHMENT ONLY		RQC5/16-CA

Fits:
Tornos SAS16 **Euroturn 6/20**
Positions 3,4,5 **Positions 2,3,5**
Gildemeister GM20
Positions 2,5

WIRE EDM 5° TOP RAKE BLOCK FIXTURES* FOR RESHARPENABLE AND THROW-AWAY INSERTS



- Made of heat treated stainless steel
- Supplied with clamps for inserts and backup spacers
- Locates on recess in back side of insert for EDMing of all four sides
- Reversible for left hand cut

CATALOG NO. (INSERT WIDTHS)	NUMBER OF INSERTS	TYPE	OFFSET ANGLE
RQCWF (1.250 TO 2.750)	3 - 3/8" or 3 + 1 SPACER	SHARPENABLE	17°
	8-1/8" or 6 + 1 BACKUP	THROW-AWAY	
RQCWF00 (.375 TO 1.750)	3 - 5/16" or 3 + 1 SPACER	SHARPENABLE	17°
	8-1/8" or 6 + 1 BACKUP	THROW-AWAY	
RQCWFDS (1.125)	3 - 3/8" or 3 + 1 SPACER	SHARPENABLE	2-1/2°
	8-1/8" or 6 + 1 BACKUP	THROW-AWAY	
RQCWFDS-0 (1.750)	3 - 3/8" or 3 + 1 SPACER	SHARPENABLE	0°
	8-1/8" or 6 + 1 BACKUP	THROW-AWAY	

EDM FIXTURES ALSO AVAILABLE FOR:		
INSERTS	ANGLE	CATALOG NO.
3/8 INSERTS	12°	RQCWF-12
5/16 INSERTS	12°	RQCWF00-12

*SEE PAGE 29 for Dovetail Style Fixtures & EDM Base Plates

INSERT RESHARPENING FIXTURES

- For resharpening top surface of inserts
- Flexible jaw clamps insert securely
- For use on surface grinder with cup or dish wheel



CAT. NO.	INSERT WIDTH/TYPE
RQCSF	1-1/4" FORM
RQCSF-W	1-3/4" FORM/SHAVE
RQCSF00	3/4" FORM
RQCSF-DS	1-1/8" FORM/SHAVE
RQCSF00-N	3/8" FORM
RQCSF-XW	2-1/4" FORM
RQCSF-WW	2-3/4" FORM

**Contact Somma Engineering Department for Inserts
Custom Designed & Manufactured based on your part print
or
Purchase the Resharpenable and Throwing RQC Insert Blanks
Listed Below**

RESHARPENABLE EDM READY BLANKS FOR THOSE WITH EDM FACILITIES



**Resharpenable
Insert**

- Inserts can be resharpened by grinding material from top surface and reused without resetting.
- Inserts can be resharpened 20 to 30 times.
- Inserts are ground to 5/16" or 3/8" thickness only.
- Blanks oversize on width and length for EDMing.
- Blanks are recessed on back end for mounting in EDM fixture.
- Adaptable for "Datum Point" Applications (See page 20)



Spacer

For best results, inserts should be cut in Wire EDM Fixtures shown on page 27 & 29.

RESHARPENABLE INSERT SIZE							
	*5/16 X 3/4	5/16 X 1-1/8	5/16 X 1-3/4	3/8 X 1-1/4	3/8 X 1-3/4	3/8 X 2-1/4	3/8 X 2-3/4
C2 MICRO	RI-.75MIC	RI-1.125MIC	RI-1.75-N-MIC	RI-1.25MIC	RI-1.75MIC	RI-2.25MIC	RI-2.75MIC
C6 MICRO	RI-.75C6	RI-1.125C6	RI-1.75-N-C6	RI-1.25C6	RI-1.75C6	RI-2.25C6	RI-2.75C6
76 PM HSS	RI-.75-A	RI-1.125-A	RI-1.75-N-A	RI-1.25-A	RI-1.75-A	RI-2.25-A	RI-2.75-A
MAXAMET	RI-.75-M	RI-1.125-M	RI-1.75-N-M	RI-1.25-M	RI-1.75-M	RI-2.25-M	RI-2.75-M
SPACER	RI-.75-3/32	RI-1.125-3/32	RI-1.75-N-3/32	RI-1.25-1/8	RI-1.75-1/8	RI-2.25-1/8	RI-2.75-1/8

**Note: 5/16 x 3/4 blanks are used for 5/16 x 3/8 Inserts.*

THROWAWAY EDM READY BLANKS FOR THOSE WITH EDM FACILITIES



**Throwing
Insert**

- For those who don't want to resharpen inserts but still want to enjoy advantages of "RQC" Holders
- Adaptable for "Datum Point" applications (see page 20)
- Inserts are ground to 1/8" thickness only.
- Blanks oversize on width and length for EDMing.
- Blanks are recessed on back end for mounting in EDM fixture.



**Back-up
Anvil**

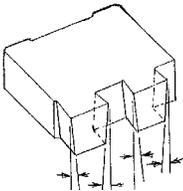
For best results, inserts blanks should be cut in Wire EDM Fixtures shown on page 27 & 29.

THROWAWAY INSERT SIZE						
	*1/8 X 3/4	1/8 X 1-1/8	1/8 X 1-1/4	1/8 X 1-3/4	1/8 X 2-1/4	1/8 X 2-3/4
C2 MICRO	TA-1.25MIC	TA-1.25MIC	TA-1.25MIC	TA-1.75MIC	TA-2.25MIC	TA-2.75MIC
C6 MICRO	TA-.75C6	TA-1.25C6	TA-1.25C6	TA-1.75-C6	-	-
76PM HSS	TA-.75-A	TA-1.25-A	TA-1.25-A	TA-1.75-A	TA-2.25-A	TA-2.75-A
MAXAMET	TA-.75-M	TA-1.25-M	TA-1.25-M	TA-1.75-M	TA-2.25-M	TA-2.75-M
ANVIL	BA-.75-3/16	BA-1.125-3/16	BA-1.25-1/4	BA-1.75-1/4**	BA-2.25-1/4	BA-2.75-1/4

**Note: 1/8 x 3/4 blanks are used for 1/8 x 3/8 Inserts.*

*** Note: Use BA-1.75-3/16 for RQCGLD20-W holder*

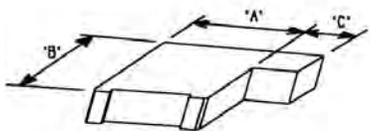
Somma can custom design Throwing Inserts with top to bottom clearance



- Inserts with top to bottom clearance (see diagram) reduce side rubbing and improves part finish
- Adaptable for "Datum Point" Applications.

Prices on application for inserts EDM'd to your part print.

CENTERING GAGES FOR RQC INSERT HOLDERS



- Gages are same (B) length as standard inserts.
- Gages are "L" shaped and overhang holder for easy setting to center.
- Just clamp in holder and set to center as you would normally.

CAT. NO.	A	B	C
RQCG-5/16	3/4	.630	.500
RQCG-3/8	1-1/4	.956	.500

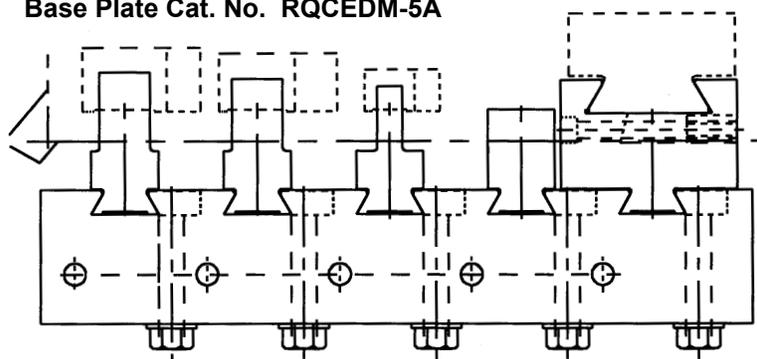
BASE PLATE AND FIXTURES FOR WIRE EDM MACHINES ALLOWS FOR MULTIPLE EDMing OF INSERTS AND CONVENTIONAL DOVETAIL TOOLS



Shown with
fixtures installed

- HOLDS ANY FIVE FIXTURES FOR UNATTENDED OPERATION.
- EDM FIXTURES ARE DOVETAIL MOUNTED AT ACCURATE CENTER TO CENTER LOCATION TO FACILITATE PROGRAMMING.
- MADE OF HEAT TREATED STAINLESS STEEL.
- MACHINE MOUNTING HOLES LOCATED TO SUIT YOUR EDM MACHINE.

Base Plate Cat. No. RQCEDM-5A



WIRE EDM BASE PLATE FIXTURES FOR RI AND TA SOMMA INSERTS

CATALOG NO. (INSERT WIDTHS)	NUMBER OF INSERTS	RQC TYPE	INCLUDED ANGLE
RQCWF-3/8 (1.250 TO 2.750)	3 - 3/8" THICK or 3 + 1 SPACER	SHARPENABLE	17°
	8-1/8" THICK or 6 + 1 BACKUP	THROW-AWAY	
RQCWF00-5/16 (.375 TO 1.750)	3 - 5/16" THICK or 3 + 1 SPACER	SHARPENABLE	17°
	8-1/8" THICK or 6 + 1 BACKUP	THROW-AWAY	
RQCWFDS-2.5-3/8 (1.125)	3 - 3/8" THICK or 3 + 1 SPACER	SHARPENABLE	2-1/2°
	8-1/8" THICK or 6 + 1 BACKUP	THROW-AWAY	
RQCWFDS-0-3/8 (1.750)	3 - 3/8" THICK or 3 + 1 SPACER	SHARPENABLE	0°
	8-1/8" THICK or 6 + 1 BACKUP	THROW-AWAY	

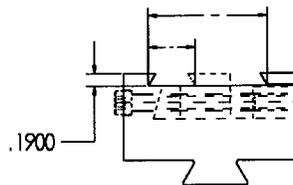
WIRE EDM BASE PLATE FIXTURES FOR STAI SOMMA INSERTS

Note maximum stacked capacity = 1-1/4" (10 Inserts)

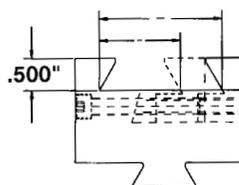
CATALOG PART NUMBER	INSERT FRONT CLEARANCE ANGLE	INSERT TOP RAKE ANGLE
STA-EDM-DT-10	10°	0°
STA-EDM-DT-15	10°	5°
STA-EDM-DT-12	12°	0°
STA-EDM-DT-17	12°	5°

- Made of heat treated stainless steel
- Supplied with clamps for inserts and backup spacers
- Locates on recess in back side of insert for EDMing of all four sides
- Reversible for left hand cut

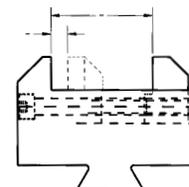
Cat. No. EDM-DT-S
ADJUSTABLE EDM
BASE PLATE FIXTURE FOR
.951" D/T FORM TOOLS AND
.714" TO 1.787" D/T SHAVE TOOLS



Cat. No. EDM-DT-F
ADJUSTABLE EDM
BASE PLATE FIXTURE FOR
DOVETAIL FORM TOOLS
FROM 1.250" TO 1.897"



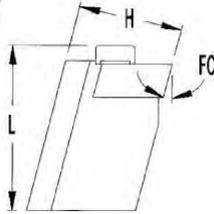
Cat. No. EDM-DT-V
ADJUSTABLE EDM
BASE PLATE VISE FIXTURE FOR
1/4" TO 1-1/2"



EQUIP ALL YOUR MACHINES WITH INEXPENSIVE QUICK CHANGE INSERT FORM TOOL HOLDERS!



STA Dovetail Holder



EXCLUSIVE FEATURES:

- Choose from full-width holder for parts up to 1-1/4" long or L-style holders for parts up to 3/4" long that require working close to the spindle or clearance for tools on the turret or tool spindle.
- Same holder can accommodate part forms up to 1/2" depth of cut (3/8" depth of cut for Davenport).
- Uses simple but rugged backup ANVIL (No need for expensive tailor made screwed on anvils).
- Ideal for Datum Point applications.
- Integral insert clamp and screw make it easy to install inserts.
- Dovetail holders available for Davenport, Acme, New Britain and CNC machines.
- Choice of 0° or 5° top rake angles for cutting of ferrous and non-ferrous metals.
- Compact and rigid one-piece body design.
- Pin locating system within +/- .001".
- Keyed inserts make it impossible to mistakenly use a 0° insert on a 5° holder, or a 5° insert on a 0° holder.

Dovetail-Style Holders										
Fits Holder	Dovetail	Front Clearance Angle (FC)	H	L	Max Depth of Cut	Max Width of Cut	Top Rake Angle	Catalog #	Uses Insert #	Uses Spacer #
5/8"	0.951	12°	1.42	2-1/4"	1/2"	1-1/4"	0°	STA-5/8-0	STAI-128-3	STAS-3/8-2
							5°	STA-5/8-5		
1-1/4"	1.882	12°	1.66	2-1/4"	1/2"	1-1/4"	0°	STA-5/8-0L	STAI-103-2	STAS-3/8-3
							5°	STA-5/8-5L		
NBG	1.253	12°	1.66	2-1/4"	1/2"	1-1/4"	0°	STA-1.253-0	STAI-128-3	STAS-3/8-2
							5°	STA-1.253-5		
NBG	1.827	12°	1.66	2-1/4"	1/2"	1-1/4"	0°	STA-1.253-0L	STAI-103-2	STAS-3/8-3
							5°	STA-1.253-5L		
NBG	1.827	12°	1.66	2-1/4"	1/2"	1-1/4"	0°	STA-1.827-0	STAI-128-3	STAS-3/8-2
							5°	STA-1.827-5		
DAV	0.951	10°	1.215	1-1/2"	3/8"	1-1/4"	0°	STA-DAV-10-0	STAI-128-1	STAS-1/4-1
							5°	STA-DAV-10-5		
DAV	0.951	12°	1.215	1-1/2"	3/8"	1-1/4"	0°	STA-DAV-10-0L	STAI-103-1	STAS-1/4-4
							5°	STA-DAV-10-5L		
DAV	0.951	12°	1.215	1-1/2"	3/8"	1-1/4"	0°	STA-DAV-12-0	STAI-128-1	STAS-1/4-1
							5°	STA-DAV-12-5		
DAV	0.951	12°	1.215	1-1/2"	3/8"	1-1/4"	0°	STA-DAV-12-0L	STAI-103-1	STAS-1/4-4
							5°	STA-DAV-12-5L		

Circular-Style Holders									
Fits Holder	Diameter	Front Clearance Angle (FC)	Center Offset	Max Depth of Cut	Max Width of Cut	Top Rake Angle	Catalog #	Uses Insert #	Uses Spacer #
00	1-3/4"	12°	1/8"	1/4"	1"	0°	STA-00-C-0	STAI-103-3	STAS-1/4-5
						5°	STA-00-C-5		
0	2-1/4"	12°	5/32"	1/2"	1-1/4"	0°	STA-0-C-0	STAI-128-4	STAS-1/4-2
						5°	STA-0-C-5		
2	3"	12°	1/4"	5/8"	1-1/4"	0°	STA-2-C-0	STAI-128-1	STAS-3/8-1
						5°	STA-2-C-5		
Dav	2"	12°	1/8"	3/8"	1-1/4"	0°	STA-DAV-C-0	STAI-128-1	STAS-1/4-1
						5°	STA-DAV-C-5		

Holders are also available with coolant attachment. Add "-CS" to the holder catalog#.



STA Circular Holder

FORMED INSERTS TO YOUR PRINT

Send your part print for a prompt quote!



FOR THOSE WITH EDM FACILITIES:

Insert Blanks & Spacers are available for EDMing in your plant. Inserts are available in C2 & C6, Micrograin Carbide, 76PM and MAXAMET HSS.



- EDM your inserts in house - save money - expedite delivery!
- STA-EDM Fixture for EDMing inserts available.
- Fixture can hold 10 inserts

EDM FIXTURES BLOCK TYPE*

Catalog Number	Included Angle	Front Clearance Angle	Top Rake Angle
STA-EDM-10	10	10	0
STA-EDM-12	12	12	0
STA-EDM-15	15	10	5
STA-EDM-17	17	12	5



*SEE PAGE 29 for Dovetail Style Fixtures & EDM Base Plates



PRO-CALC SPINDLE SPEED/ SURFACE FEET CALCULATOR

Cat. No.
PRO-CALC.®

Calculates surface feet, RPM, feed rate for turning, drilling, tapping and milling. Inches or metric.

Hand held - Can be used at machine location.

THE SOMMA FORM TOOL DESIGN MANUAL ANSWERS ALL THE QUESTIONS YOU WANTED TO KNOW ABOUT FORM TOOL DESIGNING.



- CHECKLIST
- DRAWING
- CALCULATING
- DIMENSIONING
- HELPFUL IDEAS
- USEFUL TABLES
- SELECTING TOOL MATERIAL
- FORM TOOL GEOMETRY

Download and print a free copy at www.sommatool.com.

FORM TOOL CALCULATION PROGRAM

SOMMA'S EXCLUSIVE PROGRAM WILL PERFORM ALL YOUR FORM TOOL CALCULATIONS

FEATURES:

- Leads you through problems.
- Eliminates long, complicated manual calculations.
- Eliminates corrected diameter tables, charts, graphs, trig tables, and square root calculations.
- Calculates any Circular Form Tool - regardless of Diameter, Offset or Top Rake.
- Calculates any Flat Type Form Tool - regardless of Front Clearance Angle or Top Rake.
- Can print out answers for a permanent record.

Cat. No.
FTSCW

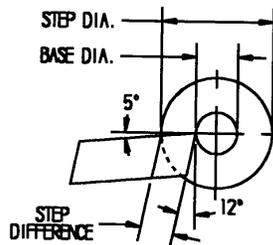
Download a free demo today at www.sommatool.com

FOR RESHARPENABLE QUICK CHANGE CHANGE FORM TOOL INSERTS

All you need to do is enter:

- Front Clearance Angle = 12°
- Top Rake Angle = 5°
- Base Diameter of Part =

Then as you enter each part diameter, the program calculates the corrected step difference.

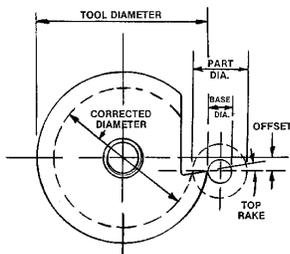
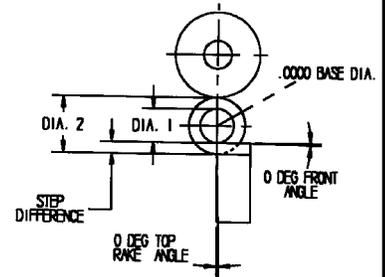


FOR RESHARPENABLE QUICK CHANGE CHANGE SHAVE TOOL INSERTS

All you need to do is enter:

- Front Clearance Angle = 0°
- Top Rake Angle = 0°
- Base Diameter of Part = .000", .125"

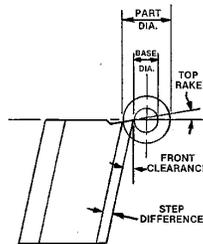
or .500" depending on holder being used. Then as you enter each part diameter, the program calculates the corrected step difference.



FOR CIRCULAR FORM TOOLS

All you need to do is enter:

- Tool Diameter ---
- Tool Offset Distance---
- Top Rake Angle---
- Base Diameter of Part---
- Then as you enter each part diameter, the program calculates tool diameter and step difference.



FOR FLAT TYPE FORM TOOLS

All you need to do is enter:

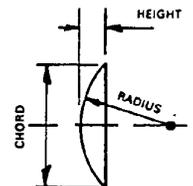
- Front Clearance Angle---
- Top Rake Angle---
- Base Diameter of Part---
- Then as you enter each part diameter, the program calculates the corrected step difference.

FOR RADIUS PROBLEMS

All you need to do is:

- Enter any two of the three dimensions of a chord.

The program will calculate the third dimension.

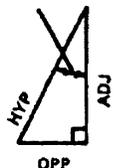


FOR TRIANGLE PROBLEMS

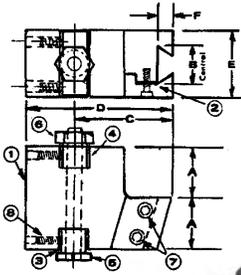
All you need to do is:

- Enter any two of the four dimensions of a right angle triangle---

The program will calculate the remaining two dimensions.



BROWN & SHARPE UNIVERSAL DOVETAIL TOOL HOLDERS



- Designed for use on front or rear slide for either forward or reverse spindle rotation.
- Especially suited for heavy cuts or for where design limitations of circular type tools do not permit grinding of side clearances.
- Swivel adjustment provided to correct for tapers.

MACH SIZE	D/T BLANK SEE PG 34	ORDERING#	A	B	C	D	E	F
#00	DTH00-..	DTH00	1"	.714	1-5/8	2-5/8	1-1/4	3/16
#00	5/8DTF-..	DTH00-951	1"	.951	1-11/16	2-11/16	1-1/2	1/4
#0	DTH0-..	DTH0	1-5/16	.951	2-1/8	3-3/8	1-1/2	1/4
#2	DTH2-..	DTH2	1-7/16	1.250	2-17/32	3-15/16	2"	13/32
#2	5/8DTF-..	DTH2-951	1-7/16	.951	2-7/8	4-9/32	1-1/2	1/4
#2	1-1/4DTF-..	DTH2-1.882	1-7/16	1.882	2-17/32	3-15/16	3"	1/2

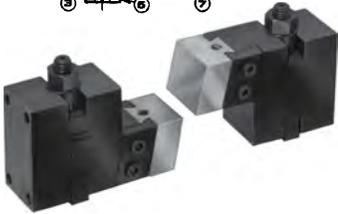
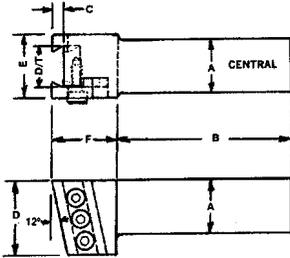


Photo shows tool holder as it is used for forward rotation on front and rear slide.

FORM & SHAVE

DOVETAIL FORM TOOL ADAPTER FOR TURRET LATHES AND CNC LATHES

These Holders are designed to hold standard Dovetail Blanks in the flat tool post or square tool post of all Turret Lathes and CNC Lathes.



CAT. NO.	A	B	D/T	C	D	E	F
.75TLDTH	3/4 SQ.	3-1/2	.6995	1/4	1-1/4	1-1/4	1-1/4
1.0TLDTH	1" SQ.	4"	.951	1/4	1-3/4	1-1/2	1-1/2
1.25TLDTH	1-1/4 SQ.	4-1/2	.951	1/4	1-3/4	1-1/2	1-1/2
1.882TLDTH	1-1/4 SQ.	4-1/2	1.882	17/32	2"	3"	2"

DOVETAIL FORM TOOL ADAPTER PARTS

Part No.	.75TLDTH Cat. No.	1.0TLDTH Cat. No.	1.25TLDTH Cat. No.	1.882TLDTH Cat. No.
1. Body	.75TLDTH-1	1.0TLDTH-1	1.25TLDTH-1	1.882TLDTH-1
2. Clamp	.75TLDTH-2	1.0TLDTH-2	1.0TLDTH-2	1.882TLDTH-2
3. Clamp Scr.	DTH2-7	DTH2-7	1.25TLDTH-3	1.25TLDTH-3

See page 34 for Standard Dovetail Blanks to fit these holders.



CIRCULAR FORM TOOL ADAPTER FOR TURRET LATHES AND CNC LATHES

These Holders are designed to hold standard Brown & Sharpe type Circular Form Tools in the flat form tool post or square tool post of all Turret Lathes and CNC Lathes.

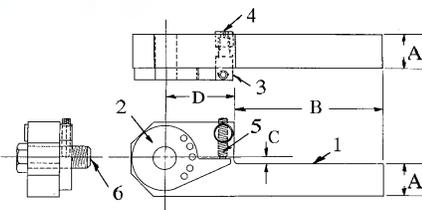
The Circular Tool is mounted in the adapter so that the cutting edge of the tool is in line with the top side of the shank. The tool can be rotated to center with the combination of the adjustable sector plate and circular tools with pinholes.

CAT. NO.	A	B	BLANK SIZE	THD. SIZE	C OFFSET	D	PINHOLE
.50TLCF	1/2 SQ.	2-5/8	#00	3/8-16	1/8	1-3/8	1/8 DIA. .787 BC 5/32 DIA. 1-1/16
.75TLCF	3/4 SQ.	3-1/2	#0	1/2-13	5/32	1-9/16	3/16 DIA. 1-3/8 BC
1.0TLCF	1" SQ.	4"	#2	5/8-11	1/4	2"	3/16 DIA. 1-1/2 BC
1.25TLCF	1-1/4 SQ.	4-1/2	#2	5/8-11	1/4	2"	3/16 DIA. 1-1/2 BC

CIRCULAR FORM TOOL ADAPTER PARTS

Part No.	.50TLCF Cat. No.	.75TLCF Cat. No.	1.0TLCF Cat. No.	1.25TLCF Cat. No.
1. Body	.50TLCF-1	.75TLCF-1	1.0TLCF-1	1.25TLCF-1
2. Sector Plate	.50TLCF-2	.75TLCF-2	1.0TLCF-2	1.25TLCF-2
3. Adj. Stud	.50TLCF-3	.50TLCF-3	1.0TLCF-3	1.25TLCF-3
4. Adj. Nut	TH000-14	TH000-14	TH00-14	TH00-14
5. Adj. Screws	OCD2-15	OCD2-15	OCD2-15	OCD2-15
6. Tool Bolt	00TB-1	0TB2-3	2TB2-1	2TB2-1
7. Spacer	.50TLCF-7	—	—	—

See page 41 for Standard Circular Form Tools and Blanks to fit these holders.

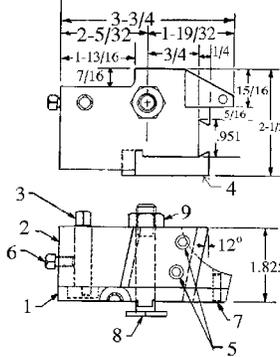


1st POSITION 12° DOVETAIL TOOL HOLDER FOR DAVENPORT



Cat. No.
DTH-DAV

- Extended outboard support eliminates tearing out of "T" slot of slide.
- Permits heavier cuts without chatter.
- Eccentric stud and pin adjustment to correct part taper.
- Support fits freely under oversize spindle.



1st POSITION DOVETAIL TOOL HOLDER PARTS

PART. NO.	CAT. NO.
1. PLATE	DTH-DAV-1
2. BODY	DTH-DAV-2
3. STUD	DTH-DAV-3
4. CLAMP	DTH-DAV-4
5. CLAMP SCREW	DTH-DAV-5
6. STUD SCREW	TT00-13
7. PIVOT PIN	CTP2-10
8. BOLT	00TPB-4
9. NUT & WASHER	00TBN

See page 34 for Standard Dovetail Form Blanks to fit these and other holders.

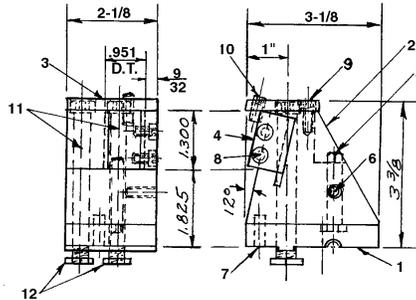
FOR 2nd POSITION 12° DAVENPORT SLIDE

- Permits heavier cuts without chatter.



Cat. No.
DTH-DVB

- Eccentric stud and pin adjustment to correct part taper.



See page 34 for Standard Dovetail Form Blanks to fit these and other holders.

2nd POSITION DOVETAIL TOOL HOLDER PARTS

Part No.	Cat. No.
1. PLATE	DTH-DVB-1
2. BODY	DTH-DVB-2
3. TOP PLATE	DTH-DVB-3
4. CLAMP	DTH-02
5. STUD	DTH-DAV-3
6. STUD SCREW	TH000-3
7. PIVOT PIN	DTH-DVB-7
8. CLAMP SCREW	DTH2-7
9. COVER SCREW	TC0BH00-SCR
10. JACK SCREW	DTH-DVB-10
11. CAP SCREW	DTH-DVB-11
12. SQUARE NUT	DTH-DVB-12

1ST POSITION 10° DOVETAIL TOOL HOLDER FOR DAVENPORT



- 1-Bolt
- 10° Face Angle
- First Position

Cat. No.
3060-SA-SOMMA

For Dovetail Blanks see page 34

1ST POSITION 10° DOVETAIL TOOL HOLDER FOR DAVENPORT



- 2-Bolt
- Designed for heavy cuts
- 10° Face Angle
- First Position

Cat. No.
3060-10-SA-SOMMA

For Dovetail Blanks see page 34

KWIK FORM TOOL BIT HOLDER FOR DAVENPORTS

FOR FAST SET UPS ON SHORT RUNS

No need for special tools -- simply hand surface grind form into standard H.S. S. or Carbide tool bit; or even circular grind, using Kwik-Form as a fixture. Kwik-Form mounts right onto the tool post like a form tool.



Fits front or rear slides for forward or reverse rotation. With Somma's Kwik-Form holder it's no longer necessary to remove the circular form tool post when using tool bits on short runs. Special length tool bits are available from stock as shown on page 45.

Note: Workpiece diameter differences will vary as the tool is resharpened, if the form toolbit is not circular ground.

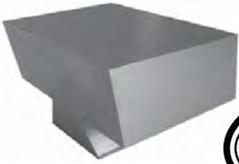
MACHINE SIZE	CENTER HOLE	TOOL BIT SIZE	CATALOG NUMBER
DAVENPORT	9/16 REAM	3/8 SQ.	KDAV

KWIK-FORM TOOL PARTS

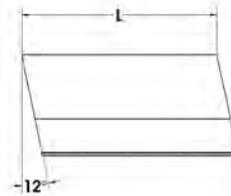
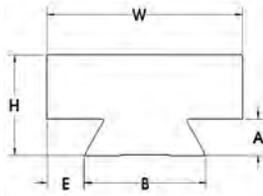
Part No.	ITEM
K00-3	Clamp Screw DAV
TT1-8	H.S. 3/8 Sq. x 2" Tool Bit for #0 & DA

WIDER BITS MAY BE USED BY ALLOWING OVERHANG.

Semi-standard blanks to your specifications in any material or quantity quoted upon request. Send for a supply of blank order forms.
H.S.S. DOVETAIL FORM TOOL BLANKS HARDENED AND GROUND ALSO AVAILABLE SOFT - PRICES ON REQUEST



**ASK FOR QUANTITY
DISCOUNT PRICES FOR
GREATER SAVINGS**



Fits Dovetail Form Tool Holder	Dimensions						M-2 HSS Cat. No.	M-42 HSS Cat. No.	T15PM HSS Cat. No.	76PM HSS Cat. No.	FOR CARBIDE TIPPING	
	B	H	W	E	L	A					SOFT & GROUND ALLOY TOOL STEEL Cat. No.	HARDENED 4140 STEEL R/C 35-45 & GROUND Cat. No.
	+ .003 - .003	+ .015 - .002	+ .015 - .002	+ .015 - .000	+ .030 - .030	+ .015 - .000						
3/8"	.700	3/4"	1"	1/4"	1-1/2"	19/64"	3/8DTF-1	3/8DTF-1H	3/8DTF-1P	3/8DTF-1A	3/8DTF-1-SG	3/8DTF-1-HG
5/8"	.951	1"	1"	1/16"	2-1/4"	19/64"	5/8DTF-1	5/8DTF-1H	5/8DTF-1P	5/8DTF-1A	5/8DTF-1-SG	5/8DTF-1-HG
5/8"	.951	1"	1-1/4"	5/16"	2-1/4"	19/64"	5/8DTF-1-2	5/8DTF-1-2H	5/8DTF-1-2P	5/8DTF-1-2A	5/8DTF-1-2-SG	5/8DTF-1-2-HG
5/8"	.951	1"	1-1/2"	9/16"	2-1/4"	19/64"	5/8DTF-2	5/8DTF-2H	5/8DTF-2P	5/8DTF-2A	5/8DTF-2-SG	5/8DTF-2-HG
5/8"	.951	1"	1-1/2"	0	2-1/4"	19/64"	5/8DTF-2-0	5/8DTF-2-0H	5/8DTF-2-0P	5/8DTF-2-0A	5/8DTF-2-0-SG	5/8DTF-2-0-HG
5/8"	.951	1"	1-3/4"	9/16"	2-1/4"	19/64"	5/8DTF-2-2	5/8DTF-2-2H	5/8DTF-2-2P	5/8DTF-2-2A	5/8DTF-2-2-SG	5/8DTF-2-2-HG
5/8"	.951	1"	2"	17/32"	2-1/4"	19/64"	5/8DTF-3	5/8DTF-3H	5/8DTF-3P	5/8DTF-3A	5/8DTF-3-SG	5/8DTF-3-HG
5/8"	.951	1"	2-1/2"	3/4"	2-1/4"	19/64"	5/8DTF-4	5/8DTF-4H	5/8DTF-4P	5/8DTF-4A	5/8DTF-4-SG	5/8DTF-4-HG
5/8"	.951	1-1/2"	1"	1/16"	2-1/4"	19/64"	5/8DTF-5	5/8DTF-5H	5/8DTF-5P	5/8DTF-5A	5/8DTF-5-SG	5/8DTF-5-HG
5/8"	.951	1-1/2"	1-1/4"	5/16"	2-1/4"	19/64"	5/8DTF-6	5/8DTF-6H	5/8DTF-6P	5/8DTF-6A	5/8DTF-6-SG	5/8DTF-6-HG
5/8"	.951	1-1/2"	1-1/2"	9/16"	2-1/4"	19/64"	5/8DTF-7	5/8DTF-7H	5/8DTF-7P	5/8DTF-7A	5/8DTF-7-SG	5/8DTF-7-HG
5/8"	.951	1-1/2"	1-1/2"	0	2-1/4"	19/64"	5/8DTF-7-0	5/8DTF-7-0H	5/8DTF-7-0P	5/8DTF-7-0A	5/8DTF-7-0-SG	5/8DTF-7-0-HG
5/8"	.951	1-1/2"	1-3/4"	9/16"	2-1/4"	19/64"	5/8DTF-8	5/8DTF-8H	5/8DTF-8P	5/8DTF-8A	5/8DTF-8-SG	5/8DTF-8-HG
5/8"	.951	1-1/2"	2"	9/16"	2-1/4"	19/64"	5/8DTF-9	5/8DTF-9H	5/8DTF-9P	5/8DTF-9A	5/8DTF-9-SG	5/8DTF-9-HG
5/8"	.951	1-1/2"	2-1/2"	3/4"	2-1/4"	19/64"	5/8DTF-10	5/8DTF-10H	5/8DTF-10P	5/8DTF-10A	5/8DTF-10-SG	5/8DTF-10-HG
1"	1.614	1-1/2"	2"	3/16"	3"	35/64"	1DTF-1	1DTF-1H	1DTF-1P	1DTF-1A	1DTF-1-SG	1DTF-1-HG
1"	1.614	1-1/2"	2-1/2"	7/16"	3"	35/64"	1DTF-2	1DTF-2H	1DTF-2P	1DTF-2A	1DTF-2-SG	1DTF-2-HG
1"	1.614	1-1/2"	3"	11/16"	3"	35/64"	1DTF-3	1DTF-3H	1DTF-3P	1DTF-3A	1DTF-3-SG	1DTF-3-HG
1-1/4"	1.882	1-1/2"	2"	1/8"	3"	35/64"	1-1/4DTF-1	1-1/4DTF-1H	1-1/4DTF-1P	1-1/4DTF-1A	1-1/4DTF-1-SG	1-1/4DTF-1-HG
1-1/4"	1.882	1-1/2"	2-1/2"	9/16"	3"	35/64"	1-1/4DTF-2	1-1/4DTF-2H	1-1/4DTF-2P	1-1/4DTF-2A	1-1/4DTF-2-SG	1-1/4DTF-2-HG
1-1/4"	1.882	1-1/2"	2-1/2"	0	3"	35/64"	1-1/4DTF-2-0	1-1/4DTF-2-0H	1-1/4DTF-2-0P	1-1/4DTF-2-0A	1-1/4DTF-2-0-SG	1-1/4DTF-2-0-HG
1-1/4"	1.882	1-1/2"	3"	9/16"	3"	35/64"	1-1/4DTF-3	1-1/4DTF-3H	1-1/4DTF-3P	1-1/4DTF-3A	1-1/4DTF-3-SG	1-1/4DTF-3-HG
1-1/4"	1.882	1-1/2"	2"	1/8"	2-1/4"	35/64"	1-1/4DTF-4	1-1/4DTF-4H	1-1/4DTF-4P	1-1/4DTF-4A	1-1/4DTF-4-SG	1-1/4DTF-4-HG
1-1/4"	1.882	1-1/2"	2-1/2"	9/16"	2-1/4"	35/64"	1-1/4DTF-5	1-1/4DTF-5H	1-1/4DTF-5P	1-1/4DTF-5A	1-1/4DTF-5-SG	1-1/4DTF-5-HG
1-1/4"	1.882	1-1/2"	2-1/2"	0	2-1/4"	35/64"	1-1/4DTF-5-0	1-1/4DTF-5-0H	1-1/4DTF-5-0P	1-1/4DTF-5-0A	1-1/4DTF-5-0-SG	1-1/4DTF-5-0-HG
1-1/4"	1.882	1-1/2"	3"	9/16"	2-1/4"	35/64"	1-1/4DTF-6	1-1/4DTF-6H	1-1/4DTF-6P	1-1/4DTF-6A	1-1/4DTF-6-SG	1-1/4DTF-6-HG
1-1/4"	1.882	1-1/2"	3"	0	2-1/4"	35/64"	1-1/4DTF-6-0	1-1/4DTF-6-0H	1-1/4DTF-6-0P	1-1/4DTF-6-0A	1-1/4DTF-6-0-SG	1-1/4DTF-6-0-HG
1-1/4"	1.882	2"	2"	1/8"	3"	35/64"	1-1/4DTF-8	1-1/4DTF-8H	1-1/4DTF-8P	1-1/4DTF-8A	1-1/4DTF-8-SG	1-1/4DTF-8-HG
1-1/4"	1.882	2"	2-1/2"	5/8"	3"	35/64"	1-1/4DTF-9	1-1/4DTF-9H	1-1/4DTF-9P	1-1/4DTF-9A	1-1/4DTF-9-SG	1-1/4DTF-9-HG
1-1/4"	1.882	2"	2-1/2"	0	3"	35/64"	1-1/4DTF-9-0	1-1/4DTF-9-0H	1-1/4DTF-9-0P	1-1/4DTF-9-0A	1-1/4DTF-9-0-SG	1-1/4DTF-9-0-HG
1-1/4"	1.882	2"	3"	5/8"	3"	35/64"	1-1/4DTF-10	1-1/4DTF-10H	1-1/4DTF-10P	1-1/4DTF-10A	1-1/4DTF-10-SG	1-1/4DTF-10-HG
1-1/4"	1.882	2"	2"	1/8"	2-1/4"	35/64"	1-1/4DTF-11	1-1/4DTF-11H	1-1/4DTF-11P	1-1/4DTF-11A	1-1/4DTF-11-SG	1-1/4DTF-11-HG
1-1/4"	1.882	2"	2-1/2"	5/8"	2-1/4"	35/64"	1-1/4DTF-12	1-1/4DTF-12H	1-1/4DTF-12P	1-1/4DTF-12A	1-1/4DTF-12-SG	1-1/4DTF-12-HG
1-1/4"	1.882	2"	2-1/2"	0	2-1/4"	35/64"	1-1/4DTF-12-0	1-1/4DTF-12-0H	1-1/4DTF-12-0P	1-1/4DTF-12-0A	1-1/4DTF-12-0-SG	1-1/4DTF-12-0-HG
1-1/4"	1.882	2"	3"	5/8"	2-1/4"	35/64"	1-1/4DTF-13	1-1/4DTF-13H	1-1/4DTF-13P	1-1/4DTF-13A	1-1/4DTF-13-SG	1-1/4DTF-13-HG
1-5/8"	2.238	1-1/2"	3"	3/8"	3"	35/64"	1-5/8DTF-1	1-5/8DTF-1H	1-5/8DTF-1P	1-5/8DTF-1A	1-5/8DTF-1-SG	1-5/8DTF-1-HG
2-1/8"	2.883	1-1/2"	3"	1/8"	3"	43/64"	2-1/8DTF-1	2-1/8DTF-1H	2-1/8DTF-1P	2-1/8DTF-1A	2-1/8DTF-1-SG	2-1/8DTF-1-HG
DAVENPORT*	.951	1"	1"	1/16"	1-1/2"	19/64"	DAV-DTF-1	DAV-DTF-1H	DAV-DTF-1P	DAV-DTF-1A	DAV-DTF-1-SG	DAV-DTF-1-HG
	.951	1"	1-1/4"	19/64"	1-1/2"	19/64"	DAV-DTF-2	DAV-DTF-2H	DAV-DTF-2P	DAV-DTF-2A	DAV-DTF-2-SG	DAV-DTF-2-HG
	.951	1"	1-1/2"	19/64"	1-1/2"	19/64"	DAV-DTF	DAV-DTF-H	DAV-DTF-P	DAV-DTF-A	DAV-DTF-SG	DAV-DTF-HG
	.951	1"	1-1/2"	9/16"	1-1/2"	19/64"	DAV-DTF-3	DAV-DTF-3H	DAV-DTF-3P	DAV-DTF-3A	DAV-DTF-3-SG	DAV-DTF-3-HG
NEW BRITAIN GRIDLEY	1.253	1-1/2"	1-1/2"	1/4"	2"	9/16"	NBDTF-1	NBDTF-1H	NBDTF-1P	NBDTF-1A	NBDTF-1-SG	NBDTF-1-HG
	1.253	1-1/2"	2"	3/8"	2"	9/16"	NBDTF-2	NBDTF-2H	NBDTF-2P	NBDTF-2A	NBDTF-2-SG	NBDTF-2-HG
	1.253	1-1/2"	2-1/2"	5/8"	2"	9/16"	NBDTF-3	NBDTF-3H	NBDTF-3P	NBDTF-3A	NBDTF-3-SG	NBDTF-3-HG
	1.253	1-1/2"	3"	7/8"	2"	9/16"	NBDTF-4	NBDTF-4H	NBDTF-4P	NBDTF-4A	NBDTF-4-SG	NBDTF-4-HG
DTH00	.714	3/4"	1-1/4"	17/64"	1"	13/64"	DTH00-9	DTH00-9H	DTH00-9P	DTH00-9A	DTH00-9-SG	DTH00-9-HG
DTH0	.951	1"	1-1/2"	9/32"	1-5/16"	19/64"	DTH0-9	DTH0-9H	DTH0-9P	DTH0-9A	DTH0-9-SG	DTH0-9-HG
DTH2	1.250	1-1/2"	2"	3/8"	1-7/16"	7/16"	DTH2-9	DTH2-9H	DTH2-9P	DTH2-9A	DTH2-9-SG	DTH2-9-HG

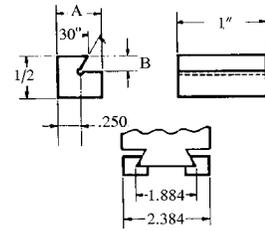
Note: Davenport form tool blanks have a 1/4-28 tapped hole, DTH series also have tapped holes

CAT. NO.	A	B
DTG-250	1/2	.185
DTG-250 x 100	13/32	.100

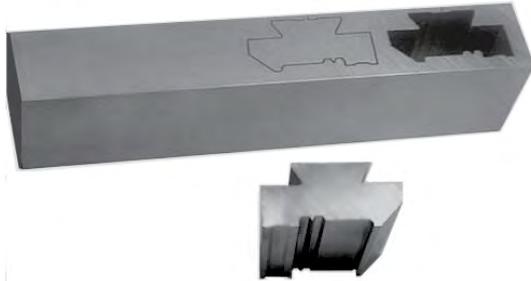
**SOLD AS A SET
2 PIECES**

DOVETAIL CHECKING GAGES

- EASIER THAN CHECKING OVER BALLS OR RODS.
- JUST ADD .500" TO THEORETICAL SHARP CORNER DIMENSION OF DOVETAIL. (SEE DIAGRAM.)



EDM WIRE READY H.S.S. BARS



**ASK FOR QUANTITY
DISCOUNT PRICES FOR
GREATER SAVINGS**

- HEAT TREATED / SURFACE GROUND
- FOR THOSE WHO HAVE WIRE EDM EQUIPMENT
- ECONOMICAL - MINIMUM WASTE
- USE ONLY WHAT YOU NEED FOR EACH JOB
- AVAILABLE IN M2, M42, T15PM AND 76PM HIGH SPEED STEEL

HEIGHT	WIDTH	LENGTH	M2 CAT. NO.	M42 CAT. NO.	T15PM CAT. NO.	76PM CAT. NO.
1"	2"	12"	EDM4848	EDM4848-H	EDM4848-P	EDM4848-A
1-1/2"	2"	12"	EDM6848	EDM6848-H	EDM6848-P	EDM6848-A
2"	2"	12"	EDM8848	EDM8848-H	EDM8848-P	EDM8848-A
2"	2-1/2"	12"	EDM81248	EDM81248-H	EDM81248-P	EDM81248-A

**CAN ALSO BE SUPPLIED IN
SPECIAL SIZES TO YOUR
SPECIFICATIONS. PRICES ON
APPLICATION - SPECIFY
QUANTITY, HEIGHT, WIDTH
AND LENGTH.**

DOVETAIL SHARPENING FIXTURES FOR 12° AND 17° ANGLES

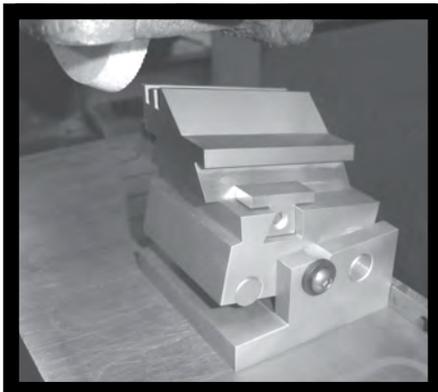


Dovetail Size	Cat. No.
5/8" (.951)	DSF-5/8
1-1/4" (1.882)	DSF-1-1/4

*One side of the fixture for grinding 12° angle dovetails
and the opposite side for 17° angle dovetails*

ADJUSTABLE DOVETAIL SHARPENING FIXTURE

**Cat. No.
DSF**

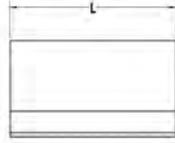
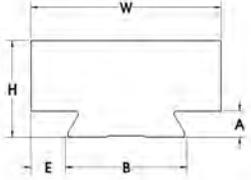


- CAN BE USED IN BOTH VERTICAL AND HORIZONTAL POSITIONS
- FOR DOVETAIL SIZES UP TO 1.882 (1-1/4)
- SUPPLIED WITH SPACERS FOR THE FOLLOWING ANGLES:
0, 2, 12, 17, 19.5 & 22 DEGREES



CAN ALSO SUPPLY SPACERS FOR OTHER ANGLES

H.S. DOVETAIL SHAVE TOOL BLANKS HARDENED AND GROUND



**ASK FOR QUANTITY
DISCOUNT PRICES FOR
GREATER SAVINGS**

FORM & SHAVE

Fits Dovetail Shave Tool Holder	Dimensions						M-2 HSS Cat. No.	M-42 HSS Cat. No.	T15PM HSS Cat. No.	76PM HSS Cat. No.	FOR CARBIDE TIPPING	
	B	H	W	E	L	A					SOFT & GROUND ALLOY TOOL STEEL Cat. No.	HARDENED 4140 STEEL R/C 35-45 & GROUND Cat. No.
1/2"	.714	5/8"	1-1/4"	3/8"	1-1/8"	13/64"	1/2DTS-1	1/2DTS-1H	1/2DTS-1P	1/2DTS-1A	1/2DTS-1-SG	1/2DTS-1-HG
5/8"	.912	3/4"	1"	3/32"	1-1/2"	17/64"	5/8DTS-1	5/8DTS-1H	5/8DTS-1P	5/8DTS-1A	5/8DTS-1-SG	5/8DTS-1-HG
5/8"	.912	3/4"	1-1/2"	19/64"	1-1/2"	17/64"	5/8DTS-2	5/8DTS-2H	5/8DTS-2P	5/8DTS-2A	5/8DTS-2-SG	5/8DTS-2-HG
5/8"	.912	3/4"	2"	35/64"	1-1/2"	17/64"	5/8DTS-3	5/8DTS-3H	5/8DTS-3P	5/8DTS-3A	5/8DTS-3-SG	5/8DTS-3-HG
5/8"	.912	3/4"	1"	3/32"	1-1/4"	17/64"	5/8DTS-4	5/8DTS-4H	5/8DTS-4P	5/8DTS-4A	5/8DTS-4-SG	5/8DTS-4-HG
5/8"	.912	3/4"	1-1/2"	9/16"	1-1/2"	17/64"	5/8DTS-5	5/8DTS-5H	5/8DTS-5P	5/8DTS-5A	5/8DTS-5-SG	5/8DTS-5-HG
5/8"	.912	3/4"	2"	11/16"	1-1/4"	17/64"	5/8DTS-6	5/8DTS-6H	5/8DTS-6P	5/8DTS-6A	5/8DTS-6-SG	5/8DTS-6-HG
5/8"	.912	7/8"	1"	3/32"	1-1/2"	17/64"	5/8DTS-7	5/8DTS-7H	5/8DTS-7P	5/8DTS-7A	5/8DTS-7-SG	5/8DTS-7-HG
5/8"	.912	7/8"	1-1/2"	9/16"	1-1/2"	17/64"	5/8DTS-8	5/8DTS-8H	5/8DTS-8P	5/8DTS-8A	5/8DTS-8-SG	5/8DTS-8-HG
5/8"	.912	7/8"	2"	11/16"	1-1/2"	17/64"	5/8DTS-9	5/8DTS-9H	5/8DTS-9P	5/8DTS-9A	5/8DTS-9-SG	5/8DTS-9-HG
5/8"	.912	7/8"	1"	3/32"	1-1/4"	17/64"	5/8DTS-10	5/8DTS-10H	5/8DTS-10P	5/8DTS-10A	5/8DTS-10-SG	5/8DTS-10-HG
5/8"	.912	7/8"	1-1/2"	9/16"	1-1/4"	17/64"	5/8DTS-11	5/8DTS-11H	5/8DTS-11P	5/8DTS-11A	5/8DTS-11-SG	5/8DTS-11-HG
5/8"	.912	7/8"	2"	11/16"	1-1/4"	17/64"	5/8DTS-12	5/8DTS-12H	5/8DTS-12P	5/8DTS-12A	5/8DTS-12-SG	5/8DTS-12-HG
5/8"	.912	1"	1"	3/32"	1-1/2"	17/64"	5/8DTS-13	5/8DTS-13H	5/8DTS-13P	5/8DTS-13A	5/8DTS-13-SG	5/8DTS-13-HG
5/8"	.912	1"	1-1/2"	9/16"	1-1/2"	17/64"	5/8DTS-14	5/8DTS-14H	5/8DTS-14P	5/8DTS-14A	5/8DTS-14-SG	5/8DTS-14-HG
5/8"	.912	1"	2"	11/16"	1-1/2"	17/64"	5/8DTS-15	5/8DTS-15H	5/8DTS-15P	5/8DTS-15A	5/8DTS-15-SG	5/8DTS-15-HG
5/8"	.912	1"	1"	3/32"	1-1/4"	17/64"	5/8DTS-16	5/8DTS-16H	5/8DTS-16P	5/8DTS-16A	5/8DTS-16-SG	5/8DTS-16-HG
5/8"	.912	1"	1-1/2"	9/16"	1-1/4"	17/64"	5/8DTS-17	5/8DTS-17H	5/8DTS-17P	5/8DTS-17A	5/8DTS-17-SG	5/8DTS-17-HG
5/8"	.912	1"	2"	11/16"	1-1/4"	17/64"	5/8DTS-18	5/8DTS-18H	5/8DTS-18P	5/8DTS-18A	5/8DTS-18-SG	5/8DTS-18-HG
1"	1.287	3/4"	1-1/2"	7/32"	1-3/4"	17/64"	1DTS-1-2	1DTS-1-2H	1DTS-1-2P	1DTS-1-2A	1DTS-1-2-SG	1DTS-1-2-HG
1"	1.287	3/4"	2"	5/8"	1-3/4"	17/64"	1DTS-1-3	1DTS-1-3H	1DTS-1-3P	1DTS-1-3A	1DTS-1-3-SG	1DTS-1-3-HG
1"	1.287	7/8"	1-1/2"	7/32"	1-3/4"	17/64"	1DTS-1-4	1DTS-1-4H	1DTS-1-4P	1DTS-1-4A	1DTS-1-4-SG	1DTS-1-4-HG
1"	1.287	7/8"	2"	5/8"	1-3/4"	17/64"	1DTS-1-5	1DTS-1-5H	1DTS-1-5P	1DTS-1-5A	1DTS-1-5-SG	1DTS-1-5-HG
1"	1.287	1"	1-1/2"	7/32"	1-3/4"	17/64"	1DTS-1	1DTS-1H	1DTS-1P	1DTS-1A	1DTS-1-SG	1DTS-1-HG
1"	1.287	1"	2"	23/64"	1-3/4"	17/64"	1DTS-2	1DTS-2H	1DTS-2P	1DTS-2A	1DTS-2-SG	1DTS-2-HG
1"	1.287	1"	2-1/2"	5/8"	1-3/4"	17/64"	1DTS-3	1DTS-3H	1DTS-3P	1DTS-3A	1DTS-3-SG	1DTS-3-HG
1"	1.287	1-5/16"	1-1/2"	7/32"	1-3/4"	17/64"	1DTS-4	1DTS-4H	1DTS-4P	1DTS-4A	1DTS-4-SG	1DTS-4-HG
1"	1.287	1-5/16"	2"	5/8"	1-3/4"	17/64"	1DTS-5	1DTS-5H	1DTS-5P	1DTS-5A	1DTS-5-SG	1DTS-5-HG
1"	1.287	1-5/16"	2-1/2"	5/8"	1-3/4"	17/64"	1DTS-6	1DTS-6H	1DTS-6P	1DTS-6A	1DTS-6-SG	1DTS-6-HG
1"	1.287	1-5/16"	3"	5/8"	1-3/4"	17/64"	1DTS-7	1DTS-7H	1DTS-7P	1DTS-7A	1DTS-7-SG	1DTS-7-HG
1-1/4"	1.554	1"	2"	11/32"	1-3/4"	17/64"	1-1/4DTS-1	1-1/4DTS-1H	1-1/4DTS-1P	1-1/4DTS-1A	1-1/4DTS-1-SG	1-1/4DTS-1-HG
1-1/4"	1.554	1"	2-1/2"	7/32"	1-3/4"	17/64"	1-1/4DTS-2	1-1/4DTS-2H	1-1/4DTS-2P	1-1/4DTS-2A	1-1/4DTS-2-SG	1-1/4DTS-2-HG
1-1/4"	1.554	1-1/4"	2"	11/32"	1-3/4"	17/64"	1-1/4DTS-3	1-1/4DTS-3H	1-1/4DTS-3P	1-1/4DTS-3A	1-1/4DTS-3-SG	1-1/4DTS-3-HG
1-1/4"	1.554	1-1/2"	2"	1/2"	1-3/4"	17/64"	1-1/4DTS-4	1-1/4DTS-4H	1-1/4DTS-4P	1-1/4DTS-4A	1-1/4DTS-4-SG	1-1/4DTS-4-HG
1-1/4"	1.554	1-1/2"	2-1/2"	1/2"	1-3/4"	17/64"	1-1/4DTS-5	1-1/4DTS-5H	1-1/4DTS-5P	1-1/4DTS-5A	1-1/4DTS-5-SG	1-1/4DTS-5-HG
1-1/4"	1.554	1-1/2"	3"	1/2"	1-3/4"	17/64"	1-1/4DTS-6	1-1/4DTS-6H	1-1/4DTS-6P	1-1/4DTS-6A	1-1/4DTS-6-SG	1-1/4DTS-6-HG
1-1/2"	1.787	1"	2"	7/32"	1-7/8"	17/64"	1-1/2DTS-1	1-1/2DTS-1H	1-1/2DTS-1P	1-1/2DTS-1A	1-1/2DTS-1-SG	1-1/2DTS-1-HG
1-1/2"	1.787	1"	2-1/2"	1/2"	1-7/8"	17/64"	1-1/2DTS-2	1-1/2DTS-2H	1-1/2DTS-2P	1-1/2DTS-2A	1-1/2DTS-2-SG	1-1/2DTS-2-HG
1-1/2"	1.787	1-1/4"	2"	7/32"	1-7/8"	17/64"	1-1/2DTS-3	1-1/2DTS-3H	1-1/2DTS-3P	1-1/2DTS-3A	1-1/2DTS-3-SG	1-1/2DTS-3-HG
1-1/2"	1.787	1-1/2"	2"	7/32"	1-7/8"	17/64"	1-1/2DTS-4	1-1/2DTS-4H	1-1/2DTS-4P	1-1/2DTS-4A	1-1/2DTS-4-SG	1-1/2DTS-4-HG
1-1/2"	1.787	1-1/2"	2-1/2"	1/2"	1-7/8"	17/64"	1-1/2DTS-5	1-1/2DTS-5H	1-1/2DTS-5P	1-1/2DTS-5A	1-1/2DTS-5-SG	1-1/2DTS-5-HG
1-1/2"	1.787	1-1/2"	3"	1/2"	1-7/8"	17/64"	1-1/2DTS-6	1-1/2DTS-6H	1-1/2DTS-6P	1-1/2DTS-6A	1-1/2DTS-6-SG	1-1/2DTS-6-HG
1-5/8"	2.057	1-1/2"	2-1/2"	11/32"	2-9/16"	25/64"	1-5/8DTS-1	1-5/8DTS-1H	1-5/8DTS-1P	1-5/8DTS-1A	1-5/8DTS-1-SG	1-5/8DTS-1-HG
1-5/8"	2.057	1-3/4"	2-1/2"	11/32"	2-9/16"	25/64"	1-5/8DTS-2	1-5/8DTS-2H	1-5/8DTS-2P	1-5/8DTS-2A	1-5/8DTS-2-SG	1-5/8DTS-2-HG

**Semi-standard blanks to your specifications in any material or quantity quoted upon request.
Send for a supply of blank order forms.**

DOVETAIL & CIRCULAR

FORM & SHAVE TOOLS



Somma Tool Company has been the leader in circular and dovetail tool blanks since 1939, but did you know that Somma will supply your

TOOLS GROUND TO PRINT.



Contact us for cutting tools engineered to your part print.

Blanks stocked in the following materials;

M2, M42, T15PM & 76PM

(Carbide Tipped upon Request)

Proudly made in the U.S.A.



Call for special quantity pricing based on placing a blanket purchase order and inventory will be warehoused specifically for your requirements.



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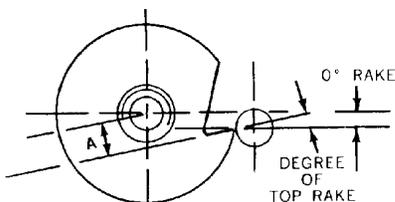
Special Quantity Pricing

Pay only when you request releases

No waiting; Same day shipment when releases are requested



TABLE OF BELOW-CENTER GASHING DISTANCE FOR VARIOUS TOP RAKES ON CIRCULAR FORM TOOLS



Degree of Top Rake	No. 00 B&S 1-3/4" Dia. "A"	No. 0 B&S 2-1/4" Dia. "A"	No. 2 B&S 3" Dia. "A"	Davenport 2" Dia. "A"
0	.125	.156	.250	.125
3	.170	.214	.327	.177
5	.200	.252	.378	.211
7	.230	.291	.428	.245
10	.273	.347	.503	.295
12	.302	.384	.552	.328
15	.345	.439	.624	.378

DAVENPORT FORM TOOL BLANKS

also used on the 7/16" National Acme
and the 9/16" Conomatic.



2" Diameter
9/16" Center Hole,
(6) 9/64 Dia. Pin Holes
Thru On 1-1/4 B.C.
Hardened and surface
ground both sides O.D. turned only.

* F L A N G E

WIDTH		M2 H.S.S.	M42 H.S.S.	T15PM H.S.S.	76PM H.S.S.
A	B	CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
1/8	1/4	DFLH4	DFLH4H	DFLH4P	DFLH4A
3/16	1/4	DFLH6	DFLH6H	DFLH6P	DFLH6A
1/4		DFH8	DFH8H	DFH8P	DFH8A
5/16		DFH10	DFH10H	DFH10P	DFH10A
3/8		DFH12	DFH12H	DFH12P	DFH12A
7/16		DFH14	DFH14H	DFH14P	DFH14A
1/2		DFH16	DFH16H	DFH16P	DFH16A
9/16		DFH18	DFH18H	DFH18P	DFH18A
5/8		DFH20	DFH20H	DFH20P	DFH20A
3/4		DFH24	DFH24H	DFH24P	DFH24A
7/8		DFH28	DFH28H	DFH28P	DFH28A
1"		DFH32	DFH32H	DFH32P	DFH32A
1-1/8		DFH36	DFH36H	DFH36P	DFH36A
1-1/4		DFH40	DFH40H	DFH40P	DFH40A
1-3/8		DFH44	DFH44H	DFH44P	DFH44A
1-1/2		DFH48	DFH48H	DFH48P	DFH48A
1-5/8		DFH52	DFH52H	DFH52P	DFH52A
1-3/4		DFH56	DFH56H	DFH56P	DFH56A
1-7/8		DFH60	DFH60H	DFH60P	DFH60A
2"		DFH64	DFH64H	DFH64P	DFH64A

SIZING TOOL HOLDER FOR DAVENPORT

075" to .500" Diameter x 3/4" Wide



Cat. No.
2726-R-SA-SOMMA

SIZING TOOL HOLDER (OVERSIZE) FOR DAVENPORT

.262" to .812" Diameter x 3/4" Wide



Cat. No.
2726-O-SA-SOMMA

DAVENPORT SIZE TOOL BLANKS



1-5/16" Diameter
7/16-20 L.H. Thread
Hardened and surface
ground both sides O.D. turned only.

** NOTE: 1-1/2" WIDE BLANKS COUNTERBORED
.501 DIA X 1-1/16" DEEP

WIDTH	M2 H.S.S.	M42 H.S.S.	T15PM H.S.S.	76PM H.S.S.
	CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
1/4	DSH8	DSH8H	DSH8P	DSH8A
5/16	DSH10	DSH10H	DSH10P	DSH10A
3/8	DSH12	DSH12H	DSH12P	DSH12A
7/16	DSH14	DSH14H	DSH14P	DSH14A
1/2	DSH16	DSH16H	DSH16P	DSH16A
9/16	DSH18	DSH18H	DSH18P	DSH18A
5/8	DSH20	DSH20H	DSH20P	DSH20A
3/4	DSH24	DSH24H	DSH24P	DSH24A
7/8	DSH28	DSH28H	DSH28P	DSH28A
1"	DSH32	DSH32H	DSH32P	DSH32A
1-1/8	DSH36	DSH36H	DSH36P	DSH36A
1-1/4	DSH40	DSH40H	DSH40P	DSH40A
1-3/8	DSH44	DSH44H	DSH44P	DSH44A
1-1/2**	DSH48	DSH48H	DSH48P	DSH48A

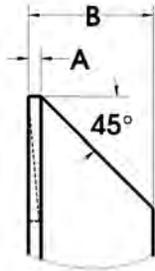
DAVENPORT ROLL BLANKS



Hardened 52100 steel
(RC/55) Surface ground both sides
O.D. rough ground only
15/16 O.D.
.3125/.313 HONED I.D.

WIDTH	CAT. NO.	WIDTH	CAT. NO.
1/4	DR8	9/16	DR18
5/16	DR10	5/8	DR20
3/8	DR12	3/4	DR24
7/16	DR14	7/8	DR28
1/2	DR16	1"	DR32

45 DEGREE FACE-OFF TOOLS FOR DAVENPORT MACHINES



45° FACE-OFF TOOLS are intended for facing the end of the bar, necking, or forming large 45° chamfers.

A	B	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#
1/16"	1/4"	DF45-1	DF45-1V	DF45-1CT
3/32"	5/16"	DF45-2	DF45-2V	DF45-2CT



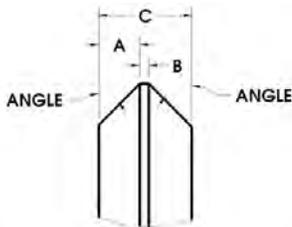
CIRCULAR DOUBLE CHAMFER TOOLS FOR DAVENPORT MACHINES



Double chamfer tools are designed for chamfering the back end of the completed part and the front end of the following part prior to cutting off in between.

45° chamfer tools are available with the flat in the center or offset which has the flat closer to the spindle side of the tool to allow working close to the spindle.

30° chamfer tools have the flat in the center of the tool.



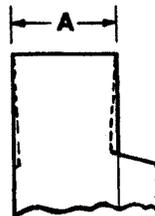
ANGLE	A	B	C	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#	SOLID C2 CARBIDE PART#
30 DEG.	7/64	.025	1/4"	D30C1	D30C1V	D30C1-CT	
45 DEG.	3/32	.060	5/16"			D45C1-CT	
45 DEG.	7/64	.025	1/4"	D45C1	D45C1V	D45C2-1-CT	D45C1-SC
45 DEG.	1/8"	.090	3/8"			D45C2-CT	



FORM & SHAPE

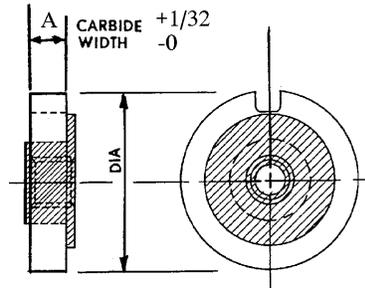
CIRCULAR STRAIGHT TOOLS FOR DAVENPORT MACHINES

- For forming grooves, shoulders or roughing down the work piece
- Supplied with side pinholes
- Side clearance ground



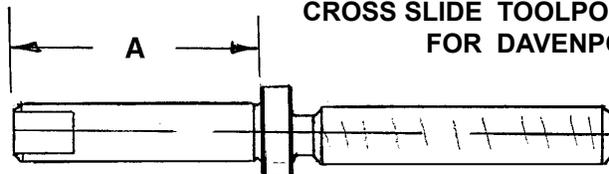
WIDTH A	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#	SOLID C2 CARBIDE PART#
1/8"	DS4	DS4V	DS4-CT	DS4-SC
3/16"	DS6	DS6V	DS6-CT	DS6-SC
1/4"	DS8	DS8V	DS8-CT	DS8-SC
5/16"	DS10	DS10V	DS10-CT	DS10-SC
3/8"	DS12	DS12V	DS12-CT	DS12-SC
7/16"	DS14	DS14V	DS14-CT	
1/2"	DS16	DS16V	DS16-CT	DS16-SC
9/16"	DS18	DS18V	DS18-CT	
5/8"	DS20	DS20V	DS20-CT	

SOLID CARBIDE UNGROUND CIRCULAR FORM TOOL BLANKS FOR DAVENPORT MACHINES



WIDTH	PART#
1/8"	DSCB-4
3/16"	DSCB-6
1/4"	DSCB-8
5/16"	DSCB-10
3/8"	DSCB-12
1/2"	DSCB-16

CROSS SLIDE TOOLPOST ADJUSTING SCREWS FOR DAVENPORT MACHINES



CAT. NO.	"A"
STC-DV-SCR-1.25	1-1/4
STC-DV-SCR-1.62	1-5/8

CIRCULAR FORM TOOL HOLDER FOR B&S MACHINES



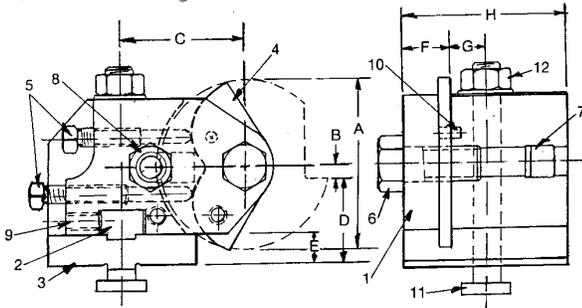
- Supplied with riser block for right or left-hand operation
- Pinhole sector plate prevents tool slippage
- Swivel adjustment to correct part tapers
- Adjusting screws for fine adjustment to center
- 2 tapped holes on side to fit attachments
- Supplied with 3 hook bolts for various tool widths as shown below.

CIRCULAR TOOL POST - SPECIFICATIONS

CAT. NO.	FITS	A	B	C	D	E	F	G	H
CTP00-F	#00 B&S FRONT	1-3/4	1/8	1-5/16	1"	1/4	7/16	3/8	1-11/16
CTP00-B	#00 B&S BACK	1-3/4	1/8	1-5/16	1"	1/4	7/16	3/8	1-11/16
CTP0-F	#0 B&S FRONT	2-1/4	5/32	1-3/4	1-5/16	5/16	19/32	13/32	2"
CTP0-B	#0 B&S BACK	2-1/4	5/32	1-3/4	1-5/16	5/16	19/32	13/32	2"
CTP2-F	#2 B&S FRONT	3"	1/4	2-5/32	1-7/16	1/2	13/16	11/16	2-7/8
CTP2-B	#2 B&S BACK	3"	1/4	2-5/32	1-7/16	1/2	13/16	11/16	2-7/8

CIRCULAR TOOL POST - PARTS

Part No.	CTP00 Cat. No.	CTP0 Cat. No.	CTP2 Cat. No.
1F. Body-Fr. Slide	CTP00-F-1	CTP0-F-1	CTP2-F-1
1B. Body Bk. Slide	CTP00-B-1	CTP0-B-1	CTP2-B-1
2. Alignment Plate	DTH00-3	DTH0-3	CTP2-2
3. Riser Block	CTP00-3	CTP0-3	CTP2-3
4. Sector Plate	CTP00-4	CTP0-4	CTP2-4
5. Adj. Screws	CTP00-5	CTP0-5	CTP0-5
5. Adj. Screws, long	—	—	CTP2-5
6. Tool Bolt	00TB-1	0TB2-3	2TB2-1
7. Hook Bolts (3)	(See Listing This Page)		
8. Hook Nut & Washer	CTP00-8	CTP0-8	CTP2-8
9. Alignment Screw	0RB2-5	CTP0-9	2ANR-6
10. Sector Pin	CTP00-10	CTP2-10	CTP2-10
11. T Bolt	00TPB-3	0TPB-4	2TPB-4
12. T. Nut & Washer	00TBN	0TBN	2TBN



See page 41 for Standard Circular Form Tools and Blanks to fit these holders.

HOOK BOLTS FOR B&S MACHINES

- Alloy Steel
- Heat Treated For Longer Life
- Available in 3 Lengths for #00 + #0, 4 lengths for #2 Machine To Accommodate All Tool Widths
- Fit All Standard Circular Tool Posts



PART. NO.	FITS	LENGTH UNDER HOOK
CTP00-7S	#00 B&S	1-1/8
CTP00-7M	#00 B&S	1-7/16
CTP00-7L	#00 B&S	1-3/4
CTP0-7S	#0 B&S	1-3/8
CTP0-7M	#0 B&S	1-3/4
CTP0-7L	#0 B&S	2-1/8
CTP2-7S	#2 B&S	1-15/16
CTP2-7M	#2 B&S	2-7/16
CTP2-7L	#2 B&S	2-11/16
CTP2-7XL	#2 B&S	3-7/16

TOOL BOLTS FOR CIRCULAR FORM TOOLS



Made of heat-treated alloy steel. These tool bolts will hold securely and squarely.

CAT. NO.	THD.	LENGTH	CAT. NO.	THD.	LENGTH
00TB-1	3/8-16	1"	0TB-1	1/2-14	1"
0TB1-3	1/2-13	1"	0TB-2	1/2-14	1-1/2
0TB2-3	1/2-13	1-1/2	2TB-1	5/8-12	1-1/8
2TB1-1	5/8-11	1-1/8	2TB-2	5/8-12	1-5/8
2TB2-1	5/8-11	1-5/8			

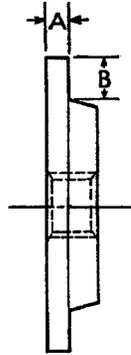
CIRCULAR TOOL HOLDER ADAPTER BLOCK FOR B&S MACHINES (#2 TO #00)



Save money by mounting your #00 B&S circular form tool holder on a #2 B&S machine.

Cat. No.
CTP00/2

B&S CIRCULAR FORM TOOL BLANKS



* Flange type (cutaway blanks)
save grinding time on narrow tools.

ALL BLANKS ARE AVAILABLE WITH PIN HOLES TO THE FOLLOWING SPECIFICATIONS				
Mach. Size	No. of Holes	Dia.	Depth	Bolt Circle
#00 B&S	8	5/32	5/16	1-1/16
#00 TRAUB	8	1/8	5/16	.787
#0 B&S	6	3/16	5/16	1-3/8
#2 B&S	6	3/16	3/8	1-1/2

*Specify type when ordering #00 Blanks.
**PRICES ON APPLICATION FOR THRU
HOLES OR ANY VARIATION OF
THESE SPECIFICATIONS.**

- Hardened and Surface ground both sides
- O.D. turned only

WIDTH		M2	M42	T15PM	76PM
A	B	CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
#00 B&S		1-3/4" Dia.		3/8-16 Tap Hole	
.080	7/32	00FLH08	00FLH08H	00FLH08P	00FLH08A
.120	1/4	00FLH12	00FLH12H	00FLH12P	00FLH12A
.160	1/4	00FLH16	00FLH16H	00FLH16P	00FLH16A
.200	1/4	00FLH20	00FLH20H	00FLH20P	00FLH20A
1/4		00BH8	00BH8H	00BH8P	00BH8A
5/16		00BH10	00BH10H	00BH10P	00BH10A
3/8		00BH12	00BH12H	00BH12P	00BH12A
7/16		00BH14	00BH14H	00BH14P	00BH14A
1/2		00BH16	00BH16H	00BH16P	00BH16A
9/16		00BH18	00BH18H	00BH18P	00BH18A
5/8		00BH20	00BH20H	00BH20P	00BH20A
3/4		00BH24	00BH24H	00BH24P	00BH24A
7/8		00BH28	00BH28H	00BH28P	00BH28A
1"		00BH32	00BH32H	00BH32P	00BH32A
1-1/8		00BH36	00BH36H	00BH36P	00BH36A
1-1/4		00BH40	00BH40H	00BH40P	00BH40A
1-3/8		00BH44	00BH44H	00BH44P	00BH44A
1-1/2		00BH48	00BH48H	00BH48P	00BH48A
1-5/8		00BH52	00BH52H	00BH52P	00BH52A
1-3/4		00BH56	00BH56H	00BH56P	00BH56A

WIDTH		M2	M42	T15PM	76PM
A	B	CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
#2 B&S		3" Dia		5/8-11 Tap Hole	
1/8	3/8	2FLH4	2FLH4H	2FLH4P	2FLH4A
3/16	1/2	2FLH6	2FLH6H	2FLH6P	2FLH6A
1/4	1/2	2FLH8	2FLH8H	2FLH8P	2FLH8A
5/16	1/2	2FLH10	2FLH10H	2FLH10P	2FLH10A
3/8		2BH12	2BH12H	2BH12P	2BH12A
7/16		2BH14	2BH14H	2BH14P	2BH14A
1/2		2BH16	2BH16H	2BH16P	2BH16A
9/16		2BH18	2BH18H	2BH18P	2BH18A
5/8		2BH20	2BH20H	2BH20P	2BH20A
3/4		2BH24	2BH24H	2BH24P	2BH24A
7/8		2BH28	2BH28H	2BH28P	2BH28A
1"		2BH32	2BH32H	2BH32P	2BH32A
1-1/8		2BH36	2BH36H	2BH36P	2BH36A
1-1/4		2BH40	2BH40H	2BH40P	2BH40A
1-3/8		2BH44	2BH44H	2BH44P	2BH44A
1-1/2		2BH48	2BH48H	2BH48P	2BH48A
1-5/8		2BH52	2BH52H	2BH52P	2BH52A
1-3/4		2BH56	2BH56H	2BH56P	2BH56A
1-7/8		2BH60	2BH60H	2BH60P	2BH60A
2"		2BH64	2BH64H	2BH64P	2BH64A
2-1/4		2BH72	2BH72H	2BH72P	2BH72A
2-1/2		2BH80	2BH80H	2BH80P	2BH80A
2-3/4		2BH88	2BH88H	2BH88P	2BH88A
3"		2BH96	2BH96H	2BH96P	2BH96A
3-1/4		2BH104	2BH104H	2BH104P	2BH104A
3-1/2		2BH112	2BH112H	2BH112P	2BH112A
3-3/4		2BH120	2BH120H	2BH120P	2BH120A
4"		2BH128	2BH128H	2BH128P	2BH128A

WIDTH		M2	M42	T15PM	76PM
A	B	CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
#0 B&S		2-1/4" Dia.		1/2-13 Tap Hole	
.100	1/4	0FLH10	0FLH10H	0FLH10P	0FLH10A
.150	3/8	0FLH15	0FLH15H	0FLH15P	0FLH15A
.200	3/8	0FLH20	0FLH20H	0FLH20P	0FLH20A
.250	3/8	0FLH25	0FLH25H	0FLH25P	0FLH25A
5/16		0BH10	0BH10H	0BH10P	0BH10A
3/8		0BH12	0BH12H	0BH12P	0BH12A
7/16		0BH14	0BH14H	0BH14P	0BH14A
1/2		0BH16	0BH16H	0BH16P	0BH16A
9/16		0BH18	0BH18H	0BH18P	0BH18A
5/8		0BH20	0BH20H	0BH20P	0BH20A
3/4		0BH24	0BH24H	0BH24P	0BH24A
7/8		0BH28	0BH28H	0BH28P	0BH28A
1"		0BH32	0BH32H	0BH32P	0BH32A
1-1/8		0BH36	0BH36H	0BH36P	0BH36A
1-1/4		0BH40	0BH40H	0BH40P	0BH40A
1-3/8		0BH44	0BH44H	0BH44P	0BH44A
1-1/2		0BH48	0BH48H	0BH48P	0BH48A
1-5/8		0BH52	0BH52H	0BH52P	0BH52A
1-3/4		0BH56	0BH56H	0BH56P	0BH56A
1-7/8		0BH60	0BH60H	0BH60P	0BH60A
2"		0BH64	0BH64H	0BH64P	0BH64A

SEE NEXT PAGE FOR SOLID CARBIDE BLANKS

BLANKS FOR B&S CIRCULAR POINTING TOOLS

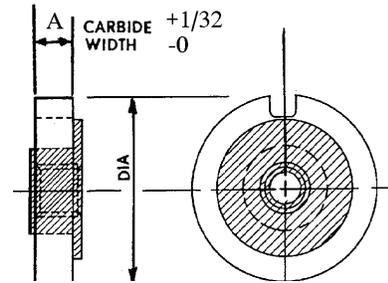
- M2 H.S.S. - Hardened
- I.D. and Both Sides Ground
- O.D. Turned



MACH. SIZE	O.D.	WIDTH	I.D.	CAT. NO.
#00 B&S	1-1/8	1/4	3/8	00PTBL
#0 B&S	1-3/8	3/8	3/8	0PTBL
#2 B&S	1-3/4	1/2	1/2	2PTBL

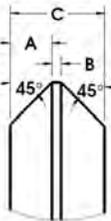
SOLID CARBIDE UNGROUND CIRCULAR FORM TOOL BLANKS FOR B&S

A	#00 B&S PART#	#0 B&S PART#	#2 B&S PART#
1/8	00SCB-4	0SCB-4	2SCB-4
3/16	00SCB-6	0SCB-6	2SCB-6
1/4	00SCB-8	0SCB-8	2SCB-8
5/16	00SCB-10	0SCB-10	2SCB-10
3/8	00SCB-12	0SCB-12	2SCB-12
1/2	00SCB-16	0SCB-16	2SCB-16



- Solid carbide circular form tool blanks brazed to threaded steel hubs
- Gashed "U" shape for right or left hand cutting.

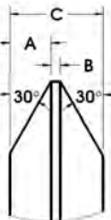
45° DOUBLE CHAMFER TOOLS FOR B&S



MACHINE SIZE	A	B	C	M2 PART#	T15PM PART#	3-LIP C2 CARB TIPPED PART#	SOLID C2 CARBIDE PART#
#00	1/16	.025	1/4	0045C1	0045C1V	0045C1-CT	
	7/64	.025	1/4	0045C2	0045C2V	0045C2-CT	0045C2-SC
#0	3/32	.040	5/16	045C1	045C1V	045C1-CT	
	1/8	.040	5/16	045C2	045C2V	045C2-CT	045C2-SC
#2	7/64	.050	3/8	245C1	245C1V	245C1-CT	
	5/32	.050	3/8	245C2	245C2V	245C2-CT	245C2-SC



30° DOUBLE CHAMFER TOOLS FOR B&S



MACHINE SIZE	A	B	C	M2 PART#	T15PM PART#	3-LIP C2 CARB TIPPED PART#
#00	1/16	.025	1/4	0030C1	0030C1V	0030C1-CT
	7/64	.025	1/4	0030C2	0030C2V	0030C2-CT
#0	3/32	.040	5/16	030C1	030C1V	030C1-CT
	1/8	.040	5/16	030C2	030C2V	030C2-CT
#2	7/64	.050	3/8	230C1	230C1V	230C1-CT
	5/32	.050	3/8	230C2	230C2V	230C2-CT

- Designed for chamfering the back end of the completed part and the front end of following part prior to cutting off in between.

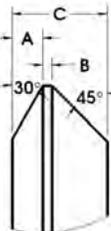
- These tools are available with the flat in the center of the tool or offset which has the flat closer to the spindle side of the tool to allow working close to the spindle.

- **Carbide tipped tools** are supplied for right hand cutting, for left hand cutting add -L to the part number listed. All other choices have a "U" shaped gash for cutting in either direction.

- Available with side pinholes

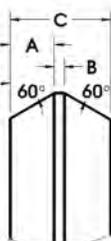
- Side clearance ground

30° / 45° CHAMFER TOOLS FOR B&S



MACHINE SIZE	A	B	C	M2 PART#	T15PM PART#
#00	5/64	.025	1/4	00C3045	00C3045V
#0	3/32	.040	5/16	0C3045	0C3045V
#2	7/64	.050	3/8	2C3045	2C3045V

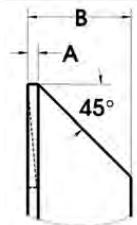
60° DOUBLE CHAMFER TOOLS FOR B&S



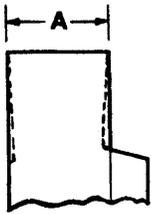
MACHINE SIZE	A	B	C	M2 PART#	T15PM PART#
#00	1/16	.025	1/4	0060C1	0060C1V
	7/64	.025	1/4	0060C2	0060C2V
#0	3/32	.040	5/16	060C1	060C1V
	1/8	.040	5/16	060C2	060C2V
#2	7/64	.050	3/8	260C1	260C1V
	5/32	.050	3/8	260C2	260C2V

FACE-OFF TOOLS FOR B&S

45° FACE-OFF TOOLS are intended for facing the end of the bar, necking, or forming large 45° chamfers



MACHINE SIZE	A	B	M2 PART#	T15PM PART#	3-LIP C2 CARB TIPPED PART#
#00	.025	1/4	00F45	00F45V	00F45-CT
#0	.040	5/16	0F45	0F45V	0F45-CT
#2	.050	3/8	2F45	2F45V	2F45-CT



- For forming grooves, shoulders or roughing down the work piece
- Carbide tipped tools are supplied for right hand cutting, for left hand cutting add -L to the part number listed. All other choices have a "U" shaped gash for cutting in either direction.
- Side clearance ground
- Available with side pinholes

CIRCULAR STRAIGHT TOOLS FOR #0 B&S

A	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#	C2 SOLID CARBIDE PART#
1/8	0S4	0S4V	0S4-CT	0S4-SC
3/16	0S6	0S6V	0S6-CT	0S6-SC
1/4	0S8	0S8V	0S8-CT	0S8-SC
5/16	0S10	0S10V	0S10-CT	0S10-SC
3/8	0S12	0S12V	0S12-CT	0S12-SC
7/16	0S14	0S14V	0S14-CT	
1/2	0S16	0S16V	0S16-CT	0S16-SC
5/8	0S20	0S20V	0S20-CT	

CIRCULAR STRAIGHT TOOLS FOR #00 B&S

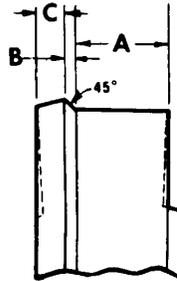
A	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#	C2 SOLID CARBIDE PART#
1/8	00S4	00S4V	00S4-CT	00S4-SC
3/16	00S6	00S6V	00S6-CT	00S6-SC
1/4	00S8	00S8V	00S8-CT	00S8-SC
5/16	00S10	00S10V	00S10-CT	00S10-SC
3/8	00S12	00S12V	00S12-CT	00S12-SC
7/16	00S14	00S14V	00S14-CT	
1/2	00S16	00S16V	00S16-CT	00S16-SC

CIRCULAR STRAIGHT TOOLS FOR #2 B&S

A	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#	C2 SOLID CARBIDE PART#
1/8	2S4	2S4V	2S4-CT	2S4-SC
3/16	2S6	2S6V	2S6-CT	2S6-SC
1/4	2S8	2S8V	2S8-CT	2S8-SC
5/16	2S10	2S10V	2S10-CT	2S10-SC
3/8	2S12	2S12V	2S12-CT	2S12-SC
7/16	2S14	2S14V	2S14-CT	
1/2	2S16	2S16V	2S16-CT	2S16-SC
5/8	2S20	2S20V	2S20-CT	
3/4	2S24	2S24V	2S24-CT	

CIRCULAR HUB TOOLS FOR #00 B&S

A	B	C	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#
.060	.015	.030	00H060	00H060V	00H060-CT
.090	.015	.030	00H090	00H090V	00H090-CT
.122	.015	.030	00H122	00H122V	00H122-CT
.153	.015	.030	00H153	00H153V	00H153-CT
.184	.015	.030	00H184	00H184V	00H184-CT
.215	.020	.040	00H215	00H215V	00H215-CT
.246	.020	.040	00H246	00H246V	00H246-CT
.308	.020	.040	00H308	00H308V	00H308-CT
.370	.020	.040	00H370	00H370V	00H370-CT
.432	.020	.060	00H432	00H432V	
.495	.020	.060	00H495	00H495V	



- For forming fractional length shoulders with a slight corner break
- Carbide tipped tools are supplied for right hand cutting, for left hand cutting add -L to the part number listed. All other choices have a "U" shaped gash for cutting in either direction.
- Side clearance ground
- Available with side pinholes

CIRCULAR HUB TOOLS FOR #0 B&S

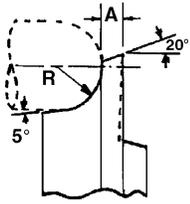
A	B	C	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#
.090	.015	.030	0H090	0H090V	0H090-CT
.122	.015	.030	0H122	0H122V	0H122-CT
.153	.015	.030	0H153	0H153V	0H153-CT
.184	.015	.030	0H184	0H184V	0H184-CT
.215	.020	.040	0H215	0H215V	0H215-CT
.246	.020	.040	0H246	0H246V	0H246-CT
.308	.020	.040	0H308	0H308V	0H308-CT
.370	.020	.040	0H370	0H370V	0H370-CT
.432	.020	.040	0H432	0H432V	0H432-CT
.495	.020	.060	0H495	0H495V	
.557	.020	.060	0H557	0H557V	

CIRCULAR HUB TOOLS FOR #2 B&S

A	B	C	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#
.122	.020	.040	2H122	2H122V	2H122-CT
.153	.020	.040	2H153	2H153V	2H153-CT
.184	.020	.040	2H184	2H184V	2H184-CT
.215	.020	.040	2H215	2H215V	2H215-CT
.246	.025	.050	2H246	2H246V	2H246-CT
.308	.025	.050	2H308	2H308V	2H308-CT
.370	.025	.050	2H370	2H370V	2H370-CT
.432	.025	.050	2H432	2H432V	2H432-CT
.495	.025	.050	2H495	2H495V	2H495-CT
.557	.025	.060	2H557	2H557V	
.620	.025	.070	2H620	2H620V	

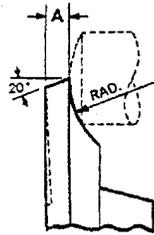
The following Circular Tools are available in M2 and T15PM H.S.S.
Delivery is 1-2 weeks, call us for prices.
Also available with pinholes upon request.

CIRCULAR RADIUS CUT-OFF TOOLS



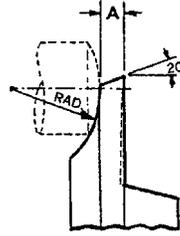
RADIUS	A	CAT. NO.	
		M2	T15PM
for 00 B&S			
1/32	.030	00R1	00R1V
3/64	.030	00R15	00R15V
1/16	.030	00R2	00R2V
3/32	.035	00R3	00R3V
1/8	.040	00R4	00R4V
5/32	.045	00R5	00R5V
3/16	.050	00R6	00R6V
7/32	.055	00R7	00R7V
1/4	.060	00R8	00R8V
for 0 B&S			
3/32	.040	0R3	0R3V
1/8	.040	0R4	0R4V
5/32	.045	0R5	0R5V
3/16	.050	0R6	0R6V
7/32	.055	0R7	0R7V
1/4	.060	0R8	0R8V
9/32	.065	0R9	0R9V
5/16	.070	0R10	0R10V
11/32	.075	0R11	0R11V
3/8	.075	0R12	0R12V
for 2 B&S			
1/8	.050	2R4	2R4V
5/32	.055	2R5	2R5V
3/16	.060	2R6	2R6V
7/32	.065	2R7	2R7V
1/4	.070	2R8	2R8V
9/32	.080	2R9	2R9V
5/16	.090	2R10	2R10V
11/32	.100	2R11	2R11V
3/8	.110	2R12	2R12V

CIRCULAR REAR CROWN CUT-OFF TOOLS



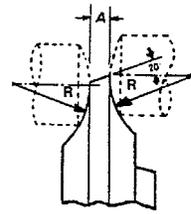
RADIUS	A	CAT. NO.	
		M2	T15PM
for 00 B&S			
1/16	.030	00RR2	00RR2V
3/32	.030	00RR3	00RR3V
1/8	.030	00RR4	00RR4V
5/32	.035	00RR5	00RR5V
3/16	.035	00RR6	00RR6V
7/32	.040	00RR7	00RR7V
1/4	.040	00RR8	00RR8V
9/32	.045	00RR9	00RR9V
5/16	.045	00RR10	00RR10V
11/32	.050	00RR11	00RR11V
3/8	.050	00RR12	00RR12V
13/32	.055	00RR13	00RR13V
7/16	.055	00RR14	00RR14V
15/32	.060	00RR15	00RR15V
1/2	.060	00RR16	00RR16V
for 0 B&S			
1/8	.040	0RR4	0RR4V
5/32	.040	0RR5	0RR5V
3/16	.040	0RR6	0RR6V
7/32	.040	0RR7	0RR7V
1/4	.040	0RR8	0RR8V
9/32	.045	0RR9	0RR9V
5/16	.045	0RR10	0RR10V
11/32	.050	0RR11	0RR11V
3/8	.050	0RR12	0RR12V
13/32	.055	0RR13	0RR13V
7/16	.055	0RR14	0RR14V
15/32	.060	0RR15	0RR15V
1/2	.060	0RR16	0RR16V
9/16	.065	0RR18	0RR18V
5/8	.070	0RR20	0RR20V
11/16	.075	0RR22	0RR22V
3/4	.075	0RR24	0RR24V
for 2 B&S			
1/4	.060	2RR8	2RR8V
5/16	.070	2RR10	2RR10V
3/8	.080	2RR12	2RR12V
7/16	.085	2RR14	2RR14V
1/2	.090	2RR16	2RR16V
9/16	.095	2RR18	2RR18V
5/8	.100	2RR20	2RR20V
11/16	.105	2RR22	2RR22V
3/4	.110	2RR24	2RR24V

CIRCULAR FRONT CROWN CUT-OFF TOOLS



RADIUS	A	CAT. NO.	
		M2	T15PM
for 00 B&S			
1/16	.030	00RF2	00RF2V
3/32	.030	00RF3	00RF3V
1/8	.030	00RF4	00RF4V
5/32	.035	00RF5	00RF5V
3/16	.035	00RF6	00RF6V
7/32	.040	00RF7	00RF7V
1/4	.040	00RF8	00RF8V
9/32	.045	00RF9	00RF9V
5/16	.045	00RF10	00RF10V
11/32	.050	00RF11	00RF11V
3/8	.050	00RF12	00RF12V
13/32	.055	00RF13	00RF13V
7/16	.055	00RF14	00RF14V
15/32	.060	00RF15	00RF15V
1/2	.060	00RF16	00RF16V
for 0 B&S			
1/8	.040	0RF4	0RF4V
5/32	.040	0RF6	0RF6V
3/16	.040	0RF6	0RF6V
7/32	.040	0RF8	0RF8V
1/4	.040	0RF8	0RF8V
9/32	.045	0RF10	0RF10V
5/16	.045	0RF10	0RF10V
11/32	.050	0RF12	0RF12V
3/8	.050	0RF12	0RF12V
13/32	.055	0RF14	0RF14V
7/16	.055	0RF14	0RF14V
15/32	.060	0RF16	0RF16V
1/2	.060	0RF16	0RF16V
9/16	.065	0RF18	0RF18V
5/8	.070	0RF20	0RF20V
11/16	.075	0RF22	0RF22V
3/4	.075	0RF24	0RF24V
for 2 B&S			
1/4	.060	2RF8	2RF8V
5/16	.070	2RF10	2RF10V
3/8	.080	2RF12	2RF12V
7/16	.085	2RF14	2RF14V
1/2	.090	2RF16	2RF16V
9/16	.095	2RF18	2RF18V
5/8	.100	2RF20	2RF20V
11/16	.105	2RF22	2RF22V
3/4	.110	2RF24	2RF24V

CIRCULAR DOUBLE CROWN CUT-OFF TOOLS



RADIUS	A	CAT. NO.	
		M2	T15PM
for 00 B&S			
1/16	.030	00RD2	00RD2V
3/32	.030	00RD3	00RD3V
1/8	.030	00RD4	00RD4V
5/32	.035	00RD5	00RD5V
3/16	.035	00RD6	00RD6V
7/32	.040	00RD7	00RD7V
1/4	.040	00RD8	00RD8V
9/32	.045	00RD9	00RD9V
5/16	.045	00RD10	00RD10V
11/32	.050	00RD11	00RD11V
3/8	.050	00RD12	00RD12V
13/32	.055	00RD13	00RD13V
7/16	.055	00RD14	00RD14V
15/32	.060	00RD15	00RD15V
1/2	.060	00RD16	00RD16V
for 0 B&S			
1/8	.040	0RD4	0RD4V
5/32	.040	0RD6	0RD6V
3/16	.040	0RD6	0RD6V
7/32	.040	0RD8	0RD8V
1/4	.040	0RD8	0RD8V
9/32	.045	0RD10	0RD10V
5/16	.045	0RD10	0RD10V
11/32	.050	0RD12	0RD12V
3/8	.050	0RD12	0RD12V
13/32	.055	0RD14	0RD14V
7/16	.055	0RD14	0RD14V
15/32	.060	0RD16	0RD16V
1/2	.060	0RD16	0RD16V
9/16	.065	0RD18	0RD18V
5/8	.070	0RD20	0RD20V
11/16	.075	0RD22	0RD22V
3/4	.075	0RD24	0RD24V
for 2 B&S			
1/4	.060	2RD8	2RD8V
5/16	.070	2RD10	2RD10V
3/8	.080	2RD12	2RD12V
7/16	.085	2RD14	2RD14V
1/2	.090	2RD16	2RD16V
9/16	.095	2RD18	2RD18V
5/8	.100	2RD20	2RD20V
11/16	.105	2RD22	2RD22V
3/4	.110	2RD24	2RD24V

ALL TOOLS GASHED "U" SHAPED FOR RIGHT OR LEFT HAND CUTTING.

FLAT FORM TOOL BLANKS T15PM H.S.S.

These hardened and ground blanks are ideal for grinding into flat form tools, skive tools, spacers, gages and many other applications.



T15PM is a tungsten type high speed steel containing high carbon and vanadium for very high hardness and maximum wear resistance, and cobalt for good red hardness.

Flat Form Tool Blank Part Numbers

1/16 x 1/2 x 6-P	5/32 x 5/8 x 6-P	5/16 x 5/8 x 6-P	1/2 x 5/8 x 4.5-P	3/4 x 1 x 5-P
	5/32 x 1 x 6-P	5/16 x 3/4 x 5-P	1/2 x 3/4 x 5-P	3/4 x 1 x 6-P
3/32 x 1/2 x 6-P		5/16 x 7/8 x 10-P	1/2 x 3/4 x 6-P	3/4 x 1 x 7-P
3/32 x 1 x 6-P	3/16 x 1 x 6-P	5/16 x 1 x 7-P	1/2 x 1 x 5-P	3/4 x 1.25 x 7-P
			1/2 x 1 x 6-P	3/4 x 1.5 x 5-P
1/8 x 1/2 x 6-P	1/4 x 3/8 x 6-P	3/8 x 1/2 x 4-P	1/2 x 1 x 7-P	3/4 x 1.5 x 7-P
1/8 x 3/4 x 6-P	1/4 x 1/2 x 4-P	3/8 x 1/2 x 6-P	1/2 x 1.25 x 9-P	3/4 x 2 x 8-P
1/8 x 1 x 6-P	1/4 x 1/2 x 6-P	3/8 x 5/8 x 4.5-P	1/2 x 1.5 x 5-P	
	1/4 x 3/4 x 6-P	3/8 x 5/8 x 6-P	1/2 x 1.5 x 7-P	7/8 x 1.125 x 7-P
	1/4 x 1 x 6-P	3/8 x 3/4 x 6-P		
		3/8 x 1 x 7-P	5/8 x 3/4 x 4-P	1 x 1.25 x 7-P
		3/8 x 1.25 x 10-P	5/8 x 1 x 7-P	1 x 1.5 x 7.5-P
		3/8 x 1.5 x 6-P	5/8 x 1.25 x 7-P	

SQUARE TOOL BITS T15PM / WKE45 H.S.S.



WKE 45 with 11% cobalt content, fine grain structure and unique chemical composition, meets requirements for maximum performance in most cutting tool applications.

WKE45
7MM SQ X 200MM
8MM SQ X 200MM
10MM SQ X 200MM
12MM SQ X 200MM

Custom sizes and materials available upon request

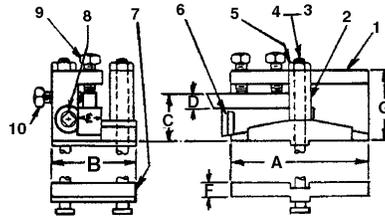
Contact Somma with your requirements for custom sizes up to 72" in length

UNIVERSAL TOOL POST



- Can be adapted to turret lathes and hand screw machines
- Can be set up close to chuck
- Can be used with R & L cut-off blade holder

- Holds flat form tools on front or rear slide
- Can be used for skiving tools as well as for flat form tools
- For both right and left hand spindle rotation



UNIVERSAL TOOL POSTS

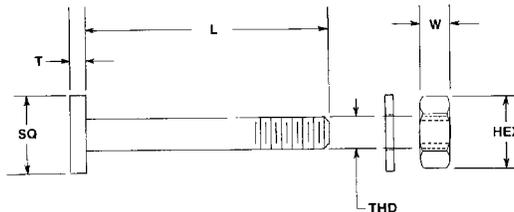
CAT. NO.	A	B	C	D	E	F	G	FITS
TP00	3"	1-13/16	1"	3/8	1/2	3/8	1-1/2	No. 00 B&S
TP1	4"	2-13/32	1-5/16	1/2	3/4	1/2	1-27/32	No. 0 B&S
TP2	4-1/2	3"	1-7/16	5/8	1"	5/8	2-3/32	No. 2 B&S

UNIVERSAL TOOL POST PARTS

Part No.	TP00 Cat. No.	TP1 Cat. No.	TP2 Cat. No.
1. Body	TP00-1	TP1-1	TP2-1
2. Bushing	TP00-2	TP1-2	TP2-2
3. Long Bolts (ea)	00TPB-3	0TPB-3	2TPB-3
4. Short Bolts(ea)	00TPB-2	0TPB-2	2TPB-2
5. Nuts (ea)	00TBN	0TBN	2TBN
6. Tape Wedge	TP00-6	TP1-6	TP2-6
7. Raising Block	TP00-7	TP1-7	TP2-7
8. Adjusting Screw	TP00-8	TP1-8	TP2-8
9. Clamp Screws (ea)	TT1-6	TT2-13	TT2-13
10. Alignment Screws (ea)	TP00-10	TP1-10	TP1-10

"T" BOLTS FOR CROSS SLIDES

Fit B&S, Davenport and other machines
Heat treated alloy steel for long life



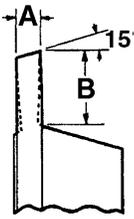
NUT (INCLUDING WASHERS) SPECIFICATIONS

CAT. NO.	HEX	W	THD.
00TBN	11/16	3/8	3/8-16
0TBN	3/4	7/16	7/16-14
2TBN	7/8	1/2	1/2-13

"T" BOLT SPECIFICATIONS

CAT. NO.	L	T	SQ	THD-LENGTH
00TPB-1	1-3/4			
00TPB-2	2-1/8			
00TPB-3	2-1/2	3/16	5/8	3/8-16x1"
00TPB-4	2-3/4			
00TPB-4.5	3-1/8			
00TPB-5	3-1/2			
00TPB-6	4-1/2			
00TPB-7	4"			
0TPB-1	2-1/8			
0TPB-2	2-5/8			
0TPB-3	3-1/8	3/16	3/4	7/16-14x1"
0TPB-4	3-1/2			
0TPB-5	4-3/4			
2TPB-1	2-1/2			
2TPB-2	3"			
2TPB-3	3-1/2	1/4	7/8	1/2-13x1"
2TPB-4	4"			
2TPB-5	5"			
2TPB-6	5-3/4			





- For straight cutting-off
- **Carbide tipped tools** are supplied for right hand cutting, for left hand cutting add -L to the part number listed. All other choices have a "U" shaped gash for cutting in either direction.
- Side clearance ground
- Available with side pinholes
- Available with 23 degree C/O angle for non-ferrous metals
- Available with TIN and other coatings

CIRCULAR PLAIN CUT-OFF TOOLS FOR #0 B&S (2-1/4" DIA., 5/16" WIDE WITH 1/2-13 THREAD)

A	B	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#	C2 SOLID CARBIDE PART#
.040	3/16	0P4	0P4V	0P4-CT	
.050	7/32	0P5	0P5V	0P5-CT	
.060	1/4	0P6	0P6V	0P6-CT	0P6-SC
.070	5/16	0P7	0P7V	0P7-CT	
.080	5/16	0P8	0P8V	0P8-CT	0P8-SC
.090	3/8	0P9	0P9V	0P9-CT	
.100	3/8	0P10	0P10V	0P10-CT	0P10-SC
.120	3/8	0P12	0P12V	0P12-CT	0P12-SC

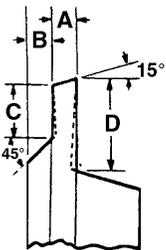
CIRCULAR PLAIN CUT-OFF TOOLS FOR #0 B&S (1-3/4" DIA., 1/4" WIDE WITH 3/8-16 THREAD)

A	B	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#	C2 SOLID CARBIDE PART#
.030	1/8	00P3	00P3V	00P3-CT	
.040	3/16	00P4	00P4V	00P4-CT	00P4-SC
.050	7/32	00P5	00P5V	00P5-CT	
.060	1/4	00P6	00P6V	00P6-CT	00P6-SC
.070	1/4	00P7	00P7V	00P7-CT	
.080	1/4	00P8	00P8V	00P8-CT	00P8-SC
.100	1/4	00P10	00P10V	00P10-CT	00P10-SC

CIRCULAR PLAIN CUT-OFF TOOLS FOR #2 B&S (3" DIA., 3/8" WIDE WITH 5/8-11 THREAD)

A	B	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#	C2 SOLID CARBIDE PART#
.060	5/16	2P6	2P6V	2P6-CT	
.080	7/16	2P8	2P8V	2P8-CT	2P8-SC
.100	9/16	2P10	2P10V	2P10-CT	2P10-SC
.120	5/8	2P12	2P12V	2P12-CT	2P12-SC
.140	11/16	2P14	2P14V	2P14-CT	2P14-SC

CUT OFF



- For cutting-off and chamfering
- **Carbide tipped tools** are supplied for right hand cutting, for left hand cutting add -L to the part number listed. All other choices have a "U" shaped gash for cutting in either direction.
- Side clearance ground
- Available with side pinholes
- Available with 23 degree C/O angle for non-ferrous metals
- Available with TIN and other coatings



CIRCULAR CUT-OFF & CHAMFER TOOLS FOR #0 B&S (1-3/4" DIA., 1/4" WIDE WITH 3/8-16 THREAD)

A	B	C	D	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#
.030	.030	3/64	1/4	00C3	00C3V	00C3-CT
.040	.040	5/64	1/4	00C4	00C4V	00C4-CT
.050	.050	7/64	1/4	00C5	00C5V	00C5-CT
.060	.060	9/64	1/4	00C6	00C6V	00C6-CT
.070	.070	11/64	1/4	00C7	00C7V	00C7-CT
.080	.080	13/64	1/4	00C8	00C8V	00C8-CT

CIRCULAR CUT-OFF & CHAMFER TOOLS FOR #2 B&S (3" DIA., 3/8" WIDE WITH 5/8-11 THREAD)

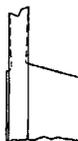
A	B	C	D	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#
.060	.060	1/8	3/8	2C6	2C6V	2C6-CT
.070	.070	3/16	7/16	2C7	2C7V	2CT-CT
.080	.080	1/4	1/2	2C8	2C8V	2C8-CT
.090	.090	5/16	9/16	2C9	2C9V	2C9-CT
.100	.100	3/8	9/16	2C10	2C10V	2C10-CT
.110	.110	7/16	5/8	2C11	2C11V	2C11-CT
.120	.120	1/2	5/8	2C12	2C12V	2C12-CT
.140	.140	9/16	11/16	2C14	2C14V	2C14-CT

CIRCULAR CUT-OFF & CHAMFER TOOLS FOR #0 B&S (2-1/4" DIA., 5/16" WIDE WITH 1/2-13 THREAD)

A	B	C	D	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#
.040	.040	5/64	5/16	0C4	0C4V	0C4-CT
.050	.050	7/64	5/16	0C5	0C5V	0C5-CT
.060	.060	9/64	5/16	0C6	0C6V	0C6-CT
.070	.070	11/64	3/8	0C7	0C7V	0C7-CT
.080	.080	7/32	3/8	0C8	0C8V	0C8-CT
.090	.090	9/32	3/8	0C9	0C9V	0C9-CT
.100	.100	11/32	3/8	0C10	0C10V	0C10-CT

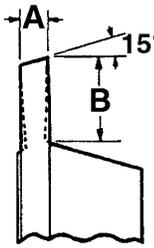
FISHTAIL (TUBING) CUT-OFF TOOLS

Somma can supply any of the above standard tools to "fishtail" shape for cutting tubing. The fishtail shape produces a clean cutoff on both the front and back of the part. It avoids the problem of material being rolled into and closing the front end of the hole.



CIRCULAR CUT-OFF & CHAMFER TOOLS To Your Specifications

Prices on application, specify "A", "B", "C", and "D" dimensions, quantity, machine size, steel and type tool desired.



CIRCULAR PLAIN CUT-OFF TOOLS FOR DAVENPORT MACHINES (CAN ALSO BE USED ON 7/16" ACME AND 9/16" CONE MACHINES)

A	B	M2 PART#	T15PM PART#	3-LIP C2 CARB. TIPPED PART#	SOLID C2 CARBIDE PART#
.030	3/32	DP030	DP030V	DP030-CT	
.040	1/8	DP040	DP040V	DP040-CT	
.050	3/16	DP050	DP050V	DP050-CT	DP050-SC
.060	7/32	DP060	DP060V	DP060-CT	
.070	1/4	DP070	DP070V	DP070-CT	DP070-SC
.080	9/32	DP080	DP080V	DP080-CT	
.090	9/32	DP090	DP090V	DP090-CT	DP090-SC



- For straight cutting-off
- Side clearance ground
- All with side pinholes
- Available with 23 degree C/O angle for non-ferrous metals
- Available with TIN and other coatings

"T" CUT-OFF BLADE HOLDER FOR DAVENPORT

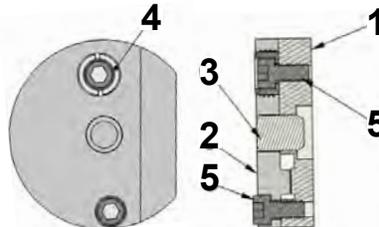
This Cut-Off Blade Holder can be mounted in the circular form tool position on the Davenport Machine and holds standard 1/2" high "T" Type Cut-Off Blades.

Cat. No.
TCOBH-DAV

EXCLUSIVE ADJUSTMENT FEATURE
MAKES COMPENSATION FOR
DIFFERENT BLADE WIDTHS FAST AND
EASY

- * ELIMINATES NEED FOR WASHERS OR SPACERS
- * HOLDS BLADES MORE SECURELY
- * HOLDER LASTS LONGER

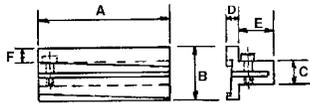
(FOR STANDARD BLADES TO FIT THIS HOLDER SEE PAGES 48 & 49).



Part No.	Cat. No.
1. Body	TCOBH-DAV-1
2. Clamp	TCOBH-DAV-2
3. Adjustment Screw	TCOBH-DAV-3
4. Center Stud	TCOBH-DAV-4
5. Clamp Screws	ATTO-16

CUT-OFF BLADE HOLDERS

- Fits R & L Universal Tool Post
- Can also be used on turret lathe tool posts
- Forward rotation holder can be used on either front or rear side.
- Reverse rotation holder can be used on either front or rear side
- Entire holder can be removed for tool resharping without losing setting.
- TCOBH-ACCU is rectangular and does not have projection "C" and "E".



(FOR STANDARD CUT-OFF BLADES TO FIT THESE HOLDERS SEE PAGES 48 & 49.)

HOLDERS FOR T-TYPE BLADES

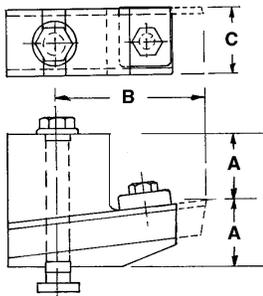
TOOL NO.	ROTATION	BLADE HEIGHT
TCOBH00-F	FORWARD	1/2
TCOBH00-R	REVERSE	1/2
TCOBH1-F	FORWARD	11/16
TCOBH1-R	REVERSE	11/16
TCOBH2-F	FORWARD	11/16
TCOBH2-R	REVERSE	11/16
TCOBH-ACCU	FORWARD	1/2

CUT-OFF BLADE HOLDER SPECIFICATIONS

Size	A	B	C	D	E	F
No. 00	2-1/2	1"	3/8	1/4	1/2	5/16
No. 1	2-3/4	1-1/8	1/2	1/4	3/4	9/32
No. 2	3"	1-3/16	5/8	5/16	1"	5/16
ACCU	3-1/2	63/64	0	9/16	0	1/4



UNIVERSAL CUT-OFF BLADE TOOL POST FOR B&S MACHINES

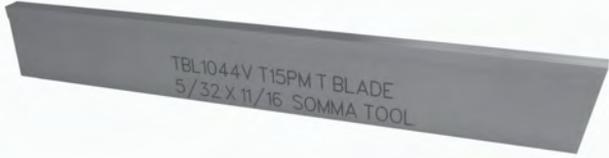


UNIQUE DESIGN:

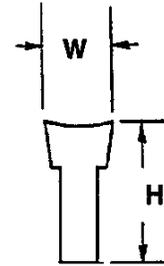
- ONE TOOL POST TAKES CARE OF ALL POSITIONS BY HOLDING BLADE ON ONE SIDE OR THE OTHER AND BY USING TOOL POST RIGHT SIDE UP OR UPSIDE DOWN
- CAN BE USED ON EITHER FRONT OR REAR SLIDE AND FOR FORWARD OR REVERSE ROTATION
- HOLDS "T" TYPE CUTOFF BLADES (SEE PAGES 48 & 49 FOR BLADES TO FIT THESE HOLDERS)
- RUGGED CONSTRUCTION
- REVERSIBLE CLAMP BLOCK HOLDS BLADE SECURELY ON EITHER SIDE

CAT. NO.	A	B	C	BLADE
BLTP-00	1"	2-3/16	1"	1/2
BLTP-0	1-5/16	2-3/4	1-1/4	11/16
BLTP-2	1-7/16	3-5/8	1-3/8	11/16

CUT OFF



- Ground all over
- Concave ground top
- Blade centered



- M2** - GENERAL PURPOSE WITH EXCELLENT TOUGHNESS
COBALT- HIGHEST HEAT RESISTANCE, HIGHER RPM APPLICATIONS
T15PM - EXCELLENT FOR DIFFICULT TO MACHINE MATERIALS WITH GOOD HEAT RESISTANCE

REF#	SIZE			M2 STEEL ORDERING#	COBALT STEEL ORDERING#	T15PM STEEL ORDERING#
	W	H	L			
P1N	.040	1/2	3-1/2	TBL332	TBL332C	TBL332V
P1	1/16	1/2	4-1/2	TBL432	TBL432C	TBL432V
P2N	5/64	1/2	4-1/2	TBL532	TBL532C	TBL532V
P2	3/32	1/2	4-1/2	TBL632	TBL632C	TBL632V
P3S	1/8	1/2	4-1/2	TBL832	TBL832C	TBL832V
P3N-866	1/16	11/16	5	TBL444	TBL444C	TBL444V
	5/64	11/16	5	TBL544	TBL544C	TBL544V
P3N	3/32	11/16	5	TBL644	TBL644C	TBL644V
P3	1/8	11/16	5	TBL844	TBL844C	TBL844V
P4	5/32	11/16	5	TBL1044	TBL1044C	TBL1044V
P5S	3/16	11/16	5	TBL1244	TBL1244C	TBL1244V
P3W	1/8	3/4	5	TBL848	TBL848C	TBL848V
P4W	5/32	3/4	5	TBL1048	TBL1048C	TBL1048V
P5W	3/16	3/4	5	TBL1248	TBL1248C	TBL1248V
P5X-931	3/32	7/8	6	-	TBL656C	TBL656V
P5X	1/8	7/8	6	TBL856	TBL856C	TBL856V
P5N	5/32	7/8	6	TBL1056	TBL1056C	TBL1056V
P5	3/16	7/8	6	TBL1256	TBL1256C	TBL1256V
P6	1/4	7/8	6	TBL1656	TBL1656C	TBL1656V
P8X	1/8	1-1/8	6-1/2	TBL872	TBL872C	TBL872V
P8N	5/32	1-1/8	6-1/2	TBL1072	TBL1072C	TBL1072V
P8	3/16	1-1/8	6-1/2	TBL1272	TBL1272C	TBL1272V
P9	1/4	1-1/8	6-1/2	TBL1672	TBL1672C	TBL1672V
P10	5/16	1-1/8	6-1/2	TBL2072	TBL2072C	TBL2072V

H.S.S. CUT-OFF BLADE GRINDING OPTIONS:

(FOR THE OPTIONS LISTED, ADD THE SUFFIX LISTED BELOW TO THE ORDERING NUMBER)

- CB = CHIP BREAKER GROOVE GROUND ALONG THE TOP LENGTH OF THE BLADE
- TAPER = SIDE TAPER GROUND FRONT TO BACK ALONG T PORTION OF BLADE

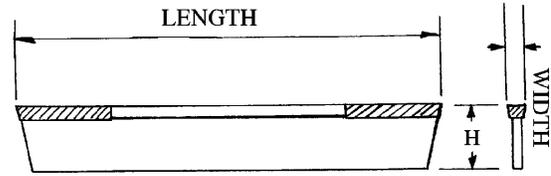
CUT-OFF BLADE COATING OPTIONS:

(FOR THE OPTIONS LISTED, ADD THE SUFFIX LISTED BELOW TO THE ORDERING NUMBER)

- TIN A GOOD GENERAL PURPOSE COATING FOR METAL CUTTING
- TICN THIS COATING IS RECOMMENDED FOR MACHINING HIGH CARBON STEEL, HIGH SILICON ALUMINUMS AND TOOL STEELS
- TIALN FOR MACHINING CAST IRON, HIGH NICKEL AND TITANIUM ALLOYS, HARDENED STEELS AND STAINLESS STEELS. GOOD CHOICE FOR INTERRUPTED APPLICATIONS

*****MANY MORE SPECIALIZED COATINGS AVAILABLE*****

SOLID CARBIDE T-TYPE C/O BLADES ON PAGE 50



MICROGRAIN - INCREASED FEEDS, SHOCK RESISTANT FOR INTERRUPTED CUTS.
C2 CARBIDE - HEAT AND WEAR RESISTANT. FOR CAST IRON & NON-FERROUS METALS AND PLASTICS.
C6 CARBIDE - FOR CARBON AND ALLOY STEELS AT MEDIUM SPEEDS. CAN BE USED AT HIGHER FEED RATES THAN C2.

REF#	W	SIZE H	L	DOUBLE END MICROGRAIN ORDERING#	SINGLE END C2 ORDERING#	DOUBLE END C6 ORDERING#	SINGLE END C6 ORDERING#
P1N	.040	1/2	3-1/2	CTBL332-MIC	CTBL332-C2-SE	CTBL332-C6	CTBL332-C6-SE
P1	1/16	1/2	4-1/2	CTBL432-MIC	CTBL432-C2-SE	CTBL432-C6	CTBL432-C6-SE
P2N	5/64	1/2	4-1/2	CTBL532-MIC	CTBL532-C2-SE	CTBL532-C6	CTBL532-C6-SE
P2	3/32	1/2	4-1/2	CTBL632-MIC	CTBL632-C2-SE	CTBL632-C6	CTBL632-C6-SE
P3S	1/8	1/2	4-1/2	CTBL832-MIC	CTBL832-C2-SE	CTBL832-C6	CTBL832-C6-SE
P3N-866	1/16	11/16	5	CTBL444-MIC	CTBL444-C2-SE	CTBL444-C6	CTBL444-C6-SE
	5/64	11/16	5	CTBL544-MIC	CTBL544-C2-SE	CTBL544-C6	CTBL544-C6-SE
P3N	3/32	11/16	5	CTBL644-MIC	CTBL644-C2-SE	CTBL644-C6	CTBL644-C6-SE
P3	1/8	11/16	5	CTBL844-MIC	CTBL844-C2-SE	CTBL844-C6	CTBL844-C6-SE
P4	5/32	11/16	5	CTBL1044-MIC	CTBL1044-C2-SE	CTBL1044-C6	CTBL1044-C6-SE
P5S	3/16	11/16	5	CTBL1244-MIC	CTBL1244-C2-SE	CTBL1244-C6	CTBL1244-C6-SE
P3W	1/8	3/4	5	CTBL848-MIC	CTBL848-C2-SE	CTBL848-C6	CTBL848-C6-SE
P4W	5/32	3/4	5	CTBL1048-MIC	CTBL1048-C2-SE	CTBL1048-C6	CTBL1048-C6-SE
P5W	3/16	3/4	5	CTBL1248-MIC	CTBL1248-C2-SE	CTBL1248-C6	CTBL1248-C6-SE
P5X-931	3/32	7/8	6	CTBL656-MIC	-	-	-
P5X	1/8	7/8	6	CTBL856-MIC	CTBL856-C2-SE	CTBL856-C6	CTBL856-C6-SE
P5N	5/32	7/8	6	CTBL1056-MIC	CTBL1056-C2-SE	CTBL1056-C6	CTBL1056-C6-SE
P5	3/16	7/8	6	CTBL1256-MIC	CTBL1256-C2-SE	CTBL1256-C6	CTBL1256-C6-SE
P6	1/4	7/8	6	CTBL1656-MIC	CTBL1656-C2-SE	CTBL1656-C6	CTBL1656-C6-SE
P8X	1/8	1-1/8	6-1/2	CTBL872-MIC	CTBL872-C2-SE	CTBL872-C6	CTBL872-C6-SE
P8N	5/32	1-1/8	6-1/2	CTBL1072-MIC	CTBL1072-C2-SE	CTBL1072-C6	CTBL1072-C6-SE
P8	3/16	1-1/8	6-1/2	CTBL1272-MIC	CTBL1272-C2-SE	CTBL1272-C6	CTBL1272-C6-SE
P9	1/4	1-1/8	6-1/2	CTBL1672-MIC	CTBL1672-C2-SE	CTBL1672-C6	CTBL1672-C6-SE
P10	5/16	1-1/8	6-1/2	CTBL2072-MIC	CTBL2072-C2-SE	CTBL2072-C6	CTBL2072-C6-SE

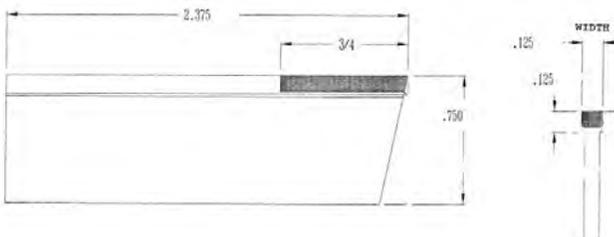
CUT-OFF BLADE COATING OPTIONS:

(FOR THE OPTIONS LISTED, ADD THE SUFFIX LISTED BELOW TO THE ORDERING NUMBER)

- TIN A GOOD GENERAL PURPOSE COATING FOR METAL CUTTING
- TICN THIS COATING IS RECOMMENDED FOR MACHING HIGH CARBON STEEL, HIGH SILICON ALUMINUMS AND TOOL STEELS
- TIALN FOR MACHING CAST IRON, HIGH NICKEL AND TITANIUM ALLOYS, HARDENED STEELS AND STAINLESS STEELS. GOOD CHOICE FOR INTERRUPTED APPLICATIONS

*****MANY MORE SPECIALIZED COATINGS AVAILABLE*****

MICRO-GRAIN CARBIDE TIPPED / SHORT LENGTH T-TYPE CUT-OFF BLADES

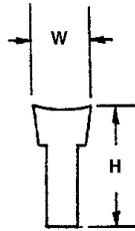


CAT. NO.	WIDTH	HEIGHT	LENGTH	"A"
CTBL848-MIC-2-3/8	1/8	3/4	2-3/8"	3/4
CTBL1048-MIC-2-3/8	5/32	3/4	2-3/8"	3/4
CTBL1248-MIC-2-3/8	3/16	3/4	2-3/8"	3/4

SOLID CARBIDE T-TYPE C/O BLADES ON NEXT PAGE

CUT OFF

SOLID CARBIDE T-TYPE CUT-OFF BLADES



LOW COST!
MORE PIECES PER BLADE!
Longer wear, less galling, better finish,
higher speeds than high-speed steels.
PLUS greater rigidity and up to 10 times the
resharpenable tool life of carbide tipped tools.

CUT-OFF BLADE COATING OPTIONS:

(FOR THE OPTIONS LISTED, ADD THE SUFFIX LISTED BELOW TO THE ORDERING NUMBER)

- TIN A GOOD GENERAL PURPOSE COATING FOR METAL CUTTING
- TICN THIS COATING IS RECOMMENDED FOR MACHINING HIGH CARBON STEEL, HIGH SILICON ALUMINUMS AND TOOL STEELS
- TIALN FOR MACHINING CAST IRON, HIGH NICKEL AND TITANIUM ALLOYS, HARDENED STEELS AND STAINLESS STEELS. GOOD CHOICE FOR INTERRUPTED APPLICATIONS

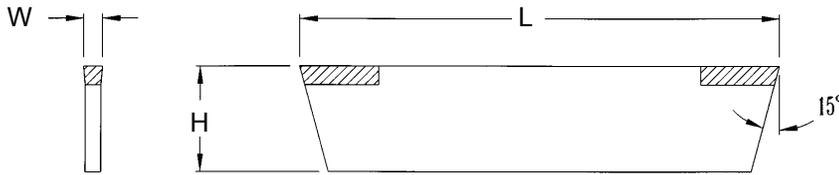
Tools are supplied ready for use with cut-off angles sharpened on both ends so that tools can be used on front or rear slide and for either right or left hand operations.

CAT NO.	W	H	LENGTH	REF. NO.
SCBL332	3/64	1/2	4"	P-1-N
SCBL432	1/16	1/2	4"	P-1
SCBL532	5/64	1/2	4"	P-2-N
SCBL632	3/32	1/2	4"	P-2
SCBL832	1/8	1/2	4"	P-3-S
SCBL444	1/16	11/16	4"	P-3N-866
SCBL644	3/32	11/16	4"	P-3-N
SCBL844	1/8	11/16	4"	P-3
SCBL1244	3/16	11/16	4"	P-5-S

CUT OFF

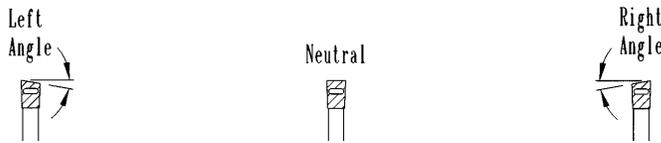
EMPIRE® TWIN-TIP® STYLE CUT-OFF BLADES

Call Somma Tool for a quote!



Specify either the complete Empire® part number or the following:

- 1) Height, Width, and Length
- 2) Front C/O Angle (Ex. 4° left angle)
- 3) Carbide Grade (Ex. C2)
- 4) Coating Type (if applicable)

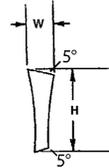


ACME "B" TYPE CUT-OFF BLADES 7° BEVELED



W	H	L	REF. NO	T15PM H.S.S CAT. NO.	MICRO-GRAIN CARBIDE TIPPED CAT. NO.
.040	1/2	5-3/4	B-17	ABL332V	ABL332-MIC
1/16	1/2	5-3/4	B-1	ABL432V	ABL432-MIC
3/32	1/2	5-3/4	B-2	ABL632V	ABL632-MIC
1/8	1/2	5-3/4	B-5	ABL832V	ABL832-MIC
3/32	13/16	7-3/16	B-3	ABL652V	ABL652-MIC
1/8	13/16	7-3/16	B-6	ABL852V	ABL852-MIC
5/32	13/16	7-3/16	B-8	ABL1052V	ABL1052-MIC
3/16	13/16	7-3/16	B-9	ABL1252V	ABL1252-MIC
1/4	13/16	7-3/16	B-11	ABL1652V	ABL1652-MIC
1/8	1"	8-1/4	B-7	ABL864V	ABL864-MIC
3/16	1"	8-1/4	B-10	ABL1264V	ABL1264-MIC
1/4	1"	8-1/4	B-12	ABL1664V	ABL1664-MIC
1/4	1-1/4	9"	B-13	ABL1680V	ABL1680-MIC

JCO (JOHNSON STYLE) HOLLOW GROUND CUT-OFF BLADES - H.S.S.



CUT-OFF ANGLE HAS TO BE SHARPENED BEFORE USING TO SUIT INDIVIDUAL APPLICATION.

- Ground all over

- M2** - GENERAL PURPOSE WITH EXCELLENT TOUGHNESS
- COBALT-** HIGHEST HEAT RESISTANCE, HIGHER RPM APPLICATIONS
- T15PM** - EXCELLENT FOR DIFFICULT TO MACHINE MATERIALS WITH GOOD HEAT RESISTANCE

W	H	L	M2 STEEL ORDERING#	COBALT STEEL ORDERING#	T15PM STEEL ORDERING#
.035	1/2	4-1/2	BL232	--	--
3/64	1/2	4-1/2	BL332	BL332C	BL332V
1/16	1/2	4-1/2	BL432	BL432C	BL432V
5/64	1/2	4-1/2	BL532	BL532C	BL532V
3/32	1/2	4-1/2	BL632	BL632C	BL632V
1/8	1/2	4-1/2	BL832	BL832C	BL832V
3/64	11/16	5"	--	--	BL344V
1/16	11/16	5"	BL444	BL444C	BL444V
3/32	11/16	5"	BL644	BL644C	BL644V
1/8	11/16	5"	BL844	BL844C	BL844V
5/32	11/16	5"	BL1044	BL1044C	BL1044V
3/16	11/16	5"	BL1244	BL1244C	BL1244V
1/4	11/16	5"	BL1644	BL1644C	BL1644V
1/16	13/16	6"	BL452	BL452C	BL452V
3/32	13/16	6"	BL652	BL652C	BL652V
1/8	13/16	6"	BL852	BL852C	BL852V
5/32	13/16	6"	BL1052	BL1052C	BL1052V
3/16	13/16	6"	BL1252	BL1252C	BL1252V
1/4	13/16	6"	BL1652	BL1652C	BL1652V

CUT-OFF BLADE COATING OPTIONS:

(FOR THE OPTIONS LISTED, ADD THE SUFFIX LISTED BELOW TO THE ORDERING NUMBER)

- TIN** A GOOD GENERAL PURPOSE COATING FOR METAL CUTTING
- TICN** THIS COATING IS RECOMMENDED FOR MACHINING HIGH CARBON STEEL, HIGH SILICON ALUMINUMS AND TOOL STEELS
- TIALN** FOR MACHINING CAST IRON, HIGH NICKEL AND TITANIUM ALLOYS, HARDENED STEELS AND STAINLESS STEELS. GOOD CHOICE FOR INTERRUPTED APPLICATIONS

JCO (JOHNSON STYLE) HOLLOW GROUND CUT-OFF BLADES - CARBIDE TIPPED

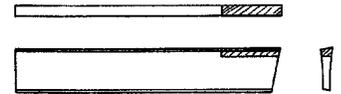
MICROGRAIN CARBIDE- INCREASED FEEDS, SHOCK RESISTANT FOR INTERRUPTED CUTS.



STYLE "Y"
FOR USE ON: FRONT SLIDE
R.H. / REAR SLIDE R.H. OR
VERTICAL SLIDE L.H.

CUT-OFF ANGLE HAS TO BE SHARPENED BEFORE USING TO SUIT INDIVIDUAL APPLICATION.

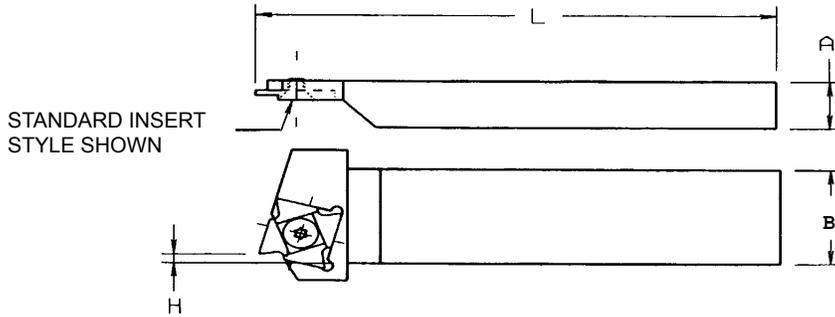
STYLE "Y" ORDERING#	W	H	L	STYLE "X" ORDERING#
CHBL432-Y-MIC	1/16	1/2	4-1/2	CHBL432-X-MIC
CHBL532-Y-MIC	5/64	1/2	4-1/2	CHBL532-X-MIC
CHBL632-Y-MIC	3/32	1/2	4-1/2	CHBL632-X-MIC
CHBL832-Y-MIC	1/8	1/2	4-1/2	CHBL832-X-MIC
CHBL444-Y-MIC	1/16	11/16	5"	CHBL444-X-MIC
CHBL644-Y-MIC	3/32	11/16	5"	CHBL644-X-MIC
CHBL844-Y-MIC	1/8	11/16	5"	CHBL844-X-MIC
CHBL1044-Y-MIC	5/32	11/16	5"	CHBL1044-X-MIC
CHBL1244-Y-MIC	3/16	11/16	5"	CHBL1244-X-MIC
CHBL452-Y-MIC	1/16	13/16	6"	CHBL452-X-MIC
CHBL652-Y-MIC	3/32	13/16	6"	CHBL652-X-MIC
CHBL852-Y-MIC	1/8	13/16	6"	CHBL852-X-MIC
CHBL1052-Y-MIC	5/32	13/16	6"	CHBL1052-X-MIC
CHBL1252-Y-MIC	3/16	13/16	6"	CHBL1252-X-MIC
CHBL1652-Y-MIC	1/4	13/16	6"	CHBL1652-X-MIC



STYLE "X"
FOR USE ON: FRONT SLIDE
L.H. / REAR SLIDE L.H. OR
VERTICAL SLIDE R.H.

ACME CUT-OFF TOOLHOLDERS

Patent No. D307859



MACHINE SIZE	A	B	H	L	CAT# FOR TOOL HOLDER W/ POCKET FOR <u>3/4" SQ</u> STANDARD INSERT	CAT# FOR TOOL HOLDER W/ POCKET FOR <u>1" SQ</u> STANDARD INSERT
7/16" R/A	1.215	0.988	0.251	6.00"	7/16AC-CIN	7/16AC-CIN-EX
9/16" R/A	0.595	1.188	0.251	5.00"	9/16AC-CIN	9/16AC-CIN-EX
1-1/4" R/A	0.845	1.781	0.453	5.00"	1-1/4AC-CIN	1-1/4AC-CIN-EX
1-5/8" R/A	1.235	1.875	0.485	6.00"	1-5/8AC-CIN	1-5/8AC-CIN-EX
2" R/A	1.235	2.250	0.407	6.00"	2AC-CIN	2AC-CIN-EX
3" R/A	1.484	2.500	0.219	6.00"	3AC-CIN	3AC-CIN-EX

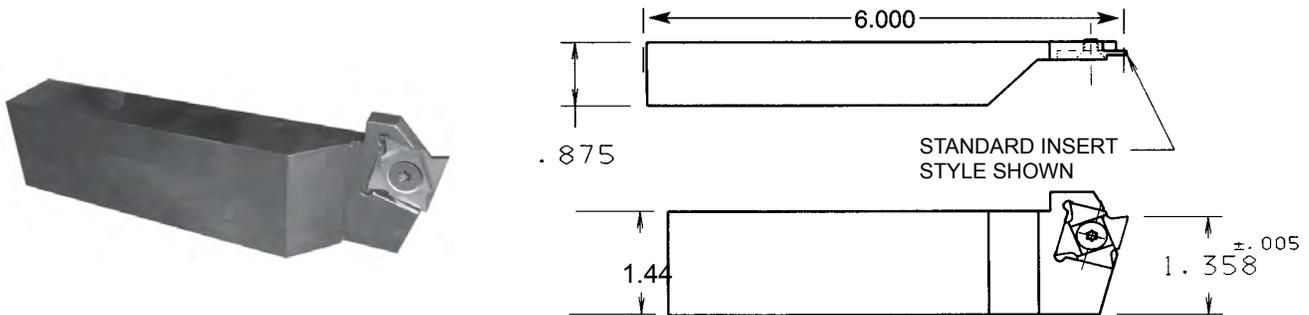
INSERT SIZE	INSERT SCREW#	INSERT WRENCH#
3/4" SQ	DAV-CIN-SCR	DAV-CIN-WR
1" SQ	DAV-CIN-SCR-ISO	DAV-CIN-WR

See Page 54 for inserts.

NEW BRITAIN CUT-OFF TOOLHOLDERS

TOOLHOLDERS SHOWN USE .750 SQ INSERT

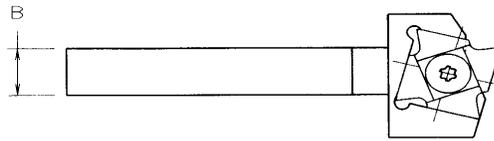
Patent No. D307859



TOOLHOLDER CAT. #	INSERT SIZE	INSERT SCREW	INSERT WRENCH
NB-CIN	3/4"	DAV-CIN-SCR	DAV-CIN-WR
NB-CIN-EX	1"	DAV-CIN-SCR-ISO	DAV-CIN-WR

See Page 54 for inserts.

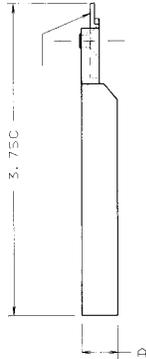
TOOLHOLDERS SHOWN USE .750 SQ INSERT
Patent No. D307859



STANDARD STYLE INSERT

STYLE "R" INSERT

STYLE "C" INSERT

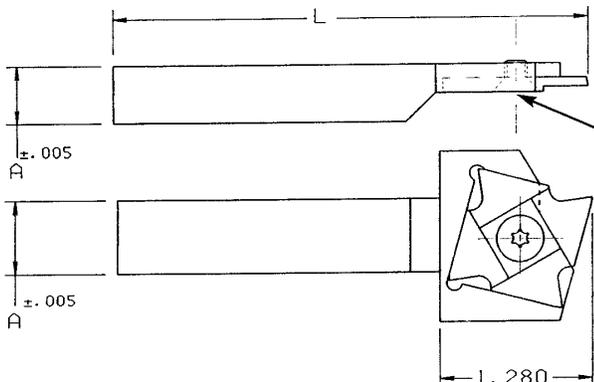


A	B	CAT# FOR STANDARD TOOLHOLDER	CAT# FOR STYLE R TOOLHOLDER	CAT# FOR STYLE C TOOLHOLDER
0.312	0.312	STCC-2117	STCC-2117R	STCC-2117C
0.375	0.375	STCC-2333	STCC-2333R	STCC-2333C
0.500	0.500	STCC-2237	STCC-2237R	STCC-2237C
0.500	0.625	STCC-1099	STCC-1099R	STCC-1099C
0.750	0.750	STCC-2218	STCC-2218R	STCC-2218C
0.750	1.000	STCC-2220	STCC-2220R	STCC-2220C
8MM	8MM	STCC-1915	STCC-4005R	STCC-4005C
10MM	10MM	STCC-4006	STCC-4006R	STCC-4006C
12MM	12MM	STCC-4007	STCC-4007R	STCC-4007C

See Page 54 for inserts.

CATALOG NUMBER	DESCRIPTION
DAV-CIN-SCR	INSERT SCREW
DAV-CIN-WR	INSERT WRENCH

TOOLHOLDER SHOWN USES 1" SQ INSERT
Patent No. D307859

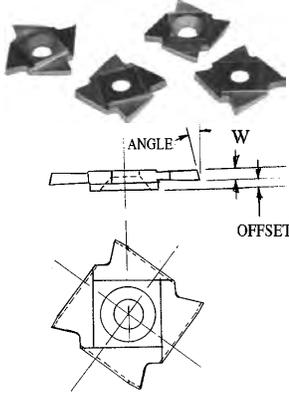


STANDARD INSERT STYLE SHOWN

A	L	CAT# FOR STANDARD TOOLHOLDER
0.500	4"	STCC-4784
0.625	6"	STCC-4785
0.750	6"	STCC-4786
1.000	6"	STCC-4656
12MM	100MM	STCC-4783
16MM	150MM	STCC-4105
20MM	150MM	STCC-6106

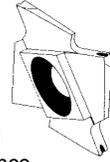
See Page 54 for inserts.

CAT#	DESCRIPTION
DAV-CIN-SCR-ISO	INSERT SCREW
DAV-CIN-WR	INSERT WRENCH



- QUICK CHANGE - JUST ROTATE INSERT WITHOUT REMOVING HOLDER FROM MACHINE (4 USABLE EDGES)
- NEVER LOSES CENTER SETTING - EVEN WHEN CHANGING FROM ONE SIZE CUT-OFF INSERT TO ANOTHER
- FREE CUTTING - INSERTS GROUND WITH BOTH FRONT TO BACK AND TOP TO BOTTOM CLEARANCE - ELIMINATES SIDE RUBBING AND DRAGGING
- LONGER LIFE - MICRO-GRAIN CARBIDE OUTPERFORMS CONVENTIONAL CARBIDE GRADES

CHIP BREAKER TYPE "CB"



BENEFITS:

- Chip Control
- Ground in chip control for superior performance
- Longer Tool Life
- Minimum Down Time
- Consistent Quality
- Indexes within .001 Inches
- Four Cutting Edges

3/4" SQUARE 8° CUTOFF INSERTS

3/4" SQUARE 0° GROOVING INSERTS

WIDTH C/O	MAX DIA C/O	OFFSET	STD MICRO CARBIDE INSERT CAT. NO	MICRO CARBIDE INSERT W/ CHIP BREAKER CAT#
1/32"	0.187	3/32"	DAV-CIN-2	DAV-CIN-2-CB
1/32"	0.187	0	DAV-CIN-2R	DAV-CIN-2R-CB
3/64"	0.312	5/64"	DAV-CIN-3	DAV-CIN-3-CB
3/64"	0.312	0	DAV-CIN-3R	DAV-CIN-3R-CB
1/16"	0.500	1/16"	DAV-CIN-4	DAV-CIN-4-CB
1/16"	0.500	0	DAV-CIN-4R	DAV-CIN-4R-CB
5/64"	0.562	3/64"	DAV-CIN-5	DAV-CIN-5-CB
5/64"	0.562	0	DAV-CIN-5R	DAV-CIN-5R-CB
3/32"	0.562	1/32"	DAV-CIN-6	DAV-CIN-6-CB
3/32"	0.562	0	DAV-CIN-6R	DAV-CIN-6R-CB
1/8"	0.562	0	DAV-CIN-8	DAV-CIN-8-CB

WIDTH C/O	MAX DIA C/O	OFFSET	STD MICRO CARBIDE INSERT CAT. NO	MICRO CARBIDE INSERT W/ CHIP BREAKER CAT#
1/32"	0.187	3/32"	DAV-CIN-2-0	DAV-CIN-2-0-CB
1/32"	0.187	0	DAV-CIN-2R-0	DAV-CIN-2R-0-CB
3/64"	0.312	5/64"	DAV-CIN-3-0	DAV-CIN-3-0-CB
3/64"	0.312	0	DAV-CIN-3R-0	DAV-CIN-3R-0-CB
1/16"	0.500	1/16"	DAV-CIN-4-0	DAV-CIN-4-0-CB
1/16"	0.500	0	DAV-CIN-4R-0	DAV-CIN-4R-0-CB
5/64"	0.562	3/64"	DAV-CIN-5-0	DAV-CIN-5-0-CB
5/64"	0.562	0	DAV-CIN-5R-0	DAV-CIN-5R-0-CB
3/32"	0.562	1/32"	DAV-CIN-6-0	DAV-CIN-6-0-CB
3/32"	0.562	0	DAV-CIN-6R-0	DAV-CIN-6R-0-CB
1/8"	0.562	0	DAV-CIN-8-0	DAV-CIN-8-0-CB

1" SQUARE 8° CUTOFF INSERTS

WIDTH C/O	MAX DIA C/O	OFFSET	STD MICRO CARBIDE INSERT CAT. NO	MICRO CARBIDE INSERT W/ CHIP BREAKER CAT#
1/16"	0.844	1/16"	2EX-CIN-4	2EX-CIN-4-CB
1/16"	0.844	0	2EX-CIN-4R	2EX-CIN-4R-CB
5/64"	0.844	3/64"	2EX-CIN-5	2EX-CIN-5-CB
5/64"	0.844	0	2EX-CIN-5R	2EX-CIN-5R-CB
3/32"	0.844	1/32"	2EX-CIN-6	2EX-CIN-6-CB
3/32"	0.844	0	2EX-CIN-6R	2EX-CIN-6R-CB
1/8"	0.844	0	2EX-CIN-8	2EX-CIN-8-CB

FOR COATED INSERTS ADD THE FOLLOWING SUFFIXES TO THE PART NUMBERS LISTED:

TIN FOR TITANIUM NITRIDE COATED

TIALN FOR TITANIUM ALUMINUM NITRIDE COATED

TICN FOR TITANIUM CARBO-NITRIDE COATED

PART# DAV-CIN-SCR FOR SCREWS FOR 3/4" SQ INSERTS

PART# DAV-CIN-SCR-ISO FOR SCREWS FOR 1" SQ INSERTS

PART# DAV-CIN-WR FOR INSERT WRENCH

AVAILABLE INSERT STYLES

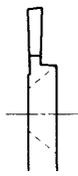
ADD THE SUFFIX LISTED BELOW TO THE ABOVE CATALOG NUMBERS

COUNTERCLOCKWISE SPINDLE

CLOCKWISE SPINDLE



R
(Listed Above)



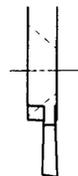
Standard
(Listed Above)



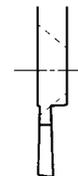
RC



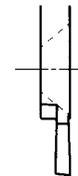
C



-RA



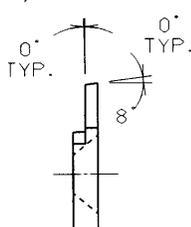
R-RA



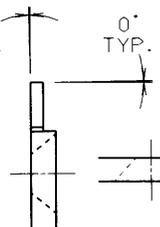
-RAC



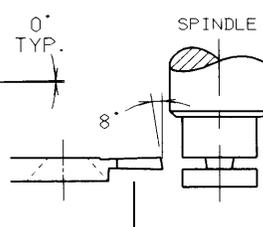
-LH



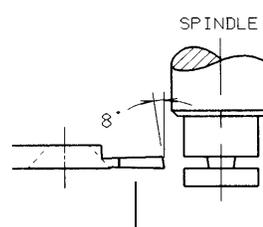
-8-0



-0-0



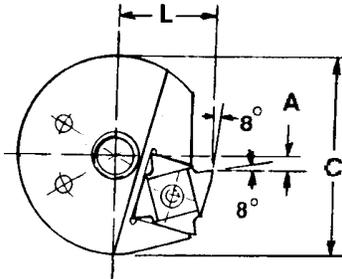
Standard Insert Shown



Style R Insert Shown



QUICK CHANGE CARBIDE INSERTED CIRCULAR CUTOFF HOLDERS FOR DAVENPORT 5TH POSITION & B&S MACHINES



See Page 54 for inserts.

DAVENPORT* W/ TWO 9/64" DIA PINHOLES ON 1-1/4" B.C. & 9/16 REAMED HOLE *ALSO FITS 9/16" CONE & 7/16" ACME				
CAT. NO	INSERT SIZE	A	L	C
DAV-CIN	3/4" SQ	1/8"	1-1/8"	2"
DAV-CIN-EX	1" SQ	1/8"	1-1/8"	2"

#00 B&S & TRAUB W/ TWO 5/32" DIA PINHOLES ON 1-1/16" B.C. AND ONE 1/8" DIA PINHOLE ON .787 B.C.				
CAT. NO	INSERT SIZE	A	L	C
OO-CIN	3/4" SQ	1/8"	1"	1-3/4"

#0 B&S W/ TWO 3/16" DIA PINHOLES ON 1-3/8" B.C.				
CAT. NO	INSERT SIZE	A	L	C
O-CIN	3/4" SQ	5/32"	1-1/8"	2-1/4"

#2 B&S W/ TWO 3/16" DIA PINHOLES ON 1-1/2" B.C.				
CAT. NO	INSERT SIZE	A	L	C
2-CIN	3/4" SQ	1/4"	1-1/2"	3"
2-CIN-EX	1" SQ	1/4"	1-1/2"	3"

For B&S Left Hand holders add **-LH** to the part numbers shown

RESHARPENABLE QUICK CHANGE INSERT CIRCULAR CUTOFF TOOLS FOR 5TH POSITION DAVENPORT

(Patent No. 5,345,846)



Cat. No. RQCT-047-0

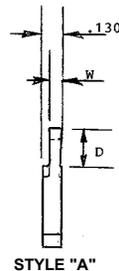
- MOUNTS ON SWING ARM - SAME AS CIRCULAR TOOL.
- ONCE HOLDER IS SET ON CENTER NEVER NEEDS TO BE RESET.
- INSERTS ARE RESHARPENABLE 10 TO 15 TIMES (1/8")..
- INSERTS ALWAYS RETURN TO ORIGINAL DIAMETER AND LENGTH SETTINGS.
- INSERTS CAN BE CHANGED IN LESS THAN A MINUTE.
- INSERTS AVAILABLE TO FULL DIAMETER CAPACITY OF MACHINE.

INSERT RESHARPENING FIXTURE

- For sharpening top surface of inserts
- Flexible jaw clamps insert securely
- For use on surface grinder with cup or dish wheel

Cat. No. RQCSF-CO

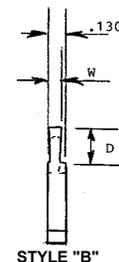
MICRO-GRAIN CARBIDE INSERTS



STYLE "A"

BLADE CLOSE TO PICKOFF COLLET

CAT. NO.	STYLE	W*	D
RQCT-047-0	A	.047	3/16
RQCT-063-0	A	.063	5/16
RQCT-078-0	A	.391	25/64
RQCT-094-0	A	.094	7/16
RQCT-125-0	A	.125	9/16



STYLE "B"

BLADE CLOSE TO SPINDLE

CAT. NO.	STYLE	W*	D
RQCT-047	B	.047	3/16
RQCT-063	B	.063	5/16
RQCT-078	B	.391	25/64
RQCT-094	B	.094	7/16

C/O INSERT BLANKS	
FOR REWORK TO YOUR REQUIREMENTS GROUND ON ALL 6 SIDES, 17° ANGLE	
CAT. NO.	MATERIAL
RQCT-MIC	MICROGRAIN CARBIDE
RQCT-A	76PM H/S/S

- PRICES ON APPLICATION FOR WIDER INSERTS FOR PICKOFF COLLET FORM AND CUTOFF WORK.

• NOTE: CUTOFF WIDTH WILL BE REDUCED UP TO .001" PER SIDE (.002" TOTAL) AS INSERT IS RESHARPENED.

CUT OFF

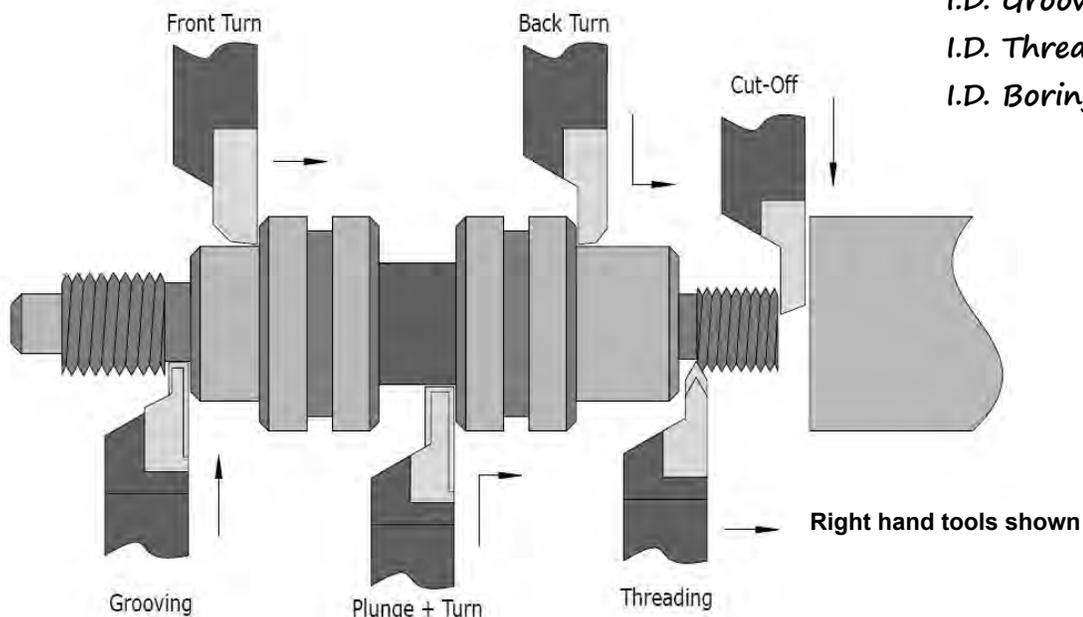
Somma / Max-Bar Mini Shank Tooling

Designed to fit your Swiss type CNC screw machine without the need of modification or large offsets

- Backturning geometries will plunge and turn to depths up to 3 times the width of the insert
- Threading inserts are designed to thread close to and behind shoulders
 - Inserts are precision ground for repeatability
 - Widest choice of inserts per holder
 - Zero radius as standard

Front Turn
Back Turn
Cut-Off
Groove
Thread

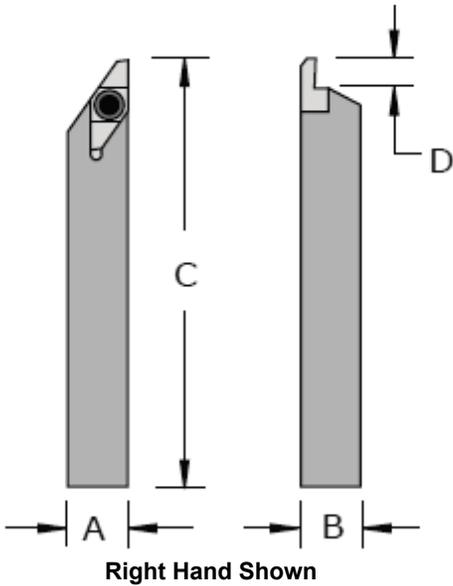
Plunge & Turn
Facegrooving
I.D. Grooving
I.D. Threading
I.D. Boring



- * **Diamond insert style**, offered 3 series sizes;
- Series 6** - (6mm I.C.) pages 57-63
 - Series 8** - (8mm I.C.) pages 64-66 & pg. 76
 - Series 50** - (1/2" I.C.) pages 67-69

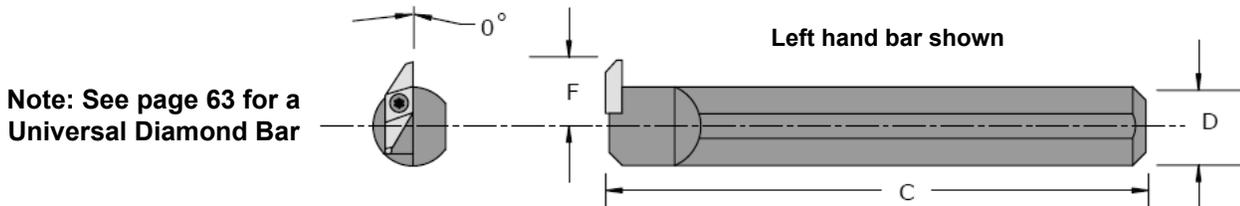
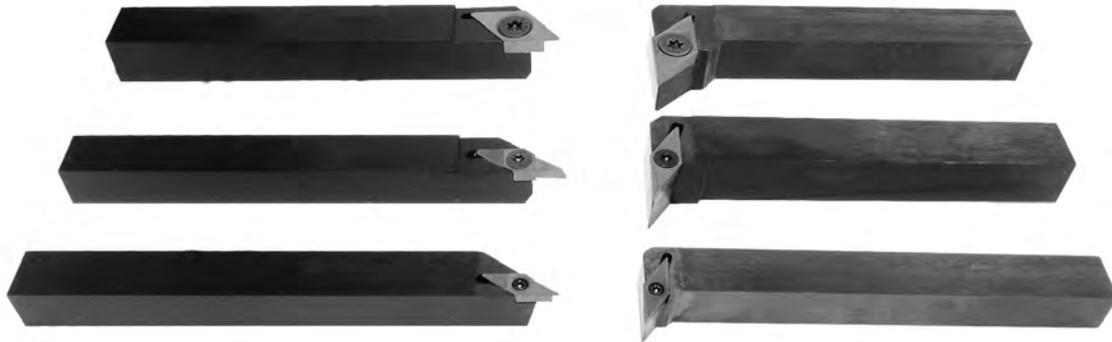
- * **Triangular insert style**, offered in 3 series sizes;
- Series 10** - (3/8" Dia. Cap.) pages 70-71
 - Series 16** - (5/8" Dia. Cap.) pages 72-73
 - Series 20** - (3/4" Dia. Cap.) pages 74-75





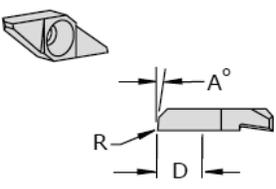
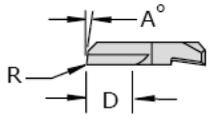
Series 6 Toolholders				
A/B	C	D	R.H. HOLDER	L.H. HOLDER
7MM	127MM	5MM	SVANR-07M6M-C	SVANL-07M6M-C
8MM	127MM	5MM	SVANR-08M6M-C	SVANL-08M6M-C
10MM	127MM	5MM	SVANR-10M6M-C	SVANL-10M6M-C
12MM	127MM	5MM	SVANR-12M6M-C	SVANL-12M6M-C
.375	5.00	.200	SVANR-3756M-C	SVANL-3756M-C
.500	5.00	.200	SVANR-5006M-C	SVANL-5006M-C
.625	5.00	.200	SVANR-6256M-C	SVANL-6256M-C
.750	5.00	.200	SVANR-7506M-C	SVANL-7506M-C

Holders include, Screw# 2.40-064, and Wrench# T-7

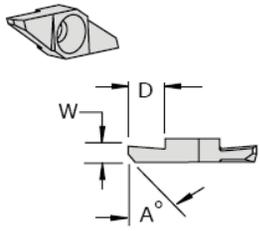


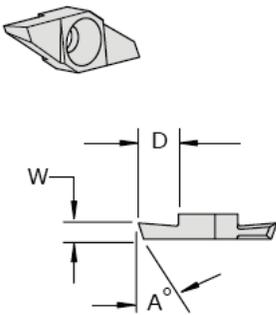
Note: See page 63 for a Universal Diamond Bar

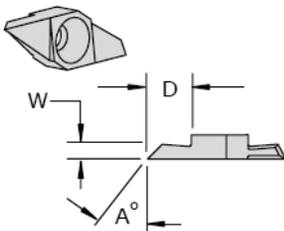
Diamond Bars for Turret & Gang Loading/ Backworking (Series 6)						
NOTE: Right hand diamond bars use left hand inserts/ left hand bars use right hand inserts						
D	C	F	SCREW	WRENCH	R.H. BAR	L.H. BAR
.625	5.75	.515	2.40-064	T-7	S10D-SVFNR6M	S10D-SVFNL6M
.750	5.75	.575	2.40-064	T-7	S12D-SVFNR6M	S12D-SVFNL6M
20MM	146MM	15MM	2.40-064	T-7	S20MD-SVFNR6M	S20MD-SVFNL6M
22MM	146MM	16MM	2.40-064	T-7	S22MD-SVFNR6M	S22MD-SVFNL6M
25MM	146MM	17.5MM	2.40-064	T-7	S25MD-SVFNR6M	S25MD-SVFNL6M

	Front Turn (Series 6)						
	Depth		Radius		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	Inch	MM	Inch	MM			
	.200	5.00	0	0	1°	VFTR-6M010	VFTL-6M010
	.200	5.00	0	0	4°	VFTR-6M040	VFTL-6M040
	.200	5.00	.002	.05	15°	VFTR-6M152	VFTL-6M152
	.200	5.00	.007	.18	15°	VFTR-6M157	VFTL-6M157
	.200	5.00	0	0	1°	VFTRB-6M010**	VFTLB-6M010**
	.200	5.00	0	0	4°	VFTRB-6M040**	VFTLB-6M040**
	.200	5.00	.002	.05	15°	VFTRB-6M152**	VFTLB-6M152**
	.200	5.00	.007	.18	15°	VFTRB-6M157**	VFTLB-6M157**

**With chip control

	Back Turn (Series 6)						
	Depth		Radius		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	Inch	MM	Inch	MM			
	.031	0.78	.050	1.27	45°	VBTR-6M452	VBTL-6M452
	.047	1.19	.085	2.16	45°	VBTR-6M453	VBTL-6M453
	.062	1.57	.130	3.30	45°	VBTR-6M454	VBTL-6M454
	.078	1.98	.200	5.00	45°	VBTR-6M455	VBTL-6M455
	.093	2.36	.200	5.00	45°	VBTR-6M456	VBTL-6M456

	Cut-Off (Series 6)						
	Width		Depth		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	Inch	MM	Inch	MM			
	.020	0.50	.050	1.30	25°	VCOR-6M2520	VCOL-6M2520
	.025	0.63	.065	1.65	25°	VCOR-6M2525	VCOL-6M2525
	.031	0.78	.090	2.30	25°	VCOR-6M2531	VCOL-6M2531
	.040	1.00	.100	2.60	20°	VCOR-6M2040	VCOL-6M2040
	.047	1.20	.130	3.30	20°	VCOR-6M2047	VCOL-6M2047
	.062	1.57	.160	4.06	15°	VCOR-6M1562	VCOL-6M1562
	.078	1.98	.200	5.00	15°	VCOR-6M1578	VCOL-6M1578
	.093	2.36	.200	5.00	15°	VCOR-6M1593	VCOL-6M1593

	Opp. Hand Cut-Off for Pickoff Spindle (Series 6)						
	Width		Depth		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	Inch	MM	Inch	MM			
	.031	0.78	.090	2.30	25°	VCORL-6M2531	VCOLR-6M2531
	.040	1.00	.100	2.60	20°	VCORL-6M2040	VCOLR-6M2040
	.047	1.20	.130	3.30	20°	VCORL-6M2047	VCOLR-6M2047
	.062	1.57	.160	4.06	15°	VCORL-6M1562	VCOLR-6M1562
	.078	1.98	.200	5.00	15°	VCORL-6M1578	VCOLR-6M1578
	.093	2.36	.200	5.00	15°	VCORL-6M1593	VCOLR-6M1593

Right hand with
Left hand cut-off shown

*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN

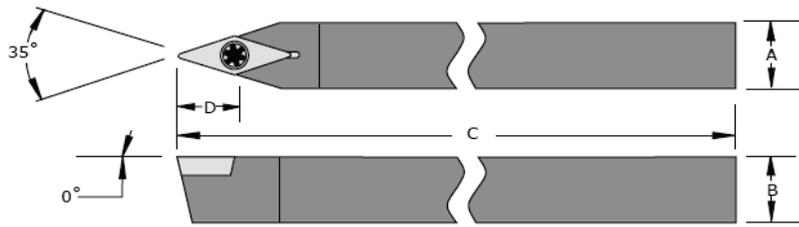
Plunge & Turn (Series 6)							
Inch	Width		Depth		Radius	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	MM	Inch	MM	Inch			
.020	0.51	.030	0.76	0	VTGR-6M020	VTGL-6M020	
.031	0.78	.050	1.27	0	VTGR-6M031	VTGL-6M031	
.040	1.00	.075	1.90	0	VTGR-6M040	VTGL-6M040	
.047	1.20	.085	2.16	0	VTGR-6M047	VTGL-6M047	
.062	1.57	.130	3.30	0	VTGR-6M062	VTGL-6M062	
.078	2.00	.200	5.00	0	VTGR-6M078	VTGL-6M078	
.093	2.36	.200	5.00	0	VTGR-6M093	VTGL-6M093	

Full Radius (Series 6)								
Inch	Width		Depth		Radius		R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	MM	Inch	MM	Inch	Inch	MM		
.10	0.25	.030	0.76	.005	0.13	VFRR-6M010	VFRL-6M010	
.15	0.38	.040	1.00	.007	0.19	VFRR-6M015	VFRL-6M015	
.20	0.50	.050	1.30	.010	0.25	VFRR-6M020	VFRL-6M020	
.25	0.63	.065	1.65	.012	0.32	VFRR-6M025	VFRL-6M025	
.30	0.76	.090	2.30	.015	0.38	VFRR-6M030	VFRL-6M030	
.40	1.00	.110	2.80	.020	0.50	VFRR-6M040	VFRL-6M040	
.47	1.20	.130	3.30	.023	0.60	VFRR-6M047	VFRL-6M047	
.62	1.57	.160	4.06	.031	0.78	VFRR-6M062	VFRL-6M062	
.78	1.98	.180	4.57	.039	1.00	VFRR-6M078	VFRL-6M078	
.93	2.36	.180	4.57	.046	1.20	VFRR-6M093	VFRL-6M093	

Threading 60° Centrally Located (Series 6)								
Inch	Width		Depth		Radius		R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	MM	Inch	MM	Inch	Inch	MM		
.031	0.78	.150	3.80	0	0	VNVR-6M031	VNVL-6M031	
.047	1.20	.180	4.57	.002	.05	VNVR-6M047	VNVL-6M047	
.062	1.57	.200	5.00	.002	.05	VNVR-6M062	VNVL-6M062	
.093	2.36	.200	5.00	.004	.10	VNVR-6M093	VNVL-6M093	

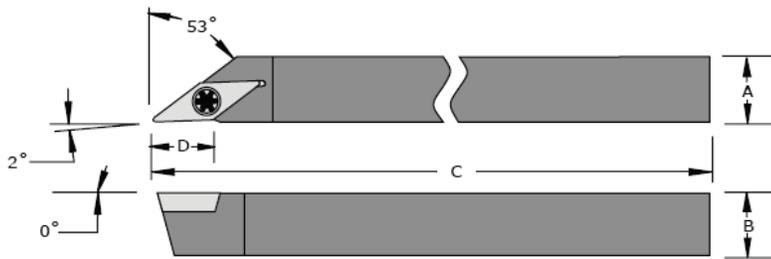
Grooving (Series 6)							
Inch	Width		Depth		Radius	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	MM	Inch	MM	Inch			
.010	0.25	.020	0.50	0	VNGR-6M010	VNGL-6M010	
.012	0.30	.025	0.64	0	VNGR-6M012	VNGL-6M012	
.015	0.38	.035	0.89	0	VNGR-6M015	VNGL-6M015	
.020	0.50	.050	1.30	0	VNGR-6M020	VNGL-6M020	
.025	0.63	.065	1.65	0	VNGR-6M025	VNGL-6M025	
.031	0.78	.090	2.30	0	VNGR-6M031	VNGL-6M031	
.040	1.00	.100	2.60	0	VNGR-6M040	VNGL-6M040	
.047	1.20	.130	3.30	0	VNGR-6M047	VNGL-6M047	
.062	1.57	.160	4.06	0	VNGR-6M062	VNGL-6M062	
.078	1.98	.200	5.00	0	VNGR-6M078	VNGL-6M078	
.093	2.36	.200	5.00	0	VNGR-6M093	VNGL-6M093	

*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN



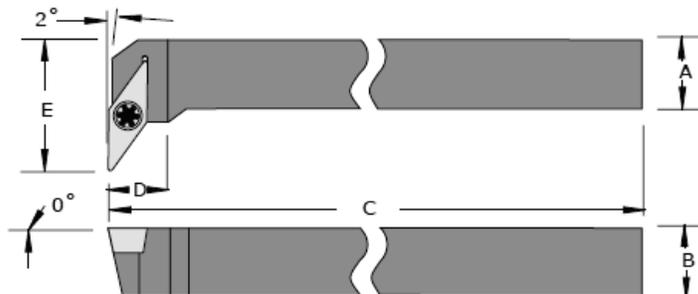
Neutral Rake 17° 30' Lead (6 Series)

A/B	C	D	SCREW	WRENCH	INSERT NO.	HOLDER NO.
8MM	127MM	10MM	2.40-064	T-7	VBGB-6M	SVVBN-08M6M-C
10MM	127MM	10MM	2.40-064	T-7	VBGB-6M	SVVBN-10M6M-C
12MM	127MM	10MM	2.40-064	T-7	VBGB-6M	SVVBN-12M6M-C
.375	5.00	.375	2.40-064	T-7	VBGB-6M	SVVBN-3756M-C
.500	5.00	.375	2.40-064	T-7	VBGB-6M	SVVBN-5006M-C



Neutral Rake 2° Lead (6 Series)

A/B	C	D	SCREW	WRENCH	INSERT NO.	R.H. HOLDER NO.	L.H. HOLDER NO.
8MM	127MM	10MM	2.40-064	T-7	VBGB-6M	SVJBR-08M6M-C	SVJBL-08M6M-C
10MM	127MM	10MM	2.40-064	T-7	VBGB-6M	SVJBR-10M6M-C	SVJBL-10M6M-C
12MM	127MM	10MM	2.40-064	T-7	VBGB-6M	SVJBR-12M6M-C	SVJBL-12M6M-C
.375	5.00	.375	2.40-064	T-7	VBGB-6M	SVJBR-3756M-C	SVJBL-3756M-C
.500	5.00	.375	2.40-064	T-7	VBGB-6M	SVJBR-5006M-C	SVJBL-5006M-C

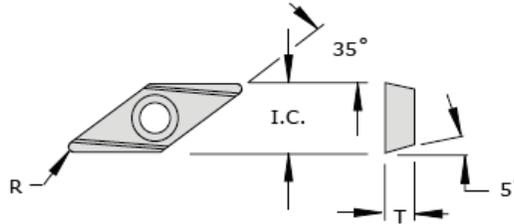


Gang Type Tooling-Neutral Rake 2° Lead (6 Series)

A	B	C	D	E	SCREW	R.H. HOLDER NO.	L.H. HOLDER NO.	INSERT SERIES
.500	.375	4.50	.375	.875	2.40-064	SVFBR-3756M-D	SVFBL-3756M-D	VBGBR & L-6
.500	.500	4.50	.375	.875	5.40-064	SVFBR-5006M-D	SVFBL-5006M-D	VBGBR & L-6

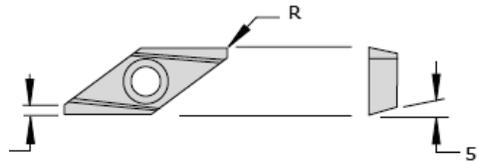
Wrench T-7

Right hand profiling with Chip Control shown



35° Diamond Turning & Profiling (6 Series)								
I.C.		T		R		NEUTRAL	R.H. w/ Chip Control	L.H. w/ Chip Control
INCH	MM	INCH	MM	INCH	MM	INSERT NO.	INSERT NO.	INSERT NO.
.236	6.00	.118	3.00	.002	.05	VBGB-6M-002	VBGBR-6M-002	VBGBL-6M-002
.236	6.00	.118	3.00	.005	.13	VBGB-6M-005	VBGBR-6M-005	VBGBL-6M-005
.236	6.00	.118	3.00	.007	.18	VBGB-6M-007	VBGBR-6M-007	VBGBL-6M-007
.236	6.00	.118	3.00	.010	.25	VBGB-6M-010	VBGBR-6M-010	VBGBL-6M-010
.236	6.00	.118	3.00	.015	.38	VBGB-6M-015	VBGBR-6M-015	VBGBL-6M-015

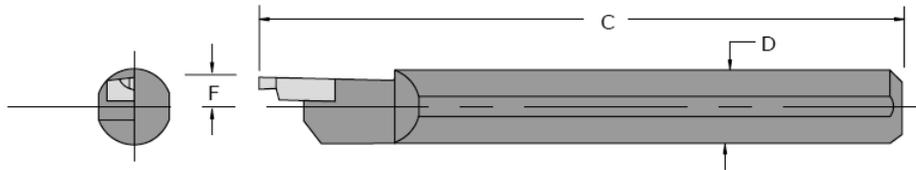
Right hand front turn with Chip Control shown



Front Turn & Chip Control (6 Series)						
T		R	W		RIGHT HAND	LEFT HAND
INCH	MM		INCH	MM			INSERT NO.	INSERT NO.
.118	3.00	0	.031	.80	VBGBR-6M-FT	VBGBL-6M-FT

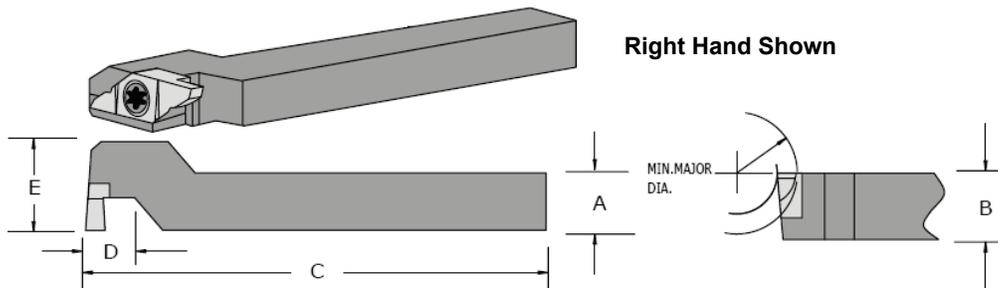
*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN





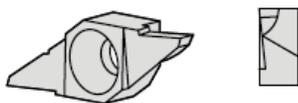
Left hand bar shown

Face Grooving Bars (Series 6)						
D	C	F	SCREW	WRENCH	L.H. BAR NO.	Insert Series
.625	5.75	.530	2.40-064	T-7	S10D-SVANL6M-FG	VFGL-6M-



Right Hand Shown

Face Grooving (Series 6)							
NOTE: These right hand holders use left hand inserts/ left hand holders use right hand inserts							
A/B	C	D	E	SCREW	WRENCH	R.H. HOLDER NO.	L.H. HOLDER NO.
10MM	114MM	8MM	19MM	2.40-064	T-7	SVFGR-10M6M-D	SVFGL-10M6M-D
12MM	114MM	9.5MM	19MM	2.40-064	T-7	SVFGR-12M6M-D	SVFGL-12M6M-D
.375	4.50	.375	.750	2.40-064	T-7	SVFGR-3756M-D	SVFGL-3756M-D
.500	4.50	.410	.750	2.40-064	T-7	SVFGR-5006M-D	SVFGL-5006M-D
.625	4.50	.510	.750	2.40-064	T-7	SVFGR-6256M-D	SVFGL-6256M-D
.750	4.50	.625	.750	2.40-064	T-7	SVFGR-7506M-D	SVFGL-7506M-D

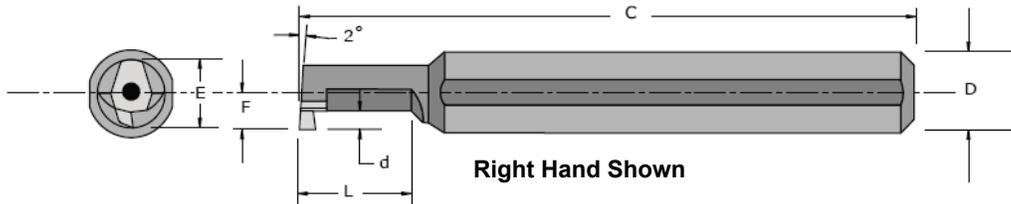


Left hand insert shown

Inserts for Face Grooving Holders (Series 6)								
	Width		Depth		Min. Major Dia.		R.H. INSERT	L.H. INSERT
	Inch	MM	Inch	MM	Inch	MM	UNCOATED*	UNCOATED*
	.030	0.76	.050	1.27	.250	6.35	VFGR-6M305025	VFGL-6M305025
	.030	0.76	.075	1.90	.500	12.7	VFGR-6M307550	VFGL-6M307550
	.040	1.01	.060	1.52	.250	6.35	VFGR-6M406025	VFGL-6M406025
	.040	1.01	.090	2.28	.500	12.7	VFGR-6M409050	VFGL-6M409050
	.050	1.27	.075	1.90	.300	7.62	VFGR-6M507530	VFGL-6M507530
	.050	1.27	.100	2.54	.600	15.3	VFGR-6M501060	VFGL-6M501060
	.060	1.52	.080	2.03	.300	7.62	VFGR-6M608030	VFGL-6M608030
	.060	1.52	.100	2.54	.600	15.3	VFGR-6M601060	VFGL-6M601060
	.070	1.78	.090	2.28	.300	7.62	VFGR-6M709030	VFGL-6M709030
	.070	1.78	.120	3.05	.600	15.3	VFGR-6M701260	VFGL-6M701260
	.080	2.03	.100	2.54	.300	7.62	VFGR-6M801030	VFGL-6M801030
	.080	2.03	.140	3.55	.600	15.3	VFGR-6M801460	VFGL-6M801460
	.090	2.28	.140	3.55	.300	7.62	VFGR-6M901430	VFGL-6M901430
	.090	2.28	.200	5.00	.600	15.3	VFGR-6M902060	VFGL-6M902060

*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN

One bar for both Right & Left Hand Turning & Grooving & Threading



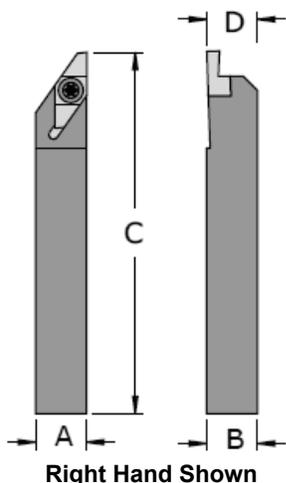
Uni-Max Diamond Bars								
Note: Right hand bar turning (counter clockwise rotation) use left hand inserts								
Left hand bar turning (clockwise rotation) use right hand inserts								
D	F	L	d	C	E	SCREW	WRENCH	L.H. & R.H. BAR NO.
.500	.218	.875	.093	5.75	.437	2.40-064	T-7	S08D-SVFNLR6MID-1A
.625	.218	.875	.093	5.75	.437	2.40-064	T-7	S10D-SVFNLR6MID-1A
.750	.218	.875	.093	5.75	.437	2.40-064	T-7	S12D-SVFNLR6MID-1A

<p>Left hand insert shown for Right hand grooving</p>	Grooving						
	Width		Depth		Radius	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	Inch	MM	Inch	MM			
	.020	0.50	.040	1.00	0	VNGR-6MID020	VNGL-6MID020
	.025	0.63	.050	1.27	0	VNGR-6MID025	VNGL-6MID025
	.031	0.78	.060	1.52	0	VNGR-6MID031	VNGL-6MID031
	.040	1.00	.080	2.03	0	VNGR-6MID040	VNGL-6MID040
	.047	1.20	.090	2.28	0	VNGR-6MID047	VNGL-6MID047
	.062	1.57	.090	2.28	0	VNGR-6MID062	VNGL-6MID062
	.078	1.98	.090	2.28	0	VNGR-6MID078	VNGL-6MID078
	.093	2.36	.090	2.28	0	VNGR-6MID093	VNGL-6MID093

<p>Left hand insert shown for Right hand boring</p>	Boring						
	Width		Radius		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	Inch	MM	Inch	MM			
	.060	1.52	0	0	4°	VFTR-6MID040	VFTL-6MID040
	.030	0.76	.002	.05	15°	VFTR-6MID152	VFTL-6MID152
	.030	0.76	.007	.18	15°	VFTR-6MID157	VFTL-6MID157

<p>Left hand insert shown for Right hand threading</p>	Threading						
	Width		Radius		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	Inch	MM	Inch	MM			
	.031	0.78	0	0	60°	VNVR-6MID6031	VNVL-6MID6031
	.062	1.57	.002	.05	60°	VNVR-6MID6092	VNVL-6MID6092
	.093	2.36	.004	.10	60°	VNVR-6MID6093	VNVL-6MID6093
	.047	1.20	.005	.13	90°	VNVR-6MID9047	VNVL-6MID9047
	.093	2.36	.005	.13	90°	VNVR-6MID9093	VNVL-6MID9093

*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN



Series 8 Toolholders				
A/B	C	D	R.H. HOLDER	L.H. HOLDER
.375	3.50	.380	SVANR-3758M-V	SVANL-3758M-V
.375	5.00	.380	SVANR-3758M-C	SVANL-3758M-C
10MM	127MM	10MM	SVANR-10M8M-C	SVANL-10M8M-C
12MM	127MM	12MM	SVANR-12M8M-C	SVANL-12M8M-C
.500	3.50	.505	SVANR-5008M-V	SVANL-5008M-V
.500	5.00	.505	SVANR-5008M-C	SVANL-5008M-C
.625	5.00	.630	SVANR-6258-C	SVANL-6258M-C

Holders include, Screw# 3.20-095, and Wrench# T-10-P



Front Turn (Series 8)							
Width		Depth		Radius		R.H. INSERT	L.H. INSERT
Inch	MM	Inch	MM	Inch	MM	UNCOATED*	UNCOATED*
.156	4	.300	7.62	0	0	VFTR-8M040	VFTL-8M040
.156	4	.300	7.62	.005	0.13	VFTR-8M045	VFTL-8M045
.156	4	.300	7.62	0	0	VFTRB-8M040**	VFTLB-8M040**
.156	4	.300	7.62	.005	0.13	VFTRB-8M045**	VFTLB-8M045**

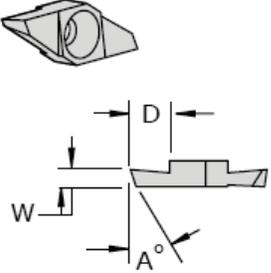
**With chip control

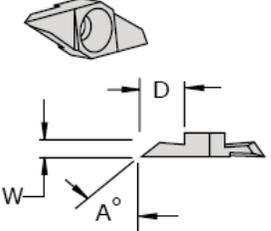
Back Turn (Series 8)							
Width		Depth		Radius	R.H. INSERT	L.H. INSERT	
Inch	MM	Inch	MM		UNCOATED*	UNCOATED*	
.125	3.18	.300	7.62	0	VBTR-8M308	VBTL-8M308	
.093	2.36	.300	7.62	0	VBTR-8M306	VBTL-8M306	
.078	1.98	.250	6.35	0	VBTR-8M305	VBTL-8M305	
.062	1.57	.190	4.83	0	VBTR-8M304	VBTL-8M304	
.047	1.19	.130	3.30	0	VBTR-8M303	VBTL-8M303	

Plunge & Turn (Series 8)							
Width		Depth		Radius	R.H. INSERT	L.H. INSERT	
Inch	MM	Inch	MM		UNCOATED*	UNCOATED*	
.125	3.18	.300	7.62	0	VGTR-8M125	VGTL-8M125	
.093	2.36	.300	7.62	0	VGTR-8M093	VGTL-8M093	
.078	1.98	.250	6.35	0	VGTR-8M078	VGTL-8M078	
.062	1.57	.190	4.82	0	VGTR-8M062	VGTL-8M062	
.047	1.19	.130	3.30	0	VGTR-8M047	VGTL-8M047	
.031	0.78	.050	1.27	0	VGTR-8M031	VGTL-8M031	

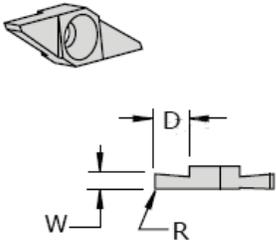
Threading 60° Centrally Located (Series 8)							
Width		Depth		Radius		R.H. INSERT	L.H. INSERT
Inch	MM	Inch	MM	Inch	MM	UNCOATED*	UNCOATED*
.125	3.18	.300	7.62	.004	.10	VNVR-8M125	VNVL-8M125
.062	1.57	.250	6.35	.002	.05	VNVR-8M062	VNVL-8M062
.031	0.78	.190	4.82	0	0	VNVR-8M031	VNVL-8M031

*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN

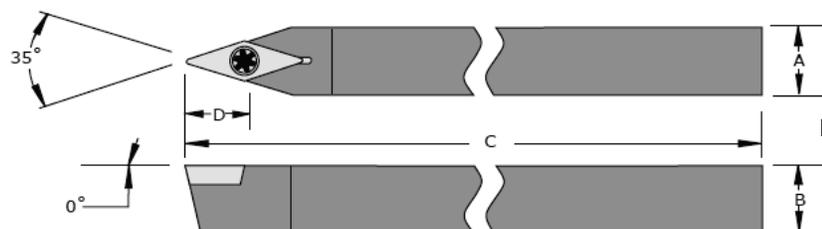
		Cut-Off (Series 8)						
		Width		Depth		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
		Inch	MM	Inch	MM			
.125	3.18	.320	8.13	15°	VCOR-8M158	VCOL-8M158		
.093	2.36	.320	8.13	15°	VCOR-8M156	VCOL-8M156		
.078	1.98	.320	8.13	15°	VCOR-8M155	VCOL-8M155		
.062	1.57	.260	6.60	15°	VCOR-8M154	VCOL-8M154		
.047	1.19	.190	4.83	15°	VCOR-8M153	VCOL-8M153		
.040	1.00	.130	3.30	20°	VCOR-8M201M	VCOL-8M201M		
.031	0.78	.080	2.03	20°	VCOR-8M202	VCOL-8M202		

		Opp. Hand Cut-Off for Pickoff Spindle (Series 8)						
		Width		Depth		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
		Inch	MM	Inch	MM			
.125	3.18	.320	8.13	15°	VCORL-8M158	VCOLR-8M158		
.093	2.36	.320	8.13	15°	VCORL-8M156	VCOLR-8M156		
.078	1.98	.320	8.13	15°	VCORL-8M155	VCOLR-8M155		
.062	1.57	.260	6.60	15°	VCORL-8M154	VCOLR-8M154		
.047	1.19	.190	4.83	15°	VCORL-8M153	VCOLR-8M153		
.040	1.00	.130	3.30	20°	VCORL-8M201M	VCOLR-8M201M		

Right hand with
Left hand cut-off shown

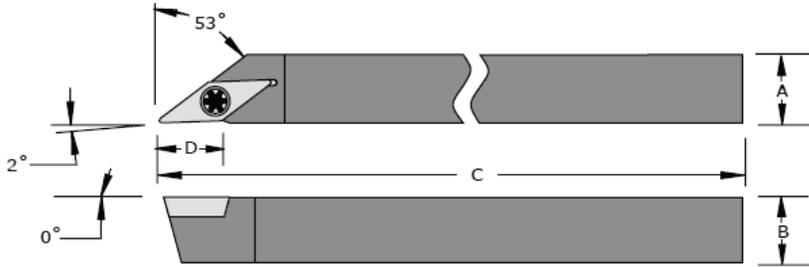
		Grooving (Series 8)						
		Width		Depth		Radius	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
		Inch	MM	Inch	MM			
.125	3.18	.300	7.62	0	VNGR-8M125	VNGL-8M125		
.093	2.36	.300	7.62	0	VNGR-8M093	VNGL-8M093		
.078	1.98	.250	6.35	0	VNGR-8M078	VNGL-8M078		
.062	1.57	.250	6.35	0	VNGR-8M062	VNGL-8M062		
.047	1.19	.190	4.83	0	VNGR-8M047	VNGL-8M047		
.040	1.00	.130	3.30	0	VNGR-8M040	VNGL-8M040		
.031	0.79	.080	2.03	0	VNGR-8M031	VNGL-8M031		

*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN



Note: Inserts for these Holders are on the next page

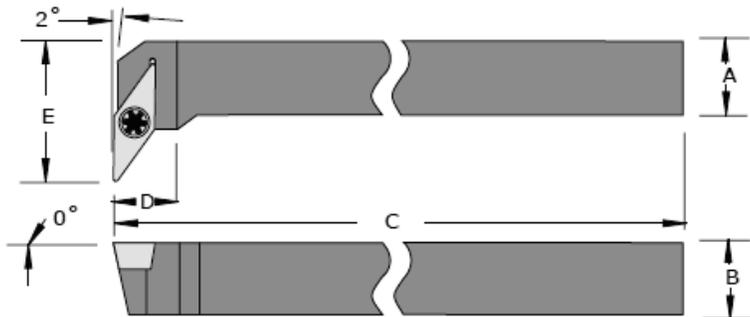
Neutral Rake 17° 30' Lead (8 Series)						
A/B	C	D	SCREW	WRENCH	INSERT NO.	HOLDER NO.
.500	3.50	.500	3.20-095	T-10-P	VBGB-8M	SVVBN-5008M-V
.500	5.00	.500	3.20-095	T-10-P	VBGB-8M	SVVBN-5008M-C
.625	3.50	.500	3.20-095	T-10-P	VBGB-8M	SVVBN-6258M-V
.625	5.00	.500	3.20-095	T-10-P	VBGB-8M	SVVBN-6258M-C
.750	3.50	.500	3.20-095	T-10-P	VBGB-8M	SVVBN-7508M-V
.750	5.00	.500	3.20-095	T-10-P	VBGB-8M	SVVBN-7508M-C



**SEE PAGE 70 FOR
50° SERIES 8
PROFILE TOOLING**

Neutral Rake 2° Lead (8 Series)

A/B	C	D	SCREW	WRENCH	INSERT NO.	R.H. HOLDER NO.	L.H. HOLDER NO.
.500	3.50	.500	3.20-095	T-10-P	VBGB-8M	SVLBR-5008M-V	SVJBL-5008M-V
.500	5.00	.500	3.20-095	T-10-P	VBGB-8M	SVLBR-5008M-C	SVJBL-5008M-C
.625	3.50	.500	3.20-095	T-10-P	VBGB-8M	SVLBR-6258M-V	SVJBL-6258M-V
.625	5.00	.500	3.20-095	T-10-P	VBGB-8M	SVLBR-6258M-C	SVJBL-6258M-C
.750	3.50	.500	3.20-095	T-10-P	VBGB-8M	SVLBR-7508M-V	SVJBL-7508M-V
.750	5.00	.500	3.20-095	T-10-P	VBGB-8M	SVLBR-7508M-C	SVJBL-7508M-C



**SEE PAGE 70 FOR
50° SERIES 8
PROFILE TOOLING**

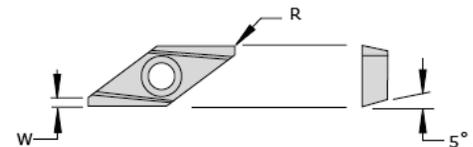
Wrench T-10-P

Gang Type Tooling-Neutral Rake 2° Lead (8 Series)

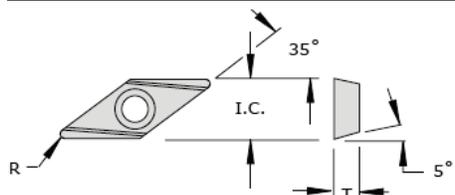
A	B	C	D	E	SCREW	R.H. HOLDER NO.	L.H. HOLDER NO.	INSERT SERIES
.625	.625	4.50	.500	1.12	3.20-095	SVFBR-6258M-D	SVFBL-6258M-D	VBGBR & L-8

Front Turn & Chip Control (8 Series)

T		R	W		RIGHT HAND INSERT NO.	LEFT HAND INSERT NO.
INCH	MM		INCH	MM		
.157	4.00	0	.031	.80	VBGBR-8M-FT	VBGBL-8M-FT



Right hand front turn with Chip Control shown

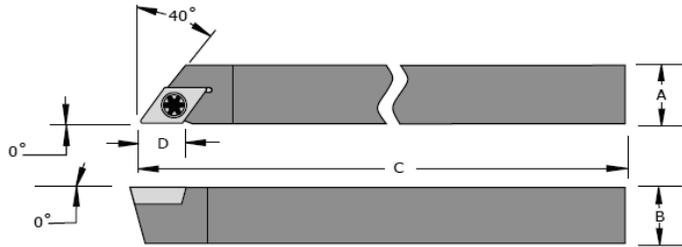


Right hand profiling with Chip Control shown

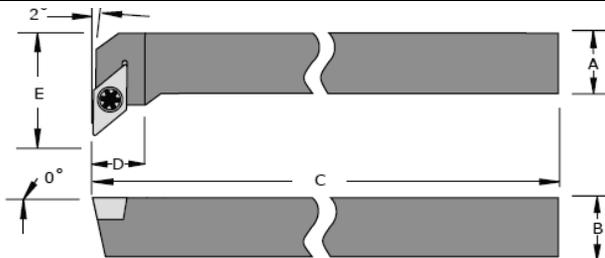
35° Diamond Turning & Profiling (8 Series)

I.C.		T		R		NEUTRAL INSERT NO.	R.H. w/ Chip Control INSERT NO.	L.H. w/ Chip Control INSERT NO.
INCH	MM	INCH	MM	INCH	MM			
.314	8.00	.157	4.00	.002	.05	VBGB-8M-002	VBGBR-8M-002	VBGBL-8M-002
.314	8.00	.157	4.00	.005	.13	VBGB-8M-005	VBGBR-8M-005	VBGBL-8M-005
.314	8.00	.157	4.00	.007	.18	VBGB-8M-007	VBGBR-8M-007	VBGBL-8M-007
.314	8.00	.157	4.00	.015	.38	VBGB-8M-015	VBGBR-8M-015	VBGBL-8M-015

*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN

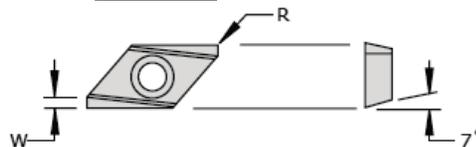


Neutral Rake 0° Lead (50 Series 50° Insert)							
A/B	C	D	SCREW	WRENCH	R.H. HOLDER NO.	L.H. HOLDER NO.	INSERT NO.
.625	3.50	.625	4.76-127	T-25-P	SKACR-62543-V	SKACL-62543-V	KCGB-43
.625	5.00	.625	4.76-127	T-25-P	SKACR-62543-C	SKACL-62543-C	KCGB-43
.750	3.50	.625	4.76-127	T-25-P	SKACR-75043-V	SKACL-75043-V	KCGB-43
.750	5.00	.625	4.76-127	T-25-P	SKACR-75043-C	SKACL-75043-C	KCGB-43



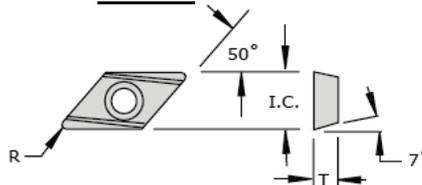
Gang Type Tooling-Neutral Rake 2° Lead (50 Series 50° Insert)									
A	B	C	D	E	SCREW	WRENCH	R.H. HOLDER NO.	L.H. HOLDER NO.	INSERT NO.
.625	.625	4.50	.625	1.25	4.76-127	T-25-P	SKFCR-62543-D	SKFCL-62543-D	KCGB-43

Right hand Front Turn with Chip Control shown

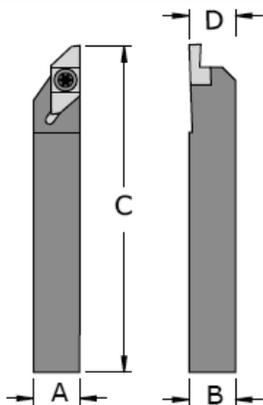


Front Turn & Chip Control (50 Series 50° Insert)								
I.C.		T		R	W		RIGHT HAND	LEFT HAND
INCH	MM	INCH	MM		INCH	MM	INSERT NO.	INSERT NO.
.500	12.7	.188	4.76	0	.062	1.57	KCGBR-43-FT	KCGBL-43-FT

Right hand Profiling with Chip Control shown



50° Diamond Turning & Profiling (50 Series 50° Insert)								
I.C.		T		R		NEUTRAL	R.H. w/ Chip Control	L.H. w/ Chip Control
INCH	MM	INCH	MM	INCH	MM	INSERT NO.	INSERT NO.	INSERT NO.
.500	12.7	.188	4.76	.005	.13	KCGB-43-005	KCGBR-43-005	KCGBL-43-005
.500	12.7	.188	4.76	.010	.25	KCGB-43-010	KCGBR-43-010	KCGBL-43-010
.500	12.7	.188	4.76	.015	.38	KCGB-43-015	KCGBR-43-015	KCGBL-43-015
.500	12.7	.188	4.76	.030	.76	KCGB-43-030	KCGBR-43-030	KCGBL-43-030



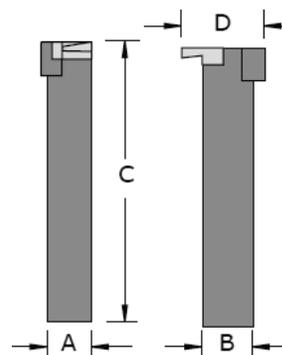
Right Hand Shown

Series 50 Toolholders				
A/B	C	D	R.H. HOLDER	L.H. HOLDER
.625	3.50	.630	SKANR-104-V	SKANL-104-V
.625	5.00	.630	SKANR-104-C	SKANL-104-C
.750	3.50	.755	SKANR-124-V	SKANL-124-V
.750	5.00	.755	SKANR-124-C	SKANL-124-C
1.00	5.00	1.00	SKANR-164-C	SKANL-164-C

Holders include, Screw# 4.76-127 and Wrench# T-25-P

Right Angle Holders (50 Series)				
NOTE: Right hand holders use left hand inserts				
Left hand holders use right hand inserts				
A/B	C	D	R.H. HOLDER NO.	L.H. HOLDER NO.
.375	.500	4.50	SKFNR-064-D	SKFNL-064-D
.500	.500	4.50	SKFNR-084-D	SKFNL-084-D
.625	.625	4.50	SKFNR-104-D	SKFNL-104-D
.750	.750	5.00	SKFNR-124-D	SKFNL-124-D
1.00	1.00	5.00	SKFNR-164-D	SKFNL-164-D

Holders include, Screw# 4.76-127 and Wrench# T-25-P



Right Hand Shown

Front Turn (Series 50)							
Width		Depth		Radius		R.H. INSERT	L.H. INSERT
Inch	MM	Inch	MM	Inch	MM	UNCOATED*	UNCOATED*
.187	4.75	.300	7.62	0	0	KFTR-4040	KFTL-4040
.187	4.75	.300	7.62	.005	.13	KFTR-4045	KFTL-4045
.187	4.75	.300	7.62	0	0	KFTRB-4040**	KFTLB-4040**
.187	4.75	.300	7.62	.005	.13	KFTRB-4045**	KFTLB-4045**

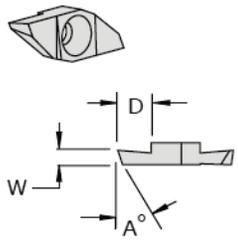
**With chip control

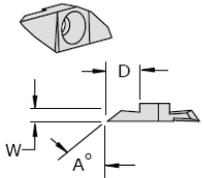
Back Turn (Series 50)						
Width		Depth		Radius	R.H. INSERT	L.H. INSERT
Inch	MM	Inch	MM		UNCOATED*	UNCOATED*
.125	3.18	.300	7.62	0	KBTR-4308	KBTL-4308
.093	2.36	.300	7.62	0	KBTR-4306	KBTL-4306
.078	1.98	.250	6.35	0	KBTR-4305	KBTL-4305
.062	1.57	.190	4.83	0	KBTR-4304	KBTL-4304
.047	1.19	.130	3.30	0	KBTR-4303	KBTL-4303

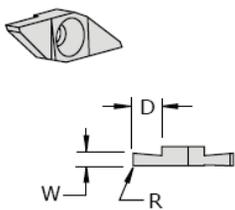
Punge & Turn (Series 50)						
Width		Depth		Radius	R.H. INSERT	L.H. INSERT
Inch	MM	Inch	MM		UNCOATED*	UNCOATED*
.125	3.18	.300	7.62	0	KTGR-4125	KTGL-4125
.093	2.36	.300	7.62	0	KTGR-4093	KTGL-4093
.078	1.98	.250	6.35	0	KTGR-4078	KTGL-4078
.062	1.57	.190	4.82	0	KTGR-4062	KTGL-4062
.047	1.19	.130	3.30	0	KTGR-4047	KTGL-4047

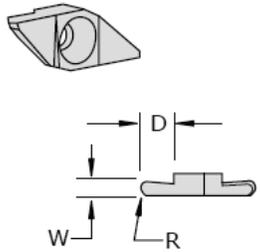
Square Bottom

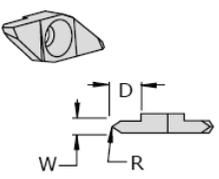
*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN

	Cut-Off (Series 50)						
	Width		Depth		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	Inch	MM	Inch	MM			
	.125	3.18	.320	8.13	15°	KCOR-4158	KCOL-4158
	.093	2.36	.320	8.13	15°	KCOR-4156	KCOL-4156
	.078	1.98	.320	8.13	15°	KCOR-4155	KCOL-4155
	.062	1.57	.260	6.60	15°	KCOR-4154	KCOL-4154
	.047	1.19	.190	4.83	15°	KCOR-4153	KCOL-4153
	.040	1.00	.130	3.30	20°	KCOR-4201M	KCOL-4201M

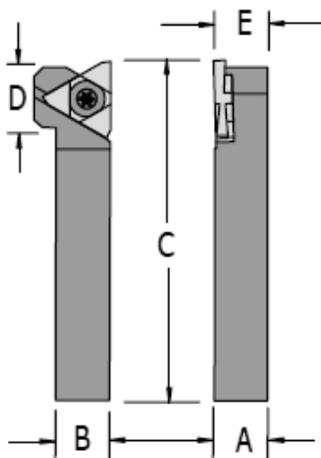
 <p>Left hand insert with Right hand cut-off shown</p>	Opp. Hand Cut-Off for Pickoff Spindle (Series 50)						
	Width		Depth		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	Inch	MM	Inch	MM			
	.093	2.36	.320	8.13	15°	KCORL-4156	KCOLR-4156
	.078	1.98	.320	8.13	15°	KCORL-4155	KCOLR-4155
	.062	1.57	.260	6.60	15°	KCORL-4154	KCOLR-4154
	.047	1.19	.190	4.83	15°	KCORL-4153	KCOLR-4153

	Grooving (Series 50)						
	Width		Depth		Radius	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	Inch	MM	Inch	MM			
	.125	3.18	.300	7.62	0	KNGR-4125	KNGL-4125
	.093	2.36	.300	7.62	0	KNGR-4093	KNGL-4093
	.078	1.98	.300	7.62	0	KNGR-4078	KNGL-4078
	.062	1.57	.250	6.60	0	KNGR-4062	KNGL-4062
	.047	1.19	.190	4.83	0	KNGR-4047	KNGL-4047
	.040	1.00	.130	3.30	0	KNGR-4040	KNGL-4040
	.031	0.79	.080	2.03	0	KNGR-4031	KNGL-4031

	Full Radius (Series 50)							
	Width		Depth		Radius		R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	Inch	MM	Inch	MM	Inch	MM		
	.125	3.18	.300	7.62	.062	1.58	KFRR-4125	KFRL-4125
	.093	2.36	.300	7.62	.047	1.19	KFRR-4093	KFRL-4093
	.078	1.98	.300	7.62	.039	1.00	KFRR-4078	KFRL-4078
	.062	1.57	.250	4.83	.031	0.78	KFRR-4062	KFRL-4062
	.047	1.19	.190	4.83	.023	0.60	KFRR-4047	KFRL-4047
	.031	0.79	.080	2.03	.015	0.40	KFRR-4031	KFRL-4031

	Threading 60° Centrally Located (Series 50)							
	Width		Depth		Radius		R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
	Inch	MM	Inch	MM	Inch	MM		
	.125	3.18	.300	7.62	.004	.10	KNVR-4125	KNVL-4125
	.062	1.57	.250	6.35	.002	.05	KNVR-4062	KNVL-4062
	.031	0.78	.190	4.82	0	0	KNVR-4031	KNVL-4031

*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN



Right Hand Shown

Series 10 Toolholders					
A/B	C	D	E	R.H. HOLDER	L.H. HOLDER
.312	3.50	.550	.317	STANR-053-V	STANL-053-V
.375	3.50	.550	.380	STANR-063-V	STANL-063-V
.375	5.00	.550	.380	STANR-063-C	STANL-063-C
.500	3.50	.550	.505	STANR-083-V	STANL-083-V
.500	5.00	.550	.505	STANR-083-C	STANL-083-C
.625	3.50	-	.630	STANR-103-V	STANL-103-V

Holders include, Screw# 3.50-095, and Wrench# T-15-P



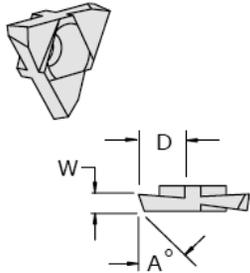
Front Turn (Series 10)								
Width		Depth		Radius		R.H. INSERT	L.H. INSERT	
Inch	MM	Inch	MM	Inch	MM	UNCOATED*	UNCOATED*	
.125	3.18	.230	5.84	0	0	TFTR-3040	TFTL-3040	
.125	3.18	.230	5.84	.005	0.13	TFTR-3045	TFTL-3045	
.125	3.18	.230	5.84	0	0	TFTRB-3040**	TFTLB-3040**	
.125	3.18	.230	5.84	.005	0.13	TFTRB-3045**	TFTLB-3045**	

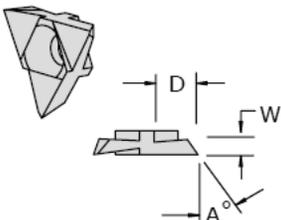
**With chip control

Back Turn (Series 10)							
Width		Depth		Radius	R.H. INSERT	L.H. INSERT	
Inch	MM	Inch	MM		UNCOATED*	UNCOATED*	
.093	2.36	.230	5.84	0	TBTR-3306	TBTL-3306	
.078	1.98	.230	5.84	0	TBTR-3305	TBTL-3305	
.062	1.57	.230	5.84	0	TBTR-3304	TBTL-3304	
.047	1.19	.130	3.30	0	TBTR-3303	TBTL-3303	

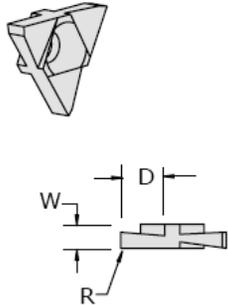
Plunge & Turn (Series 10)							
Width		Depth		Radius	R.H. INSERT	L.H. INSERT	
Inch	MM	Inch	MM		UNCOATED*	UNCOATED*	
.093	2.36	.230	5.84	0	TTGR-3093	TTGL-3093	
.078	1.98	.230	5.84	0	TTGR-3078	TTGL-3078	
.062	1.57	.230	5.84	0	TTGR-3062	TTGL-3062	
.047	1.19	.130	3.30	0	TTGR-3047	TTGL-3047	
.030	0.76	.090	2.28	0	TTGR-3030	TTGL-3030	

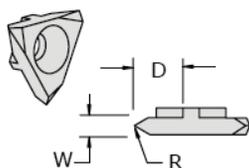
*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN

		Cut-off (Series 10)						
		Width		Depth		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
		Inch	MM	Inch	MM			
.093	2.36	.230	5.84	15°	TCOR-3156	TCOL-3156		
.078	1.98	.230	5.84	15°	TCOR-3155	TCOL-3155		
.062	1.57	.230	5.84	15°	TCOR-3154	TCOL-3154		
.047	1.19	.230	5.84	15°	TCOR-3153	TCOL-3153		
.040	1.00	.180	4.57	20°	TCOR-3201M	TCOL-3201M		
.031	0.78	.100	2.54	20°	TCOR-3202	TCOL-3202		

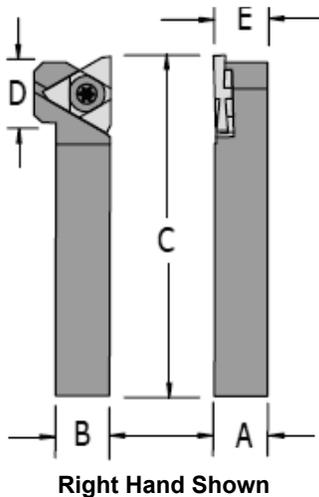
		Opp. Hand Cut-Off for Pickoff Spindle (Series 10)						
		Width		Depth		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
		Inch	MM	Inch	MM			
.093	2.36	.230	5.84	15°	TCOLR-3156	TCORL-3156		
.078	1.98	.230	5.84	15°	TCOLR-3155	TCORL-3155		
.062	1.57	.230	5.84	15°	TCOLR-3154	TCORL-3154		
.047	1.19	.230	5.84	15°	TCOLR-3153	TCORL-3153		
.040	1.00	.180	4.57	20°	TCOLR-3201M	TCORL-3201M		
.031	0.78	.100	2.54	20°	TCOLR-3202	TCOLR-3202		

Left hand insert with Right hand cut-off shown

		Grooving (Series 10)						
		Width		Depth		Radius	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
		Inch	MM	Inch	MM			
.093	2.36	.230	5.84	0	TNGR-3093	TNGL-3093		
.078	1.98	.230	5.84	0	TNGR-3078	TNGL-3078		
.062	1.57	.230	5.84	0	TNGR-3062	TNGL-3062		
.047	1.19	.230	5.84	0	TNGR-3047	TNGL-3047		
.040	1.00	.180	4.57	0	TNGR-3040	TNGL-3040		
.031	0.78	.100	2.54	0	TNGR-3031	TNGL-3031		
.020	0.50	.090	2.28	0	TNGR-3020	TNGL-3020		
.015	0.38	.080	2.03	0	TNGR-3015	TNGL-3015		

		Threading 60° Centrally Located (Series 10)							
		Width		Depth		Radius		R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
		Inch	MM	Inch	MM	Inch	MM		
.125	3.18	.230	5.84	.004	.10	TNVR-3125	TNVL-3125		
.062	1.57	.230	5.84	.002	.05	TNVR-3062	TNVL-3062		
.031	0.78	.190	4.82	0	0	TNVR-3031	TNVL-3031		

*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN



Series 16 Toolholders					
A/B	C	D	E	R.H. HOLDER	L.H. HOLDER
.375	3.50	.750	.380	STANR-064-V*	STANL-064-V*
.375	5.00	.750	.380	STANR-064-C*	STANL-064-C*
.500	3.50	.750	.505	STANR-084-V	STANL-084-V
.500	5.00	.750	.505	STANR-084-C	STANL-084-C
.625	3.50	.750	.630	STANR-104-V	STANL-104-V
.750	5.00	-	.755	STANR-124-C	STANL-124-C

Holders include, Screw#s *4.06-095, 4.06-127 and Wrench# T-20-P



Front Turn (Series 16)								
Width		Depth		Radius		R.H. INSERT	L.H. INSERT	
Inch	MM	Inch	MM	Inch	MM	UNCOATED*	UNCOATED*	
.187	4.75	.350	8.90	0	0	TFTR-4040	TFTL-4040	
.187	4.75	.350	8.90	.005	0.13	TFTR-4045	TFTL-4045	
.187	4.75	.350	8.90	0	0	TFTRB-4040**	TFTLB-4040**	
.187	4.75	.350	8.90	.005	0.13	TFTRB-4045**	TFTLB-4045**	

**With chip control

Back Turn (Series 16)							
Width		Depth		Radius	R.H. INSERT	L.H. INSERT	
Inch	MM	Inch	MM		UNCOATED*	UNCOATED*	
.125	3.18	.350	8.90	0	TBTR-4308	TBTL-4308	
.093	2.36	.350	8.90	0	TBTR-4306	TBTL-4306	
.078	1.98	.300	7.62	0	TBTR-4305	TBTL-4305	
.062	1.57	.230	5.84	0	TBTR-4304	TBTL-4304	
.047	1.19	.130	3.30	0	TBTR-4303	TBTL-4303	

Plunge & Turn (Series 16)							
Width		Depth		Radius	R.H. INSERT	L.H. INSERT	
Inch	MM	Inch	MM		UNCOATED*	UNCOATED*	
.125	3.18	.350	8.90	0	TTGR-4125	TTGL-4125	
.093	2.36	.350	8.90	0	TTGR-4093	TTGL-4093	
.078	1.98	.300	7.62	0	TTGR-4078	TTGL-4078	
.062	1.57	.230	5.84	0	TTGR-4062	TTGL-4062	
.047	1.19	.130	3.30	0	TTGR-4047	TTGL-4047	
.031	0.76	.090	2.28	0	TTGR-4031	TTGL-4031	

Square Bottom

*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN

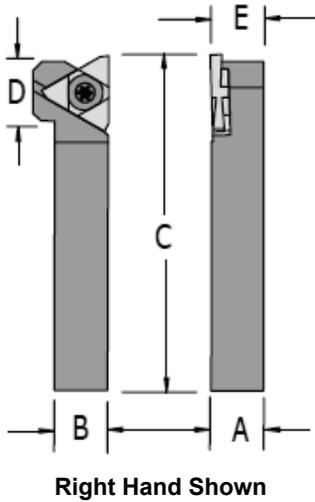
Cut-Off (Series 16)							
Width		Depth		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*	
Inch	MM	Inch	MM				
.125	3.18	.370	9.40	15°	TCOR-4158	TCOL-4158	
.093	2.36	.370	9.40	15°	TCOR-4156	TCOL-4156	
.078	1.98	.370	9.40	15°	TCOR-4155	TCOL-4155	
.062	1.57	.300	7.62	15°	TCOR-4154	TCOL-4154	
.047	1.19	.230	5.84	15°	TCOR-4153	TCOL-4153	
.040	1.00	.180	4.57	20°	TCOR-4201M	TCOL-4201M	
.031	0.78	.100	2.54	20°	TCOR-4202	TCOL-4202	

Opp. Hand Cut-off for Pickoff Spindle (Series 16)							
Width		Depth		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*	
Inch	MM	Inch	MM				
.093	2.36	.370	9.40	15°	TCOLR-4156	TCORL-4156	
.078	1.98	.370	9.40	15°	TCOLR-4155	TCORL-4155	
.062	1.57	.300	7.62	15°	TCOLR-4154	TCORL-4154	
.047	1.19	.230	5.84	15°	TCOLR-4153	TCORL-4153	
.040	1.00	.180	4.57	20°	TCOLR-4201M	TCORL-4201M	
.031	0.78	.100	2.54	20°	TCOLR-4202	TCORL-4202	

Grooving (Series 16)							
Width		Depth		Radius	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*	
Inch	MM	Inch	MM				
.125	3.18	.370	9.40	0	TNGR-4125	TNGL-4125	
.093	2.36	.370	9.40	0	TNGR-4093	TNGL-4093	
.078	1.98	.370	9.40	0	TNGR-4078	TNGL-4078	
.062	1.57	.300	7.62	0	TNGR-4062	TNGL-4062	
.047	1.19	.230	5.84	0	TNGR-4047	TNGL-4047	
.040	1.00	.180	4.57	0	TNGR-4040	TNGL-4040	
.031	0.78	.100	2.54	0	TNGR-4031	TNGL-4031	
.020	0.50	.090	2.28	0	TNGR-4020	TNGL-4020	

Threading 60° Centrally Located (Series 16)							
Width		Depth		Radius		R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
Inch	MM	Inch	MM	Inch	MM		
.125	3.18	.350	8.90	.004	.10	TNVR-4125	TNVL-4125
.078	1.98	.300	7.62	.002	.05	TNVR-4078	TNVL-4078
.031	0.78	.230	5.84	0	0	TNVR-4031	TNVL-4031

*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN



Series 20 Toolholders					
A/B	C	D	E	R.H. HOLDER	L.H. HOLDER
.500	3.50	.920	.505	STANR-085-V	STANL-085-V
.500	5.00	.920	.505	STANR-085-C	STANL-085-C
.625	3.50	.920	.630	STANR-105-V	STANL-105-V
.625	4.50	.920	.630	STANR-105-D	STANL-105-D
.750	5.00	.920	.755	STANR-125-C	STANL-125-C

Holders include, Screw# 4.76-127 and Wrench# T-25-P



Front Turn (Series 20)							
Width		Depth		Radius		R.H. INSERT	L.H. INSERT
Inch	MM	Inch	MM	Inch	MM	UNCOATED*	UNCOATED*
.250	6.35	.440	11.2	0	0	TFTR-5040	TFTL-5040
.250	6.35	.440	11.2	.005	0.13	TFTR-5045	TFTL-5045
.250	6.35	.440	11.2	0	0	TFTRB-5040**	TFTLB-5040**
.250	6.35	.440	11.2	.005	0.13	TFTRB-5045**	TFTLB-5045**

**With chip control

Back Turn (Series 20)							
Width		Depth		Radius	R.H. INSERT	L.H. INSERT	
Inch	MM	Inch	MM		UNCOATED*	UNCOATED*	
.156	3.96	.440	11.2	0	TBTR-53010	TBTL-53010	
.125	3.18	.440	11.2	0	TBTR-5308	TBTL-5308	
.093	2.36	.370	9.40	0	TBTR-5306	TBTL-5306	
.078	1.98	.300	7.62	0	TBTR-5305	TBTL-5305	
.062	1.57	.230	5.84	0	TBTR-5304	TBTL-5304	

Plunge & Turn (Series 20)							
Width		Depth		Radius	R.H. INSERT	L.H. INSERT	
Inch	MM	Inch	MM		UNCOATED*	UNCOATED*	
.156	3.96	.440	11.2	0	TTGR-5156	TTGL-5156	
.125	3.18	.440	11.2	0	TTGR-5125	TTGL-5125	
.093	2.36	.370	9.40	0	TTGR-5093	TTGL-5093	
.078	1.98	.300	7.62	0	TTGR-5078	TTGL-5078	
.062	1.57	.230	5.84	0	TTGR-5062	TTGL-5062	
.047	1.19	.130	3.30	0	TTGR-5047	TTGL-5047	

Square Bottom

*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN

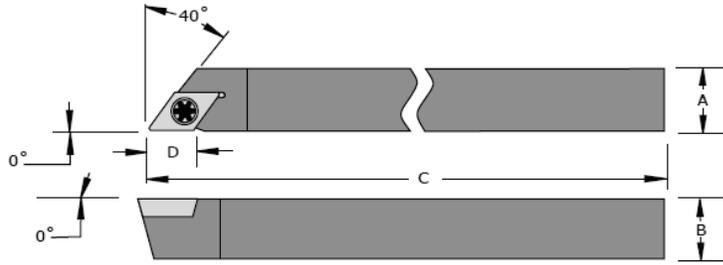
Cut-Off (Series 20)							
Width		Depth		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*	
Inch	MM	Inch	MM				
.156	3.96	.440	11.2	15°	TCOR-51510	TCOL-51510	
.125	3.18	.440	11.2	15°	TCOR-5158	TCOL-5158	
.093	2.36	.440	11.2	15°	TCOR-5156	TCOL-5156	
.078	1.98	.370	9.40	15°	TCOR-5155	TCOL-5155	
.062	1.57	.300	7.62	15°	TCOR-5154	TCOL-5154	
.047	1.19	.230	5.84	15°	TCOR-5153	TCOL-5153	
.040	1.00	.180	4.57	20°	TCOR-5201M	TCOL-5201M	

Opp. Hand Cut-Off for Pickoff Spindle (Series 20)							
Width		Depth		A°	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*	
Inch	MM	Inch	MM				
.125	3.18	.440	11.2	15°	TCOLR-5158	TCORL-5158	
.093	2.36	.440	11.2	15°	TCOLR-5156	TCORL-5156	
.078	1.98	.370	9.40	15°	TCOLR-5155	TCORL-5155	
.062	1.57	.300	7.62	15°	TCOLR-5154	TCORL-5154	
.047	1.19	.230	5.84	15°	TCOLR-5153	TCORL-5153	
.040	1.00	.180	4.57	20°	TCOLR-5201M	TCORL-5201M	

Grooving (Series 20)							
Width		Depth		Radius	R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*	
Inch	MM	Inch	MM				
.156	3.96	.440	11.2	0	TNGR-5156	TNGL-5156	
.125	3.18	.440	11.2	0	TNGR-5125	TNGL-5125	
.093	2.36	.370	9.40	0	TNGR-5093	TNGL-5093	
.078	1.98	.370	9.40	0	TNGR-5078	TNGL-5078	
.062	1.57	.300	7.62	0	TNGR-5062	TNGL-5062	
.047	1.19	.230	5.84	0	TNGR-5047	TNGL-5047	
.040	1.00	.180	4.57	0	TNGR-5040	TNGL-5040	

Threading 60° Centrally Located (Series 20)							
Width		Depth		Radius		R.H. INSERT UNCOATED*	L.H. INSERT UNCOATED*
Inch	MM	Inch	MM	Inch	MM		
.125	3.18	.440	11.2	.004	0.10	TNVR-5125	TNVL-5125
.093	2.36	.370	9.40	.002	0.05	TNVR-5093	TNVL-5093
.047	1.19	.250	6.35	0	0	TNVR-5047	TNVL-5047

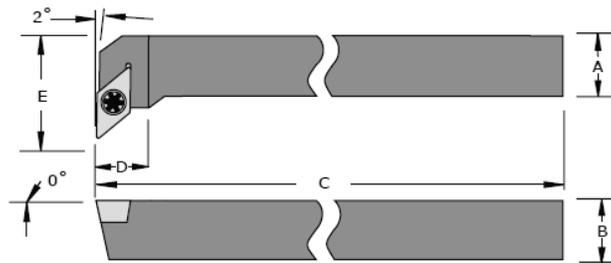
*For coated inserts add the appropriate suffix shown to the insert part number: -TIN, -TICN or -ALTIN



SERIES 8
50°

Neutral Rake 0° Lead (8 Series 50° Insert)

A/B	C	D	SCREW	WRENCH	R.H. HOLDER NO.	L.H. HOLDER NO.	INSERT NO.
10MM	127MM	10MM	3.20-095	T-10-P	SKACR-10M8M-C	SKACL-10M8M-C	KCGB-8M
12MM	127MM	10MM	3.20-095	T-10-P	SKACR-12M8M-C	SKACL-12M8M-C	KCGB-8M
.375	3.50	.390	3.20-095	T-10-P	SKACR-3758M-V	SKACL-3758M-V	KCGB-8M
.375	5.00	.390	3.20-095	T-10-P	SKACR-3758M-C	SKACL-3758M-C	KCGB-8M
.500	3.50	.390	3.20-095	T-10-P	SKACR-5008M-V	SKACL-5008M-V	KCGB-8M
.500	5.00	.390	3.20-095	T-10-P	SKACR-5008M-C	SKACL-5008M-C	KCGB-8M

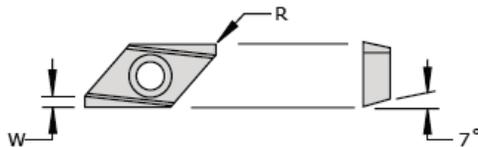


SERIES 8
50°

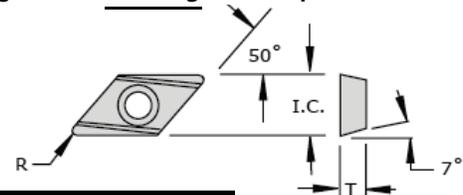
Gang Type Tooling-Neutral Rake 2° Lead (8 Series 50° Insert)

A	B	C	D	E	SCREW	WRENCH	R.H. HOLDER NO.	L.H. HOLDER NO.	INSERT NO.
.500	.375	4.50	.430	.843	3.20-095	T-10-P	SKFCR-3758M-D	SKFCL-3758M-D	KCGB-8M
.500	.500	4.50	.430	.843	3.20-095	T-10-P	SKFCR-5008M-D	SKFCL-5008M-D	KCGB-8M

Right hand Front Turn with Chip Control shown



Right hand Profiling with Chip Control shown



Front Turn & Chip Control (8 Series 50° Insert)

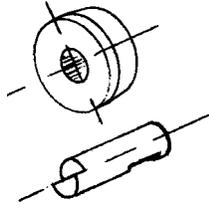
T		R	W		RIGHT HAND INSERT NO.	LEFT HAND INSERT NO.
INCH	MM		INCH	MM		
.157	4.00	0	.031	0.80	KCGBR-8M-FT	KCGBL-8M-FT

50° Diamond Turning & Profiling (8 Series 50° Insert)

I.C.		T		R		NEUTRAL INSERT NO.	R.H. w/ Chip Control INSERT NO.	L.H. w/ Chip Control INSERT NO.
INCH	MM	INCH	MM	INCH	MM			
.314	8.00	.157	4.00	.002	.05	KCGB-8M-002	KCGBR-8M-002	KCGBL-8M-002
.314	8.00	.157	4.00	.005	.13	KCGB-8M-005	KCGBR-8M-005	KCGBL-8M-005
.314	8.00	.157	4.00	.007	.18	KCGB-8M-007	KCGBR-8M-007	KCGBL-8M-007
.314	8.00	.157	4.00	.010	.25	KCGB-8M-010	KCGBR-8M-010	KCGBL-8M-010
.314	8.00	.157	4.00	.015	.38	KCGB-8M-015	KCGBR-8M-015	KCGBL-8M-015

ROLLERS AND PINS FOR BOYAR-SCHULTZ TURNING TOOLS

* Fit all Boyar-Schultz RT, LT, RTC Turning Tools * Made of 52100 Heat Treated Steel * Precision ground all over



TAPERED ROLLS

CAT. NO.	USED ON	O.D.	I.D.	WIDTH
	00RT			
BSR-5020	00LT/00C	5/16	5/32	3/16
BSR-5120	0RT/0LT/0C	1/2	1/4	1/4
BSR-5220	2RT-2LT-2C	5/8	1/4	1/4
BSR-5720	000RT	9/32	1/8	3/16

PINS

CAT. NO.	USED ON	DIA.	LENGTH
	00RT		
BSP-5025	00LT/00C	5/32	17/32
BSP-5125	0RT/0LT/0C	1/4	23/32
BSP-5225	2RT/2LT/2C	1/4	27/32
BSP-5725	000RT	1/8	17/32

ROLLS FOR DOVETAIL SHAVE TOOL HOLDERS

HARDENED 52100 STEEL
- GROUND ALL OVER

Cat. No.	O.D	I.D.	Width	C'Bore
62-5-5-RL	1"	3/8	11/16	--
62-5-4-RL	1-1/4"	3/8	11/16	--
62-5-5A-RL	1"	1/2	11/16	1/8 x 3/4
62-4-4A-RL	1-1/8"	1/2	11/16	1/8 x 3/4
62-5-4A-RL	1-1/4"	1/2	11/16	1/8 x 3/4



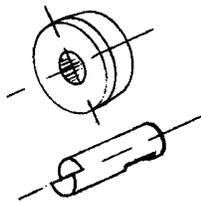
ROLLS FOR SOMMA BOX TOOLS

Cat. No.	O.D	I.D.	Width
ATT00-6	.250	.125	.156
ATT0-6	.432	.188	.250
ATT2-6	.500	.250	.375

ROLLS FOR SOMMA SHAVE TOOL HOLDERS

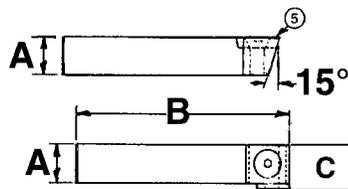
Cat. No.	O.D	I.D.	Width
QCDS-3A	.875	.312	.375
QCDS-3A-1/2	.875	.312	.500

ROLLER & PIN SETS FOR SOMMA TURNING TOOLS



Cat. No.	O.D	I.D.	C'Bore	Width	Pin Length
TT00RBR-1	.556	.284	.050 X .375	.250	15/32
TT1RBR-1	.615	.315	.062 X .375	.312	19/32
TT2RBR-1	.740	.378	.067 X .450	.375	23/32
TT3RBR-1	.865	.440	.067 X .560	.375	23/32

RECTANGULAR CARBIDE INSERT HOLDERS FOR LEFT HAND TURNING



- Cut tangentially-not radially
- Ideal 10° front clearance angle - instead of 5° of triangular inserts
- Shave turned diameter for better size control and finish

CAT. NO.		A	B
CIH00-L	Left Hand	5/16	1-7/16
CIH1-L	Left Hand	3/8	2-1/8
CIH2-L	Left Hand	7/16	2-7/16
CIH2A-L	Left Hand	1/2	2-7/16
CIH3-L	Left Hand	5/8	3-1/2

Holders do not include insert

Part No.	TOOL SIZE				
	CIH00 Cat. No.	CIH1 Cat. No.	CIH2 Cat. No.	CIH2A Cat. No.	CIH3 Cat. No.
5. Carbide Insert Grade C-2	CIH00-5-C2	CIH1-5-C2	CIH2-5-C2	CIH2A-5-C2	CIH3-5-C2
5. Carbide Insert Grade C-7	CIH00-5-C7	CIH1-5-C7	CIH2-5-C7	CIH2A-5-C7	CIH3-5-C7
TITANIUM NITRIDE (TIN) COATED INSERTS					
5. Carbide Insert Grade C-2 Titanium Coated	CIH00-5-C2TIN	CIH1-5-C2TIN	CIH2-5-C2TIN	CIH2A-5-C2TIN	CIH3-5-C2TIN
5. Carbide Insert Grade C-7 Titanium Coated	CIH00-5-C7TIN	CIH1-5-C7TIN	CIH2-5-C7TIN	CIH2A-5-C7TIN	CIH3-5-C7TIN

* Carbide inserts available from stock in: GRADE C-2 For brass, aluminum, and light cuts on steel. GRADE C-7 For heavy cuts on steel.

Right Hand holders discontinued.

• Replaced with TSQ style holders - Page 78.

• Inserts available with .015 or .031 corner radius for special applications.

BOX TURN

ACCU-SET Turning Tools

with exclusive TANGI-SQUARE
QUICK CHANGE

Micro-Grain Carbide Inserts

TANGI-SQUARE CARBIDE
INSERTS OUTPERFORM ALL
OTHER INSERTS BECAUSE:

- Quick change - only one easy-to-get-at screw
- Cut tangentially-not radially
- Ideal 10° front clearance angle - instead of 5° of triangular inserts
- Shave turned diameter for better size control and finish
- Built in chip breaker
- Produce square, sharp corners
- Repeatability within .001"
- No need for slide retraction because freer cutting action eliminates scroll lines on most applications.
- 4 right hand cutting edges
- MICRO-GRAIN carbide for longest tool life

The only insert ever designed specifically for screw machine turning tools!



ROLLER BACKREST STYLE
TANGI SQUARE
TURNING TOOLS

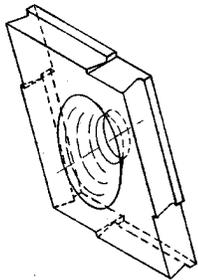


BALANCE STYLE
TANGI-SQUARE
TURNING TOOLS



Cat. No. Roller Style	ASTT00	ASTT0	ASTT2
Cat. No. Balance Style	BASTT00	BASTT0	BASTT2
Shank Size	5/8" Dia. x 1-9/32"	3/4" Dia. x 1-1/2"	1" Dia. x 1-15/16"
Insert Series*	TSQ00-.....	TSQ2-....	TSQ2-....
Insert Max. Depth of Cut	3/16"	17/64"	17/64"
Turning Capacities	5/64" to 3/8" Dia. will pass thru shank 25/64" to 1/2" Dia x 1-3/8" Length	5/32" to 1/2" Dia. will pass thru shank 33/64" to 7/8" Dia. x 1-7/8" Length	3/16" to 5/8" Dia. will pass thru shank 41/64" to 1-1/4" Dia. x 2-3/4" Length
Replacement Rolls	ATT00-6	ATT0-6	ATT2-6
Replacement Carbide Pin	ATT00-7	ATT0-7	ATT2-7

*See following page for Insert options



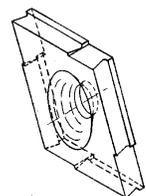
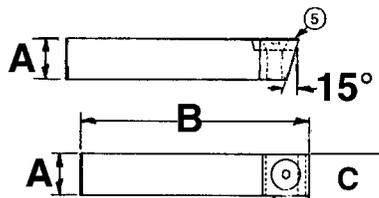
Convert your present Somma Turning Tools to a Tangi-Square Turning Tool with the purchase of the insert slide/s listed below			
Tangi-Square Slide Cat. No.	ATT00-SCS	ATT0-SCS	ATT2-SCS
Conversion slide for these Somma Cat No's →	ATT00, ACTT00 AVTT00, BATT00 BACTT00 BAVTT00	ATT0, ACTT0 AVTT0, BATT0 BACTT0 BAVTT0	ATT2, ACTT2 AVTT2, BATT2 BACTT2 BAVTT2

CONVERT YOUR PRESENT TOOLBIT TURNING TOOLS TO INDEXABLE CARBIDE INSERTS
WITH TANGI-SQUARE CARBIDE INSERT TOOL BIT TYPE HOLDERS.
THEY WILL REPLACE HIGH SPEED STEEL TOOL BITS IN MOST TURNING TOOLS.

TANGI-SQUARE CARBIDE INSERT HOLDERS FOR RIGHT HAND TURNING

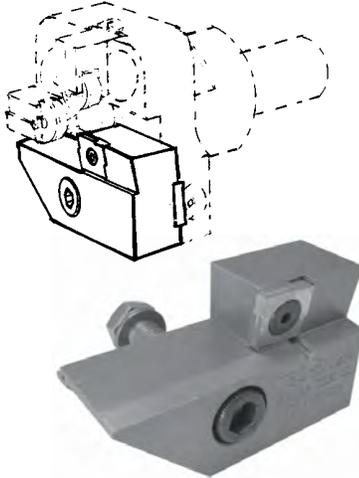
Cat. No.	A	B	C	Insert Series
TSQ000-R	1/4	1-5/16	1/4	TSQ000
TSQ00-R	5/16	1-1/2	3/8	TSQ00
TSQ1-R	3/8	2-1/8	3/8	TSQ00
TSQ2-R	7/16	2-1/2	1/2	TSQ2
TSQ2A-R	1/2	2-1/2	1/2	TSQ2
TSQ3-R	5/8	3-1/2	1/2	TSQ2

Inserts Not Included



The only insert ever designed specifically for screw machine turning tools!

**CONVERT YOUR BOYAR-SCHULTZ RT H.S. TOOLBIT STYLE OR
RTC TRIANGULAR INSERT TURNING TOOLS TO TANGI-SQUARE INSERTS
AND IMPROVE YOUR CUTTING PERFORMANCE BECAUSE:**



- Cut tangentially-not radially
- Freer cutting 10° front clearance angle - instead of 5° of triangular inserts
- No need for slide retraction because freer cutting action eliminates scroll line on most applications.
- Shaves turned diameter for better size control and finish
- 4 right hand cutting edges
- Built in chip breaker
- MICRO-GRAIN carbide for longest life
- Produces square sharp corners
- Repeatability within .001"
- Quick change-only one easy-to-get-at screw

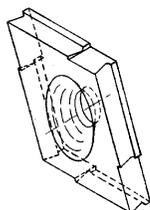
TANGI-SQUARE CARBIDE INSERT CUTTING TOOL SLIDES (INCLUDES INSERT)					
BOYAR-SCHULTZ TOOL SIZE	00RTC	00RT	0RTC	0RT	2RTC/2RT
TANGI-SQUARE COMPLETE CARBIDE INSERT SLIDE	TSQ-51204	TSQ-5002A	TSQ-51304	TSQ-5102A	TSQ-51404
USES INSERT SERIES	TSQ00	TSQ00	TSQ2	TSQ2	TSQ2

TANGI-SQUARE MICROGRAIN CARBIDE INSERTS



**TANGI-SQUARE INSERTS ARE
AVAILABLE IN FOUR STYLES**

- 35° HIGH TOP RAKE FOR LONGEST TOOL LIFE ON STAINLESS AND OTHER DIFFICULT-TO-MACHINE MATERIALS.
 - * SQUARE CORNER
 - * .015 OR .031 CORNER RADIUS
- 5° TOP RAKE FOR MILD MATERIALS
 - * SQUARE CORNER
 - * .015 OR .031 CORNER RADIUS



INSERT STYLE	TSQ00 Series Cat. No.'s	TSQ2 Series Cat. No.'s	TSQ000 Series Cat. No.'s
35° HIGH TOP RAKE SQUARE CORNER	TSQ00-45-MIC	TSQ2-45-MIC	TSQ000-45-MIC
	TSQ00-45-MICTIN	TSQ2-45-MICTIN	TSQ000-45-MICTIN
	TSQ00-45-MICTICN	TSQ2-45-MICTICN	-
	TSQ00-45-MICTIALN	TSQ2-45-MICTIALN	-
35° HIGH TOP RAKE .015 CORNER RADIUS OR .031 CORNER RADIUS	TSQ00-45-015	TSQ2-45-015	TSQ000-45-015
	TSQ00-45-015TIN	TSQ2-45-015TIN	TSQ000-45-015TIN
	TSQ00-45-015TICN	TSQ2-45-015TICN	-
	TSQ00-45-015TIALN	TSQ2-45-015TIALN	-
	TSQ00-45-031	TSQ2-45-031	TSQ000-45-031
	TSQ00-45-031TIN	TSQ2-45-031TIN	TSQ000-45-031TIN
	TSQ00-45-031TICN	TSQ2-45-031TICN	-
TSQ00-45-031-TIALN	TSQ2-45-031-TIALN	-	
5° TOP RAKE SQUARE CORNER	TSQ00-5-MIC	TSQ2-5-MIC	TSQ000-5-MIC
	TSQ00-5-MICTIN	TSQ2-5-MICTIN	TSQ000-5-MICTIN
	TSQ00-5-MICTICN	TSQ2-5-MICTICN	-
	TSQ00-5-MICTIALN	TSQ2-5-MICTIALN	-
5° TOP RAKE .015 CORNER RADIUS OR .031 CORNER RADIUS	TSQ00-5-015	TSQ2-5-015	TSQ000-5-015
	TSQ00-5-015-TIN	TSQ2-5-015-TIN	TSQ000-5-015TIN
	TSQ00-5-015-TICN	TSQ2-5-015-TICN	-
	TSQ00-5-015-TIALN	TSQ2-5-015-TIALN	-
	TSQ00-5-031	TSQ2-5-031	TSQ000-5-031
	TSQ00-5-031-TIN	TSQ2-5-031-TIN	TSQ000-5-031TIN
	TSQ00-5-031-TICN	TSQ2-5-031-TICN	-
TSQ00-5-031-TIALN	TSQ2-5-031-TIALN	-	
INSERT SCREW	ATT00-17	ATT2-17	TSQ000-2
MAX DEPTH OF CUT PER SIDE	3/16"	17/64"	7/64"

- TIN A GOOD GENERAL PURPOSE COATING FOR METAL CUTTING
- TICN THIS COATING IS RECOMMENDED FOR MACHING HIGH CARBON STEEL, HIGH SILICON ALUMINUMS AND TOOL STEELS
- TIALN FOR MACHINING CAST IRON, HIGH NICKEL AND TITANIUM ALLOYS, HARDENED STEELS AND STAINLESS STEELS. GOOD CHOICE FOR INTERRUPTED APPLICATIONS

ACCU-SET Roller Backrest Turning Tool

Shown in 3 styles below - See page 78 for improved Tangi-Square design!

FEATURES

- All cutting tool slides are interchangeable.
- All cutting tool slides are adjustable to center to compensate for machine misalignment.
- Screw adjustment of roller backrest slides assure easy, positive setting.
- Extended roller blocks available-for supporting on stock O.D. (positioned ahead of the cutting tool)
- Available for left hand operation.
- Micrometer adjustment of cutting tool slide-each graduation = .004" (1MM) on diameter (easily set in between for .001 or less move ment.)
- Available for left hand operation.



ATT STYLE
With H.S.S. Cutting Tool Slide



• Cuts tangentially.

AVTT STYLE
With Triangular Carbide Insert Slide

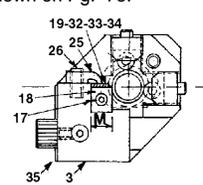
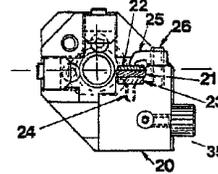
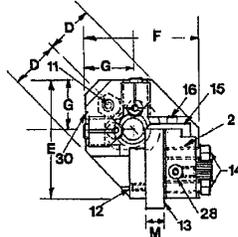
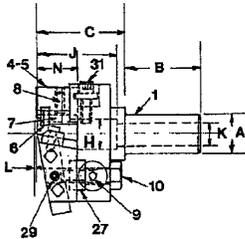


• Triangular carbide insert cuts radially.

ACTT STYLE
With Rectangular Carbide Insert Slide



• Only available left hand, right hand tools have been replaced with TANGI-SQUARE ASTT style holder shown on Pg. 78.



Roller Turning Tool	Cat. No.	Cat. No.	Cat. No.
With H.S.S. Cutting Tool Slide	ATT00	ATT0	ATT2
With H.S.S. Cutting Tool Slide LH	ATT00-L	ATT0-L	ATT2-L
With Rectangular Carbide Insert Tool Slide LH	ACTT00-L	ACTT0-L	ACTT2-L
With Triangular Carbide Insert Tool Slide	AVTT00	AVTT0	AVTT2
With Triangular Carbide Insert Tool Slide LH	AVTT00-L	AVTT0-L	AVTT2-L
A	5/8	3/4	1"
B	1-9/32	1-1/2	1-15/16
C	1-17/32	2-3/16	3"
D	13/16	1-3/16	1-3/8
E	1-15/16	2-3/4	3-7/16
F	1-15/16	2-7/8	3-9/16
G	13/16	1-3/8	1-11/16
H	1/2	7/8	1-1/4
J	1-3/8	1-7/8	2-3/4
K	3/8	1/2	5/8
L	3/64	3/32	3/32
M	5/16	3/8	7/16
N	11/16	1-1/16	1-1/2
Turning Capacity	5/64 to 3/8 Dia. x Mach. Cap.	5/32 to 1/2 Dia. x Mach. Cap.	3/16 to 5/8 Dia. x Mach. Cap.
	25/64 to 1/2 Dia. x 1-3/8 Lg	33/64 to 7/8 Dia. x 1-7/8 Lg	41/64 to 1-1/4 Dia. x 2-3/4 Lg

Parts for Tool Numbers	ATT00 AVTT00	ATT00-L AVTT00-L	ATT0 AVTT0	ATT0-L AVTT0-L	ATT2 AVTT2	ATT2-L AVTT2-L
Part No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.	Cat. No.
1. Body	ATT00-1		ATT0-1		ATT2-1	
1. Body LH	ATT00-1L		ATT0-1L		ATT2-1L	
2. H.S.S. Tool Slide	ATT00-2		ATT0-2		ATT2-2	
2. H.S.S. Tool Slide LH	ATT00-2L		ATT0-2L		ATT2-2L	
3. Rectangular Insert Tool Slide LH	ATT00-3L		ATT0-3L		ATT2-3L	
4. Roller Block	ATT00-4		ATT0-4		ATT2-4	
5. Extended Roller Block	ATT00-5		ATT0-5		ATT2-5	
6. Roll	ATT00-6		ATT0-6		ATT2-6	
7. Carbide Roll Pin	ATT00-7		ATT0-7		ATT2-7	
8. Pin Screw	ATT00-8		ATT0-8		ATT2-8	
9. Micrometer Screw	ATT00-9		ATT0-9		ATT2-9	
10. H.S.S. Tool Slide Lock Screw	ATT00-10		ATT0-10		ATT2-10	
11. Roller Slide Clamp Lock Screw	ATT00-10		ATT0-11		FDH4B-4-1	
12. Rocker Screw	ATT00-12		TH000-3		1ANR-6	
13. H.S.S. Cutting Tool	TT00-8		TT1-8		TT2-8	
14. Tool Lock Screw	ATT00-14		ATT0-14		ATT2-14	
15. H.S.S. Chip Breaker	ATT00-15		ATT0-15		ATT2-15	
16. Chip Breaker Screw	ATT00-16		ATT0-16		TCOBH00-SCR	
17. Rectangular Insert Screw	ATT00-17		ATT0-17		ATT2-17	
18. Rectangular Inserts Grade C-2 Carbide	CIH00-5-C2		CIH1-5-C2		CIH2-5-C2	
Grade C-7 Carbide	CIH00-5-C7		CIH1-5-C7		CIH2-5-C7	
19. Rectangular Carbide Chip Breaker	ATT00-19		ATT00-19		ATT2-19	
20. Triangular Insert Tool Slide	ATT00-20		ATT0-20		ATT2-20	
20. Triangular Insert Tool Slide LH	ATT00-20L		ATT0-20L		ATT2-20L	
21. Triangular Inserts Grade C-2 Carbide	ATT00-21-C2		ATT00-21-C2		ATT2-21-C2	
Grade C-7 Carbide	ATT00-21-C7		ATT00-21-C7		ATT2-21-C7	
22. Triangular Carbide Chip Breaker	ATT00-22		ATT00-22		ATT2-22	
23. Triangular Anvil	ATT00-23		ATT00-23		ATT2-23	
24. Triangular Anvil Screw	ATT00-24		ATT00-24		ATT2-24	
25. Carbide Insert Clamp	ATT00-25		ATT00-25		ATT2-25	
26. Carbide Insert Clamp Screw	ATT00-26		ATT00-26		ATT2-26	
27. Slide Plate	ATT00-27		ATT0-27		ATT2-27	
27. Slide Plate LH	ATT00-27L		ATT0-27L		ATT2-27L	
28. Adjusting Stud	ATT00-28		ATT0-28		ATT2-28	
29. Adj. Stud Lock Screw	ATT00-12		ATT00-12		1ANR-6	
30. Roller Block Clamp	ATT00-30		ATT0-30		ATT2-30	
31. Roller Block Adj. Screw	ATT00-31		ATT0-31		ATT2-31	
32. Backup Plate & Screw	ATT00-32		ATT0-32		ATT2-32	
33. Triangular Chip Breaker Adjuster	ATT00-33		ATT00-33		ATT00-33	
34. Breaker Adj Screw	ATT00-34		ATT00-34		ATT00-34	
35. Slide Clamp Screw	ATT00-35		ATT0-35		ATT00-12	

Tool Slide Only Replacement	For ATT00 Cat. No.	For ATT0 Cat. No.	For ATT2 Cat. No.
Complete H.S.S. Cutting Tool Slide	ATT00-CTS	ATT0-CTS	ATT2-CTS
Complete H.S.S. Cutting Tool Slide LH	ATT00-CTS-L	ATT0-CTS-L	ATT2-CTS-L
Complete Rectangular Carbide Insert Slide	ATT00-RCS	ATT0-RCS	ATT2-RCS
Complete Rectangular Carbide Insert Slide LH	ATT00-RCS-L	ATT0-RCS-L	ATT2-RCS-L
Complete Triangular Carbide Insert Slide	ATT00-VCS	ATT0-VCS	ATT2-VCS
Complete Triangular Carbide Insert Slide LH	ATT00-VCS-L	ATT0-VCS-L	ATT2-VCS-L
Complete Roller Backrest Slide (Rolls on turned diameter)	ATT00-RBS	ATT0-RBS	ATT2-RBS
Complete Extended Roller Backrest Slide (Rolls on bar stock)	ATT00-ERB	ATT0-ERB	ATT2-ERB

ACCU-SET Balance Turning Tool

Shown in 3 styles below - See page 78 for improved Tangi-Square design!

FEATURES

- All cutting tool slides are interchangeable. (see parts list). Converts from H.S.S. to carbide in seconds.
- All cutting tool slides are adjustable to center to compensate for machine misalignment.
- Micrometer adjustment of cutting tool slides- each graduation = .004" (1MM) on diameter (easily set in between for .001 or less movement.)
- Fine adjustment of H.S.S. cutting tool provided by rocker screw.
- Available for left hand operation.



BATT STYLE
With H.S.S. Cutting Tool Slides



BAVTT STYLE
With Triangular Carbide Insert Slides

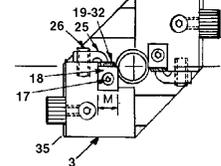
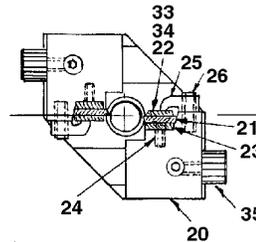
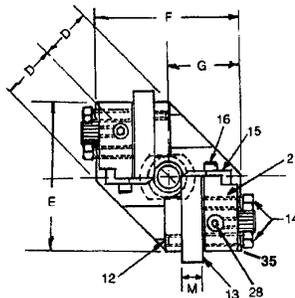
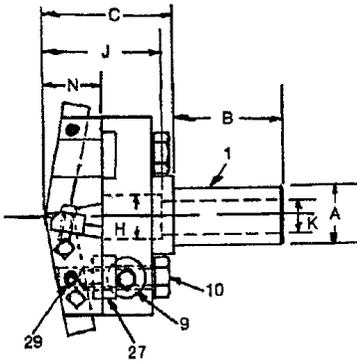


BACTT STYLE
With Rectangular Carbide Insert Slides



- Triangular carbide Inserts cut radially.

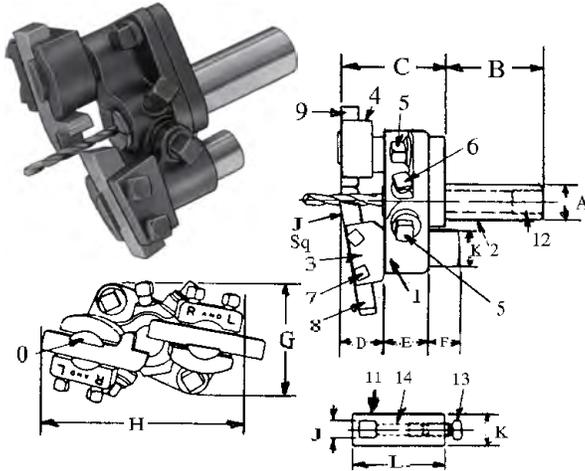
- Only available left hand, right hand tools have been replaced with TANGI-SQUARE BASTT style holder. Page 78.



Balance Turning Tool	Cat. No.	Cat. No.	Cat. No.
With H.S.S. Cutting Tool Slide	BATT00	BATT0	BATT2
With H.S.S. Cutting Tool Slide LH	BATT00-L	BATT0-L	BATT2-L
With Rectangular Carbide Insert Tool Slide LH	BACTT00-L	BACTT0-L	BACTT2-L
With Triangular Carbide Insert Tool Slide	BAVTT00	BAVTT0	BAVTT2
With Triangular Carbide Insert Tool Slide LH	BAVTT00-L	BAVTT0-L	BAVTT2-L
A	5/8	3/4	1"
B	1-9/32	1-1/2	1-15/16
C	1-17/32	2-3/16	3"
D	13/16	1-3/16	1-3/8
E	2-1/4	2-3/4	3-1/2
F	2-3/8	3"	3-3/4
G	1-3/16	1-1/2	1-7/8
H	5/8	7/8	1-1/4
J	1-7/16	1-7/8	2-3/4
K	3/8	1/2	5/8
M	5/16	3/8	7/16
N	11/16	1-1/16	1-1/2
Turning Capacity	Up to 3/8 Dia. x Mach. Cap.	Up to 1/2 Dia. x Mach. Cap.	Up to 5/8 Dia. x Mach. Cap.
	25/64 to 5/8 Dia. x 1-3/8 Lg	33/64 to 7/8 Dia. x 1-7/8 Lg	41/64 to 1-1/4 Dia. x 2-3/4 Lg

Parts for Tool Numbers	BATT00 BAVTT00 BATT00-L BACTT00-L BAVTT00-L	BATT0 BAVTT0 BATT0-L BACTT0-L BAVTT0-L	BATT2 BAVTT2 BATT2-L BACTT2-L BAVTT2-L
Part No.	Cat. No.	Cat. No.	Cat. No.
1. Body	BATT00-1	BATT0-1	BATT2-1
1. Body LH	BATT00-1L	BATT0-1L	BATT2-1L
2. HSS Tool Slide	ATT00-2	ATT0-2	ATT2-2
2. HSS Tool Slide LH	ATT00-2L	ATT0-2L	ATT2-2L
3. Rectangular Insert Tool Slide LH	ATT00-3L	ATT0-3L	ATT2-3L
9. Micrometer Screw	ATT00-9	ATT0-9	ATT2-9
10. H.S.S. Tool Slide Lock Screw	ATT00-10	ATT0-10	ATT2-10
12. Rocker Screw	TT00-12	TH000-3	1ANR-6
13. HSS Cutting Tool	TT00-8	TT1-8	TT2-8
14. Tool Lock Screw	ATT00-14	ATT0-14	ATT2-14
15. HSS Chip Breaker	ATT00-15	ATT0-15	ATT2-15
16. Chip Breaker Screw	ATT00-16	ATT0-16	TCOBH00-SCR
17. Rectangular Insert Screw	ATT00-17	ATT0-17	ATT2-17
18. Rectangular Inserts	See Page 77 for Specifications		
Grade C-2 Carbide	CIH00-5-C2	CIH1-5-C2	CIH2-5-C2
Grade C-7 Carbide	CIH00-5-C7	CIH1-5-C7	CIH2-5-C7
19. Rectangular Carbide Chip Breaker	ATT00-19	ATT00-19	ATT2-19
20. Triangular Insert Tool Slide	ATT00-20	ATT0-20	ATT2-20
20. Triangular Insert Tool Slide LH	ATT00-20L	ATT0-20L	ATT2-20L
21. Triangular Inserts	ATT00-21-C2	ATT00-21-C2	ATT2-21-C2
Grade C-2 Carbide	ATT00-21-C7	ATT00-21-C7	ATT2-21-C7
Grade C-7 Carbide			
22. Triangular Carbide Chip Breaker	ATT00-22	ATT00-22	ATT2-22
23. Triangular Anvil	ATT00-23	ATT00-23	ATT2-23
24. Triangular Anvil Screw	ATT00-24	ATT00-24	ATT2-24
25. Carbide Insert Clamp	ATT00-25	ATT00-25	ATT2-25
26. Carbide Insert Clamp Screw	ATT00-26	ATT00-26	ATT2-26
27. Slide Plate	ATT00-27	ATT0-27	ATT2-27
27. Slide Plate LH	ATT00-27L	ATT0-27L	ATT2-27L
28. Adjusting Stud	ATT00-28	ATT0-28	ATT2-28
29. Adj Stud Lock Screw	ATT00-12	ATT00-12	1ANR-6
32. Backup Plate & Screw	ATT00-32	ATT0-32	ATT2-32
33. Triangular Chip Breaker Adjuster	ATT00-33	ATT00-33	ATT00-33
34. Breaker Adj Screw	ATT00-34	ATT00-34	ATT00-34
35. Slide Clamp Screw	ATT00-35	ATT0-35	ATT00-12

Tool Slide Only Replacement	For BATT00 Cat. No.	For BATT0 Cat. No.	For BATT2 Cat. No.
Complete H.S.S. Cutting Tool Slide	ATT00-CTS	ATT0-CTS	ATT2-CTS
Complete H.S.S. Cutting Tool Slide LH	ATT00-CTS-L	ATT0-CTS-L	ATT2-CTS-L
Complete Rectangular Carbide Insert Slide LH	ATT00-RCS-L	ATT0-RCS-L	ATT2-RCS-L
Complete Triangular Carbide Insert Slide	ATT00-VCS	ATT0-VCS	ATT2-VCS
Complete Triangular Carbide Insert Slide LH	ATT00-VCS-L	ATT0-VCS-L	ATT2-VCS-L



The most **VERSATILE** tool on the market!...
 Saves many times its cost in tool investment...
 Can be used for either **RIGHT** or **LEFT** hand operations as...

- Carbide backrest box tool
- Balance turning tool
- Drilling & Chamfering tool
- Drilling & turning tool
- Roller backrest support for turret
- Pointing tool
- Knee tool
- Roller Backrest box tool
- Carbide backrest support for turret
- Centering & facing tool
- Floating drill holder
- Two diameter turning tool
- Carbide Insert Tool

FEATURES:

- FULLY ADJUSTABLE (FLOATS)
- EASY TO SET
- REQUIRES LESS CROSS SLIDE CLEARANCE
- NO DRILL PUSHBACK
- RUGGED CONSTRUCTION FOR BOTH ROUGHING AND FINISHING CUTS
- MORE VERSATILE
- ADJUSTABLE DRILL STOP SCREW IN SHANK
- ATTACHMENTS CAN BE MOVED FORWARD OR BACK IN HOLDER TO WORK ON ANY AREA OF PART.



TURNING TOOL SPECIFICATIONS

Size	A Shank	B	C	D		E	F		G	H	J Square	K	L	Hole Dia. for Bushing	Hole Dia. In Shank	Turning Capacity	
				Max.	Min.		Max.	Min.								Diameter	Length
No. 00	5/8	1-1/2	1-3/4	1-1/16	5/8	11/16	7/16	0	1-9/16	3"	5/16	1/2	1-17/32	1/2	3/8	Up to 3/8 3/8 to 1/2	Mach. Cap. 1-3/4
No. 1	3/4	2"	2-3/8	1-1/2	7/8	7/8	5/8	0	2-7/16	4-1/4	3/8	3/4	2"	5/8	1/2	Up to 1/2 1/2 to 3/4	Mach. Cap. 2-1/4
No. 2	1"	2"	3-1/16	1-15/16	1-1/16	1-1/8	7/8	0	3"	5-3/8	7/16	1"	3"	1"	11/16	Up to 11/16 11/16 to 1"	Mach. Cap. 3-1/16 1-15/16

THESE TOOLS ARE AVAILABLE AS UNIVERSAL TURNING TOOLS WITH ALL ACCESSORIES AS SHOWN:

THESE TOOLS ARE ALSO AVAILABLE AS SPECIAL PURPOSE WITH ONLY THE ACCESSORIES AS SHOWN:

TOOL SIZE	1-Carbide Backrest 2-Angular Cutter Holders 1-Straight Cutter Holders	1-Roller Backrest 2-Angular Cutter Holders 1-Straight Cutter Holder	1-Carbide Backrest 1-Angular Cutter Holder	1-Roller Backrest 1-Angular Cutter Holder	2-Angular Cutter Holder for Balance Turning	1-Straight Cutter Holder (Knee Tool)
	CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
No. 00	TT00-C	TT00-R	TT00-CA	TT00-RA	TT00-AA	TT00-S
No. 1	TT1-C	TT1-R	TT1-CA	TT1-RA	TT1-AA	TT1-S
No. 2	TT2-C	TT2-R	TT2-CA	TT2-RA	TT2-AA	TT2-S

TURNING TOOL PARTS

Part. No.	Cat. No. No. 00	Cat. No. No. 1	Cat. No. No. 2
1. Body	TT00-1	TT1-1	TT2-1
2. Shank	TT00-2	TT1-2	TT2-2
3. Angular cutter holder	TT00-3	TT1-3	TT2-3
4. Backrest holder	TT00-4	TT1-4	TT2-4
5. Clamp screw (ea)	TT00-5	TT1-5	TT2-5
6. Drill holder screws (ea)	TT00-13	TT1-6	TT2-13
7. Tool adjusting screws(ea)	TT00-7	TT00-13	TT1-6
8. Cutting tool (ea)	TT00-8	TT1-8	TT2-8
9. Carbide backrest	TT00-9	TT1-9	TT2-9
10. Rocker shoes (ea)	TT00-10	TT1-10	TT2-10
11. Straight cutter holder	TT00-11	TT1-11	TT2-11
12. Shank screw	TT00-12	TT1-12	TT2-12
13. Set screw for straight cutter holders	TT00-13	TT1-6	TT2-13
14. Binder pin for straight cutter holders	TT00-14	TT1-14	TT2-14
15. Double end wrench	TT00-15	TT00-15	TT2-15

BOX TURN

COMPLETE ROLLER BACKRESTS

Roller backrests can be used advantageously for many support applications where carbide backrests are not satisfactory. Precision rollers and pins rotate freely and give sturdy support on even the heaviest cuts.



SHANK DIA	FITS	CAT. NO.	MIN. DIA. THAT CAN BE TURNED
1/2"	00	TT00-RBR	1/8"
3/4"	1	TT1-RBR	1/8"
1"	2	TT2-RBR	3/16"

ROLLER BACKREST PARTS

Size	TT00-RBR	TT1-RBR	TT2-RBR
Part No.	Cat. No.	Cat. No.	Cat. No.
1. Roller and Pin Sets*	TT00RBR-1	TT1RBR-1	TT2RBR-1
2. Roller Shank	TT00RBR-2	TT1RBR-2	TT2RBR-2
3. Roller Clamp	TT00RBR-3	TT1RBR-3	TT2RBR-3
4. Clamp Screw	TT00-5	TT1-5	TT2-5

*Roller and pin sets consist of 2 rolls and 2 pins

COMPLETE CARBIDE BACKRESTS



The extremely hard surface of the carbide backrests will not pick up metal or mar the surface of the work with scratches or blisters.

SHANK DIA	FITS	CAT. NO.	MIN. DIA. THAT CAN BE TURNED
1/2"	00	TT00-CBR	1/16"
3/4"	1	TT1-CBR	1/16"
1"	2	TT2-CBR	1/16"

The completed carbide backrest consists of the following assembly of parts as listed on page 82.

- | | | | |
|---|-----------------------------|---|------------------------|
| 1 | No. 4 Backrest holder | 1 | No. 9 Carbide backrest |
| 2 | No. 7 Tool adjusting screws | 1 | No. 10 Rocker shoe |

COMPLETE ANGULAR CUTTER HOLDERS



SHANK DIA	FITS	CAT. NO.
1/2"	00	TT00-ACH
3/4"	1	TT1-ACH
1"	2	TT2-ACH

The complete angular cutter holder consists of the following assembly of parts as listed on page 82.

- | | | | |
|---|-----------------------------|---|--------------------|
| 1 | No. 3 Angular cutter holder | 1 | No. 8 Cutting tool |
| 2 | No. 7 Tool adjust screws | 1 | No. 10 Rocker shoe |

OFFSET TOOL HOLDER



May be used for either right or left hand operations as:

- Carbide Backrest for Turret
- Roller Backrest for Turret
- Knee Tool
- Drill and Chamfer Tool
- Drill and Turn Tool
- Center and Face Tool

When used in conjunction with standard Somma R & L turning tool attachments as shown below.



With Roller Backrest*



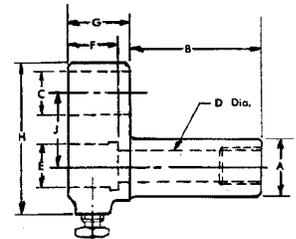
With Carbide Backrest*



With Angular Cutter Holder*



With Straight Cutter Holder*



TOOL NO.	OTH00	OTH1	OTH2
A	5/8	3/4	1"
B	1-1/2	2"	2"
C	1/2	3/4	1"
D	3/8	1/2	11/16
E	1/2	5/8	1"
F	9/16	3/4	7/8
G	11/16	7/8	1-1/8
H	1-11/16	2-3/16	3"
J	13/16	1"	1-5/16

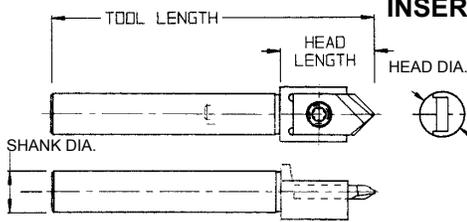
COMPLETE STRAIGHT CUTTER HOLDERS



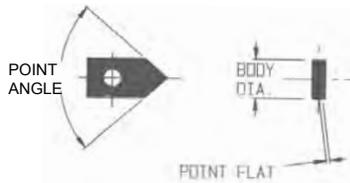
SHANK DIA	FITS	CAT. NO.
1/2"	00	TT00-SCH
3/4"	1	TT1-SCH
1"	2	TT2-SCH

Complete straight cutter holder consists of the following assembly of parts as listed on page 82.

- | | | | |
|---|-------------------------------|---|---------------------------------------|
| 1 | No. 11 Straight cutter holder | 1 | No. 13 Set Screw for straight holder |
| 1 | No. 8 Cutting tool | 1 | No. 14 Binder pin for straight holder |



INSERTED TOOLHOLDERS FOR SPOT DRILLING



- THREE FLAT POINT TYPES AVAILABLE
.005 (FINE) / .015 (MEDIUM) / .034 (HEAVY)
- REPEATABILITY WITHIN +/- .0005
- AVAILABLE IN CARBIDE AND T15PM TIN COATED
- MINIMUM MACHINE DOWN TIME
- LEFT HAND AVAILABLE
- SPECIAL ANGLED INSERTS AVAILABLE
(PRICE ON APPLICATION)

SERIES #2 TOOLHOLDER#	TOOL LENGTH	SHANK DIA.	HEAD DIA.	HEAD LENGTH
CDH2-250-2.0	2.0	.250	.375	.690
CDH2-375-1.5	1.5	.375	---	---
CDH2-375-2.5	2.5	.375	---	---
CDH2-500-2.0	2.0	.500	---	---
CDH2-500-3.0	3.0	.500	---	---
CDH2-625-5.0	5.0	.625	---	---
CDH2-750-5.0	5.0	.750	---	---
CDH2-1.000-5.0	5.0	1.000	---	---
CDH2-10MM-1.5	1.5	10MM	---	---
CDH2-10MM-2.5	2.5	10MM	---	---

SERIES #2 SPOT DRILLING INSERTS - .250 BODY DIAMETER			
POINT ANGLE	POINT FLAT	MICROGRAIN CARBIDE TIN COATED INSERT#	T15PM H.S.S. TIN COATED INSERT#
82°	.005	2-82-005-MICTIN	2-82-005-PTIN
82°	.015	2-82-015-MICTIN	2-82-015-PTIN
90°	.005	2-90-005-MICTIN	2-90-005-PTIN
90°	.015	2-90-015-MICTIN	2-90-015-PTIN
120°	.005	2-120-005-MICTIN	2-120-005-PTIN
120°	.015	2-120-015-MICTIN	2-120-015-PTIN
SCREW# DAV-CSK-SCR / WRENCH# DAV-CSK-WR			

SERIES #3 TOOLHOLDER#	TOOL LENGTH	SHANK DIA.	HEAD DIA.	HEAD LENGTH
SDH3-375-2.0	2.0	.375	.500	1.100
SDH3-375-3.0	3.0	.375	.500	1.100
SDH3-500-2.0	2.0	.500	---	---
SDH3-500-3.0	3.0	.500	---	---
SDH3-625-3.0	3.0	.625	---	---
SDH3-625-5.0	5.0	.625	---	---
SDH3-750-3.5	3.5	.750	---	---
SDH3-750-5.0	5.0	.750	---	---
SDH3-1.000-5.0	5.0	1.000	---	---
SDH3-10MM-2.0	2.0	10MM	.500	1.100
SDH3-10MM-3.0	3.0	10MM	.500	1.100
SDH3-16MM-3.0	3.0	16MM	---	---

SERIES #3 SPOT DRILLING INSERTS - .375 BODY DIAMETER			
POINT ANGLE	POINT FLAT	MICROGRAIN CARBIDE TIN COATED INSERT#	T15PM H.S.S. TIN COATED INSERT#
82°	.005	3-82-005-MICTIN	3-82-005-PTIN
82°	.015	3-82-015-MICTIN	3-82-015-PTIN
82°	.034	3-82-034-MICTIN	3-82-034-PTIN
90°	.005	3-90-005-MICTIN	3-90-005-PTIN
90°	.015	3-90-015-MICTIN	3-90-015-PTIN
90°	.034	3-90-034-MICTIN	3-90-034-PTIN
120°	.005	3-120-005-MICTIN	3-120-005-PTIN
120°	.015	3-120-015-MICTIN	3-120-015-PTIN
120°	.034	3-120-034-MICTIN	3-120-034-PTIN
SCREW# STCC-4110 / WRENCH# STCC-4112			

SERIES #4 TOOLHOLDER#	TOOL LENGTH	SHANK DIA.	HEAD DIA.	HEAD LENGTH
CDH4-375-3.5	3.5	.375	.750	1.100
CDH4-500-2.5	2.5	.500	.750	1.100
CDH4-500-3.5	3.5	.500	.750	1.100
CDH4-625-2.5	2.5	.625	.750	1.100
CDH4-625-3.5	2.5	.625	.750	1.100
CDH4-625-5.0	5.0	.625	.750	1.100
CDH4-750-2.5	2.5	.750	---	---
CDH4-750-3.5	3.5	.750	---	---
CDH4-750-5.0	5.0	.750	---	---
CDH4-1.000-5.0	5.0	1.000	---	---

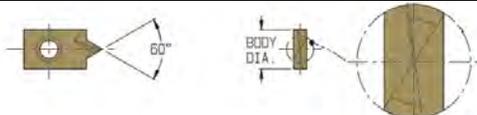
SERIES #4 SPOT DRILLING INSERTS - .500 BODY DIAMETER			
POINT ANGLE	POINT FLAT	MICROGRAIN CARBIDE TIN COATED INSERT#	T15PM H.S.S. TIN COATED INSERT#
82°	.015	4-82-015-MICTIN	4-82-015-PTIN
82°	.034	4-82-034-MICTIN	4-82-034-PTIN
90°	.015	4-90-015-MICTIN	4-90-015-PTIN
90°	.034	4-90-034-MICTIN	4-90-034-PTIN
120°	.015	4-120-015-MICTIN	4-120-015-PTIN
120°	.034	4-120-034-MICTIN	4-120-034-PTIN
SCREW# STCC-4111 / WRENCH# STCC-4112			

Screw is supplied with holder.
Inserts and wrenches are sold separately.

NEW! 60° TWO FLUTE RADIAL RELIEF SPOT DRILL INSERTS FOR ABOVE HOLDERS

SERIES #2 SPOT DRILLING INSERTS - .250 BODY DIAMETER			
POINT ANGLE	POINT FLAT	MICROGRAIN CARBIDE TIN COATED INSERT#	T15PM H.S.S. TIN COATED INSERT#
60°	.005	2-60-005-MICTIN	2-60-005-PTIN

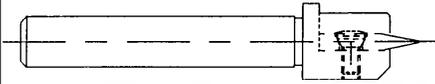
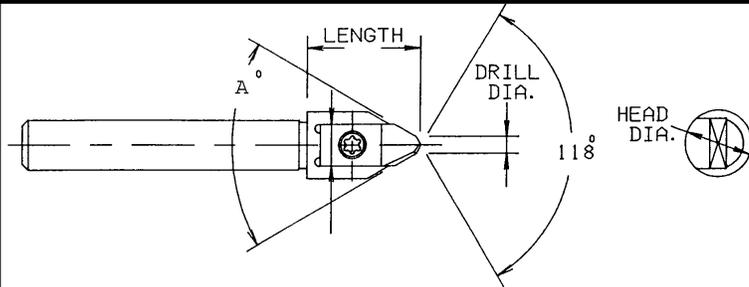
SERIES #3 SPOT DRILLING INSERTS - .375 BODY DIAMETER			
POINT ANGLE	POINT FLAT	MICROGRAIN CARBIDE TIN COATED INSERT#	T15PM H.S.S. TIN COATED INSERT#
60°	.005	3-60-005-MICTIN	3-60-005-PTIN



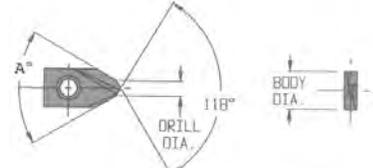
The speed for these two inserts needs to be between 5000 - 8000 R.P.M. and the feed rate should be between .500" - 1.000" per minute.

60° INCLUDED RADIAL SPOT DRILL INSERT ADVANTAGES

- The 60° included angle has radial and conical relief that is offset to give the cutting edge maximum strength plus clearance.
- These two spot drill inserts are center cutting with the ability to spot material starting with an outside diameter of .010"



- NEW STYLE IS FLUTED FOR EASY CHIP REMOVAL
- REPEATABILITY WITHIN .001
- AVAILABLE IN CARBIDE AND T-15PM
- TIN & TIALN COATED
- MINIMUM MACHINE DOWN TIME
- SHORTER CUTTING CYCLE
- SPECIAL ORDERS WELCOMED



TWO FLUTE STANDARD RELIEF - R.H. CENTER CUTTING INSERTS

NOTE: INSERTS ALSO AVAILABLE WITHOUT THE FLUTES FOR HEAVY CUTS - ADD "-O" TO PART NUMBERS SHOW BELOW.

HOLDERS

SERIES #2				
HOLDER NUMBER	SHANK DIA.	HEAD DIA.	HEAD LENGTH	TOTAL LENGTH
CDH2-375-1.5	.375	---	---	1.5
CDH2-375-2.5	.375	---	---	2.5
CDH2-10MM-1.5	10MM	---	---	1.5
CDH2-10MM-2.5	10MM	---	---	2.5
CDH2-500-1.5	.500	---	---	1.5
CDH2-500-2.5	.500	---	---	2.5

INSERTS

SERIES #2 DRILL & COUNTERSINK INSERTS - .250 BODY DIAMETER			
INCLUDED ANGLE "A"	DRILL DIA.	MICROGRAIN CARBIDE TIN COATED INSERT#	T15PM H.S.S TIN COATED INSERT#
60°	.109	CDI2-60-109MICTIN	CDI2-60-109PTIN
82°	.109	CDI2-82-109MICTIN	CDI2-82-109PTIN
90°	.109	CDI2-90-109MICTIN	CDI2-90-109PTIN
SCREW# DAV-CSK-SCR / WRENCH# DAV-CSK-WR			

SERIES #2.5				
HOLDER NUMBER	SHANK DIA.	HEAD DIA.	HEAD LENGTH	TOTAL LENGTH
CDH2.5-375-2.0	.375	.500	.850	2.0
CDH2.5-375-3.0	.375	.500	.850	3.0
CDH2.5-10MM-2.0	10MM	.500	.850	2.0
CDH2.5-10MM-3.0	10MM	.500	.850	3.0
CDH2.5-500-2.0	.500	.500	.850	2.0
CDH2.5-500-3.0	.500	.500	.850	3.0

SERIES #2.5 DRILL & COUNTERSINK INSERTS - .312 BODY DIAMETER			
INCLUDED ANGLE "A"	DRILL DIA.	MICROGRAIN CARBIDE TIN COATED INSERT#	T15PM H.S.S TIN COATED INSERT#
60°	.125	CDI2.5-60-125MICTIN	CDI2.5-60-125PTIN
82°	.125	CDI2.5-82-125MICTIN	CDI2.5-82-125PTIN
90°	.125	CDI2.5-90-125MICTIN	CDI2.5-90-125PTIN
SCREW# STCC-4110 / WRENCH# STCC-4112			

SERIES #3.5				
HOLDER NUMBER	SHANK DIA.	HEAD DIA.	HEAD LENGTH	TOTAL LENGTH
CDH3.5-375-2.0	.375	.750	1.100	2.0
CDH3.5-375-3.0	.375	.750	1.100	3.0
CDH3.5-10MM-2.0	10MM	.750	1.100	2.0
CDH3.5-10MM-3.0	10MM	.750	1.100	3.0
CDH3.5-500-2.0	.500	.750	1.100	2.0
CDH3.5-500-3.0	.500	.750	1.100	3.0

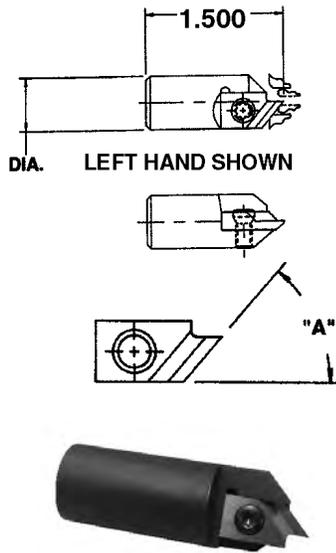
SERIES #3.5 DRILL & COUNTERSINK INSERTS - .437 BODY DIAMETER			
INCLUDED ANGLE "A"	DRILL DIA.	MICROGRAIN CARBIDE TIN COATED INSERT#	T15PM H.S.S TIN COATED INSERT#
60°	.187	CDI3.5-60-187MICTIN	CDI3.5-60-187PTIN
82°	.187	CDI3.5-82-187MICTIN	CDI3.5-82-187PTIN
90°	.187	CDI3.5-90-187MICTIN	CDI3.5-90-187PTIN
SCREW# STCC-4111 / WRENCH# STCC-4112			

SERIES #4				
HOLDER NUMBER	SHANK DIA.	HEAD DIA.	HEAD LENGTH	TOTAL LENGTH
CDH4-500-2.5	.500	.750	1.100	2.5
CDH4-500-3.5	.500	.750	1.100	3.5
CDH4-625-2.5	.625	.750	1.100	2.5
CDH4-625-3.5	.625	.750	1.100	3.5
CDH4-750-2.5	.750	---	---	2.5
CDH4-750-3.5	.750	---	---	3.5

SERIES #4 DRILL & COUNTERSINK INSERTS - .500 BODY DIAMETER			
INCLUDED ANGLE "A"	DRILL DIA.	MICROGRAIN CARBIDE TIN COATED INSERT#	T15PM H.S.S TIN COATED INSERT#
60°	.218	CDI4-60-218MICTIN	CDI4-60-218PTIN
82°	.218	CDI4-82-218MICTIN	CDI4-82-218PTIN
90°	.218	CDI4-90-218MICTIN	CDI4-90-218PTIN
SCREW# STCC-4111 / WRENCH# STCC-4112			

Screw is supplied with holder.
Inserts and wrenches are sold separately.

COUNTERSINK HOLDERS WITH MICRO-GRAIN CARBIDE AND T15PM INSERTS



LEFT HAND

RIGHT HAND

SHANK DIA.	INCL'D. ANGLE	HOLDER CAT. NO.	CARBIDE INSERT CAT. NO.	"A"	T15PM INSERT CAT. NO.
3/8	82 DEG.	DAV-CSK-3/8	DAV-CSI-LH41	41 DEG.	DAV-CSI-LH41-P
3/8	90 DEG.	DAV-CSK-3/8	DAV-CSI-LH45	45 DEG.	DAV-CSI-LH45-P
3/8	100 DEG.	DAV-CSK-3/8	DAV-CSI-LH50	50 DEG.	DAV-CSI-LH50-P
3/8	120 DEG.	DAV-CSK-3/8-120	DAV-CSI-LH60	60 DEG.	DAV-CSI-LH60-P
10MM	90 DEG.	DAV-CSK-10MM	DAV-CSI-LH45	45 DEG.	DAV-CSI-LH45-P
7/16	90 DEG.	DAV-CSK-7/16	DAV-CSI-LH45	45 DEG.	DAV-CSI-LH45-P
1/2	82 DEG.	DAV-CSK-1/2	DAV-CSI-LH41	41 DEG.	DAV-CSI-LH41-P
1/2	90 DEG.	DAV-CSK-1/2	DAV-CSI-LH45	45 DEG.	DAV-CSI-LH45-P
1/2	100 DEG.	DAV-CSK-1/2	DAV-CSI-LH50	50 DEG.	DAV-CSI-LH50-P
1/2	120 DEG.	DAV-CSK-1/2-120	DAV-CSI-LH60	60 DEG.	DAV-CSI-LH60-P
5/8"	90 DEG.	DAV-CSK-5/8	DAV-CSI-LH45	45 DEG.	DAV-CSI-LH45-P
3/4"	90 DEG.	DAV-CSK-3/4	DAV-CSI-LH45	45 DEG.	DAV-CSI-LH450-P

SHANK DIA.	INCL'D. ANGLE	HOLDER CAT. NO.	CARBIDE INSERT CAT. NO.	"A"	T15PM INSERT CAT. NO.
3/8	82 DEG.	DAV-CSK-3/8-R	DAV-CSI-RH41	41 DEG.	DAV-CSI-RH41-P
3/8	90 DEG.	DAV-CSK-3/8-R	DAV-CSI-RH45	45 DEG.	DAV-CSI-RH45-P
3/8	100 DEG.	DAV-CSK-3/8-R	DAV-CSI-RH50	50 DEG.	DAV-CSI-RH50-P
3/8	120 DEG.	DAV-CSK-3/8-120-R	DAV-CSI-RH60	60 DEG.	DAV-CSI-RH60-P
10MM	90 DEG.	DAV-CSK-10MMR	DAV-CSI-RH45	45 DEG.	DAV-CSI-RH45-P
7/16	90 DEG.	DAV-CSK-7/16R	DAV-CSI-RH45	45 DEG.	DAV-CSI-RH45-P
1/2	82 DEG.	DAV-CSK-1/2-R	DAV-CSI-RH41	41 DEG.	DAV-CSI-RH41-P
1/2	90 DEG.	DAV-CSK-1/2-R	DAV-CSI-RH45	45 DEG.	DAV-CSI-RH45-P
1/2	100 DEG.	DAV-CSK-1/2-R	DAV-CSI-RH50	50 DEG.	DAV-CSI-RH50-P
1/2	120 DEG.	DAV-CSK-1/2-120-R	DAV-CSI-RH60	60 DEG.	DAV-CSI-RH60-P
5/8"	90 DEG.	DAV-CSK-5/8-R	DAV-CSI-RH45	45 DEG.	DAV-CSI-RH45-P
3/4"	90 DEG.	DAV-CSK-3/4-R	DAV-CSI-RH45	45 DEG.	DAV-CSI-RH45-P

- COUNTERSINK RANGE .035 TO .325 DIA.
- LARGER RANGES AVAILABLE
- R.H. AND L.H. STOCKED
- BACKWORKING LEFT HAND CUT
- USED TO CHAMFER BACKEND OF PART I.D.
- REPEATABILITY WITHIN .001
- MINIMUM DOWN TIME
- ALSO AVAILABLE IN 1", 2", AND 2-1/2" LENGTHS

USE T15PM INSERTS FOR SLOW SURFACE FEET PER MINUTE OR MACHINES THAT LACK RIGIDITY.

Also available tin coated - Add TIN to Insert Part #

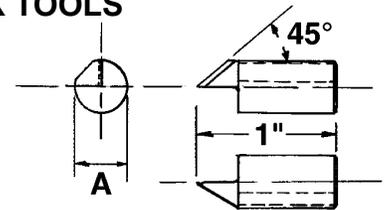
HOLDER PARTS

CAT. NO.	ITEM
DAV-CSK-SCR	TORX SCREW
DAV-CSK-WR	TORX WRENCH

SOLID MICRO-GRAIN CARBIDE COUNTERSINK TOOLS FOR DAVENPORT MACHINES

CAT. NO.	"A" DIA.
DAV-CSK-LH	3/8

- FOR LEFT HAND CUT



MINIATURE MULTI-FLUTE COUNTERSINKS

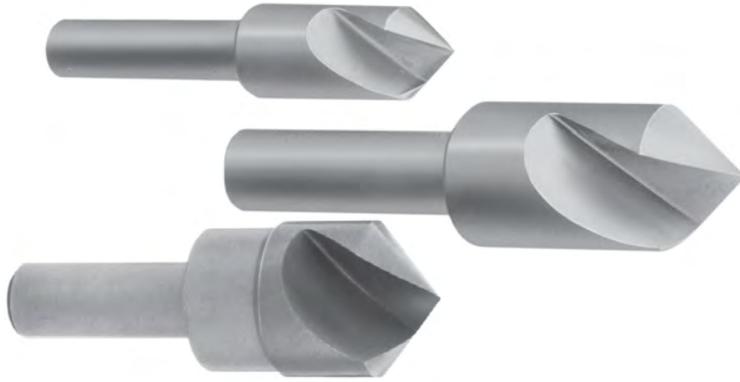
3/32" Shank dia - 1-5/8"

HEAD DIA	FLUTE LENGTH	PART #
1/16"	.081"	LM2-062
3/32"	.122"	LM2-093
1/8"	.162"	LM2-125
3/16"	.244"	LM2-187
1/4"	.325"	LM2-250
5/16"	.407"	LM2-312

Miniature Multi-Flute Countersinks

3/32" Shank Diameter - 1-5/8"

Used on small hole and parts to chamfer or break the edge. May be resharpened many times. 3/32" shanks 25° C/L angle.



Single Flute Countersinks

Single flute countersinks produce excellent results for light burr-free countersinking operations, are excellent at small hole chamfers, can operate at slightly higher RPM's, and may be reground many times. Other Diameters and angles can be provided as specials. Countersinks larger than 1" are not pointed.

SINGLE FLUTE COUNTERSINKS High Speed Steel											
HEAD DIA	SHANK DIA	OVERALL LENGTH	SHANK LENGTH	SERIES #	INCLUDED ANGLE						
					60° PART #	82° PART #	90° PART #	100° PART #	110° PART #	120° PART #	
1/8"	1/8"	1-5/8"	1-5/8"	1/8-SF	00270	00288	00306	00324	00342	00360	
3/16"	3/16"	1-1/2"	1-1/2"	3/16-SF	00271	00289	00307	00325	00343	00361	
1/4"	3/16"	1-1/2"	3/4"	1/4-SF	00272	00290	00308	00326	00344	00362	
5/16"	1/4"	1-3/4"	7/8"	5/16-SF	00273	00291	00309	00327	00345	00363	
3/8"	1/4"	1-3/4"	7/8"	3/8-SF	00274	00292	00310	00328	00346	00364	
1/2"	3/8"	2-1/8"	1-1/8"	1/2-SF	00275	00293	00311	00329	00347	00365	
1/2"	1/4"	2-1/8"	1-1/8"	1/2-SF-1/4	00276	00294	00312	00330	00348	00366	
5/8"	3/8"	2-3/8"	1-1/8"	5/8-SF	00277	00295	00313	00331	00349	00367	
5/8"	1/4"	2-3/8"	1-1/8"	5/8-SF-1/4	00278	00296	00314	00332	00350	00368	
3/4"	1/2"	2-11/16"	1-5/16"	3/4-SF	00279	00297	00315	00333	00351	00369	
7/8"	1/2"	2-13/16"	1-5/16"	7/8-SF	00280	00298	00316	00334	00352	00370	
1"	1/2"	2-13/16"	1-5/16"	1-SF	00281	00299	00317	00335	00353	00371	
1-1/4"	3/4"	3-3/8"	1-5/8"	1-1/4-SF	00282	00300	00318	00336	00354	00372	
1-1/2"	3/4"	3-1/2"	1-5/8"	1-1/2-SF	00283	00301	00319	00337	00355	00373	
1-3/4"	1"	4-1/4"	2-1/8"	1-3/4-SF	00284	00302	00320	00338	00356	00374	
2"	1"	4-3/8"	2-1/8"	2-SF	00285	00303	00321	00339	00357	00375	
2-1/2"	1"	4-3/4"	2-1/8"	2-1/2-SF	00286	00304	00322	00340	00358	00376	
3"	1"	5"	2-1/8"	3-SF	00287	00305	00323	00341	00359	00377	

SINGLE FLUTE COUNTERSINKS Carbide											
HEAD DIA	SHANK DIA	OVERALL LENGTH	SHANK LENGTH	SERIES #	INCLUDED ANGLE						
					60° PART #	82° PART #	90° PART #	100° PART #	110° PART #	120° PART #	
1/8"	1/8"	1-1/2"	1-1/2"	1/8-SF-W	00420	00440	00460	00480	00500	00520	
3/16"	3/16"	1-1/2"	1-1/2"	3/16-SF-W	00421	00441	00461	00481	00501	00521	
1/4"	3/16"	1-1/2"	1-3/16"	1/4-SF-W	00422	00442	00462	00482	00502	00522	
5/16"	1/4"	2-1/4"	1-3/4"	5/16-SF-W	00423	00443	00463	00483	00503	00523	
3/8"	1/4"	2-1/4"	1-3/4"	3/8-SF-W	00424	00444	00464	00484	00504	00524	
1/2"	3/8"	2-1/2"	2"	1/2-SF-W	00425	00445	00465	00485	00505	00525	
1/2"	1/4"	2-1/4"	1-3/4"	1/2-SF-W-1/4	00426	00446	00466	00486	00506	00526	
5/8"	3/8"	2-5/8"	2"	5/8-SF-W	00427	00447	00467	00487	00507	00527	
5/8"	1/4"	2-3/8"	1-3/4"	5/8-SF-W-1/4	00428	00448	00468	00488	00508	00528	
3/4"	1/2"	2-3/4"	2"	3/4-SF-W	00429	00449	00469	00489	00509	00529	
7/8"	1/2"	2-7/8"	2"	7/8-SF-W	00430	00450	00470	00490	00510	00530	
1"	1/2"	3"	2"	1-SF-W	00431	00451	00471	00491	00511	00531	
1-1/4"	3/4"	3-3/8"	1-5/8"	1-1/4-SF-W	00432	00452	00472	00492	00512	00532	
1-1/2"	3/4"	3-1/2"	1-5/8"	1-1/2-SF-W	00433	00453	00473	00493	00513	00533	
1-3/4"	1"	4-1/4"	2-1/8"	1-3/4-SF-W	00434	00454	00474	00494	00514	00534	
2"	1"	4-3/8"	2-1/8"	2-SF-W	00435	00455	00475	00495	00515	00535	



4-Flute Chatter-Free® Econo-Sinks®

Econo-Sinks® features a Chatter-Free®, four-flute design. Econo-Sinks® are designed with four staggered cutting teeth arranged to insure free chip flow and rapid Chatter-Free® cutting. You will find the Econo-Sinks® give you better finishes, higher production, and more economic value than a single flute tool. Ideal on a wide range of materials including non-ferrous and other stringy materials and cast iron.

Other diameters and angles available upon request.

4-FLUTE CHATTER-FREE ECONO-SINKS High Speed Steel

HEAD DIA	SHANK DIA	OVERALL LENGTH	SHANK LENGTH	SERIES #	INCLUDED ANGLE					
					60° PART #	82° PART #	90° PART #	100° PART #	110° PART #	120° PART #
1/8"	1/8"	1-5/8"	1-5/8"	ES-1/8	00970	00991	01012	01033	01054	01075
3/16"	3/16"	1-1/2"	1-1/2"	ES-3/16	00971	00992	01013	01034	01055	01076
1/4"	3/16"	1-1/2"	3/4"	ES-1/4	00972	00993	01014	01035	01056	01077
5/16"	1/4"	1-3/4"	7/8"	ES-5/16	00973	00994	01015	01036	01057	01078
3/8"	1/4"	1-3/4"	7/8"	ES-3/8	00974	00995	01016	01037	01058	01079
1/2"	3/8"	2-1/8"	1-1/8"	ES-1/2	00976	00997	01018	01039	01060	01081
1/2"	1/4"	2-1/8"	1-1/8"	ES-1/2-1/4	00977	00998	01019	01040	01061	01082
5/8"	3/8"	2-3/8"	1-1/8"	ES-5/8	00978	00999	01020	01041	01062	01083
5/8"	1/4"	2-3/8"	1-1/8"	ES-5/8-1/4	00979	01000	01021	01042	01063	01084
3/4"	1/2"	2-11/16"	1-5/16"	ES-3/4	00980	01001	01022	01043	01064	01085
7/8"	1/2"	2-13/16"	1-5/16"	ES-7/8	00982	01003	01024	01045	01066	01087
1"	1/2"	2-13/16"	1-5/16"	ES-1	00983	01004	01025	01046	01067	01088
1-1/4"	3/4"	3-3/8"	1-5/8"	ES-1-1/4	00984	01005	01026	01047	01068	01089
1-1/2"	3/4"	3-1/2"	1-5/8"	ES-1-1/2	00985	01006	01027	01048	01069	01090
1-3/4"	1"	4-1/4"	2-1/8"	ES-1-3/4	00987	01008	01029	01050	01071	01092
2"	1"	4-3/8"	2-1/8"	ES-2	00988	01009	01030	01051	01072	01093
2-1/2"	1"	4-3/4"	2-1/8"	ES-2-1/2	00989	01010	01031	01052	01073	01094
3"	1"	5"	2-1/8"	ES-3	00990	01011	01032	01053	01074	01095

4-FLUTE CHATTER-FREE ECONO-SINKS Carbide

HEAD DIA	SHANK DIA	OVERALL LENGTH	SHANK LENGTH	SERIES #	INCLUDED ANGLE					
					60° PART #	82° PART #	90° PART #	100° PART #	110° PART #	120° PART #
1/8"	1/8"	1-1/2"	1-1/2"	ES-1/8-W	01120	01135	01150	01165	01180	01195
1/4"	3/16"	1-1/2"	1-3/16"	ES-1/4-W	01121	01136	01151	01166	01181	01196
3/8"	1/4"	2-1/4"	1-3/4"	ES-3/8-W	01122	01137	01152	01167	01182	01197
1/2"	3/8"	2-1/4"	1-3/4"	ES-1/2-W	01125	01140	01155	01170	01185	01200
5/8"	3/8"	2-5/8"	2"	ES-5/8-W	01126	01141	01156	01171	01186	01201
3/4"	1/2"	2-3/4"	2"	ES-3/4-W	01127	01142	01157	01172	01187	01202
1"	1/2"	3"	2"	ES-1-W	01128	01143	01158	01173	01188	01203

The flutes of the 6-flute Chatterless-Countersinks™ are designed with staggered cutting angles to eliminate the harmonics that cause chatter in conventional tools. Our tools feature a positive shearing action, are designed to take heavy cuts and produce exceptionally smooth seats. These six fluted countersinks give long service life because the cutting load is distributed over six cutting edges. Use them in your milling machine, drill press, screw machine, lathes, automatics, special machines, feed units, and hand tools. Available in a wide range of standard angles and sizes.

Don't see what you need? Submit your request for special angles, diameters, double angles, pilots, or radii.



All Carbide Countersinks over 1-1/2" diameter are individually tipped teeth.



6-FLUTE CHATTERLESS-COUNTERSINKS High Speed Steel

HEAD DIA	SHANK DIA	OVERALL LENGTH	SHANK LENGTH	SERIES #	INCLUDED ANGLE					
					60° PART #	82° PART #	90° PART #	100° PART #	110° PART #	120° PART #
1/8"	1/8"	1-5/8"	1-5/8"	CK-1/8	02370	02390	02410	02430	02450	02470
3/16"	3/16"	1-1/2"	1-1/2"	CK-3/16	02371	02391	02411	02431	02451	02471
1/4"	3/16"	1-1/2"	3/4"	CK-1/4	02372	02392	02412	02432	02452	02472
5/16"	1/4"	1-3/4"	7/8"	CK-5/16	02373	02393	02413	02433	02453	02473
3/8"	1/4"	1-3/4"	7/8"	CK-3/8	02374	02394	02414	02434	02454	02474
1/2"	3/8"	2-1/8"	1-1/8"	CK-1/2	02375	02395	02415	02435	02455	02475
1/2"	1/4"	2-1/8"	1-1/8"	CK-1/2-14	02376	02396	02416	02436	02456	02476
5/8"	3/8"	2-3/8"	1-1/8"	CK-5/8	02377	02397	02417	02437	02457	02477
5/8"	1/4"	2-3/8"	1-1/8"	CK-5/8-1/4	02378	02398	02418	02438	02458	02478
3/4"	1/2"	2-11/16"	1-5/16"	CK-3/4	02379	02399	02419	02439	02459	02479
7/8"	1/2"	2-13/16"	1-5/16"	CK-7/8	02380	02400	02420	02440	02460	02480
1"	1/2"	2-13/16"	1-5/16"	CK-1	02381	02401	02421	02441	02461	02481
1-1/4"	3/4"	3-3/8"	1-5/8"	CK-1-1/4	02382	02402	02422	02442	02462	02482
1-1/2"	3/4"	3-1/2"	1-5/8"	CK-1-1/2	02383	02403	02423	02443	02463	02483
1-3/4"	1"	4-1/4"	2-1/8"	CK-1-3/4	02384	02404	02424	02444	02464	02484
2"	1"	4-3/8"	2-1/8"	CK-2	02385	02405	02425	02445	02465	02485
2-1/2"	1"	4-3/4"	2-1/8"	CK-2-1/2	02386	02406	02426	02446	02466	02486
3"	1"	5"	2-1/8"	CK-3	02387	02407	02427	02447	02467	02487

6-FLUTE CHATTERLESS-COUNTERSINKS Carbide

HEAD DIA	SHANK DIA	OVERALL LENGTH	SHANK LENGTH	SERIES #	INCLUDED ANGLE					
					60° PART #	82° PART #	90° PART #	100° PART #	110° PART #	120° PART #
1/8"	1/8"	1-1/2"	1-1/2"	CK-1/8-W	02520	02540	02560	02580	02600	02620
3/16"	3/16"	1-1/2"	1-1/2"	CK-3/16-W	02521	02541	02561	02581	02601	02621
1/4"	3/16"	1-1/2"	1-3/16"	CK-1/4-W	02522	02542	02562	02582	02602	02622
5/16"	1/4"	2-1/4"	1-3/4"	CK-5/16-W	02523	02543	02563	02583	02603	02623
3/8"	1/4"	2-1/4"	1-3/4"	CK-3/8-W	02524	02544	02564	02584	02604	02624
1/2"	3/8"	2-1/2"	2"	CK-1/2-W	02525	02545	02565	02585	02605	02625
1/2"	1/4"	2-1/4"	1-3/4"	CK-1/2-W-1/4	02526	02546	02566	02586	02606	02626
5/8"	3/8"	2-5/8"	2"	CK-5/8-W	02527	02547	02567	02587	02607	02627
5/8"	1/4"	2-3/8"	1-3/4"	CK-5/8-W-1/4	02528	02548	02568	02588	02608	02628
3/4"	1/2"	2-3/4"	2"	CK-3/4-W	02529	02549	02569	02589	02609	02629
7/8"	1/2"	2-7/8"	2"	CK-7/8-W	02530	02550	02570	02590	02610	02630
1"	1/2"	3"	2"	CK-1-W	02531	02551	02571	02591	02611	02631
1-1/4"	3/4"	3-3/8"	1-5/8"	CK-1-1/4-W	02532	02552	02572	02592	02612	02632
1-1/2"	3/4"	3-1/2"	1-5/8"	CK-1-1/2-W	02533	02553	02573	02593	02613	02633
1-3/4"	1"	4-1/4"	2-1/8"	CK-1-3/4-W	02534	02554	02574	02594	02614	02634
2"	1"	4-3/8"	2-1/8"	CK-2-W	02535	02555	02575	02595	02615	02635



**The Original 6-Flute Threaded
Chatterless-Countersinks™**

These countersink have a threaded back for use with separately ordered shanks; See Page 100. Ideal for use on radial drills, lathes, and Mills.

6-FLUTE THREADED CHATTERLESS-COUNTERSINKS High Speed Steel									
HEAD DIA	OVERALL LENGTH	THREAD SIZE	SERIES #	INCLUDED ANGLE					
				60° PART #	82° PART #	90° PART #	100° PART #	110° PART #	120° PART #
3/4"	1-1/2"	3/8"-24	CK-3/4-T	03270	03280	03290	03300	03310	03320
7/8"	1-1/2"	3/8"-24	CK-7/8-T	03271	03281	03291	03301	03311	03321
1"	1-1/2"	1/2"-20	CK-1-T	03272	03282	03292	03302	03312	03322
1-1/4"	1-3/4"	5/8"-18	CK-1-1/4-T	03273	03283	03293	03303	03313	03323
1-1/2"	1-7/8"	3/4"-16	CK-1-1/2-T	03274	03284	03294	03304	03314	03324
1-3/4"	2-1/8"	3/4"-16	CK-1/34-T	03275	03285	03295	03305	03315	03325
2"	2-1/4"	3/4"-16	CK-2-T	03276	03286	03296	03306	03316	03326
2-1/2"	3"	1"-14	CK-2-1/2-T	03277	03287	03297	03307	03317	03327
3"	3-1/4"	1-1/4"-12	CK-3-T	03278	03288	03298	03308	03318	03328

Multi-Flute Countersinks



All carbide Inside Deburring Cutters are designed with a pointed nose. Tools with a head diameter measuring 3/32" thru 1/4" are made of solid carbide and are double ended. Inside Deburring Cutters with a head diameter measuring 5/16" thru 1" have solid carbide heads brazed to hardened alloy precision ground shanks.

MULTI- FLUTE COUNTERSINKS Carbide				
HEAD DIA	SHANK DIA	OVERALL LENGTH	60° INCL'D PART#	90° INCL'D PART#
3/32"	3/32"	1-1/2"	3Z-W-DE	3Y-W-DE
1/8"	1/8"	1-1/2"	4Z-W-DE	4Y-W-DE
3/16"	3/16"	2"	6Z-W-DE	6Y-W-DE
1/4"	1/4"	2"	8Z-W-DE	8Y-W-DE
5/16"	1/4"	2-1/4"	ID-5/16-30-W	ID-5/16-45-W
3/8"	1/4"	2-1/4"	ID-3/8-30-W	ID-3/8-45-W
1/2"	1/4"	2-1/4"	ID-1/2-30-W	ID-1/2-45-W
1/2"	3/8"	2-1/8"	ID-1/2-30-W-3/8	ID-1/2-45-W-3/8
5/8"	1/4"	2-3/8"	ID-5/8-30-W	ID-5/8-45-W
5/8"	3/8"	2-3/8"	ID-5/8-30-W-3/8	ID-5/8-45-W-3/8
3/4"	1/2"	2-11/16"	ID-3/4-30-W	ID-3/4-45-W
7/8"	1/2"	2-13/16"	ID-7/8-30-W	ID-7/8-45-W
1"	1/2"	2-13/16"	ID-1-30-W	ID-1-45-W

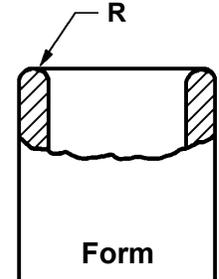


Inside Chamfering Mills can be depended upon to produce smooth, burrless, chamfers on most machinable materials and are suitable for fairly heavy chamfering. For still heavier chamfering, consider Chatterless™ countersinks

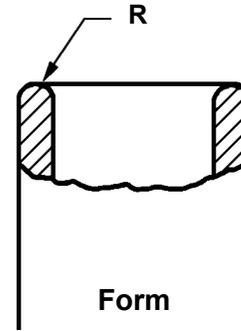
MULTI- FLUTE COUNTERSINKS High Speed Steel					
HEAD DIA	OVERALL LENGTH	NOSE PNT OR FLAT	60° INCL'D PART#	NOSE PNT OR FLAT	90° INCL'D PART#
1/4"	2-1/4"	P	IC-1/4-30	P	IC-1/4-45
5/16"	2-1/4"	1/32"	IC-5/16-30	1/16"	IC-5/16-45
3/8"	2-1/4"	P	IC-3/8-30	P	IC-3/8-45
1/2"	2-1/4"	9/64"	ICS-1/2-30	1/8"	ICS-1/2-45
1/2"	2-1/4"	P	ICL-1/2-30	P	ICL-1/2-45
5/8"	2-1/4"	13/64"	ICS-5/8-30	1/8"	ICS-5/8-45

Tube End Forming Cutter Heads

These tube end forming cutters have a threaded back for use with separately ordered shanks; See Page 100



TUBE END FORMING CUTTERS Heads						
TUBING SIZE	WALL THICKNESS		I.D. THREAD	HEAD DIA	OVERALL LENGTH	PART#
	GAUGE	INCH				
7/8"	22	.028"	1/2"-20	1-1/4"	1-1/8"	A-14-028
7/8"	21	.032"	1/2"-20	1-1/4"	1-1/8"	A-14-032
7/8"	20	.035"	1/2"-20	1-1/4"	1-1/8"	A-14-035
7/8"	18	.049"	1/2"-20	1-1/4"	1-1/8"	A-14-049
7/8"	17	.058"	1/2"-20	1-1/4"	1-1/8"	A-14-058
7/8"	16	.065"	1/2"-20	1-1/4"	1-1/8"	A-14-065
7/8"	14	.083"	1/2"-20	1-1/4"	1-1/8"	A-14-083
7/8"	13	.095"	1/2"-20	1-1/4"	1-1/8"	A-14-095
1"	22	.028"	1/2"-20	1-3/8"	1-1/8"	A-16-028
1"	20	.035"	1/2"-20	1-3/8"	1-1/8"	A-16-035
1"	18	.049"	1/2"-20	1-3/8"	1-1/8"	A-16-049
1"	17	.058"	1/2"-20	1-3/8"	1-1/8"	A-16-058
1"	16	.065"	1/2"-20	1-3/8"	1-1/8"	A-16-065
1"	14	.083"	1/2"-20	1-3/8"	1-1/8"	A-16-083
1"	13	.095"	1/2"-20	1-3/8"	1-1/8"	A-16-095
1"	11	.120"	1/2"-20	1-3/8"	1-1/8"	A-16-120
1-1/8"	22	.028"	1/2"-20	1-1/2"	1-1/8"	A-18-028
1-1/8"	20	.035"	1/2"-20	1-1/2"	1-1/8"	A-18-035
1-1/8"	18	.049"	1/2"-20	1-1/2"	1-1/8"	A-18-049
1-1/8"	17	.058"	1/2"-20	1-1/2"	1-1/8"	A-18-058
1-1/8"	16	.065"	1/2"-20	1-1/2"	1-1/8"	A-18-065
1-1/4"	20	.035"	1/2"-20	1-1/2"	1-1/8"	A-20-035
1-1/4"	18	.049"	1/2"-20	1-1/2"	1-1/8"	A-20-049
1-1/4"	16	.065"	1/2"-20	1-1/2"	1-1/8"	A-20-065
1-1/4"	14	.083"	1/2"-20	1-1/2"	1-1/8"	A-20-083
1-1/4"	11	.120"	1/2"-20	1-1/2"	1-1/8"	A-20-120
1-3/8"	20	.035"	1/2"-20	1-5/8"	1-1/8"	A-22-035
1-3/8"	18	.049"	1/2"-20	1-5/8"	1-1/8"	A-22-049
1-1/2"	18	.049"	5/8"-18	2"	1-1/4"	A-24-049
1-1/2"	17	.058"	5/8"-18	2"	1-1/4"	A-24-058
1-1/2"	16	.065"	5/8"-18	2"	1-1/4"	A-24-065
1-1/2"	14	.083"	5/8"-18	2"	1-1/4"	A-24-083
1-1/2"	13	.095"	5/8"-18	2"	1-1/4"	A-24-095
1-5/8"	16	.065"	5/8"-18	2"	1-1/4"	A-26-065



Caution: holding of tubing by hand is not recommended.

These cutters are used to produce a smooth, round lip on all types of tubing. These include steel, copper, aluminum, plastic and other materials. They are not recommended for tubing with irregular wall thickness or for interrupted cutting. Speeds of about 50 to 350 RPM are suggested for these cutters. It is advisable to start at a slower speed on any given material or size, and then increase the speed until best results are obtained. Larger sizes (A-6 x .025 and up) can be supplied in carbide. Special cutting shapes can also be provided.

TUBE END FORMING CUTTERS							
TUBING SIZE	WALL THICKNESS		SHANK DIA	HEAD DIA	OVERALL LENGTH	SHANK LENGTH	PART#
	GAUGE	INCH					
1/8"	31	.010"	1/4"	1/4"	2-1/4"	2"	A-2-010
1/8"	27	.016"	1/4"	1/4"	2-1/4"	2"	A-2-016
1/8"	25	.020"	1/4"	1/4"	2-1/4"	2"	A-2-020
1/8"	22	.028"	1/4"	1/4"	2-1/4"	2"	A-2-028
1/8"	21	.032"	1/4"	1/4"	2-1/4"	2"	A-2-032
1/8"	21	.035"	1/4"	1/4"	2-1/4"	2"	A-2-035
3/16"	25	.020"	3/8"	1/2"	1-9/16"	1"	A-3-020
3/16"	22	.028"	3/8"	1/2"	1-9/16"	1"	A-3-028
3/16"	21	.032"	3/8"	1/2"	1-9/16"	1"	A-3-032
3/16"	20	.035"	3/8"	1/2"	1-9/16"	1"	A-3-035
1/4"	25	.020"	3/8"	1/2"	1-9/16"	1"	A-4-020
1/4"	22	.028"	3/8"	1/2"	1-9/16"	1"	A-4-028
1/4"	21	.032"	3/8"	1/2"	1-9/16"	1"	A-4-032
1/4"	20	.035"	3/8"	1/2"	1-9/16"	1"	A-4-035
1/4"	18	.049"	3/8"	1/2"	1-9/16"	1"	A-4-049
1/4"	16	.065"	3/8"	1/2"	1-9/16"	1"	A-4-065
5/16"	25	.020"	3/8"	9/16"	1-9/16"	1"	A-5-020
5/16"	22	.028"	3/8"	9/16"	1-9/16"	1"	A-5-028
5/16"	21	.032"	3/8"	9/16"	1-9/16"	1"	A-5-032
5/16"	20	.035"	3/8"	9/16"	1-9/16"	1"	A-5-035
5/16"	18	.049"	3/8"	9/16"	1-9/16"	1"	A-5-049
5/16"	17	.058"	3/8"	9/16"	1-9/16"	1"	A-5-058
5/16"	16	.065"	3/8"	9/16"	1-9/16"	1"	A-5-065

Continued on Next Page...

TUBE END FORMING CUTTERS Continued

TUBE END FORMING CUTTERS							
TUBING SIZE	WALL THICKNESS		SHANK DIA	HEAD DIA	OVERALL LENGTH	SHANK LENGTH	PART#
	GAUGE	INCH					
3/8"	25	.020"	1/2"	3/4"	1-9/16"	1"	A-6-020
3/8"	22	.028"	1/2"	3/4"	1-9/16"	1"	A-6-028
3/8"	21	.032"	1/2"	3/4"	1-9/16"	1"	A-6-032
3/8"	20	.035"	1/2"	3/4"	1-9/16"	1"	A-6-035
3/8"	18	.049"	1/2"	3/4"	1-9/16"	1"	A-6-049
3/8"	17	.058"	1/2"	3/4"	1-9/16"	1"	A-6-058
3/8"	16	.065"	1/2"	3/4"	1-9/16"	1"	A-6-065
7/16"	25	.020"	1/2"	3/4"	1-9/16"	1"	A-7-020
7/16"	22	.028"	1/2"	3/4"	1-9/16"	1"	A-7-028
7/16"	21	.032"	1/2"	3/4"	1-9/16"	1"	A-7-032
7/16"	20	.035"	1/2"	3/4"	1-9/16"	1"	A-7-035
7/16"	18	.049"	1/2"	3/4"	1-9/16"	1"	A-7-049
7/16"	16	.065"	1/2"	3/4"	1-9/16"	1"	A-7-065
1/2"	25	.020"	1/2"	3/4"	1-9/16"	1"	A-8-020
1/2"	22	.028"	1/2"	3/4"	1-9/16"	1"	A-8-028
1/2"	21	.032"	1/2"	3/4"	1-9/16"	1"	A-8-032
1/2"	20	.035"	1/2"	3/4"	1-9/16"	1"	A-8-035
1/2"	18	.049"	1/2"	3/4"	1-9/16"	1"	A-8-049
1/2"	17	.058"	1/2"	3/4"	1-9/16"	1"	A-8-058
1/2"	16	.065"	1/2"	3/4"	1-9/16"	1"	A-8-065
1/2"	14	.083"	1/2"	3/4"	1-9/16"	1"	A-8-083
9/16"	22	.028"	1/2"	7/8"	1-5/8"	1"	A-9-028
9/16"	20	.035"	1/2"	7/8"	1-5/8"	1"	A-9-035
9/16"	18	.049"	1/2"	7/8"	1-5/8"	1"	A-9-049
9/16"	16	.065"	1/2"	7/8"	1-5/8"	1"	A-9-065
9/16"	13	.095"	1/2"	7/8"	1-5/8"	1"	A-9-095
5/8"	22	.028"	1/2"	7/8"	1-5/8"	1"	A-10-028
5/8"	21	.032"	1/2"	7/8"	1-5/8"	1"	A-10-032
5/8"	20	.035"	1/2"	7/8"	1-5/8"	1"	A-10-035
5/8"	18	.049"	1/2"	7/8"	1-5/8"	1"	A-10-049
5/8"	17	.058"	1/2"	7/8"	1-5/8"	1"	A-10-058
5/8"	16	.065"	1/2"	7/8"	1-5/8"	1"	A-10-065
5/8"	14	.083"	1/2"	7/8"	1-5/8"	1"	A-10-083
5/8"	13	.095"	1/2"	7/8"	1-5/8"	1"	A-10-095
3/4"	22	.028"	1/2"	1"	1-5/8"	1"	A-12-028
3/4"	21	.032"	1/2"	1"	1-5/8"	1"	A-12-032
3/4"	20	.035"	1/2"	1"	1-5/8"	1"	A-12-035
3/4"	18	.049"	1/2"	1"	1-5/8"	1"	A-12-049
3/4"	17	.058"	1/2"	1"	1-5/8"	1"	A-12-058
3/4"	16	.065"	1/2"	1"	1-5/8"	1"	A-12-065
3/4"	14	.083"	1/2"	1"	1-5/8"	1"	A-12-083
3/4"	13	.095"	1/2"	1"	1-5/8"	1"	A-12-095
3/4"	11	.120"	1/2"	1"	1-5/8"	1"	A-12-120

High Speed Steel Outside Deburring Cutter Heads with Threaded I.D.

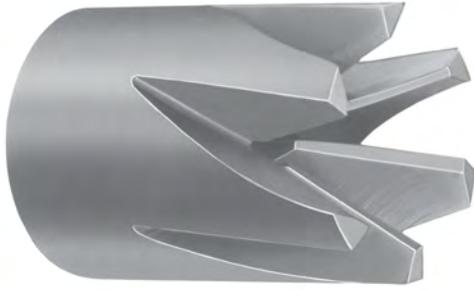

Outside Deburring Cutters are designed with shear-type cutting teeth to eliminate burrs on diameters of tubes and rods. One tool can handle various parts, may be reground, and can be provided in carbide.



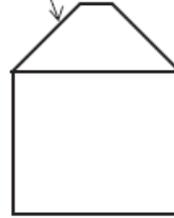
Tools are furnished without shanks.
See page 100 for available shank styles and sizes

NOTE: Tools O-0, O-1, O-2, O-3, O-20, O-21, and O-22 have the tooth pattern illustrated above.

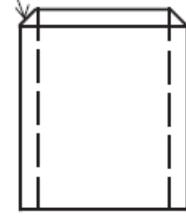
OUTSIDE DEBURRING CUTTERS High Speed Steel							
MAX CUTTING DIA	"H" RECESS HOLE	"D" MOUTH DIA	"B" BODY DIA	"L" BODY LENGTH	"C" COOLANT HOLE	"T" I.D. THREAD	PART#
1/8"	1/16"	5/32"	1/2"	7/8"	-	1/4"-28	O-0
3/16"	5/32"	7/32"	1/2"	7/8"	-	1/4"-28	O-1
1/4"	13/64"	19/64"	1/2"	7/8"	-	1/4"-28	O-2
5/16"	.242"	23/64"	1/2"	7/8"	-	1/4"-28	O-3
3/8"	9/32"	7/16"	5/8"	7/8"	1/8"	1/4"-28	O-4
1/2"	.332"	9/16"	3/4"	1"	3/16"	3/8"-24	O-5
5/8"	7/16"	11/16"	7/8"	1"	3/16"	3/8"-24	O-6
3/4"	17/32"	53/64"	1"	1"	3/16"	3/8"-24	O-7
1"	45/64"	1-5/64"	1-1/4"	1-3/8"	1/4"	1/2"-20	O-8
1-1/4"	7/8"	1-21/64"	1-1/2"	1-3/8"	1/4"	1/2"-20	O-9
1-1/2"	1-3/64"	1-19/32"	1-3/4"	1-5/8"	1/4"	5/8"-18	O-10
2"	1-13/32"	2-7/64"	2-3/8"	1-7/8"	5/16"	3/4"-16	O-11
2-1/2"	1-3/4"	2-39/64"	2-7/8"	2-1/8"	5/16"	3/4"-16	O-12
3"	2-3/32"	3-1/8"	3-3/8"	2-1/2"	7/16"	3/4"-16	O-13
4"	2-13/16"	4-1/8"	4-3/8"	3"	7/16"	1"-14	O-14
1/8"	5/64"	3/16"	1/2"	7/8"	-	1/4"-28	O-20
3/16"	7/64"	7/32"	1/2"	7/8"	-	1/4"-28	O-21
1/4"	9/64"	23/64"	1/2"	7/8"	-	1/4"-28	O-22
3/8"	3/16"	7/16"	5/8"	7/8"	1/8"	1/4"-28	O-23
1/2"	1/4"	9/16"	3/4"	1"	3/16"	3/8"-24	O-24
3/4"	3/8"	13/16"	1"	1"	3/16"	3/8"-24	O-25
1"	1/2"	1-5/64"	1-1/4"	1-3/8"	1/4"	1/2"-20	O-26
1-1/2"	3/4"	1-19/32"	1-3/4"	1-1/2"	1/4"	5/8"-18	O-27
2"	15/16"	2-7/64"	2-3/8"	1-3/4"	5/16"	3/4"-16	O-28
3"	1-7/16"	3-1/8"	3-1/2"	2-1/4"	7/16"	3/4"-16	O-29
4"	1-15/16"	4-1/8"	4-3/8"	2-5/8"	7/16"	1"-14	O-30



Puts an angle on end of rod



Puts an angle on the outside of a tube



Works well on both tubing and rods

Outside Chamfering Mills are designed to economically chamfer a large variety of diameters on tubing, pipes, and rods. The Chatterless™ teeth produce a heavy chamfer. One size can accommodate many size parts. The Outside Chamfering Mill is available in 60° and 90° included angles, and may be reground many times. These Outside Chamfering Mills are most efficient when used in screw machines, lathes, drill presses, or other chucking machines, or with work holding devices. Although, where requirements are not too exacting, they may be used in a portable power tool on some materials. Chatterless™ teeth provide amazing ease and speed of operation. It is recommended that guides such as V-blocks be positioned to facilitate quick positioning of the work.

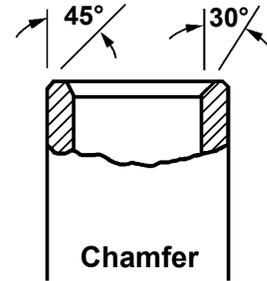
60° OUTSIDE CHAMFERING MILLS High Speed Steel						
CUTTING DIA	RECESS HOLE	MOUTH DIA	BODY DIA	BODY LENGTH	I.D. THREAD	60° INCL'D PART#
1/8"	1/32"	3/16"	1/2"	1"	5/16"-24	OC-1/8-30°
1/4"	3/64"	5/16"	1/2"	1"	5/16"-24	OC-1/4-30°
1/2"	1/8"	5/8"	7/8"	1-5/16"	3/8"-24	OC-1/2-30°
3/4"	1/4"	7/8"	1-1/8"	1-3/4"	1/2"-20	OC-3/4-30°
1"	1/4"	1-1/8"	1-1/2"	2"	3/4"-16	OC-1-30°
1-3/4"	1/2"	1-7/8"	2-1/4"	2-15/16"	1"-14	OC-1-3/4-30°
2"	7/8"	2-1/8"	2-1/2"	3"	1"-14	OC-2-30°
3"	1"	3-1/4"	3-3/4"	3-3/4"	1-1/4"-12	OC-3-30°

90° OUTSIDE CHAMFERING MILLS High Speed Steel						
CUTTING DIA	RECESS HOLE	MOUTH DIA	BODY DIA	BODY LENGTH	I.D. THREAD	90° INCL'D PART#
1/8"	1/32"	3/16"	1/2"	1"	5/16"-24	OC-1/8-45°
1/4"	3/64"	5/16"	1/2"	1"	5/16"-24	OC-1/4-45°
1/2"	1/8"	5/8"	7/8"	1-5/16"	3/8"-24	OC-1/2-45°
3/4"	3/16"	7/8"	1-1/8"	1-5/16"	1/2"-20	OC-3/4-45°
1"	1/4"	1-1/8"	1-1/2"	1-3/4"	3/4"-16	OC-1-45°
1-1/2"	3/8"	1-5/8"	2"	1-7/8"	3/4"-16	OC-1-1/2-45°
2"	7/8"	2-1/8"	2-1/2"	2-1/2"	1"-14	OC-2-45°
3"	1"	3-1/4"	3-3/4"	2-7/8"	1-1/4"-12	OC-3-45°

Tools are furnished without shanks.
See page 100 for available shank styles and sizes



Caution: holding of tubing by hand is not recommended.



The Chatterless™ design of the Tube End Chamfering Mills have cutting edges that are designed to provide a shearing action that yields a smooth machined surface. The standard tool produces a 30° angle on the tube inside diameter and 45° on the outside diameter. Other angles may be ordered as specials. This series of tools is offered in a range of sizes to accommodate pipe and tubing from 3/16" to 2-1/2" outside diameters. All models are adjustable for different wall thicknesses. The cutting teeth are developed as to preclude chatter and provide ample chip room for every operating condition. Moderate speeds of about 100 R.P.M. for 1-inch steel tubing to about 200 R.P.M. for 1/2-inch tubing are recommended for these cutters. It is advisable to start at a slower speed on any given material or size and increase until best results are obtained.

TUBE END CHAMFERING MILLS High Speed Steel							
STANDARD PIPE SIZE	TUBING O.D.	WALL THICKNESS		PLUG DIA	SHANK DIA	SHANK LENGTH	PART#
		MIN.	MAX.				
1/8"	3/16"	.022"	.045"	.152"	1/4"	7/8"	T-6
	1/4"	.022"	.065"	.228"	1/4"	1"	T-8
	5/16"	.022"	.095"	.290"	1/4"	1"	T-10
	3/8"	.022"	.095"	.353"	3/8"	1"	T-12
	7/16"	.028"	.095"	.409"	3/8"	1"	T-14
1/4"	1/2"	.028"	.095"	.472"	3/8"	1"	T-16
	9/16"	.028"	.120"	.534"	1/2"	1"	T-18
3/8"	5/8"	.028"	.120"	.597"	1/2"	1"	T-20
1/2"	3/4"	.028"	.120"	.722"	1/2"	1"	T-24
	7/8"	.022"	.156"	.847"	1/2"	1"	T-28
3/4"	1"	.035"	.156"	.965"	1/2"	1-5/16"	T-32



TUBE END CHAMFERING MILLS Heads							
STANDARD PIPE SIZE	TUBING O.D.	WALL THICKNESS		PLUG DIA	I.D. THREAD	PART#	
		MIN.	MAX.				
1"	1-1/8"	.035"	.187"	1.090"	1/2"-20	T-36	
	1-1/4"	.035"	.187"	1.215"	5/8"-18	T-40	
	1-5/16"	.035"	.187"	1.280"	5/8"-18	T-42	
	1-3/8"	.035"	.187"	1.340"	5/8"-18	T-44	
	1-1/2"	.035"	.250"	1.465"	3/4"-16	T-48	
1-1/4"	1-5/8"	.035"	.250"	1.590"	3/4"-16	T-52	
1-1/2"	1-3/4"	.035"	.250"	1.715"	3/4"-16	T-56	
	1-7/8"	.035"	.250"	1.840"	3/4"-16	T-60	
2"	2"	.035"	.312"	1.965"	1"-14	T-64	
	2-1/4"	.058"	.312"	2.195"	1"-14	T-72	
	2-3/8"	.065"	.375"	2.310"	1"-14	T-76	
	2-1/2"		.065"	.375"	2.435"	1"-14	T-80

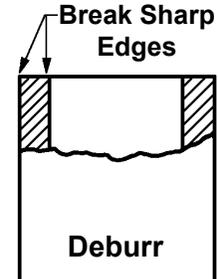
Tools are furnished without shanks. See page 100 for available shank styles and sizes



Caution: holding of tubing by hand is not recommended.

The cutting teeth are designed to give a shearing cut. They'll curl the fine chips away from the cutter to avoid loading. The inside member produces a chamfer of 30° angle with C/L and the outside member 45°. The tube end deburring cutters are intended for light deburring only, and will quickly deburr tubes of mostly any machinable material. They are available in high speed steel and carbide for the tougher and harder materials. The tooth arrangement on these cutters has been adopted to cover the widest possible range of the most commonly encountered materials. Any special material found not to be responsive to our Tube End Deburring Cutters should be given special consideration by our engineers. Simple guides such as V-blocks correctly positioned are recommended. The Ring or outside member is adjustable for more or less relative chamfer on the outside edge, and is secured after adjustment by socket screws. Operating speeds range from 50 to 200 R.P.M. depending on the size of the cutter, material and work condition. For heavier deburring, see the Tube End Chamfering Mills listed on page 94. Holding of parts by hand is not recommended.

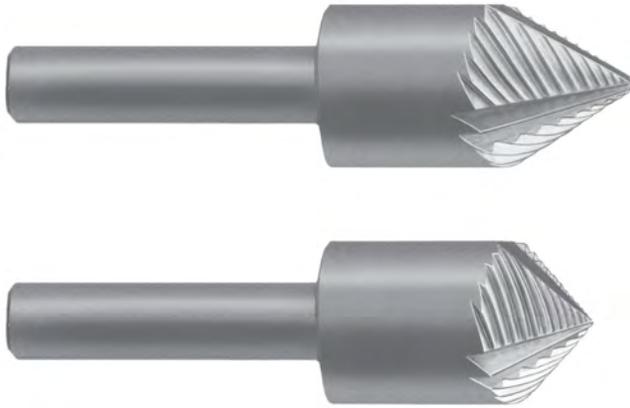
TUBE END DEBURRING CUTTERS					
TUBING O.D.	TUBING I.D.	HOLE DIA	SHANK DIA	H.S.S. PART#	CARBIDE PART#
1/8"	1/16"	.093"	1/4"	A-TUBE	A-TUBE-W
3/16"	1/8"	.156"	1/4"	BA-TUBE	BA-TUBE-W
1/4"	3/16"	.218"	1/4"	CB-TUBE	CB-TUBE-W
5/16"	1/4"	.281"	5/16"	DC-TUBE	DC-TUBE-W
3/8"	5/16"	.343"	3/8"	ED-TUBE	ED-TUBE-W
7/16"	3/8"	.406"	7/16"	FE-TUBE	FE-TUBE-W
1/2"	7/16"	.468"	1/2"	GF-TUBE	GF-TUBE-W
9/16"	1/2"	.531"	1/2"	HG-TUBE	HG-TUBE-W
5/8"	9/16"	.595"	1/2"	IH-TUBE	IH-TUBE-W
3/4"	5/8"	.685"	1/2"	JI-TUBE	JI-TUBE-W
7/8"	3/4"	.805"	1/2"	KJ-TUBE	KJ-TUBE-W
1"	7/8"	.930"	1/2"	LK-TUBE	LK-TUBE-W



TUBE END DEBURRING CUTTER Heads				
TUBING O.D.	TUBING I.D.	HOLE DIA	I.D. THREAD	H.S.S. PART#
1-1/8"	1"	1.063"	1/2"-20	ML-TUBE
1-1/4"	1-1/8"	1.180"	1/2"-20	NM-TUBE
1-3/8"	1-1/4"	1.313"	1/2"-20	ON-TUBE
1-1/2"	1-3/8"	1.430"	5/8"-18	PO-TUBE
1-3/4"	1-5/8"	1.680"	5/8"-18	RQ-TUBE
2"	1-3/4"	1.930"	3/4"-16	SR-TUBE
2-1/4"	2"	2.180"	3/4"-16	TS-TUBE

Tools are furnished without shanks. See page 100 for available shank styles and sizes

High Speed Steel One Piece Inside Chamfer Mills

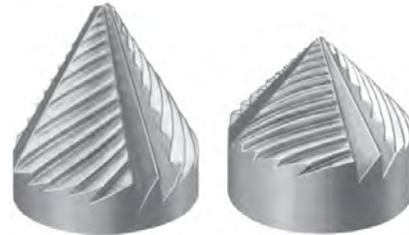


INSIDE CHAMFER MILLS High Speed Steel 1/4" Dia. Shanks x 2-1/4" Long				
HEAD DIA	NOSE PNT OR FLAT	60° INCL'D PART#	NOSE PNT OR FLAT	90° INCL'D PART#
1/4"	P	IC-1/4-30	P	IC-1/4-45
5/16"	1/32"	IC-5/16-30	1/16"	IC-5/16-45
3/8"	P	IC-3/8-30	P	IC-3/8-45
1/2"	9/64"	ICS-1/2-30	1/8"	ICS-1/2-45
1/2"	P	ICL-1/2-30	P	ICL-1/2-45
5/8"	13/64"	ICS-5/8-30	1/8"	ICS-5/8-45

Inside Chamfering Mills can be depended upon to produce smooth, burrless, chamfers on most machinable materials and are suitable for fairly heavy chamfering. For still heavier chamfering, consider Chatterless™ countersinks, on pages 88-90. Holding of parts by hand is not recommended.

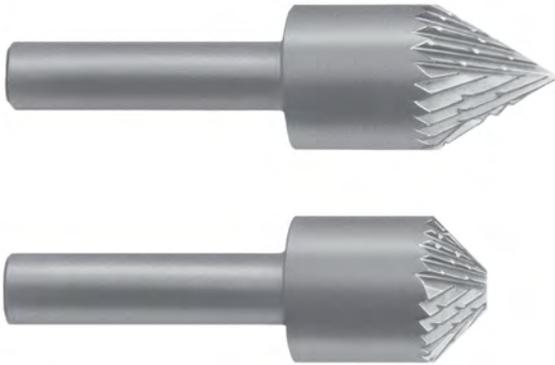
High Speed Steel Inside Chamfer Mills Heads with Threaded I.D.

Tools are furnished without shanks.
See page 100 for available shank styles and sizes



INSIDE CHAMFER MILLS High Speed Steel				
HEAD DIA	NOSE PNT OR FLAT	OVERALL LENGTH	I.D. THREAD	60° INCL'D PART#
5/8"	3/64"	7/8"	1/4"-28	IC-5/8-30
3/4"	1/32"	1"	5/16"-24	IC-3/4-30
7/8"	5/32"	1"	3/8"-24	IC-7/8-30
1"	9/32"	1-1/8"	3/8"-24	ICS-1-30
1"	1/8"	1-1/8"	3/8"-24	ICL-1-30
1-1/8"	1/8"	1-1/8"	3/8"-24	IC-1-1/8-30
1-1/4"	17/32"	1"	3/8"-24	ICS-1-1/4-30
1-1/4"	3/32"	1-1/4"	3/8"-24	ICL-1-1/4-30
1-1/2"	31/64"	1-1/8"	1/2"-20	ICS-1-1/2-30
1-1/2"	13/64"	1-1/2"	1/2"-20	ICL-1-1/2-30
1-3/4"	3/4"	1-1/4"	1/2"-20	ICS-1-3/4-30
1-3/4"	5/16"	1-1/2"	1/2"-20	ICL-1-3/4-30
2"	63/64"	1-1/4"	5/8"-18	ICS-2-30
2"	27/32"	1-1/4"	5/8"-18	ICL-2-30
2-1/4"	1-3/32"	1-3/8"	3/4"-16	ICS-2-1/4-30
2-1/4"	33/64"	1-7/8"	3/4"-16	ICL-2-1/4-30
2-1/2"	1-31/64"	1-1/4"	3/4"-16	ICS-2-1/2-30
2-1/2"	29/32"	1-3/4"	3/4"-16	ICL-2-1/2-30
3"	1-63/64"	1-1/4"	1"-14	IC-3-30

INSIDE CHAMFER MILLS High Speed Steel				
HEAD DIA	NOSE PNT OR FLAT	OVERALL LENGTH	I.D. THREAD	90° INCL'D PART#
5/8"	1/8"	11/16"	1/4"-28	IC-5/8-45
3/4"	P	13/16"	5/16"-24	IC-3/4-45
7/8"	5/32"	1"	3/8"-24	IC-7/8-45
1"	1/4"	7/8"	3/8"-24	ICS-1-45
1"	P	7/8"	3/8"-24	ICL-1-45
1-1/4"	3/8"	3/4"	3/8"-24	ICS-1-1/4-45
1-1/4"	P	1"	3/8"-24	ICL-1-1/4-45
1-1/2"	1/2"	7/8"	1/2"-20	ICS-1-1/2-45
1-1/2"	1/4"	1-1/16"	1/2"-20	ICL-1-1/2-45
1-3/4"	5/8"	7/8"	1/2"-20	IC-1-3/4-45
2"	1"	1"	5/8"-18	ICS-2-45
2"	1/4"	1-1/2"	5/8"-18	ICL-2-45
2-1/4"	1"	1"	5/8"-18	ICS-2-1/4-45
2-1/4"	1/4"	1-3/8"	5/8"-18	ICL-2-1/4-45
2-1/2"	3/4"	1-3/8"	3/4"-16	ICS-2-1/2-45
2-1/2"	1/4"	1-5/8"	3/4"-16	ICL-2-1/2-45
3"	3/4"	1-3/4"	1"-14	ICS-3-45
3"	1/4"	1-7/8"	1"-14	ICL-3-45



**High Speed Steel One Piece
Inside Deburring Cutters**

Teeth on these cutters are furnished for quick light chamfering only. Stocked in 30° C/L and 45° C/L. The Inside Deburring Cutter is designed so that one tool can deburr many different hole diameters. The multi-flute design is self-piloting. Holding of parts by hand is not recommended.

INSIDE DEBURRING CUTTERS High Speed Steel					
1/4" Dia. Shanks x 2-1/4" Long					
HEAD DIA	NOSE PNT OR FLAT	60° INCL'D PART#	HEAD DIA	NOSE PNT OR FLAT	90° INCL'D PART#
1/4"	P	ID-1/4-30	1/4"	P	ID-1/4-45
5/16"	1/32"	ID-5/16-30	5/16"	1/16"	ID-5/16-45
3/8"	P	ID-3/8-30	3/8"	P	ID-3/8-45
1/2"	9/64"	IDS-1/2-30	1/2"	1/8"	IDS-1/2-45
1/2"	P	IDL-1/2-30	1/2"	P	IDL-1/2-45
5/8"	13/64"	IDS-5/8-30	5/8"	1/8"	IDS-5/8-45

High Speed Steel Inside Deburring Cutter Heads with Threaded I.D.

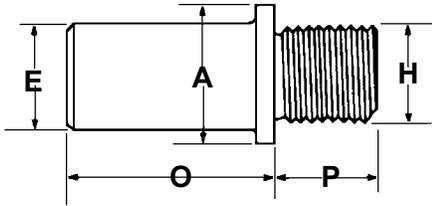


Tools are furnished without shanks. See page 100 for available shank styles and sizes.

HEAD DIA	NOSE PNT OR FLAT	OVERALL LENGTH	I.D. THREAD	60° INCL'D PART#
5/8"	3/64"	7/8"	1/4"-28	ID-5/8-30
3/4"	1/32"	1"	5/16"-24	ID-3/4-30
7/8"	5/32"	1"	3/8"-24	ID-7/8-30
1"	9/32"	1-1/8"	3/8"-24	IDS-1-30
1"	1/8"	1-1/8"	3/8"-24	IDL-1-30
1-1/8"	1/8"	1-1/8"	3/8"-24	ID-1-1/8-30
1-1/4"	17/32"	1"	3/8"-24	IDS-1-1/4-30
1-1/4"	3/32"	1-1/4"	3/8"-24	IDL-1-1/4-30
1-1/2"	31/64"	1-1/8"	1/2"-20	IDS-1-1/2-30
1-1/2"	13/64"	1-1/2"	1/2"-20	IDL-1-1/2-30
1-3/4"	3/4"	1-1/4"	1/2"-20	IDS-1-3/4-30
1-3/4"	5/16"	1-1/2"	1/2"-20	IDL-1-3/4-30
2"	63/64"	1-1/4"	5/8"-18	IDS-2-30
2"	27/32"	1-1/4"	5/8"-18	IDL-2-30
2-1/4"	1-3/32"	1-3/8"	3/4"-16	IDS-2-1/4-30
2-1/4"	33/64"	1-7/8"	3/4"-16	IDL-2-1/4-30
2-1/2"	1-31/64"	1-1/4"	3/4"-16	IDS-2-1/2-30
2-1/2"	29/32"	1-3/4"	3/4"-16	IDL-2-1/2-30
3"	1-63/64"	1-1/4"	1"-14	ID-3-30

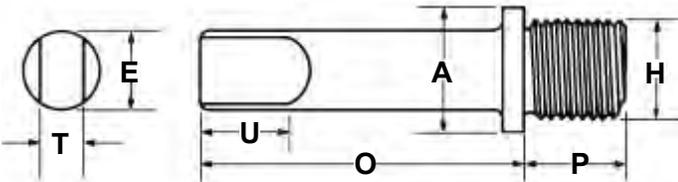
HEAD DIA	NOSE PNT OR FLAT	OVERALL LENGTH	I.D. THREAD	90° INCL'D PART#
5/8"	1/8"	11/16"	1/4"-28	ID-5/8-45
3/4"	P	13/16"	5/16"-24	ID-3/4-45
7/8"	5/32"	1"	3/8"-24	ID-7/8-45
1"	1/4"	7/8"	3/8"-24	IDS-1-45
1"	P	7/8"	3/8"-24	IDL-1-45
1-1/4"	3/8"	3/4"	3/8"-24	IDS-1-1/4-45
1-1/4"	P	1"	3/8"-24	IDL-1-1/4-45
1-1/2"	1/2"	7/8"	1/2"-20	IDS-1-1/2-45
1-1/2"	1/4"	1-1/16"	1/2"-20	IDL-1-1/2-45
1-3/4"	5/8"	7/8"	1/2"-20	ID-1-3/4-45
2"	1"	1"	5/8"-18	IDS-2-45
2"	1/4"	1-1/2"	5/8"-18	IDL-2-45
2-1/4"	1"	1"	5/8"-18	IDS-2-1/4-45
2-1/4"	1/4"	1-3/8"	5/8"-18	IDL-2-1/4-45
2-1/2"	3/4"	1-3/8"	3/4"-16	IDS-2-1/2-45
2-1/2"	1/4"	1-5/8"	3/4"-16	IDL-2-1/2-45
3"	3/4"	1-3/4"	1"-14	IDS-3-45
3"	1/4"	1-7/8"	1"-14	IDL-3-45

Straight Shanks



STRAIGHT SHANKS Steel

"H" THREAD SIZE	"E" SHANK DIA	"P" THREAD LENGTH	"O" SHANK LENGTH	"A" SHOULDER DIA	PART#
1/4"-28	1/4"	1/4"	1-3/4"	3/8"	4
1/4"-28	3/8"	1/4"	1-3/4"	3/8"	E-2
1/4"-28	1/2"	1/4"	1-3/4"	1/2"	G-2
5/16"-24	1/4"	5/16"	1-3/4"	7/16"	14
5/16"-24	3/8"	5/16"	1-3/4"	7/16"	E-12
5/16"-24	1/2"	5/16"	1-3/4"	1/2"	G-12
3/8"-24	1/4"	3/8"	1-3/4"	1/2"	24
3/8"-24	3/8"	3/8"	1-3/4"	1/2"	E-22
3/8"-24	1/2"	3/8"	1-3/4"	1/2"	G-22
3/8"-24	5/8"	3/8"	1-3/4"	5/8"	I-22
1/2"-20	3/8"	1/2"	1-3/4"	5/8"	E-32
1/2"-20	1/2"	1/2"	1-3/4"	5/8"	G-32
1/2"-20	5/8"	1/2"	1-3/4"	5/8"	I-32
1/2"-20	3/4"	1/2"	1-3/4"	3/4"	J-33
1/2"-20	1"	1/2"	2"	1"	L-33
5/8"-18	3/8"	5/8"	1-3/4"	3/4"	E-42
5/8"-18	1/2"	5/8"	1-3/4"	3/4"	G-42
5/8"-18	5/8"	5/8"	1-3/4"	3/4"	I-42
5/8"-18	3/4"	5/8"	1-3/4"	7/8"	J-43
5/8"-18	1"	5/8"	2"	1"	L-43
3/4"-16	1/2"	5/8"	1-3/4"	7/8"	G-54
3/4"-16	5/8"	5/8"	1-3/4"	7/8"	I-52
3/4"-16	3/4"	5/8"	1-3/4"	7/8"	J-53
3/4"-16	1"	5/8"	2"	1"	L-53
1"-14	1"	3/4"	2"	1-3/16"	L-63
1-1/4"-12	1"	3/4"	2"	1-1/2"	L-73

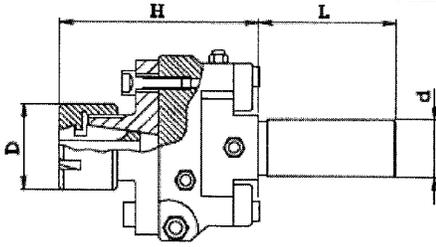


Straight Shanks with Tang

STRAIGHT SHANKS WITH TANG Steel

"H" THREAD SIZE	"E" SHANK DIA	"P" THREAD LENGTH	"O" SHANK LENGTH	"A" SHOULDER DIA	"U" TANG LENGTH	"T" TANG THICKNESS	PART#
1/4"-28	1/4"	1/4"	1-3/4"	3/8"	5/16"	.122	TX-4
1/4"-28	13/32"	1/4"	1-3/4"	13/32"	7/16"	.242	TZ-3
5/16"-24	1/4"	5/16"	1-3/4"	7/16"	5/16"	.122	TX-14
5/16"-24	13/32"	5/16"	1-3/4"	7/16"	7/16"	.242	TZ-13
3/8"-24	1/4"	3/8"	1-3/4"	1/2"	5/16"	.122	TX-24
3/8"-24	13/32"	3/8"	1-3/4"	1/2"	7/16"	.242	TZ-23
1/2"-20	13/32"	1/2"	1-3/4"	5/8"	7/16"	.242	TZ-33
1/2"-20	9/16"	1/2"	1-3/4"	5/8"	1/2"	.303	TH-33
5/8"-18	13/32"	5/8"	1-3/4"	7/8"	7/16"	.242	TZ-43
5/8"-18	9/16"	5/8"	1-3/4"	3/4"	1/2"	.303	TH-43
3/4"-16	9/16"	5/8"	1-3/4"	7/8"	1/2"	.303	TH-53

RECESS TOOL HOLDER / ER COLLET

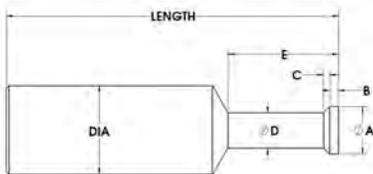


- CENTER HEIGHT ADJUSTMENT
- SERRATED FACE FOR EASY OFFSET ADJUSTMENT AND RIGIDITY
- SLIDING STROKE ADJUSTMENT (20MM MAXIMUM)
- GIB ADJUSTMENT
- 3 LOCATING POSITIONS FOR BUMP

SHANK d	COLLET SERIES	COLLET RANGE	COLLET NUT (INCLUDED)	COLLET WRENCH (NOT INCLUDED)	D	H	L	CAT. NO.
3/4"	ER16	1/16" TO 13/32"	ER16M	ER16MW	22mm	64mm	46mm	SS075RTER16
3/4"	ER20	1/16" TO 1/2"	ER20M	ER20MW	28mm	68mm	46mm	SS075RTER20
3/4"	ER25	1/16" TO 5/8"	ER25M	ER25MW	35mm	82mm	50mm	SS075RTER25
1"	ER16	1/16" TO 13/32"	ER16M	ER16MW	22mm	64mm	46mm	SS100RTER16
1"	ER20	1/16" TO 1/2"	ER20M	ER20MW	28mm	76mm	50mm	SS100RTER20
1"	ER25	1/16" TO 5/8"	ER25M	ER25MW	35mm	82mm	50mm	SS100RTER25
1-1/4"	ER20	1/16" TO 1/2"	ER20M	ER20MW	28mm	76mm	50mm	SS125RTER20
1-1/4"	ER25	1/16" TO 5/8"	ER25M	ER25MW	35mm	82mm	50mm	SS125RTER25
20mm	ER16	1/16" TO 13/32"	ER16M	ER16MW	22mm	64mm	46mm	SS20RTER16
20mm	ER20	1/16" TO 1/2"	ER20M	ER20MW	28mm	68mm	46mm	SS20RTER20
20mm	ER25	1/16" TO 5/8"	ER25M	ER25MW	35mm	82mm	50mm	SS20RTER25
22mm	ER16	1/16" TO 13/32"	ER16M	ER16MW	22mm	64mm	46mm	SS22RTER16
22mm	ER20	1/16" TO 1/2"	ER20M	ER20MW	28mm	76mm	50mm	SS22RTER20
22mm	ER25	1/16" TO 5/8"	ER25M	ER25MW	35mm	82mm	50mm	SS22RTER25
25mm	ER16	1/16" TO 13/32"	ER16M	ER16MW	22mm	64mm	46mm	SS25RTER16
25mm	ER20	1/16" TO 1/2"	ER20M	ER20MW	28mm	76mm	50mm	SS25RTER20
25mm	ER25	1/16" TO 5/8"	ER25M	ER25MW	35mm	82mm	50mm	SS25RTER25
30mm	ER20	1/16" TO 1/2"	ER20M	ER20MW	28mm	76mm	50mm	SS30RTER20
30mm	ER25	1/16" TO 5/8"	ER25M	ER25MW	35mm	82mm	50mm	SS30RTER25
32mm	ER20	1/16" TO 1/2"	ER20M	ER20MW	28mm	76mm	50mm	SS32RTER20
32mm	ER25	1/16" TO 5/8"	ER25M	ER25MW	35mm	82mm	50mm	SS32RTER25

NOTE: HOLDERS ARE ALSO AVAILABLE WITH 1/2" ID ON REQUEST

CIRCULAR RECESS TOOL BLANKS



Available in a wide variety of shank sizes, head diameters and lengths to fit all recessing tools and for all types of jobs.

These tool blanks are made from hardened M2 high speed steel.

CAT. NO.	DIA.	LENGTH	A +/- .005	B +/- .003	C +/- .003	D +/- .005	E
RT8-1	1/4	7/8	.140	.030	.030	.080	5/16
RT8-2	1/4	1"	.190	.030	.040	.110	7/16
RT8-3	1/4	1-1/8	.240	.030	.045	.150	9/16
RT10-81	5/16	2"	.140	.030	.030	.080	5/16
RT10-1	5/16	1-1/4	.220	.040	.035	.150	1/2
RT10-101	5/16	2"	.220	.040	.035	.150	1/2
RT10-2	5/16	1-3/8	.260	.040	.040	.180	5/8
RT10-3	5/16	1-1/2	.300	.040	.045	.210	3/4
RT12-1	3/8	1-1/2	.240	.045	.030	.180	9/16
RT12-121	3/8	2"	.240	.045	.030	.180	9/16
RT12-2	3/8	1-5/8	.300	.045	.050	.200	11/16
RT12-122	3/8	2"	.300	.045	.050	.200	11/16
RT12-3	3/8	1-3/4	.360	.045	.055	.250	13/16
RT16-1	1/2	1-7/8	.270	.050	.035	.200	5/8
RT16-2	1/2	2"	.330	.050	.040	.250	3/4
RT16-3	1/2	2-1/4	.400	.050	.050	.300	1"



**STRADDLE KNURL HOLDER
FOR DAVENPORT**

Cat. No.
2730-SA-SOMMA

Knurls:
Use *KT2 Series
knurls shown below



**WIDE STRADDLE KNURL HOLDER
FOR DAVENPORT**

Cat. No.
2730-23-SA-SOMMA

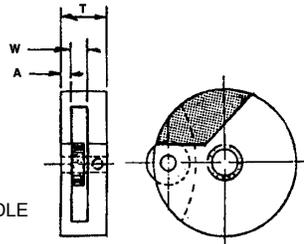
Knurls:
Use *KTP or *KTN
Series knurls shown
below

CIRCULAR KNURL HOLDERS FOR DAVENPORT CROSS SLIDES

Note: Davenport Tool is milled away for proper clearance (shaded area in diagram) and has two 9/64" pinholes thru.



- FEATURES:**
- MADE OF HEAT-TREATED STEEL
 - CARBIDE KNURL PINS
 - PERMITS KNURLING CLOSE TO SPINDLE

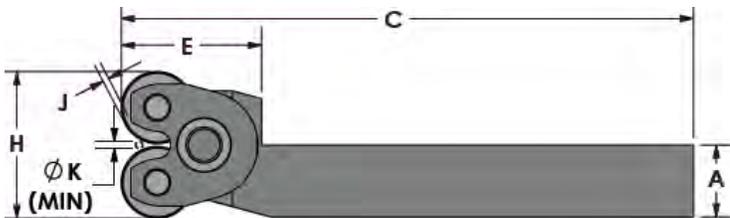


CIRCULAR KNURL HOLDER PARTS

Part No.	CSKT-DAV Cat. No.
2. Knurl	CSKT-DAV-2
3. Carbide Pin	CSKT2-3
4. Set Screw	CSKT00-4
5. Washer	1ANR-8

CAT. NO.	FITS	DIA.	CENTER HOLE	KNURL SERIES	W	A	T
CSKT-DAV	DAVENPORT	2"	9/16-REAM	*KTN	3/8	5/32	3/4

SELF-CENTERING KNURL TOOL HOLDERS



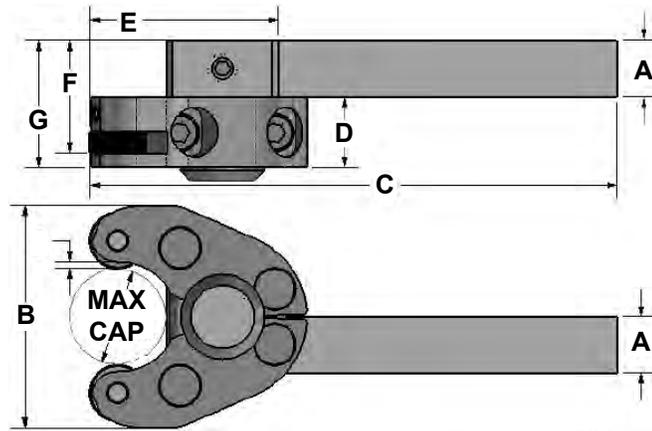
Inch - SELF-CENTERING KNURL HOLDERS										
PART#	A	B	C	E	H	J	K	L	KNURL SERIES	KNURL PIN
KTSCW-3/8	3/8	.50	4"	1"	.70	.02	.03	.06	*KTSW	206C
KTSC0-3/8	3/8	.50	4"	1"	1"	.04	.05	.06	*KT00	308C
KTSCW-1/2	1/2	.50	4"	1"	.70	.02	.03	.06	*KTSW	206C
KTSC0-1/2	1/2	.50	4"	1"	1"	.04	.05	.06	*KT00	308C
KTSC2-5/8	5/8	.75	4.5"	1.75	1.5	.04	.05	.12	*KT2 *KTN	410C
KTSC2-3/4	3/4	.75	4.5"	1.75	1.5	.04	.05	.12	*KT2 *KTN	410C
KTSCP-3/4	3/4	1.00	5"	2"	1.6	.10	.06	.19	*KTP	412C
KTSCW-3/4	3/4	1.00	5.4"	2.33	2.6	.14	.06	.12	*KTH	816C
KTSCP-1	1"	1.00	5"	2"	1.6	.10	.06	.19	*KTP	412C
KTSCW-1	1"	1.00	5.4"	2.33	2.6	.14	.06	.12	*KTH	816C

Metric - SELF-CENTERING KNURL HOLDERS										
PART#	A	B	C	E	H	J	K	L	KNURL SERIES	KNURL PIN
KTSC0-8	8mm	.50	4"	1"	1"	.02	.05	.06	*KT00	308C
KTSCW-12	12mm	.50	4"	1"	.70"	.02	.03	.06	*KTSW	206C
KTSC0-12	12mm	.50	4"	1"	1"	.04	.05	.06	*KT00	308C

KNURLS

SERIES PART#	O.D.	I.D.	Width
*KTSW-	5/16"	1/8"	5/32"
*KT00-	1/2"	3/16"	3/16"
*KT2-	5/8"	1/4"	1/4"
*KTN-	3/4"	1/4"	1/4"
*KTP-	3/4"	1/4"	3/8"
*KTR-	3/4"	1/4"	1/2"
*KTU-	1"	5/16"	3/8"
*KTH-	1-1/4"	1/2"	1/2"

***When ordering knurls specify series number as well as the required pitch information**



See page 102 for Knurls

ADJUSTABLE STRADDLE KNURL HOLDERS

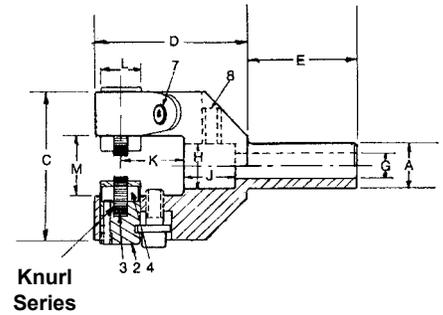
PART#	A	B	C	D	E	F	G	MAX CAPACITY	KNURL SERIES	KNURL PIN
KTASW-5/16	5/16	1.25	5.0	.500	1.12	.750	.812	.437	*KTSW	CK 082
KTASW-3/8	3/8	1.25	5.0	.500	1.12	.812	.875	.437	*KTSW	CK 082
KTAS0-3/8	3/8	1.50	5.0	.750	1.88	.875	1.000	.750	*KT00	CK 123
KTASW-1/2	1/2	1.25	5.0	.500	1.12	.937	1.000	.437	*KTSW	CK 082
KTAS0-1/2	1/2	1.50	5.0	.750	1.88	1.000	1.125	.750	*KT00	CK 123
KTAS0-5/8	5/8	1.50	5.0	.750	1.88	1.125	1.250	.750	*KT00	CK 123
KTASN-5/8	5/8	2.50	5.0	.750	2.00	1.175	1.375	1"	*KTN	CK 124
KTASP-5/8	5/8	2.50	5.0	.875	2.00	1.300	1.500	1"	*KTP	CK 144
KTAS0-3/4	3/4	1.50	5.0	.750	1.88	1.250	1.375	.750	*KT00	CK 123
KTASN-3/4	3/4	2.50	5.0	.750	2.00	1.300	1.500	1"	*KTN	CK 124
KTASP-3/4	3/4	2.50	5.0	.875	2.00	1.425	1.625	1"	*KTP	CK 144
KTASR-3/4	3/4	3.00	5.3	1.000	2.25	1.438	1.750	2"	*KTR	CK 164
KTASP-1	1"	2.50	5.0	.875	2.00	1.675	1.875	1"	*KTP	CK 144
KTASR-1	1"	3.00	5.3	1.000	2.25	1.688	2.000	2"	*KTR	CK 164



STRADDLE KNURLING TOOL W/ ADJUSTABLE KNURL ANGLE

- Knurl can be adjusted to produce straight, diagonal, or diamond knurls by rotating the barrels.
- Holds drills for combined operations
- Standard with carbide knurl pins
- Same tool can be converted to "extra capacity" by changing barrels.

See page 102 for Knurls



Knurl Series

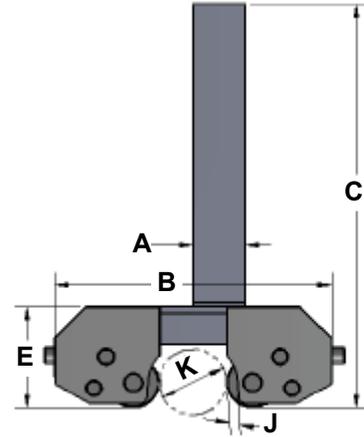
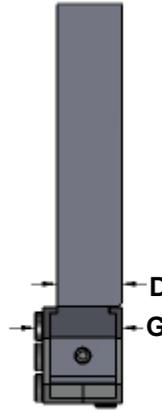
CAT. NO.	A	Knurl Series	C	D	E	G	H	J	K	L	M	BARREL LENGTH	CAPACITY DIA.
KT00	5/8	*KT00	1-15/16	1-7/8	1-1/8	5/16	1/2	9/16	5/8	9/16	5/8	7/8	Up to 1/2"
KT1	3/4	*KT2	2-15/32	2-9/16	1-7/8	7/16	5/8	7/8	1-1/16	11/16	1"	1-1/16	Up to 3/4"
KT2	1"	*KT2	3-5/16	3-7/16	2-3/16	5/8	1"	1-1/4	1-1/2	11/16	1-3/8	1-5/16	Up to 7/8"
KT2-EC	1"	*KT2	3-5/16	3-7/16	2-3/16	5/8	1"	1-1/4	1-1/2	11/16	1-3/8	1-1/16	7/16 to 1-5/16
KT3	1-1/4	*KT2	4"	4-1/4	3-1/4	5/8	1-1/4	1-1/4	2"	11/16	2-1/16	1-5/16	1/2 to 1-3/8
KT3-EC	1-1/4	*KT2	4"	4-1/4	3-1/4	5/8	1-1/4	1-1/4	2"	11/16	2-1/16	1-1/16	1" to 2"

Note -EC = Extra Capacity

COMMON KNURLING TOOL PARTS

* Specify pitch of knurl required when ordering.
Medium knurls supplied unless otherwise specified.

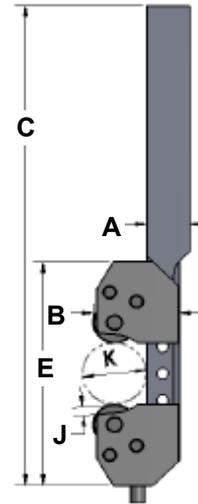
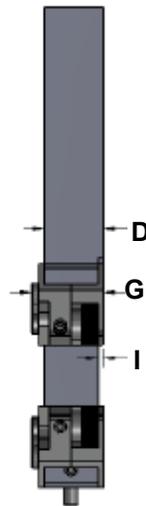
Part No.	KT00 Cat. No.	KT1 Cat. No.	KT2 Cat. No.	KT2 EC Cat. No.	KT3 Cat. No.	KT3 EC Cat. No.
2. Barrels	KT00-2	KT1-2	KT2-2	KT1-2	KT2-2	KT1-2
3. Knurls*	*KT00	*KT2	*KT2	*KT2	*KT2	*KT2
4. Knurl Pins, Carbide	KT00-4	KT2-4	KT2-4	KT2-4	KT2-4	KT2-4



SWISS T STYLE STRADDLE HOLDERS

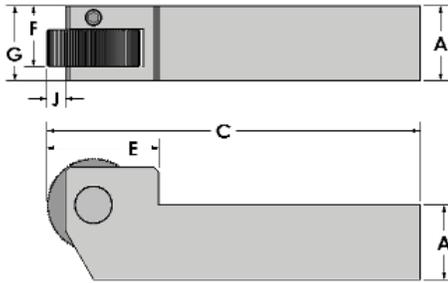
Part#	Max. Capacity	A	B	C	D	E	G	I	J	Knurl Series	Knurl Pin	Knurl Spacer
KTST-06	.65"	3/8"	2.65	4.0	.63	1.0	.83	.06	.10	*KT00	CK 103	SP030206
KTST-08	.65"	1/2"										
KTST-00	1.13"	5/8"	3.63	5.5	.63	1.55	.85	.06 / .20	1.13	*KT2, KTN	CK 124	-
KTST-1	1.13"	3/4"										
KTST-2	1.13"	1"										
KTST-10MM	.65	10mm	2.65	4.0	.63	1.0	.83	.06	.10	*KT00	CK 103	SP030206
KTST-12MM	.65	12mm										
KTST-20MM	1.13"	20mm	3.63	5.5	.63	1.55	.85	.06 / .20	1.13	*KT2, KTN	CK 124	-
KTST-25MM	1.13"	25mm										

See page 102 for Knurls



SWISS INLINE STRADDLE HOLDERS

Part#	Max. Capacity	A	B	C	D	E	G	I	J	Knurl Series	Knurl Pin	Knurl Spacer
KTSC-06	3/4	3/8	1"	5.9"	.69"	2.75"	.83	.06	.10	*KT00	CK 103	SP030206
KTSC-08	3/4	1/2										
KTSC-10MM	3/4	10mm	1"	5.9"	.69"	2.75"	.83	.06	.10	*KT00	CK 103	SP030206
KTSC-12MM	3/4	12mm										



See page 102 for Knurls

Inch - BUMP TYPE KNURLING TOOL HOLDERS

PART # RH	PART # LH	KNURL SERIES	KNURL PIN	A	C	E	F	G	J
KTBSW	KTBSW-L	*KTSW-	C 062	5/16"	4-1/2"	5/8"	.313	3/8"	.05
KTBSWA	KTBSWA-L	*KTSW-	C 062	3/8"	4"	3/4"	.313	3/8"	.05
KTB00	KTB00-L	*KT00-	C 083	1/2"	4"	1"	.400	1/2"	.09
KTBEF	KTBEF-L	*KT00-	C 103	5/8"	4"	1"	.401	1/2"	.09
KTB2	KTB2-L	*KT2-	C 104	5/8"	4"	1"	.525	5/8"	.12
KTBP	KTBP-L	*KTP-	C 124	3/4"	4-1/2"	1-1/8"	.625	3/4"	.18
KTBR	KTBR-L	*KTR-	C 164	3/4"	4-1/2"	1-1/8"	.812	1"	.18
KTBPBPA	KTBPBPA-L	*KTP-	C 164	1"	5"	1-1/2"	.875	1"	.18
KTBRA	KTBRA-L	*KTR-	C 164	1"	5"	1-1/2"	.812	1"	.18
KTBU	KTBU-L	*KTU-	C 165	1"	5"	1-1/2"	.812	1"	.25
KTBH	KTBH-L	*KTH-	C 168	1"	5"	1-1/2"	.812	1"	.25
KTBHA	KTBHA-L	*KTH-	C 208	1-1/4"	6"	1-1/2"	1	1-1/4"	.25

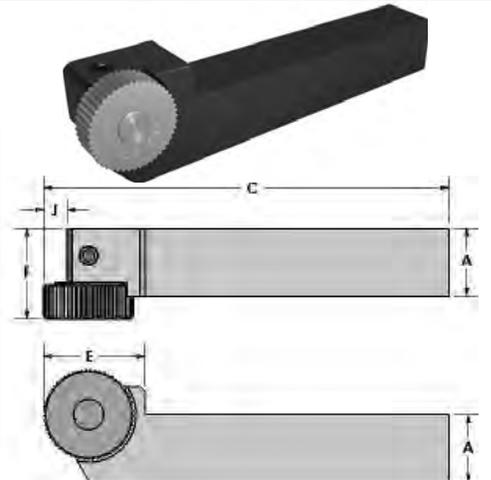
Metric - BUMP TYPE KNURLING TOOL HOLDERS

PART # RH	PART # LH	KNURL SERIES	KNURL PIN	A	C	E	F	G	J
KTBP-10MM	KTBP-10MM-L	*KT00-	C 083	10	4"	1"	.400	1/2"	.09
KTBP-12MM	KTBP-12MM-L	*KT00-	C 083	12	4"	1"	.400	1/2"	.09
KTBGK-12MM	KTBGK-12MM-L	*KT2-	C 104	12	4"	1"	.525	5/8"	.12
KTBKP-20MM	KTBKP-20MM-L	*KTP-	C 164	20	5"	1-1/2"	.875	1"	.18
KTBKP-25MM	KTBKP-25MM-L	*KTP-	C 164	25	5"	1-1/2"	.875	1"	.18
KTBPBPH-25MM	KTBPBPH-25MM-L	*KTH-	C 168	25	5"	1-1/2"	.812	1"	.25

UP TO THE SHOULDER BUMP HOLDERS

PART#	A	C	E	F	J	KNURL SERIES	KNURL PIN
KTBN	5/8"	4"	1"	3/4"	.12	*KTN-	SK 124X
KTBNNA	3/4"	4-1/2"	1"	3/4"	.12	*KTN-	SK 124X
KTBNZU	3/4"	4-1/2"	1.12"	1"	.25	*KTU-	SK 165X
KTBNZNB	1"	5"	1"	1"	.12	*KTN-	SK 124X
KTBNZUA	1"	5"	1-1/2"	1"	.25	*KTU-	SK 165X
KTBNZH	1"	5"	1-1/2"	1-1/4"	.25	*KTH-	SK 208X

See page 102 for Knurls



STC-TAP-ER TAPPING MACHINE

TAPS UP TO 5/16-18 THREAD IN 1/2" STEEL!!

HEAVY DUTY TAPERED CONE DRIVE

5/64" to 1/2" capacity chuck
 1/3 H.P., 115V, Single Phase
 1725 RPM, A48 Frame Motor
 Shipping weight: 43 lbs



TAPPING

The STC-TAP-ER has a double disc friction drive that reverses rotation instantly by the application of forward or backward hand pressure on the part being tapped. The friction discs are driven by a Heavy Duty Tapered Cone Drive Collar mounted on the motor shaft. The maximum spindle speed is 300 RPM.

ORDERING NO.	CONFIGURATION
STC-TAP-ER	STANDARD AS SHOWN
STC-TAP-ER(-)	MINUS THE FRONT STAGING
STC-TAP-ER/MAGNETIC	WITH MAGNETIC START
STC-TAP-ER-3/4CAP	WITH 3/4" CAPACITY CHUCK
STC-TAP-ER KEYLESS	WITH KEYLESS CHUCK
STC-TAP-ER-380/3	WITH 380V 50HZ 3 PHASE MOTOR
STC-TAP-ER-VAR/RPM	WITH VARIABLE SPINDLE SPEED CONTROL AND FORWARD-REVERSE SWITCH

FEATURES:

- Push to tap in
- Pull to tap out
- Sliding face plate
- Work table can be reversed when not needed
- Easy to set stop for tap depth control
- Comfortable bench height working area
- Long lasting tapered cone drive
- Pilot light switch warns if motor is left running

ALSO AVAILABLE 220V, 50HZ OR 60HZ, SINGLE OR SPLIT PHASE MOTORS OR AVAILABLE WITHOUT MOTOR
 CALL FOR A QUOTATION ON YOUR SPECIFIC CONFIGURATION

REPLACEMENT PART

CAT. NO.	DESCRIPTION
BB-TAP-6	TAPPERED CONE DRIVE

WARNING!! TO AVOID INJURIES, WORKPIECE SHOULD BE HELD IN AN APPROPRIATE CLAMPING DEVICE WHILE BEING TAPPED AND SHOULD NEVER BE HELD BY HAND WITHOUT ADEQUATE PROTECTION.

BB-SR RE-TAPPING MACHINE

THE FASTEST AND EASIEST WAY TO:

- Retap threaded parts
- Chase threads
- Remove cutoff burrs from threads
- Inspect threads (with thread gage mounted in chuck)
- Countersink holes
- Deburr holes
- Ream holes



5/64" to 1/2" capacity chuck
 1/3 H.P., 115V, Single Phase
 1725 RPM, A48 Frame Motor
 Shipping weight: 32 lbs

The RE-TAP-ER has a double disc friction drive that reverses rotation instantly by the application of forward or backward hand pressure on the part being retapped. The friction discs are driven by a Rubber Drive Ring mounted on the motor shaft.

Since the unit is driven merely by friction, it would be impossible to guarantee any particular R.P.M. because the R.P.M. will vary with the pressure exerted and the operation performed. The maximum spindle speed is 1,000 RPM.

NEW IMPROVED DESIGN

- Solid one piece enclosed housing
- Motor slides back for easy drive ring replacement
- Pilot light switch warns if motor is left running
- Rugged construction yet light weight and portable (only 32lbs)



**FORWARD HAND PRESSURE
 ROTATES SPINDLE
 COUNTERCLOCKWISE**

ORDERING NO.	CONFIGURATION
BB-SR	STANDARD AS SHOWN
BB-SR/MAGNETIC START	WITH MAGNETIC START
BB-SR-3/4CAP	WITH 3/4" CAPACITY CHUCK
BB-SR 3450RPM	WITH 3450 RPM MOTOR
BB-SR-380/3	WITH 380V 50HZ 3 PHASE MOTOR
BB-SR-VAR/RPM	WITH VARIABLE SPINDLE SPEED CONTROL AND FORWARD-REVERSE SWITCH



**BACKWARD HAND PRESSURE
 ROTATES SPINDLE
 CLOCKWISE**

ALSO AVAILABLE 220V, 50HZ OR 60HZ, SINGLE OR SPLIT PHASE MOTORS OR AVAILABLE WITHOUT MOTOR

CALL FOR A QUOTATION ON YOUR SPECIFIC CONFIGURATION

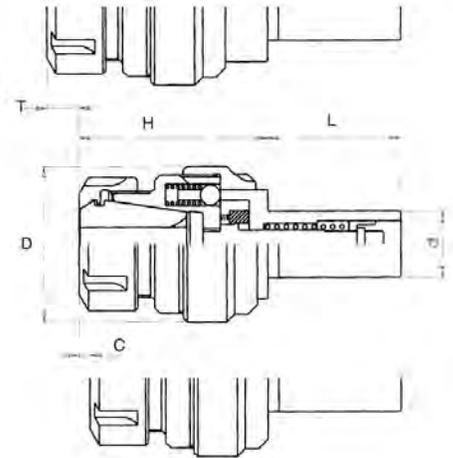
Replacement Parts

CAT. NO.	RE-TAP-ER
BB-7	DRIVE RING BLACK NEOPRENE
BB-7HD	HEAVY DUTY DRIVE RING ORANGE URETHANE
BB-21	PKG. OF 6 FINGER PROTECTORS

TENSION & COMPRESSION ER COLLET FLOATING TAP HOLDERS

- Axial-float/tension/compression for CNC lathes & milling machines with reversing motors and rigid tapping
- Compensates for machine feed and tap pitch variance
- Floating mechanism (.002 per side / .004 total float) compensates for misalignment between tap and work piece
- Compact design for minimal clearance applications
- Uses ER series tap collets

SEE PAGE 161 FOR COLLETS.



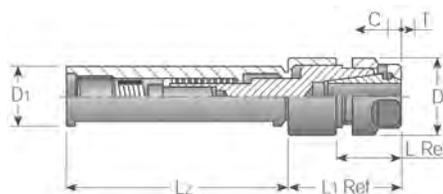
TAP COLLET SERIES	HAND TAP COLLET RANGE
ER11	#0 TO 1/4
ER16	#0 TO 5/16
ER20	#0 TO 1/2
ER25	#0 TO 5/8
ER32	#0 TO 13/16

Shank Dia.	Collet Series	L	H	D	Tension T	Compression C	Part No.	Collet Nut*	Collet Wrench**
5/8	ER11	32	36	29	5.5	2.5	SS062TCIER11	ER11H	ER11HW
5/8	ER16	32	48	29	5.5	2.5	SS062TCIER16	ER16M	ER16MW
3/4	ER11	32	36	29	5.5	2.5	SS075TCIER11	ER11H	ER11HW
3/4	ER16	32	48	29	5.5	2.5	SS075TCIER16	ER16M	ER16MW
3/4	ER20	46	59	44	9	3	SS075TCIER20	ER20H	ER20HW
3/4	ER25	46	73	44	9	3	SS075TCIER25	ER25E	ER25EW
1"	ER20	46	59	44	9	3	SS100TCIER20	ER20H	ER20HW
1"	ER25	50	68	58	12	4	SS100TCIER25	ER25E	ER25EW
1"	ER25	80	68	58	12	4	SS100TCIER25L	ER25E	ER25EW
1"	ER32	50	70	58	12	4	SS100TCIER32	ER32E	ER32EW
1"	ER32	80	70	58	12	4	SS100TCIER32L	ER32E	ER32EW
1-1/4"	ER25	50	68	58	12	4	SS125TCIER25	ER25E	ER25EW
1-1/4"	ER32	50	70	58	12	4	SS125TCIER32	ER32E	ER32EW
16MM	ER11	32	36	29	5.5	2.5	SS16TCIER11	ER11H	ER11HW
16MM	ER16	32	48	29	5.5	2.5	SS16TCIER16	ER16M	ER16MW
20MM	ER11	32	36	29	5.5	2.5	SS20TCIER11	ER11H	ER11HW
20MM	ER16	32	48	29	5.5	2.5	SS20TCIER16	ER16M	ER16MW
20MM	ER20	46	59	44	9	3	SS20TCIER20	ER20H	ER20HW
20MM	ER25	46	73	44	9	3	SS20TCIER25	ER25E	ER25EW
22MM	ER20	46	59	44	9	3	SS22TCIER20	ER20H	ER20HW
22MM	ER25	46	73	44	9	3	SS22TCIER25	ER25E	ER25EW
25MM	ER20	46	59	44	9	3	SS25TCIER20	ER20H	ER20HW
25MM	ER25	50	68	58	12	4	SS25TCIER25	ER25E	ER25EW
25MM	ER25	80	68	58	12	4	SS25TCIER25L	ER25E	ER25EW
25MM	ER32	50	70	58	12	4	SS25TCIER32	ER32E	ER32EW
25MM	ER32	80	70	58	12	4	SS25TCIER32L	ER32E	ER32EW
30MM	ER25	50	68	58	12	4	SS30TCIER25	ER25E	ER25EW
30MM	ER32	50	70	58	12	4	SS30TCIER32	ER32E	ER32EW
32MM	ER25	50	68	58	12	4	SS32TCIER25	ER25E	ER25EW
32MM	ER32	50	70	58	12	4	SS32TCIER32	ER32E	ER32EW
40MM	ER25	85	68	58	12	4	SS40TCIER25	ER25E	ER25EW
40MM	ER32	85	70	58	12	4	SS40TCIER32	ER32E	ER32EW

** Collet Wrench and Tap Collets sold separately

AXIAL-FLOAT TENSION COMPRESSION TAPHOLDERS

Cat. No.	Collet Series	Tap Capacity	D1	L2	L1	L	D	T	C
SS062FTCER11	ER11	#3-1/4"	5/8	6.00		.75	.63	.24	.12
SS075FTCER16	ER16	#6-3/8"	3/4	3.15	1.61	.95	1.10	.32	.12
SS075FTCER20	ER20	#8-1/2"	3/4	3.15	1.89	1.06	1.34	.32	.12
SS100FTCER25	ER25	#10-5/8"	1	3.15	2.01	1.18	1.66	.36	.16
SS100FTCER32	ER32	1/4-3/4"	1	3.15	2.91	1.18	1.97	.36	.16
SS125FTCER40	ER40	5/16-1-3/8"	1-1/4	3.15	3.54	1.81	2.36	.36	.16



SEE PAGE 161 FOR COLLETS.

ER Axial - Float Tension/Compression Tapholders

Application:

Axial-float/tension/compression type for C.N.C. milling machines and lathes with reversing motors and rigid tapping.

Features:

- Compensates for machine feed and tap pitch variance.
- Floating mechanism compensates for misalignment between tap and workpiece. (-.004/side .008 Total Float)
- Right-and left-hand tapping.

Advantages:

- Practical and efficient tap holding by the ER spring collet without using jaw drive.
- Compact design for minimal clearance applications.
- Heavy Duty design for high torque drive ensures the same accuracy as the tap itself.

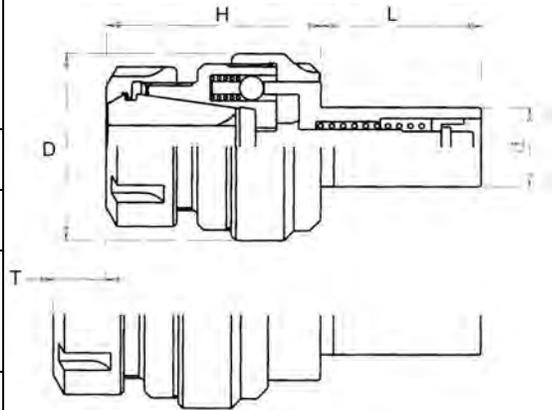
TENSION ONLY FLOATING ER COLLET TAP HOLDERS

- Tension Feature Eliminates Tap Breakage During Machine Reversal
- For use on CNC machining centers and lathes, screw machines, automatic lathes, chuckers, and milling machines.
- Can be used on rigid or reversing spindles
- Floating mechanism (.002 per side / .004 total float) compensates for misalignment between tap and work piece.

SEE PAGE 161
FOR COLLETS.



Shank Dia.	Collet Series	L	H	D	Tension (mm)		Part No.	Collet Nut*	Collet Wrench**
					T				
5/8	ER11	32	36	29	8		SS062TIER11	ER11H	ER11HW
5/8	ER16	32	48	29	8		SS062TIER16	ER16M	ER16MW
3/4	ER11	32	36	29	8		SS075TIER11	ER11H	ER11HW
3/4	ER16	32	48	29	8		SS075TIER16	ER16M	ER16MW
3/4	ER20	46	56	44	12		SS075TIER20	ER20H	ER20HW
3/4	ER25	46	70	44	12		SS075TIER25	ER25E	ER25EW
1"	ER20	46	56	44	12		SS100TIER20	ER20H	ER20HW
1"	ER25	50	64	58	16		SS100TIER25	ER25E	ER25EW
1"	ER25	80	64	58	16		SS100TIER25L	ER25E	ER25EW
1"	ER32	50	66	58	16		SS100TIER32	ER32E	ER32EW
1"	ER32	80	66	58	16		SS100TIER32L	ER32E	ER32EW
1-1/4"	ER25	50	64	58	16		SS125TIER25	ER25E	ER25EW
1-1/4"	ER32	50	66	58	16		SS125TIER32	ER32E	ER32EW
16MM	ER11	32	36	29	8		SS16TIER11	ER11H	ER11HW
16MM	ER16	32	48	29	8		SS16TIER16	ER16M	ER16MW
20MM	ER11	32	36	29	8		SS20TIER11	ER11H	ER11HW
20MM	ER16	32	48	29	8		SS20TIER16	ER16M	ER16MW
20MM	ER20	46	56	44	12		SS20TIER20	ER20H	ER20HW
20MM	ER25	46	70	44	12		SS20TIER25	ER25E	ER25EW
22MM	ER20	46	56	44	12		SS22TIER20	ER20H	ER20HW
22MM	ER25	46	70	44	12		SS22TIER25	ER25E	ER25EW
25MM	ER20	46	56	44	12		SS25TIER20	ER20H	ER20HW
25MM	ER25	50	64	58	16		SS25TIER25	ER25E	ER25EW
25MM	ER25	80	64	58	16		SS25TIER25L	ER25E	ER25EW
25MM	ER32	50	66	58	16		SS25TIER32	ER32E	ER32EW
25MM	ER32	80	66	58	16		SS25TIER32L	ER32E	ER32EW
30MM	ER25	50	64	58	16		SS30TIER25	ER25E	ER25EW
30MM	ER32	50	66	58	16		SS30TIER32	ER32E	ER32EW
32MM	ER25	50	64	58	16		SS32TIER25	ER25E	ER25EW
32MM	ER32	50	64	58	16		SS32TIER32	ER32E	ER32EW
40MM	ER25	85	64	58	16		SS40TIER25	ER25E	ER25EW
40MM	ER32	85	64	58	16		SS40TIER32	ER32E	ER32EW



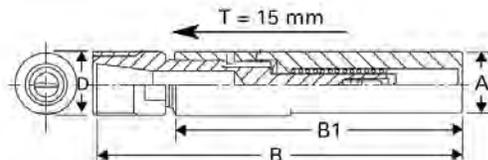
TAP COLLET SERIES	HAND TAP COLLET RANGE
ER11	#0 TO 1/4
ER16	#0 TO 5/16
ER20	#0 TO 1/2
ER25	#0 TO 5/8
ER32	#0 TO 13/16

** Collet Wrench and Tap Collets sold separately

ER16 TENSION ONLY TAP HOLDERS

Part No.	A	B	B1	D	Tension	Nut
SS20ERT693	20	6.93	3.94	1.10	0.59	ER16H
SS22ERT531	22	5.31	3.94	1.10	0.59	ER16H
SS075ERT535	3/4	5.35	2.36	1.10	0.59	ER16H
SS075ERT394	3/4	3.94	2.56	.87	0.59	ER16M

- PERMITS TAPPING USING ER16 COLLET SYSTEM #0-5/16 HAND TAP CAPACITY.
- IDEALLY SUITED FOR THROUGH HOLE APPLICATIONS ON SWISS AND JAPANESE AUTOMATICS AND LATHES.



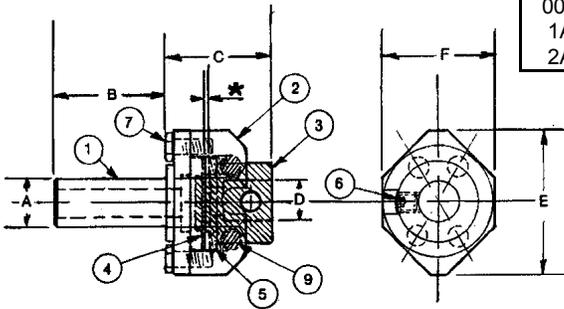
SEE PAGE 161
FOR COLLETS.



ADJUSTABLE NON-RELEASING TAP HOLDER

- Fits all standard machines.
- Adjustable (floating). Easy-to-get-at back end adjustment screws to compensate for machine misalignment.
- Has thru-hole, eliminates cutting down tap shanks. Makes it easier to remove taps from holder.
- Bumper action for better threads - but bumper action can be eliminated by use of two, part No. 4 Retaining Washers to fill gap. *
- Easy to service, simple 2 spring balanced pull-out mechanism.
- Rugged enough for heavy taps and yet sensitive enough for small taps.
- Minimum overhang for maximum machine clearance (Eliminates shortening of taps).

CAT. NO.	A	B	C	D	E	F	PULLOUT	TAP CAPACITY	
								HAND	PIPE
00ANR	5/8	1-3/16	31/32	1/2	1-3/4	1-5/16	3/32	7/16	1/8
1ANR	3/4	1-3/4	1-13/32	5/8	2-1/4	1-3/4	1/4	11/16	1/4
2ANR	1"	2-3/8	1-57/64	1"	3-1/8	2-3/8	9/32	1-1/8	3/4



SEE PAGE 112 FOR TAP HOLDER BUSHINGS FOR THESE TAP HOLDERS.

ADJUSTABLE NON-RELEASING TAP HOLDER PARTS

Part No.	00ANR Cat. No.	1ANR Cat. No.	2ANR Cat. No.
1. Shank	00ANR-1	1ANR-1	2ANR-1
2. Body	00ANR-2N	1ANR-2N	2ANR-2N
3. Spindle	00ANR-3N	1ANR-3N	2ANR-3N
4. Retaining Washer	00ANR-4N	1ANR-4N	2ANR-4N
5. Springs (Std)	00ANR-5	1ANR-5	2ANR-5
5. Springs (Light Duty)	00ANR-5LD	1ANR-5LD	2ANR-5LD
6. Set Screw	ORB2-5	1ANR-6	2ANR-6
7. Clamp Screw & Washer	ARTH00-18 RSA00-5	ARTH1-18 RSA2-5	2ANR-7 2ANR-9
9. Ball			

NON-RELEASING TAP HOLDER



* Excellent for operations where release is not required.

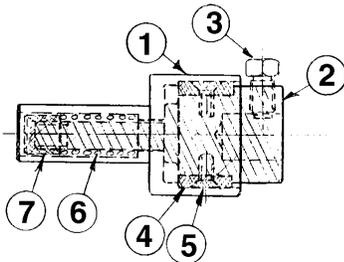
* Smooth, extra long pullout.

CAT. NO.	SHANK DIA.	SHANK LENGTH	TAP CAPACITY		PULLOUT
			HAND	PIPE	
NR000	5/8	1-3/16	1/4	1/16	7/16
NR00	5/8	1-1/4	7/16	1/8	1/2
NR1	3/4	1-3/4	11/16	1/4	17/32
NR2	1"	2"	1-1/8	3/4	5/8
NR2-NBG	1"	2"	1-1/8	3/4	5/8
NR3	1-1/4	2-9/16	1-1/4	1"	7/8
NR3-NBG	1-1/2	1-3/4	1-1/4	1"	7/8
NR4	1-1/2	3-3/16	1-1/2	1"	1"
NR4-NBG	1-1/2	1-11/16	1-1/2	1"	1"

All other dimensions same as releasing tap holders (see pg. 69) Tools with "NBG" Cat. Nos. have special shank dimensions for use on New Britain Gridley Automatics.

NON-RELEASING TAP HOLDERS PARTS

Part No.	NR000 Cat. No.	NR00 Cat. No.	NR1 Cat. No.	NR2 Cat. No.	NR3 Cat. No.	NR4 Cat. No.
1. Body	NR000-1	NR00-1	NR1-1	NR2-1	NR3-1	NR4-1
2. Spindle	NR000-2	NR00-2	NR1-2	NR2-2	NR3-2	NR4-2
3. Set Screw	ATT00-12	TH000-3	FARH2-10	2ANR-6	NR3-3	NR4-3
4. Key (Ea.)	NR00-4	NR00-4	NR1-4	NR2-4	NR3-4	NR4-4
5. Keys Screws (Ea.)	NR000-5	NR000-5	NR000-5	NR2-5	NR2-5	NR2-5
6. Shank Spring	TH000-13	TH00-13	TH1-13	TH2-13	TH3-13	TH4-13
7. Spindle Nut	TH000-14	TH00-14	TH1-14	TH2-14	TH2-14	TH4-14
8. Retainer	---	TH00-13-2	---	---	---	---



SEE PAGE 112 FOR TAP HOLDER BUSHINGS FOR THESE TAP HOLDERS

All parts for NBG Tap Holders same as standard except as shown below.

Part No.	NR2-NBG Cat. No.	NR3-NBG Cat. No.	NR4-NBG Cat. No.
1. Body	NR2-1NBG	NR3-1NBG	NR4-1NBG
2. Spindle	---	---	NR4-2NBG



R&L RELEASING TAP HOLDER

The patented unique releasing mechanism of the Somma R & L Tap Holder is unequalled for dependability and accuracy which resulted in its selection for usage as original equipment by many machine tool manufacturers.

FEATURES

- For right or left hand threading
- No spring plungers to wear or break
- Eases tap into work for better matching of threads
- No. 000 size is extremely sensitive for small taps when used on high speed machines
- Simple operation (see diagrams below)

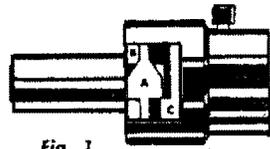


Fig. 1

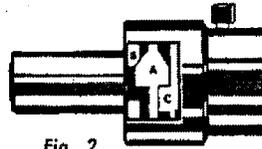


Fig. 2

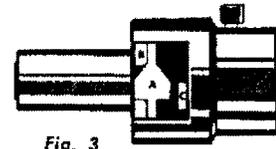


Fig. 3

PATENTED

Ready to start threading operation, clutch slightly engaged (A) and (C).

When tap contacts work, clutch ring (A) slides forward to fully engage spindle (C) for positive driving power.

When end of pullout is reached clutch ring (A) springs back instantly, leaving ample clearance between contact points of clutch ring and spindle, preventing re-engagement or hammering of clutch points in case turret advances slightly after release.

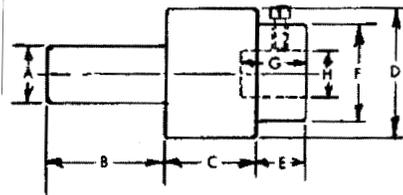
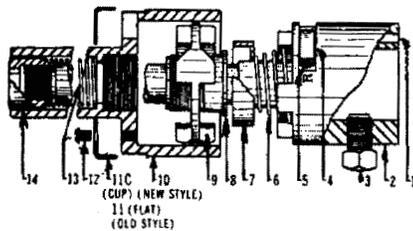
NOTE: TH2-NBG, TH3-NBG AND TH4-NBG have special shank diameter and length for use on New Britain Gridley automatics.

SEE PAGE 112 FOR TAP HOLDER BUSHINGS FOR THESE TAP HOLDERS

SIZE	A	B	C	D	E	F	G	H	TAP CAPACITY		PULLOUT FOR RELEASING			
									HAND TAP	PIPE TAP	CAT. NO.	STD. CLUTCH NUT	CAT. NO.	SHORT CLUTCH NUT
TH000	5/8	1-3/16	7/8	1-1/32	3/8	13/16	1/2	1/2	1/4	1/16	TH000	1/8	TH000-S	.100
TH00	5/8	1-1/4	7/8	1-11/32	13/32	1-1/8	19/32	1/2	7/16	1/8	TH00	1/8	TH00-S	.100
TH1	3/4	1-3/4	1-1/16	1-19/32	1/2	1-5/16	3/4	5/8	11/16	1/4	TH1	5/32	TH1-S	.115
TH2	1"	2"	1-3/8	2-7/32	13/16	1-3/4	1-5/32	1"	1-1/8	3/4	TH2	7/32	TH2-S	.156
TH2-NBG	1"	2"	1-3/8	2-7/32	13/16	1-3/4	1-5/32	1"	1-1/8	3/4			TH2-NBG	.156
TH3	1-1/4	2-9/16*	2"	2-13/16	7/8	2-1/4	1-1/2	1-1/4	1-1/4	1"	TH3	1/4	TH3-S	.167
TH3-NBG	1-1/2	1-11/16	2"	2-13/16	7/8	2-1/4	1-1/2	1-1/4	1-1/4	1"			TH3-NBG	.167
TH4	1-1/2	3-3/16	2-9/16	3-5/8	1-1/8	3"	1-5/8	1-1/2	1-1/2	1"	TH4	5/16	TH4-S	.203
TH4-NBG	1-1/2	1-11/16	2-9/16	3-5/8	1-1/8	3"	1-5/8	1-1/2	1-1/2	1"			TH4-NBG	.203

* PLUS 31/32 DIA. x 15/16 LONG PROJECTION

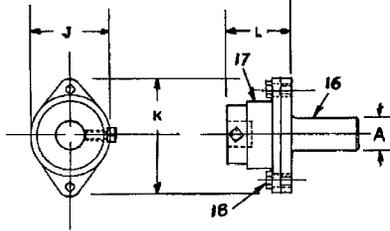
RELEASING TAP HOLDER PARTS



Part No.	TH000 Cat. No.	TH00 Cat. No.	TH1 Cat. No.	TH2 Cat. No.	TH2-NBG Cat. No.	TH3 Cat. No.	TH3-NBG Cat. No.	TH4 Cat. No.	TH4-NBG Cat. No.
1. Pawl Pin	TH000-1	TH00-1	TH1-1	TH2-1	TH2-1	TH3-1	TH3-1	TH4-1	TH4-1
2. Spindle	TH000-2	TH00-2	TH1-2	TH2-2	TH2-2	TH3-2	TH3-2	TH4-2	TH4-2NBG
3. Set Screw	TH000-3	TH00-13	TH1-6	TH2-13	TH2-13	TH3-13	NR3-3	TH4-3	NR4-3
4. Pawl	TH000-4	TH00-4	TH1-4	TH2-4	TH2-4	TH3-4	TH3-4	TH4-4	TH4-4
5. Pawl Spring	TH000-5	TH1-5	TH1-5	TH1-5	TH1-5	TH3-5	TH3-5	TH3-5	TH3-5
6. Clutch Spring	TH000-6	TH00-6	TH1-6	TH2-6	TH2-6	TH3-6	TH3-6	TH4-6	TH4-6
7. Clutch Washer	TH000-7	TH00-7	TH1-7	TH2-7	TH2-7	TH3-7	TH3-7	TH4-7	TH4-7
8. Clutch Nut	TH000-8	TH00-8	TH1-8	TH2-8	--	TH3-8	--	TH4-8	--
8-S Short Clutch Nut	TH000-8S	TH00-8S	TH1-8S	TH2-8S	TH2-8S	TH3-8S	TH3-8S	TH4-8S	TH4-8S
9. Clutch Ring	TH000-9	TH00-9	TH1-9	TH2-9	TH2-9	TH3-9	TH3-9	TH4-9	TH4-9
10. Body	TH000-10	TH00-10	TH1-10	TH2-10	TH2-10NBG	TH3-10	TH3-10NBG	TH4-10	TH4-10NBG
11. Cover Plate (Old Style)	TH000-11	TH00-11	TH1-11	TH2-11	TH2-11	TH3-11	TH3-11NBG	TH4-11	TH4-11
11C. Cup Style	TH000-11C	TH00-11C	TH1-11C	TH2-11C	TH2-11C	TH3-11C	TH3-11NBG	TH4-11C	TH4-11C
12. Cover Plate Screw	TH000-12	TH00-12	TH00-12	TH00-12	TH00-12	TH00-12	TH00-12	TH00-12	TH00-12
13. Shank Spring	TH000-13	TH00-13	TH1-13	TH2-13	TH2-13	TH3-13	TH3-13	TH4-13	TH4-13NBG
13-2 Retainer	--	TH00-13-2	--	--	--	--	--	--	--
14. Spindle Nut	TH000-14	TH00-14	TH1-14	TH2-14	TH2-14	TH2-14	TH2-14	TH4-14	TH4-14NBG

ADJUSTABLE (FLOATING) RELEASING TAP HOLDERS

Now the exclusive principal of the Somma clutch type Releasing Tap Holder is available in the adjustable (floating) type. This tool has all the advantages of the Somma Releasing Tap Holder and can also be used on screw machines and turret lathes that are out of alignment.



CAT. NO.	A	J	K	L	TAP CAPACITY	
					HAND	PIPE
ARTH00	5/8	1-3/8	2-1/8	1-11/32	7/16	1/8
ARTH1	3/4	1-19/32	2-3/4	1-11/16	11/16	1/4
ARTH2	1"	2-7/32	3-1/2	2-3/8	1-1/8	3/4

All other dimensions and parts are the same as Releasing Tap Holder (Pg. 111).

ADJUSTABLE RELEASING TAP HOLDER PARTS

Part No.	ARTH00 Cat. No.	ARTH1 Cat. No.	ARTH2 Cat. No.
16. Shank	ARTH00-16	ARTH1-16	ARTH2-16
17. Head	ARTH00-17	ARTH1-17	ARTH2-17
18. Clamp Screw & Washer	ARTH00-18	ARTH1-18	FDH1-4

SEE BELOW FOR TAP HOLDER BUSHINGS FOR THESE TAP HOLDERS.

TAP HOLDER BUSHINGS

SIZE OF TAP USED**	TAP SHANK DIA.	#00	#0	#2
		1/2 OD x 3/4 long CAT. NO.	5/8 OD x 7/8 long CAT. NO.	1" OD x 1-1/4 long CAT. NO.
#0 thru #6	.141	1001	1101	1201
#7-#8-5/32	.168	1002	1102	1202
#9-#10-3/16	.194	1003	1103	1203
#12-7/32	.220	1004	1104	1204
#14-1/4	.255	1005	1105	1205
9/32	.286	1006	1106	1206
5/16	.318	1007	1107	1207
11/32	.349	1008	1108	1208
3/8	.381	1009*	1109	1209
13/32-7/16	.323	1010*	1110	1210
15/32	.354	—	1111	1211
1/2	.367	—	1112	1212
17/32	.398	—	1113	1213
9/16	.429	—	1114	1214
19/32	.460	—	1115*	1215
5/8	.480	—	1116*	1216
21/32	.511	—	1117*	1217
11/16	.542	—	1118*	1218
23/32	.573	—	—	1219
3/4	.590	—	—	1220
25/32	.621	—	—	1221
13/16	.652	—	—	1222
27/32	.684	—	—	1223
7/8	.697	—	—	1224
15/16	.760	—	—	1225*
1"	.800	—	—	1226*
1-1/16-1-1/8	.896	—	—	1227*

PIPE TAP BUSHINGS

1/16	.312	1050	1150	1250
1/8	.437	1051	1151*	1251
1/4	.562	—	1152*	1252
3/8	.701	—	—	1253
1/2	.688	—	—	1254
5/8	.813	—	—	1255
3/4	.907	—	—	1256*

RETAINING SPRINGS

—	MB00-RS	MB0-RS	MB2-RS
---	---------	--------	--------

UNIQUE DESIGN -- Bushing grips the tap around three-quarters of its circumference, and fits the hole in the floating holder in the same manner. Result? More accurate fitting and line-up of tap and bushing.

POSITIVE OPERATION -- Entire length of bushing firmly clamps tap shank. Less chance of tap being pushed back. HEAT-TREATED FOR LONG LIFE -- Made of quality carburizing steel and heat-treated.

TAP BUSHING SETS

00TAPSET = 1001 thru 1051
0TAPSET = 1101 thru 1152
2ATAPSET = 1202 thru 1214
2BTAPSET = 1215 thru 1227
2CTAPSET = 1250 thru 1256

- The sets are packaged in a convenient storage case.
- The price for a set is 10% less than when each bushing is ordered separately.

* Note: Thin wall bushings have only 1 split instead of 2 and have no retainer springs

** NOMINAL OD OF THREAD THAT TAP WILL CUT.

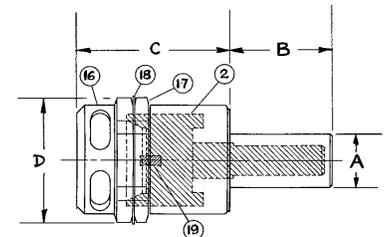
*** FOR TAPS SMALLER THAN #7 USE #0 TAP HOLDER AND TA02 ADAPTER.

RELEASING DIE HOLDERS FOR ACORN DIES

RELEASING ACORN DIE HOLDER SPECIFICATIONS

ACORN DIES ARE AVAILABLE FOR THESE HOLDERS - CALL FOR QUOTATION

CAT. NO.	A	B	C	D	ACORN DIE SIZE
ADH000	5/8	1-3/16	1-5/8	1-3/16	1
ADH00	5/8	1-1/4	1-13/16	1-9/16	2
ADH1	3/4	1-3/4	2-5/16	1-3/4	2
ADH2	1"	2"	2-7/8	2-7/16	3
ADH3	1-1/4	2-9/16	4-1/16	2-13/16	4



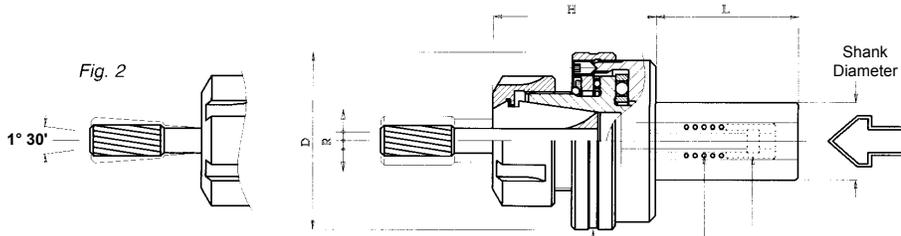
* These holders have the same exclusive releasing clutch mechanism as used on our releasing Tap Holder.

* A keyed washer is used between the adjusting cap and the lock nut. Tightening lock nut will not change the adjustment of die.

ER COLLET FLOATING REAMER HOLDERS

Features:

- The free moving ball bearing drive allows reamers to follow the existing drilled hole for high quality work.
- Could be used for synchronized tapping operations on lathes and CNC machining centers.
- Through the shank coolant capability



Note: Does not include wrench

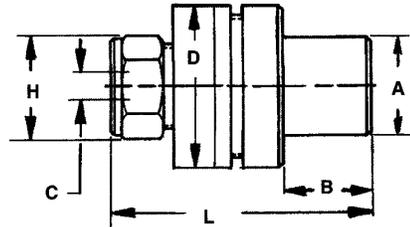
Shank Dia.	Collet Series	D	H	L	R	Coolant Thru Part No.	Collet Nut	Collet Wrench
5/8	ER11	42	40	46	1	SS062ERFC11	ER11H-E	•
5/8	ER16	42	44	46	1	SS062ERFC16	ER16H	ER16HW
3/4	ER11	42	40	46	1	SS075ERFC11	ER11H-E	•
3/4	ER16	42	44	46	1	SS075ERFC16	ER16H	ER16HW
3/4	ER20	50	50	46	1	SS075ERFC20-I	ER20H	ER20HW
3/4	ER25	57	53	46	1	SS075ERFC25	ER25E	ER25EW
1"	ER11	42	40	46	1	SS100ERFC11	ER11H-E	•
1"	ER16	42	44	46	1	SS100ERFC16	ER16H	ER16HW
1"	ER20	50	50	46	1	SS100ERFC20	ER20H	ER20HW
1"	ER25	57	53	46	1	SS100ERFC25	ER25E	ER25EW
1"	ER32	69	58	50	1.5	SS100ERFC32-I	ER32E	ER32EW
1"	ER40	79	64	50	1.5	SS100ERFC40	ER40E	ER40EW
1-1/4"	ER32	69	58	50	1.5	SS125ERFC32	ER32E	ER32EW
1-1/4"	ER40	79	64	50	1.5	SS125ERFC40	ER40E	ER40EW
16MM	ER11	42	40	46	1	SS16ERFC11	ER11H-E	•
16MM	ER16	42	44	46	1	SS16ERFC16	ER16H	ER16HW
16MM	ER20	50	50	46	1	SS16ERFC20	ER20H	ER20HW
16MM	ER25	57	53	46	1	SS16ERFC25	ER25E	ER25EW
20MM	ER11	42	40	46	1	SS20ERFC11	ER11H-E	•
20MM	ER16	42	44	46	1	SS20ERFC16	ER16H	ER16HW
20MM	ER20	50	50	46	1	SS20ERFC20	ER20H	ER20HW
20MM	ER25	57	53	46	1	SS20ERFC25	ER25E	ER25EW
22MM	ER11	42	40	46	1	SS22ERFC11	ER11H-E	•
22MM	ER16	42	44	46	1	SS22ERFC16	ER16H	ER16HW
22MM	ER25	57	53	46	1	SS22ERFC25	ER25E	ER25EW
25MM	ER11	42	40	46	1	SS25ERFC11	ER11H-E	•
25MM	ER16	42	44	46	1	SS25ERFC16	ER16H	ER16HW
25MM	ER20	50	50	46	1	SS25ERFC20	ER20H	ER20HW
25MM	ER25	57	53	46	1	SS25ERFC25	ER25E	ER25EW
25MM	ER32	69	58	50	1.5	SS25ERFC32	ER32E	ER32EW
25MM	ER40	79	64	50	1.5	SS25ERFC40	ER40E	ER40EW
30MM	ER32	69	58	50	1.5	SS30ERFC32	ER32E	ER32EW
30MM	ER40	79	64	50	1.5	SS30ERFC40	ER40E	ER40EW
32MM	ER25	57	53	46	1	SS32ERFC25	ER25E	ER25EW
32MM	ER32	69	58	50	1.5	SS32ERFC32	ER32E	ER32EW
32MM	ER40	79	64	50	1.5	SS32ERFC40	ER40E	ER40EW

SEE PAGES 156-160 FOR COLLETS

• Requires 15MM open end wrench

RECOMMENDED FOR REAMING

FULL FLOATING HOLDERS



SEE PAGES 162 & 163 FOR COLLETS.

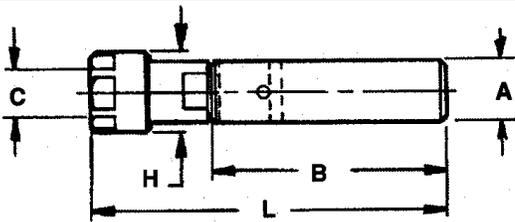
- COLLETS COLLAPSE TO COVER A 1/32" RANGE.
- HIGHEST QUALITY MATERIALS ARE USED THROUGHOUT.
- FLOATS APPROXIMATELY .010" OFF CENTER (.020" TOTAL) TO COMPENSATE FOR BOTH PARALLEL AND ANGULAR MISALIGNMENTS.
- IDEAL FOR REAMING OPERATIONS ON SINGLE AND MULTI-SPINDLE AUTOMATICS AND TURRET LATHES.
- HOLLOW DESIGN ALLOWS COOLANT THROUGH AND TOOL OVERHAND TO BE SHORTENED.
- RECOMMENDED ONLY FOR STATIONARY APPLICATIONS (LATHE)
- ADJUSTING NUT VARIES SPRING TENSION TO COMPENSATE FOR CUTTER WEIGHT.

C CAPACITY	COLLET SERIES	A	B	D DIA.	L	H HEX	CAT. NO.
3/64-25/64	200	3/4	4"	1-7/8	6.44	7/8	SS075FC208644
3/64-3/4	180	3/4	4"	2-3/8	6.88	1-1/2	SS075FC188688
3/64-9/16	100	1"	4"	2-1/16	6.59	1-1/8	SS100FC108659
3/64-3/4	180	1"	4"	2-3/8	6.88	1-1/2	SS100FC188688
3/64-3/4	180	1-1/4	6"	2-3/8	8.88	1-1/2	SS125FC188888
3/64-9/16	100	1-1/2	6"	2-1/16	8.59	1-1/8	SS150FC108859
3/64-3/4	180	1-1/2	4"	2-3/8	6.88	1-1/2	SS150FC188688
3/64-3/4	180	1-1/2	6"	2-3/8	8.88	1-1/2	SS150FC188888
3/32-1"	400	1-1/2	6"	3-3/4	9.88	2-1/4	SS150FC408988
3/64-3/4	180	1-3/4	6"	2-3/8	8.88	1-1/2	SS175FC188888
3/64-3/4	180	2"	6"	2-3/8	8.88	1-1/2	SS200FC188888
3/32-1"	400	2"	6"	3-3/4	9.88	2-1/4	SS200FC408988

REAMING

RECOMMENDED FOR REAMING

DOUBLE PIN FLOATING HOLDER

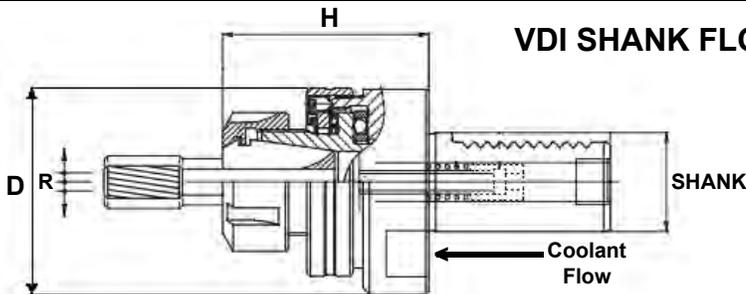


SEE PAGES 162 & 163 FOR COLLETS.

- FLOATS APPROXIMATELY .004" OFF CENTER (.008" TOTAL) TO COMPENSATE FOR BOTH PARALLEL AND ANGULAR MISALIGNMENTS.
- IDEAL FOR REAMING ON MACHINING CENTERS OR OTHER MACHINES WHERE MISALIGNMENTS ARE NOT EXCESSIVE.
- MAXIMUM 6000 RPM

C CAPACITY	COLLET SERIES	A	B	L	H HEX	CAT. NO.
1/32-1/4	300	1/2	2-1/2	4.03	5/8	SS050DP308403
1/32-1/4	300	3/4	2-1/2	4.03	5/8	SS075DP308403
3/64-25/64	200	3/4	2-7/8	4.48	7/8	SS075DP208448
3/64-25/64	200	1"	3"	4.48	7/8	SS100DP208448
1/32-1/4	300	1"	2-1/2	4.03	5/8	SS100DP308403
3/64-9/16	100	1"	3-1/2	5.62	1-1/8	SS100DP108562
3/64-3/4	180	1-1/4	4-1/2	6.96	1-3/8	SS125DP188696

VDI SHANK FLOATING REAMER HOLDER



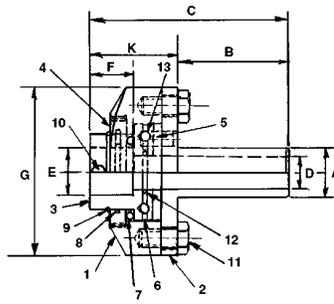
Features:

- The free moving ball bearing drive allows reamers to follow the existing drilled hole for high quality work.
- Could be used for synchronized tapping operations on lathes and CNC machining centers.
- Through the shank coolant capability

SHANK SIZE	COLLET SERIES	D	H	R	TOOL HOLDER PART NO.	COLLET WRENCH	COLLET NUT
VDI20	ER25	57	57	1	VDI20ERFC25	ER25EW	ER25E
VDI30	ER25	68	64	1	VDI30ERFC25	ER25EW	ER25E
VDI30	ER32	68	72	1.5	VDI30ERFC32	ER32EW	ER32E
VDI40	ER32	83	74	1.5	VDI40ERFC32	ER32EW	ER32E

SEE PAGES 156-160 FOR COLLETS

FLOATING (ADJUSTABLE) REAMER HOLDER

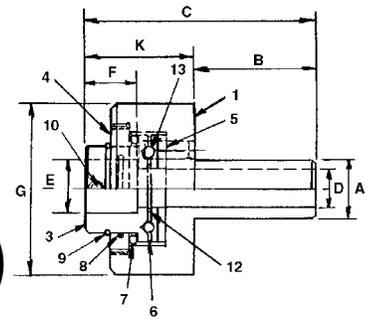


- Manually adjustable up to .015 for machine misalignment
- Exclusive wave spring construction gives automatic centering - does not depend on "O" rings for float.
- .005 Total float
- Tangent opposed ball raceways give full lateral float.
- Rides on free rolling balls - no pins to cause jamming

SEE BELOW FOR REAMER BUSHINGS.

CAT. NO.	A	B	C	D	E	F	G	K
FARH00	5/8	1-1/4	2-11/32	3/8	1/2	9/16	1-5/8x2-1/4	1-1/16
FARH0	3/4	1-5/8	3-1/8	1/2	5/8	3/4	2-1/8x3	1-1/2
FARH2	1"	2-1/8	4"	11/16	1"	7/8	2-1/2x3-3/8	1-7/8

FLOATING REAMER HOLDERS



- Exclusive wave spring construction gives automatic centering - does not depend on "O" rings for float.
- .005 Total float
- Tangent opposed ball raceways give full lateral float.
- Rides on free rolling balls - no pins to cause jamming

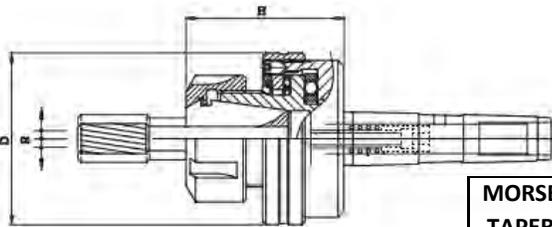
SEE BELOW FOR REAMER BUSHINGS.

CAT. NO.	A	B	C	D	E	F	G	K
FRH00	5/8	1-1/4	2-3/8	3/8	1/2	9/16	1-3/4	1-1/8
FRH0	3/4	1-5/8	3-3/16	1/2	5/8	3/4	2-1/4	1-9/16
FRH2	1"	2-1/8	4-1/16	11/16	1"	7/8	3"	1-15/16

BUSHINGS FOR SOMMA TOOL REAMER HOLDERS (Above)

REAMER SETS	
00REAMER SET	SET OF 12 #00 BUSHINGS
0REAMER SET	SET OF 13 #0 BUSHINGS
2REAMER SET	SET OF 16 #2 BUSHINGS

REAMER SIZE	BUSHING I.D.	#00 BUSHINGS 1/2" O.D. X 3/4" L CAT. NO.	#0 BUSHINGS 5/8" O.D. X 15/16" L CAT. NO.	#2 BUSHINGS 1" O.D. X 1-1/4" L CAT. NO.
1/16"	0.059	MB00-.059	MB0-.059	MB2-.059
5/64" & 3/32"	0.088	MB00-.088	MB0-.088	MB2-.088
7/64" & 1/8"	0.119	MB00-.119	MB0-.119	MB2-.119
9/64" & 5/32"	0.151	MB00-.151	MB0-.151	MB2-.151
11/64" & 3/16"	0.181	MB00-.181	MB0-.181	MB2-.181
13/64" & 7/32"	0.208	MB00-.208	MB0-.208	MB2-.208
15/64" & 1/4"	0.241	MB00-.241	MB0-.241	MB2-.241
17/64" & 9/32"	0.250	MB00-.250	MB0-.250	MB2-.250
19/64" - 11/32"	0.281	MB00-.281	MB0-.281	MB2-.281
23/64" - 13/32"	0.312	MB00-.312	MB0-.312	MB2-.312
27/64" - 15/32"	0.375	MB00-.375	MB0-.375	MB2-.375
31/64" - 19/32"	0.437	MB00-.437	MB0-.437	MB2-.437
5/8" - 23/32"	0.562		MB0-.562	MB2-.562
3/4" - 27/32"	0.625			MB2-.625
7/8" - 31/32"	0.750			MB2-.750
1" - 1-1/8"	0.875			MB2-.875



MORSE TAPER SHANK ER COLLET FLOATING REAMER HOLDER W/ COOLANT PORT

SEE PAGES 154-158 FOR COLLETS

Features:

- The free moving ball bearing drive allows reamers to follow the existing drilled hole for high quality work.
- Could be used for synchronized tapping operations on lathes and CNC machining centers.
- Through the shank or port coolant capability

MORSE TAPER	COLLET SERIES	COLLET CAPACITY	HOLDER PART NUMBER	FLOAT R (mm)	D (mm)	H (mm)	NUT O.D. (mm)
2	ER16	1/16 TO 13/32	MT2ERFC16	1	42	44	28
2	ER20	1/16 TO 1/2	MT2ERFC20	1	50	50	34
2	ER25	1/16 TO 5/8	MT2ERFC25	1	57	53	42
3	ER16	1/16 TO 13/32	MT3ERFC16	1	42	44	28
3	ER20	1/16 TO 1/2	MT3ERFC20	1	50	50	34
3	ER25	1/16 TO 5/8	MT3ERFC25	1	57	53	42
3	ER32	3/32 TO 3/4	MT3ERFC32	1.5	69	58	50
3	ER40	1/8 TO 1"	MT3ERFC40	1.5	79	64	63
4	ER32	3/32 TO 3/4	MT4ERFC32	1.5	69	58	50
4	ER40	1/8 TO 1"	MT4ERFC40	1.5	79	64	63



**Chuckling Reamers
Solid Carbide Straight Flute
(fractional sizes)**

**Chuckling Reamers
Solid Carbide Straight Flute
(letter sizes)**

Reamer Diameter	Flute Length	Overall Length	Part#
1/8" (.1250)	5/8"	2-1/4"	CCR-1/8
9/64" (.1406)	3/4"	2-1/2"	CCR-9/64
5/32" (.1562)	3/4"	2-1/2"	CCR-5/32
11/64" (.1719)	7/8"	2-3/4"	CCR-11/64
3/16" (.1875)	7/8"	2-3/4"	CCR-3/16
13/64" (.2031)	1"	3"	CCR-13/64
7/32" (.2187)	1"	3"	CCR-7/32
15/64" (.2344)	1"	3"	CCR-15/64
1/4" (.2500)	1"	3"	CCR-1/4
17/64" (.2656)	1-1/8"	3-1/4"	CCR-17/64
9/32" (.2812)	1-1/8"	3-1/4"	CCR-9/32
19/64" (.2969)	1-1/8"	3-1/4"	CCR-19/64
5/16" (.3125)	1-1/8"	3-1/4"	CCR-5/16
21/64" (.3281)	1-1/4"	3-1/2"	CCR-21/64
11/32" (.3437)	1-1/4"	3-1/2"	CCR-11/32
23/64" (.3594)	1-1/4"	3-1/2"	CCR-23/64
3/8" (.3750)	1-1/4"	3-1/2"	CCR-3/8
25/64" (.3906)	1-1/4"	3-1/2"	CCR-25/64
13/32" (.4062)	1-1/4"	3-1/2"	CCR-13/32
27/64" (.4219)	1-3/8"	4"	CCR-27/64
7/16" (.4375)	1-3/8"	4"	CCR-7/16
29/64" (.4531)	1-3/8"	4"	CCR-29/64
15/32" (.4687)	1-3/8"	4"	CCR-15/32
31/64" (.4844)	1-1/2"	4"	CCR-31/64
1/2" (.5000)	1-1/2"	4"	CCR-1/2

Reamer Diameter	Flute Length	Overall Length	Part#
A (.2340)	1"	3"	CCR-A
B (.2380)	1"	3"	CCR-B
C (.2420)	1"	3"	CCR-C
D (.2460)	1"	3"	CCR-D
E (.2500)	1"	3"	CCR-E
F (.2570)	1-1/8"	3-1/4"	CCR-F
G (.2610)	1-1/8"	3-1/4"	CCR-G
H (.2660)	1-1/8"	3-1/4"	CCR-H
I (.2720)	1-1/8"	3-1/4"	CCR-I
J (.2770)	1-1/8"	3-1/4"	CCR-J
K (.2810)	1-1/8"	3-1/4"	CCR-K
L (.2900)	1-1/8"	3-1/4"	CCR-L
M (.2950)	1-1/8"	3-1/4"	CCR-M
N (.3020)	1-1/8"	3-1/4"	CCR-N
O (.3160)	1-1/8"	3-1/4"	CCR-O
P (.3230)	1-1/4"	3-1/2"	CCR-P
Q (.3320)	1-1/4"	3-1/2"	CCR-Q
R (.3390)	1-1/4"	3-1/2"	CCR-R
S (.3480)	1-1/4"	3-1/2"	CCR-S
T (.3580)	1-1/4"	3-1/2"	CCR-T
U (.3680)	1-1/4"	3-1/2"	CCR-U
V (.3770)	1-1/4"	3-1/2"	CCR-V
W (.3860)	1-1/4"	3-1/2"	CCR-W
X (.3970)	1-1/4"	3-1/2"	CCR-X
Y (.4040)	1-1/4"	3-1/2"	CCR-Y
Z (.4130)	1-1/4"	3-1/2"	CCR-Z

REAMING

Micro Reamers

Designed for smooth, chatter-free™ action, Micro-Reamers™ perform well in cast and malleable iron and in many nonferrous materials such as plastics, aluminum, etc. These tools feature solid carbide head, steel body, chatter-free tooth design and a unique wiping flute geometry. A rigid setup, perfect alignment between the hole to be reamed, and the Micro- Reamer™, and the guide bushing, will produce accurate, finely finished holes. The drilled hole, to be reamed, should be approximately .006 to .016 unde size in holes from 3/8 to 1 inch in diameter. Standard tool tolerance is +.0002/-.0000. Other sizes and tolerance specifications on request.



MICRO REAMERS Carbide				
CUTTING DIA	SHANK DIA	OVERALL LENGTH	SHANK LENGTH	PART #
1/8"	7/64"	2-3/4"	1-3/4"	RW-.1250
3/16"	11/64"	3-1/2"	2-3/8"	RW-.1875
3/8"	5/16"	5"	3-1/4"	RW-.3750
1/2"	7/16"	6"	4"	RW-.5000
9/16"	7/16"	6"	4"	RW-.5625

Chuckling Reamers , Solid Carbide, Straight Flute
(number sizes)



(number sizes)

Reamer Diameter	Flute Length	Overall Length	Part#	Reamer Diameter	Flute Length	Overall Length	Part#
#1 (.2280)	1"	3"	CCR-1	#31 (.1200)	5/8"	2-1/4"	CCR-31
#2 (.2211)	1"	3"	CCR-2	#32 (.1160)	5/8"	2-1/4"	CCR-32
#3 (.2130)	1"	3"	CCR-3	#33 (.1130)	5/8"	2-1/4"	CCR-33
#4 (.2090)	1"	3"	CCR-4	#34 (.1110)	5/8"	2-1/4"	CCR-34
#5 (.2055)	1"	3"	CCR-5	#35 (.1100)	5/8"	2-1/4"	CCR-35
#6 (.2040)	1"	3"	CCR-6	#36 (.1065)	5/8"	2-1/4"	CCR-36
#7 (.2010)	1"	3"	CCR-7	#37 (.1040)	5/8"	2-1/4"	CCR-37
#8 (.1990)	1"	3"	CCR-8	#38 (.1015)	5/8"	2-1/4"	CCR-38
#9 (.1960)	1"	3"	CCR-9	#39 (.0995)	5/8"	2-1/4"	CCR-39
#10 (.1935)	7/8"	2-3/4"	CCR-10	#40 (.0980)	5/8"	2-1/4"	CCR-40
#11 (.1910)	7/8"	2-3/4"	CCR-11	#41 (.0960)	5/8"	2-1/4"	CCR-41
#12 (.1890)	7/8"	2-3/4"	CCR-12	#42 (.0935)	1/2"	2"	CCR-42
#13 (.1850)	7/8"	2-3/4"	CCR-13	#43 (.0890)	1/2"	2"	CCR-43
#14 (.1820)	7/8"	2-3/4"	CCR-14	#44 (.0860)	1/2"	2"	CCR-44
#15 (.1800)	7/8"	2-3/4"	CCR-15	#45 (.0820)	1/2"	2"	CCR-45
#16 (.1770)	7/8"	2-3/4"	CCR-16	#46 (.0810)	1/2"	2"	CCR-46
#17 (.1730)	7/8"	2-3/4"	CCR-17	#47 (.0785)	1/2"	1-3/4"	CCR-47
#18 (.1695)	7/8"	2-3/4"	CCR-18	#48 (.0760)	1/2"	1-3/4"	CCR-48
#19 (.1660)	7/8"	2-3/4"	CCR-19	#49 (.0730)	1/2"	1-3/4"	CCR-49
#20 (.1610)	7/8"	2-3/4"	CCR-20	#50 (.0700)	1/2"	1-3/4"	CCR-50
#21 (.1590)	3/4"	2-1/2"	CCR-21	#51 (.0670)	1/2"	1-3/4"	CCR-51
#22 (.1570)	3/4"	2-1/2"	CCR-22	#52 (.0635)	3/8"	1-1/2"	CCR-52
#23 (.1540)	3/4"	2-1/2"	CCR-23	#53 (.0595)	3/8"	1-1/2"	CCR-53
#24 (.1520)	3/4"	2-1/2"	CCR-24	#54 (.0550)	3/8"	1-1/2"	CCR-54
#25 (.1495)	3/4"	2-1/2"	CCR-25	#55 (.0520)	3/8"	1-1/2"	CCR-55
#26 (.1470)	3/4"	2-1/2"	CCR-26	#56 (.0465)	3/8"	1-1/2"	CCR-56
#27 (.1440)	3/4"	2-1/2"	CCR-27	#57 (.0430)	3/8"	1-1/2"	CCR-57
#28 (.1405)	3/4"	2-1/2"	CCR-28	#58 (.0420)	3/8"	1-1/2"	CCR-58
#29 (.1360)	3/4"	2-1/2"	CCR-29	#59 (.0410)	3/8"	1-1/2"	CCR-59
#30 (.1285)	5/8"	2-1/4"	CCR-30	#60 (.0400)	3/8"	1-1/2"	CCR-60



REAMING

Micro-Center Reamers

These tools are used to clean center holes in parts after heat treat or other processes. Micro-Center Reamers™ are particularly well suited in center lapping operations where speed is a factor and close tolerances must be maintained.

They can be used in shifting centers to correct misalignment. Replace grinding wheels for: Dressing centers in hardened steel materials (will not chip out like center laps). They will do an outstanding job on a wide variety of materials such as hardened tool steels; heat-treated forgings; and cast steels; Melanite and chilled iron, pitch and cut can be readily made to suit unusual conditions not responsive to the standard tool.

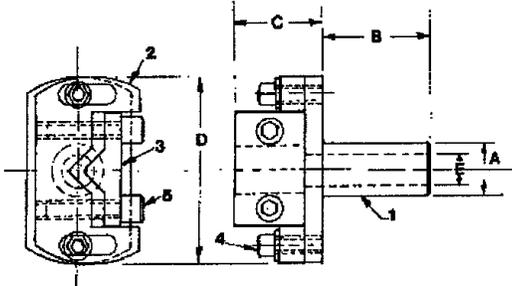


MICRO-CENTER REAMERS Carbide					
CUTTING DIA	NOSE DIA	SHANK DIA	OVERALL LENGTH	SHANK LENGTH	PART #
1/4"	.015	3/16"	1-1/2"	1-3/16"	MCR-4-W
3/8"	.020	1/4"	1-3/4"	1-3/4"	MCR-6-W
1/2"	.040	1/4"	2-1/4"	1-3/4"	MCR-8-W
5/8"	.050	3/8"	2-3/8"	1-1/2"	MCR-10-W
3/4"	.060	1/2"	2-11/16"	1-5/16"	MCR-12-W
1"	.090	1/2"	2-13/16"	1-5/16"	MCR-16-W

"V" TYPE ADJUSTABLE (FLOATING) DRILL HOLDER

- ELIMINATES BUSHINGS
- HOLDS ANY SIZE DRILL SECURELY
- REVERSIBLE CLAMP
- HARDENED GROUND JAWS ASSURE SQUARENESS

* Clamp can be reversed - use with "V" inside for small drills or reverse for large drills.

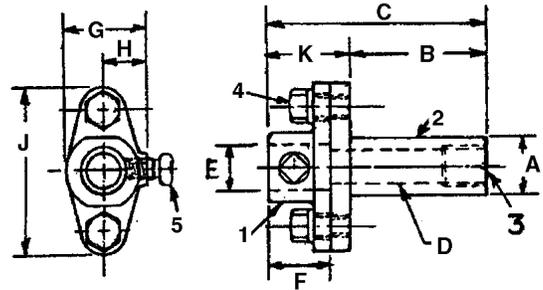


CAT. NO.	A	B	C	D	E	CAPACITY	
						MIN.*	MAX.*
VFDH00	5/8	1-1/8	1"	2"	13/32	1/64	1/2
VFDH0S	3/4	1-3/4	1"	2"	13/32	1/64	1/2
VFDH0	3/4	1-1/2	1-1/4	2-5/8	7/16	1/16	3/4
VFDH2	1"	1-3/4	1-5/8	3-1/2	11/16	1/8	1"

FLOATING DRILL HOLDERS (ADJUSTABLE)



- Fully adjustable to correct for machine misalignment
- Hardened alloy steel
- Precision ground for perfect alignment
- Holds standard drill bushings - see pages 142 - 144.



CAT. NO.	A	B	C	D	E	F	G	H	J	K
FDH00	5/8	1-1/2	2-13/32	3/8	1/2	11/16	15/16	1/2	1-13/16	15/16
FDH1	3/4	2"	3-5/32	1/2	5/8	7/8	1-5/16	11/16	2-7/16	1-5/32
FDH2	1"	2"	3-7/16	11/16	1"	1-1/8	1-5/8	7/8	2-15/16	1-7/16
FDH3	1-1/4	2-3/4	4-1/2	3/4	1-1/4	1-3/8	2-3/8	1-3/16	4"	1-3/4
FDH4A	1-1/2	3-1/4	4-13/16	3/4	1"	1-5/32	1-7/8	15/16	3-3/4	1-9/16
FDH4B	1-1/2	3-1/4	5-7/16	1-1/16	1-1/2	1-19/32	2-5/8	1-5/16	4-3/4	2-5/32

ADJUSTABLE DRILL & FACING TOOL HOLDER



- An adjustable drill holder which can also hold a blade for facing
- Stock stop plate for use in first position - allows the use of a form tool in the front cross slide
- Blade and drill can be set independently of each other
- Adjusting screw prevents drill from slipping back
- Holder can be used in any position
- Holds a 5/8" diameter drill bushing and a 3/8" square tool bit.

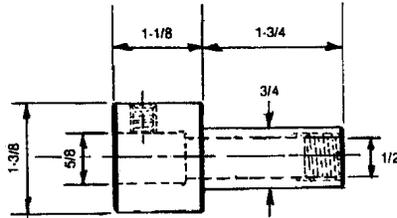
SEE PAGE 142 FOR DRILL BUSHINGS.

Cat. No.
2763-10-SA-SOMMA

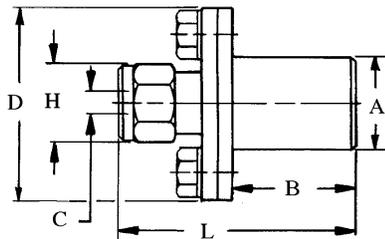
SOLID DRILL HOLDER FOR DAVENPORT MACHINES



Cat. No.
SDH-DAV



- SHANK AND DRILL HOLE PRECISION GROUND FOR MAXIMUM CONCENTRICITY
- ALLOY STEEL-HEAT TREATED FOR LONG LIFE
- STOP SCREW IN SHANK PREVENTS DRILL PUSHBACK
- TAKES STANDARD DRILL BUSHINGS SEE PAGE 143.



DOUBLE ANGLE ADJUSTABLE FLANGE DRILL HOLDER

RECOMMENDED FOR DRILLING

C CAPACITY	COLLET SERIES	A	B	L	H HEX	D	CAT. NO.
1/32-1/4	300	3/4	2.00	2.88	3/4	2"	SS075DAF308288
3/64-25/64	200	3/4	1-15/16	3.05	1"	2-5/16	SS075DAF208305
3/64-9/16	100	3/4	2-13/32	4.31	1-1/8	3-1/8	SS075DAF108431
3/64-9/16	100	1"	2-15/16	4.84	1-1/8	3-1/8	SS100DAF108484

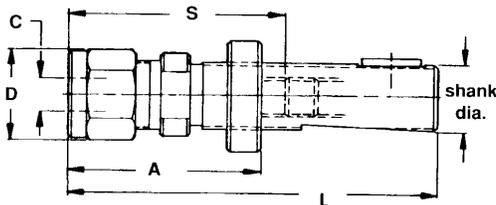


SEE PAGES 162 & 163 FOR COLLETS.

- DESIGN ALLOWS FOR THE CORRECTION OF MISALIGNMENT BETWEEN THE SPINDLE AND TURRET CENTERLINES.
- UNIQUE ADJUSTABLE STOP SCREW ALLOWS DRILLS TO BE PRESET AND PROVIDES THROUGH-COOLANT CAPABILITY.
- IDEAL FOR TURRET LATHES AND AUTOMATICS.

RECOMMENDED FOR DRILLING

AUTOMOTIVE THREADED SHANK COLLET CHUCKS



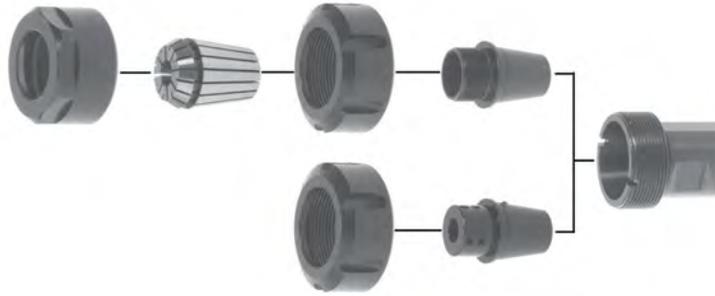
SHANK SIZE	C CAPACITY	COLLET SERIES	L	D	A MIN.	S MIN/MAX	CATALOG NUMBER
1/2-16	1/64-1/4	300DA	4.16	0.79	1.53	1.50/3.81	AS050DA308416-SOM
5/8-16	1/64-1/4	300DA	4.16	0.79	1.53	1.50/3.81	AS062DA308416-SOM
	1/32-3/8	200DA	4.67	1.15	2.06	1.62/4.18	AS062DA208469-SOM
3/4-12	1/64-1/4	300DA	4.16	0.79	1.53	1.50/3.81	AS075DA308416-SOM
	1/32-3/8	200DA	4.31	1.15	1.69	1.62/3.81	AS075DA208431-SOM
	1/4-9/16	100DA	4.88	1.42	2.25	1.81/4.38	AS075DA108488-SOM
7/8-12	1/32-3/8	200DA	4.94	1.15	1.69	1.62/4.43	AS088DA208494-SOM
	1/4-9/16	100DA	5.50	1.42	2.25	1.75/4.87	AS088DA108550-SOM
1 - 12	1/64-1/4	300DA	4.78	0.79	1.53	1.50/4.38	AS100DA308478-SOM
	1/4-9/16	100DA	5.19	1.42	1.94	1.94/4.50	AS100DA108519-SOM
	1/4-3/4	180DA	6.00	1.73	2.75	2.12/5.19	AS100DA188600-SOM
1-1/16-12	1/32-3/8	200DA	4.94	1.15	1.69	1.62/4.37	AS106DA208494-SOM
	1/4-9/16	100DA	5.19	1.42	1.94	1.94/4.56	AS106DA108519-SOM
	1/4-3/4	180DA	6.00	1.73	2.75	2.12/5.18	AS106DA188600-SOM
1-1/4-12	1/4-3/4	180DA	6.25	1.73	2.00	1.94/5.56	AS125DA188625-SOM
1-3/8-12	1/4-9/16	100DA	6.19	1.42	1.94	1.94/5.50	AS138DA108619-SOM
	1/4-3/4	180DA	6.25	1.73	2.00	1.94/5.56	AS138DA188625-SOM
	3/8-1	400DA	7.25	2.50	3.00	2.38/6.69	AS138DA408725-SOM
1-7/8-12	3/8-1	400DA	7.69	2.50	2.43	2.12/6.75	AS188DA408769-SOM

- Unique, adjustable stop screw allows drills to be preset and provides through-coolant capability.
- Erickson double-angle collets collapse 1/32" and can grip on back taper and margins of drills to allow for maximum feed rates and more accurate holes.

SEE PAGES 162 & 163 FOR COLLETS.

**THESE CHUCKS ARE ALSO AVAILABLE FOR USE WITH ER COLLETS
CONTACT SOMMA WITH YOUR SPECIFIC REQUEST**

ER COLLET QUICK CHANGE SHANKS



SAVE TIME AND MONEY WITH THE QUICK CHANGE SYSTEM

- CHANGE A DULL TOOL IN SECONDS
- ELIMINATE TOUCHING OFF WHEN CHANGING A DULL TOOL
- HAVE SPARE TOOLING PRESET AND READY FOR QUICK TOOL CHANGES
- ALL SHANKS HAVE A TAPPED COOLANT PORT
- USE A BORING TOOL FOR ONE JOB AND A DRILL FOR THE NEXT WITHOUT REMOVING THE SHANK FROM THE MACHINE

SHANKS ARE LISTED BELOW, CORRESPONDING QUICK CHANGE HEADS ARE LISTED ON PAGE 89
SEE PAGE 122 FOR FLOATING HOLDERS FOR THIS QUICK CHANGE SYSTEM



**STRAIGHT SHANKS FOR QUICK CHANGE ER COLLET SYSTEM
(COLLET NUT NOT INCLUDED)**

SHANK DIA	OAL	HEAD ASS'Y	MAX CAP		SHANK PART#
			COLLET	STR HOLE	
1/2"	4-1/2"	ER11S	1/4"	3/8"	SS050QCER11
5/8"	4-1/2"	ER11S	1/4"	3/8"	SS062QCER11
3/4"	4-1/2"	ER11S	1/4"	3/8"	SS075QCER11
3/4"	4-1/2"	ER16S	13/32"	1/2"	SS075QCER16
3/4"	4-1/2"	ER20S	1/2"	5/8"	SS075QCER20
1"	3"	ER11S	1/4"	3/8"	SS100QCER11S
1"	4-1/2"	ER11S	1/4"	3/8"	SS100QCER11
1"	4-1/2"	ER16S	13/32"	1/2"	SS100QCER16
1"	4-1/2"	ER20S	1/2"	5/8"	SS100QCER20
1"	4-1/2"	ER25S	5/8"	3/4"	SS100QCER25
1-1/4"	4-1/2"	ER16S	13/32"	1/2"	SS125QCER16
1-1/4"	4-1/2"	ER20S	1/2"	5/8"	SS125QCER20
1-1/4"	4-1/2"	ER25S	5/8"	3/4"	SS125QCER25
1-1/2"	4-1/2"	ER20S	1/2"	5/8"	SS150QCER20
1-1/2"	6"	ER25S	5/8"	3/4"	SS150QCER25
1-1/2"	6"	ER32S	3/4"	POA	SS150QCER32
2"	6"	ER25S	5/8"	3/4"	SS200QCER25
2"	6"	ER32S	3/4"	POA	SS200QCER32
16MM	4-1/2"	ER11S	1/4"	3/8"	SS16QCER11
20MM	71MM	ER11S	1/4"	3/8"	SS20QCER11S
20MM	114MM	ER11S	1/4"	3/8"	SS20QCER11
22MM	118MM	ER11S	1/4"	3/8"	SS22QCER11
22MM	4-1/2"	ER16S	13/32"	1/2"	SS22QCER16
22MM	4-1/2"	ER20S	1/2"	5/8"	SS22QCER20
25MM	60MM	ER11S	1/4"	3/8"	SS25QCER11S
25MM	95MM	ER11S	1/4"	3/8"	SS25QCER11
32MM	118MM	ER16S	13/32"	1/2"	SS32QCER16
32MM	4-1/2"	ER20S	1/2"	5/8"	SS32QCER20
32MM	4-1/2"	ER25S	5/8"	3/4"	SS32QCER25

**DOUBLE ENDED STRAIGHT SHANKS FOR QUICK CHANGE ER SYSTEM
(COLLET NUTS NOT INCLUDED)**

SHANK DIA	OAL	HEAD ASS'Y	MAX CAP		SHANK PART#
			COLLET	STR HOLE	
3/4"	3-3/4"	ER11S	1/4"	3/8"	SS075QCDEER11S
3/4"	4-1/2"	ER11S	1/4"	3/8"	SS075QCDEER11
1"	3-3/4"	ER11S	1/4"	3/8"	SS100QCDEER11S
1"	4-1/2"	ER11S	1/4"	3/8"	SS100QCDEER11
1"	4-1/2"	ER16S	13/32"	1/2"	SS100QCDEER16
20MM	95MM	ER11S	1/4"	3/8"	SS20QCDEER11
22MM	100MM	ER11S	1/4"	3/8"	SS22QCDEER11S
22MM	114MM	ER11S	1/4"	3/8"	SS22QCDEER11
25MM	95MM	ER11S	1/4"	3/8"	SS25QCDEER11
32MM	100MM	ER16S	13/32"	1/2"	SS32QCDEER16S
32MM	118MM	ER16S	13/32"	1/2"	SS32QCDEER16

NOTE: THESE SHANKS CAN ALSO BE USED AS A CONVENTIONAL COLLET CHUCK. CALL FOR DETAILS.

DRILLING

QUICK CHANGE ER HEAD ASSEMBLY - COLLET NUT(S) INCLUDED

(SHANKS FOR THESE HEADS ARE SHOWN ON PAGES 120, 122 & 123)



ER11 HEAD ASSEMBLIES (3 PC) FOR QUICK CHANGE SYSTEM

NOTE: YOU CAN ALSO CONVERT ANY ER16 CAVITY TO A QUICK CHANGE ER11 SYSTEM WITH THESE HEAD ASSEMBLIES

QC ADAPTER PART#	THREAD SIZE	PROJECTION LTH
ER11S	M19 X 1.0	0.825
ER11L	M22 X 1.5	0.825

STRAIGHT SHANK ADAPTERS (2PC)

ONLY FOR QUICK CHANGE SYSTEM USING ER11S HEAD ASSEMBLIES

DESCRIPTION	PART#	PROJECTION LTH
1/8" STR. HOLE ADAPTER	BTH0125ER11	0.700
3/16" STR HOLE ADAPTER	BTH0188ER11	0.700
1/4" STR HOLE ADAPTER	BTH0250ER11	0.700
5/16" STR. HOLE ADAPTER	BTH0312ER11	0.700
3/8" STR HOLE ADAPTER	BTH0375ER11	0.700
4MM STR HOLE ADAPTER	BTH4MMER11	0.700
5MM STR HOLE ADAPTER	BTH5MMER11	0.700
6MM STR HOLE ADAPTER	BTH6MMER11	0.700

ER16 HEAD ASSEMBLIES (3 PC) FOR QUICK CHANGE SYSTEM

NOTE: YOU CAN ALSO CONVERT ANY ER20 CAVITY TO A QUICK CHANGE ER16 SYSTEM WITH THESE HEAD ASSEMBLIES

QC ADAPTER PART#	THREAD SIZE	PROJECTION LTH
ER16S	M24 X 1.0	1.255
ER16L	M25 X 1.5	1.255

STRAIGHT SHANK ADAPTERS (2PC)

ONLY FOR QUICK CHANGE SYSTEM USING ER16S HEAD ASSEMBLIES

DESCRIPTION	PART#	PROJECTION LTH
1/8" STR. HOLE ADAPTER	BTH0125ER16	0.765
3/16" STR HOLE ADAPTER	BTH0188ER16	0.765
1/4" STR HOLE ADAPTER	BTH0250ER16	0.765
5/16" STR. HOLE ADAPTER	BTH0312ER16	0.765
3/8" STR HOLE ADAPTER	BTH0375ER16	0.765
1/2" STR HOLE ADAPTER	BTH0500ER16	0.765

ER20 HEAD ASSEMBLIES (3 PC) FOR QUICK CHANGE SYSTEM

NOTE: YOU CAN ALSO CONVERT ANY ER25 CAVITY TO A QUICK CHANGE ER20 SYSTEM WITH THESE HEAD ASSEMBLIES

QC ADAPTER PART#	THREAD SIZE	PROJECTION LTH
ER20S	M30 X 1.0	1.455
ER20L	M32 X 1.5	1.455

STRAIGHT SHANK ADAPTERS (2PC)

ONLY FOR QUICK CHANGE SYSTEM USING ER20S HEAD ASSEMBLIES

DESCRIPTION	PART#	PROJECTION LTH
1/8" STR. HOLE ADAPTER	BTH0125ER20	0.800
3/16" STR HOLE ADAPTER	BTH0188ER20	0.800
1/4" STR HOLE ADAPTER	BTH0250ER20	0.800
5/16" STR. HOLE ADAPTER	BTH0312ER20	0.800
3/8" STR HOLE ADAPTER	BTH0375ER20	0.800
1/2" STR HOLE ADAPTER	BTH0500ER20	0.800
5/8" STR HOLE ADAPTER	BTH0625ER20	0.800

ER25 HEAD ASSEMBLIES (3 PC) FOR QUICK CHANGE SYSTEM

NOTE: YOU CAN ALSO CONVERT ANY ER32 CAVITY TO A QUICK CHANGE ER25 SYSTEM WITH THIS HEAD ASSEMBLY

QC ADAPTER PART#	THREAD SIZE	PROJECTION LTH
ER25S	M40 X 1.5	1.565

STRAIGHT SHANK ADAPTERS (2PC)

ONLY FOR QUICK CHANGE SYSTEM USING ER25S HEAD ASSEMBLIES

DESCRIPTION	PART#	PROJECTION LTH
1/4" STR HOLE ADAPTER	BTH0250ER25	1.060
5/16" STR. HOLE ADAPTER	BTH0312ER25	1.060
3/8" STR HOLE ADAPTER	BTH0375ER25	1.060
1/2" STR HOLE ADAPTER	BTH0500ER25	1.060
5/8" STR HOLE ADAPTER	BTH0625ER25	1.060
3/4" STR HOLE ADAPTER	BTH0750ER25	1.060

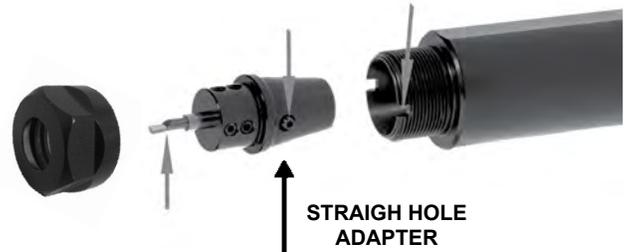
ER32 HEAD ASSEMBLIES (3 PC) FOR QUICK CHANGE SYSTEM

NOTE: YOU CAN ALSO CONVERT ANY ER40 CAVITY TO A QUICK CHANGE ER32 SYSTEM WITH THIS HEAD ASSEMBLY

QC ADAPTER PART#	THREAD SIZE	PROJECTION LTH
ER32S	M50 X 1.5	1.680

NOTE: STRAIGHT HOLE ADAPTERS AVAILABLE ON REQUEST

See Page 156-160 for collets.



BORING TOOLS ARE PERFECTLY CENTERED

DUE TO 90° TIMING OF THE FLAT ON THE SHANK OF THE TOOLHOLDER TO THE I.D. NOTCHES ON THE FRONT OF THE TOOLHOLDER AND THE SAME TIMING OF THE PINS ON THE STRAIGHT SHANK ADAPTERS TO THE SCREWS HOLDING THE BROACH TOOL.



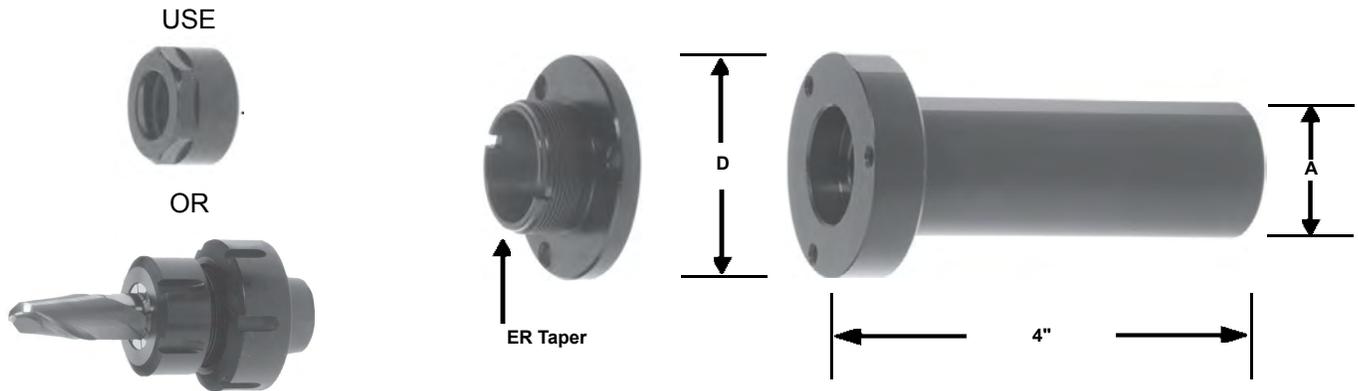
HIGH PRESSURE STEEL COOLANT LINES

LENGTH	CAT#
6"	CL-6
8"	CL-8
12"	CL-12
16"	CL-16

FLOATING (ADJUSTABLE) ER COLLET CHUCKS QUICK CHANGE OR STANDARD

- CAN COMPENSATE FOR UP TO .045" OF MACHINE MIS-ALIGNMENT.
- USES STANDARD ER COLLETS
- CAN BE ORDERED AS A STANDARD COMPLETE COLLET CHUCK **OR** WITHOUT THE COLLET NUT FOR USE WITH THE QUICK CHANGE ER SYSTEM.

SEE PAGE 121 FOR CORRESPONDING QUICK CHANGE HEAD ASSEMBLIES
SEE PAGES 156-160 FOR COLLETS

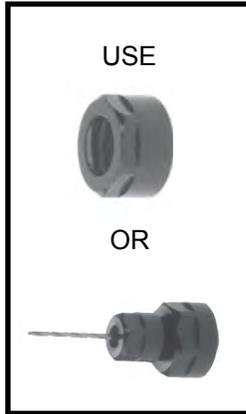


FLOATING (ADJUSTABLE) ER QUICK CHANGE COLLET CHUCKS

"A" SHANK DIA	"D"	COLLET SERIES	COLLET RANGE	CAT# FOR COMPLETE COLLET CHUCK W/ COLLET NUT	CAT# FOR QC SYS COLLET CHUCK MINUS COLLET NUT	FOR USE WITH HEAD ASSY SEE PAGE
5/8"	1-1/2"	ER16	1/16-13/32	SS062AFER16	SS062AFER16P	ER11S
3/4"	1-1/2"	ER16	1/16-13/32	SS075AFER16	SS075AFER16P	ER11S
3/4"	2"	ER20	1/16-1/2	SS075AFER20	SS075AFER20P	ER16S
3/4"	2"	ER25	1/16-5/8	SS075AFER25	SS075AFER25P	ER20S
1"	1-1/2"	ER16	1/16-13/32	SS100AFER16	SS100AFER16P	ER11S
1"	2"	ER20	1/16-1/2	SS100AFER20	SS100AFER20P	ER16S
1"	2"	ER25	1/16- 5/8	SS100AFER25	SS100AFER25P	ER20S
1-1/4"	2"	ER20	1/16-1/2	SS125AFER20	SS125AFER20P	ER16S
1-1/4"	2"	ER25	1/16-5/8	SS125AFER25	SS125AFER25P	ER20S
1-1/4"	2-1/2"	ER32	3/32-3/4	SS125AFER32	SS125AFER32P	ER25S
1-1/4"	2-1/2"	ER40	1/8-1"	SS125AFER40	SS125AFER40P	ER32S
1-1/2"	2"	ER20	1/16-1/2	SS150AFER20	SS150AFER20P	ER16S
1-1/2"	2"	ER25	1/16-5/8	SS150AFER25	SS150AFER25P	ER20S
1-1/2"	2-1/2"	ER32	3/32-3/4	SS150AFER32	SS150AFER32P	ER25S
1-1/2"	2-1/2"	ER40	1/8-1"	SS150AFER40	SS150AFER40P	ER32S
22MM	1-1/2"	ER16	1/16-13/32	SS22AFER16	SS22AFER16P	ER11S
22MM	2"	ER20	1/16-1/2	SS22AFER20	SS22AFER20P	ER16S
22MM	2"	ER25	1/16-5/8	SS22AFER25	SS22AFER25P	ER20S
32MM	2"	ER20	1/16-1/2	SS32AFER20	SS32AFER20P	ER16S
32MM	2"	ER25	1/16-5/8	SS32AFER25	SS32AFER25P	ER20S

COLLET CHUCKS FOR STAR AND HANWHA SUB SPINDLES (BACKWORKING)

CAN BE ORDERED AS A STANDARD COLLET CHUCK OR WITHOUT THE COLLET NUT FOR USE WITH QUICK CHANGE HEAD ASSEMBLIES--SEE PAGE 121



SHOWN WITH OPTIONAL COOLANT LINE
(SEE PAGE 121)

MACHINE MAKE	COLLET SERIES	COLLET RANGE	PROJECTION* W/O NUT	COOLANT PORT	CAT# WITH COLLET NUT	CAT# W/O COLLET NUT	SERIES# HEAD ASSY	SEE PHOTO
STAR	ER16	1/16 - 13/32	0.47	NO	STER16470	STER16470P	ER11S	1
STAR	ER16	1/16 - 13/32	0.75	YES	STER16750	STER16750P	ER11S	2
STAR	ER16	1/16 - 13/32	1.25	YES	STER161250	STER161250P	ER11S	3
STAR	ER20	1/16 - 1/2	0.97	YES	STER20970	STER20970P	ER16S	4
HANWHA	ER16	1/16 - 13/32	0.75	YES	HAER1633MM	HAER1633MMP	ER11S	5
HANWHA	ER16	1/16 - 13/32	0.75	YES	HAER1634MM	HAER1634MMP	ER11S	6

* ADD APPROX. .420 TO PROJECTION LENGTH WITH COLLET & NUT INSTALLED

SEE PAGE 121 FOR HEAD ASSEMBLIES
SEE PAGES 156-160 FOR COLLETS



4



5

33MM DIA. SHANK



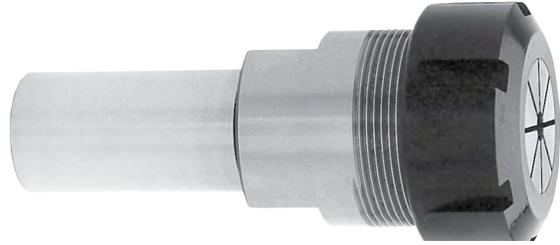
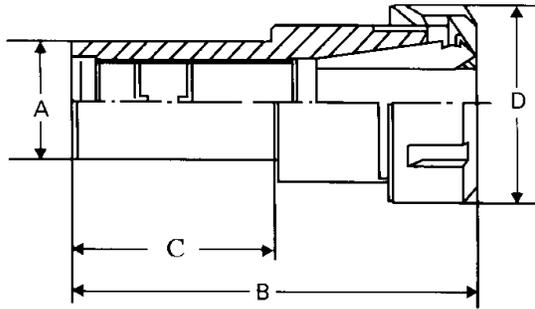
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34MM DIA. SHANK

STRAIGHT SHANK ADAPTER FOR STAR SUB SPINDLE WITH 1/2" I.D. AND COOLANT PORT



CAT# STSS0500



INCH SHANK ER COLLET CHUCK (STEPPED O.D.)

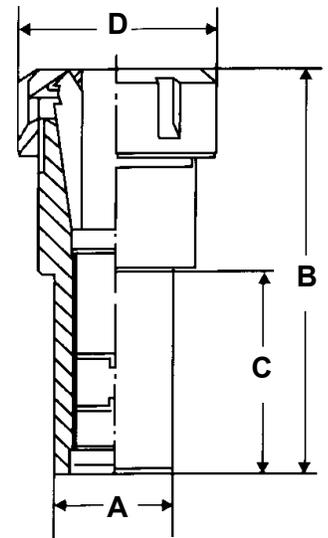
A SHANK	COLLET SERIES	COLLET CAPACITY	COLLET NUT	B	C	D	PART #	COLLET WRENCH
1/4"	ER11	1/16-1/4	ER11M	2.28	1.77	.63	SS025ER11228	ER11MW
3/8"	ER16	1/16-13/32	ER16M	2.76	1.73	.87	SS038ER16276	ER16MW
1/2"	ER16	1/16-13/32	ER16M	6.61	6.06	.87	SS050ER16661	ER16MW
5/8"	ER16	1/16-13/32	ER16H	3.35	2.36	1.10	SS062ER16335	ER16HW
5/8"	ER16	1/16-13/32	ER16H	4.13	3.15	1.10	SS062ER16413	ER16HW
5/8"	ER20	1/16-1/2	ER20M	5.60	3.94	1.10	SS062ER20560	ER20MW
5/8"	ER25	1/16-5/8	ER25E	3.35	1.97	1.65	SS062ER25335	ER25EW
3/4"	ER11	1/16-1/4	ER11M	4.72	3.94	.63	SS075ER11472	ER11MW
3/4"	ER16	1/16-13/32	ER16H	3.11	1.97	1.10	SS075ER16311	ER16HW
3/4"	ER16	1/16-13/32	ER16H	4.33	3.15	1.10	SS075ER16433	ER16HW
3/4"	ER16	1/16-13/32	ER16H	4.92	3.94	1.10	SS075ER16492	ER16HW
3/4"	ER25	1/16-5/8	ER25E	3.35	1.97	1.65	SS075ER25335	ER25EW
3/4"	ER25	1/16-5/8	ER25E	5.31	3.94	1.65	SS075ER25531	ER25EW
1"	ER16	1/16-13/32	ER16M	4.88	3.94	.87	SS100ER16488	ER16MW
1"	ER20	1/16-1/2	ER20H	3.38	2.36	1.34	SS100ER20338	ER20HW
1"	ER20	1/16-1/2	ER20H	4.17	3.15	1.34	SS100ER20417	ER20HW
1"	ER32	3/32-3/4	ER32E	3.74	1.97	1.97	SS100ER32374	ER32EW
1"	ER40	1/8-1	ER40E	3.74	1.97	2.48	SS100ER40374	ER40EW
1"	ER40	1/8-1	ER40E	4.33	2.38	2.48	SS100ER40433	ER40EW
1-1/4"	ER25	1/16-5/8	ER25E	4.02	2.76	1.65	SS125ER25402	ER25EW
1-1/4"	ER32	3/32-3/4	ER32E	4.33	1.97	1.97	SS125ER32433	ER32E W
1-1/4"	ER32	3/32-3/4	ER32E	4.13	2.36	1.97	SS125ER32413	ER32EW
1-1/4"	ER40	1/8-1	ER40E	4.13	2.36	2.48	SS125ER40413	ER40EW
1-1/4"	ER40	1/8-1	ER40E	5.12	2.76	2.48	SS125ER40512	ER40EW
1-1/2"	ER40	1/8-1	ER40E	8.46	6.10	2.48	SS150ER40846	ER40EW
1-3/4"	ER25	1/16-5/8	ER25E	7.20	6.10	1.65	SS175ER25720	ER25EW
1-3/4"	ER32	3/32-3/4	ER32E	5.12	3.35	1.97	SS175ER32512	ER32EW
1-3/4"	ER32	3/32-3/4	ER32E	7.28	6.10	1.97	SS175ER32728	ER32EW
1-3/4"	ER40	1/8-1	ER40E	7.87	6.10	2.48	SS175ER40787	ER40EW
2"	ER32	3/32-3/4	ER32E	7.28	6.10	1.97	SS200ER32728	ER32EW
2"	ER40	1/8-1	ER40E	8.07	6.70	2.48	SS200ER40807	ER40EW
2-1/2"	ER32	3/32-3/4	ER32E	7.28	6.10	1.97	SS250ER32728	ER32EW

SEE PAGES 156-161 FOR COLLETS.

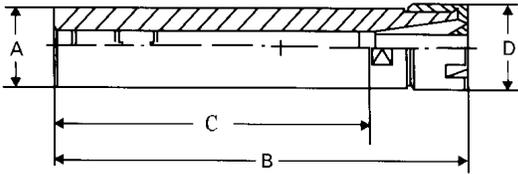
NOTE: Collet wrench is not included with the holder

METRIC SHANK ER COLLET CHUCK (STEPPED O.D.)

A SHANK	COLLET SERIES	COLLET CAPACITY	COLLET NUT	B	C	D	PART #	COLLET WRENCH
7MM	ER11	0.5-7.0MM	ER11M	58MM	45MM	16MM	SS7ER11058	ER11MW
8MM	ER11	0.5-7.0MM	ER11M	70MM	56MM	16MM	SS8ER11070	ER11MW
10MM	ER16	0.5-10.0MM	ER16M	70MM	44MM	22MM	SS10ER16070	ER16MW
10MM	ER16	0.5-10.0MM	ER16M	86MM	60MM	22MM	SS10ER16086	ER16MW
10MM	ER16	0.5-10.0MM	ER16M	120MM	80MM	22MM	SS10ER16120	ER16MW
12MM	ER16	0.5-10.0MM	ER16M	105MM	80MM	22MM	SS12ER16105M	ER16MW
12MM	ER16	0.5-10.0MM	ER16H	105MM	80MM	28MM	SS12ER16105H	ER16HW
12MM	ER20	1.0-13.0MM	ER20M	142MM	100MM	28MM	SS12ER20142	ER20MW
14MM	ER16	0.5-10.0MM	ER16H	55MM	30MM	28MM	SS14ER16055	ER16HW
14MM	ER16	0.5-10.0MM	ER16H	97MM	60MM	28MM	SS14ER16097	ER16HW
15MM	ER20	1.0-13.0MM	ER20M	142MM	100MM	28MM	SS15ER20142	ER20MW
16MM	ER16	0.5-10.0MM	ER16H	90MM	60MM	28MM	SS16ER16090	ER16HW
16MM	ER20	1.0-13.0MM	ER20M	142MM	100MM	28MM	SS16ER20142	ER20MW
20MM	ER11	0.5-7.0MM	ER11M	120MM	100MM	16MM	SS20ER11120	ER11MW
20MM	ER11	0.5-7.0MM	ER11M	180MM	160MM	16MM	SS20ER11180	ER11MW
20MM	ER20	1.0-13.0MM	ER20H	55MM	30MM	34MM	SS20ER20055	ER20HW
20MM	ER25	1-16MM	ER25E	85MM	50MM	42MM	SS20ER25085	ER25EW
20MM	ER25	1-16MM	ER25E	135MM	100MM	42MM	SS20ER25135	ER25EW
20MM	ER32	2-20MM	ER32E	83MM	35MM	50MM	SS20ER32083	ER32EW
20MM	ER32	2-20MM	ER32E	75MM	50MM	50MM	SS20ER32075	ER32EW
22MM	ER11	0.5-7.0MM	ER11M	140MM	120MM	16MM	SS22ER11140	ER11MW
22MM	ER20	1.0-13.0MM	ER20H	72MM	46MM	34MM	SS22ER20072	ER20HW
22MM	ER20	1.0-13.0MM	ER20H	106MM	80MM	34MM	SS22ER20106	ER20HW
22MM	ER25	1-16MM	ER25M	126MM	80MM	35MM	SS22ER25126	ER25MW
25MM	ER16	0.5-10.0MM	ER16M	84MM	60MM	22MM	SS25ER16084	ER16MW
25MM	ER16	0.5-10.0MM	ER16M	124MM	100MM	22MM	SS25ER16124	ER16MW
25MM	ER16	0.5-10.0MM	ER16M	154MM	130MM	22MM	SS25ER16154	ER16MW
25MM	ER16	0.5-10.0MM	ER16M	184MM	160MM	22MM	SS25ER16184	ER16MW
25MM	ER20	1.0-13.0MM	ER20H	86MM	60MM	34MM	SS25ER20086	ER20HW
25MM	ER20	1.0-13.0MM	ER20H	106MM	80MM	34MM	SS25ER20106	ER20HW
25MM	ER25	1-16MM	ER25E	85MM	50MM	42MM	SS25ER25085	ER25EW
25MM	ER32	2-20MM	ER32E	95MM	50MM	50MM	SS25ER32095	ER32EW
25MM	ER40	3-26MM	ER40E	95MM	50MM	63MM	SS25ER40095	ER40EW
30MM	ER20	1.0-13.0MM	ER20H	181MM	155MM	34MM	SS30ER20181	ER20HW
30MM	ER25	1-16MM	ER25E	102MM	70MM	42MM	SS30ER25102	ER25EW
32MM	ER16	0.5-10.0MM	ER16H	124MM	10MM	28MM	SS32ER16124	ER16HW
32MM	ER20	1.0-13.0MM	ER20M	121MM	95MM	28MM	SS32ER20121	ER20MW
32MM	ER20	1.0-13.0MM	ER20H	131MM	105MM	34MM	SS32ER20131	ER20HW
32MM	ER25	1-16MM	ER25E	102MM	70MM	42MM	SS32ER25102	ER25EW
32MM	ER25	1-16MM	ER25E	132MM	100MM	42MM	SS32ER25132	ER25EW
32MM	ER40	3-26MM	ER40E	130MM	70MM	63MM	SS32ER40130	ER40EW
40MM	ER25	1-16MM	ER25M	127MM	100MM	35MM	SS40ER25127	ER25MW
40MM	ER25	1-16MM	ER25M	147MM	120MM	35MM	SS40ER25147	ER25MW
40MM	ER32	2-20MM	ER32E	130MM	85MM	50MM	SS40ER32130	ER32EW
40MM	ER32	2-20MM	ER32E	185MM	155MM	50MM	SS40ER32185	ER32EW
40MM	ER40	3-26MM	ER40E	110MM	50MM	63MM	SS40ER40110	ER40EW
40MM	ER40	3-26MM	ER40E	140MM	80MM	63MM	SS40ER40140	ER40EW
40MM	ER40	3-26MM	ER40E	215MM	155MM	63MM	SS40ER40215	ER40EW
50MM	ER32	2-20MM	ER32E	185MM	155MM	50MM	SS50ER32185	ER32EW
50MM	ER40	3-26MM	ER40E	205MM	170MM	63MM	SS50ER40205	ER40EW
60MM	ER32	2-20MM	ER32E	185MM	155MM	50MM	SS60ER32185	ER32EW
60MM	ER40	3-26MM	ER40E	205MM	170MM	63MM	SS60ER40205	ER40EW
100MM	ER11	0.5-7.0MM	ER11M	140MM	120MM	16MM	SS100ER11140	ER11MW



NOTE: Collet wrench is not included with the holder



STRAIGHT SHANK COLLET CHUCK EXTENSIONS - INCH

A SHANK	COLLET SERIES	COLLET CAPACITY	COLLET NUT	B	C	D	PART #	COLLET WRENCH
1/2	ER8	0.5-5.0MM	ER8M	3.74	3.15	.47	SS050ER8374	ER8MW
1/2	ER11	1/16-1/4	ER11M	6.61	6.06	.63	SS050ER11661	ER11MW
1/2	ER11	1/16-1/4	ER11M	3.94	3.15	.63	SS050ER11394	ER11MW
1/2	ER11	1/16-1/4	ER11H	3.94	3.15	.75	SS050ER113941	ER11HW
5/8	ER11	1/16-1/4	ER11H	6.10	5.51	.75	SS062ER11610	ER11HW
5/8	ER11	1/16-1/4	ER11M	2.50	2.00	.63	SS062ER11250	ER11MW
5/8	ER11	1/16-1/4	ER11M	6.61	6.06	.63	SS062ER11661	ER11MW
5/8	ER11	1/16-1/4	ER11H	6.61	6.06	.75	SS062ER116612	ER11HW
5/8	ER16	1/16-13/32	ER16H	6.18	5.51	1.10	SS062ER16618	ER16HW
3/4	ER16	1/16-13/32	ER16M	5.31	3.94	.87	SS075ER16531	ER16MW
3/4	ER16	1/16-13/32	ER16M	6.40	5.28	.87	SS075ER16640	ER16MW
1"	ER11	1/16-1/4	ER11M	5.51	4.72	.63	SS100ER11551	ER11MW
1"	ER16	1/16-13/32	ER16H	5.28	3.94	1.10	SS100ER16528	ER16HW
1"	ER16	1/16-13/32	ER16H	6.18	5.51	1.10	SS100ER16618	ER16HW
1"	ER20	1/16-1/2	ER20M	6.30	5.28	1.10	SS100ER20630	ER20MW
1"	ER25	1/16-5/8	ER25E	3.35	1.97	1.65	SS100ER25335	ER25EW
1"	ER25	1/16-5/8	ER25E	5.31	3.94	1.65	SS100ER25531	ER25EW
1"	ER25	1/16-5/8	ER25M	3.35	1.97	1.38	SS100ER25335M	ER25MW
1"	ER25	1/16-5/8	ER25M	5.31	3.94	1.38	SS100ER25531M	ER25MW
2-1/2"	ER40	1/8-1	ER40E	8.07	6.70	2.48	SS250ER40807	ER40EW

COLLET WRENCH IS NOT INCLUDED WITH THE HOLDER
SEE PAGES 156-161 FOR COLLETS.

DRILLING

ER COLLET NUT WRENCHES



"M" WRENCH

TO FIT NUT#	WRENCH#
ER8M	ER8MW
ER11M	ER11MW
ER16M	ER16MW
ER20M	ER20MW
ER25M	ER25MW



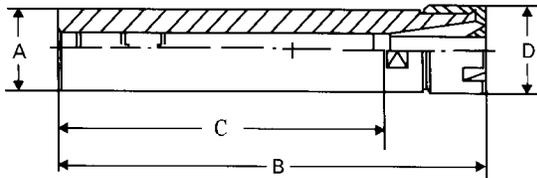
"H" WRENCH

TO FIT NUT#	WRENCH#
ER11H	ER11HW
ER12H	ER11HW
ER16H	ER16HW
ER20H	ER20HW



"E" WRENCH

TO FIT NUT#	WRENCH#
ER16E	ER16EW
ER20E	ER20EW
ER25E	ER25EW
ER32E	ER32EW
ER40E	ER40EW
ER50E	ER50EW

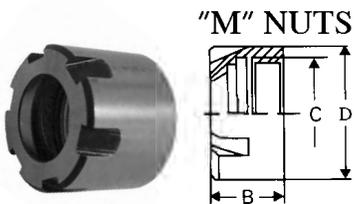


STRAIGHT SHANK COLLET CHUCK EXTENSIONS - METRIC

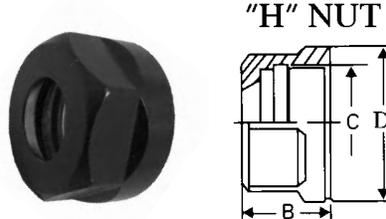
A SHANK	COLLET SERIES	COLLET CAPACITY	COLLET NUT	B	C	D	PART #	COLLET WRENCH
8MM	ER8	0.5-5.0MM	ER8M	70MM	56MM	12MM	SS8ER8070	ER8MW
8MM	ER8	0.5-5.0MM	ER8M	100MM	80MM	12MM	SS8ER8100	ER8MW
10MM	ER8	0.5-5.0MM	ER8M	70MM	56MM	12MM	SS10ER8070	ER8MW
10MM	ER8	0.5-5.0MM	ER8M	100MM	80MM	12MM	SS10ER8100	ER8MW
12MM	ER8	0.5-5.0MM	ER8M	95MM	80MM	12MM	SS12ER8095	ER8MW
12MM	ER8	0.5-5.0MM	ER8M	140MM	100MM	12MM	SS12ER8140	ER8MW
14MM	ER12	0.5-7.0MM	ER12H	38MM	25MM	19MM	SS14ER12038	ER12HW
16MM	ER11	0.5-10.0MM	ER11M	60MM	40MM	16MM	SS16ER11060	ER11MW
16MM	ER11	0.5-10.0MM	ER11M	120MM	100MM	16MM	SS16ER11120	ER11MW
16MM	ER11	0.5-10.0MM	ER11M	180MM	160MM	16MM	SS16ER11180	ER11MW
20MM	ER11	0.5-7.0MM	ER11H	145MM	115MM	19MM	SS20ER11145	ER11HW
20MM	ER16	0.5-10.0MM	ER16H	55MM	30MM	28MM	SS20ER16055	ER16HW
20MM	ER16	0.5-10.0MM	ER16H	79MM	50MM	28MM	SS20ER16079	ER16HW
20MM	ER16	0.5-10.0MM	ER16H	125MM	100MM	28MM	SS20ER16125	ER16HW
20MM	ER16	0.5-10.0MM	ER16M	135MM	100MM	22MM	SS20ER16135	ER16MW
20MM	ER20	1-13MM	ER20M	142MM	100MM	28MM	SS20ER20142M	ER20MW
20MM	ER20	1-13MM	ER20H	142MM	100MM	34MM	SS20ER20142H	ER20HW
22MM	ER11	0.5-7.0MM	ER11H	130MM	100MM	19MM	SS22ER11130	ER11HW
22MM	ER16	0.5-10.0MM	ER16H	103MM	80MM	28MM	SS22ER16103	ER16HW
22MM	ER16	0.5-10.0MM	ER16H	160MM	134MM	28MM	SS22ER16160	ER16HW
22MM	ER16	0.5-10.0MM	ER16M	149MM	125MM	22MM	SS22ER16149	ER16MW
22MM	ER20	1-13MM	ER20H	140MM	100MM	34MM	SS22ER20140	ER20HW
22MM	ER20	1-13MM	ER20H	160MM	120MM	34MM	SS22ER20160	ER20HW
22MM	ER20	1-13MM	ER20H	120MM	80MM	34MM	SS22ER20120	ER20HW
25MM	ER25	1-16MM	ER25E	135MM	100MM	42MM	SS25ER25135	ER25EW

COLLET WRENCH IS NOT INCLUDED WITH THE HOLDER
SEE PAGES 156-161 FOR COLLETS.

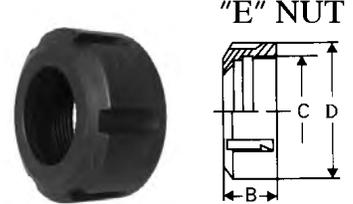
REPLACEMENT ER COLLET NUTS



PART#	D (MM)	B (MM)	C
ER8M	12	10.8	M10 X 0.75
ER11M	16	11.3	M13 X 0.75
ER16M	22	17	M19 X 1
ER20M	28	19	M24 X 1
ER25M	35	20	M30 X 1



PART#	D (MM)	B (MM)	C
ER11H	19	11.3	M14 X 0.75
ER12H	19	12.5	M14 X 0.75
ER16H	28	17	M22 X 1.5
ER20H	34	19	M25 X 1.5



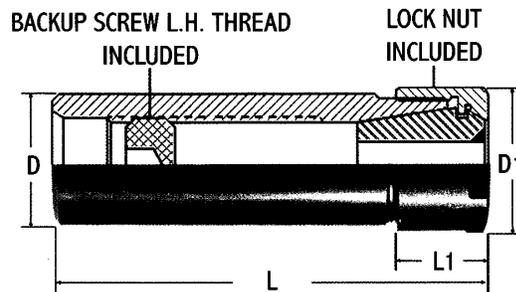
PART#	D (MM)	B (MM)	C
ER16E	32	17.5	M22 X 1.5
ER20E	35	18.5	M25 X 1.5
ER25E	42	20	M32 X 1.5
ER32E	50	22	M40 X 1.5
ER40E	63	25	M50 X 1.5
ER50E	78	35	M64 X 2

SHORT (STUBBY) "ER" COLLET CHUCKS

SHANK DIA.	OAL "L"	"L1"	"D1"	WRENCH SIZE	COLLET SERIES	CAPACITY	CATALOG NO.*	COLLET NUT CAT. NO.
1/2"	3.50"	.47"	.62"	9/16"	ER11	.039 TO .276	SS050ER11350	ER11MC
5/8"	3.50"	.47"	.62"	9/16"	ER11	.039 TO .276	SS062ER11350	ER11MC
5/8"	3.65"	.68"	.86"	13/16"	ER16	.039 TO .394	SS062ER16365	ER16MC
5/8"	3.75"	.78"	1.10"	1"	ER20	.062 TO .512	SS062ER20375	ER20MC
3/4"	3.65"	.68"	.86"	13/16"	ER16	.039 TO .394	SS075ER16365	ER16MC
3/4"	3.75"	.78"	1.10"	1"	ER20	.062 TO .512	SS075ER20375	ER20MC
1"	3.75"	.78"	1.10"	1"	ER20	.062 TO .512	SS100ER20375	ER20MC

*Includes NUT

Shanks on these ER Chucks do not have a flat on them



STRAIGHT SHANK "ER" COLLET CHUCKS

SHANK DIA.	OAL "L"	"L1"	"D1"	WRENCH SIZE	COLLET SERIES	CAPACITY	CATALOG NO.*	COLLET NUT CAT. NO.
1"	6.10"	.84"	1.36"	1-1/4"	ER25	.062 TO .630	SS100ER25610	ER25MC
1"	6.20"	.95"	1.61"	1-1/2"	ER32	.094 TO .787	SS100ER32620	ER32MC
1-1/4"	6.10"	.84"	1.36"	1-1/4"	ER25	.062 TO .630	SS125ER25610	ER25MC
1-1/4"	6.20"	.95"	1.61"	1-1/2"	ER32	.094 TO .787	SS125ER32620	ER32MC
1-1/2"	6.20"	.95"	1.61"	1-1/2"	ER32	.094 TO .787	SS150ER32620	ER32MC

*Includes NUT

Shanks on these ER Chucks do not have a flat on them

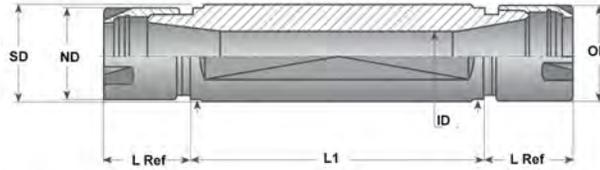


EXTRA LONG "ER" COLLET CHUCK EXTENSIONS

SHANK DIA.	OAL	SHANK TYPE	COLLET SERIES	MAX. CAP.	COLLET CHUCK CAT. NO.	COLLET NUT
1/2"	8"	SOLID	ER11	1/4"	SS050ER11800S	ER11MC
1/2"	9"	SOLID	ER11	1/4"	SS050ER11900S	ER11MC
1/2"	10"	SOLID	ER11	1/4"	SS050ER111000S	ER11MC
1"	10"	SOLID	ER20	1/2"	SS100ER201000S	ER20MC
1"	12"	SOLID	ER20	1/2"	SS100ER201200S	ER20MC
1"	14"	SOLID	ER20	1/2"	SS100ER201400S	ER20MC
1"	16"	SOLID	ER20	1/2"	SS100ER201600S	ER20MC

Shanks on these chucks do not have a flat on them

DOUBLE ENDED COLLET CHUCKS FOR SWISS MACHINES



SEE PAGES 156-161 FOR COLLETS



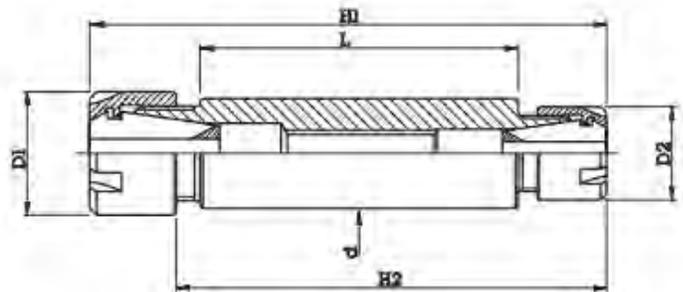
CAT. NO.	ND	SD	ID	L1	L	MACHINE TYPE	COLLET	CAPACITY
SS075DEER11	.630	.750	.295	2.756	.787	CITIZEN	ER11	1/16 to 1/4
SS075DEER16	.866	.750	.413	2.165	1.024	CITIZEN	ER16	1/16 to 13/32
SS100DEER16	.866	1.000	.413	2.441	1.102	STAR	ER16	1/16 to 13/32
METRIC								
SS16DEER11	16	16	7.5	50	20		ER11	0.5 to 7.0 MM
SS20DEER11	16	20	7.5	30	20	CITIZEN	ER11	0.5 to 7.0 MM
SS20DEER11L	16	20	7.5	50	20	CITIZEN	ER11	0.5 to 7.0 MM
SS20DEER16	22	20	10.5	55	26	CITIZEN	ER16	0.5 to 10.0 MM
SS22DEER16	22	22	10.5	55	28	STAR	ER16	0.5 to 10.0 MM
SS22DEER16L	22	22	10.5	75	28	STAR	ER16	0.5 to 10.0 MM
SS25DEER16	22	25	10.5	62	28		ER16	0.5 to 10.0 MM
SS32DEER20	28	32	13.5	55	28	STAR	ER20	1.0 to 13.0 MM
SS32DEER20L	28	32	13.5	75	28	STAR	ER20	1.0 to 13.0 MM

DOUBLE ENDED SWISS ER COLLET CHUCKS WITH DIFFERENT SERIES ER COLLETS ON EACH END

SEE PAGES 156-161 FOR COLLETS



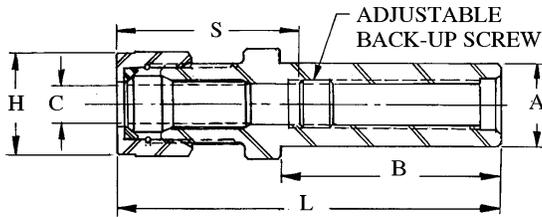
COLLET SERIES	COLLET RANGE ENGLISH	COLLET RANGE METRIC
ER8		1 TO 5
ER11	1/16 TO 1/4	1 TO 7
ER16	1/16 TO 13/32	1 TO 10
ER20	1/16 TO 1/2	1 TO 13
ER25	1/8 TO 5/8	2 TO 16
ER32	3/32 TO 3/4	3 TO 20
ER40	1/8 TO 1"	4 TO 26



Shank Dia.	L	H1	H2	Collet D1	D1	Nut D1	Wrench D1	Collet D2	D2	Nut D2	Wrench D2	Part No.
3/4	50	85	68	ER16	22	ER16M	ER16MW	ER11	16	ER11M	ER11MW	SS075DEER16-11
3/4	50	91	72	ER20	28	ER20M	ER20MW	ER11	16	ER11M	ER11MW	SS075DEER20-11
20MM	50	85	68	ER16	22	ER16M	ER16MW	ER11	16	ER11M	ER11MW	SS20DEER16-11
20MM	50	91	72	ER20	28	ER20M	ER20MW	ER11	16	ER11M	ER11MW	SS20DEER20-11
22MM	45	90	71	ER20	28	ER20M	ER20MW	ER16	22	ER16M	ER16MW	SS22DEER20-16
22MM	60	105	86	ER20	28	ER20M	ER20MW	ER16	22	ER16M	ER16MW	SS22DEER20-16L
25MM	45	90	71	ER20	28	ER20M	ER20MW	ER16	22	ER16M	ER16MW	SS25DEER20-16
25MM	60	105	86	ER20	28	ER20M	ER20MW	ER16	22	ER16M	ER16MW	SS25DEER20-16L
25MM	45	91	71	ER25	35	ER25M	ER25MW	ER16	22	ER16M	ER16MW	SS25DEER25-16
25MM	60	106	86	ER25	35	ER25M	ER25MW	ER16	22	ER16M	ER16MW	SS25DEER25-16L
32MM	60	108	88	ER25	35	ER25M	ER25MW	ER20	28	ER20M	ER20MW	SS32DEER25-20

STUB-NOSE

RECOMMENDED FOR DRILLING AND MILLING.



- GRIP 1:1
- HEAVY-DUTY DESIGN
- DESIGNED TO BE THE MOST RUGGED DA DESIGNED CHUCK WITHOUT INFLUENCING ACCURACY
- RECOMMENDED FOR APPLICATIONS WHERE BETTER RIGIDITY IS REQUIRED
- BALANCED-BY-DESIGN
- FITTED WITH LEFT-HAND THREAD STOP SCREW
- THROUGH-THE-TOOLHOLDER COOLANT CAPABILITY

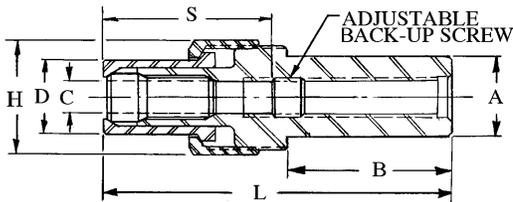
COLLET SERIES	A	B	L	H	S	CAT. NO.	Locknut
300	1/2	4"	5.16	11/16	1.5/4.2	SS050DA308516	LNA308M
300	5/8	4"	5.16	11/16	1.5/4.2	SS062DA308516	LNA308M
200	5/8	4"	5.69	1"	1.6/4.2	SS062DA208569	NPA208
300	3/4	4"	5.16	11/16	1.5/4.2	SS075DA308516	LNA308M
200	3/4	4"	5.31	1"	1.6/4.1	SS075DA208531	NPA208
100	3/4	4"	5.88	1-1/4	1.8/5.3	SS075DA108588	LNA108M
300	1"	4"	5.16	11/16	1.5/4.2	SS100DA308516	LNA308M
200	1"	3"	4.31	1"	1.6/3.7	SS100DA208431	NPA208
200	1"	4"	5.31	1"	1.6/4.1	SS100DA208531	NPA208
100	1"	4"	5.56	1-1/4	1.9/4.9	SS100DA108556	LNA108M
180	1"	4"	6.38	1-1/2	1.9/5.6	SS100DA188638	NPA188
200	1-1/4	4"	5.31	1"	1.62/4.12	SS125DA208531	NPA208
100	1-1/4	4"	5.56	1-1/4	1.9/4.9	SS125DA108556	LNA108M
100	1-1/4	6"	7.56	1-1/4	1.9/5.6	SS125DA108756	LNA108M
180	1-1/4	6"	7.62	1-1/2	1.9/6.6	SS125DA188762	NPA188
400	1-1/4	6"	8.62	2-1/4	2.1/7.7	SS125DA408862	NPA408
100	1-1/2	6"	7.56	1-1/4	1.9/5.6	SS150DA108756	LNA108M
200	1-1/2	4"	5.31	1"	1.6/4.7	SS150DA208531	NPA208
200	1-1/2	6"	7.31	1"	1.6/4.1	SS150DA208731	NPA208
180	1-1/2	6"	7.62	1-1/2	1.9/6.6	SS150DA188762	NPA188
400	1-1/2	6"	8.62	2-1/4	2.1/7.6	SS150DA408862	NPA408
180	1-3/4	6"	7.62	1-1/2	1.9/6.7	SS175DA188762	NPA188
180	2"	6"	7.62	1-1/2	1.9/5.6	SS200DA188762	NPA188
400	2"	6"	8.06	2-1/4	2.1/7.1	SS200DA408806	NPA408

SEE PAGES 162 AND 163 FOR DOUBLE-ANGLE COLLETS.

COLLET SERIES	C COLLET RANGE
100 DA	3/64 TO 9/16
180 DA	3/64 TO 3/4
200 DA	3/64 TO 25/64
300 DA	1/32 TO 1/4
400 DA	3/32 TO 1"

EXTENDED-NOSE

RECOMMENDED FOR DRILLING.



- GRIP 1:1
- THIS STYLE DELIVERS THE BEST ACCURACY OF DA COLLET CHUCKS WITH MAXIMUM CLEARANCE AT THE NOSE
- ACCURATE DOUBLE-ANGLE DESIGN ENABLES HIGHER-SPEED APPLICATIONS COMPARED TO STUB-NOSE AND CLOSE-CENTER DA STYLES
- PILOTED LONG NOSEPIECE BEARING AND COMPENSATING LOCKNUT ALLOWS COLLET TO FIND ITS OWN AXIAL POSITION AND PREVENTS COLLET FROM TWISTING

COLLET SERIES	A	B	L	D DIAMETER	H	S	CAT. NO.	NOSE PIECE	LOCKNUT
300	1/2	4"	5.44	1/2	3/4	1.4/4.2	SS050DA301544	NP301	LN301
300	5/8	4"	5.44	1/2	3/4	1.4/4.2	SS062DA301544	NP301	LN301
300	5/8	1.73	3.19	1/2	3/4	1.4/2.7	SS062DA301319	NP301	LN301
200	5/8	1.26	3.25	13/16	1-1/4	1.4/2.8	SS062DA201325	NP201	LN201
200	5/8	4.01	6.00	13/16	1-1/4	1.4/4.2	SS062DA201600	NP201	LN201
300	3/4	2"	3.44	1/2	3/4	1.4/3.0	SS075DA301344	NP301	LN301
300	3/4	4"	5.44	1/2	3/4	1.4/5.0	SS075DA301544	NP301	LN301
200	3/4	4"	6.00	13/16	1-1/4	1.7/4.1	SS075DA201600	NP201	LN201
100	3/4	4"	6.50	1-1/16	1-1/2	1.7/5.7	SS075DA101650	NP101	LN101
300	1"	4"	5.44	1/2	3/4	1.4/4.2	SS100DA301544	NP301	LN301
200	1"	4"	6.00	13/16	1-1/4	1.7/4.1	SS100DA201600	NP201	LN201
100	1"	4"	6.50	1-1/16	1-1/2	1.9/5.6	SS100DA101650	NP101	LN101
180	1"	4"	6.38	2.02	1-3/4	1.7/5.6	SS100DA181638	NP181	LN181
180	1-1/4	6"	8.38	1-5/16	1-3/4	1.7/5.6	SS125DA181838	NP181	LN181
200	1-1/2	4"	6.00	13/16	1-1/4	1.7/4.1	SS150DA201600	NP201	LN201
180	1-1/2	6"	8.38	1-5/16	1-3/4	1.8/5.6	SS150DA181838	NP181	LN181
180	2"	6"	8.38	1-5/16	1-3/4	1.8/5.6	SS200DA181838	NP181	LN181
100	2"	6"	8.50	1.73	1-1/2	1.9/5.6	SS200DA101850	NP101	LN101

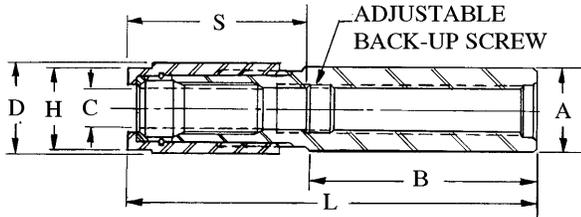
- FITTED WITH LEFT-HAND THREAD STOP SCREW
- THROUGH-THE-TOOLHOLDER COOLANT CAPABILITY

CLOSE-CENTER

RECOMMENDED FOR DRILLING

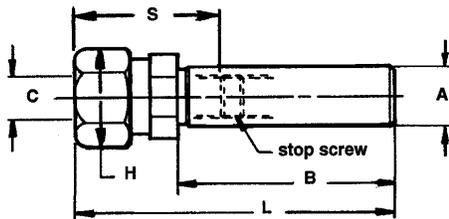
- GRIP 1:1
- SMALL OUTSIDE DIAMETER CLEARANCE IS IDEAL FOR MACHING CENTERS, AND CLOSE CENTER-DISTANCE AND FIXTURE PROBLEMS
- RECOMMENDED FOR APPLICATIONS WHERE REACH AND CLOSE PROXIMITY OF WORKPIECE PROBLEMS ARE ENCOUNTERED
- FITTED WITH LEFT-HAND THREAD STOP SCREWS
- THROUGH-THE-TOOLHOLDER COOLANT CAPABILITY

SEE PAGES 162 AND 163 FOR COLLETS.



**ERICKSON[®]
PRODUCTS**

C CAPACITY	COLLET SERIES	A	B	L	D DIAMETER	H HEX	S MIN/MAX	CAT. NO.	LOCKNUT
1/32-1/4	300	1/2	3.0	4.38	.56	1/2	1.5/3.9	SS050DA304438	LNA304M
1/32-1/4	300	1/2	5.4	6.81	.56	1/2	1.5/4.2	SS050DA304681	LNA304M
3/64-25/64	200	3/4	3.0	4.69	.84	3/4	1.6/4.7	SS075DA204469	LNA204M
3/64-25/64	200	3/4	5.5	7.12	.84	3/4	1.6/4.7	SS075DA204712	LNA204M
3/64-9/16	100	1"	3.0	4.88	1.06	15/16	1.9/4.2	SS100DA104488	LNA104M
3/64-9/16	100	1"	5.4	7.31	1.06	15/16	1.9/6.6	SS100DA104731	LNA104M
3/64-3/4	180	1-1/4	5.5	7.38	1.44	1-3/16	1.9/6.6	SS125DA184738	LNA184M
3/64-3/4	180	1-1/4	8"	9.88	1.44	1.19	1.9/9.0	SS125DA184988	LNA184M



SINGLE ANGLE TG COLLET CHUCKS

**RECOMMENDED FOR DRILLING, END MILLING
AND SOLID TAPPING.**

**ERICKSON[®]
PRODUCTS**

C CAPACITY	COLLET SERIES	A	B	L	H HEX	S MIN/MAX	CAT. NO.	LOCKNUT
3/64-17/32	50TG	1"	5.5	7.19	1-1/16	1.75/6.5	SS100TG050719	NPA050
3/64-17/32	50TG	1"	5.5	6.98	1.5"	1.54/6.3	SS100TG050698G	NPA075
1/16-3/4	75TG	1-1/4	6"	8.50	1-7/8	2.1/7.6	SS125TG075850	NPA100
1/16-3/4	75TG	1-1/2	6"	7.75	1-7/8	2.1/7.1	SS150TG075775	NPA075
3/32-1"	100TG	1-1/2	6"	9.25	2-1/4	2.6/8.6	SS150TG100925	NPA100
3/32-1"	100TG	1-3/4	6"	8.19	2-1/4	2.9/7.5	SS175TG100819	NPA100
3/32-1"	100TG	2"	6"	8.19	2-1/4	2.6/7.5	SS200TG100819	NPA100

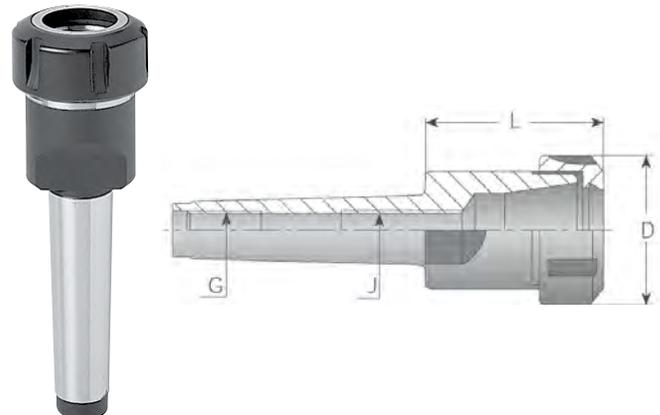
SEE PAGES 164-168 FOR COLLETS.

- TREMENDOUS GRIP (3:1 ADVANTAGE)
- TREMENDOUS GRIP (TG) COLLET CHUCKS PROVIDE THE GRIP AND ACCURACY NECESSARY FOR THE DEMANDS OF TODAY'S MACHINE TOOLS BECAUSE OF ITS SLOW COLLET TAPER AND BEARING-STYLE NOSEPIECE.
- COLLETS COLLAPSE 1/64" AND CAN GRIP ON BACK TAPER AND MARGINS OF DRILLS TO ALLOW FOR MAXIMUM FEED RATES AND MORE ACCURATE HOLES.
- THE VERSATILITY AND GRIPPING POWER OF THE TG CHUCK IS SUPERIOR TO COMPETITIVE DESIGNS.
- THROUGH-THE-TOOLHOLDER COOLANT CAPABILITY

MORSE TAPER SHANK COLLET CHUCKS

MORSE TAPER ER COLLET CHUCK

Cat. No.	Range	L	G	J	D
MT2-ER20	.022-.514	1.687	3/8-16	M10	1.344
MT2-ER25	.041-.632	1.875	3/8-16	M10	1.656
MT3-ER32	.080-.789	2.750	1/2-13	M12	1.968
MT3-ER40	.120-1.025	3.125	1/2-13	M12	2.484
MT4-ER32	.080-.789	2.406	5/8-11	M16	1.968
MT4-ER40	.120-1.025	3.187	5/8-11	M16	2.484
MT4-ER50	.396-1.338	4.937	5/8-11	M16	3.078
MT5-ER40	.120-1.025	3.250	3/4-16	M28 X 1.5	2.484
MT5-ER50	.396-1.338	3.328	3/4-16	M28 X 1.5	3.078
MT6-ER50	.396-1.338	3.937	1-8	M36 X 1.5	3.078

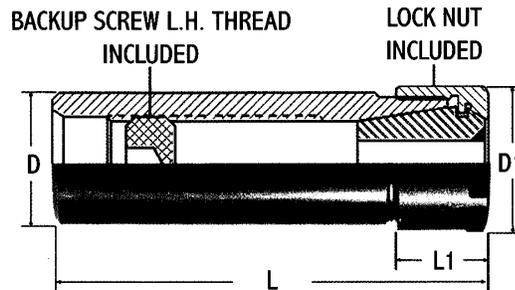


SEE PAGES 156-160 FOR COLLETS.

SHORT (STUBBY) "DA" COLLET CHUCKS

SHANK DIA.	OAL "L"	"L1"	"D1"	WRENCH SIZE	COLLET SERIES	CAPACITY	CATALOG NO.*	COLLET NUT CAT. NO.
1/2"	3.60"	.70"	.56"	1/2"	300DA	1/32 TO 1/4	SS050DA308360	NP300C
5/8"	3.75"	.70"	.56"	1/2"	300DA	1/32 TO 1/4	SS062DA308375	NP300C
5/8"	3.75"	.71"	.75"	11/16"	200DA	3/64 TO 25/64	SS062DA208375	NP200SC
3/4"	3.80"	.71"	.81"	3/4"	200DA	3/64 TO 25/64	SS075DA208380	NP200S
1"	4"	.90"	1.06"	7/8"	100DA	3/64 TO 9/16	SS100DA108400	NP100C

*Includes NUT



STRAIGHT SHANK "DA" COLLET CHUCKS

SHANK DIA.	OAL "L"	"L1"	"D1"	WRENCH SIZE	COLLET SERIES	CAPACITY	CATALOG NO.*	COLLET NUT CAT. NO.
1"	6.20"	.87"	1.56"	1-3/8"	180DA	3/64 TO 3/4	SS100DA188620*	NP180C
1-1/4"	6.20"	.87"	1.56"	1-3/8"	180DA	3/64 TO 3/4	SS125DA188620	NP180C
1-1/2"	6.20"	.87"	1.56"	1-3/8"	180DA	3/64 TO 3/4	SS150DA188620	NP180C
1-3/4"	6.20"	.87"	1.56"	1-3/8"	180DA	3/64 TO 3/4	SS175DA188620	NP180C

*Includes NUT

**The shank on this holder does not have a flat on it- All other DA Chucks do



EXTRA LONG "DA" COLLET CHUCK EXTENSIONS

SHANK DIA.	OAL	SHANK TYPE	COLLET SERIES	MAX. CAP.	COLLET CHUCK CAT. NO.	COLLET NUT
1/2"	8"	SOLID	300DA	1/4"	SS050DA304800S	NP300C
1/2"	9"	SOLID	300DA	1/4"	SS050DA304900S	NP300C
1/2"	10"	SOLID	300DA	1/4"	SS050DA3041000S	NP300C
3/4"	9.5"	THRU	100DA	9/16"	SS075DA104950	NP100C
3/4"	10.5"	THRU	200DA	25/64"	SS075DA2041050	NP200C
3/4"	12"	SOLID	200DA	25/64"	SS075DA2041200S	NP200C
3/4"	14"	SOLID	200DA	25/64"	SS075DA2041400S	NP200C
1"	10.5"	SOLID	100DA	9/16"	SS100DA1041050S	NP100C
1"	12"	SOLID	100DA	9/16"	SS100DA1041200S	NP100C
1"	14"	SOLID	100DA	9/16"	SS100DA1041400S	NP100C
1"	16"	SOLID	100DA	9/16"	SS100DA1041600S	NP100C

Extensions with thru hole include backup screw
Shanks on these chucks do not have a flat on them

SOMMA DRILL SPEEDER

For use on New Britains, Acmes, Wickmans, Hydromats and other Multi Spindle Machines

Cat. No. DSPD

- 2" Diameter Quill
- 200 Double Angle Collet, 0-3/8" capacity
- 5,000 RPM
- 27 IN-LB of Torque
- Forward and Reverse
- Speed or Torque readout
- All electronics are in one box with a 3 wire hook up
- At speed or current limit output

For drilling small holes as well as cross hole drilling and milling.

SEE PAGE 162 FOR COLLETS

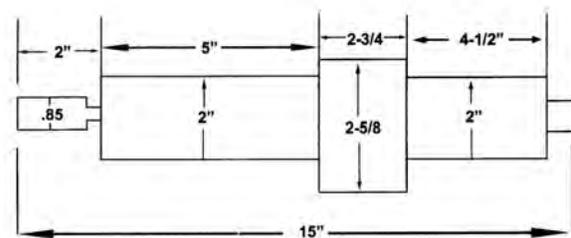


SOMMA AIR SPEEDER

PURPOSE:
ELIMINATE NEED FOR SECONDARY OPERATIONS. USE THIS TOOL TO DRILL, MILL, SLOT.
EASILY MOUNTS TO A CROSS SLIDE OR A 2" TOOL HOLDER.
FOR USE ON NEW BRITAINS, ACMES, WICKMANS, HYDROMATS AND OTHER MULTI SPINDLE MACHINES.

FEATURES:

2" DIAMETER QUILL
200 DA COLLET 0-3/8" CAPACITY
2,000, 3,300, 4,500 6,000 RPM
1/3 HP
15" OAL
SIMPLE HOOK-UP, SUPPLY AIR AND DRIP LUBE.



RPM	CAT. NO.
2000	DAPD-2000
3300	DAPD-3300
4500	DAPD-4500
6000	DAPD-6000

SEE PAGE 162 FOR COLLETS



Drills , Screw Machine
Solid Carbide, 135° Split Point
(fractional sizes)

Drills , Screw Machine
Solid Carbide, 135° Split Point
(letter sizes)

Drill Diameter	Flute Length	Overall Length	Part#
1/8" (.1250)	7/8"	1-7/8"	CDSM-1/8
9/64" (.1406)	15/16"	1-15/16"	CDSM-9/64
5/32" (.1562)	1"	2-1/16"	CDSM-5/32
11/64" (.1719)	1-1/16"	2-1/8"	CDSM-11/64
3/16" (.1875)	1-1/8"	2-3/16"	CDSM-3/16
13/64" (.2031)	1-3/16"	2-1/4"	CDSM-13/64
7/32" (.2187)	1-1/4"	2-3/8"	CDSM-7/32
15/64" (.2344)	1-5/16"	2-7/16"	CDSM-15/64
1/4" (.2500)	1-3/8"	2-1/2"	CDSM1/4
17/64" (.2656)	1-7/16"	2-5/8"	CDSM-17/64
9/32" (.2812)	1-1/2"	2-11/16"	CDSM-9/32
19/64" (.2969)	1-9/16"	2-3/4"	CDSM-19/64
5/16" (.3125)	1-5/8"	2-13/16"	CDSM-5/16
21/64" (.3281)	1-11/16"	2-15/16"	CDSM-21/64
11/32" (.3437)	1-11/16"	3"	CDSM-11/32
23/64" (.3594)	1-3/4"	3-1/16"	CDSM-23/64
3/8" (.3750)	1-13/16"	3-1/8"	CDSM-3/8
25/64" (.3906)	1-7/8"	3-1/4"	CDSM-25/64
13/32" (.4062)	1-15/16"	3-5/16"	CDSM-13/32
27/64" (.4219)	2"	3-3/8"	CDSM-27/64
7/16" (.4375)	2-1/16"	3-7/16"	CDSM-7/16
29/64" (.4531)	2-1/8"	3-9/16"	CDSM-29/64
15/32" (.4687)	2-1/8"	3-5/8"	CDSM-15/32
31/64" (.4844)	2-3/16"	3-11/16"	CDSM-31/64
1/2" (.5000)	2-1/4"	3-3/4"	CDSM-1/2
9/16" (.5625)	2-1/2"	4"	CDSM-9/16
5/8" (.6250)	2-3/4"	4-1/4"	CDSM-5/8
11/16" (.6875)	2-7/8"	4-5/8"	CDSM-11/16
3/4" (.7500)	3-1/8"	5"	CDSM-3/4

Drill Diameter	Flute Length	Overall Length	Part#
A (.2340)	1-5/16"	2-7/16"	CDSM-A
B (.2380)	1-3/8"	2-1/2"	CDSM-B
C (.2420)	1-3/8"	2-1/2"	CDSM-C
D (.2460)	1-3/8"	2-1/2"	CDSM-D
E (.2500)	1-3/8"	2-1/2"	CDSM-E
F (.2570)	1-7/16"	2-5/8"	CDSM-F
G (.2610)	1-7/16"	2-5/8"	CDSM-G
H (.2660)	1-1/2"	2-11/16"	CDSM-H
I (.2720)	1-1/2"	2-11/16"	CDSM-I
J (.2770)	1-1/2"	2-11/16"	CDSM-J
K (.2810)	1-1/2"	2-11/16"	CDSM-K
L (.2900)	1-9/16"	2-3/4"	CDSM-L
M (.2950)	1-9/16"	2-3/4"	CDSM-M
N (.3020)	1-5/8"	2-13/16"	CDSM-N
O (.3160)	1-11/16"	2-15/16"	CDSM-O
P (.3230)	1-11/16"	2-15/16"	CDSM-P
Q (.3320)	1-11/16"	3"	CDSM-Q
R (.3390)	1-11/16"	3"	CDSM-R
S (.3480)	1-3/4"	3-1/16"	CDSM-S
T (.3580)	1-3/4"	3-1/16"	CDSM-T
U (.3680)	1-13/16"	3-1/8"	CDSM-U
V (.3770)	1-7/8"	3-1/4"	CDSM-V
W (.3860)	1-15/16"	3-1/4"	CDSM-W
X (.3970)	1-15/16"	3-5/16"	CDSM-X
Y (.4040)	1-15/16"	3-5/16"	CDSM-Y
Z (.4130)	2"	3-3/8"	CDSM-Z



Drills, Screw Machine, Solid Carbide, 135° Split Point
(number sizes) (number sizes)

Drill Diameter	Flute Length	Overall Length	Part#	Drill Diameter	Flute Length	Overall Length	Part#
#1 (.2280)	1-5/16"	2-7/16"	CDSM-1	#31 (.1200)	7/8"	1-7/8"	CDSM-31
#2 (.2211)	1-5/16"	2-7/16"	CDSM-2	#32 (.1160)	7/8"	1-7/8"	CDSM-32
#3 (.2130)	1-1/4"	2-3/8"	CDSM-3	#33 (.1130)	7/8"	1-7/8"	CDSM-33
#4 (.2090)	1-1/4"	2-3/8"	CDSM-4	#34 (.1110)	7/8"	1-7/8"	CDSM-34
#5 (.2055)	1-1/4"	2-3/8"	CDSM-5	#35 (.1100)	7/8"	1-7/8"	CDSM-35
#6 (.2040)	1-1/4"	2-3/8"	CDSM-6	#36 (.1065)	13/16"	1-13/16"	CDSM-36
#7 (.2010)	1-3/16"	2-1/4"	CDSM-7	#37 (.1040)	13/16"	1-13/16"	CDSM-37
#8 (.1990)	1-3/16"	2-1/4"	CDSM-8	#38 (.1015)	13/16"	1-13/16"	CDSM-38
#9 (.1960)	1-3/16"	2-1/4"	CDSM-9	#39 (.0995)	13/16"	1-13/16"	CDSM-39
#10 (.1935)	1-3/16"	2-1/4"	CDSM-10	#40 (.0980)	13/16"	1-13/16"	CDSM-40
#11 (.1910)	1-3/16"	2-1/4"	CDSM-11	#41 (.0960)	13/16"	1-13/16"	CDSM-41
#12 (.1890)	1-3/16"	2-1/4"	CDSM-12	#42 (.0935)	3/4"	1-3/4"	CDSM-42
#13 (.1850)	1-1/8"	2-3/16"	CDSM-13	#43 (.0890)	3/4"	1-3/4"	CDSM-43
#14 (.1820)	1-1/8"	2-3/16"	CDSM-14	#44 (.0860)	3/4"	1-3/4"	CDSM-44
#15 (.1800)	1-1/8"	2-3/16"	CDSM-15	#45 (.0820)	3/4"	1-3/4"	CDSM-45
#16 (.1770)	1-1/8"	2-3/16"	CDSM-16	#46 (.0810)	3/4"	1-3/4"	CDSM-46
#17 (.1730)	1-1/8"	2-3/16"	CDSM-17	#47 (.0785)	3/4"	1-3/4"	CDSM-47
#18 (.1695)	1-1/16"	2-1/8"	CDSM-18	#48 (.0760)	11/16"	1-11/16"	CDSM-48
#19 (.1660)	1-1/16"	2-1/8"	CDSM-19	#49 (.0730)	11/16"	1-11/16"	CDSM-49
#20 (.1610)	1-1/16"	2-1/8"	CDSM-20	#50 (.0700)	11/16"	1-11/16"	CDSM-50
#21 (.1590)	1-1/16"	2-1/8"	CDSM-21	#51 (.0670)	11/16"	1-11/16"	CDSM-51
#22 (.1570)	1"	2-1/16"	CDSM-22	#52 (.0635)	11/16"	1-11/16"	CDSM-52
#23 (.1540)	1"	2-1/16"	CDSM-23	#53 (.0595)	1/2"	1-1/2"	CDSM-53
#24 (.1520)	1"	2-1/16"	CDSM-24	#54 (.0550)	1/2"	1-1/2"	CDSM-54
#25 (.1495)	1"	2-1/16"	CDSM-25	#55 (.0520)	1/2"	1-1/2"	CDSM-55
#26 (.1470)	1"	2-1/16"	CDSM-26	#56 (.0465)	1/2"	1-1/2"	CDSM-56
#27 (.1440)	1"	2-1/16"	CDSM-27	#57 (.0430)	1/2"	1-1/2"	CDSM-57
#28 (.1405)	15/16"	1-15/16"	CDSM-28	#58 (.0420)	1/2"	1-1/2"	CDSM-58
#29 (.1360)	15/16"	1-15/16"	CDSM-29	#59 (.0410)	1/2"	1-1/2"	CDSM-59
#30 (.1285)	15/16"	1-15/16"	CDSM-30	#60 (.0400)	1/2"	1-1/2"	CDSM-60



Drills , Jobber Length Solid Carbide (fractional sizes)

Drills , Jobber Length Solid Carbide (letter sizes)

Drill Diameter	Flute Length	Overall Length	Part#
1/16" (.0625)	3/4"	1-1/2"	CDJ-1/16
5/64" (.0781)	7/8"	1-3/4"	CDJ-5/64
3/32" (.0937)	1"	2"	CDJ-3/32
7/64" (.1094)	1-1/4"	2-1/4"	CDJ-7/64
1/8" (.1250)	1-1/4"	2-1/4"	CDJ-1/8
9/64" (.1406)	1-3/8"	2-1/2"	CDJ-9/64
5/32" (.1562)	1-3/8"	2-1/2"	CDJ-5/32
11/64" (.1719)	1-5/8"	2-3/4"	CDJ-11/64
3/16" (.1875)	1-5/8"	2-3/4"	CDJ-3/16
13/64" (.2031)	1-3/4"	3"	CDJ-13/64
7/32" (.2187)	1-3/4"	3"	CDJ-7/32
15/64" (.2344)	2"	3-1/4"	CDJ-15/64
1/4" (.2500)	2"	3-1/4"	CDJ-1/4
17/64" (.2656)	2-1/8"	3-1/2"	CDJ-17/64
9/32" (.2812)	2-1/8"	3-1/2"	CDJ-9/32
19/64" (.2969)	2-3/8"	3-3/4"	CDJ-19/64
5/16" (.3125)	2-3/8"	3-3/4"	CDJ-5/16
21/64" (.3281)	2-1/2"	4"	CDJ-21/64
11/32" (.3437)	2-1/2"	4"	CDJ-11/32
23/64" (.3594)	2-3/4"	4-1/4"	CDJ-23/64
3/8" (.3750)	2-3/4"	4-1/4"	CDJ-3/8
25/64" (.3906)	2-7/8"	4-1/2"	CDJ-25/64
13/32" (.4062)	2-7/8"	4-1/2"	CDJ-13/32
27/64" (.4219)	2-7/8"	4-1/2"	CDJ-27/64
7/16" (.4375)	2-7/8"	4-1/2"	CDJ-7/16
29/64" (.4531)	3"	4-3/4"	CDJ-29/64
15/32" (.4687)	3"	4-3/4"	CDJ-15/32
31/64" (.4844)	3"	4-3/4"	CDJ-31/64
1/2" (.5000)	3"	4-3/4"	CDJ-1/2
9/16" (.5625)	3-1/4"	5"	CDJ-9/16
5/8" (.6250)	4-1/4"	6"	CDJ-5/8
3/4" (.7500)	4-1/4"	6"	CDJ-3/4

Drill Diameter	Flute Length	Overall Length	Part#
A (.2340)	2"	3-1/4"	CDJ-A
B (.2380)	2"	3-1/4"	CDJ-B
C (.2420)	2"	3-1/4"	CDJ-C
D (.2460)	2"	3-1/4"	CDJ-D
E (.2500)	2"	3-1/4"	CDJ-E
F (.2570)	2"	3-1/4"	CDJ-F
G (.2610)	2-1/8"	3-1/2"	CDJ-G
H (.2660)	2-1/8"	3-1/2"	CDJ-H
I (.2720)	2-1/8"	3-1/2"	CDJ-I
J (.2770)	2-1/8"	3-1/2"	CDJ-J
K (.2810)	2-1/8"	3-1/2"	CDJ-K
L (.2900)	2-1/8"	3-1/2"	CDJ-L
M (.2950)	2-3/8"	3-3/4"	CDJ-M
N (.3020)	2-3/8"	3-3/4"	CDJ-N
O (.3160)	2-3/8"	3-3/4"	CDJ-O
P (.3230)	2-3/8"	3-3/4"	CDJ-P
Q (.3320)	2-1/2"	4"	CDJ-Q
R (.3390)	2-1/2"	4"	CDJ-R
S (.3480)	2-1/2"	4"	CDJ-S
T (.3580)	2-3/4"	4-1/4"	CDJ-T
U (.3680)	2-3/4"	4-1/4"	CDJ-U
V (.3770)	2-3/4"	4-1/4"	CDJ-V
W (.3860)	2-7/8"	4-1/2"	CDJ-W
X (.3970)	2-7/8"	4-1/2"	CDJ-X
Y (.4040)	2-7/8"	4-1/2"	CDJ-Y
Z (.4130)	2-7/8"	4-1/2"	CDJ-Z

Drills, Jobber Length Solid Carbide

(number sizes)

(number sizes)

Drill Diameter	Flute Length	Overall Length	Part#	Drill Diameter	Flute Length	Overall Length	Part#
#1 (.2280)	1-3/4"	3"	CDJ-1	#31 (.1200)	1-1/4"	2-1/4"	CDJ-31
#2 (.2211)	1-3/4"	3"	CDJ-2	#32 (.1160)	1-1/4"	2-1/4"	CDJ-32
#3 (.2130)	1-3/4"	3"	CDJ-3	#33 (.1130)	1-1/4"	2-1/4"	CDJ-33
#4 (.2090)	1-3/4"	3"	CDJ-4	#34 (.1110)	1-1/4"	2-1/4"	CDJ-34
#5 (.2055)	1-3/4"	3"	CDJ-5	#35 (.1100)	1-1/4"	2-1/4"	CDJ-35
#6 (.2040)	1-3/4"	3"	CDJ-6	#36 (.1065)	1-1/4"	2-1/4"	CDJ-36
#7 (.2010)	1-3/4"	3"	CDJ-7	#37 (.1040)	1-1/4"	2-1/4"	CDJ-37
#8 (.1990)	1-3/4"	3"	CDJ-8	#38 (.1015)	1-1/4"	2-1/4"	CDJ-38
#9 (.1960)	1-3/4"	3"	CDJ-9	#39 (.0995)	1-1/4"	2-1/4"	CDJ-39
#10 (.1935)	1-5/8"	2-3/4"	CDJ-10	#40 (.0980)	1"	2"	CDJ-40
#11 (.1910)	1-5/8"	2-3/4"	CDJ-11	#41 (.0960)	1"	2"	CDJ-41
#12 (.1890)	1-5/8"	2-3/4"	CDJ-12	#42 (.0935)	1"	2"	CDJ-42
#13 (.1850)	1-5/8"	2-3/4"	CDJ-13	#43 (.0890)	1"	2"	CDJ-43
#14 (.1820)	1-5/8"	2-3/4"	CDJ-14	#44 (.0860)	1"	2"	CDJ-44
#15 (.1800)	1-5/8"	2-3/4"	CDJ-15	#45 (.0820)	7/8"	1-3/4"	CDJ-45
#16 (.1770)	1-5/8"	2-3/4"	CDJ-16	#46 (.0810)	7/8"	1-3/4"	CDJ-46
#17 (.1730)	1-5/8"	2-3/4"	CDJ-17	#47 (.0785)	7/8"	1-3/4"	CDJ-47
#18 (.1695)	1-5/8"	2-3/4"	CDJ-18	#48 (.0760)	7/8"	1-3/4"	CDJ-48
#19 (.1660)	1-5/8"	2-3/4"	CDJ-19	#49 (.0730)	7/8"	1-3/4"	CDJ-49
#20 (.1610)	1-3/8"	2-3/4"	CDJ-20	#50 (.0700)	7/8"	1-3/4"	CDJ-50
#21 (.1590)	1-3/8"	2-1/2"	CDJ-21	#51 (.0670)	3/4"	1-1/2"	CDJ-51
#22 (.1570)	1-3/8"	2-1/2"	CDJ-22	#52 (.0635)	3/4"	1-1/2"	CDJ-52
#23 (.1540)	1-3/8"	2-1/2"	CDJ-23	#53 (.0595)	3/4"	1-1/2"	CDJ-53
#24 (.1520)	1-3/8"	2-1/2"	CDJ-24	#54 (.0550)	3/4"	1-1/2"	CDJ-54
#25 (.1495)	1-3/8"	2-1/2"	CDJ-25	#55 (.0520)	3/4"	1-1/2"	CDJ-55
#26 (.1470)	1-3/8"	2-1/2"	CDJ-26	#56 (.0465)	3/4"	1-1/2"	CDJ-56
#27 (.1440)	1-3/8"	2-1/2"	CDJ-27	#57 (.0430)	3/4"	1-1/2"	CDJ-57
#28 (.1405)	1-3/8"	2-1/2"	CDJ-28	#58 (.0420)	3/4"	1-1/2"	CDJ-58
#29 (.1360)	1-3/8"	2-1/2"	CDJ-29	#59 (.0410)	3/4"	1-1/2"	CDJ-59
#30 (.1285)	1-1/4"	2-1/4"	CDJ-30	#60 (.0400)	3/4"	1-1/2"	CDJ-60



Drill Mills, Solid Carbide, 2 or 4 Flute, 90° Point, Single Ended

Cutter & Shank Diameter	Flute Length	Overall Length	2 Flute Part#	2 Flute w/ Alt Coating	4 Flute Part#	4 Flute w/ Alt Coating
1/8"	1/2"	1-1/2"	CDM2-1/8	CDM2-1/8-ALT	CDM4-1/8	CDM4-1/8-ALT
3/16"	5/8"	2"	CDM2-3/16	CDM2-3/16-ALT	CDM4-3/16	CDM4-3/16-ALT
1/4"	3/4"	2-1/2"	CDM2-1/4	CDM2-1/4-ALT	CDM4-1/4	CDM4-1/4-ALT
5/16"	13/16"	2-1/2"	CDM2-5/16	CDM2-5/16-ALT	CDM4-5/16	CDM4-5/16-ALT
3/8"	1"	2-1/2"	CDM2-3/8	CDM2-3/8-ALT	CDM4-3/8	CDM4-3/8-ALT
7/16"	1"	2-1/2"	CDM2-7/16	CDM2-7/16-ALT	CDM4-7/16	CDM4-7/16-ALT
1/2"	1"	3"	CDM2-1/2	CDM2-1/2-ALT	CDM4-1/2	CDM4-1/2-ALT
5/8"	1-1/4"	3-1/2"	CDM2-5/8	CDM2-5/8-ALT	CDM4-5/8	CDM4-5/8-ALT
3/4"	1-1/2"	4"	CDM2-3/4	CDM2-3/4-ALT	CDM4-3/4	CDM4-3/4-ALT

DRILLS, SPADE Solid Carbide 118° Point



Drill Diameter	Overall Length	Part#	Drill Diameter	Overall Length	Part#
3/32"	1-1/2"	CSD-3/32	5/16"	2-1/2"	CSD-5/16
1/8"	1-1/2"	CSD-1/8	11/32"	2-1/2"	CSD-11/32
5/32"	2"	CSD-5/32	3/8"	2-1/2"	CSD-3/8
3/16"	2"	CSD-3/16	13/32"	2-1/2"	CSD-13/32
7/32"	2"	CSD-7/32	7/16"	2-3/4"	CSD-7/16
1/4"	2"	CSD-1/4	15/32"	2-3/4"	CSD-15/32
9/32"	2"	CSD-9/32	1/2"	3"	CSD-1/2



DRILL, SPOTTING 60°, 90° or 120° Solid Carbide

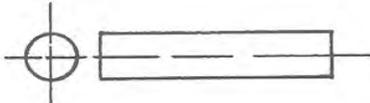
Drill Diameter	Flute Length	Overall Length	Part# 60°	Part# 90°	Part# 120°
1/4"	1"	2-1/2"	CSPD60-1/4	CSPD90-1/4	CSPD120-1/4
1/4"	1-3/8"	4"	CSPD60-1/4-4L	CSPD90-1/4-4L	CSPD120-1/4-4L
3/8"	1"	2-1/2"	CSPD60-3/8	CSPD90-3/8	CSPD120-3/8
3/8"	1-1/2"	6"	CSPD60-3/8-6L	CSPD90-3/8-6L	CSPD120-3/8-6L
1/2"	1-1/4"	3"	CSPD60-1/2	CSPD90-1/2	CSPD120-1/2
1/2"	1-1/2"	6"	CSPD60-1/2-6L	CSPD90-1/2-6L	CSPD120-1/2-6L
5/8"	1-1/4"	3-1/2"	CSPD60-5/8	CSPD90-5/8	CSPD120-5/8
5/8"	2"	6"	CSPD60-5/8-6L	CSPD90-5/8-6L	CSPD120-5/8-6L
3/4"	1-1/2"	4"	CSPD60-3/4	CSPD90-3/4	CSPD120-3/4
3/4"	2"	6"	CSPD60-3/4-6L	CSPD90-3/4-6L	CSPD120-3/4-6L



DRILLS, CENTER 60°, 82° or 90° Solid Carbide

Drill Size	Drill Diameter	Body Diameter	Overall Length	Part# 60°	Part# 82°	Part# 90°
#00	0.025	1/8"	1-1/2"	CCD60-00	CCD82-00	CCD90-00
#0	0.031	1/8"	1-1/2"	CCD60-0	CCD82-0	CCD90-0
1	0.046	1/8"	1-1/2"	CCD60-1	CCD82-1	CCD90-1
1	0.046	1/8"	4"	CCD60-1-4L	CCD82-1-4L	CCD90-1-4L
2	0.078	3/16"	2"	CCD60-2	CCD82-2	CCD90-2
2	0.078	3/16"	4"	CCD60-2-4L	CCD82-2-4L	CCD90-2-4L
3	0.109	1/4"	2"	CCD60-3	CCD82-3	CCD90-3
3	0.109	1/4"	4"	CCD60-3-4L	CCD82-3-4L	CCD90-3-4L
3	0.109	1/4"	6"	CCD60-3-6L	CCD82-3-6L	CCD90-3-6L
4	0.125	5/16"	2-1/2"	CCD60-4	CCD82-4	CCD90-4
4	0.125	5/16"	4"	CCD60-4-4L	CCD82-4-4L	CCD90-4-4L
4	0.125	5/16"	6"	CCD60-4-6L	CCD82-4-6L	CCD90-4-6L
5	0.187	7/16"	2-3/4"	CCD60-5	CCD82-5	CCD90-5
5	0.187	7/16"	4"	CCD60-5-4L	CCD82-5-4L	CCD90-5-4L
5	0.187	7/16"	6"	CCD60-5-6L	CCD82-5-6L	CCD90-5-6L
6	0.218	1/2"	3"	CCD60-6	CCD82-6	CCD90-6
6	0.218	1/2"	4"	CCD60-6-4L	CCD82-6-4L	CCD90-6-4L
6	0.218	1/2"	6"	CCD60-6-6L	CCD82-6-6L	CCD90-6-6L
7	0.25	5/8"	3-1/2"	CCD60-7	CCD82-7	CCD90-7
8	0.312	3/4"	4"	CCD60-8	CCD82-8	CCD90-8





**TOLERANCE +.0000/- .0002
(ALSO AVAILABLE +.0002/- .0000)**

CYLINDRICAL (DRILL) BLANKS

M2, M42, ASP30 & T15PM

These cylindrical blanks are hardened and ground on the O.D. They are ideal for grinding into step drills, counterbores, and other end cutting tools. They can be also be used for punches, roll pins, step pins and many other tool room applications.

CAT. NO. SUFFIX	M2 -M	M42 -H	ASP30 -A30	T15PM -P
1/64 DIA X 1.5	-M			
1/32 DIA X 1.5	-M	-H		
3/64 DIA X 1.75	-M	-H		
1/16 DIA X 1.875	-M	-H		
1/16 DIA X 2.5			-A30	
5/64 DIA X 2	-M	-H		
3/32 DIA X 2.25	-M	-H		
3/32 DIA X 2.5			-A30	
7/64 DIA 2.75	-M	-H		
1/8 DIA X 2.5	-M		-A30	
1/8 DIA X 2.75	-M	-H		
1/8 DIA X 4	-M		-A30	
1/8 DIA X 6	-M		-A30	-P
9/64 DIA X 3	-M	-H		
5/32 DIA 3.25	-M	-H		
11/64 DIA X 3.25	-M	-H		
3/16 DIA X 2.5	-M		-A30	
3/16 DIA X 3.5	-M	-H		
3/16 DIA X 4	-M		-A30	-P
3/16 DIA X 6	-M		-A30	-P
13/64 DIA X 3.625	-M	-H		
7/32 DIA X 3.75	-M	-H		
15/64 DIA X 3.875	-M	-H		
1/4 DIA X 2.5	-M		-A30	-P
1/4 DIA X 4	-M	-H	-A30	-P
1/4 DIA X 6	-M		-A30	-P
17/64 DIA X 4.125	-M	-H		
9/32 DIA X 4.25	-M	-H		
19/64 DIA X 4.375	-M	-H		
5/16 DIA X 4	-M		-A30	-P
5/16 DIA X 4.5	-M	-H		
5/16 DIA X 6	-M		-A30	-P
21/64 DIA X 4.625	-M	-H		
11/32 DIA X 4.75	-M	-H		
23/64 DIA X 4.875	-M	-H		
3/8 DIA X 4	-M		-A30	-P
3/8 DIA X 5	-M	-H		
3/8 DIA X 6	-M		-A30	-P

CAT. NO. SUFFIX	M2 -M	M42 -H	ASP30 -A30	T15PM -P
25/64 DIA X 5.125	-M	-H		
13/32 DIA X 5.25	-M	-H		
27/64 DIA X 5.375	-M	-H		
7/16 DIA X 5.5	-M	-H		
7/16 DIA X 6	-M		-A30	-P
29/64 DIA X 5.625	-M	-H		
15/32 DIA X 5.75	-M	-H		
31/64 DIA X 5.875	-M	-H		
1/2 DIA X 4	-M		-A30	-P
1/2 DIA X 6	-M	-H	-A30	-P
33/64 DIA X 6	-M	-H		
33/64 DIA X 9	-M	-H		
33/64 DIA X 12	-M	-H		
17/32 DIA X 6	-M	-H		
17/32 DIA X 9	-M	-H		
17/32 DIA X 12	-M	-H		
35/64 DIA X 6	-M	-H		
35/64 DIA X 9	-M	-H		
35/64 DIA X 12	-M	-H		
9/16 DIA X 6	-M	-H		-P
9/16 DIA X 9	-M	-H		
9/16 DIA X 12	-M	-H		
37/64 DIA X 6	-M	-H		
37/64 DIA X 9	-M	-H		
37/64 DIA X 12	-M	-H		
19/32 DIA X 6	-M	-H		
19/32 DIA X 9	-M	-H		
19/32 DIA X 12	-M	-H		
39/64 DIA X 6	-M	-H		
39/64 DIA X 9	-M	-H		
39/64 DIA X 12	-M	-H		
5/8 DIA X 4	-M		-A30	-P
5/8 DIA X 6	-M	-H	-A30	-P
5/8 DIA X 9	-M	-H		
5/8 DIA X 12	-M	-H		
41/64 DIA X 6	-M	-H		
41/64 DIA X 9	-M	-H		
41/64 DIA X 12	-M	-H		

CAT. NO. SUFFIX	M2 -M	M42 -H	ASP30 -A30	T15PM -P
21/32 DIA X 6	-M	-H		
21/32 DIA X 9	-M	-H		
21/32 DIA X 12	-M	-H		
43/64 DIA X 6	-M	-H		
43/64 DIA X 9	-M	-H		
43/64 DIA X 12	-M	-H		
11/16 DIA X 6	-M	-H		
11/16 DIA X 9	-M	-H		
11/16 DIA X 12	-M	-H		
45/64 DIA X 6	-M	-H		
45/64 DIA X 9	-M	-H		
45/64 DIA X 12	-M	-H		
23/32 DIA X 6	-M	-H		
23/32 DIA X 9	-M	-H		
23/32 DIA X 12	-M	-H		
47/64 DIA X 6	-M	-H		
47/64 DIA X 9	-M	-H		
47/64 DIA X 12	-M	-H		
3/4 DIA X 4	-M		-A30	-P
3/4 DIA X 6	-M	-H	-A30	-P
3/4 DIA X 9	-M	-H		
3/4 DIA X 12	-M	-H		
49/64 DIA X 6	-M	-H		
49/64 DIA X 9	-M	-H		
49/64 DIA X 12	-M	-H		
25/32 DIA X 6	-M	-H		
25/32 DIA X 9	-M	-H		
25/32 DIA X 12	-M	-H		
51/64 DIA X 6	-M	-H		
51/64 DIA X 9	-M	-H		
51/64 DIA X 12	-M	-H		
13/16 DIA X 6	-M	-H		
13/16 DIA X 9	-M	-H		
13/16 DIA X 12	-M	-H		
53/64 DIA X 6	-M	-H		
53/64 DIA X 9	-M	-H		
53/64 DIA X 12	-M	-H		

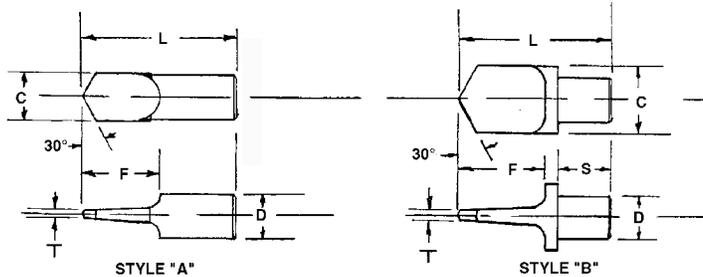
CAT. NO. SUFFIX	M2 -M	M42 -H	ASP30 -A30	T15PM -P
27/32 DIA X 6	-M	-H		
27/32 DIA X 9	-M	-H		
27/32 DIA X 12	-M	-H		
55/64 DIA X 6	-M	-H		
55/64 DIA X 9	-M	-H		
55/64 DIA X 12	-M	-H		
7/8 DIA X 6	-M	-H	-A30	-P
7/8 DIA X 9	-M	-H		
7/8 DIA X 12	-M	-H		
57/64 DIA X 6	-M	-H		
57/64 DIA X 9	-M	-H		
57/64 DIA X 12	-M	-H		
29/32 DIA X 6	-M	-H		
29/32 DIA X 9	-M	-H		
29/32 DIA X 12	-M	-H		
59/64 DIA X 6	-M	-H		
59/64 DIA X 9	-M	-H		
59/64 DIA X 12	-M	-H		
15/16 DIA X 6	-M	-H		
15/16 DIA X 9	-M	-H		
15/16 DIA X 12	-M	-H		
61/64 DIA X 6	-M	-H		
61/64 DIA X 9	-M	-H		
61/64 DIA X 12	-M	-H		
31/32 DIA X 6	-M	-H		
31/32 DIA X 9	-M	-H		
31/32 DIA X 12	-M	-H		
63/64 DIA X 6	-M	-H		
63/64 DIA X 9	-M	-H		
63/64 DIA X 12	-M	-H		
1" DIA X 6	-M	-H	-A30	-P
1" DIA X 9	-M	-H		
1" DIA X 12	-M	-H		

Metric Drill Blanks also available. Call with requests.

FLAT DRILL BLANKS HARDENED AND GROUND FLAT DRILL BLANKS



- Ready for step grinding to suit your job
- Eliminate flute grinding or milling
- Can be sharpened for right or left hand operation
- Short lengths for screw machine use
- No need to cut off length



M2 Cat. No.	T15pm Cat. No.	STYLE	D-.001	L	F	C + .010	S	T
FLDR-8	FLDR-8P	A	1/4"	2"	3/4"	1/4"	--	.050
FLDR-12	FLDR-12P	A	3/8"	2-1/4"	1"	3/8"	--	.060
FLDR-16	FLDR-16P	A	1/2"	2-1/2"	1-1/8"	1/2"	--	.070
FLDR-20	FLDR-20P	A	5/8"	2-3/4"	1-1/4"	5/8"	--	.090
FLDR-24	FLDR-24P	A	3/4"	3"	1-3/8"	3/4"	--	.100
FLDR-32	FLDR-32P	A	1"	3-1/2"	1-3/4"	1"	--	.110
FLDR-40	FLDR-40P	B	1"	3-1/2"	1-3/4"	1-1/4"	1-1/4"	.188
FLDR-48	FLDR-48P	B	1"	3-1/2"	1-1/2"	1-1/2"	1-1/4"	.218

CAM ROLLERS AND PINS

• HEAT TREATED ALLOY STEEL

For hardness and long life.

*Also used on
Slotting Attachments



- **PRECISION-MADE**
Pin O.D., Roll O.D. & I.D.
ground for accuracy and
smooth operation.

CHECK DIMENSIONAL REQUIREMENTS AND ORDER BY CATALOG NO.

MACHINE USED ON	Cat. No.	Part Name	Used On	B&S Ref. No.	Outside Diameter	Inside Diameter	Length or Width	Cotter Pin or Flat
No. 00 Prior to Serial #128582	*M3963	Pin	Lead Lever & Cross Slides	91-90-83/645	.250	—	1.062	Flat
	M3982	Roller	Lead Lever & Cross Slides	91-215-8	.500	.250	.312	—
	M3965	Pin	Cross & Vertical Slides	91-90-83/700	.250	—	1.062	Cotter Pin
	M3969	Pin	Lead Lever & Cross Slides	91-90-83	.250	—	1.250	Flat
No. 00 Begins with Serial #12852 and #542-00-3300	*M3973	Pin	Lead Lever	91-90-705	.250	—	1.312	Cotter Pin
	M3961	Pin	Cross Slide Some Machines	91-90-645	.250	—	1.000	Flat
	*M3984	Roller	Lead Lever, Cross & Vertical Slides	91-215-211	.500	.250	.375	—
	M3971	Pin	Lead Lever, Cross & Vertical Slides Some Machines	91-90-738	.250	—	1.250	Cotter Pin
No. 0 Prior to Serial #8020	*M3963	Pin	Lead Lever & Cross Slides	91-90-83	.250	—	1.062	Flat
	M3967	Pin	Cross Slide Some Machines	91-90-83	.250	—	1.125	Flat
	*M3986	Roller	Lead Lever & Cross Slides	91-215-9	.562	.250	.375	—
No. 0 Begins with Serial #8020	*M3973	Pin	Lead Lever	91-90-705/738	.250	—	1.312	Cotter Pin
	M3965	Pin	Cross & Vertical Slides	91-90-83/700	.250	—	1.062	Cotter Pin
	*M3988	Roller	Lead Lever, Cross & Vertical Slides	91-215-212	.562	.250	.437	—
	*M3971	Pin	Cross & Vertical Slides Some Machines	91-90-738	.250	—	1.250	Cotter Pin
	*M3986	Roller	Lead Lever, Cross & Vertical Slides Some Machines	91-215-9	.562	.250	.375	—
No. 2 Prior to Serial #7351	*M3975	Pin	Lead Lever & Cross Slides	91-90-82	.312	—	1.187	Flat
	*M3990	Roller	Lead Lever & Cross Slides	91-215-3	.625	.312	.437	—
No. 2 Begins with Serial #7351 and #542-2-3100	*M3977	Pin	Lead Lever*, Cross & Vertical Slides (*Except 542-2-3100)	91-90-752	.312	—	1.312	Cotter Pin
	*M3992	Roller	Lead Lever, Cross & Vertical Slides	91-215-220	.625	.312	.500	—
	M3979	Pin	Lead Lever (Begins Serial 542-2-3100)	42-17185-99	.312	—	1.833	Cotter Pin
No. 2 Ultramatic	M3981	Pin	Lead Lever	42-17185-1	.312	—	2.015	Cotter Pin
	M3994	Roller	Lead Lever	42-21653	.625	.312	.625	—

STEEL CAM BLANKS

For lead, cross-slide and vertical attachment on automatic screw machines. Blanks are 1020 steel, with finished center hole, locating hole, graduated in hundredths and face ground and blued for easy scribing.

STEEL FULL CAM BLANKS				
MACHINE SIZE	CAT. NO.	DIA.	WIDTH	I.D.
No. 00 B&S	CB00-4.5	4-1/2	1/4	1"
	CB00-5	5	1/4	1"
	CB00-5.5	5-1/2	1/4	1"
No. 0 B&S	CB0-6	6	5/16	1-1/8
	CB0-7	7	5/16	1-1/8
No. 2 B&S	CB2-7	7	3/8	1-1/4
	CB2-8	8	3/8	1-1/4
	CB2-9	9	3/8	1-1/4
	CB2-10	10	3/8	1-1/4

STEEL ROUGH CAM BLANKS

Blanks are 1020 steel, with finished center hole and locating hole - but without graduations or bluing. Saving for cam makers who do not require these features. Face ground for scribing.

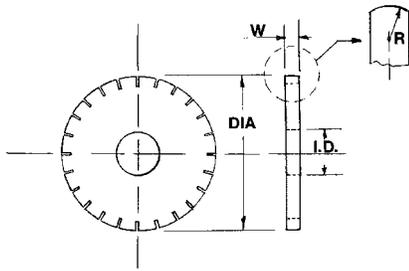
STEEL ROUGH CAM BLANKS				
MACHINE SIZE	CAT. NO.	DIA.	WIDTH	I.D.
No. 00 B&S	RCB00-4.5	4-1/2	1/4	1"
	RCB00-5	5	1/4	1"
	RCB00-5.5	5-1/2	1/4	1"
No. 0 B&S	RCB0-6	6	5/16	1-1/8
	RCB0-7	7	5/16	1-1/8
No. 2 B&S	RCB2-7	7	3/8	1-1/4
	RCB2-8	8	3/8	1-1/4
	RCB2-9	9	3/8	1-1/4
	RCB2-10	10	3/8	1-1/4



**GROUND
BOTH SIDES**

CAMS SHOULD BE CARBURIZED AND DEEP CASE HARDENED FOR LONGEST LIFE.

DEBURRING TOOLS FOR SLOTTING ATTACHMENTS OF B&S AND SWISS MACHINES

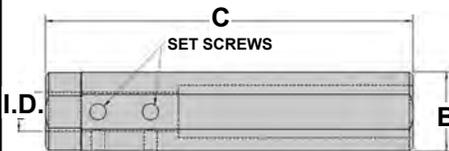


These high speed steel circular deburring tools fit the slotting attachment of B&S Screw Machines and Swiss Machines and remove cut-off burrs from the back end of the part completely, smoothly and uniformly.

The O.D. of the deburring tool is slightly crowned and the teeth are radial (without clearance) so as to only remove the cut-off burr without digging into the part.

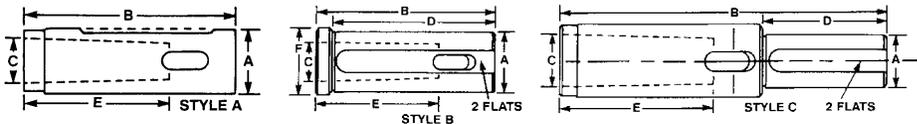
CAT. NO.	MACHINE SIZE	DIA.	I.D.	WIDTH
SBT-00	#00 B&S	1-3/4	5/8	3/16
SBT-0	#0 B&S	2-1/4	5/8	3/16
SBT-2	#2 B&S	2-3/4	3/4	1/4
SBT-SW	SWISS	25MM(1")	8MM(.315)	3/16

BORING BAR SLEEVES



B O.D.	C Length	I.D. Size / Cat. No.													
		1/4	5/16	3/8	1/2	5/8	3/4	7/8	1"	1-1/4	1-1/2	1-3/4	2"	2-1/2	
3/4	5"	53339	53400	53392	53393										
22MM	5"	53340	53341	53342	53343	53344									
1"	6"			53401	53402										
1-1/2	7"			53411	53412	53413	53414								
1-1/2	8"							53415	53416						
1-3/4	8"				53421	53425	53422	53426	53423						
2"	9"					53431	53432	53433	53434	53435					
2-1/2	10"					53441	53442		53443	53444	53445				
3"	11-1/2"								53450	53451	53452	53453	53454		
4"	14"										53460	53461	53462	53463	

TAPER DRILL SOCKETS SUPERIOR DESIGN/PREMIUM QUALITY



These taper drill sockets are hardened, precision ground, and concentric within .0002 of an inch. They fit directly into tool holders and turrets to positively drive all morse taper shank tools, drills, reamers, and counterbores.

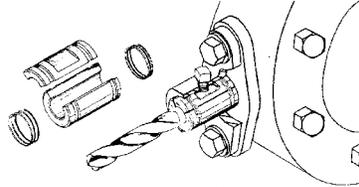
The straight shank style "A" taper drill sockets are manufactured in limited quantities and sizes. Please contact our courteous sales staff for availability and pricing information. Select the O.D. size that fits your machine and order from the chart below.

CAT. NO.	STYLE	SHANK DIA. A	B	MORSE TAPER C	D	E	F
MT1-0075	A	3/4	3-1/4	No. 1	2.313	2-3/16	1
*MT1-1000	B	1	3-3/4	No. 1	3.125	2-3/16	1-1/4
*MT2-1000	B	1	3-3/4	No. 2	3.125	2-5/8	1-1/4
*MT1-1250	B	1-1/4	4	No. 1	3.375	2-3/16	1-1/2
*MT2-1250	B	1-1/4	4	No. 2	3.375	2-5/8	1-1/2
*MT3-1250	B	1-1/4	4	No. 3	4.000	3-1/4	1-1/2
*MT1-1500	B	1-1/2	5	No. 1	4.375	2-3/16	1-3/4
*MT2-1500	B	1-1/2	5	No. 2	4.375	2-5/8	1-3/4
*MT3-1500	B	1-1/2	5	No. 3	4.375	3-1/4	1-3/4
*MT4-1500	B	1-1/2	5-3/4	No. 4	4.375	4-1/8	1-3/4
*MT1-1750	B	1-3/4	5-3/4	No. 1	5.125	2-3/16	2
*MT2-1750	B	1-3/4	5-3/4	No. 2	5.125	2-5/8	2
*MT3-1750	B	1-3/4	5-3/4	No. 3	5.125	3-1/4	2
*MT4-1750	B	1-3/4	5-3/4	No. 4	4.375	4-1/8	2

* Item available in style "A". Call for price and availability.

CAT. NO.	STYLE	SHANK DIA. A	B	MORSE TAPER C	D	E	F
MT5-1750	C	1-3/4	11-1/8	No. 5	4-1/4	5-1/4	2-3/8
MT2-2000	B	2	6-1/8	No. 2	5-1/2	2-5/8	2-1/4
MT3-2000	B	2	6-1/8	No. 3	5-1/2	3-1/4	2-1/4
MT4-2000	B	2	6-1/8	No. 4	5-1/2	4-1/8	2-1/4
MT5-2000	C	2	11-1/8	No. 5	4-1/4	5-1/4	2-3/8
MT2-2500	B	2-1/2	5-3/4	No. 2	5-1/8	2-5/8	2-3/4
MT3-2500	B	2-1/2	6-5/8	No. 3	6	3-1/4	2-3/4
MT4-2500	B	2-1/2	6-5/8	No. 4	6	4-1/8	2-3/4
MT5-2500	B	2-1/2	7-5/8	No. 5	7	5-1/4	2-3/4
MT4-3000	B	3	6-5/8	No. 4	6	4-1/8	3-3/8
MT5-3000	B	3	7-5/8	No. 5	7	5-1/4	3-3/8
MT4-2250	B	2-1/4	6-5/8	No. 4	6	4-1/8	2-1/2
MT5-2250	B	2-1/4	7-5/8	No. 5	7	5-1/4	2-1/2
MT4-2750	B	2-3/4	6-5/8	No. 4	6	4-1/8	3
MT5-2750	B	2-3/4	7-5/8	No. 5	7	5-1/4	3

MISC.



ACCURATE, LONG-LASTING, TIGHT-GRIPPING

UNIQUE DESIGN -- Bushing grips the drill around three-quarters of its circumference and fits the hole in the holder in the same manner. Result? More accurate fitting and line-up of drill and bushing.

POSITIVE OPERATION -- Entire length of bushing firmly clamps drill shank. Less chance of drill being pushed back.

HEAT-TREATED FOR LONG LIFE -- Made of quality carburizing steel and heat-treated.

- 1-1/4" OD TAP AND DRILL BUSHINGS/PRICE ON APPLICATION
- 1-1/2" OD TAP AND DRILL BUSHINGS/PRICE ON APPLICATION

DRILL HOLDER BUSHING SETS AND TAP HOLDER BUSHING SETS NOW AVAILABLE

- NOW YOU CAN ORDER COMPLETE SETS OF DRILL HOLDER BUSHINGS AND TAP HOLDER BUSHINGS, PACKAGED IN A CONVENIENT STORAGE CASE. THE PRICE OF A SET IS 10% LESS THAN WHEN EACH BUSHING IS ORDERED SEPARATELY.
- DRILL BUSHING SETS INCLUDE 1 EACH OF ALL BUSHINGS LISTED BELOW BY COLUMN.

REPLACEMENT RETAINING SPRINGS

Bushing Size	Cat. No.
#00	MB00-RS
#0	MB0-RS
#2	MB2-RS

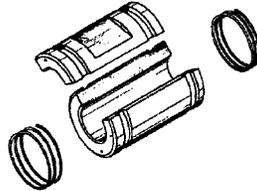
BUSHING DIMENSIONS

#00	1/2" O.D. x 3/4" Long
#0	5/8" O.D. x 7/8" Long
#2	1" O.D. x 1-1/4" Long

#00 DRILL BUSHINGS 1/2" OD X 3/4" LONG							
FRACTIONAL	LETTER	NUMBER			METRIC		
MB00-1/64	MB00-A	MB00-#1	MB00-26	MB00-51	MB00-1.00MM	MB00-4.30MM	MB00-7.60MM
MB00-1/32	MB00-B	MB00-2	MB00-27	MB00-52	MB00-1.10MM	MB00-4.40MM	MB00-7.70MM
MB00-3/64	MB00-C	MB00-3	MB00-28	MB00-53	MB00-1.20MM	MB00-4.50MM	MB00-7.80MM
MB00-1/16	MB00-D	MB00-4	MB00-29	MB00-54	MB00-1.30MM	MB00-4.60MM	MB00-7.90MM
MB00-5/64	MB00-E	MB00-5	MB00-30	MB00-55	MB00-1.40MM	MB00-4.70MM	MB00-8.00MM
MB00-3/32	MB00-F	MB00-6	MB00-31	MB00-56	MB00-1.50MM	MB00-4.80MM	MB00-8.10MM
MB00-7/64	MB00-G	MB00-7	MB00-32	MB00-57	MB00-1.60MM	MB00-4.90MM	MB00-8.20MM
MB00-1/8	MB00-H	MB00-8	MB00-33	MB00-58	MB00-1.70MM	MB00-5.00MM	MB00-8.30MM
MB00-9/64	MB00-I	MB00-9	MB00-34	MB00-59	MB00-1.80MM	MB00-5.10MM	MB00-8.40MM
MB00-5/32	MB00-J	MB00-10	MB00-35	MB00-60	MB00-1.90MM	MB00-5.20MM	MB00-8.50MM
MB00-11/64	MB00-K	MB00-11	MB00-36	MB00-61	MB00-2.00MM	MB00-5.30MM	MB00-8.60MM
MB00-3/16	MB00-L	MB00-12	MB00-37	MB00-62	MB00-2.10MM	MB00-5.40MM	MB00-8.70MM
MB00-13/64	MB00-M	MB00-13	MB00-38	MB00-63	MB00-2.20MM	MB00-5.50MM	MB00-8.80MM*
MB00-7/32	MB00-N	MB00-14	MB00-39	MB00-64	MB00-2.30MM	MB00-5.60MM	MB00-8.90MM*
MB00-15/64	MB00-O	MB00-15	MB00-40	MB00-65	MB00-2.40MM	MB00-5.70MM	MB00-9.00MM*
MB00-1/4	MB00-P	MB00-16	MB00-41	MB00-66	MB00-2.50MM	MB00-5.80MM	MB00-9.10MM*
MB00-17/64	MB00-Q	MB00-17	MB00-42	MB00-67	MB00-2.60MM	MB00-5.90MM	MB00-9.20MM*
MB00-9/32	MB00-R	MB00-18	MB00-43	MB00-68	MB00-2.70MM	MB00-6.00MM	MB00-9.30MM*
MB00-19/64	MB00-S*	MB00-19	MB00-44	MB00-69	MB00-2.80MM	MB00-6.10MM	MB00-9.40MM*
MB00-5/16	MB00-T*	MB00-20	MB00-45	MB00-70	MB00-2.90MM	MB00-6.20MM	MB00-9.50MM*
MB00-21/64	MB00-U*	MB00-21	MB00-46	MB00-71	MB00-3.00MM	MB00-6.30MM	MB00-9.60MM*
MB00-11/32	MB00-V*	MB00-22	MB00-47	MB00-72	MB00-3.10MM	MB00-6.40MM	MB00-9.70MM*
MB00-23/64*	MB00-W*	MB00-23	MB00-48	MB00-73	MB00-3.20MM	MB00-6.50MM	MB00-9.80MM*
MB00-3/8*	MB00-X*	MB00-24	MB00-49	MB00-74	MB00-3.30MM	MB00-6.60MM	MB00-9.90MM*
MB00-25/64*	MB00-Y*	MB00-25	MB00-50	MB00-75	MB00-3.40MM	MB00-6.70MM	MB00-10.00MM*
MB00-13/32*	MB00-Z*			MB00-76	MB00-3.50MM	MB00-6.80MM	MB00-10.20MM*
MB00-27/64*				MB00-77	MB00-3.60MM	MB00-6.90MM	MB00-10.50MM*
MB00-7/16*				MB00-78	MB00-3.70MM	MB00-7.00MM	MB00-10.80MM*
MB00-29/64*				MB00-79	MB00-3.80MM	MB00-7.10MM	MB00-11.00MM*
MB00-15/32*				MB00-80	MB00-3.90MM	MB00-7.20MM	MB00-11.20MM*
MB00-31/64*					MB00-4.00MM	MB00-7.30MM	MB00-11.50MM*
					MB00-4.10MM	MB00-7.40MM	MB00-11.80MM*
					MB00-4.20MM	MB00-7.50MM	MB00-12.00MM*
MB00-1SET	MB00-2SET	MB00-3SET	MB00-4SET	MB00-5SET			

*Thin wall bushings have only 1 split instead of 2 and have no retainer springs.

**NOTE: Thin wall bushings have only 1 split instead of 2 and have no retainer springs.*



Drill Bushing Sets include 1 each of all bushings listed on this page by column. The sets are packaged in a convenient storage case. The price for a set is 10% less than when each bushing is ordered separately.

#0 DRILL BUSHINGS 5/8" OD X 7/8" LONG

FRACTIONAL	LETTER	NUMBER			METRIC			
MB0-1/16	MB0-A	MB0-#1	MB0-26	MB0-51	MB0-1.00MM	MB0-3.80MM	MB0-6.60MM	MB0-9.40MM
MB0-5/64	MB0-B	MB0-2	MB0-27	MB0-52	MB0-1.10MM	MB0-3.90MM	MB0-6.70MM	MB0-9.50MM
MB0-3/32	MB0-C	MB0-3	MB0-28	MB0-53	MB0-1.20MM	MB0-4.00MM	MB0-6.80MM	MB0-9.60MM
MB0-7/64	MB0-D	MB0-4	MB0-29	MB0-54	MB0-1.30MM	MB0-4.10MM	MB0-6.90MM	MB0-9.70MM
MB0-1/8	MB0-E	MB0-5	MB0-30	MB0-55	MB0-1.40MM	MB0-4.20MM	MB0-7.00MM	MB0-9.80MM
MB0-9/64	MB0-F	MB0-6	MB0-31	MB0-56	MB0-1.50MM	MB0-4.30MM	MB0-7.10MM	MB0-9.90MM
MB0-5/32	MB0-G	MB0-7	MB0-32	MB0-57	MB0-1.60MM	MB0-4.40MM	MB0-7.20MM	MB0-10.00MM
MB0-11/64	MB0-H	MB0-8	MB0-33	MB0-58	MB0-1.70MM	MB0-4.50MM	MB0-7.30MM	MB0-10.20MM
MB0-3/16	MB0-I	MB0-9	MB0-34	MB0-59	MB0-1.80MM	MB0-4.60MM	MB0-7.40MM	MB0-10.50MM
MB0-13/64	MB0-J	MB0-10	MB0-35	MB0-60	MB0-1.90MM	MB0-4.70MM	MB0-7.50MM	MB0-10.80MM
MB0-7/32	MB0-K	MB0-11	MB0-36	MB0-61	MB0-2.00MM	MB0-4.80MM	MB0-7.60MM	MB0-11.00MM*
MB0-15/64	MB0-L	MB0-12	MB0-37	MB0-62	MB0-2.10MM	MB0-4.90MM	MB0-7.70MM	MB0-11.20MM*
MB0-1/4	MB0-M	MB0-13	MB0-38	MB0-63	MB0-2.20MM	MB0-5.00MM	MB0-7.80MM	MB0-11.50MM*
MB0-17/64	MB0-N	MB0-14	MB0-39	MB0-64	MB0-2.30MM	MB0-5.10MM	MB0-7.90MM	MB0-11.80MM*
MB0-9/32	MB0-O	MB0-15	MB0-40	MB0-65	MB0-2.40MM	MB0-5.20MM	MB0-8.00MM	MB0-12.00MM*
MB0-19/64	MB0-P	MB0-16	MB0-41	MB0-66	MB0-2.50MM	MB0-5.30MM	MB0-8.10MM	MB0-12.20MM*
MB0-5/16	MB0-Q	MB0-17	MB0-42	MB0-67	MB0-2.60MM	MB0-5.40MM	MB0-8.20MM	MB0-12.50MM*
MB0-21/64	MB0-R	MB0-18	MB0-43	MB0-68	MB0-2.70MM	MB0-5.50MM	MB0-8.30MM	MB0-12.80MM*
MB0-11/32	MB0-S	MB0-19	MB0-44	MB0-69	MB0-2.80MM	MB0-5.60MM	MB0-8.40MM	MB0-13.00MM*
MB0-23/64	MB0-T	MB0-20	MB0-45	MB0-70	MB0-2.90MM	MB0-5.70MM	MB0-8.50MM	MB0-13.20MM*
MB0-3/8	MB0-U	MB0-21	MB0-46	MB0-71	MB0-3.00MM	MB0-5.80MM	MB0-8.60MM	MB0-13.50MM*
MB0-25/64	MB0-V	MB0-22	MB0-47	MB0-72	MB0-3.10MM	MB0-5.90MM	MB0-8.70MM	MB0-13.80MM*
MB0-13/32	MB0-W	MB0-23	MB0-48	MB0-73	MB0-3.20MM	MB0-6.00MM	MB0-8.80MM	MB0-14.00MM*
MB0-27/64	MB0-X	MB0-24	MB0-49	MB0-74	MB0-3.30MM	MB0-6.10MM	MB0-8.90MM	MB0-14.25MM*
MB0-7/16*	MB0-Y	MB0-25	MB0-50	MB0-75	MB0-3.40MM	MB0-6.20MM	MB0-9.00MM	MB0-14.50MM*
MB0-29/64*	MB0-Z			MB0-76	MB0-3.50MM	MB0-6.30MM	MB0-9.10MM	MB0-14.75MM*
MB0-15/32*				MB0-77	MB0-3.60MM	MB0-6.40MM	MB0-9.20MM	MB0-15.00MM*
MB0-31/64*				MB0-78	MB0-3.70MM	MB0-6.50MM	MB0-9.30MM	MB0-15.25MM*
MB0-1/2*				MB0-79				MB0-15.50MM*
MB0-33/64*				MB0-80				
MB0-17/32*								
MB0-35/64*								
MB0-9/16*								
MB0-37/64*								
MB0-19/32*								
MB0-39/64*								
MB0-1SET	MB0-2SET	MB0-3SET	MB0-4SET	MB0-5SET				

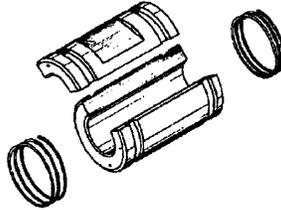


**NOW YOU CAN CALL
SOMMA TOOL IF YOU NEED...**



**BROWN & SHARPE
OR WARNER & SWASEY
TOOLING & REPAIR PARTS**

****NOTE:** Thin wall bushings have only 1 split instead of 2 and have no retainer springs.



Drill Bushing Sets include 1 each of all bushings listed on this page by column. The sets are packaged in a convenient storage case. The price for a set is 10% less than when each bushing is ordered separately.

#2 DRILL BUSHINGS 1" OD X 1-1/4" LONG							
FRACTIONAL			LETTER		NUMBER		
MB2-1/16	MB2-25/64	MB2-23/32	MB2-A	MB2-N	MB2-#1	MB2-22	MB2-43
MB2-5/64	MB2-13/32	MB2-47/64	MB2-B	MB2-O	MB2-2	MB2-23	MB2-44
MB2-3/32	MB2-27/64	MB2-3/4	MB2-C	MB2-P	MB2-3	MB2-24	MB2-45
MB2-7/64	MB2-7/16	MB2-49/64*	MB2-D	MB2-Q	MB2-4	MB2-25	MB2-46
MB2-1/8	MB2-29/64	MB2-25/32*	MB2-E	MB2-R	MB2-5	MB2-26	MB2-47
MB2-9/64	MB2-15/32	MB2-51/64*	MB2-F	MB2-S	MB2-6	MB2-27	MB2-48
MB2-5/32	MB2-31/64	MB2-13/16*	MB2-G	MB2-T	MB2-7	MB2-28	MB2-49
MB2-11/64	MB2-1/2	MB2-53/64*	MB2-H	MB2-U	MB2-8	MB2-29	MB2-50
MB2-3/16	MB2-33/64	MB2-27/32*	MB2-I	MB2-V	MB2-9	MB2-30	MB2-51
MB2-13/64	MB2-17/32	MB2-55/64*	MB2-J	MB2-W	MB2-10	MB2-31	MB2-52
MB2-7/32	MB2-35/64	MB2-7/8*	MB2-K	MB2-X	MB2-11	MB2-32	MB2-53
MB2-15/64	MB2-9/16	MB2-57/64*	MB2-L	MB2-Y	MB2-12	MB2-33	MB2-54
MB2-1/4	MB2-37/64	MB2-29/32*	MB2-M	MB2-Z	MB2-13	MB2-34	MB2-55
MB2-17/64	MB2-19/32	MB2-59/64*			MB2-14	MB2-35	MB2-56
MB2-9/32	MB2-39/64	MB2-15/16*			MB2-15	MB2-36	MB2-57
MB2-19/64	MB2-5/8	MB2-61/64*			MB2-16	MB2-37	MB2-58
MB2-5/16	MB2-41/64	MB2-31/32*			MB2-17	MB2-38	MB2-59
MB2-21/64	MB2-21/32	MB2-63/64*			MB2-18	MB2-39	MB2-60
MB2-11/32	MB2-43/64				MB2-19	MB2-40	MB2-61
MB2-23/64	MB2-11/16				MB2-20	MB2-41	MB2-62
MB2-3/8	MB2-45/64				MB2-21	MB2-42	MB2-63
MB2-1SET	MB2-2SET	MB2-3SET	MB2-7SET	MB2-8SET	MB2-4SET	MB2-5SET	MB2-6SET

#2 DRILL BUSHINGS 1" OD X 1-1/4" LONG					
METRIC					
MB2-2.00MM	MB2-4.10MM	MB2-6.20MM	MB2-8.30MM	MB2-11.00MM	MB2-16.25MM
MB2-2.10MM	MB2-4.20MM	MB2-6.30MM	MB2-8.40MM	MB2-11.20MM	MB2-16.50MM
MB2-2.20MM	MB2-4.30MM	MB2-6.40MM	MB2-8.50MM	MB2-11.50MM	MB2-16.75MM
MB2-2.30MM	MB2-4.40MM	MB2-6.50MM	MB2-8.60MM	MB2-11.80MM	MB2-17.00MM
MB2-2.40MM	MB2-4.50MM	MB2-6.60MM	MB2-8.70MM	MB2-12.00MM	MB2-17.25MM
MB2-2.50MM	MB2-4.60MM	MB2-6.70MM	MB2-8.80MM	MB2-12.20MM	MB2-17.50MM
MB2-2.60MM	MB2-4.70MM	MB2-6.80MM	MB2-8.90MM	MB2-12.50MM	MB2-18.00MM
MB2-2.70MM	MB2-4.80MM	MB2-6.90MM	MB2-9.00MM	MB2-12.80MM	MB2-18.50MM
MB2-2.80MM	MB2-4.90MM	MB2-7.00MM	MB2-9.10MM	MB2-13.00MM	MB2-19.00MM
MB2-2.90MM	MB2-5.00MM	MB2-7.10MM	MB2-9.20MM	MB2-13.20MM	MB2-19.50MM*
MB2-3.00MM	MB2-5.10MM	MB2-7.20MM	MB2-9.30MM	MB2-13.50MM	MB2-20.00MM*
MB2-3.10MM	MB2-5.20MM	MB2-7.30MM	MB2-9.40MM	MB2-13.80MM	MB2-20.50MM*
MB2-3.20MM	MB2-5.30MM	MB2-7.40MM	MB2-9.50MM	MB2-14.00MM	MB2-21.00MM*
MB2-3.30MM	MB2-5.40MM	MB2-7.50MM	MB2-9.60MM	MB2-14.25MM	MB2-21.50MM*
MB2-3.40MM	MB2-5.50MM	MB2-7.60MM	MB2-9.70MM	MB2-14.50MM	MB2-22.00MM*
MB2-3.50MM	MB2-5.60MM	MB2-7.70MM	MB2-9.80MM	MB2-14.75MM	MB2-22.50MM*
MB2-3.60MM	MB2-5.70MM	MB2-7.80MM	MB2-9.90MM	MB2-15.00MM	MB2-23.00MM*
MB2-3.70MM	MB2-5.80MM	MB2-7.90MM	MB2-10.00MM	MB2-15.25MM	MB2-23.50MM*
MB2-3.80MM	MB2-5.90MM	MB2-8.00MM	MB2-10.20MM	MB2-15.50MM	MB2-24.00MM*
MB2-3.90MM	MB2-6.00MM	MB2-8.10MM	MB2-10.50MM	MB2-15.75MM	MB2-24.50MM*
MB2-4.00MM	MB2-6.10MM	MB2-8.20MM	MB2-10.80MM	MB2-16.00MM	MB2-25.00MM*

TAP HOLDER BUSHINGS

SIZE OF TAP USED**	TAP SHANK DIA.	#00	#0	#2
		1/2 OD x 3/4 long CAT. NO.	5/8 OD x 7/8 long CAT. NO.	1" OD x 1-1/4 long CAT. NO.
#0 thru #6	.141	1001	1101	1201
#7-#8-5/32	.168	1002	1102	1202
#9-#10-3/16	.194	1003	1103	1203
#12-7/32	.220	1004	1104	1204
#14-1/4	.255	1005	1105	1205
9/32	.286	1006	1106	1206
5/16	.318	1007	1107	1207
11/32	.349	1008	1108	1208
3/8	.381	1009*	1109	1209
13/32-7/16	.323	1010*	1110	1210
15/32	.354	—	1111	1211
1/2	.367	—	1112	1212
17/32	.398	—	1113	1213
9/16	.429	—	1114	1214
19/32	.460	—	1115*	1215
5/8	.480	—	1116*	1216
21/32	.511	—	1117*	1217
11/16	.542	—	1118*	1218
23/32	.573	—	—	1219
3/4	.590	—	—	1220
25/32	.621	—	—	1221
13/16	.652	—	—	1222
27/32	.684	—	—	1223
7/8	.697	—	—	1224
15/16	.760	—	—	1225*
1"	.800	—	—	1226*
1-1/16-1-1/8	.896	—	—	1227*

- * Note: Thin wall bushings have only 1 split instead of 2 and have no retainer springs
- ** NOMINAL OD OF THREAD THAT TAP WILL CUT.
- *** FOR TAPS SMALLER THAN #7 USE #0 TAP HOLDER AND TA02 ADAPTER.

PIPE TAP BUSHINGS

1/16	.312	1050	1150	1250
1/8	.437	1051	1151*	1251
1/4	.562	—	1152*	1252
3/8	.701	—	—	1253
1/2	.688	—	—	1254
5/8	.813	—	—	1255
3/4	.907	—	—	1256*

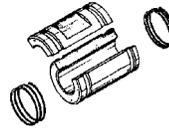
UNIQUE DESIGN -- Bushing grips the tap around three-quarters of its circumference and fits the hole in the floating holder in the same manner. Result? More accurate fitting and line-up of tap and bushing.

POSITIVE OPERATION -- Entire length of bushing firmly clamps tap shank. Less chance of tap being pushed back. HEAT-TREATED FOR LONG LIFE -- Made of quality carburizing steel and heat-treated.

TAP BUSHING SETS

00TAPSET	= 1001 thru 1051
0TAPSET	= 1101 thru 1152
2ATAPSET	= 1202 thru 1214
2BTAPSET	= 1215 thru 1227
2CTAPSET	= 1250 thru 1256

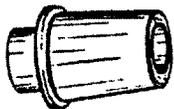
- The sets are packaged in a convenient storage case.
- The price for a set is **10% less** than when each bushing is ordered separately.



SLOTTING BUSHINGS FOR BROWN & SHARPE AUTOMATICS

- TAPER SHANKS OF ALL BUSHINGS ARE GROUND
- MADE OF C1117 STEEL

- SHOULD BE CASE HARDENED .005" DEEP AFTER MACHINING FOR BEST RESULTS



STYLE A -- Standard Slotting Bushing with hole in shank.

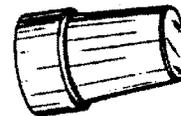
STYLE B -- Same as Style "A", except WITHOUT hole in shank.



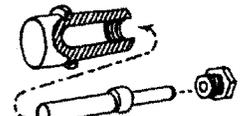
STYLE C -- Has larger head end to accommodate larger capacities of later model machines. Maximum sizes bushings can pick up: #00 -- 7/16, #0 -- 5/8, #2 -- 3/4, #22 -- 7/8. (Note: The #00 size is also available with short shank. When ordering specify "#00 Style C -- SHORT SHANK")



STYLE D -- For use in later model H.S. #00 machines. Same as Style "A", except with shortened shank to fit lighter swing arm of H.S. machines.



STYLE E -- Has same diameter head as Style C, except head length is longer, as follows: #00 -- 5/8, #0 -- 3/4, #2 -- 1", #22 -- 1-1/8.



STYLE F -- No. 00 only Used for small work where the ejection slot in bushing would prevent effective holding.

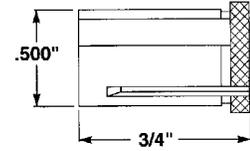
SOMMA	B&S REF. NO.
SB00-A	42-14598-99
SB00-D	42-6640-99
SB0-A	42-14600-99
SB2-A	42-14602-99
SB2-C	42-14603-99
SB22-A	42-14602-1
SB22-C	42-14603-1

SLOTTING BUSHING CATALOG NUMBERS

Machine Size	Style A	Style B	Style C	Style C Short	Style D	Style E	Style F
#00 B&S	SB00-A	SB00-B	SB00-C	SB00-C-S	SB00-D	SB00-E	SB00-F
#0 B&S	SB0-A	SB0-B	SB0-C	—	—	SB0-E	—
#2 B&S	SB2-A	SB2-B	SB2-C	—	—	SB2-E	—
#2 B&S*	SB22-A	SB22-B	SB22-C	—	—	SB22-E	—

* NOTE: SB22 Bushings are for #2B&S Automatic Screw Machines starting with Serial No. 542-2-3100.

HARDENED & GROUND, SPLIT



Inch Fractional

Part Number	Size	Part Number	Size	Part Number	Size	Part Number	Size
1763-00-19-000312	.0312" 1/32"	1763-00-19-001250	.1250" 1/8"	1763-00-19-002187	.2187" 7/32"	1763-00-19-003125	.3125" 5/16"
1763-00-19-000468	.0468" 3/64"	1763-00-19-001406	.1406" 9/64"	1763-00-19-002343	.2343" 15/64"	1763-00-19-003281	.3281" 21/64"
1763-00-19-000625	.0625" 1/16"	1763-00-19-001562	.1562" 5/32"	1763-00-19-002500	.2500" 1/4"	1763-00-19-003437	.3437" 11/32"
1763-00-19-000781	.0781" 5/64"	1763-00-19-001718	.1718" 11/64"	1763-00-19-002656	.2656" 17/64"	1763-00-19-003593	.3593" 23/64"
1763-00-19-000937	.0937" 3/32"	1763-00-19-001875	.1875" 3/16"	1763-00-19-002812	.2812" 9/32"	1763-00-19-003750	.3750" 3/8"
1763-00-19-001093	.1093" 7/64"	1763-00-19-002031	.2031" 13/64"	1763-00-19-002968	.2968" 19/64"	-	-

Tap - No Square

Part Number	Size		Part Number	Size		Part Number	Size		Part Number	Size	
	Bore	Tap		Bore	Tap		Bore	Tap		Bore	Tap
1763-00-18-001410	.141"	#0-6	1763-00-18-002200	.220"	#12	1763-00-18-003230	.323"	7/16"	1763-00-18-003810	.381"	3/8"
1763-00-18-001680	.168"	#8	1763-00-18-002550	.255"	1/4"	1763-00-18-003670	.367"	1/2"	-	-	-
1763-00-18-001940	.194"	#10	1763-00-18-003180	.318"	5/16"	-	-	-	-	-	-

Letter

Part Number	Size	Part Number	Size	Part Number	Size	Part Number	Size
1763-00-16-002340	.2340" A	1763-00-16-002610	.2610" G	1763-00-16-002950	.2950" M	1763-00-16-003480	.3480" S
1763-00-16-002380	.2380" B	1763-00-16-002660	.2660" H	1763-00-16-003020	.3020" N	1763-00-16-003580	.3580" T
1763-00-16-002420	.2420" C	1763-00-16-002720	.2720" I	1763-00-16-003160	.3160" O	1763-00-16-003680	.3680" U
1763-00-16-002460	.2460" D	1763-00-16-002770	.2770" J	1763-00-16-003230	.3230" P	1763-00-16-003770	.3770" V
1763-00-16-002500	.2500" E	1763-00-16-002810	.2810" K	1763-00-16-003320	.3320" Q	-	-
1763-00-16-002570	.2570" F	1763-00-16-002900	.2900" L	1763-00-16-003390	.3390" R	-	-

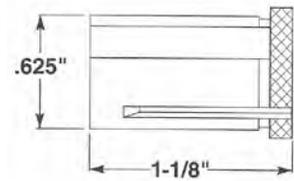
Number

Part Number	Size	Part Number	Size	Part Number	Size	Part Number	Size
1763-00-15-000320	.0320" 67	1763-00-15-000700	.0700" 50	1763-00-15-001130	.1130" 33	1763-00-15-001770	.1770" 16
1763-00-15-000330	.0330" 66	1763-00-15-000730	.0730" 49	1763-00-15-001160	.1160" 32	1763-00-15-001800	.1800" 15
1763-00-15-000350	.0350" 65	1763-00-15-000760	.0760" 48	1763-00-15-001200	.1200" 31	1763-00-15-001820	.1820" 14
1763-00-15-000360	.0360" 64	1763-00-15-000785	.0785" 47	1763-00-15-001285	.1285" 30	1763-00-15-001850	.1850" 13
1763-00-15-000370	.0370" 63	1763-00-15-000810	.0810" 46	1763-00-15-001360	.1360" 29	1763-00-15-001890	.1890" 12
1763-00-15-000380	.0380" 62	1763-00-15-000820	.0820" 45	1763-00-15-001405	.1405" 28	1763-00-15-001910	.1910" 11
1763-00-15-000390	.0390" 61	1763-00-15-000860	.0860" 44	1763-00-15-001440	.1440" 27	1763-00-15-001935	.1935" 10
1763-00-15-000400	.0400" 60	1763-00-15-000890	.0890" 43	1763-00-15-001470	.1470" 26	1763-00-15-001960	.1960" 9
1763-00-15-000410	.0410" 59	1763-00-15-000935	.0935" 42	1763-00-15-001495	.1495" 25	1763-00-15-001990	.1990" 8
1763-00-15-000420	.0420" 58	1763-00-15-000960	.0960" 41	1763-00-15-001520	.1520" 24	1763-00-15-002010	.2010" 7
1763-00-15-000430	.0430" 57	1763-00-15-000980	.0980" 40	1763-00-15-001540	.1540" 23	1763-00-15-002040	.2040" 6
1763-00-15-000465	.0465" 56	1763-00-15-000995	.0995" 39	1763-00-15-001570	.1570" 22	1763-00-15-002055	.2055" 5
1763-00-15-000520	.0520" 55	1763-00-15-001015	.1015" 38	1763-00-15-001590	.1590" 21	1763-00-15-002090	.2090" 4
1763-00-15-000550	.0550" 54	1763-00-15-001040	.1040" 37	1763-00-15-001610	.1610" 20	1763-00-15-002130	.2130" 3
1763-00-15-000595	.0595" 53	1763-00-15-001065	.1065" 36	1763-00-15-001660	.1660" 19	1763-00-15-002210	.2210" 2
1763-00-15-000635	.0635" 52	1763-00-15-001100	.1100" 35	1763-00-15-001695	.1695" 18	1763-00-15-002280	.2280" 1
1763-00-15-000670	.0670" 51	1763-00-15-001110	.1110" 34	1763-00-15-001730	.1730" 17	-	-

Metric

Part Number	Size		Part Number	Size		Part Number	Size		Part Number	Size	
	mm	Inch		mm	Inch		mm	Inch		mm	Inch
1763-00-17-010000	1	.0393"	1763-00-17-026000	2.6	.1023"	1763-00-17-042000	4.2	.1653"	1763-00-17-070000	7	.2755"
1763-00-17-012000	1.2	.0472"	1763-00-17-028000	2.8	.1102"	1763-00-17-044000	4.4	.1732"	1763-00-17-075000	7.5	.2952"
1763-00-17-014000	1.4	.0551"	1763-00-17-030000	3	.1181"	1763-00-17-045000	4.5	.1771"	1763-00-17-080000	8	.3149"
1763-00-17-016000	1.6	.0629"	1763-00-17-032000	3.2	.1259"	1763-00-17-046000	4.6	.1811"	1763-00-17-085000	8.5	.3346"
1763-00-17-018000	1.8	.0590"	1763-00-17-034000	3.4	.1338"	1763-00-17-048000	4.8	.1889"	1763-00-17-090000	9	.3543"
1763-00-17-020000	2	.0787"	1763-00-17-035000	3.5	.1377"	1763-00-17-050000	5	.1968"	1763-00-17-095000	9.5	.3740"
1763-00-17-022000	2.2	.0866"	1763-00-17-036000	3.6	.1417"	1763-00-17-055000	5.5	.2165"	1763-00-17-100000	100	.3937"
1763-00-17-024000	2.4	.0944"	1763-00-17-038000	3.8	.1496"	1763-00-17-060000	6	.2362"	-	-	-
1763-00-17-025000	2.5	.0984"	1763-00-17-040000	4	.1574"	1763-00-17-065000	6.5	.2559"	-	-	-

HARDENED & GROUND, SPLIT



Inch Fractional

Part Number	Size		Part Number	Size		Part Number	Size		Part Number	Size	
1763-00-19-000312	.0312"	1/32"	1763-00-19-001250	.1250"	1/8"	1763-00-19-002187	.2187"	7/32"	1763-00-19-003125	.3125"	5/16"
1763-00-19-000468	.0468"	3/64"	1763-00-19-001406	.1406"	9/64"	1763-00-19-002343	.2343"	15/64"	1763-00-19-003281	.3281"	21/64"
1763-00-19-000625	.0625"	1/16"	1763-00-19-001562	.1562"	5/32"	1763-00-19-002500	.2500"	1/4"	1763-00-19-003437	.3437"	11/32"
1763-00-19-000781	.0781"	5/64"	1763-00-19-001718	.1718"	11/64"	1763-00-19-002656	.2656"	17/64"	1763-00-19-003593	.3593"	23/64"
1763-00-19-000937	.0937"	3/32"	1763-00-19-001875	.1875"	3/16"	1763-00-19-002812	.2812"	9/32"	1763-00-19-003750	.3750"	3/8"
1763-00-19-001093	.1093"	7/64"	1763-00-19-002031	.2031"	13/64"	1763-00-19-002968	.2968"	19/64"	-	-	-

Tap - No Square

Part Number	Size		Part Number	Size		Part Number	Size		Part Number	Size	
	Bore	Tap		Bore	Tap		Bore	Tap		Bore	Tap
1763-00-18-001410	.141"	#0-6	1763-00-18-002200	.220"	#12	1763-00-18-003230	.323"	7/16"	1763-00-18-003810	.381"	3/8"
1763-00-18-001680	.168"	#8	1763-00-18-002550	.255"	1/4"	1763-00-18-003670	.367"	1/2"	-	-	-
1763-00-18-001940	.194"	#10	1763-00-18-003180	.318"	5/16"	-	-	-	-	-	-

Letter

Part Number	Size		Part Number	Size		Part Number	Size		Part Number	Size	
1763-00-16-002340	.2340"	A	1763-00-16-002610	.2610"	G	1763-00-16-002950	.2950"	M	1763-00-16-003480	.3480"	S
1763-00-16-002380	.2380"	B	1763-00-16-002660	.2660"	H	1763-00-16-003020	.3020"	N	1763-00-16-003580	.3580"	T
1763-00-16-002420	.2420"	C	1763-00-16-002720	.2720"	I	1763-00-16-003160	.3160"	O	1763-00-16-003680	.3680"	U
1763-00-16-002460	.2460"	D	1763-00-16-002770	.2770"	J	1763-00-16-003230	.3230"	P	1763-00-16-003770	.3770"	V
1763-00-16-002500	.2500"	E	1763-00-16-002810	.2810"	K	1763-00-16-003320	.3320"	Q	-	-	-
1763-00-16-002570	.2570"	F	1763-00-16-002900	.2900"	L	1763-00-16-003390	.3390"	R	-	-	-

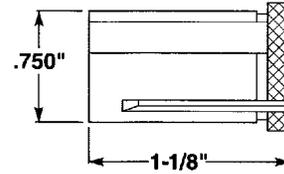
Number

Part Number	Size		Part Number	Size		Part Number	Size		Part Number	Size	
1763-00-15-000320	.0320"	67	1763-00-15-000700	.0700"	50	1763-00-15-001130	.1130"	33	1763-00-15-001770	.1770"	16
1763-00-15-000330	.0330"	66	1763-00-15-000730	.0730"	49	1763-00-15-001160	.1160"	32	1763-00-15-001800	.1800"	15
1763-00-15-000350	.0350"	65	1763-00-15-000760	.0760"	48	1763-00-15-001200	.1200"	31	1763-00-15-001820	.1820"	14
1763-00-15-000360	.0360"	64	1763-00-15-000785	.0785"	47	1763-00-15-001285	.1285"	30	1763-00-15-001850	.1850"	13
1763-00-15-000370	.0370"	63	1763-00-15-000810	.0810"	46	1763-00-15-001360	.1360"	29	1763-00-15-001890	.1890"	12
1763-00-15-000380	.0380"	62	1763-00-15-000820	.0820"	45	1763-00-15-001405	.1405"	28	1763-00-15-001910	.1910"	11
1763-00-15-000390	.0390"	61	1763-00-15-000860	.0860"	44	1763-00-15-001440	.1440"	27	1763-00-15-001935	.1935"	10
1763-00-15-000400	.0400"	60	1763-00-15-000890	.0890"	43	1763-00-15-001470	.1470"	26	1763-00-15-001960	.1960"	9
1763-00-15-000410	.0410"	59	1763-00-15-000935	.0935"	42	1763-00-15-001495	.1495"	25	1763-00-15-001990	.1990"	8
1763-00-15-000420	.0420"	58	1763-00-15-000960	.0960"	41	1763-00-15-001520	.1520"	24	1763-00-15-002010	.2010"	7
1763-00-15-000430	.0430"	57	1763-00-15-000980	.0980"	40	1763-00-15-001540	.1540"	23	1763-00-15-002040	.2040"	6
1763-00-15-000465	.0465"	56	1763-00-15-000995	.0995"	39	1763-00-15-001570	.1570"	22	1763-00-15-002055	.2055"	5
1763-00-15-000520	.0520"	55	1763-00-15-001015	.1015"	38	1763-00-15-001590	.1590"	21	1763-00-15-002090	.2090"	4
1763-00-15-000550	.0550"	54	1763-00-15-001040	.1040"	37	1763-00-15-001610	.1610"	20	1763-00-15-002130	.2130"	3
1763-00-15-000595	.0595"	53	1763-00-15-001065	.1065"	36	1763-00-15-001660	.1660"	19	1763-00-15-002210	.2210"	2
1763-00-15-000635	.0635"	52	1763-00-15-001100	.1100"	35	1763-00-15-001695	.1695"	18	1763-00-15-002280	.2280"	1
1763-00-15-000670	.0670"	51	1763-00-15-001110	.1110"	34	1763-00-15-001730	.1730"	17	-	-	-

Metric

Part Number	Size										
	mm	Inch		mm	Inch		mm	Inch		mm	Inch
1763-00-17-010000	1	.0393"	1763-00-17-026000	2.6	.1023"	1763-00-17-042000	4.2	.1653"	1763-00-17-070000	7	.2755"
1763-00-17-012000	1.2	.0472"	1763-00-17-028000	2.8	.1102"	1763-00-17-044000	4.4	.1732"	1763-00-17-075000	7.5	.2952"
1763-00-17-014000	1.4	.0551"	1763-00-17-030000	3	.1181"	1763-00-17-045000	4.5	.1771"	1763-00-17-080000	8	.3149"
1763-00-17-016000	1.6	.0629"	1763-00-17-032000	3.2	.1259"	1763-00-17-046000	4.6	.1811"	1763-00-17-085000	8.5	.3346"
1763-00-17-018000	1.8	.0590"	1763-00-17-034000	3.4	.1338"	1763-00-17-048000	4.8	.1889"	1763-00-17-090000	9	.3543"
1763-00-17-020000	2	.0787"	1763-00-17-035000	3.5	.1377"	1763-00-17-050000	5	.1968"	1763-00-17-095000	9.5	.3740"
1763-00-17-022000	2.2	.0866"	1763-00-17-036000	3.6	.1417"	1763-00-17-055000	5.5	.2165"	1763-00-17-100000	100	.3937"
1763-00-17-024000	2.4	.0944"	1763-00-17-038000	3.8	.1496"	1763-00-17-060000	6	.2362"	-	-	-
1763-00-17-025000	2.5	.0984"	1763-00-17-040000	4	.1574"	1763-00-17-065000	6.5	.2559"	-	-	-

HARDENED & GROUND, SPLIT



Inch Fractional

Part Number	Size	Part Number	Size	Part Number	Size	Part Number	Size
1881-00-19-000625	.0625" 1/16"	1881-00-19-002187	.2187" 7/32"	1881-00-19-003750	.3750" 3/8"	1881-00-19-005312	.5312" 17/32"
1881-00-19-000781	.0781" 5/64"	1881-00-19-002343	.2343" 15/64"	1881-00-19-003906	.3906" 25/64"	1881-00-19-005468	.5468" 35/64"
1881-00-19-000937	.0937" 3/32"	1881-00-19-002500	.2500" 1/4"	1881-00-19-004062	.4062" 13/32"	1881-00-19-005625	.5625" 9/16"
1881-00-19-001093	.1093" 7/64"	1881-00-19-002656	.2656" 17/64"	1881-00-19-004218	.4218" 27/64"	1881-00-19-005781	.5781" 37/64"
1881-00-19-001250	.1250" 1/8"	1881-00-19-002812	.2812" 9/32"	1881-00-19-004375	.4375" 7/16"	1881-00-19-005937	.5937" 19/32"
1881-00-19-001406	.1406" 9/64"	1881-00-19-002968	.2968" 19/64"	1881-00-19-004531	.4531" 29/64"	1881-00-19-006093	.6093" 39/64"
1881-00-19-001562	.1562" 5/32"	1881-00-19-003125	.3125" 5/16"	1881-00-19-004687	.4687" 15/32"	1881-00-19-006250	.6250" 5/8"
1881-00-19-001718	.1718" 11/64"	1881-00-19-003281	.3281" 21/64"	1881-00-19-004843	.4843" 31/64"	-	-
1881-00-19-001875	.1875" 3/16"	1881-00-19-003437	.3437" 11/32"	1881-00-19-005000	.5000" 1/2"	-	-
1881-00-19-002031	.2031" 13/64"	1881-00-19-003593	.3593" 23/64"	1881-00-19-005156	.5156" 33/64"	-	-

Letter

Part Number	Size						
1881-00-16-002340	.2340" A	1881-00-16-002660	.2660" H	1881-00-16-003160	.3160" O	1881-00-16-003770	.3770" V
1881-00-16-002380	.2380" B	1881-00-16-002720	.2720" I	1881-00-16-003230	.3230" P	1881-00-16-003860	.3860" W
1881-00-16-002420	.2420" C	1881-00-16-002770	.2770" J	1881-00-16-003320	.3320" Q	1881-00-16-003970	.3970" X
1881-00-16-002460	.2460" D	1881-00-16-002810	.2810" K	1881-00-16-003390	.3390" R	1881-00-16-004040	.4040" Y
1881-00-16-002500	.2500" E	1881-00-16-002900	.2900" L	1881-00-16-003480	.3480" S	1881-00-16-004130	.4130" Z
1881-00-16-002570	.2570" F	1881-00-16-002950	.2950" M	1881-00-16-003580	.3580" T	-	-
1881-00-16-002610	.2610" G	1881-00-16-003020	.3020" N	1881-00-16-003680	.3680" U	-	-

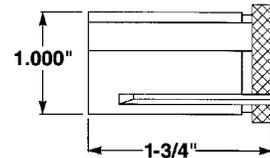
Number

Part Number	Size						
1881-00-15-000635	.0635" 52	1881-00-15-000995	.0995" 39	1881-00-15-001470	.1470" 26	1881-00-15-001850	.1850" 13
1881-00-15-000670	.0670" 51	1881-00-15-001015	.1015" 38	1881-00-15-001495	.1495" 25	1881-00-15-001890	.1890" 12
1881-00-15-000700	.0700" 50	1881-00-15-001040	.1040" 37	1881-00-15-001520	.1520" 24	1881-00-15-001910	.1910" 11
1881-00-15-000730	.0730" 49	1881-00-15-001065	.1065" 36	1881-00-15-001540	.1540" 23	1881-00-15-001935	.1935" 10
1881-00-15-000760	.0760" 48	1881-00-15-001100	.1100" 35	1881-00-15-001570	.1570" 22	1881-00-15-001960	.1960" 9
1881-00-15-000785	.0785" 47	1881-00-15-001110	.1110" 34	1881-00-15-001590	.1590" 21	1881-00-15-001990	.1990" 8
1881-00-15-000810	.0810" 46	1881-00-15-001130	.1130" 33	1881-00-15-001610	.1610" 20	1881-00-15-002010	.2010" 7
1881-00-15-000820	.0820" 45	1881-00-15-001160	.1160" 32	1881-00-15-001660	.1660" 19	1881-00-15-002040	.2040" 6
1881-00-15-000860	.0860" 44	1881-00-15-001200	.1200" 31	1881-00-15-001695	.1695" 18	1881-00-15-002055	.2055" 5
1881-00-15-000890	.0890" 43	1881-00-15-001285	.1285" 30	1881-00-15-001730	.1730" 17	1881-00-15-002090	.2090" 4
1881-00-15-000935	.0935" 42	1881-00-15-001360	.1360" 29	1881-00-15-001770	.1770" 16	1881-00-15-002130	.2130" 3
1881-00-15-000960	.0960" 41	1881-00-15-001405	.1405" 28	1881-00-15-001800	.1800" 15	1881-00-15-002210	.2211" 2
1881-00-15-000980	.0980" 40	1881-00-15-001440	.1440" 27	1881-00-15-001820	.1820" 14	1881-00-15-002280	.2280" 1

Metric

Part Number	Size		Part Number	Size		Part Number	Size		Part Number	Size	
	mm	Inch		mm	Inch		mm	Inch		mm	Inch
1881-00-17-010000	1.0	.0393"	1881-00-17-050000	5.0	.1968"	1881-00-17-090000	9.0	.3543"	1881-00-17-130000	13.0	.5118"
1881-00-17-015000	1.5	.0590"	1881-00-17-055000	5.5	.2165"	1881-00-17-095000	9.5	.3740"	1881-00-17-135000	13.5	.5314"
1881-00-17-020000	2.0	.0787"	1881-00-17-060000	6.0	.2362"	1881-00-17-100000	10.0	.3937"	1881-00-17-140000	14.0	.5511"
1881-00-17-025000	2.5	.0984"	1881-00-17-065000	6.5	.2559"	1881-00-17-105000	10.5	.4133"	1881-00-17-145000	14.5	.5708"
1881-00-17-030000	3.0	.1181"	1881-00-17-070000	7.0	.2756"	1881-00-17-110000	11.0	.4330"	1881-00-17-150000	15.0	.5905"
1881-00-17-035000	3.5	.1377"	1881-00-17-075000	7.5	.2952"	1881-00-17-115000	11.5	.4527"	1881-00-17-155000	15.5	.6102"
1881-00-17-040000	4.0	.1574"	1881-00-17-080000	8.0	.3150"	1881-00-17-120000	12.0	.4724"	1881-00-17-160000	16.0	.6299"
1881-00-17-045000	4.5	.1771"	1881-00-17-085000	8.5	.3346"	1881-00-17-125000	12.5	.4921"	-	-	-

HARDENED & GROUND, SPLIT

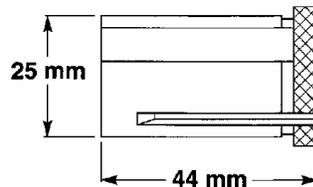


Inch Fractional

Part Number	Size	Part Number	Size	Part Number	Size	Part Number	Size
1893-00-19-000312	.0312" 1/32"	1893-00-19-002500	.2500" 1/4"	1893-00-19-004687	.4687" 15/32"	1893-00-19-006875	.6875" 11/16"
1893-00-19-000468	.0468" 3/64"	1893-00-19-002656	.2656" 17/64"	1893-00-19-004843	.4943" 31/64"	1893-00-19-007031	.7031" 45/64"
1893-00-19-000625	.0625" 1/16"	1893-00-19-002812	.2812" 9/32"	1893-00-19-005000	.5000" 1/2"	1893-00-19-007187	.7187" 23/32"
1893-00-19-000781	.0781" 5/64"	1893-00-19-002968	.2968" 19/64"	1893-00-19-005156	.5156" 33/64"	1893-00-19-007343	.7343" 47/64"
1893-00-19-000937	.0937" 3/32"	1893-00-19-003125	.3125" 5/16"	1893-00-19-005312	.5312" 17/32"	1893-00-19-007500	.7500" 3/4"
1893-00-19-001093	.1093" 7/64"	1893-00-19-003281	.3281" 21/64"	1893-00-19-005468	.5468" 35/64"	1893-00-19-007656	.7656" 49/64"
1893-00-19-001250	.1250" 1/8"	1893-00-19-003437	.3437" 11/32"	1893-00-19-005625	.5625" 9/16"	1893-00-19-007812	.7812" 25/32"
1893-00-19-001406	.1406" 9/64"	1893-00-19-003593	.3593" 23/64"	1893-00-19-005781	.5781" 37/64"	1893-00-19-007968	.7968" 51/64"
1893-00-19-001562	.1562" 5/32"	1893-00-19-003750	.3750" 3/8"	1893-00-19-005937	.5937" 19/32"	1893-00-19-008125	.8125" 13/16"
1893-00-19-001718	.1718" 11/64"	1893-00-19-003906	.3906" 25/64"	1893-00-19-006093	.6093" 39/64"	1893-00-19-008281	.8281" 53/64"
1893-00-19-001875	.1875" 3/16"	1893-00-19-004062	.4062" 13/32"	1893-00-19-006250	.6250" 5/8"	1893-00-19-008437	.8437" 27/32"
1893-00-19-002031	.2031" 13/64"	1893-00-19-004218	.4218" 27/64"	1893-00-19-006406	.6406" 41/64"	1893-00-19-008593	.8593" 55/64"
1893-00-19-002187	.2187" 7/32"	1893-00-19-004375	.4375" 7/16"	1893-00-19-006562	.6562" 21/32"	1893-00-19-008750	.8750" 7/8"
1893-00-19-002343	.2343" 15/64"	1893-00-19-004531	.4531" 29/64"	1893-00-19-006718	.6718" 43/64"	-	-

Metric

Part Number	Size		Part Number	Size		Part Number	Size		Part Number	Size	
	mm	Inch		mm	Inch		mm	Inch		mm	Inch
1893-00-17-010000	1.0	.0393"	1893-00-17-060000	6.0	.2362"	1893-00-17-110000	11.0	.4330"	1893-00-17-160000	16.0	.6299"
1893-00-17-015000	1.5	.0590"	1893-00-17-065000	6.5	.2559"	1893-00-17-115000	11.5	.4527"	1893-00-17-165000	16.5	.6496"
1893-00-17-020000	2.0	.0787"	1893-00-17-070000	7.0	.2756"	1893-00-17-120000	12.0	.4724"	1893-00-17-170000	17.0	.6692"
1893-00-17-025000	2.5	.0984"	1893-00-17-075000	7.5	.2952"	1893-00-17-125000	12.5	.4921"	1893-00-17-175000	17.5	.6889"
1893-00-17-030000	3.0	.1181"	1893-00-17-080000	8.0	.3150"	1893-00-17-130000	13.0	.5118"	1893-00-17-180000	18.0	.7086"
1893-00-17-035000	3.5	.1377"	1893-00-17-085000	8.5	.3346"	1893-00-17-135000	13.5	.5314"	1893-00-17-185000	18.5	.7283"
1893-00-17-040000	4.0	.1574"	1893-00-17-090000	9.0	.3543"	1893-00-17-140000	14.0	.5511"	1893-00-17-190000	19.0	.7480"
1893-00-17-045000	4.5	.1771"	1893-00-17-095000	9.5	.3740"	1893-00-17-145000	14.5	.5708"	1893-00-17-195000	19.5	.7677"
1893-00-17-050000	5.0	.1968"	1893-00-17-100000	10.0	.3937"	1893-00-17-150000	15.0	.5905"	1893-00-17-195000	20.0	.7874"
1893-00-17-055000	5.5	.2165"	1893-00-17-105000	10.5	.4133"	1893-00-17-155000	15.5	.6102"	-	-	-

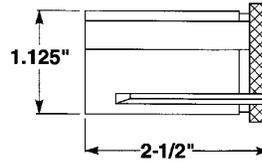


Metric OD & ID

Part Number	Size		Part Number	Size		Part Number	Size		Part Number	Size	
	mm	Inch		mm	Inch		mm	Inch		mm	Inch
2051-00-17-020000	2.0	.0787"	2051-00-17-070000	7.0	.2756"	2051-00-17-120000	12.0	.4724"	2051-00-17-170000	17.0	.6692"
2051-00-17-025000	2.5	.0984"	2051-00-17-075000	7.5	.2952"	2051-00-17-125000	12.5	.4921"	2051-00-17-175000	17.5	.6889"
2051-00-17-030000	3.0	.1181"	2051-00-17-080000	8.0	.3150"	2051-00-17-130000	13.0	.5118"	2051-00-17-180000	18.0	.7086"
2051-00-17-035000	3.5	.1377"	2051-00-17-085000	8.5	.3346"	2051-00-17-135000	13.5	.5314"	2051-00-17-185000	18.5	.7283"
2051-00-17-040000	4.0	.1574"	2051-00-17-090000	9.0	.3543"	2051-00-17-140000	14.0	.5511"	2051-00-17-190000	19.0	.7480"
2051-00-17-045000	4.5	.1771"	2051-00-17-095000	9.5	.3740"	2051-00-17-145000	14.5	.5708"	2051-00-17-195000	19.5	.7677"
2051-00-17-050000	5.0	.1968"	2051-00-17-100000	10.0	.3937"	2051-00-17-150000	15.0	.5905"	2051-00-17-200000	20.0	.7874"
2051-00-17-055000	5.5	.2165"	2051-00-17-105000	10.5	.4133"	2051-00-17-155000	15.5	.6102"	-	-	-
2051-00-17-060000	6.0	.2362"	2051-00-17-110000	11.0	.4330"	2051-00-17-160000	16.0	.6299"	-	-	-
2051-00-17-065000	6.5	.2559"	2051-00-17-115000	11.5	.4527"	2051-00-17-165000	16.5	.6496"	-	-	-

HDB9 Bushings - 1-1/8" OD

HARDENED & GROUND, SPLIT



Inch Fractional

Part Number	Size	Part Number	Size	Part Number	Size	Part Number	Size
1883-00-19-003750	.3750" 3/8"	1883-00-19-005468	.5468" 35/64"	1883-00-19-007187	.7187" 23/32"	1883-00-19-008906	.8906" 57/64"
1883-00-19-003906	.3906" 25/64"	1883-00-19-005625	.5625" 9/16"	1883-00-19-007343	.7343" 47/64"	1883-00-19-009062	.9062" 29/32"
1883-00-19-004062	.4062" 13/32"	1883-00-19-005781	.5781" 37/64"	1883-00-19-007500	.7500" 3/4"	1883-00-19-009218	.9218" 59/64"
1883-00-19-004218	.4218" 27/64"	1883-00-19-005937	.5937" 19/32"	1883-00-19-007656	.7656" 49/64"	1883-00-19-009375	.9375" 15/16"
1883-00-19-004375	.4375" 7/16"	1883-00-19-006093	.6093" 39/64"	1883-00-19-007812	.7812" 25/32"	1883-00-19-009531	.9531" 61/64"
1883-00-19-004531	.4531" 29/64"	1883-00-19-006250	.6250" 5/8"	1883-00-19-007968	.7968" 51/64"	1883-00-19-009687	.9687" 31/32"
1883-00-19-004687	.4687" 15/32"	1883-00-19-006406	.6406" 41/64"	1883-00-19-008125	.8125" 13/16"	1883-00-19-009843	.9843" 63/64"
1883-00-19-004843	.4843" 31/64"	1883-00-19-006562	.6562" 21/32"	1883-00-19-008281	.8281" 53/64"	1883-00-19-010000	1.0000" 1"
1883-00-19-005000	.5000" 1/2"	1883-00-19-006718	.6718" 43/64"	1883-00-19-008437	.8437" 27/32"	-	-
1883-00-19-005156	.5156" 33/64"	1883-00-19-006875	.6875" 11/16"	1883-00-19-008593	.8593" 55/64"	-	-
1883-00-19-005312	.5312" 17/32"	1883-00-19-007031	.7031" 45/64"	1883-00-19-008750	.8750" 7/8"	-	-

Metric

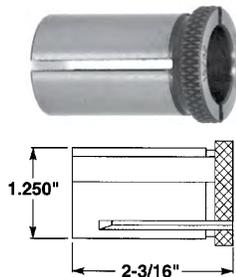
Part Number	Size		Part Number	Size		Part Number	Size		Part Number	Size	
	mm	Inch		mm	Inch		mm	Inch		mm	Inch
1883-00-17-090000	9.0	.3543"	1883-00-17-135000	13.5	.5314"	1883-00-17-180000	18.0	.7086"	1883-00-17-225000	22.5	.8858"
1883-00-17-095000	9.5	.3740"	1883-00-17-140000	14.0	.5511"	1883-00-17-185000	18.5	.7283"	1883-00-17-230000	23.4	.9055"
1883-00-17-100000	10.0	.3937"	1883-00-17-145000	14.5	.5708"	1883-00-17-190000	19.0	.7480"	1883-00-17-235000	23.5	.9251"
1883-00-17-105000	10.5	.4133"	1883-00-17-150000	15.0	.5905"	1883-00-17-195000	19.5	.7677"	1883-00-17-240000	24.0	.9448"
1883-00-17-110000	11.0	.4330"	1883-00-17-155000	15.5	.6102"	1883-00-17-200000	20.0	.7874"	1883-00-17-245000	24.5	.9645"
1883-00-17-115000	11.5	.4527"	1883-00-17-160000	16.0	.6299"	1883-00-17-205000	20.5	.8070"	1883-00-17-250000	25.0	.9842"
1883-00-17-120000	12.0	.4724"	1883-00-17-165000	16.5	.6496"	1883-00-17-210000	21.0	.8267"	-	-	-
1883-00-17-125000	12.5	.4921"	1883-00-17-170000	17.0	.6692"	1883-00-17-215000	21.5	.8464"	-	-	-
1883-00-17-130000	13.0	.5118"	1883-00-17-175000	17.5	.6889"	1883-00-17-220000	22.0	.8661"	-	-	-

HDB10 Bushings - 1-1/4" OD

HARDENED & GROUND, SPLIT

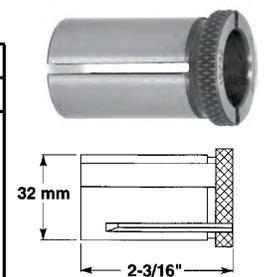
Inch Fractional

Part Number	Size
2043-00-19-003750	.3750" 3/8"
2043-00-19-005000	.5000" 1/2"
2043-00-19-006250	.6250" 5/8"
2043-00-19-007500	.7500" 3/4"
2043-00-19-008750	.8750" 7/8"
2043-00-19-010000	1.0000" 1"



Metric OD & ID

Part Number	Size	
	mm	Inch
2045-00-17-100000	10.0	.3937"
2045-00-17-120000	12.0	.4724"
2045-00-17-160000	16.0	.6299"
2045-00-17-200000	20.0	.7874"
204s-00-17-250000	25.0	.9842"

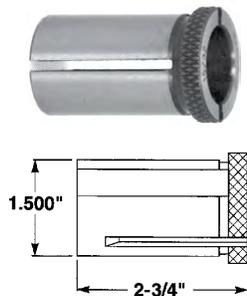


HDB12 Bushings - 1-1/2" OD

HARDENED & GROUND, SPLIT

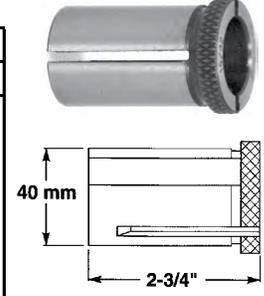
Inch Fractional

Part Number	Size
2047-00-19-003750	.3750" 3/8"
2047-00-19-005000	.5000" 1/2"
2047-00-19-006250	.6250" 5/8"
2047-00-19-007500	.7500" 3/4"
2047-00-19-008750	.8750" 7/8"
2047-00-19-010000	1.0000" 1"
2047-00-19-012500	1.2500" 1-1/4"



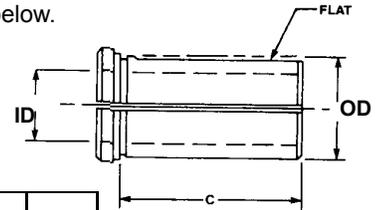
Metric OD & ID

Part Number	Size	
	mm	Inch
2049-00-17-100000	10.0	.3937"
2049-00-17-120000	12.0	.4724"
2049-00-17-160000	16.0	.6299"
2049-00-17-200000	20.0	.7874"
2049-00-17-250000	25.0	.9842"
2049-00-17-320000	32.0	.2598"



TYPE B TOOLHOLDER BUSHING

These split Type B Bushings are manufactured with flexible manufacturing systems, for all Types and sizes of CNC Lathes and Chuckers; are Heat Treated and precision ground concentric. It is used to adapt Drills, Boring Bars, and other Shank Tools. Select the O.D. size that fits your machine and order from the chart below.



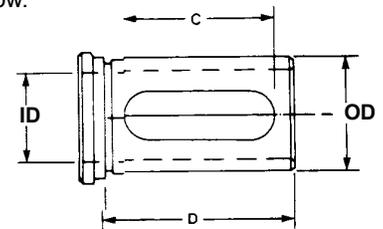
SERIES CAT. NO.	SPECIFY CHOICE		CHOOSE FROM STANDARD I.D. SIZES SHOWN		C
	O.D.	O.D.	INCH	METRIC	
*6801	3/4"	20MM	1/4, 5/16, 3/8, 1/2	6, 8, 10, 12	1-1/2"
*6802	1"	25MM	3/8, 1/2, 5/8, 3/4	10, 12, 16, 20	1-3/4"
*6802.5	1-1/4"	32MM	3/8, 1/2, 5/8, 3/4, 7/8, 1	10, 12, 16, 20, 25	2-1/8"
*6803	1-1/2"	40MM	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4	10, 12, 16, 20, 25, 32	2-1/2"
*6804	1-3/4"	45MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2	10, 12, 16, 20, 25, 32, 40	3"
*6805	2"	50MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4"	12, 16, 20, 25, 32, 40	3-1/2"
*6806	2-1/2"	65MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4"	20, 25, 32, 40, 45, 50	4"
*6807	3"	80MM	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2"	25, 32, 40, 45, 50, 60, 65	4-1/2"
*6808	3-1/2"	90MM	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 3	25, 32, 40, 45, 50, 60, 65	5-1/4"

NOTE: SERIES CATALOG NUMBERS SHOWN ARE FOR INCH O.D./ I.D. COMBINATIONS.

FOR BUSHINGS WITH ANY METRIC DIMENSIONS ADD A LETTER M TO THE CATALOG NUMBER TO ORDER, SPECIFY SERIES CAT. NO., O.D. AND I.D. SIZE

TYPE C & CS TOOLHOLDER BUSHING

This CNC Type C Bushing is designed for universal use on all CNC turning machines to adapt a wide variety of Boring Bars, Drills, Reamers and Shank type tools. Precision machine hardened and ground concentric; made in the U.S.A. - BUILT TO LAST! Select the O.D. size that fits your machine and order from the chart below.



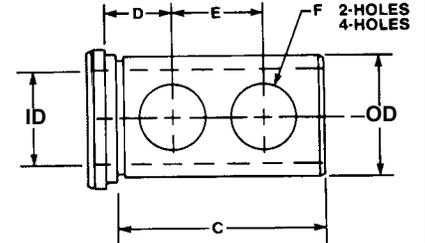
SERIES CAT. NO.	SPECIFY CHOICE		CHOOSE FROM STANDARD I.D. SIZES SHOWN		SPECIFY LENGTH CHOICE DIM. C & D			
	O.D.	O.D.	INCH	METRIC	C (STD)		CS (SHORT)	
*6810	3/4"	20MM	1/4, 5/16, 3/8, 1/2	6, 8, 10, 12	1-1/2"	2"	1-1/8"	1-1/2"
*6811	1"	25MM	1/4, 5/16, 3/8, 1/2, 5/8, 3/4	8, 10, 12, 16, 20	2-3/8"	2-3/4"	1-3/8"	1-3/4"
*6812	1-1/4"	32MM	3/8, 1/2, 5/8, 3/4, 7/8, 1	10, 12, 16, 20, 25	2-3/4"	3-1/4"	1-3/4"	2-1/8"
*6813	1-1/2"	40MM	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4	10, 12, 16, 20, 25, 32	3"	3-3/8"	2-1/8"	2-1/2"
*6814	1-3/4"	45MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2	12, 16, 20, 25, 32, 40	3-1/8"	3-1/2"	2-5/8"	3"
*6815	2"	50MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4"	12, 16, 20, 25, 32, 40, 45	3-5/8"	4"	3"	3-1/2"
*6816	2-1/2"	65MM	3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4	20, 25, 32, 40, 45, 50	4-1/8"	4-1/2"	3-1/2"	4"
*6817	3"	80MM	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2"	25, 32, 40, 45, 50, 60, 65	4-5/8"	5"	4-1/8"	4-1/2"
*6818	3-1/2"	90MM	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 3	25, 32, 40, 45, 50, 60, 65	5"	5-3/4"	4-3/4"	5-1/4"

NOTE: SERIES CATALOG NUMBERS SHOWN ARE FOR INCH O.D./ I.D. COMBINATIONS.

FOR BUSHINGS WITH ANY METRIC DIMENSIONS ADD A LETTER M TO THE CATALOG NUMBER TO ORDER, SPECIFY SERIES CAT. NO., O.D. AND I.D. SIZE AND LENGTH CHOICE-C OR CS

TYPE DD TOOLHOLDER BUSHING

With the combination of the industry standard "B" style split bushing and "J" set screw clearance bushing design, we have set a precedent with its new innovative "DD" Double Duty bushing. This new improved "DD" bushing with clearance holes and split milled flat can be used as a conventional "B" style or "J" style bushing. Select the O.D. size that fits your machine and order from the chart below.



SERIES CAT. NO.	SPECIFY CHOICE		CHOOSE FROM STANDARD I.D. SIZES SHOWN		C	D	E	F	
	O.D.	O.D.	INCH	METRIC				NO. HOLE	DIA HOLE
*6830	1-1/2"	40MM	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4	10, 12, 16, 20, 25, 32	2-1/2"	11/16"	1-1/8"	2	7/8"
*6831	1-3/4"	45MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2	12, 16, 20, 25, 32, 40	3"	3/4"	1-1/4"	2	7/8"
*6832	2"	50MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2 1-3/4"	12, 16, 20, 25, 32, 40 45	3-1/2"	3/4"	1-1/2"	2	1"
*6833	2-1/2"	65MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2 1-3/4, 2, 2-1/4"	20, 25, 32, 40, 45, 50	4"	7/8"	1-3/4"	2	1-1/4"
*6834	3"	80MM	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2"	25, 32, 40, 45, 50, 60 65	4-1/2"	1"	2"	4	1-1/4"
*6835	3-1/2"	90MM	1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 3"	25, 32, 40, 45, 50, 60 65	5-1/4"	1-1/4"	2-1/2"	4	1-1/4"

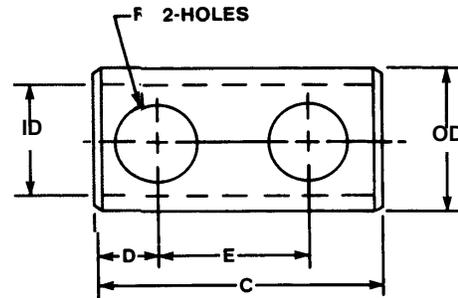
NOTE: SERIES CATALOG NUMBERS SHOWN ARE FOR INCH O.D./ I.D. COMBINATIONS.

FOR BUSHINGS WITH ANY METRIC DIMENSIONS ADD A LETTER **M** TO THE CATALOG NUMBER

TO ORDER, SPECIFY SERIES CAT. NO., O.D. AND I.D. SIZE

TYPE L TOOLHOLDER BUSHING

All "L" style bushings are shoulder-less, have set screw clearance holes opposite the slot and have a split with a flat on the O.D. "L" Style Bushings are used to adapt drills, boring bars and shank tools to any size in a standard turret or toolholder. We have a full selection and assortment of these bushings. Select the O.D. size that fits your machine and order from the chart below.



SERIES CAT. NO.	SPECIFY CHOICE		CHOOSE FROM STANDARD I.D. SIZES SHOWN		C	D	E	F	
	O.D.	O.D.	INCH	METRIC				NO. HOLE	DIA HOLE
*6850	1-1/2"	40MM	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4	10, 12, 16, 20, 25, 32	3"	3/4"	1-5/8"	2	7/8"
*6851	1-3/4"	45MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2	12, 16, 20, 25, 32, 40	3"	3/4"	1-5/8"	2	7/8"
*6852	2-1/4"	60MM	5/8, 3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2	16, 20, 25, 32, 40, 50	4-1/2"	7/8"	2"	2	1"
*6853	2-3/4"	70MM	3/4, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4"	20, 25, 32, 40, 50	4-1/2"	7/8"	2"	2	1"

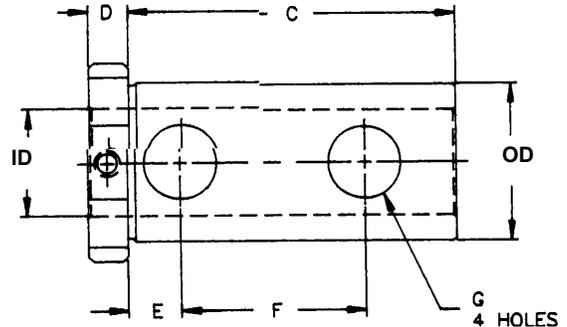
NOTE: SERIES CATALOG NUMBERS SHOWN ARE FOR INCH O.D./ I.D. COMBINATIONS.

FOR BUSHINGS WITH ANY METRIC DIMENSIONS ADD A LETTER **M** TO THE CATALOG NUMBER

TO ORDER, SPECIFY SERIES CAT. NO., O.D. AND I.D. SIZE

TYPE *LB* TOOLHOLDER BUSHING

This Type LB Toolholder Bushing with long solid body, has four clearance holes so that you can clamp directly on the tool with Set Screws for positive alignment of the cutting edge of the tool. Manufactured to include clearance notches for coolant. They are hardened and precision ground concentric. Select the O.D. size that fits your machine and order from the chart below.



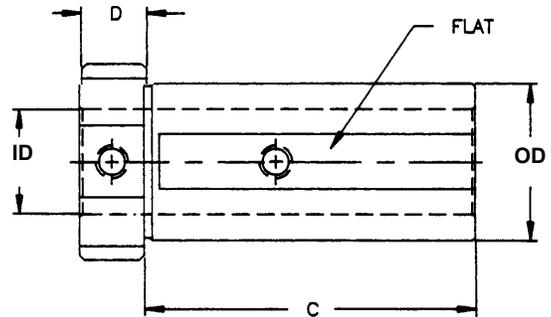
SERIES CAT. NO.	SPECIFY CHOICE		CHOOSE FROM STANDARD I.D. SIZES SHOWN		C	D	E	F	G
	O.D.	O.D.	INCH	METRIC					
*6858	1-1/4"	32MM	3/8, 1/2, 5/8, 3/4, 7/8, 1	10, 12, 16, 20, 25	3-1/8"	3/8"	1/2"	1-3/4"	5/8"
*6859	1-1/2"	40MM	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4	10, 12, 16, 20, 25, 32	3-1/8"	3/8"	1/2"	1-3/4"	5/8"
*6860	2"	50MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4	12, 16, 20, 25, 32, 40, 45	4-1/2"	1/2"	1/2"	2-3/4"	11/16"

NOTE: SERIES CATALOG NUMBERS SHOWN ARE FOR INCH O.D./ I.D. COMBINATIONS.

FOR BUSHINGS WITH ANY METRIC DIMENSIONS ADD A LETTER M TO THE CATALOG NUMBER TO ORDER, SPECIFY SERIES CAT. NO., O.D. AND I.D. SIZE

TYPE *LBF* TOOLHOLDER BUSHING

These Type LBF Type Bushings are manufactured with a flat for clamping the Toolholder and two set screws for clamping a variety of Drills, Boring Bars and other Shank Tools. Equipped with two clearance notches for coolant, they are Heat Treated and precision ground concentric. This Universal Style is good for Coolant Through the Tool applications due to its solid configuration. Select the O.D. size that fits your machine and order from the chart below.



SERIES CAT. NO.	SPECIFY CHOICE		CHOOSE FROM STANDARD I.D. SIZES SHOWN		C	D
	O.D.	O.D.	INCH	METRIC		
*6863	1-1/4"	32MM	3/8, 1/2, 5/8, 3/4, 7/8, 1	10, 12, 16, 20, 25	2.812	5/8"
*6864	1-1/2"	40MM	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4	10, 12, 16, 20, 25, 32	3.156	5/8"
*6865	2"	50MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4	12, 16, 20, 25, 32, 40, 45	3.750	3/4"

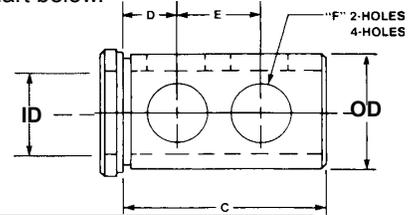
NOTE: SERIES CATALOG NUMBERS SHOWN ARE FOR INCH O.D./ I.D. COMBINATIONS.

FOR BUSHINGS WITH ANY METRIC DIMENSIONS ADD A LETTER M TO THE CATALOG NUMBER TO ORDER, SPECIFY SERIES CAT. NO., O.D. AND I.D. SIZE

TYPE J TOOLHOLDER BUSHING

This Type J Toolholder Bushing, with long solid body, has clearance holes so that you can clamp directly on the tool with set screws for positive alignment of the cutting edge of the tool. They are hardened and precision ground concentric.

Select the O.D. size that fits your machine and order from the chart below.



SERIES CAT. NO.	SPECIFY CHOICE		CHOOSE FROM STANDARD I.D. SIZES SHOWN		C	D	E	F	
	O.D.	O.D.	INCH	METRIC				NO. HOLE	DIA HOLE
*6819	3/4"	20MM	1/4, 5/16, 3/8, 1/2	6, 8, 10, 12	1-1/2"	3/8"	13/16"	2	3/8"
*6820	1"	25MM	3/8, 1/2, 5/8, 3/4	10, 12, 16, 20	1-3/4"	7/16"	7/8"	2	5/8"
*6821	1-1/4"	32MM	3/8, 1/2, 5/8, 3/4, 7/8, 1	10, 12, 16, 20, 25	2-1/8"	5/8"	1"	2	3/4"
*6822	1-1/2"	40MM	3/8, 1/2, 5/8, 3/4, 7/8, 1, 1-1/4	10, 12, 16, 20, 25, 32	2-1/2"	11/16"	1-1/8"	2	7/8"
*6823	1-3/4"	45MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2	12, 16, 20, 25, 32, 40	3"	3/4"	1-1/4"	2	7/8"
*6824	2"	50MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2 1-3/4"	12, 16, 20, 25, 32, 40 45	3-1/2"	3/4"	1-1/2"	2	1"
*6825	2-1/2"	65MM	3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4"	20, 25, 32, 40, 45, 50	4"	7/8"	1-3/4"	2	1-1/4"
*6826	3"	80MM	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2"	25, 32, 40, 45, 50, 60 65	4-1/2"	1"	2"	4	1-1/4"
*6827	3-1/2"	90MM	1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4, 2-1/2, 3"	25, 32, 40, 45, 50, 60 65	5-1/4"	1-1/4"	2-1/2"	4	1-1/4"

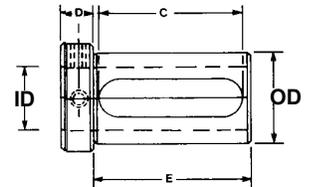
NOTE: SERIES CATALOG NUMBERS SHOWN ARE FOR INCH O.D./ I.D. COMBINATIONS.

FOR BUSHINGS WITH ANY METRIC DIMENSIONS ADD A LETTER **M** TO THE CATALOG NUMBER TO ORDER, SPECIFY SERIES CAT. NO., O.D. AND I.D. SIZE

TYPE Z TOOLHOLDER BUSHING

The most flexible Toolholder Bushing for all types of CNC Turning Centers, Turret Lathes and Chucks. The Elongated Slot gives the user a complete interchangeability with all brands of equipment. The added Set Screws in the Head allow for increased rigidity. The bushings are hardened and precision ground concentric. Can also be used for Preset Tooling.

Select the O.D. size that fits your machine and order from the chart below.



SERIES CAT. NO.	SPECIFY CHOICE		CHOOSE FROM STANDARD I.D. SIZES SHOWN		SPECIFY LENGTH CHOICE DIM. E & C						
	O.D.	O.D.	INCH	METRIC	Z (STD)		ZS (SHORT)		ZL (LONG)		D
*6840	3/4"	20MM	1/4, 5/16, 3/8, 1/2	6, 8, 10, 12	2-1/2"	2-3/8"					1/2"
*6841	1"	25MM	1/4, 5/16, 3/8, 1/2, 5/8, 3/4	8, 10, 12, 16, 20	2-3/4"	2-3/8"					1/2"
*6842	1-1/4"	32MM	3/8, 1/2, 5/8, 3/4, 7/8, 1"	10, 12, 16, 20, 25	3"	2-5/8"	2-1/4"	1-7/8"	3-3/4"	3-1/8"	5/8"
*6843	1-1/2"	40MM	3/8, 1/2, 5/8, 3/4, 7/8, 1", 1-1/4	10, 12, 16, 20, 25, 32	3-1/4"	2-7/8"	2-1/2"	2-1/8"	4"	3-5/8"	3/4"
*6844	1-3/4"	45MM	1/2, 5/8, 3/4, 7/8, 1", 1-1/4, 1-1/2	12, 16, 20, 25, 32, 40	3-1/2"	3-1/8"	2-3/4"	2-3/8"	4-1/4"	3-7/8"	3/4"
*6845	2"	50MM	1/2, 5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4"	12, 16, 20, 25, 32, 40, 45	3-3/4"	3-1/2"	3"	2-5/8"	4-1/2"	4-1/8"	3/4"
*6846	2-1/2"	65MM	5/8, 3/4, 7/8, 1, 1-1/4, 1-1/2, 1-3/4, 2, 2-1/4"	16, 20, 25, 32, 40, 45, 50	4-1/4"	3-7/8"	3-1/2"	3-1/8"	5"	4-5/8"	3/4"
*6847	3"	80MM	1", 1-1/4, 1-1/2, 1-3/4, 2", 2-1/4, 2-1/2"	25, 32, 40, 50, 60, 65	4-3/4"	4-3/8"	3-3/4"	3-3/8"	5-3/4"	5-3/8"	3/4"
*6848	3-1/2"	90MM	1-1/4, 1-1/2, 1-3/4, 2", 2-1/4, 2-1/2, 3"	32, 40, 50, 60, 65	5-1/2"	4-7/8"	4-1/2"	3-7/8"	6-1/2"	5-7/8"	1"
*6849	4"	100MM	1-1/2, 1-3/4, 2", 2-1/4, 2-1/2, 3"	40, 50, 60, 65, 80	6-1/4"	5-5/8"	5"	4-3/8"	7-1/2"	4-3/8"	1"

NOTE: SERIES CATALOG NUMBERS SHOWN ARE FOR INCH O.D./ I.D. COMBINATIONS.

FOR BUSHINGS WITH ANY METRIC DIMENSIONS ADD A LETTER **M** TO THE CATALOG NUMBER TO ORDER, SPECIFY SERIES CAT. NO., O.D. AND I.D. SIZE AND LENGTH CHOICE-Z, ZS OR ZL

INTERCHANGEABLE WITH UNIVERSAL ENGINEERING ACURA-FLEX* STYLE COLLETS

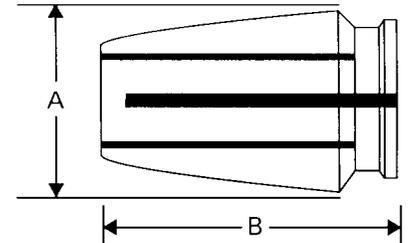
• ALSO AVAILABLE WITH SEALED SLOTS
FOR UP TO 650 PSI COOLANT FEED.



Collet Chucks for these holders are
available on request.

1/64 COLLAPSE RANGE PER COLLET

Collet Series	A	B
AF25	.438	1.000
AF38	.563	1.030
AF50	.720	1.160
AF75	1.130	2.020
AF100	1.446	2.500



COLLET SETS

Cat. No.	Collet Series	Contents of Collets Sets
AF25-SET	AF25	12 COLLETS-1/16 TO 1/4 BY 1/64 INCREMENTS
AF38-SET	AF38	20 COLLETS-1/16 TO 3/8 BY 1/64 INCREMENTS
AF50-SET	AF50	25 COLLETS-7/64 TO 1/2 BY 1/64 INCREMENTS
AF75-1SET	AF75	42 COLLETS-7/64 TO 3/4 BY 1/64 INCREMENTS
AF75-2SET	AF75	21 COLLETS-1/8 TO 3/4 BY 1/32 INCREMENTS
AF75-3SET	AF75	11 COLLETS-1/8 TO 3/4 BY 1/16 INCREMENTS
AF100-1SET	AF100	51 COLLETS-7/32 TO 1" BY 1/64 INCREMENTS
AF100-2SET	AF100	26 COLLETS-7/32 TO 1" BY 1/32 INCREMENTS
AF100-3SET	AF100	13 COLLETS-1/4 TO 1" BY 1/16 INCREMENTS

*ACURA-FLEX IS A REGISTERED TRADEMARK OF UNIVERSAL ENGINEERING.

Bore	Series AF100 Cat. No.	Series AF75 Cat. No.	Series AF50 Cat. No.	Series AF38 Cat. No.	Series AF25 Cat. No.
5/64				AF38-5/64	AF25-5/64
3/32				AF38-3/32	AF25-3/32
7/64		AF75-7/64	AF50-7/64	AF38-7/64	AF25-7/64
3MM				AF38-3	AF25-3
1/8		AF75-1/8	AF50-1/8	AF38-1/8	AF25-1/8
9/64		AF75-9/64	AF50-9/64	AF38-9/64	AF25-9/64
5/32		AF75-5/32	AF50-5/32	AF38-5/32	AF25-5/32
11/64		AF75-11/64	AF50-11/64	AF38-11/64	AF25-11/64
3/16		AF75-3/16	AF50-3/16	AF38-3/16	AF25-3/16
5MM		AF75-5	AF50-5	AF38-5	AF25-5
13/64	AF100-13/64	AF75-13/64	AF50-13/64	AF38-13/64	AF25-13/64
7/32	AF100-7/32	AF75-7/32	AF50-7/32	AF38-7/32	AF25-7/32
15/64	AF100-15/64	AF75-15/64	AF50-15/64	AF38-15/64	AF25-15/64
1/4	AF100-1/4	AF75-1/4	AF50-1/4	AF38-1/4	AF25-1/4
17/64	AF100-17/64	AF75-17/64	AF50-17/64	AF38-17/64	
7MM	AF100-7	AF75-7	AF50-7	AF38-7	
9/32	AF100-9/32	AF75-9/32	AF50-9/32	AF38-9/32	
19/64	AF100-19/64	AF75-19/64	AF50-19/64	AF38-19/64	
5/16	AF100-5/16	AF75-5/16	AF50-5/16	AF38-5/16	
21/64	AF100-21/64	AF75-21/64	AF50-21/64	AF38-21/64	
11/32	AF100-11/32	AF75-11/32	AF50-11/32	AF38-11/32	
9MM	AF100-9	AF75-9	AF50-9	AF38-9	
23/64	AF100-23/64	AF75-23/64	AF50-23/64	AF38-23/64	
3/8	AF100-3/8	AF75-3/8	AF50-3/8	AF38-3/8	
25/64	AF100-25/64	AF75-25/64	AF50-25/64		
13/32	AF100-13/32	AF75-13/32	AF50-13/32		
27/64	AF100-27/64	AF75-27/64	AF50-27/64		
7/16	AF100-7/16	AF75-7/16	AF50-7/16		
29/64	AF100-29/64	AF75-29/64	AF50-29/64		
15/32	AF100-15/32	AF75-15/32	AF50-15/32		
31/64	AF100-31/64	AF75-31/64	AF50-31/64		
1/2	AF100-1/2	AF75-1/2	AF50-1/2		
33/64	AF100-33/64	AF75-33/64			
17/32	AF100-17/32	AF75-17/32			
35/64	AF100-35/64	AF75-35/64			
9/16	AF100-9/16	AF75-9/16			
37/64	AF100-37/64	AF75-37/64			
19/32	AF100-19/32	AF75-19/32			
39/64	AF100-39/64	AF75-39/64			
5/8	AF100-5/8	AF75-5/8			
41/64	AF100-41/64	AF75-41/64			
21/32	AF100-21/32	AF75-21/32			
43/64	AF100-43/64	AF75-43/64			
11/16	AF100-11/16	AF75-11/16			
45/64	AF100-45/64	AF75-45/64			
23/32	AF100-23/32	AF75-23/32			
47/64	AF100-47/64	AF75-47/64			
3/4	AF100-3/4	AF75-3/4			
49/64	AF100-49/64	AF75-49/64			
25/32	AF100-25/32	AF75-25/32			
51/64	AF100-51/64				
13/16	AF100-13/16				
53/64	AF100-53/64				
27/32	AF100-27/32				
55/64	AF100-55/64				
7/8	AF100-7/8				
57/64	AF100-57/64				
29/32	AF100-29/32				
59/64	AF100-59/64				
15/16	AF100-15/16				
61/64	AF100-61/64				
31/32	AF100-31/32				
63/64	AF100-63/64				
1	AF100-1				

ER11, ER12 & ER8 Collets, Metric sizes

Metric I.D.	ER11 Standard Part#	ER11 Sealed Part#	ER12 Standard Part#	ER8 Standard Part#
1.0-0.5	ER11-1		ER12-1	ER8-1
1.5-1.0	ER11-1.5		ER12-1.5	ER8-1.5
2.0-1.5	ER11-2		ER12-2	ER8-2
2.5-2.0	ER11-2.5	ERC11-2.5	ER12-2.5	ER8-2.5
3.0-2.5	ER11-3	ERC11-3	ER12-3	ER8-3
3.5-3.0	ER11-3.5	ERC11-3.5	ER12-3.5	ER8-3.5
4.0-3.5	ER11-4	ERC11-4	ER12-4	ER8-4
4.5-4.0	ER11-4.5	ERC11-4.5	ER12-4.5	ER8-4.5
5.0-4.5	ER11-5	ERC11-5	ER12-5	ER8-5
5.5-5.0	ER11-5.5	ERC11-5.5	ER12-5.5	
6.0-5.5	ER11-6	ERC11-6	ER12-6	
6.5-6.0	ER11-6.5	ERC11-6.5	ER12-6.5	
7.0-6.5	ER11-7	ERC11-7	ER12-7	

ER11, Inch Sizes

Inch I.D.	ER11 Standard Part#
1/16"	ER11-1/16
3/32"	ER11-3/32
1/8"	ER11-1/8
5/32"	ER11-5/32
3/16"	ER11-3/16
7/32"	ER11-7/32
1/4"	ER11-1/4



ER8 & ER11 COLLET SETS

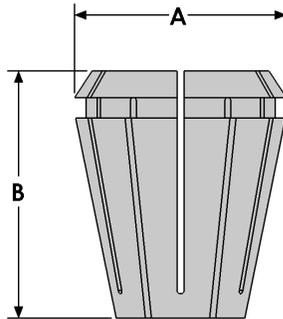
PART#	DESCRIPTION
ER8-1SET	9 COLLETS- UNSEALED 1mm to 5mm in .5mm increments
ER11-1SET	13 COLLETS- UNSEALED 1mm to 7mm in .5mm increments
ER11-2SET	7 COLLETS- UNSEALED 1/16 to 1/4" in 1/32" increments

ER8

A = 8.5mm (.34")
 B = 13.5mm (.53")
 Collet size Range = 1mm to 5mm
 Unsealed collets grip up to .5mm (.019) under the stated size

ER12

A = 12mm (.47")
 B = 19.5mm (.77")
 Collet size Range = 1mm to 7mm
 Unsealed collets grip up to .5mm (.019) under the stated size.



ER11

A = 11.5mm (.45")
 B = 18mm (.71")
 Collet size Range = 1mm to 7mm
 Unsealed collets grip up to .5mm (.019) under the stated size.

ER16

A = 17mm (.67")
 B = 27mm (1.06")
 Collet size Range = 1mm to 10mm / 1/16" to 13/32"
 Unsealed collets, above 2mm I.D., grip up to 1mm (.039) under the stated size.

ER16 Collets, Metric Sizes

Metric I.D.	Standard Part#	Coolant Sealed Part#	External Coolant Ports Part#
1	ER16-1		
1.5	ER16-1.5		
2	ER16-2		
2.5	ER16-2.5		
3	ER16-3	ERC16-3	
3.5	ER16-3.5		
4	ER16-4	ERC16-4	EREC16-4
4.5	ER16-4.5		
5	ER16-5	ERC16-5	EREC16-5
5.5	ER16-5.5		
6	ER16-6	ERC16-6	EREC16-6
6.5	ER16-6.5		
7	ER16-7	ERC16-7	EREC16-7
7.5	ER16-7.5		
8	ER16-8	ERC16-8	EREC16-8
8.5	ER16-8.5		
9	ER16-9	ERC16-9	EREC16-9
9.5	ER16-9.5		
10	ER16-10	ERC16-10	EREC16-10

ER16 Collets, Inch Sizes

Inch I.D.	Standard Part#	Coolant Sealed Part#	External Coolant Ports Part#
1/16"	ER16-1/16		
3/32"	ER16-3/32		
1/8"	ER16-1/8	ERC16-1/8	EREC16-1/8
5/32"	ER16-5/32	ERC16-5/32	EREC16-5/32
3/16"	ER16-3/16	ERC16-3/16	EREC16-3/16
7/32"	ER16-7/32	ERC16-7/32	EREC16-7/32
1/4"	ER16-1/4	ERC16-1/4	EREC16-1/4
9/32"	ER16-9/32	ERC16-9/32	EREC16-9/32
5/16"	ER16-5/16	ERC16-5/16	EREC16-5/16
11/32"	ER16-11/32	ERC16-11/32	EREC16-11/32
3/8"	ER16-3/8	ERC16-3/8	EREC16-3/8
13/32"	ER16-13/32	ERC16-13/32	

ER16 FRACTIONAL COLLET SETS

PART#	DESCRIPTION
ER16-2SET	12 COLLETS- UNSEALED 1/16 to 13/32" in 1/32" increments
ERC16-2SET	9 COLLETS- SEALED 1/8 to 3/8" in 1/32" increments
EREC16-2SET	9 COLLETS- EXTERNAL COOLANT 1/8 to 3/8" in 1/32" incr.

ER16 METRIC COLLET SETS

PART#	DESCRIPTION
ER16-1SET	10 COLLETS- UNSEALED 1 to 10mm in 1mm increments
EREC16-2SET	9 COLLETS- SEALED 1/8 to 5/8" in 1/32" increments

Note: Coolant sealed collets do not have a gripping range and are rated for up to 1000 psi.

ER20 Collets, Inch Sizes			
Inch I.D.	Standard Part#	Coolant Sealed Part#	External Coolant Ports Part#
1/16"	ER20-1/16		
3/32"	ER20-3/32		
1/8"	ER20-1/8	ERC20-1/8	EREC20-1/8
5/32"	ER20-5/32	ERC20-5/32	EREC20-5/32
3/16"	ER20-3/16	ERC20-3/16	EREC20-3/16
7/32"	ER20-7/32	ERC20-7/32	EREC20-7/32
1/4"	ER20-1/4	ERC20-1/4	EREC20-1/4
9/32"	ER20-9/32	ERC20-9/32	EREC20-9/32
5/16"	ER20-5/16	ERC20-5/16	EREC20-5/16
11/32"	ER20-11/32	ERC20-11/32	EREC20-11/32
3/8"	ER20-3/8	ERC20-3/8	EREC20-3/8
13/32"	ER20-13/32	ERC20-13/32	EREC20-13/32
7/16"	ER20-7/16	ERC20-7/16	EREC20-7/16
15/32"	ER20-15/32	ERC20-15/32	EREC20-15/32
1/2"	ER20-1/2	ERC20-1/2	EREC20-1/2

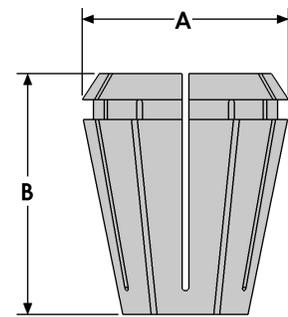
ER20 Collets, Metric Sizes			
Metric I.D.	Standard Part#	Coolant Sealed Part#	External Coolant Ports Part#
1	ER20-1		
1.5	ER20-1.5		
2	ER20-2		
2.5	ER20-2.5		
3	ER20-3	ERC20-3	EREC20-3
3.5	ER20-3.5		
4	ER20-4	ERC20-4	EREC20-4
4.5	ER20-4.5		
5	ER20-5	ERC20-5	EREC20-5
5.5	ER20-5.5		
6	ER20-6	ERC20-6	EREC20-6
6.5	ER20-6.5		
7	ER20-7	ERC20-7	EREC20-7
7.5	ER20-7.5		
8	ER20-8	ERC20-8	EREC20-8
8.5	ER20-8.5		
9	ER20-9	ERC20-9	EREC20-9
9.5	ER20-9.5		
10	ER20-10	ERC20-10	EREC20-10
10.5	ER20-10.5		
11	ER20-11	ERC20-11	EREC20-11
11.5	ER20-11.5		
12	ER20-12	ERC20-12	EREC20-12
12.5	ER20-12.5		
13	ER20-13	ERC20-13	EREC20-13

ER20 FRACTIONAL COLLET SETS	
PART#	DESCRIPTION
ER20-2SET	15 COLLETS- UNSEALED 1/16 to 1/2" in 1/32" increments
ERC20-2SET	13 COLLETS- SEALED 1/8 to 1/2" in 1/32" increments

ER20 METRIC COLLET SETS	
PART#	DESCRIPTION
ER20-1SET	12 COLLETS- UNSEALED 2mm to 13mm in 1mm increments
ERC20-1SET	11 COLLETS- SEALED 3mm to 13mm in 1mm increments

ER50 Collets Inch	
Inch I.D.	Standard Part#
1/4"	ER50-1/4
5/16"	ER50-5/16
3/8"	ER50-3/8
7/16"	ER50-7/16
1/2"	ER50-1/2
9/16"	ER50-9/16
5/8"	ER50-5/8
11/16"	ER50-11/16
3/4"	ER50-3/4
13/16"	ER50-13/16
7/8"	ER50-7/8
15/16"	ER50-15/16
1"	ER50-1
1-1/16"	ER50-1-1/16
1-1/8"	ER50-1-1/8
1-3/16"	ER50-1-3/16
1-1/4"	ER50-1-1/4
1-5/16"	ER50-1-5/16

ER50 Collets Metric	
Metric I.D.	Standard Part#
12	ER50-12
14	ER50-14
16	ER50-16
18	ER50-18
20	ER50-20
22	ER50-22
24	ER50-24
26	ER50-26
28	ER50-28
30	ER50-30
32	ER50-32
34	ER50-34



ER20

A = 21mm (.83")

B = 31mm (1.22")

Collet size Range = 1mm to 13mm / 1/16" to 1/2"

Unsealed collets, above 2mm I.D., grip up to 1mm (.039) under the stated size.

Note: Coolant sealed collets do not have a gripping range and are rated for up to 1000 psi.

ER50

A = 52mm (2.05")

B = 60mm (2.36")

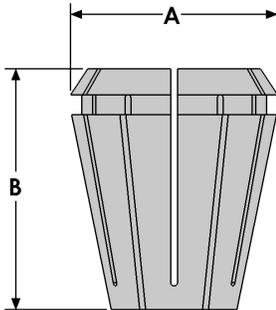
Collet size Range = 10mm to 24mm (.394 to 1.339)

Unsealed collets grip up to 2mm (.079) under the stated size.

ER50 METRIC COLLET SETS	
PART#	DESCRIPTION
ER50-1SET	12 COLLETS UNSEALED 12mm to 34mm in 2mm increments

ER25 Collets, Inch Sizes			
Inch I.D.	Standard Part#	Coolant Sealed Part#	External Coolant Ports Part#
1/16"	ER25-1/16	ERC25-1/16	
3/32"	ER25-3/32	ERC25-3/32	
1/8"	ER25-1/8	ERC25-1/8	EREC25-1/8
5/32"	ER25-5/32	ERC25-5/32	EREC25-5/32
3/16"	ER25-3/16	ERC25-3/16	EREC25-3/16
7/32"	ER25-7/32	ERC25-7/32	EREC25-7/32
1/4"	ER25-1/4	ERC25-1/4	EREC25-1/4
9/32"	ER25-9/32	ERC25-9/32	EREC25-9/32
5/16"	ER25-5/16	ERC25-5/16	EREC25-5/16
11/32"	ER25-11/32	ERC25-11/32	EREC25-11/32
3/8"	ER25-3/8	ERC25-3/8	EREC25-3/8
13/32"	ER25-13/32	ERC25-13/32	EREC25-13/32
7/16"	ER25-7/16	ERC25-7/16	EREC25-7/16
15/32"	ER25-15/32	ERC25-15/32	EREC25-15/32
1/2"	ER25-1/2	ERC25-1/2	EREC25-1/2
17/32"	ER25-17/32	ERC25-17/32	EREC25-17/32
9/16"	ER25-9/16	ERC25-9/16	EREC25-9/16
19/32"	ER25-19/32	ERC25-19/32	EREC25-19/32
5/8"	ER25-5/8	ERC25-5/8	EREC25-5/8

ER25 Collets, Metric Sizes			
Metric I.D.	Standard Part#	Coolant Sealed Part#	External Coolant Ports Part#
1	ER25-1		
1.5	ER25-1.5		
2	ER25-2	ERC25-2	
2.5	ER25-2.5		
3	ER25-3	ERC25-3	EREC25-3
3.5	ER25-3.5		
4	ER25-4	ERC25-4	EREC25-4
4.5	ER25-4.5		
5	ER25-5	ERC25-5	EREC25-5
5.5	ER25-5.5		
6	ER25-6	ERC25-6	EREC25-6
6.5	ER25-6.5		
7	ER25-7	ERC25-7	EREC25-7
7.5	ER25-7.5		
8	ER25-8	ERC25-8	EREC25-8
8.5	ER25-8.5		
9	ER25-9	ERC25-9	EREC25-9
9.5	ER25-9.5		
10	ER25-10	ERC25-10	EREC25-10
10.5	ER25-10.5		
11	ER25-11	ERC25-11	EREC25-11
11.5	ER25-11.5		
12	ER25-12	ERC25-12	EREC25-12
12.5	ER25-12.5		
13	ER25-13	ERC25-13	EREC25-13
13.5	ER25-13.5		
14	ER25-14	ERC25-14	EREC25-14
14.5	ER25-14.5		
15	ER25-15	ERC25-15	EREC25-15
15.5	ER25-15.5		
16	ER25-16	ERC25-16	EREC25-16



ER25

A = 26mm (1.02")

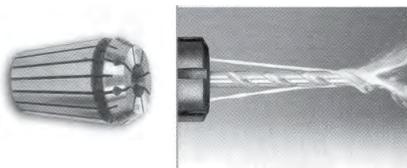
B = 35mm (1.38")

Collet size Range = 1mm to 16mm / 1/16" to 5/8"

Unsealed collets, above 2mm I.D., grip up to 1mm (.039) under the stated size.

Note: Coolant sealed collets do not have a gripping range and are rated for up to 1000 psi.

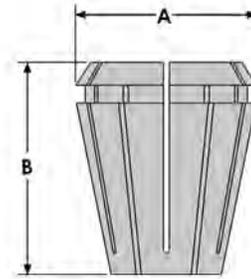
Collet with external coolant ports



ER25 COLLET SETS		
	PART#	Description
Fractional	ER25-2SET	19 COLLETS- UNSEALED 1/16 to 5/8" in 1/32" increments
	ERC25-2SET	17 COLLETS- SEALED 1/8 to 5/8" in 1/32" increments
Metric	ER25-1SET	19 COLLETS- UNSEALED 4mm to 26mm in 1mm increments

ER32 Collets, Inch Sizes

Inch I.D.	Standard Part#	Coolant Sealed Part#	External Coolant Ports Part#
3/32"	ER32-3/32		
1/8"	ER32-1/8	ERC32-1/8	EREC32-1/8
5/32"	ER32-5/32	ERC32-5/32	EREC32-5/32
3/16"	ER32-3/16	ERC32-3/16	EREC32-3/16
7/32"	ER32-7/32	ERC32-7/32	EREC32-7/32
1/4"	ER32-1/4	ERC32-1/4	EREC32-1/4
9/32"	ER32-9/32	ERC32-9/32	EREC32-9/32
5/16"	ER32-5/16	ERC32-5/16	EREC32-5/16
11/32"	ER32-11/32	ERC32-11/32	EREC32-11/32
3/8"	ER32-3/8	ERC32-3/8	EREC32-3/8
13/32"	ER32-13/32	ERC32-13/32	EREC32-13/32
7/16"	ER32-7/16	ERC32-7/16	EREC32-7/16
15/32"	ER32-15/32	ERC32-15/32	EREC32-15/32
1/2"	ER32-1/2	ERC32-1/2	EREC32-1/2
17/32"	ER32-17/32	ERC32-17/32	EREC32-17/32
9/16"	ER32-9/16	ERC32-9/16	EREC32-9/16
19/32"	ER32-19/32	ERC32-19/32	EREC32-19/32
5/8"	ER32-5/8	ERC32-5/8	EREC32-5/8
21/32"	ER32-21/32	ERC32-21/32	EREC32-21/32
11/16"	ER32-11/16	ERC32-11/16	EREC32-11/16
23/32"	ER32-23/32	ERC32-23/32	EREC32-23/32
3/4"	ER32-3/4	ERC32-3/4	EREC32-3/4



ER32

A = 33mm (1.23")

B = 40mm (1.58")

Collet size Range = 3mm to 20mm / 3/32" to 3/4"

Unsealed collets grip up to 1mm (.039) under the stated size.

Note: Coolant sealed collets do not have a gripping range and are rated for up to 1000 psi.

ER32 Collets, Metric Sizes

Metric I.D.	Standard Part#	Coolant Sealed Part#	External Coolant Ports Part#
3	ER32-3	ERC32-3	EREC32-3
3.5	ER32-3.5		
4	ER32-4	ERC32-4	EREC32-4
4.5	ER32-4.5		
5	ER32-5	ERC32-5	EREC32-5
5.5	ER32-5.5		
6	ER32-6	ERC32-6	EREC32-6
6.5	ER32-6.5		
7	ER32-7	ERC32-7	EREC32-7
7.5	ER32-7.5		
8	ER32-8	ERC32-8	EREC32-8
8.5	ER32-8.5		
9	ER32-9	ERC32-9	EREC32-9
9.5	ER32-9.5		
10	ER32-10	ERC32-10	EREC32-10
10.5	ER32-10.5		
11	ER32-11	ERC32-11	EREC32-11
11.5	ER32-11.5		
12	ER32-12	ERC32-12	EREC32-12
12.5	ER32-12.5		
13	ER32-13	ERC32-13	EREC32-13
13.5	ER32-13.5		
14	ER32-14	ERC32-14	EREC32-14
14.5	ER32-14.5		
15	ER32-15	ERC32-15	EREC32-15
15.5	ER32-15.5		
16	ER32-16	ERC32-16	EREC32-16
16.5	ER32-16.5		
17	ER32-17	ERC32-17	EREC32-17
17.5	ER32-17.5		
18	ER32-18	ERC32-18	EREC32-18
18.5	ER32-18.5		
19	ER32-19	ERC32-19	EREC32-19
19.5	ER32-19.5		
20	ER32-20	ERC32-20	EREC32-20

ER32 FRACTIONAL COLLET SETS

PART#	DESCRIPTION
ER32-2SET	22 COLLETS- UNSEALED 3/32 to 3/4" in 1/32" increments
ERC32-2SET	21 COLLETS- SEALED 1/8 to 3/4" in 1/32" increments
EREC32-2SET	21 COLLETS- EXTERNAL COOLANT 1/8 to 3/4" in 1/32" incr.

ER32 METRIC COLLET SETS

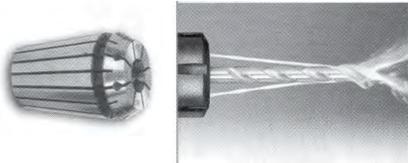
PART#	DESCRIPTION
ER32-1SET	18 COLLETS- UNSEALED 3mm to 20mm in 1mm increments
ERC32-1SET	17 COLLETS- SEALED 4mm to 20mm in 1mm increments



ER40 Collets, Metric Sizes			
Metric I.D.	Standard Part#	Coolant Sealed Part#	External Coolant Ports Part#
3			EREC40-3
4	ER40-4	ERC40-4	EREC40-4
5	ER40-5	ERC40-5	EREC40-5
6	ER40-6	ERC40-6	EREC40-6
7	ER40-7	ERC40-7	EREC40-7
8	ER40-8	ERC40-8	EREC40-8
9	ER40-9	ERC40-9	EREC40-9
10	ER40-10	ERC40-10	EREC40-10
11	ER40-11	ERC40-11	EREC40-11
12	ER40-12	ERC40-12	EREC40-12
13	ER40-13	ERC40-13	EREC40-13
14	ER40-14	ERC40-14	EREC40-14
15	ER40-15	ERC40-15	EREC40-15
16	ER40-16	ERC40-16	EREC40-16
17	ER40-17	ERC40-17	EREC40-17
18	ER40-18	ERC40-18	EREC40-18
19	ER40-19	ERC40-19	EREC40-19
20	ER40-20	ERC40-20	EREC40-20
21	ER40-21	ERC40-21	EREC40-21
22	ER40-22	ERC40-22	EREC40-22
23	ER40-23	ERC40-23	EREC40-23
24	ER40-24	ERC40-24	EREC40-24
25	ER40-25	ERC40-25	EREC40-25
26	ER40-26	ERC40-26	EREC40-26

ER40 Collets, Inch Sizes			
Inch I.D.	Standard Part#	Coolant Sealed Part#	External Coolant Ports Part#
1/8"	ER40-1/8	ERC40-1/8	EREC40-1/8
5/32"	ER40-5/32	ERC40-5/32	EREC40-5/32
3/16"	ER40-3/16	ERC40-3/16	EREC40-3/16
7/32"	ER40-7/32	ERC40-7/32	EREC40-7/32
1/4"	ER40-1/4	ERC40-1/4	EREC40-1/4
9/32"	ER40-9/32	ERC40-9/32	EREC40-9/32
5/16"	ER40-5/16	ERC40-5/16	EREC40-5/16
11/32"	ER40-11/32	ERC40-11/32	EREC40-11/32
3/8"	ER40-3/8	ERC40-3/8	EREC40-3/8
13/32"	ER40-13/32	ERC40-13/32	EREC40-13/32
7/16"	ER40-7/16	ERC40-7/16	EREC40-7/16
15/32"	ER40-15/32	ERC40-15/32	EREC40-15/32
1/2"	ER40-1/2	ERC40-1/2	EREC40-1/2
17/32"	ER40-17/32	ERC40-17/32	EREC40-17/32
9/16"	ER40-9/16	ERC40-9/16	EREC40-9/16
19/32"	ER40-19/32	ERC40-19/32	EREC40-19/32
5/8"	ER40-5/8	ERC40-5/8	EREC40-5/8
21/32"	ER40-21/32	ERC40-21/32	EREC40-21/32
11/16"	ER40-11/16	ERC40-11/16	EREC40-11/16
23/32"	ER40-23/32	ERC40-23/32	EREC40-23/32
3/4"	ER40-3/4	ERC40-3/4	EREC40-3/4
25/32"	ER40-25/32	ERC40-25/32	EREC40-25/32
13/16"	ER40-13/16	ERC40-13/16	EREC40-13/16
27/32"	ER40-27/32	ERC40-27/32	EREC40-27/32
7/8"	ER40-7/8	ERC40-7/8	EREC40-7/8
29/32"	ER40-29/32	ERC40-29/32	EREC40-29/32
15/16"	ER40-15/16	ERC40-15/16	EREC40-15/16
31/32"	ER40-31/32	ERC40-31/32	EREC40-31/32
1"	ER40-1	ERC40-1	EREC40-1

Collet with external coolant ports



ER40 FRACTIONAL COLLET SETS	
PART#	DESCRIPTION
ER40-2SET	29 COLLETS- UNSEALED 1/8 to 1" in 1/32" increments
ERC40-2SET	29 COLLETS- SEALED 1/8 to 1" in 1/32" increments

ER40 METRIC COLLET SETS	
PART#	DESCRIPTION
ER40-1SET	23 COLLETS- UNSEALED 4mm to 26mm in 1mm increments
ERC40-1SET	23 COLLETS- SEALED 4mm to 26mm in 1mm increments



ER40

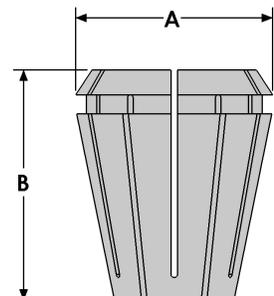
A = 41mm (1.61")

B = 46mm (1.81")

Collet size Range = 3mm to 26mm / 1/8" to 1"

Unsealed collets grip up to 1mm (.039) under the stated size.

Note: Coolant sealed collets do not have a gripping range and are rated for up to 1000 psi.



ER RIGID TAPPING COLLETS

HAND TAP SIZE	TAP SHANK DIA.	ER40 CAT. NO.	ER32 CAT. NO.	ER25 CAT. NO.	ER20 CAT. NO.	ER16 CAT. NO.	ER11 CAT. NO.
#0 - 6	.141	ER40-0141TH	ER32-0141TH	ER25-0141TH	ER20-0141TH	ER16-0141TH	ER11-0141TH
#8	.168	ER40-0168TH	ER32-0168TH	ER25-0168TH	ER20-0168TH	ER16-0168TH	ER11-0168TH
#10	.194	ER40-0194TH	ER32-0194TH	ER25-0194TH	ER20-0194TH	ER16-0194TH	ER11-0194TH
#12	.220	ER40-0220TH	ER32-0220TH	ER25-0220TH	ER20-0220TH	ER16-0220TH	ER11-0220TH
1/4	.255	ER40-0255TH	ER32-0255TH	ER25-0255TH	ER20-0255TH	ER16-0255TH	ER11-0255TH
5/16	.318	ER40-0318TH	ER32-0318TH	ER25-0318TH	ER20-0318TH	ER16-0318TH	
3/8	.381	ER40-0381TH	ER32-0381TH	ER25-0381TH	ER20-0381TH	ER16-0381TH	
7/16	.323	ER40-0323TH	ER32-0323TH	ER25-0323TH	ER20-0323TH		
1/2	.367	ER40-0367TH	ER32-0367TH	ER25-0367TH	ER20-0367TH		
9/16	.429	ER40-0429TH	ER32-0429TH	ER25-0429TH			
5/8	.480	ER40-0480TH	ER32-0480TH	ER25-0480TH			
11/16	.542	ER40-0542TH	ER32-0542TH				
3/4	.590	ER40-0590TH	ER32-0590TH				
13/16	.652	ER40-0652TH	ER32-0652TH				
7/8	.697	ER40-0697TH					
15/16	.760	ER40-0760TH					
1	.800	ER40-0800TH					
PIPE TAP SIZE							
1/8P (SS)	.313	ER40-0313PT	ER32-0313PT	ER25-0313PT			
1/8P (LS)	.437	ER40-0437PT	ER32-0437PT	ER25-0437PT			
1/4P	.562	ER40-0562PT	ER32-0562PT				
3/8P	.700	ER40-0700PT					
1/2P	.687	ER40-0687PT					



ER Rigid Tapping Collets with Square Drive

For synchronous tapping operations using any ER collet chuck. Collet bore is exact tool diameter, with square drive, for accuracy and rigidity. Available sealed for coolant-through applications, as well as in DIN and JIS standard metric sizes.

ER TAPPING COLLETS W/ AXIAL COMPENSATION

HAND TAP SIZE	TAP SHANK DIA.	ER40 CAT. NO.	ER32 CAT. NO.	ER25 CAT. NO.	ER20 CAT. NO.	ER16 CAT. NO.
#0 - 6	.141	ER40AF-0141TH	ER32AF-0141TH	ER25AF-0141TH	ER20AF-0141TH	ER16AF-0141TH
#8	.168	ER40AF-0168TH	ER32AF-0168TH	ER25AF-0168TH	ER20AF-0168TH	ER16AF-0168TH
#10	.194	ER40AF-0194TH	ER32AF-0194TH	ER25AF-0194TH	ER20AF-0194TH	ER16AF-0194TH
#12	.220	ER40AF-0220TH	ER32AF-0220TH	ER25AF-0220TH	ER20AF-0220TH	
1/4	.255	ER40AF-0255TH	ER32AF-0255TH	ER25AF-0255TH	ER20AF-0255TH	
5/16	.318	ER40AF-0318TH	ER32AF-0318TH	ER25AF-0318TH		
3/8	.381	ER40AF-0381TH	ER32AF-0381TH	ER25AF-0381TH		
7/16	.323	ER40AF-0323TH	ER32AF-0323TH	ER25AF-0323TH		
1/2	.367	ER40AF-0367TH	ER32AF-0367TH	ER25AF-0367TH		
9/16	.429	ER40AF-0429TH	ER32AF-0429TH			
5/8	.480	ER40AF-0480TH				
11/16	.542	ER40AF-0542TH				
PIPE TAP SIZE						
1/8P (LS)	.437	ER40AF-0437PT	ER32AF-0437PT			
1/4P	.562	ER40AF-0562PT				



ER Quick-Change Tapping Collets with Axial Compensation

For use with any ER collet chuck, these tapping collets help prevent tap breakage on machines requiring axial compensation. Friction-free ball-bearing drive. Metric sizes available upon request.

UNIVERSAL® DOUBLE TAPER COLLETS

THE FOLLOWING COLLET CHUCKS ARE AVAILABLE FOR THESE COLLETS:

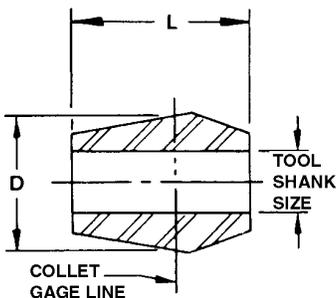
- STRAIGHT SHANK
- MORSE TAPER SHANK
- JACOBS INTERNAL TAPER
- BRIDGEPORT R8 SHANK
- #9 B&S TAPER SHANK

CALL FOR PRICE AND AVAILABILITY.

How to Order:

- Order by part number listed and tool shank size.
- Available in all letter, number & fractional sizes within range.
- Other sizes available to special order.

COLLET RANGE	TYPE	COLLET PART NO.	D	L
1/16 to 1/4	OW	*55021	.39	.50
1/8 to 3/8	WW	*55060	.59	.75
1/8 to 1/2	Y	*55097	.80	1.06
1/4 to 3/4	Z	*55132	1.12	1.50
3/8 to 1"	ZZ	*55165	1.56	2.00
3/4 to 1-1/2	XZ	*55194	2.20	2.50



COLLET CAPACITY	SERIES 100 DA COLLETS		SERIES 200 DA COLLETS		SERIES 300 DA COLLETS	
	STANDARD CAT. NO.	COOLANT CAT. NO.	STANDARD CAT. NO.	COOLANT CAT. NO.	STANDARD CAT. NO.	COOLANT CAT. NO.
1/32					300DA0031	
3/64	100DA0047		200DA0047		300DA0047	
1/16	100DA0062		200DA0062		300DA0062	
5/64	100DA0078		200DA0078		300DA0078	
3/32	100DA0094		200DA0094		300DA0094	
7/64	100DA0109		200DA0109		300DA0109	
1/8	100DA0125	100DAC0125	200DA0125	200DAC0125	300DA0125	300DAC0125
9/64	100DA0141	100DAC0141	200DA0141	200DAC0141	300DA0141	300DAC0141
5/32	100DA0156	100DAC0156	200DA0156	200DAC0156	300DA0156	300DAC0156
11/64	100DA0172	100DAC0172	200DA0172	200DAC0172	300DA0172	300DAC0172
3/16	100DA0188	100DAC0188	200DA0188	200DAC0188	300DA0188	300DAC0188
13/64	100DA0203	100DAC0203	200DA0203	200DAC0203	300DA0203	300DAC0203
7/32	100DA0219	100DAC0219	200DA0219	200DAC0219	300DA0219	300DAC0219
15/64	100DA0234	100DAC0234	200DA0234	200DAC0234	300DA0234	300DAC0234
1/4	100DA0250	100DAC0250	200DA0250	200DAC0250	300DA0250	300DAC0250
17/64	100DA0266	100DAC0266	200DA0266	200DAC0266		
9/32	100DA0281	100DAC0281	200DA0281	200DAC0281		
19/64	100DA0297	100DAC0297	200DA0297	200DAC0297		
5/16	100DA0312	100DAC0312	200DA0312	200DAC0312		
21/64	100DA0328	100DAC0328	200DA0328	200DAC0328		
11/32	100DA0344	100DAC0344	200DA0344	200DAC0344		
23/64	100DA0359	100DAC0359	200DA0359	200DAC0359		
3/8	100DA0375	100DAC0375	200DA0375	200DAC0375		
25/64	100DA0391	100DAC0391	200DA0391	200DAC0391		
13/32	100DA0406	100DAC0406				
27/64	100DA0422	100DAC0422				
7/16	100DA0438	100DAC0438				
29/64	100DA0453	100DAC0453				
15/32	100DA0469	100DAC0469				
31/64	100DA0484	100DAC0484				
1/2	100DA0500	100DAC0500				
33/64	100DA0516	100DAC0516				
17/32	100DA0531	100DAC0531				
35/64	100DA0547	100DAC0547				
9/16	100DA0562	100DAC0562				

FRACTIONAL SIZES



SERIES#	L	D
100	1.438	.769
200	1.188	.539
300	1.000	.375

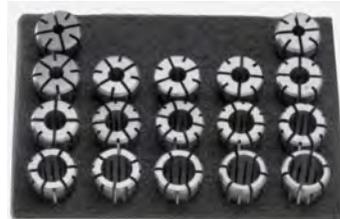
- STANDARD COLLETS COLLAPSE 1/32"
- COOLANT SEALED COLLETS COLLAPSE 1/64"
- COOLANT SEALED COLLETS CAN OPERATE AT UP TO 1000 P.S.I.

COLLET CAPACITY	SERIES 100 CAT. NO.	SERIES 200 CAT. NO.	SERIES 300 CAT. NO.
1.0	100DA010M	200DA010M	300DA010M
1.5	100DA015M	200DA015M	300DA015M
2.0	100DA020M	200DA020M	300DA020M
2.5	100DA025M	200DA025M	300DA025M
3.0	100DA030M	200DA030M	300DA030M
3.5	100DA035M	200DA035M	300DA035M
4.0	100DA040M	200DA040M	300DA040M
4.5	100DA045M	200DA045M	300DA045M
5.0	100DA050M	200DA050M	300DA050M
5.5	100DA055M	200DA055M	300DA055M
6.0	100DA060M	200DA060M	300DA060M
6.5	100DA065M	200DA065M	
7.0	100DA070M	200DA070M	
7.5	100DA075M	200DA075M	
8.0	100DA080M	200DA080M	
8.5	100DA085M	200DA085M	
9.0	100DA090M	200DA090M	
9.5	100DA095M	200DA095M	
10.0	100DA100M	200DA100M	
10.5	100DA105M		
11.0	100DA110M		
11.5	100DA115M		
12.0	100DA120M		
12.5	100DA125M		
13.0	100DA130M		
13.5	100DA135M		
14.0	100DA140M		
14.5	100DA145M		
15.0	100DA150M		

METRIC SIZES



WHY BUY A COPY WHEN YOU CAN HAVE THE "ORIGINAL"



Additional savings available with **collet sets**, call for price and availability.

Cat. No.	Collet Series	Contents of Collet Sets
S303SET	300	8 COLLETS 3/64, 5/64, 3/32 THRU 1/4 X 32NDS
S304SET	300	9 COLLETS 1/8 THRU 1/4 X 1/64 INCREMENTS
S305SET	300	5 COLLETS 1/8 THRU 1/4 X 1/32 INCREMENTS
S203SET	200	9 COLLETS 1/8 THRU 3/8 X 1/32 INCREMENTS
S204SET	200	17 COLLETS 1/8 THRU 3/8 IN 1/64 INCREMENTS
S103SET	100	11 COLLETS 1/4 THRU 9/16 IN 1/32 INCREMENTS
S104SET	100	21 COLLETS 1/4 THRU 9/16 IN 1/64 INCREMENTS



SERIES	L	D
180	1.625	1.035
400	2.00	1.455

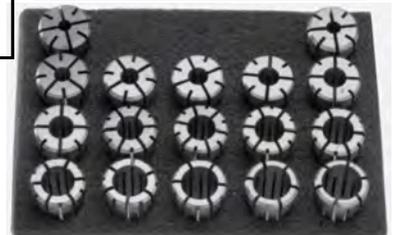
- 180DA COLLETS COLLAPSE 1/32"
- COOLANT COLLETS COLLAPSE 1/64"
- COOLANT SEALED COLLETS CAN OPERATE AT UP TO 1000 P.S.I.

- 400DA COLLETS COLLAPSE 1/64"

COLLET CAPACITY	SERIES 400 DA	SERIES 180 DA COLLETS	
	STANDARD CAT. NO.	STANDARD CAT. NO.	COOLANT CAT. NO.
3/64		180DA0047	
1/16		180DA0062	
5/64		180DA0078	
3/32	400DA0094-SOM	180DA0094	
7/64	400DA0109-SOM	180DA0109	
1/8	400DA0125-SOM	180DA0125	
9/64	400DA0141-SOM	180DA0141	
5/32	400DA0156-SOM	180DA0156	
11/64	400DA0172-SOM	180DA0172	
3/16	400DA0188-SOM	180DA0188	
13/64	400DA0203-SOM	180DA0203	
7/32	400DA0219-SOM	180DA0219	
15/64	400DA0234-SOM	180DA0234	
1/4	400DA0250-SOM	180DA0250	180DAC0250
17/64	400DA0266-SOM	180DA0266	180DAC0266
9/32	400DA0281-SOM	180DA0281	180DAC0281
19/64	400DA0297-SOM	180DA0297	180DAC0297
5/16	400DA0312-SOM	180DA0312	180DAC0312
21/64	400DA0328-SOM	180DA0328	180DAC0328
11/32	400DA0344-SOM	180DA0344	180DAC0344
23/64	400DA0359-SOM	180DA0359	180DAC0359
3/8	400DA0375-SOM	180DA0375	180DAC0375
25/64	400DA0391-SOM	180DA0391	180DAC0391
13/32	400DA0406-SOM	180DA0406	180DAC0406
27/64	400DA0422-SOM	180DA0422	180DAC0422
7/16	400DA0438-SOM	180DA0438	180DAC0438
29/64	400DA0453-SOM	180DA0453	180DAC0453
15/32	400DA0469-SOM	180DA0469	180DAC0469
31/64	400DA0484-SOM	180DA0484	180DAC0484
1/2	400DA0500-SOM	180DA0500	180DAC0500
33/64	400DA0516-SOM	180DA0516	180DAC0516
17/32	400DA0531-SOM	180DA0531	180DAC0531
35/64	400DA0547-SOM	180DA0547	180DAC0547
9/16	400DA0562-SOM	180DA0562	180DAC0562
37/64	400DA0578-SOM	180DA0578	180DAC0578
19/32	400DA0594-SOM	180DA0594	180DAC0594
39/64	400DA0609-SOM	180DA0609	180DAC0609
5/8	400DA0625-SOM	180DA0625	180DAC0625
41/64	400DA0641-SOM	180DA0641	180DAC0641
21/32	400DA0656-SOM	180DA0656	180DAC0656
43/64	400DA0672-SOM	180DA0672	180DAC0672
11/16	400DA0688-SOM	180DA0688	180DAC0688
45/64	400DA0703-SOM	180DA0703	180DAC0703
23/32	400DA0719-SOM	180DA0719	180DAC0719
47/64	400DA0734-SOM	180DA0734	180DAC0734
3/4	400DA0750-SOM	180DA0750	180DAC0750
49/64	400DA0766-SOM		
25/32	400DA0781-SOM		
51/64	400DA0797-SOM		
13/16	400DA0812-SOM		
53/64	400DA0828-SOM		
27/32	400DA0844-SOM		
55/64	400DA0859-SOM		
7/8	400DA0875-SOM		
57/64	400DA0891-SOM		
29/32	400DA0906-SOM		
59/64	400DA0922-SOM		
15/16	400DA0938-SOM		
61/64	400DA0953-SOM		
31/32	400DA0969-SOM		
63/64	400DA0984-SOM		
1"	400DA1000-SOM		

METRIC

COLLET CAPACITY	SERIES 180 DA
	STANDARD CAT. NO.
1.0	180DA010M
1.5	180DA015M
2.0	180DA020M
2.5	180DA025M
3.0	180DA030M
3.5	180DA035M
4.0	180DA040M
4.5	180DA045M
5.0	180DA050M
5.5	180DA055M
6.0	180DA060M
6.5	180DA065M
7.0	180DA070M
7.5	180DA075M
8.0	180DA080M
8.5	180DA085M
9.0	180DA090M
9.5	180DA095M
10.0	180DA100M
10.5	180DA105M
11.0	180DA110M
11.5	180DA115M
12.0	180DA120M
12.5	180DA125M
13.0	180DA130M
13.5	180DA135M
14.0	180DA140M
14.5	180DA145M
15.0	180DA150M
15.5	180DA155M
16.0	180DA160M
16.5	180DA165M
17.0	180DA170M
17.5	180DA175M
18.0	180DA180M
18.5	180DA185M
19.0	180DA190M
19.5	180DA195M
20.0	180DA200M



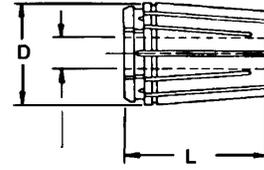
Additional savings available with **collet sets**, call for price and availability.

Cat. No.	Collet Series	Contents of Collet Sets
S183SET	180	17 COLLETS 1/4 THRU 3/4 IN 1/32 INCREMENTS
S184SET	180	33 COLLETS 1/4 THRU 3/4 IN 1/64 INCREMENTS
S403SET	400	21 COLLETS 3/8 THRU 1" IN 1/32 INCREMENTS
S404SET	400	41 COLLETS 3/8 THRU 1" IN 1/64 INCREMENTS

50TG Collets, Inch sizes

COLLET I.D.	I.D. GRIPPING LENGTH*	STANDARD PART#	COOLANT PART#
3/64"	.465"	50TG0047	
1/16"	.470"	50TG0062	
5/64"	.475"	50TG0078	
3/32"	.710"	50TG0094	
7/64"	.715"	50TG0109	
1/8"	.720"	50TG0125	
9/64"	.725"	50TG0141	50TGC0141
5/32"	.855"	50TG0156	
11/64"	.860"	50TG0172	50TGC0172
3/16"	.865"	50TG0188	50TGC0188
13/64"	.870"	50TG0203	50TGC0203
7/32"	.875"	50TG0219	50TGC0219
15/64"	.880"	50TG0234	
1/4"	1.139"	50TG0250	50TGC0250
17/64"	1.144"	50TG0266	50TGC0266
9/32"	1.148"	50TG0281	50TGC0281
19/64"	1.153"	50TG0297	
5/16"	1.158"	50TG0312	50TGC0312
21/64"	1.163"	50TG0328	50TGC0328
11/32"	1.167"	50TG0344	50TGC0344
23/64"	1.172"	50TG0359	50TGC0359
3/8"	1.177"	50TG0375	50TGC0375
25/64"	1.181"	50TG0391	50TGC0391
13/32"	1.186"	50TG0406	50TGC0406
27/64"	1.191"	50TG0422	50TGC0422
7/16"	1.196"	50TG0438	50TGC0438
29/64"	1.200"	50TG0453	
15/32"	1.205"	50TG0469	50TGC0469
31/64"	1.209"	50TG0484	50TGC0484
1/2"	1.214"	50TG0500	50TGC0500
33/64"	1.209"	50TG0516	50TGC0516
17/32"	1.438"	50TG0531	

*Note gripping length is for unsealed collet only



SERIES	L	D
50TG	1.438	.760

- Provides tremendous grip and accuracy for all drilling applications
- 1/64" Range of collapse on standard collets.
- Grips on back taper and margin of drill to provide for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy.
- Also available with DIN 6499 Class 1 accuracy.
- Coolant collets can operate at up to 1500 P.S.I.
- Coolant collets do not have a collapsing range.

50TG Collets, Metric sizes

COLLET I.D.	I.D. GRIPPING LENGTH*	STANDARD PART#	COOLANT PART#
1.5	11.9	50TG015M	
2	12	50TG020M	
2.5	18	50TG025M	
3	18.2	50TG030M	
3.5	18.4	50TG035M	
4	21.7	50TG040M	
4.5	21.9	50TG045M	
5	22	50TG050M	
5.5	22.2	50TG055M	
6	22.3	50TG060M	50TGC060M
6.5	22.3	50TG065M	
7	29	50TG070M	
7.5	29.1	50TG075M	
8	29.3	50TG080M	50TGC080M
8.5	29.4	50TG085M	
9	29.6	50TG090M	
9.5	29.9	50TG095M	
10	30	50TG100M	50TGC100M
10.5	30.2	50TG105M	
11	30.3	50TG110M	
11.5	30.5	50TG115M	
12	30.6	50TG120M	50TGC120M
12.5	30.8	50TG125M	
13	30.9	50TG130M	
13.5	36.5	50TG135M	

50TG COLLET SETS

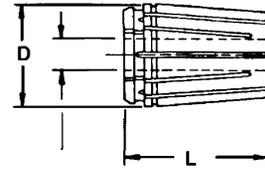
PART#	DESCRIPTION
S50TG1SET	32 COLLETS- 3/64" thru 17/32" x 1/64" increments
S50TG2SET	15 COLLETS- 3/32" thru 17/32" x 1/32" increments

**Single Angle
Collet Extractor
50TGCE**

75TG Collets, Inch sizes

COLLET I.D.	GRIPPING LENGTH	STANDARD PART#	COOLANT PART#
1/16"	.485"	75TG0062	
5/64"	.490"	75TG0078	
3/32"	.725"	75TG0094	
7/64"	.730"	75TG0109	
1/8"	.735"	75TG0125	
9/64"	.740"	75TG0141	
5/32"	.872"	75TG0156	
11/64"	.877"	75TG0172	
3/16"	.881"	75TG0188	
13/64"	.886"	75TG0203	
7/32"	.891"	75TG0219	
15/64"	.895"	75TG0234	
1/4"	1.481"	75TG0250	75TGC0250
17/64"	1.486"	75TG0266	75TGC0266
9/32"	1.490"	75TG0281	75TGC0281
19/64"	1.495"	75TG0297	75TGC0297
5/16"	1.500"	75TG0312	75TGC0312
21/64"	1.505"	75TG0328	75TGC0328
11/32"	1.509"	75TG0344	75TGC0344
23/64"	1.514"	75TG0359	75TGC0359
3/8"	1.519"	75TG0375	75TGC0375
25/64"	1.521"	75TG0391	75TGC0391
13/32"	1.526"	75TG0406	75TGC0406
27/64"	1.531"	75TG0422	75TGC0422
7/16"	1.536"	75TG0438	75TGC0438
29/64"	1.540"	75TG0453	75TGC0453
15/32"	1.545"	75TG0469	75TGC0469
31/64"	1.549"	75TG0484	75TGC0484
1/2"	1.554"	75TG0500	75TGC0500
33/64"	1.559"	75TG0516	75TGC0516
17/32"	1.563"	75TG0531	75TGC0531
35/64"	1.565"	75TG0547	75TGC0547
9/16"	1.570"	75TG0562	75TGC0562
37/64"	1.843"	75TG0578	75TGC0578
19/32"	1.843"	75TG0594	75TGC0594
39/64"	1.843"	75TG0609	75TGC0609
5/8"	1.843"	75TG0625	75TGC0625
41/64"	1.843"	75TG0641	75TGC0641
21/32"	1.843"	75TG0656	75TGC0656
43/64"	1.843"	75TG0672	75TGC0672
11/16"	1.843"	75TG0688	75TGC0688
45/64"	1.843"	75TG0703	75TGC0703
23/32"	1.843"	75TG0719	75TGC0719
47/64"	1.843"	75TG0734	75TGC0734
3/4"	1.843"	75TG0750	75TGC0750

**Single Angle
Collet Extractor
75TGCE**



SERIES	L	D
75TG	1.844	1.062

75TG Collet, Metric sizes

COLLET I.D.	GRIPPING LENGTH	STANDARD PART	COOLANT PART
3	18.6	75TG030M	
3.5	18.8	75TG035M	
4	22.1	75TG040M	
4.5	22.3	75TG045M	
5	22.5	75TG050M	
5.5	22.6	75TG055M	
6	22.8	75TG060M	75TGC060M
6.5	37.7	75TG065M	
7	37.8	75TG070M	
7.5	38	75TG075M	
8	38.1	75TG080M	75TGC080M
8.5	38.3	75TG085M	
9	38.4	75TG090M	
9.5	38.6	75TG095M	
10	38.7	75TG100M	75TGC100M
10.5	38.8	75TG105M	
11	39	75TG110M	
11.5	39.1	75TG115M	
12	39.3	75TG120M	75TGC120M
12.5	39.4	75TG125M	
13	39.6	75TG130M	
13.5	39.7	75TG135M	
14	39.9	75TG140M	75TGC140M
14.5	46.8	75TG145M	
15	46.8	75TG150M	
15.5	46.8	75TG155M	
16	46.8	75TG160M	75TGC160M
16.5	46.8	75TG165M	
17	46.8	75TG170M	
17.5	46.8	75TG175M	
18	46.8	75TG180M	75TGC180M
19	46.8	75TG190M	
19.5	46.8	75TG195M	
20	46.8	75TG200M	75TGC200M

75TG COLLET SETS

PART#	DESCRIPTION
S75TG1SET	45 COLLETS- 1/16" thru 3/4" x 1/64" increments
S75TG2SET	23 COLLETS- 1/16" thru 3/4" x 1/32" increments
S75TG3SET	33 COLLETS- 1/4" thru 3/4" x 1/64" increments
S75TG4SET	17 COLLETS- 1/4" thru 3/4" x 1/32" increments

100TG Collets, Inch sizes

COLLET I.D.	GRIPPING LENGTH	STANDARD PART#	COOLANT PART#
3/32"	.707	100TG0094	
7/64"	.712	100TG0109	
1/8"	.844	100TG0125	
9/64"	.848	100TG0141	
5/32"	.853	100TG0156	
11/64"	.858	100TG0172	
3/16"	.862	100TG0188	
13/64"	.867	100TG0203	
7/32"	.872	100TG0219	
15/64"	.876	100TG0234	
1/4"	1.48	100TG0250	100TGC0250
17/64"	1.485	100TG0266	100TGC0266
9/32"	1.489	100TG0281	100TGC0281
19/64"	1.494	100TG0297	100TGC0297
5/16"	1.499	100TG0312	100TGC0312
21/64"	1.503	100TG0328	100TGC0328
11/32"	1.508	100TG0344	100TGC0344
23/64"	1.513	100TG0359	100TGC0359
3/8"	1.518	100TG0375	100TGC0375
25/64"	1.522	100TG0391	100TGC0391
13/32"	1.527	100TG0406	100TGC0406
27/64"	1.532	100TG0422	100TGC0422
7/16"	1.536	100TG0438	100TGC0438
29/64"	1.541	100TG0453	100TGC0453
15/32"	1.546	100TG0469	100TGC0469
31/64"	1.55	100TG0484	100TGC0484
1/2"	1.555	100TG0500	100TGC0500
33/64"	1.560	100TG0516	100TGC0516
17/32"	1.564	100TG0531	100TGC0531
35/64"	1.569	100TG0547	100TGC0547
9/16"	1.574	100TG0562	100TGC0562
37/64"	1.579	100TG0578	100TGC0578
19/32"	1.583	100TG0594	100TGC0594
39/64"	1.588	100TG0609	100TGC0609
5/8"	1.593	100TG0625	100TGC0625
41/64"	1.597	100TG0641	100TGC0641
21/32"	1.602	100TG0656	100TGC0656
43/64"	1.607	100TG0672	100TGC0672
11/16"	1.612	100TG0688	100TGC0688
45/64"	1.612	100TG0703	100TGC0703
23/32"	1.621	100TG0719	100TGC0719
47/64"	1.625	100TG0734	100TGC0734
3/4"	1.630	100TG0750	100TGC0750
49/64"	2.375	100TG0766	100TGC0766
25/32"	2.375	100TG0781	100TGC0781
51/64"	2.375	100TG0797	100TGC0797
13/16"	2.375	100TG0812	100TGC0812
53/64"	2.375	100TG0828	100TGC0828
27/32"	2.375	100TG0844	100TGC0844
55/64"	2.375	100TG0859	100TGC0859
7/8"	2.375	100TG0875	100TGC0875
57/64"	2.375	100TG0891	100TGC0891
29/32"	2.375	100TG0906	100TGC0906
59/64"	2.375	100TG0922	100TGC0922
15/16"	2.375	100TG0938	100TGC0938
61/64"	2.375	100TG0953	100TGC0953
31/32"	2.375	100TG0969	100TGC0969
63/64"	2.375	100TG0984	100TGC0984
1"	2.375	100TG1000	100TGC1000

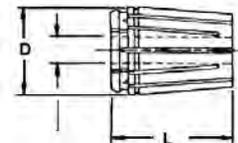
100TG Collets, Metric sizes

COLLET I.D.	GRIPPING LENGTH	STANDARD PART#	COOLANT PART#
3	18.2	100TG030M	
3.5	21.5	100TG035M	
4	21.7	100TG040M	
4.5	21.8	100TG045M	
5	22	100TG050M	
5.5	22.1	100TG055M	
6	22.3	100TG060M	100TGC060M
6.5	37.6	100TG065M	
7	37.8	100TG070M	
7.5	37.9	100TG075M	
8	38.1	100TG080M	100TGC080M
8.5	38.2	100TG085M	
9	38.4	100TG090M	
9.5	38.5	100TG095M	
10	38.7	100TG100M	100TGC100M
10.5	38.8	100TG105M	
11	39	100TG110M	
11.5	39.1	100TG115M	
12	39.3	100TG120M	100TGC120M
12.5	39.4	100TG125M	
13	39.6	100TG130M	
13.5	39.7	100TG135M	
14	39.9	100TG140M	100TGC140M
14.5	40	100TG145M	
15	40.2	100TG150M	
15.5	40.3	100TG155M	
16	40.5	100TG160M	100TGC160M
16.5	40.6	100TG165M	
17	40.8	100TG170M	
17.5	40.9	100TG175M	
18	41.1	100TG180M	100TGC180M
18.5	41.2	100TG185M	
19	41.4	100TG190M	
19.5	60.3	100TG195M	
20	60.3	100TG200M	100TGC200M
20.5	60.3	100TG205M	
21	60.3	100TG210M	
21.5	60.3	100TG215M	
22	60.3	100TG220M	
22.5	60.3	100TG225M	
23	60.3	100TG230M	
23.5	60.3	100TG235M	
24	60.3	100TG240M	
24.5	60.3	100TG245M	
25	60.3	100TG250M	100TGC250M
25.5	60.3	100TG255M	



**Single Angle
Collet Extractor
100TGCE**

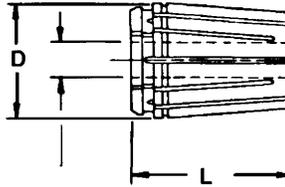
SERIES	L	D
100TG	2.375	1.379



100TG COLLET SETS

PART#	DESCRIPTION
S100TG1SET	59 COLLETS- 3/32" thru 1" x 1/64" increments
S100TG2SET	30 COLLETS- 3/32" thru 1" x 1/32" increments
S100TG3SET	41 COLLETS- 3/8" thru 1" x 1/64" increments
S100TG4SET	21 COLLETS- 3/8" thru 1" x 1/32" increments

150TG Collet, Inch sizes		
COLLET I.D.	GRIPPING LENGTH	STANDARD PART#
3/8"	2.000	150TG0375
25/64"	2.000	150TG0391
13/32"	2.000	150TG0406
27/64"	2.000	150TG0422
7/16"	2.000	150TG0438
29/64"	2.000	150TG0453
15/32"	2.000	150TG0469
31/64"	2.000	150TG0484
1/2"	2.000	150TG0500
33/64"	2.000	150TG0516
17/32"	2.560	150TG0531
35/64"	2.560	150TG0547
9/16"	2.560	150TG0562
37/64"	2.560	150TG0578
19/32"	2.560	150TG0594
39/64"	2.560	150TG0609
5/8"	2.560	150TG0625
41/64"	2.560	150TG0641
21/32"	2.560	150TG0656
43/64"	2.560	150TG0672
11/16"	2.560	150TG0688
45/64"	2.560	150TG0703
23/32"	2.560	150TG0719
47/64"	2.560	150TG0734
3/4"	2.560	150TG0750
49/64"	2.560	150TG0766
25/32"	2.560	150TG0781
51/64"	2.560	150TG0797
13/16"	2.560	150TG0812
53/64"	2.560	150TG0828
27/32"	2.560	150TG0844
55/64"	2.560	150TG0859
7/8"	2.560	150TG0875
57/64"	2.560	150TG0891
29/32"	2.560	150TG0906
59/64"	2.560	150TG0922



SERIES	L	D
150TG	3.000	2.001

**Single Angle
Collet Extractor
150TGCE**

- Provides tremendous grip and accuracy for all drilling applications
- 1/64" Range of collapse on standard collets.
- Grips on back taper and margin of drill to provide for maximum feed rates and more accurate holes.
- Manufactured to DIN 6499 Class 2 accuracy.
- Also available with DIN 6499 Class 1 accuracy.



150TG Collets, Inch sizes		
COLLET I.D.	GRIPPING LENGTH	STANDARD PART#
15/16"	2.560	150TG0938
61/64"	2.560	150TG0953
31/32"	2.560	150TG0969
63/64"	2.560	150TG0984
1"	2.560	150TG1000
1-1/64"	2.560	150TG1016
1-1/32"	2.560	150TG1031
1-3/64"	2.560	150TG1047
1-1/16"	2.560	150TG1062
1-5/64"	2.560	150TG1078
1-3/32"	2.560	150TG1094
1-7/64"	2.560	150TG1109
1-1/8"	2.560	150TG1125
1-9/64"	2.560	150TG1141
1-5/32"	2.560	150TG1156
1-11/64"	2.560	150TG1172
1-3/16"	2.560	150TG1187
1-13/64"	2.560	150TG1203
1-7/32"	2.560	150TG1219
1-15/64"	2.560	150TG1234
1-1/4"	2.560	150TG1250
1-17/64"	2.560	150TG1266
1-9/32"	2.560	150TG1281
1-19/64"	2.560	150TG1297
1-5/16"	2.560	150TG1312
1-21/64"	2.560	150TG1328
1-11/32"	2.560	150TG1344
1-23/64"	2.560	150TG1359
1-3/8"	2.560	150TG1375
1-25/64"	2.560	150TG1391
1-13/32"	2.560	150TG1406
1-27/64"	2.560	150TG1422
1-7/16"	2.560	150TG1438
1-29/64"	2.560	150TG1453
1-15/32"	2.560	150TG1469
1-31/64"	2.560	150TG1484
1-1/2"	2.560	150TG1500

150TG COLLET SETS	
PART#	DESCRIPTION
S150TG2SET	33 COLLETS- 1/2" thru 1-1/2" x 1/32" increments
S150TG4SET	25 COLLETS- 3/4" thru 1-1/2" x 1/32" increments

Versatile: The same collet chuck used to hold drills, reamers, endmills, etc. can now be used to hold taps as well.

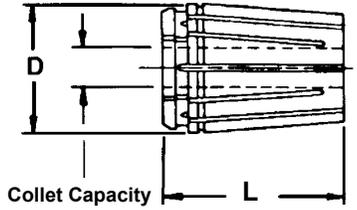
Positive Drive: TGST tap collets grip on the tap square to positively drive the tap.

Accurate: High performance TGST tap collets are manufactured to the same high quality standards as other Erickson collets.

When assembled properly in an Erickson collet chuck, TGST tap collets are guaranteed to easily allow tapping of Class 3B threads.

Tremendous Grip: When properly installed in an Erickson collet chuck, the TGST tap collet prevents axial or radial slippage of the tap or collet from the effects of torque

COLLET SERIES	D	L
50TGST...	.760	1.438
75TGST...	1.062	1.843
100TGST...	1.379	2.375
150TGST...	2.001	3.000



50TG, 75TG & 100TG ANSI HAND TAP COLLETS

ANSI STANDARD TAP SIZE		I.D.	SQ. DRIVE	50TG	50TG	75TG	75TG	100TG	100TG
INCH	METRIC*			STANDARD PART#	COOLANT PART#	STANDARD PART#	COOLANT PART#	STANDARD PART#	COOLANT PART#
#0-#6 & 1/8"	M3/3.15/3.5	.141	.110	50TGST6		75TGST6		100TGST6	
#8 & 5/32"	M4	.168	.131	50TGST8		75TGST8		100TGST8	
#10 & 3/16	M4.5/M5	.194	.152	50TGST10		75TGST10		100TGST10	
#12 & 7/32"		.220	.165	50TGST12		75TGST12		100TGST12	
#14 & 1/4"	M6/M6.3	.255	.191	50TGST025	50TGSTC025	75TGST025	75TGSTC025	100TGST025	
5/16"	M7/M8	.318	.238	50TGST031	50TGSTC031	75TGST031	75TGSTC031	100TGST031	100TGSTC031
3/8"	M10	.381	.286	50TGST037	50TGSTC037	75TGST037	75TGSTC037	100TGST037	100TGSTC037
7/16"		.323	.242	50TGST043	50TGSTC043	75TGST043	75TGSTC043	100TGST043	100TGSTC043
1/2"	M12/M12.5	.367	.275	50TGST050	50TGSTC050	75TGST050	75TGSTC050	100TGST050	100TGSTC050
9/16"	M14	.429	.322	50TGST056	50TGSTC056	75TGST056		100TGST056	
5/8"	M16	.480	.360	50TGST062	50TGSTC062	75TGST062	75TGSTC062	100TGST062	100TGSTC062
11/16"	M18	.542	.406			75TGST068	75TGSTC068	100TGST068	100TGSTC068
3/4"		.590	.442			75TGST075	75TGSTC075	100TGST075	100TGSTC075
13/16"	M20	.652	.489			75TGST081		100TGST081	
7/8"	M22	.697	.523			75TGST087	75TGSTC087	100TGST087	100TGSTC087
5/16"	M24	.760	.570					100TGST094	
1"	M25	.800	.600					100TGST100	100TGSTC100
1-1/16 & 1-1/8	M27	.896	.672					100TGST112	

75TG & 100TG ANSI PIPE TAP COLLETS

PIPE TAP SIZE	I.D.	SQ. I.D.	75TG STANDARD PART#	100TG STANDARD PART#
1/16" & 1/8"(SS)	.313	.234	75TGST006P	100TGST006P
1/8"(LS)	.438	.328	75TGST012P	100TGST012P
1/4"	.563	.421	75TGST025P	100TGST025P
3/8"	.700	.531	75TGST037P	100TGST037P
1/2"	.688	.515	75TGST050P	100TGST050P
3/4"	.906	.679		100TGST075P

50TG & 100TG METRIC TAP COLLETS

DIN & ISO METRIC TAPS	I.D.	SQ. DRIVE	50TG STANDARD PART#	100TG STANDARD PART#
M1/M1.8/M3/M3.5	2.5	2.1	50TGST025021M	
M2.5/M4	2.8	2.1	50TGST028021M	
M3/M4	3.2	2.5	50TGST032025M	
M4/M6	4.5	3.4	50TGST045034M	
M5	5	4	50TGST050040M	
M5/M6/M7/M8	6	4.9	50TGST060049M	
M6	6.3	5	50TGST063050M	
M10	7	5.5	50TGST070055M	
M8	8	6.2	50TGST080062M	
M12	9	7	50TGST090070M	
M9/M12	9	7.1		100TGST090071M
M10	10	8	50TGST100080M	100TGST100080M
M14	11	9	50TGST110090M	100TGST110090M
M16	12	9	50TGST120090M	100TGST120090M
M18	14	11		100TGST140110M
M20	16	12		100TGST160120M
M22/M24	18	14.5		100TGST180145M

150TG ANSI HAND TAP COLLETS

ANSI STANDARD TAP SIZE	I.D.	SQ. DRIVE	150TG STANDARD PART
3/4"	.590	.442	150TGST075
1"	.800	.600	150TGST100
1-1/16" & 1-1/8"	.896	.672	150TGST112
3/4P	.906	.679	150TGST075P
1-3/16" & 1-1/4"	1.021	.766	150TGST125
1-5/16" & 1-3/8"	1.108	.831	150TGST137
1P	1.125	2.142	150TGST100P
1-7/16" & 1-1/2"	1.233	.925	150TGST150
1-5/8"	1.305	.979	150TGST162
1-1/4P	1.313	2.085	150TGST125P
1-3/4"	1.430	1.072	150TGST175
1-1/2P	1.500	1.898	150TGST150P

TAP COLLET SETS

PART#	Collet Series	Contents of Collets Sets
S50TGSTSETS	50TGST	13 COLLETS #0 THRU 1/8 PIPE TAP LONG
S75TGSTSET	75TGST	20 COLLETS - #0 THRU 1/2" PIPE TAP
S100TGSTSET	100TGST	24 COLLETS - #0 THRU 3/4" PIPE TAP

DRILL COLLETS

	SERIES C3	SERIES C4	SERIES C6	SERIES C8
COLLET	CAT. NO.	CAT. NO.	CAT. NO.	CAT. NO.
1/16"	C3-0063			
5/64"	C3-0078			
3/32"	C3-0094			
7/64"	C3-0109			
1/8"	C3-0125			
9/64"	C3-0141			
5/32"	C3-0156			
11/64"	C3-0172			
3/16"	C3-0188	C4-0188		
13/64"	C3-0203	C4-0203		
7/32"	C3-0219	C4-0219		
15/64"	C3-0234	C4-0234		
1/4"	C3-0250	C4-0250	C6-0250	
17/64"	C3-0266	C4-0266		
9/32"	C3-0281	C4-0281	C6-0281	
19/64"	C3-0297	C4-0297		
5/16"	C3-0313	C4-0313	C6-0313	
21/64"	C3-0328	C4-0328		
11/32"	C3-0344	C4-0344	C6-0344	
23/64"	C3-0359	C4-0359		
3/8"	C3-0375	C4-0375	C6-0375	C8-0375
25/64"		C4-0391		
13/32"		C4-0406	C6-0406	C8-0406
27/64"		C4-0422		
7/16"		C4-0438	C6-0438	C8-0438
29/64"		C4-0453		
15/32"		C4-0469	C6-0469	C8-0469
31/64"		C4-0484		
1/2"		C4-0500	C6-0500	C8-0500
17/32"			C6-0531	C8-0531
9/16"			C6-0563	C8-0563
19/32"			C6-0594	C8-0594
5/8"			C6-0625	C8-0625
21/32"			C6-0656	C8-0656
11/16"			C6-0688	C8-0688
23/32"			C6-0719	C8-0719
3/4"			C6-0750	C8-0750
25/32"				C8-0781
13/16"				C8-0813
27/32"				C8-0844
7/8"				C8-0875
29/32"				C8-0906
15/16"				C8-0938
31/32"				C8-0969
1"				C8-1000

"C" SERIES FLEXI-GRIP COLLETS Previously offered by Sandvik

The popular C3, C4, C6 and C8 series Flexi-Grip drill collets along with the STC4 series tap collets are now available for immediate delivery.

Somma Tool has redesigned the C6 and C8 series collets which allows for much lower pricing than in the past. These redesigned collets are completely interchangeable with the old design.

C12 and C16 series collets are also available, price on application.

TAP COLLETS

HAND TAP	SERIES STC4
SIZE	CAT. NO.
#0-6	STC4-0141TH
#8	STC4-0168TH
#10	STC4-NO.10TH
#12	STC4-NO.12TH
1/4"	STC4-0250TH
9/32"	STC4-0281TH
5/16"	STC4-0313TH
3/8"	STC4-0375TH
7/16"	STC4-0438TH
15/32"	STC4-0469TH
1/2"	STC4-0500TH
9/16"	STC4-0563TH
5/8"	STC4-0625TH

PIPE TAP	SERIES STC4
SIZE	CAT. NO.
1/16"	STC4-0063PT
1/8"	STC4-0125PT

Collet Nuts, Washers & Thrust Bearings for these collets are available from stock.

1/64" collapsing range on all collets

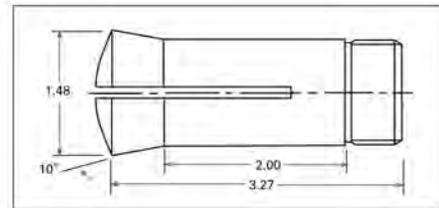
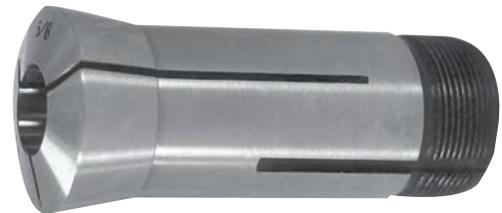


5C COLLET SYSTEM INCH SIZES

ROUND COLLETS			
SIZE	PART#	SIZE	PART#
1/16	5C-1/16RNS	37/64	5C-37/64RNS
5/64	5C-5/64RNS	19/32	5C-19/32RNS
3/32	5C-3/32RNS	39/64	5C-39/64RNS
7/64	5C-7/64RNS	5/8	5C-5/8RNS
1/8	5C-1/8RNS	41/64	5C-41/64RNS
9/64	5C-9/64RNS	21/32	5C-21/32RNS
5/32	5C-5/32RNS	43/64	5C-43/64RNS
11/64	5C-11/64RNS	11/16	5C-11/16RNS
3/16	5C-3/16RNS	45/64	5C-45/64RNS
13/64	5C-13/64RNS	23/32	5C-23/32RNS
7/32	5C-7/32RNS	47/64	5C-47/64RNS
15/64	5C-15/64RNS	3/4	5C-3/4RNS
1/4	5C-1/4RNS	49/64	5C-49/64RNS
17/64	5C-17/64RNS	25/32	5C-25/32RNS
9/32	5C-9/32RNS	51/64	5C-51/64RNS
19/64	5C-19/64RNS	13/16	5C-13/16RNS
5/16	5C-5/16RNS	53/64	5C-53/64RNS
21/64	5C-21/64RNS	27/32	5C-27/32RNS
11/32	5C-11/32RNS	55/64	5C-55/64RNS
23/64	5C-23/64RNS	7/8	5C-7/8RNS
3/8	5C-3/8RNS	57/64	5C-57/64RNS
25/64	5C-25/64RNS	29/32	5C-29/32RNS
13/32	5C-13/32RNS	59/64	5C-59/64RNS
27/64	5C-27/64RNS	15/16	5C-15/16RNS
7/16	5C-7/16RNS	61/64	5C-61/64RNS
29/64	5C-29/64RNS	31/32	5C-31/32RNS
15/32	5C-15/32RNS	63/64	5C-63/64RNS
31/64	5C-31/64RNS	1"	5C-1RNS
1/2	5C-1/2RNS	1-1/64	5C-1-1/64RNS
33/64	5C-33/64RNS	1-1/32	5C-1-1/32RNS
17/32	5C-17/32RNS	1-3/64	5C-1-3/64RNS
35/64	5C-35/64RNS	1-1/16	5C-1-1/16RNS
9/16	5C-9/16RNS		

HEX COLLETS	
SIZE	PART#
1/8	5C-1/8HNS
3/16	5C-3/16HNS
1/4	5C-1/4HNS
5/16	5C-5/16HNS
3/8	5C-3/8HNS
7/16	5C-7/16HNS
1/2	5C-1/2HNS
9/16	5C-9/16HNS
5/8	5C-5/8HNS
11/16	5C-11/16HNS
3/4	5C-3/4HNS
13/16	5C-13/16HNS
7/8	5C-7/8HNS

SQUARE COLLETS	
SIZE	PART#
1/8	5C-1/8SNS
3/16	5C-3/16SNS
1/4	5C-1/4SNS
5/16	5C-5/16SNS
3/8	5C-3/8SNS
7/16	5C-7/16SNS
1/2	5C-1/2SNS
9/16	5C-9/16SNS
5/8	5C-5/8SNS
11/16	5C-11/16SNS
3/4	5C-3/4SNS



5C COLLET SETS

PART#	SIZE
5C-7SET	7 Pc. Set - 1/4-1" in 1/8" Incr.
5C-15SET	15 Pc. Set - 1/8-1" in 1/16" Incr.
5C-17SET	17 Pc. Set - 1/16" - 1-1/16" in 1/16" Incr.
5C-33SET	33 Pc. Set - 1/16" - 1-1/16" in 1/32" Incr.
5C-65SET	65 Pc. Set - 1/16" - 1-1/16" in 1/64" Incr.

5C COLLET SYSTEM METRIC SIZES

SIZE	PART#	SIZE	PART#	SIZE	PART#	SIZE	PART#
3mm	5C-3RNS	9mm	5C-9RNS	15mm	5C-15RNS	21mm	5C-21RNS
4mm	5C-4RNS	10mm	5C-10RNS	16mm	5C-16RNS	22mm	5C-22RNS
5mm	5C-5RNS	11mm	5C-11RNS	17mm	5C-17RNS	23mm	5C-23RNS
6mm	5C-6RNS	12mm	5C-12RNS	18mm	5C-18RNS	24mm	5C-24RNS
7mm	5C-7RNS	13mm	5C-13RNS	19mm	5C-19RNS	25mm	5C-25RNS
8mm	5C-8RNS	14mm	5C-14RNS	20mm	5C-20RNS	26mm	5C-26RNS

5C COLLET ACCESSORIES

5C STEP COLLET

PART. NO.	DESCRIPTION
5C-2STEP	2" 5C STEP COLLET
5C-3STEP	3" 5C STEP COLLET
5C-4STEP	4" 5C STEP COLLET
5C-5STEP	5" 5C STEP COLLET
5C-6STEP	6" 5C STEP COLLET



5C COLLET ADJUSTABLE BACKSTOP

PART NO.	DESCRIPTION
5C-STOP	ADJUSTABLE BACKSTOP FOR 5C COLLETS

5C EMERGENCY COLLET

PART NO.	DESCRIPTION
5CE	5C EMERGENCY COLLET WITH PINS

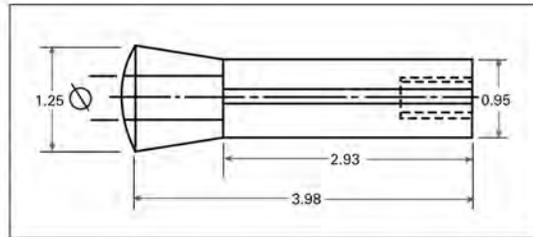


R8 COLLETS INCH AND METRIC SIZES

R8 COLLETS	
SIZE	PART#
1/16	R8-1/16RNS
3/32	R8-3/32RNS
1/8	R8-1/8RNS
5/32	R8-5/32RNS
3/16	R8-3/16RNS
7/32	R8-7/32RNS
1/4	R8-1/4RNS
9/32	R8-9/32RNS
5/16	R8-5/16RNS
11/32	R8-11/32RNS
3/8	R8-3/8RNS
13/32	R8-13/32RNS
7/16	R8-7/16RNS
15/32	R8-15/32RNS
1/2	R8-1/2RNS
17/32	R8-17/32RNS
9/16	R8-9/16RNS
19/32	R8-19/32RNS
5/8	R8-5/8RNS
21/32	R8-21/32RNS
11/16	R8-11/16RNS
23/32	R8-23/32RNS
3/4	R8-3/4RNS
7/8	R8-7/8RNS

R8 COLLET SETS

PART#	SIZE
R8-6SET	6 Pc. Set - 1/8-3/4" in 1/8" Incr.
R8-11SET	11 Pc. Set - 1/8-3/4" in 1/16" Incr.
R8-23SET	23 Pc. Set - 1/16-3/4" in 1/32" Incr.



R8 ROUND COLLETS - METRIC SIZES

SIZE	PART#	SIZE	PART#	SIZE	PART#	SIZE	PART#
3mm	R8-3RNS	8mm	R8-8RNS	13mm	R8-13RNS	18mm	R8-18RNS
4mm	R8-4RNS	9mm	R8-9RNS	14mm	R8-14RNS	19mm	R8-19RNS
5mm	R8-5RNS	10mm	R8-10RNS	15mm	R8-15RNS	20mm	R8-20RNS
6mm	R8-6RNS	11mm	R8-11RNS	16mm	R8-16RNS	21mm	R8-21RNS
7mm	R8-7RNS	12mm	R8-12RNS	17mm	R8-17RNS	22mm	R8-22RNS

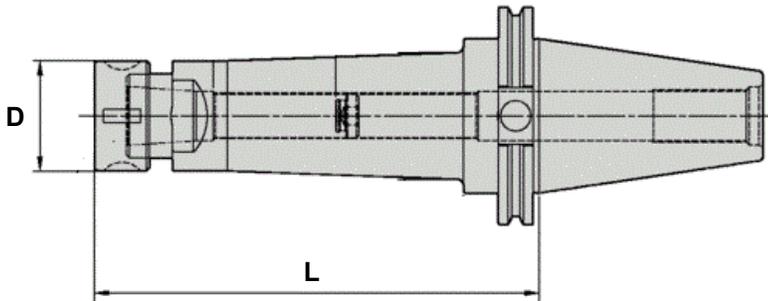


Balas Toolholding Formerly offered by Sandvik



Collet chucks for C3, C4, C6, C8 & C12 flexi-grip collets
Contact Somma for Balas / Sandvik flexi-grip collet chucks
with straight, morse, automotive, B&S and steep taper shanks.





All TG Collet Chucks

- Tremendous Grip (3:1 advantage)
- Balanced-by-design
- 5/8"-11 UNC drawbar thread
- Through-the-toolholder coolant capability
- Accept either TG, TGHP, TGST, or TGNP collets utilizing same nosepiece

Note: Coolant through the Flange Collet Chucks toolholders can be easily converted to DIN 69871 form AD coolant supply; tightening screws will stop coolant from escaping through the flange
SEE PAGES 162-166 FOR COLLETS.



CAT. 40 SHANK "TG" COLLET CHUCKS

COLLET SERIES	C CAPACITY	L	D DIA.	H HEX	COLLET NUT	COLLET WRENCH	COLLET CHUCK PART#
50TG	3/64-1/2	2.79"	1.50	--	LNA050M	HSW34M	CV40TG050279G
50TG	3/64-1/2	5"	1.19	1-1/16"	NPA050	OEW106	CV40TG050500
75TG	1/16-3/4	2-3/4"	2.09	1-7/8"	NPA075	OEW188	CV40TG075275
75TG	1/16-3/4	6"	2.09	1-7/8"	NPA075	OEW188	CV40TG075600
75TG	1/16-3/4	8"	1.97	--	LNA075M	HSW45M	CV40TG075800G
100TG	3/32-1"	3"	2.44	2-1/4"	NPA100	OEW225	CV40TG100300
100TG	3/32-1"	4"	2.44	2-1/4"	--	LNA100M	CV40TG100400
100TG	3/32-1"	6"	2.44	2-1/4"	--	LNA100M	CV40TG100600
150TG	1/2-1-1/2	4-7/8"	3.50	--	NPA150	PSW350	CV40TG150488

CAT. 40 SHANK "TG" COLLET CHUCKS W/ COOLANT THROUGH THE FLANGE

COLLET SERIES	C CAPACITY	L	D DIA.	H HEX	COLLET NUT	COLLET WRENCH	COLLET CHUCK PART#
50TG	3/64-1/2	3"	1.34	30mm	LN050M	OEW30M	CV40BTG050300
50TG	3/64-1/2	5"	1.34	30mm	LN050M	OEW30M	CV40BTG050500
50TG	3/64-1/2	8"	1.34	30mm	LN050M	OEW30M	CV40BTG050800
50TG	3/64-1/2	10"	10"	30mm	30mm	OEW30M	CV40BTG0501000
75TG	1/16-3/4	6"	1.97	--	LNA075M	HSW45M	CV40BTG075600G
100TG	3/32-1"	3"	2.36	--	LNA100M	HSW58M	CV40BTG100300G
100TG	3/32-1"	6"	2.36	--	LNA100M	HSW58M	CV40BTG100600G



CAT. 40 "TG" CHUCKS W/ FLUSH FACE & COOLANT THROUGH THE FLANGE

COLLET SERIES	C CAPACITY	L	D DIA.	COLLET NUT	COLLET WRENCH	COLLET CHUCK PART#
50TG	3/64-1/2	2-1/2"	1.50	LNATGF050M	HSW34M	CV40BTGF050250
50TG	3/64-1/2	4"	1.50	LNATGF050M	HSW34M	CV40BTGF050400
50TG	3/64-1/2	6"	1.50	LNATGF050M	HSW34M	CV40BTGF050600
75TG	1/16-3/4	2-1/2"	1.97	LNATGF075M	HSW45M	CV40BTGF075250
75TG	1/16-3/4	4"	1.97	LNATGF075M	HSW45M	CV40BTGF075400
75TG	1/16-3/4	6"	1.97	LNATGF075M	HSW45M	CV40BTGF075600
100TG	3/32-1"	2-3/4"	2.36	LNATGF100M	HSW58M	CV40BTGF100275
100TG	3/32-1"	4"	2.36	LNATGF100M	HSW58M	CV40BTGF100400
100TG	3/32-1"	6"	2.36	LNATGF100M	HSW58M	CV40BTGF100600

Flush Face Collet Chucks

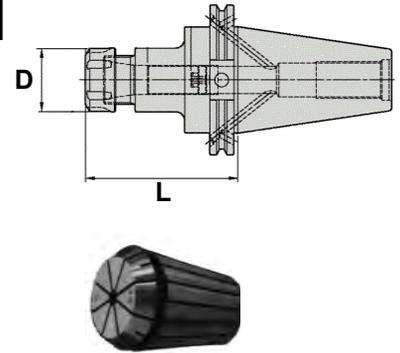
- Totally flush face, locknut to collet
- Locknut uses either spanner or hook wrench for locking
- Locknut disk sealing cap available for through coolant and prevent collet contamination

CAT. 40 SHANK "ER" COLLET CHUCKS

COLLET SERIES	C CAPACITY	L	D DIA.	COLLET NUT	COLLET WRENCH	COLLET CHUCK PART#
ER16	1/16-13/32	2-1/2"	1.10	LNHSER16M	OEW25M	CV40BER16250
ER16	1/16-13/32	5"	1.10	LNHSER16M	OEW25M	CV40BER16500
ER20	1/16-1/2	2-1/2"	1.34	LNHSER20M	OEW30M	CV40BER20250
ER20	1/16-1/2	6"	1.34	LNHSER20M	OEW30M	CV40BER20600
ER25	1/16-5/8	2-1/2"	1.65	LNSER25M	ER25WM	CV40BER25250
ER25	1/16-5/8	6"	1.65	LNSER25M	ER25WM	CV40BER25600
ER32	3/32-3/4	1.69"	1.41	LNECSER32M	OEW32M	CV40SER32169
ER32	3/32-3/4	1.06"	1.41	LNECSER32M	OEW32M	CV40ZSER32106
ER32	3/32-3/4	2-3/4"	1.97	LNSER32M	ER32WM	CV40BER32275
ER32	3/32-3/4	6"	1.97	LNSER32M	ER32WM	CV40BER32600
ER40	1/8-1	3"	2.48	LNSER40M	ER40WM	CV40BER40300
ER40	1/8-1	6"	2.48	LNSER40M	ER40WM	CV40BER40600

CAT. 50 SHANK "ER" COLLET CHUCKS

COLLET SERIES	C CAPACITY	L	D DIA.	COLLET NUT	COLLET WRENCH	COLLET CHUCK PART#
ER16	1/16-13/32	2-1/2"	1.10	LNHSER16M	OEW25M	CV50BER16250
ER16	1/16-13/32	4"	1.10	LNHSER16M	OEW25M	CV50BER16400
ER16	1/16-13/32	6"	1.10	LNHSER16M	OEW25M	CV50BER16600
ER20	1/16-1/2	2-1/2"	1.34	LNHSER20M	OEW30M	CV50BER20250
ER20	1/16-1/2	4"	1.34	LNHSER20M	OEW30M	CV50BER20400
ER20	1/16-1/2	6"	1.34	LNHSER20M	OEW30M	CV50BER20600
ER25	1/16-5/8	2-1/2"	1.65	LNSER25M	ER25WM	CV50BER25250
ER25	1/16-5/8	4"	1.65	LNSER25M	ER25WM	CV50BER25400
ER25	1/16-5/8	6"	1.65	LNSER25M	ER25WM	CV50BER25600
ER32	3/32-3/4	1.06"	1.41	LNECSER32M	OEW32M	CV50ZSER32106
ER32	3/32-3/4	1.69"	1.41	LNECSER32M	OEW32M	CV50SER32169
ER32	3/32-3/4	2-3/4"	1.81	LNSER32M	ER32WM	CV50BER32275
ER32	3/32-3/4	4"	1.81	LNSER32M	ER32WM	CV50BER32400
ER32	3/32-3/4	6"	1.81	LNSER32M	ER32WM	CV50BER32600
ER40	1/8-1	1.06"	1.81	LNECSER40M	OEW168	CV50ZSER40106
ER40	1/8-1	1.69"	1.81	LNECSER40M	OEW168	CV50SER40169
ER40	1/8-1	3"	2.48	LNSER40M	ER40WM	CV50BER40300
ER40	1/8-1	6"	2.48	LNSER40M	ER40WM	CV50BER40600



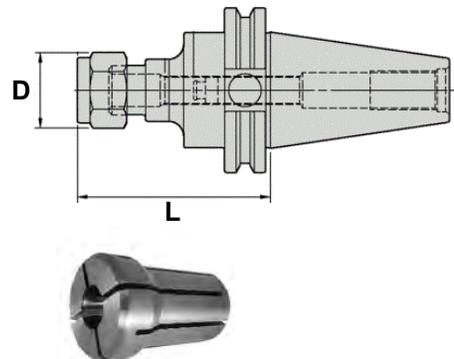
SEE PAGES 156-160 FOR COLLETS.

CAT. 40 SHANK "DA" COLLET CHUCKS

COLLET SERIES	C CAPACITY	L	D DIA.	H HEX	COLLET CHUCK PART#
300DA	1/64-1/4	3"	0.86	11/16"	CV40DA308300
200DA	3/64-25/64	3"	1.15	1"	CV40DA208300
200DA	3/64-25/64	5"	1.15	1"	CV40DA208500
100DA	3/64-9/16	3"	1.39	1-1/4"	CV40DA108300
180DA	3/64-3/4	5"	1.73	1-1/2"	CV40DA188500
180DA	3/64-3/4	3"	1.73	1-1/2"	CV40DA188300
180DA	3/64-3/4	6"	1.73	1-1/2"	CV40DA188600

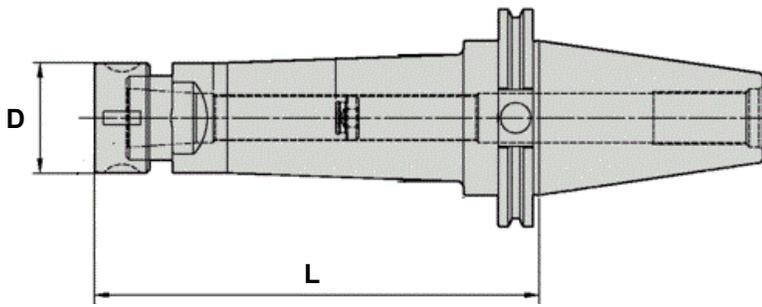
CAT. 50 SHANK "DA" COLLET CHUCKS

COLLET SERIES	C CAPACITY	L	D DIA.	H HEX	COLLET CHUCK PART#
100DA	3/64-9/16	3"	1.39	1-1/4"	CV50DA108300
100DA	3/64-9/16	6"	1.39	1-1/4"	CV50DA108600
180DA	3/64-3/4	3"	1.73	1-1/2"	CV50DA188300
180DA	3/64-3/4	6"	1.73	1-1/2"	CV50DA188600



SEE PAGES 162-163 FOR COLLETS.

V-FLANGE COLLET CHUCKS



All TG Collet Chucks

- Tremendous Grip (3:1 advantage)
- Balanced-by-design
- 5/8"-11 UNC drawbar thread
- Through-the-toolholder coolant capability
- Accept either TG, TGHP, TGST, or TGNP collets utilizing same nosepiece

Note: Coolant through the Flange Collet Chucks toolholders can be easily converted to DIN 69871 form AD coolant supply; tightening screws will stop coolant from escaping through the flange

SEE PAGES 164-168 FOR COLLETS.

CAT. 50 SHANK "TG" COLLET CHUCKS

COLLET SERIES	C CAPACITY	L	D DIA.	H HEX	COLLET NUT	COLLET WRENCH	COLLET CHUCK PART#
75TG	1/16-3/4	2.79"	1.97	--	LNA075M	HSW45M	CV50TG075279G
75TG	1/16-3/4	3"	2.09	1-7/8"	NPA075	OEW188	CV50TG075300
75TG	1/16-3/4	5.79"	1.97	--	LNA075M	HSW45M	CV50TG075579G
75TG	1/16-3/4	8"	1.97	--	LNA075M	HSW45M	CV50TG075800G
75TG	1/16-3/4	10"	1.97	--	LNA075M	HSW45M	CV50TG0751000G
75TG	1/16-3/4	12"	1.97	--	LNA075M	HSW45M	CV50TG0751200G
100TG	3/32-1"	2.76"	2.36	--	LNA100M	HSW58M	CV50TG100276G
100TG	3/32-1"	3.26"	2.36	--	LNA100M	HSW58M	CV50TG100326G
100TG	3/32-1"	5.26"	2.36	--	LNA100M	HSW58M	CV50TG100526G
100TG	3/32-1"	7.26"	2.36	--	LNA100M	HSW58M	CV50TG100726G
100TG	3/32-1"	7-1/2"	2.44	2-1/4"	NPA100	OEW225	CV50TG100750
150TG	1/2-1-1/2	5-1/2"	3.50	--	NPA150	PSW350	CV50TG150550
150TG	1/2-1-1/2	7-1/2"	3.50	--	NPA150	PSW350	CV50TG150750



CAT. 50 SHANK "TG" COLLET CHUCKS W/ COOLANT THROUGH THE FLANGE

COLLET SERIES	C CAPACITY	L	D DIA.	H HEX	COLLET NUT	COLLET WRENCH	COLLET CHUCK PART#
50TG	3/64-1/2	3"	1.34	30mm	LN050M	OEW30M	CV50BTG050300
50TG	3/64-1/2	5"	1.34	30mm	LN050M	OEW30M	CV50BTG050500
50TG	3/64-1/2	10"	1.34	30mm	LN050M	OEW30M	CV50BTG0501000
50TG	3/64-1/2	12"	1.34	30mm	LN050M	OEW30M	CV50BTG0501200
75TG	1/16-3/4	3"	1.97	--	LNA075M	HSW45M	CV50BTG075300G
75TG	1/16-3/4	6"	1.97	--	LNA075M	HSW45M	CV50BTG075600G
100TG	3/32-1"	3"	2.36	--	LNA100M	HSW58M	CV50BTG100300G
100TG	3/32-1"	7-1/2"	2.36	--	LNA100M	HSW58M	CV50BTG100750G

CAT. 50 "TG" CHUCKS W/ FLUSH FACE & COOLANT THROUGH THE FLANGE

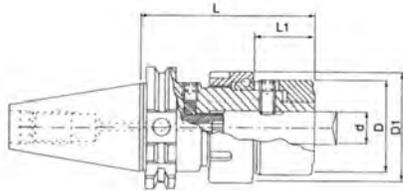
COLLET SERIES	C CAPACITY	L	D DIA.	COLLET NUT	COLLET WRENCH	COLLET CHUCK PART#
50TG	3/64-1/2	2-3/4"	1.50	LNATGF050M	HSW34M	CV50BTGF050275
50TG	3/64-1/2	4"	1.50	LNATGF050M	HSW34M	CV50BTGF050400
50TG	3/64-1/2	6"	1.50	LNATGF050M	HSW34M	CV50BTGF050600
50TG	3/64-1/2	8"	1.50	LNATGF050M	HSW34M	CV50BTGF050800
75TG	1/16-3/4	2-3/4"	1.97	LNATGF075M	HSW45M	CV50BTGF075275
75TG	1/16-3/4	4"	1.97	LNATGF075M	HSW45M	CV50BTGF075400
75TG	1/16-3/4	6"	1.97	LNATGF075M	HSW45M	CV50BTGF075600
75TG	1/16-3/4	8"	1.97	LNATGF075M	HSW45M	CV50BTGF075800
100TG	3/32-1"	2-3/4"	2.36	LNATGF100M	HSW58M	CV50BTGF100275
100TG	3/32-1"	4"	2.36	LNATGF100M	HSW58M	CV50BTGF100400

Flush Face Collet Chucks

- Totally flush face, locknut to collet
- Locknut uses either spanner or hook wrench for locking
- Locknut disk sealing cap available for through coolant and prevent collet contamination

CAT/V-FLANGE SPECIFICATIONS

Part No.	Shank	d	D	D1	L	L1
CV40PC0250	CAT 40	0.250"	1.122	1.476	3.386	0.984
CV40PC0312	CAT 40	0.312"	1.122	1.476	3.386	0.984
CV40PC0375	CAT 40	0.375"	1.398	1.752	3.780	1.240
CV40PC0437	CAT 40	0.437"	1.496	1.752	3.780	1.240
CV40PC0500	CAT 40	0.500"	1.496	1.752	3.780	1.240
CV40PC0625	CAT 40	0.625"	1.673	1.949	3.858	1.280
CV40PC0750	CAT 40	0.750"	1.909	2.146	3.937	1.358
CV40PC0875	CAT 40	0.875"	1.988	2.224	3.937	1.358
CV40PC1000	CAT 40	1.000"	2.421	2.697	4.173	1.535
CV40PC1125	CAT 40	1.125"	2.520	2.697	4.173	1.535
CV40PC1250	CAT 40	1.250"	2.756	2.894	4.488	1.713
CV50PC0250	CAT 50	0.250"	1.122	1.476	3.386	0.984
CV50PC0312	CAT 50	0.312"	1.122	1.476	3.386	0.984
CV50PC0375	CAT 50	0.375"	1.398	1.752	3.780	1.240
CV50PC0500	CAT 50	0.500"	1.496	1.752	3.780	1.240
CV50PC0625	CAT 50	0.625"	1.673	1.949	3.858	1.280
CV50PC0750	CAT 50	0.750"	1.909	2.146	3.937	1.358
CV50PC0875	CAT 50	0.875"	1.988	2.224	3.937	1.358
CV50PC1000	CAT 50	1.000"	2.421	2.697	4.173	1.535
CV50PC1125	CAT 50	1.125"	2.520	2.697	4.173	1.535
CV50PC1250	CAT 50	1.250"	2.756	2.894	4.488	1.713



Increase Productivity At An Economy Price With This Unique Precision Chuck.

This high precision chuck is designed specifically to meet the demands of today's new generation of machines and cutting tools. It's powerful clamping force and ability to hold tools within 50 millionths T.I.R. eliminate the need for expensive hydraulic chucks and conventional milling chucks.

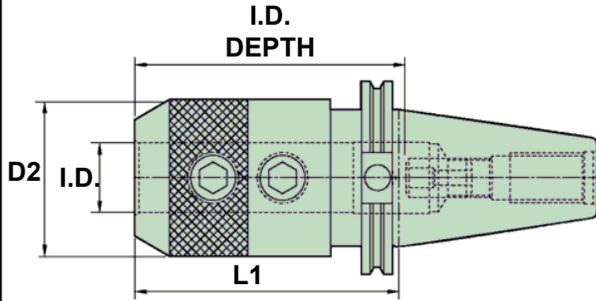
- Clamping surfaces ground directly from the toolholder body. Holding a cutting tool within 0.0002" T.I.R. is achieved with no adjustments.
- Is ideal for rough milling and finish milling. Because of its unusually high accuracy, it is perfectly suited for holmaking applications that normally require hydraulic chuck or boring operations.
- Ensures greater workpiece accuracy, while delivering increased feed rates and tool life.

BT SPECIFICATIONS

Part No.	Shank	d	D	D1	L	L1 G30
BT40PC0250	BT40	0.250"	1.122	1.476	3.071	0.984
BT40PC0312	BT40	0.312"	1.122	1.476	3.071	0.984
BT40PC0375	BT40	0.375"	1.398	1.752	3.465	1.240
BT40PC0437	BT40	0.437"	1.496	1.752	3.465	1.240
BT40PC0500	BT40	0.500"	1.496	1.752	3.465	1.240
BT40PC0625	BT40	0.625"	1.673	1.949	3.543	1.280
BT40PC0750	BT40	0.750"	1.909	2.146	3.622	1.358
BT40PC0875	BT40	0.875"	1.988	2.224	3.622	1.358
BT40PC1000	BT40	1.000"	2.421	2.697	3.858	1.535
BT40PC1125	BT40	1.125"	2.520	2.697	3.858	1.535
BT40PC1250	BT40	1.250"	2.757	2.894	4.173	1.713
BT50PC0250	BT50	0.250"	1.122	1.476	3.504	0.984
BT50PC0312	BT50	0.312"	1.122	1.476	3.504	0.984
BT50PC0375	BT50	0.375"	1.398	1.752	3.898	1.240
BT50PC0500	BT50	0.500"	1.496	1.752	3.898	1.240
BT50PC0625	BT50	0.625"	1.673	1.949	3.898	1.280
BT50PC0750	BT50	0.750"	1.909	2.146	3.976	1.358
BT50PC0875	BT50	0.875"	1.988	2.224	3.976	1.358
BT50PC1000	BT50	1.000"	2.421	2.697	4.291	1.535
BT50PC1125	BT50	1.125"	2.520	2.697	4.291	1.535
BT50PC1250	BT50	1.250"	2.756	2.894	5.000	1.713

- Patented, vibration-damping structure. This chuck interrupts the transmission of helical vibrations to allow increased RPM and feed rates.
- Guaranteed high accuracies. Tools clamp within 0.0002" T.I.R. with no adjustment. Truing screws that contact directly to the tool shank can be set easily and quickly to achieve T.I.R. within 50 millionths.
- Ideal for todays finest machine tools. These chucks are balanced to 22,000 RPM and are sealed for coolant-through applications.
- Locking screw. In addition to exerting extremely powerful clamping forces, this high precision chuck is equipped with a Weldon type screw to eliminate tool pullout common with standard heavy duty milling chucks.
- Value pricing. These high precision chucks can replace expensive hydraulic chucks and heavy duty milling chucks, yet are available at a fraction of the cost.

CAT 50 STRAIGHT SHANK ADAPTERS

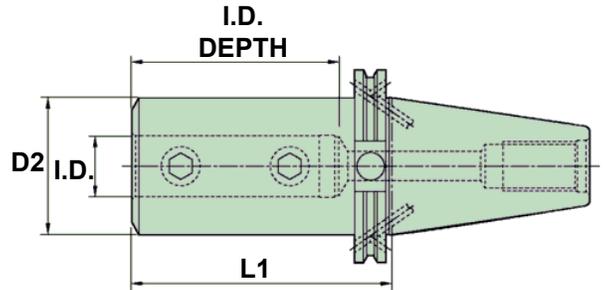


I.D.	COLLET CHUCK PART #	I.D. DEPTH	D2	L1
1"	CV50SS100400	3-3/4"	2-1/4"	4"
1"	CV50SS100600	3-3/4"	2-1/4"	6"
1"	CV50SS100800	3-3/4"	2-1/4"	8"
1-1/4"	CV50SS125400	3-1/4"	2-1/4"	4"
1-1/4"	CV50SS125600	3-1/4"	2-1/4"	6"
1-1/4"	CV50SS125800	3-1/4"	2-1/4"	8"
1-1/2"	CV50SS150400	3-1/4"	2-3/4"	4"
1-1/2"	CV50SS150600	3-1/4"	2-3/4"	6"
1-1/2"	CV50SS150800	3-1/4"	2-3/4"	8"
1-3/4"	CV50SS175400	2-3/4"	3.13"	4"
2"	CV50SS200562	3-1/4"	3.69"	5.62"
2"	CV50SS200762	3-1/4"	3.69"	7.62"
2-1/2"	CV50SS250800	4-1/4"	4"	8"

V-FLANGE COLLET CHUCKS

CAT 50 WITH COOLANT THROUGH THE FLANGE

I.D.	COLLET CHUCK PART #	I.D. DEPTH	D2	L1
3/4"	CV50BSSF075275	2-1/4"	1-3/4"	2-3/4"
1"	CV50BSSF100400	3-1/4"	2"	4"
1-1/4"	CV50BSSF125400	3-1/2"	2-1/2"	4"
1-1/2"	CV50BSSF150450	4"	2-3/4"	4-1/2"
2"	CV50BSSF200550	4-1/4"	3-3/4"	5-1/2"



CAT 40 WITH COOLANT THROUGH THE FLANGE

I.D.	COLLET CHUCK PART #	I.D. DEPTH	D2	L1
3/4"	CV40BSSF075275	2-1/4"	1-3/4"	2-3/4"
1"	CV40BSSF100450	3-1/4"	2"	4-1/2"
1"	CV40SS100400	3-3/4"	2-1/4"	4"
1-1/4"	CV40BSSF125475	3-1/2"	2-1/2"	4-3/4"
1-1/2"	CV40BSSF150575	4"	2-3/4"	5-3/4"



HSK SHANK TOOL HOLDERS



A complete line of HSK shank tool holders is available in sizes 40, 50, 63, 80 & 100 forms A, C & E.

Its features include rigidity and positioning accuracy. In comparison to steep taper tooling, higher cutting speeds/revolutions are possible with HSK tooling.

HSK enjoys a good reputation in higher speed and high precision machining applications on machining centers, multi-spindle machines and transfer lines. It is also gaining popularity in the automotive, aerospace, and component industries.

Please call with your requirements.



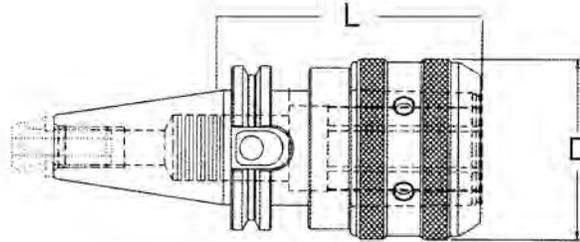
High-Grip Milling chuck provides the strength and precision you need for serious milling jobs.

Features:

- Extreme Grip Up to five times the gripping power of traditional collet chucks
- High Rigidity Vibration-reducing design for outstanding surface finish
- High Precision Unique clamping system guarantees 0.0004" TIR or less at 4 inches
- Coolant-Through Compatible with today's high-speed machining centers with coolant-through spindles.



SHANK TYPE	I.D. SIZE	D	L	CAT. NO.
CAT 40	3/4"	2.05	3.62	CV40HGMC0750
CAT 40	1-1/4"	2.75	4.13	CV40HGMC1250
CAT 50	3/4"	2.05	3.62	CV50HGMC0750
CAT 50	1-1/4"	2.75	4.13	CV50HGMC1250
BT 40	3/4"	2.05	3.31	BT40HGMC0750
BT 40	1-1/4"	2.75	4.33	BT40HGMC1250
BT 50	3/4"	2.05	3.90	BT50HGMC0750
BT 50	1-1/4"	2.75	4.13	BT50HGMC1250



ACCESSORIES FOR 1-1/4" COLLET CHUCKS

COLLETS	
I.D.	CAT. NO.
1/8	125MC0125
3/16	125MC0188
1/4	125MC0250
5/16	125MC0313
3/8	125MC0375
7/16	125MC0438
1/2	125MC0500
9/16	125MC0563
5/8	125MC0625
3/4	125MC0750
7/8	125MC0875
1"	125MC1000

COOLANT NOZZLES	
CAPACITY	CAT. NO.
1/4 - 3/8	CN1250-250
3/8 - 1/2	CN1250-375
5/8 - 3/4	CN1250-625
7/8 - 1-1/4	CN1250-875

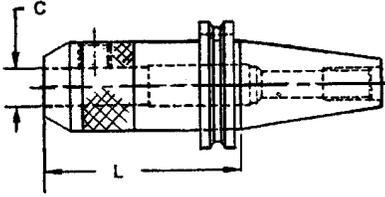
ACCESSORIES FOR 3/4" CHUCKS

COLLETS	
I.D.	CAT. NO.
1/8	75MC0125
3/16	75MC0188
1/4	75MC0250
5/16	75MC0313
3/8	75MC0375
7/16	75MC0438
1/2	75MC0500
9/16	75MC0563
5/8	75MC0625

COOLANT NOZZLES	
CAPACITY	CAT. NO.
1/4 - 3/8	CN750-250
1/2 - 3/4	CN750-500

V-FLANGE COLLET CHUCKS

CAT. V-FLANGE TAPER END MILL ADAPTER



- TAPER IS HELD TO AN ACCURACY OF AT-3 OR BETTER AND IS GROUND AFTER BLACK- OXIDE. NON-CRITICAL SURFACES ARE BLACK-OXIDED FOR RUST RESISTANCE.
- KNURLED NOSE FOR ADDED SAFETY.
- COMPLETE SELECTION OF RETENTION STUDS AVAILABLE.
- OVER-TIGHTENING SET SCREW CAN CREATE RUNOUT.



**THIS STUB LENGTH DESIGN DEVIATES FROM ANSI STANDARD (B5-50) TO FACILITATE USE IN SOME SHORT Z-AXIS MACHINING CENTERS. THESE ADAPTERS ACCEPT SINGLE-ENDED END MILLS ONLY.

* ADAPTERS WITH TWO SET SCREWS WILL ACCEPT SINGLE-ENDED END MILLS ONLY.

ALSO AVAILABLE WITH METRIC I.D.'s.

C CAPACITY	40 V-SHANK		50 V-SHANK	
	L	CAT. NO.	L	CAT. NO.
1/8	1.38	CV40ZEM012138**		
1/8	4.50	CV40EM012450		
3/16	1.38	CV40ZEM018138**	2.50	CV50EM018250
3/16	2.50	CV40EM018250	4.50	CV50EM018450
3/16	4.50	CV40EM018450		
1/4	1.38	CV40ZEM025138**	2.50	CV50EM025250
1/4	2.50	CV40EM025250	4.50	CV50EM025450
1/4	4.50	CV40EM025450	6.50	CV50EM025650
5/16	1.38	CV40ZEM031138**	2.50	CV50EM031250
5/16	4.50	CV40EM031450	4.50	CV50EM031450
5/16			6.50	CV50EM031650
3/8	1.38	CV40ZEM038138**	2.50	CV50EM038250
3/8	2.50	CV40EM038250	4.50	CV50EM038450
3/8	4.50	CV40EM038450	6.50	CV50EM038650
3/8	6.50	CV40EM038650	8.50	CV50EM038850
7/16	1.75	CV40ZEM044175**	2.50	CV50EM044250
7/16	4.50	CV40EM044450		
1/2	1.75	CV40ZEM050175**	2.62	CV50EM050262
1/2	2.62	CV40EM050262	4.62	CV50EM050462
1/2	4.62	CV40EM050462	6.62	CV50EM050662
1/2	6.62	CV40EM050662	8.50	CV50EM050850
5/8	1.75	CV40ZEM062175**	3.75	CV50EM062375
5/8	3.75	CV40EM062375	5.75	CV50EM062575
5/8	5.75	CV40EM062575	7.75	CV50EM062775
3/4	1.75	CV40ZEM075175**	3.75	CV50EM075375
3/4	3.75	CV40EM075375	5.75	CV50EM075575
3/4	5.75	CV40EM075575	7.75	CV50EM075775
3/4			10.0	CV50EM0751000
7/8	1.75	CV40ZEM088175**	3.75	CV50EM088375
7/8	4.00	CV40EM088400	5.75	CV50EM088575
7/8	6.00	CV40EM088600	7.75	CV50EM088775
1"	1.75	CV40ZEM100175**	4.00	CV50EM100400
1"	4.00	CV40EM100400	6.00	CV50EM100600
1"	6.00	CV40EM100600	8.00	CV50EM100800
1"			10.0	CV50EM1001000
1-1/4	2.00	CV40ZEM125200**	4.00	CV50EM125400*
1-1/4	4.25	CV40EM125425*	6.00	CV50EM125600*
1-1/4	6.25	CV40EM125625	8.00	CV50EM125800*
1-1/4			10.0	CV50EM1251000
1-1/2	4.62	CV40EM150462*	4.00	CV50EM150400*
1-1/2	6.62	CV40EM150662	6.00	CV50EM150600*
1-1/2			8.00	CV50EM150800*
2"			5.62	CV50EM200562*
2"			7.62	CV50EM200762*
2"			9.62	CV50EM200962*

TOOLHOLDERS

Contact Somma for
TAPER SHANK TOOLING
Not shown in our catalog



CAT, BT, NMTB, ISO & HSK SHANKS
COLLET CHUCKS, ENDMILL & SHELLMILL ADAPTERS,
TAPPING, HYDRAULIC & BALANCED CHUCKS
TO NAME A FEW.





ENDMILLS, STUB LENGTH SOLID CARBIDE

Uncoated* Single End Square with 2, 3 or 4 Flutes

* For coating options, see listings at the bottom of this page



Diameter	Flute Length	Overall Length	Uncoated Part# 2-Flute	Uncoated Part# 3-Flute	Uncoated Part# 4-Flute
1/32"	1/16"	1-1/2"	EMSC2-1/32	EMSC3-1/32	EMSC4-1/32
3/64"	3/32"	1-1/2"	EMSC2-3/64	EMSC3-3/64	EMSC4-3/64
1/16"	1/8"	1-1/2"	EMSC2-1/16	EMSC3-1/16	EMSC4-1/16
3/32"	3/16"	1-1/2"	EMSC2-3/32	EMSC3-3/32	EMSC4-3/32
1/8"	1/4"	1-1/2"	EMSC2-1/8	EMSC3-1/8	EMSC4-1/8
5/32"	5/16"	2"	EMSC2-5/32	EMSC3-5/32	EMSC4-5/32
3/16"	3/8"	2"	EMSC2-3/16	EMSC3-3/16	EMSC4-3/16
7/32"	7/16"	2"	EMSC2-7/32	EMSC3-7/32	EMSC4-7/32
1/4"	1/2"	2"	EMSC2-1/4	EMSC3-1/4	EMSC4-1/4
5/16"	1/2"	2"	EMSC2-5/16	EMSC3-5/16	EMSC4-5/16
3/8"	5/8"	2"	EMSC2-3/8	EMSC3-3/8	EMSC4-3/8
7/16"	5/8"	2-1/2"	EMSC2-7/16	EMSC3-7/16	EMSC4-7/16
1/2"	5/8"	2-1/2"	EMSC2-1/2	EMSC3-1/2	EMSC4-1/2
5/8"	3/4"	3"	EMSC2-5/8	EMSC3-5/8	EMSC4-5/8
3/4"	1"	3"	EMSC2-3/4	EMSC3-3/4	EMSC4-3/4
1"	1"	3"	EMSC2-1	EMSC3-1	EMSC4-1

ENDMILLS, LONG SOLID CARBIDE

Uncoated* Single End Square with 2 or 4 Flutes



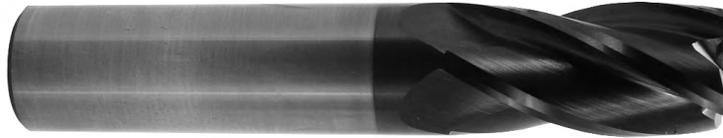
Diameter	Flute Length	Overall Length	Uncoated Part# 2-Flute	Uncoated Part# 4-Flute
1/8"	1"	3"	EMLC2-1/8	EMLC4-1/8
3/16"	1-1/8"	3"	EMLC2-3/16	EMLC4-3/16
1/4"	1-1/2"	4"	EMLC2-1/4	EMLC4-1/4
1/4"	1-1/2"	6"	EMLC2-1/4-6L	EMLC4-1/4-6L
5/16"	1-5/8"	4"	EMLC2-5/16	EMLC4-5/16
5/16"	1-3/4"	6"	EMLC2-5/16-6L	EMLC4-5/16-6L
3/8"	1-3/4"	4"	EMLC2-3/8	EMLC4-3/8
3/8"	3"	6"	EMLC2-3/8-6L	EMLC4-3/8-6L
1/2"	1-1/2"	6"	EMLC2-1/2	EMLC4-1/2
1/2"	3"	6"	EMLC2/3-1/2	EMLC4/3-1/2
5/8"	3"	6"	EMLC2-5/8	EMLC4-5/8
3/4"	3"	6"	EMCL2-3/4	EMCL4-3/4
3/4"	4"	7"	EMCL2-3/4-7L	EMCL4-3/4-7L
1"	3"	6"	EMCL2-1	EMCL4-1
1"	4"	7"	EMCL2-1-7L	EMCL4-1-7L

* For coated endmills add designation shown below to the end of the part numbers listed above

-TIN - A general purpose coating offering wear resistance and reduced friction. Can provide up to 4 times the tool life at 2 times the machining rate vs uncoated.

-TICN - High abrasion resistance, lower friction and 80% harder than TIN coating but with a lower temperature threshold. Can provide 2 to 4 times the tool life over TIN

-ALTIN - Has the highest temperature resistance while maintaining a high degree of surface hardness. Best choice for dry machining. A good choice for titanium & stainless alloys, inconel, and cast iron.



ENDMILLS, SOLID CARBIDE

Uncoated* Single End Square with 2, 3 or 4 Flutes

* For coating options, see listings at the bottom of this page

Diameter	Flute Length	Overall Length	Uncoated Part#	Uncoated Part#	Uncoated Part#
			2-Flute	3-Flute	4-Flute
1/64"	1/16"	1-1/2"	EMC2-1/64	EMC3-1/64	EMC4-1/64
1/32"	3/32"	1-1/2"	EMC2-1/32	EMC3-1/32	EMC4-1/32
3/64"	1/8"	1-1/2"	EMC2-3/64	EMC3-3/64	EMC4-3/64
1/16"	3/16"	1-1/2"	EMC2-1/16	EMC3-1/16	EMC4-1/16
5/64"	1/4"	1-1/2"	EMC2-5/64	EMC3-5/64	EMC4-5/64
3/32"	3/8"	1-1/2"	EMC2-3/32	EMC3-3/32	EMC4-3/32
7/64"	3/8"	1-1/2"	EMC2-7/64	EMC3-7/64	EMC4-7/64
1/8"	1/2"	1-1/2"	EMC2-1/8	EMC3-1/8	EMC4-1/8
9/64"	9/16"	2"	EMC2-9/64	EMC3-9/64	EMC4-9/64
5/32"	9/16"	2"	EMC2-5/32	EMC3-5/32	EMC4-5/32
11/64"	9/16"	2"	EMC2-11/64	EMC3-11/64	EMC4-11/64
3/16"	5/8"	2"	EMC2-3/16	EMC3-3/16	EMC4-3/16
13/64"	5/8"	2-1/2"	EMC2-13/64	EMC3-13/64	EMC4-13/64
7/32"	5/8"	2-1/2"	EMC2-7/32	EMC3-7/32	EMC4-7/32
15/64"	3/4"	2-1/2"	EMC2-15/64	EMC3-15/64	EMC4-15/64
1/4"	3/4"	2-1/2"	EMC2-1/4	EMC3-1/4	EMC4-1/4
17/64"	7/8"	2-1/2"	EMC2-17/64	EMC3-17/64	EMC4-17/64
9/32"	7/8"	2-1/2"	EMC2-9/32	EMC3-9/32	EMC4-9/32
19/64"	7/8"	2-1/2"	EMC2-19/64	EMC3-19/64	EMC4-19/64
5/16"	7/8"	2-1/2"	EMC2-5/16	EMC3-5/16	EMC4-5/16
21/64"	7/8"	2-1/2"	EMC2-21/64	EMC3-21/64	EMC4-21/64
11/32"	7/8"	2-1/2"	EMC2-11/32	EMC3-11/32	EMC4-11/32
23/64"	7/8"	2-1/2"	EMC2-23/64	EMC3-23/64	EMC4-23/64
3/8"	7/8"	2-1/2"	EMC2-3/8	EMC3-3/8	EMC4-3/8
25/64"	7/8"	2-1/2"	EMC2-25/64	EMC3-25/64	EMC4-25/64
13/32"	7/8"	2-1/2"	EMC2-13/32	EMC3-13/32	EMC4-13/32
27/64"	7/8"	2-1/2"	EMC2-27/64	EMC3-27/64	EMC4-27/64
7/16"	1"	2-1/2"	EMC2-7/16	EMC3-7/16	EMC4-7/16
29/64"	1"	3"	EMC2-29/64	EMC3-29/64	EMC4-29/64
15/32"	1"	3"	EMC2-15/32	EMC3-15/32	EMC4-15/32
31/64"	1"	3"	EMC2-31/64	EMC3-31/64	EMC4-31/64
1/2"	1"	3"	EMC2-1/2	EMC3-1/2	EMC4-1/2

* For coated endmills add designation shown below to the end of the part numbers listed above

-TIN - A general purpose coating offering wear resistance and reduced friction. Can provide up to 4 times the tool life at 2 times the machining rate vs uncoated.

-TICN - High abrasion resistance, lower friction and 80% harder than TIN coating but with a lower temperature threshold. Can provide 2 to 4 times the tool life over TIN

-ALTiN - Has the highest temperature resistance while maintaining a high degree of surface hardness. Best choice for dry machining. A good choice for titanium & stainless alloys, inconel, and cast iron.



ENDMILLS, SOLID CARBIDE

Uncoated* Single End Square with 2, 3 or 4 Flutes

* For coating options, see listings at the bottom of this page

Diameter	Flute Length	Overall Length	Uncoated Part# 2-Flute	Uncoated Part# 3-Flute	Uncoated Part# 4-Flute
33/64"	1-1/4"	3-1/2"	EMC2-33/64	EMC3-33/64	EMC4-33/64
17/32"	1-1/4"	3-1/2"	EMC2-17/32	EMC3-17/32	EMC4-17/32
35/64"	1-1/4"	3-1/2"	EMC2-35/64	EMC3-35/64	EMC4-35/64
9/16"	1-1/4"	3-1/2"	EMC2-9/16	EMC3-9/16	EMC4-9/16
37/64"	1-1/4"	3-1/2"	EMC2-37/64	EMC3-37/64	EMC4-37/64
19/32"	1-1/4"	3-1/2"	EMC2-19/32	EMC3-19/32	EMC4-19/32
39/64"	1-1/4"	3-1/2"	EMC2-39/64	EMC3-39/64	EMC4-39/64
5/8"	1-1/4"	3-1/2"	EMC2-5/8	EMC3-5/8	EMC4-5/8
41/64"	1-1/2"	4"	EMC2-41/64	EMC3-41/64	EMC4-41/64
21/32"	1-1/2"	4"	EMC2-21/32	EMC3-21/32	EMC4-21/32
43/64"	1-1/2"	4"	EMC2-43/64	EMC3-43/64	EMC4-43/64
11/16"	1-1/2"	4"	EMC2-11/16	EMC3-11/16	EMC4-11/16
45/64"	1-1/2"	4"	EMC2-45/64	EMC3-45/64	EMC4-45/64
23/32"	1-1/2"	4"	EMC2-23/32	EMC3-23/32	EMC4-23/32
47/64"	1-1/2"	4"	EMC2-47/64	EMC3-47/64	EMC4-47/64
3/4"	1-1/2"	4"	EMC2-3/4	EMC3-3/4	EMC4-3/4
49/64"	1-1/2"	4"	EMC2-49/64	EMC3-49/64	EMC4-49/64
25/32"	1-1/2"	4"	EMC2-25/32	EMC3-25/32	EMC4-25/32
51/64"	1-1/2"	4"	EMC2-51/64	EMC3-51/64	EMC4-51/64
13/16"	1-1/2"	4"	EMC2-13/16	EMC3-13/16	EMC4-13/16
53/64"	1-1/2"	4"	EMC2-53/64	EMC3-53/64	EMC4-53/64
27/32"	1-1/2"	4"	EMC2-27/32	EMC3-27/32	EMC4-27/32
55/64"	1-1/2"	4"	EMC2-55/64	EMC3-55/64	EMC4-55/64
7/8"	1-1/2"	4"	EMC2-7/8	EMC3-7/8	EMC4-7/8
57/64"	1-1/2"	4"	EMC2-57/64	EMC3-57/64	EMC4-57/64
29/32"	1-1/2"	4"	EMC2-29/32	EMC3-29/32	EMC4-29/32
59/64"	1-1/2"	4"	EMC2-59/64	EMC3-59/64	EMC4-59/64
15/16"	1-1/2"	4"	EMC2-15/16	EMC3-15/16	EMC4-15/16
61/64"	1-1/2"	4"	EMC2-61/64	EMC3-61/64	EMC4-61/64
31/32"	1-1/2"	4"	EMC2-31/32	EMC3-31/32	EMC4-31/32
63/64"	1-1/2"	4"	EMC2-63/64	EMC3-63/64	EMC4-63/64
1"	1-1/2"	4"	EMC2-1	EMC3-1	EMC4-1

* For coated endmills add designation shown below to the end of the part numbers listed above

-TIN - A general purpose coating offering wear resistance and reduced friction. Can provide up to 4 times the tool life at 2 times the machining rate vs uncoated.

-TICN - High abrasion resistance, lower friction and 80% harder than TIN coating but with a lower temperature threshold. Can provide 2 to 4 times the tool life over TIN

-ALTIN - Has the highest temperature resistance while maintaining a high degree of surface hardness. Best choice for dry machining. A good choice for titanium & stainless alloys, inconel, and cast iron.

ENDMILLS, ROUGHING SOLID CARBIDE

Uncoated* Single End Square with 4 Flutes



Diameter	Flute Length	Overall Length	Uncoated Part# 4-Flute
1/8"	3/8"	1-1/2"	EMRC-1/8
3/16"	5/8"	2"	EMRC-3/16
1/4"	3/4"	2-1/2"	EMRC-1/4
1/4"	1-1/8"	3"	EMRC-1/4-3L
1/4"	1-1/2"	4"	EMRC-1/4-4L
5/16"	3/4"	2-1/2"	EMRC-5/16
5/16"	1-1/4"	3"	EMRC-5/16-3L
5/16"	1-5/8"	4"	EMRC-5/16-4L
3/8"	1"	2-1/2"	EMRC-3/8
3/8"	1-1/4"	3"	EMRC-3/8-3L
3/8"	1-3/4"	4"	EMRC-3/8-4L
7/16"	1"	3"	EMRC-7/16
7/16"	2"	4"	EMRC-7/16-4L
1/2"	1-1/4"	3"	EMRC-1/2
1/2"	2"	4"	EMRC-1/2-4L
1/2"	3"	6"	EMRC-1/2-6L
5/8"	1-1/4"	3-1/2"	EMRC-5/8
5/8"	2-1/4"	5"	EMRC-5/8-5L
5/8"	3"	6"	EMRC-5/8-6L
3/4"	1-1/2"	4"	EMRC-3/4
3/4"	2-1/4"	5"	EMRC-3/4-5L
3/4"	3"	6"	EMRC-3/4-6L
1"	1-1/2"	4"	EMRC-1
1"	2-1/4"	5"	EMRC-1-5L
1"	3"	6"	EMRC-1-6L



*For coated endmills add designation shown below to the end of the part numbers to the left

-TICN - High abrasion resistance, lower friction and 80% harder than TIN coating but with a lower temperature threshold. Can provide 2 to 4 times the tool life over TIN.

-ALTIN - Has the highest temperature resistance while maintaining a high degree of surface hardness. Best choice for dry machining. A good choice for titanium & stainless alloys, inconel, and cast iron.

ENDMILLS

HIGH PERFORMANCE SOLID CARBIDE ENDMILLS - SHOWN ON NEXT PAGE

Unique high performance 4 flute finishing variable-indexed acclerator carbide end mills cut stainless steel and other tough alloys at high metal removal rates. Special tool geometrics offer reduced vibration, greater strength, tool life and feeds & speeds.

- Variable indexed flute to flute; Reduces vibrations allowing increased feeds & speeds.
- Eccentric-radial O.D. relieved; Increases tool strength allowing greater feeds & speeds.
- Hard coated for heavy fast metal removal rates can be used dry.
- Shank O.D. coolant groove-each flute; to maximize cooling and chip evacuation velocity.
- Eccentric O.D. primary relief. • Flute diameter + .000-.002
- 35° Helix/Rhc-Rhs • Shank diameter - .0001-.0004
- Std with corner radius

H.P. SQUARE END SOLID CARBIDE ENDMILLS

Diameter	Flute Length	Overall Length	Stub Length Part# 4-Flute	Regular Part# 4-Flute	Long Reach Part# 4-Flute
1/8"	1/4"	1-1/2"	EMHSS-1/8	-	-
1/8"	1/2"	1-1/2"	-	EMHS-1/8	-
3/16"	1/4"	2"	EMHSS-3/16	-	-
3/16"	5/8"	2"	-	EMHS-3/16	-
1/4"	5/16"	2"	EMHSS-1/4	-	-
1/4"	3/4"	2-1/2"	-	EMHS-1/4	-
1/4"	3/4"	4"	-	-	EMHSL-1/4
5/16"	3/8"	2"	EMHSS-5/16	-	-
5/16"	7/8"	2-1/2"	-	EMHS-5/16	-
5/16"	7/8"	4"	-	-	EMHSL-5/16
3/8"	1/2"	2"	EMHSS-3/8	-	-
3/8"	1"	2-1/2"	-	EMHS-3/8	-
3/8"	1"	4"	-	-	EMHSL-3/8
7/16"	5/8"	2-1/2"	EMHSS-7/16	-	-
7/16"	1-1/8"	2-3/4"	-	EMHS-7/16	-
1/2"	5/8"	2-1/2"	EMHSS-1/2	-	-
1/2"	1-1/4"	3"	-	EMHS-1/2	-
1/2"	1-1/4"	4"	-	-	EMHSL-1/2
1/2"	1-1/4"	6"	-	-	EMHSEL-1/2
5/8"	1"	3"	EMHSS-5/8	-	-
5/8"	1-1/2"	3-1/2"	-	EMHS-5/8	-
5/8"	1-1/2"	6"	-	-	EMHSL-5/8
3/4"	1"	3"	EMHSS-3/4	-	-
3/4"	1-3/4"	4"	-	EMHS-3/4	-
3/4"	1-3/4"	6"	-	-	EMHSL-3/4
1"	1"	3"	EMHSS-1	-	-
1"	1-3/4"	4"	-	EMHS-1	-
1"	1-3/4"	6"	-	-	EMHSL-1

H.P. BALL END CARBIDE ENDMILLS

Diameter	Flute Length	Overall Length	Stub Length Part# 4-Flute	Regular Part# 4-Flute
1/8"	1/4"	1-1/2"	EMHBS-1/8	-
1/8"	1/2"	1-1/2"	-	EMHB-1/8
3/16"	1/4"	2"	EMHBS-3/16	-
3/16"	5/8"	2"	-	EMHB-3/16
1/4"	5/16"	2"	EMHBS-1/4	-
1/4"	3/4"	2-1/2"	-	EMHB-1/4
5/16"	3/8"	2"	EMHBS-5/16	-
5/16"	7/8"	2-1/2"	-	EMHB-5/16
3/8"	1/2"	2"	EMHBS-3/8	-
3/8"	1"	2-1/2"	-	EMHB-3/8
7/16"	5/8"	2-1/2"	EMHBS-7/16	-
7/16"	1-1/8"	2-3/4"	-	EMHB-7/16
1/2"	5/8"	2-1/2"	EMHBS-1/2	-
1/2"	1-1/4"	3"	-	EMHB-1/2
5/8"	1"	3"	EMHBS-5/8	-
5/8"	1-1/2"	3-1/2"	-	EMHB-5/8
3/4"	1"	3"	EMHBS-3/4	-
3/4"	1-3/4"	4"	-	EMHB-3/4
1"	1"	3"	EMHBS-1	-
1"	1-3/4"	4"	-	EMHB-1



THE BEST COMBINATION BAR PULLER CUT-OFF TOOL FOR CNC

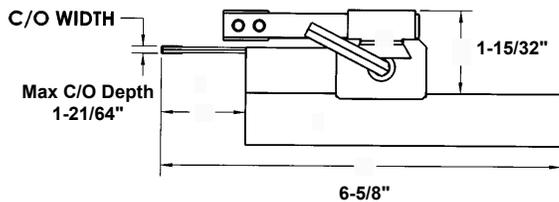
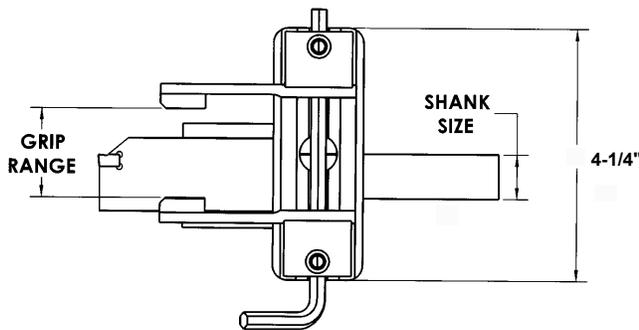
Exclusive features of the Somma design:

Synchronous adjustment;

Single wrench turn adjusts both gripping jaws
 Infinite size adjustment within the gripping range
 Quick change over adjustment to the next job

New modular design;

Allows easy mounting and removal in any wedge lock turret
 Also allows mounting of the shank in any position in the tool holder pocket



- Gripping range 1/8" to 3-1/4"
- Saves a turret position
- Reduces cycle time - no need to index between cut off and pulling operations
- One complete turn of screw moves both jaws in or out exactly .100"
- Jaw carriers can also be individually adjusted to simplify centering with cut off blade
- Designed to accept competitors' jaws and jaw fingers
- Can be purchased with or without the Cut-Off holder
- Will accept most major brands of Cut-Off holders*
 * (requires modification of the Cut-Off holder)

REPLACEMENT CUT-OFF BLADE

CAT. NO.	C/O WIDTH
CO-HLDR-BP*	0.118

*Sumitomo Brand
 (INCLUDES STANDARD INSERT AND INSERT WRENCH)

SQUARE SHANK SIZE	CAT. NO. COMBO. HLDR With CUTOFF	CAT. NO. BAR PULLER Without CUTOFF
3/4"	BPCO/0.750	BPCO-1
1"	BPCO/1.000	BPCO-2
20mm	BPCO/20MM	BPCO-20
25mm	BPCO/25MM	BPCO-25

Designed for right hand use only

REPLACEMENT PARTS

DESCRIPTION	CAT. NO.
SPRING FINGER	PCO-5
SERRATED JAW	PCO-6
C/O INSERT FOR GENERAL STEEL	WCFR3 AC3000
C/O INSERT FOR HARD STL/ SLOW FEED	WCFR3A AC225
C/O INSERT FOR CAST IRON/ ALUMINUM	WCFR3B G10E

Compatible Cut-Off Holder Brands*

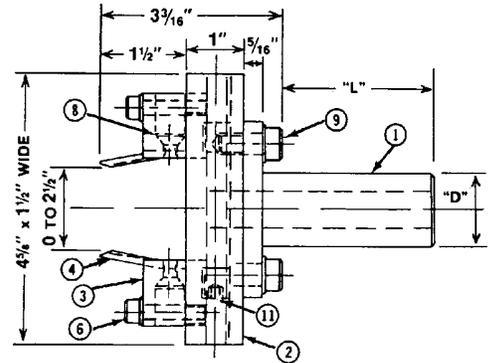
Brand Name	Brand Part Number
Sumitomo	STFH32-3
Iscar	SGFH32-3
Kennametal	DSB5340110
Sandvik	151.2-25-30
Manchester	340-110
Ingersol	TGB 32-3

*Usage requires cutting blade to length

BAR PULLER FOR CNC LATHES



CAT. NO.	"D"	"L"
BP00	5/8" DIA.	2"
BP1	3/4" DIA.	2"
BP2	1" DIA.	2-5/8"
BP3	1-1/4" DIA.	2-5/8"
BP4	1-1/2" DIA.	2-5/8"
BP5	2" DIA.	3-5/16"



- 1/16 DIA MIN TO UP TO 2-1/2" DIA MAX ADJUSTABLE PULLING RANGE FOR BP00 UP TO BP4
- 1/16 DIA MIN TO UP TO 3" DIA MAX. ADJUSTABLE PULLING RANGE FOR BP5
- NO-SPRINGS, TENSION BUILT INTO JAWS FOR UP TO 250 LBS. OF GRIPPING PRESSURE
- JAWS ARE EASILY REPLACED

BAR PULLER PARTS

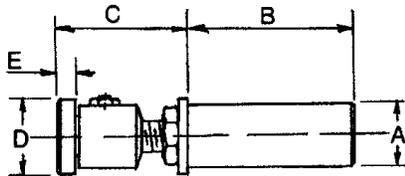
PART NO.	CAT. NO.
1. Shank	Call
2. Body	BP4-2
2. Body (for BP5 only)	BP5-2
3. Slide	BP4-3
4. Jaw	BP4-4
6. Slide Clamp	
Screw & Washer	VFDH0-5
8. Jaw Screw	BP4-8
9. Clamp Screw & Washer	FDH2-4
11. Adjusting Screw	BP4-11

EASY TO ADJUST:

- SCREW JAWS DOWN TO SLIP FIT ON BAR
- BACK OFF BAR
- ADJUST BOTH JAWS DOWN 1/4 TURN
- LOCK IN PLACE AND PULLER IS READY TO USE
- PRESSURE CAN BE INCREASED OR DECREASED BY ADJUSTING JAWS IN OR OUT

ADJUSTABLE REVOLVING STOPS WITH INTERCHANGEABLE HEADS

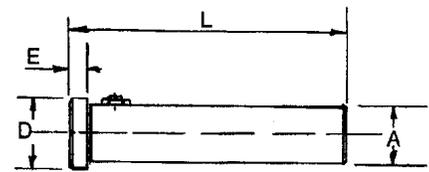
- STOP WASHER - PREVENTS PUSHBACK
- SMALL HOLE IN FACE OF HEAD - ELIMINATES LENGTH VARIATIONS



INTERCHANGEABLE HEADS

- FULL SIZE - FOR MOST JOBS
- SMALL - FOR LIGHT WORKPIECES
- OVERSIZE - (FOR RSA2 and RSS2)
- SOFT - 4140 STEEL - FOR MACHINING AS I.D. OR O.D. SUPPORT
- BOTH STYLE STOPS ARE SUPPLIED WITH (STANDARD) HEADS
- ANY OTHER HEAD CAN BE SUBSTITUTED WHEN ORDERING COMPLETE STOPS - MERELY SPECIFY CAT. NO. OF HEAD REQUIRED AND ADD PRICE DIFFERENTIAL (IF ANY) TO PRICE OF STOP

REVOLVING STOPS WITH INTERCHANGEABLE HEADS



CAT. NO.	A	B	C		D	E
			MIN.	MAX.		
RSA00	5/8	1-11/16	1-3/16	1-7/16	3/4	3/16
RSA0	3/4	2-7/16	1-7/16	1-11/16	1"	3/16
RSA2	1"	3-5/16	1-7/16	1-11/16	1-1/8	3/16

HEAD ONLY			
CAT. NO.	D	E	4140 STEEL
RSA00-4 (Std)	3/4	3/16	HARD
RSA00-4SM	5/16	3/16	HARD
RSA00-4S	3/4	1/2	SOFT
RSA0-4 (Std)	1"	3/16	HARD
RSA0-4SM	3/8	3/16	HARD
RSA0-4S	1"	1/2	SOFT
RSA2-4 (Std)	1-1/8	3/16	HARD
RSA2-4SM	5/8	1/2	HARD
RSA2-40S	1-5/8	1/4	HARD
RSA2-4S	1-1/8	3/4	SOFT
RSA2-40SS	1-5/8	3/4	SOFT

CAT. NO.	A	L	D	E
RSS-00	5/8	3"	3/4	3/16
RSS-0	3/4	4"	1"	3/16
RSS-2	1"	5"	1-1/8	3/16



Balas Workholding



Collets, Pushers and Pads

Contact Somma Tool Company for all Balas workholding products. Balas is the originator of

Martin Master Collets & "A" Style Master Pushers



Somma Tool offers

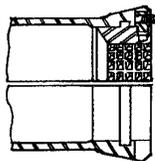
Conventional (solid) collets and feed fingers

Master collets and collet pads in the following styles:

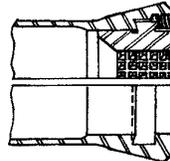
Martin, "CB", "CT", New Britain, Stationary, Draw In & Pushout Types

Master Feed Fingers (Pushers) in "A" "PB", and "PN" styles

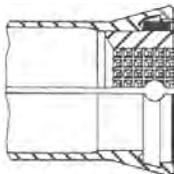
MARTIN MASTER COLLETS AND PADS



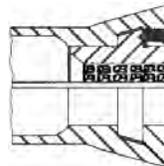
"CB" MASTER COLLETS AND PADS



NEW BRITAIN MASTER COLLETS AND PADS



"CT" MASTER COLLETS AND PADS



Call Somma with your machine brand, the capacity of the machine and the machine model number.

EX: 1" New Britain model 61. Describe the item that you need

to our knowledgeable sales staff, who will then determine the proper part number to quote.

Proudly made in the U.S.A.

FOR WARNER & SWASEY AUTOMATICS

MARTIN MASTER COLLETS AND PADS

Machine Size	Model No.	MASTER COLLETS		PADS		
		Balas Number	W & S Reference No.	Balas Number	W & S Reference No.	Max. Capacity
0AB	M4415	1473	3300-1120	2003G	3300	Rd. 1-1/4 Hex. 1-1/16 Sq. 7/8
1AB	M3880	7200-1AB	2530 3897-1028	2200	2530	Rd. 2-1/4 Hex. 1-15/16 Sq. 1-19/32
2AB	M3925 M3380	1051B	3397-1112	2137	3397	Rd. 3" Hex. 2-9/16 Sq. 2-1/8
2AB	M3925 M3380	NOT MARTIN STYLE		2049	471	Rd. 2-1/2 Hex. 2-3/16 Sq. 1-3/4
3AB	M3995	1553	3397-1021 3999-1001	2047	3999	Rd. 4-1/2 Hex. 3-7/8 Sq. 3-9/16
3/4" Six Spindle	M3330	1472	3330	2001	3330	Rd. 13/16 Hex. 23/32 Sq. 19/32
1-1/4" Six Spindle	M3300	1473	3300-1120	2003G	3300	Rd. 1-1/4 Hex. 1-1/16 Sq. 7/8
1-3/4" Five Spindle	M2500	7199	2500-1120	2199	2500	Rd. 1-3/4 Hex. 1-17/32 Sq. 1-1/4
2-1/4" Five Spindle	M2530	7200-1AB	2530 1070	2200	2530	Rd. 2-1/4 Hex. 1-15/16 Sq. 1-19/32

"A" MASTER PUSHERS AND PADS

Machine Size	Model No.	"A" MASTER PUSHER		PADS		
		Balas Number	W & S Reference No.	Balas Number	W&S Reference No.	Max. Capacity
0AB	M4415	4473	3300-1080	5102	3300	Rd. 1-1/4 Hex. 1-1/16 Sq. 7/8
1AB	M3880	4200	2530-1080	5200	2530	Rd. 2-1/8 Hex. 1-27/32 Sq. 1-1/2
2AB	M3925 M3380	4051	3398-1033	5069	3398	Rd. 2-13/16 Hex. 2-7/16 Sq. 1-31/32
3AB	M3995	4553	3998-1021	5026	3998	Rd. 4-7/16 Hex. 3-13/16 Sq. 3-3/8
3/4" Six Spindle	M3330	4472	3330-1130	5055	3330	Rd. 3/4 Hex. 11/16 Sq. 9/16
1-1/4" Six Spindle	M3300	4473	3300-1080	5102	3300	Rd. 1-1/4 Hex. 1-1/16 Sq. 7/8
1-3/4" Five Spindle	M2500	4199	2500-1130	5199	2500	Rd. 1-3/4 Hex. 1-17/32 Sq. 1-1/4
2-1/4" Five Spindle	M2530	4200	2530-1080	5200	2530	Rd. 2-1/8 Hex. 1-27/32 Sq. 1-1/2

Collet Pads and Steel pusher pads are available with round, hexagon or square holes in .001" increments, fractional or metric sizes.

FOR WARNER & SWASEY N/C TURRET LATHES



Steel pusher pads are available with round, hexagon or square holes in .001" increments, fractional or metric sizes.

Collet pads are available with round, round serrated, hexagon or square holes in .001" increments, fractional or metric sizes.



"A" MASTER PUSHERS AND PADS (PULLERS)

Machine Size	Model No.	"A" MASTER PUSHERS		PADS		
		Balas Number	W & S Reference No.	Balas Number	W&S Reference No.	Max. Capacity
SC15 (3-1/2")	M4820	4065	4838-1200	5006	4838	Rd. 3"
SC15 (4-5/8")	M4820	4065	4838-1200	5006	4838	Rd. 3"
		4553	3998-1021	5026	3998	Rd. 4"
1SC	M5000	4200	2530-1080	5200	2530	Rd. 2-1/8"
2SC	M5040	4065	4838-1200	5006	4838	Rd. 3"
2SCL	M5080	4065	4838-1200	5006	4838	Rd. 3"
		4553	3998-1021	5026	3998	Rd. 4"

MARTIN MASTER COLLETS AND PADS

Machine Size	Model No.	MASTER COLLETS		PADS		
		Balas Number	W&S Reference No.	Balas Number	W&S Reference No.	Max. Capacity
SC15 (3-1/2")	M4820	1558	4836-1200	2010	4836	Rd. 2-5/8 Hex. 2-3/16 Sq. 1-13/16
SC15 (4-5/8")	M4820	1559	4826-1200	2157	4826	Rd. 4" Hex. 3-1/2 Sq. 2-7/8
1SC	M5000	1566	5014-10062"	2200	2530	Rd. 2-1/4 Hex. 1-15/16 Sq. 1-19/32
		1567	5034-10012-1/4"	2200	2530	Rd. 3"
2SC	M5040	1569	5054-1003	2137	3397	Hex. 2-9/16 Sq. 2-1/8
2SCL	M5080	1571	5094-1004	2016	5094	Rd. 4-1/2 Hex. 3-7/8 Sq. 3-3/16

Collet pads are available with round, round serrated, hexagon or square holes in .001" increments, fractional or metric sizes.



MASTER COLLETS AND PADS

Machine Size	Model No.	MASTER COLLETS		PADS		
		Balas Number	W&S Reference No.	Balas Number	W&S Reference No.	Max. Capacity
No. 2MC	M-2600 M-2650	7552	2609-1007 Pushout	2552	2609	Rd. 1-1/4 Hex. 1-1/16 Sq. 7/8
		—	2611-1001 Drawback	—	—	
No. 3 16" EC	M-1200 M-4630	7219	461-1002 Pushout	2023	461	Rd. 1-1/2 Hex. 1-5/16 Sq. 1"
		No. 2 No. 2EC	M-2070 M-1330 M-2660				7267	462-1002 Drawback
No. 3 (1-3/4")	M-1200 M-4630	7211	1369-1008 Spec.	2023	461	Rd. 1-1/2 Hex. 1-5/16 Sq. 1-1/16
No. 3 (1-3/4")	M-1200 M-4630	7220	1369-1003	2064	1129	Rd. 1-3/4 Hex. 1-1/2 Sq. 1-1/4
No. 4 (2")	M-4640 M-2240 M-1420	7215	1129-1002 1929-1021	2064	1129	Rd. 2" Hex. 1-3/4 Sq. 1-3/8
No. 4	M-4640 M-2240	7224	1129-1016 1929-1039	2023	461	Rd. 1-1/2 Hex. 1-5/16 Sq. 1-1/16
		7243	2042-1001	2241	820	Rd. 4"
No. 5 1A (2-1/2")	M-2250 M-3400 M-470	7229	471-1001 2199-1002	2049	471	Rd. 2-1/2 Hex. 2-3/16 Sq. 1-3/4
		No. 5 1A (2")	M-2250 M-3400	1249-1018 1249-1018	2064	1129	Rd. 2" Hex. 1-3/4 Sq. 1-3/8
No. 5 (2-1/2")	M-2250 M-1740	1249-1023	1249-1023	2049	471	Rd. 2-1/2 Hex. 2-3/16 Sq. 1-3/4
No. 5 (3")	M-4660	7339	4669-1001	2339	4669	Rd. 3" Hex. 2-5/8 Sq. 2-1/8
No. 5 (2-1/2")	M-4660	4-4669-1008	4669-1008	2049	471	Rd. 2-1/2 Hex. 2-3/16 Sq. 1-3/4
No. 5 (4-1/2")	M-2770 M-4670	2779-1001	2779-1001	2204	2779	Rd. 4-1/2 Hex. 3-7/8 Sq. 3-3/16
No. 5 (2-1/2")	M-2770 M-4670	2779-1031	2779-1031	2049	471	Rd. 2-1/2 Hex. 2-3/16 Sq. 1-3/4
No. 6OS	M-382 M-92	7232	387-1028	2085	185	Rd. 2" Hex. 1-11/16 Sq. 1-3/8
No. 5 2-1/4 No. 6NS	M-342 M-432 M-340	7233-1	357-1003	2065	357 2066	Rd. 2-1/4 Hex. 1-15/16 Sq. 1-9/16
		7233	357-1008			

Now Available!

**Tooling & Repair Parts
Warner & Swasey
Call Somma.**

CHUCK JAWS & PADS FOR SADDLE TYPE TURRET LATHES

Machine Size	Model No.	MASTER CHUCK JAWS		JAW PADS		
		W & S Master Chuck Jaw Reference No.	Balas Number	W & S Reference No.	Balas Number	Capacity
2A (2-1/2")	M-492	493-1016	7105	493	2104	Rd. 2-1/2 Sq. 1-3/4 Hex. 2-1/8
1A (3")	M-3400 M-470	404-1008	7222	404	2096	Rd. 3-1/4 Sq. 2-3/8 Hex. 2-3/4
2A (3-1/2")	M-3470 M-510	404-1008	7222	404	2096	Rd. 3-1/4 Sq. 2-3/8 Hex. 2-3/4
2A (4-1/2") 3A (4-1/2")	M-3470 M-3500 M-1950	533-1008	7226	533	2226	Rd. 4-1/2 Sq. 3-3/16 Hex. 3-7/8
3A (6")	M-3500 M-1950	1959-7	7230	1959	2230	Rd. 6" Sq. 4-1/2 Hex. 5-3/16

SEE PAGE 188 FOR ORDERING INSTRUCTIONS

PUSHERS AND PADS FOR BAR FEED MECHANISMS ON TURRET LATHES

Machine Size	Model No.	"A" MASTER PUSHER	PADS	
		Balas Number	Balas Number	Max. Capacity
No. 1 No. 1 No. 2 Hand No. 2 EC Hand	M-1270 M-2620 M-1330 M-2660	4009	5001	Rd. 35/64 Hex. 1/2 Sq. 13/32
No. 2 Power No. 2 Power	M-1330 M-2660	4238-L 4238-M 4238-H	5055	Rd. 13/16 Hex. 23/32 Sq. 9/16

Steel pusher pads are available with round, hexagon or square holes in .001" increments, fractional or metric sizes.

SEE PAGE 188 FOR ORDERING INSTRUCTIONS



STOCK DELIVERY
Keep extra sets in your toolroom for immediate use - Can be used over and over by boring out to larger sizes!!
SOFT MACHINABLE - 4150 STEEL
Install pad into master collet - Load into machine - insert pins Chuck down - Drill and finish bore - Remove pins!!
CENTER HOLE 5/16" DIAMETER.

EMERGENCY COLLET PADS

Machine Size	W & S Master Collet No.	Balas Master Collet No.	Balas Number
No. 3	461-1002	7219	2023E
No. 4	1129-1002	7215	2064E
No. 5-1A	471-1001	7229	2049E
No. 5-3"	4669-1001	7339	2339E
No. 5-4 1/2"	2779-1001	2779-1001	2204E
0AB	3300-1120	1473	2003E
1-1/4" Six Spindle	3300-1120	1473	2003E
1AB	3897-1028	7200-1AB	2200E
2-1/4" Five Spindle	2530-1070	7200-1AB	2200E
2AB	3397-1112	1051	2137E
2SCL	5094-1004	1571	2016E

SQUARE LUGS FOR MARTIN MASTER COLLET PADS

COMPLETE LUG AND SCREW SET	
BALAS NUMBER	SIZE OF LUG
8003	3/8 Sq.
8004-1	5/16 Sq.
8015-3	1/2 Sq.
8067	3/4 Sq.

SCREW PLUGS ONLY	
BALAS NUMBER	THREAD SIZE
8003-SCR	1/16 Pipe
8004-1-SCR	1/4/2028
8015-3-SCR	1/8 Pipe
8067-SCR	1/4 Pipe

"L" WRENCHES FOR "A" STYLE MASTER PUSHERS

Balas No.	8005-1	8006-1	8022-1	8022-2	8022-3	8029-1
Width of Wrench	.395/.400	.460/.465	.335/.340	.305/.310	.365/.370	.270/.275

"L" WRENCHES FOR DIAL ADJUSTABLE PUSHERS WITH KEY SHAPE END

Balas No.	8022-1-A	8029-1-A
Width of Wrench	.335/.340	.270/.275
Width of Key	1/8	1/8

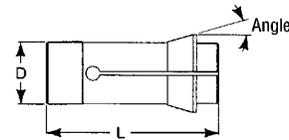
NON-LOOSENING SCREWS FOR COLLET PADS

Balas Number	For Pad Nos.	Thread Size
SCR-2023	2023	5/16-24 x 5/16
SCR-2049	2049,2339	3/8-24 x 15/32
SCR-2064	2064,2552	5/16-24 x 13/32
SCR-2096	2096,2204,2226	5/16-18 x 9/16
SCR-2104	2104	5/16-18 x 3/8

SCREWS FOR "CB" MASTER COLLETS

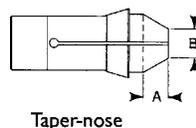
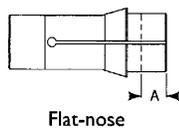
Balas Number	Thread Size
9080-1	1/2-20 X 5/8
9080-2	3/8-24 X 9/16
9080-3	3/8-24 X 11/32
9080-4	5/16-24 X 11/32

These Swiss-type Collets are ground to precise size and TIR to meet precision machining requirements with a standard accuracy that rivals the industry.



Machine Tool Builder	Collet Model No.	Cat. No.	Head Angle	Bearing Diameter	Overall Length	RATED COLLET CAPACITY			
						Round Smooth Min./Max.	Round Serrated Min./Max.	Hex Min./Max.	Square Min./Max.
Tsugami	BS38	4735	15° 15'	1.889" (47.98)	3.937" (100)	.008" to 1.562" (.20 to 39.67)	-	.250" to 1.344" (6.35 to 34.14)	.250" to 1.093" (6.35 to 27.76)
Tornos	F20-201	4709	15°	.7864" (19.99)	2.126" (54)	.008" to .499" * (.20 to 12.67)	.500" to .630" * (12.70 to 16.00)	.0625" to .545" (1.58 to 13.84)	.0625" to .445" (1.58 to 11.30)
Maier	F32-221	3731	15°	1.260" (32)	2.953" (75)	.200" to 1.062" (5.08 to 26.98)	-	.250" to .813" (6.35 to 20.65)	.250" to .750" (6.35 to 19.05)
Peterman, Strohm, Tornos, Tsugami, Citizen	TF8	4701	15° 35'	.3148" (8)	1.614" (41)	.008" to .250" (.20 to 6.35)	-	.0625" to .216" (1.58 to 5.49)	.0625" to .176" (1.58 to 4.47)
Peterman, Strohm, Tornos, Citizen, Star	TF10	4703	20°	.3935" (10)	1.870" (48)	.008" to .281" (.20 to 7.14)	-	.0625" to .243" (1.58 to 6.17)	.0625" to .198" (1.58 to 5.03)
Tornos	TF13	4707	16°	.5115" (13)	2.520" (64)	.008" to .394" (.20 to 10.01)	-	.0625" to .341" (1.58 to 8.66)	.0625" to .279" (1.58 to 7.09)
Citizen, Maier, Star, Tornos, Tsugami	TF15	4607	16°	.5903" (15)	2.520" (64)	.008" to .499" * (.20 to 12.67)	1/2" Only * (12.7)	.0625" to .433" (1.58 to 10.99)	.0625" to .353" (1.58 to 8.96)
Citizen, KSI, Hanwha, Tornos	TF16	4609	16°	.6297" (16)	2.520" (64)	.008" to .499" * (.20 to 12.67)	1/2" Only * (12.7)	.0625" to .433" (1.58 to 10.99)	.0625" to .353" (1.58 to 8.96)
Maier, Star, Tornos, Tsugami, Traub	TF20	4611	16°	.7869" (19.99)	2.638" (67)	.008" to .499" * (.20 to 12.67)	.500" to .625" * (12.70 to 15.87)	.0625" to .541" (1.58 to 13.74)	.0625" to .442" (1.58 to 11.22)
Tsugami	TF24	4713	15° 20'	.9367" (23.79)	2.440" (62)	.008" to .499" * (.20 to 12.67)	.500" to .688" * (12.70 to 17.48)	.0625" to .595" (1.58 to 15.11)	.0625" to .486" (1.58 to 12.34)
Citizen, Hanwha, Hardinge, KSI, Maier, Star, Tornos, Tsugami, Methods	TF25	4613	16°	.9840" (25)	3.032" (77)	.008" to .499" * (.20 to 12.67)	.500" to .813" * (12.70 to 20.65)	.0625" to .704" (1.58 to 17.88)	.0625" to .574" (1.58 to 14.57)
Citizen, Hanwha, Hardinge, Star, Tornos, Tsugami, Methods	TF30	4615	16°	1.1808" (30)	3.149" (80)	.008" to .499" * (.20 to 12.67)	.500" to 1" * (12.70 to 25.40)	.093" to .866" (2.36 to 21.99)	.093" to .707" (2.36 to 17.95)
Star, Tornos	TF34	4617	16°	1.3382" (34)	3.154" (80.11)	.008" to .499" * (.20 to 12.67)	.500" to 1.125" * (12.70 to 28.57)	.093" to .974" (2.36 to 24.73)	.093" to .795" (2.36 to 20.19)
Citizen, Hanwha, KSI, Maier, Star, Tornos, Tsugami, Methods	TF37	4619	16°	1.4563" (37)	3.622" (92)	.008" to .499" * (.20 to 12.67)	.500" to 1.265" * (12.70 to 32.13)	.093" to 1.095" (2.36 to 27.81)	.093" to .895" (2.36 to 22.73)
Citizen	TF37SP	4629	16° 7'	1.456" (36.98)	3.622" (92)	.008" to 1.250" (.20 to 31.75)	-	.093" to 1.082" (2.36 to 27.48)	.093" to .883" (2.36 to 22.43)
Tsugami	TF43	4737	16°	1.693" (43)	3.622" (92)	.008" to 1.496" (.20 - 38.00)	-	.250" to 1.296" (6.35 to 32.92)	.250" to 1.058" (6.35 to 26.87)
KSI	TF44	OA	16.5°	1.732" (44)	3.622" (92)	.200" to 1.490" (5.08 to 37.85)	-	.250" to 1.250" (6.35 to 31.75)	.250" to .875" (6.35 to 22.23)
Star	TF48 same as B42	3719	14° 50'	1.889" (48)	3.688" (94)	.008" to .499" * (.20 to 12.67)	.500" to 1.657" ** (12.70 to 42.09)	1/32" to 1-13/32" (.79 to 35.71)	1/32" to 15/32" (.79 to 29.36)
Tornos	161	4711	15°	1.1808" (30)	2.560" (65)	.008" to .499" * (.20 to 12.67)	.500" to 1.000" * (12.70 to 25.40)	.093" to .866" (2.36 to 22.00)	.093" to .707" (2.36 to 17.96)
Hardinge	166	4677	15°	1.259" (32)	2.559" (65)	.008" to .499" * (.20 to 12.67)	.500" to 1.125" * (12.70 to 28.57)	.250" to .969" (6.35 to 24.61)	.250" to .797" (6.35 to 20.24)
Hardinge	S16-HMS	4621	15° 40'	.9372" (24)	2.441" (62)	.008" to .686" (.20 to 17.47)	-	.0625" to .595" (1.58 to 15.11)	.0625" to .486" (1.58 to 12.34)
Hardinge	S20-HM	4623	16°	1.1021" (28)	3.032" (77)	.008" to .499" * (.20 to 12.67)	.500" to .813" * (12.70 to 20.65)	.0625" to .704" (3.17 to 17.88)	.0625" to .574" (3.17 to 14.57)
Hardinge	S25-HM	4625	16°	1.2989" (33)	3.149" (80)	.008" to .499" * (.20 to 12.67)	.500" to 1.031" * (12.70 to 26.19)	.093" to .892" (2.36 to 22.65)	.093" to .729" (2.36 to 18.51)
Hardinge	S25-HS	4627	16°	1.1808" (30)	3.149" (80)	.008" to 1" (.20 to 25.4)	-	.093" to .866" (2.36 to 21.99)	.093" to .707" (2.36 to 17.95)

* Round collets in sizes of .500" and over have circular serrations. **TF48 collets in sizes of .500" and over have square serrations. Millimeters in parentheses ()



Extended-Nose Collets feature added nose length, flat or tapered, for doing pick-off work or to compensate for tooling interferences. Please provide collet model (above), hole size, length of extension (A) required, and nose diameter (B) when ordering. The (B) dimension must be a minimum of .125" larger than the hole size.

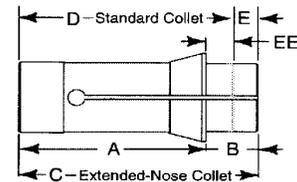
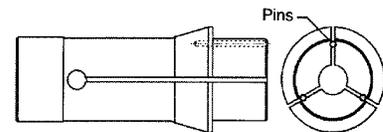


An **Emergency Collet** may be used when a standard collet is not in your current inventory. It can be machined to the desired bore size and used until a hardened collet arrives.

The Extended-Nose Emergency Collet features added nose length. This feature may be necessary when doing pick-off work or to compensate for tooling interferences. The head of the collet is heat-treated to 40 Rockwell for easy machining.

Standard Emergency Collets

Style	Collet Part Number	A	B	C	D	EE	Pin Part Number
TF15	4681-12-12-000000	2.284" (58)	—	—	2.520" (64)	.236" (5.99)	7723-00-00-000000 1/8" Dia. x 3/8" Long
TF16	4683-12-12-000000	2.284" (58)	—	—	2.520" (64)	.236" (5.99)	7723-00-00-000000 1/8" Dia. x 3/8" Long
TF20	4685-12-12-000000	2.362" (60)	—	—	2.638" (67)	.276" (7.01)	7723-00-00-000000 1/8" Dia. x 3/8" Long
TF25	4687-12-12-000000	2.638" (67)	—	—	3.032" (77)	.394" (10.00)	7723-00-00-000000 1/8" Dia. x 3/8" Long
TF30	4689-12-12-000000	2.760" (70)	—	—	3.149" (79.98)	.389" (9.88)	7723-00-00-000000 1/8" Dia. x 3/8" Long
TF34	4691-12-12-000000	2.760" (70)	—	—	3.154" (80.11)	.394" (10.00)	7723-00-00-000000 1/8" Dia. x 3/8" Long
TF37	4693-12-12-000000	3.230" (82)	—	—	3.622" (92)	.392" (9.95)	7723-00-00-000000 1/8" Dia. x 3/8" Long
S16-HMS	4695-12-12-000000	2.165" (55)	—	—	2.441" (62)	.276" (7.01)	7723-00-00-000000 1/8" Dia. x 3/8" Long
S25-HS	4697-12-12-000000	2.677" (68)	—	—	3.149" (80)	.472" (11.98)	7723-00-00-000000 1/8" Dia. x 3/8" Long
0166	4677-12-12-000000	2.325" (59)	—	—	2.559" (65)	.234" (6)	7723-00-00-000000 1/8" Dia. x 3/8" Long



Extended-Nose Emergency Collets

Style	Collet Part Number	A	B	C	D	E	Pin Part Number
TF15	4681-12-00-000000	2.284" (58)	.424" (10.76)	2.708" (68.78)	2.520" (64)	.188" (4.77)	7722-00-00-000000 1/8" Dia. x 43/64" Long
TF16	4683-12-00-000000	2.284" (58)	.424" (10.76)	2.708" (68.78)	2.520" (64)	.188" (4.77)	7722-00-00-000000 1/8" Dia. x 43/64" Long
TF20	4685-12-00-000000	2.362" (60)	.464" (11.78)	2.826" (71.78)	2.638" (67)	.188" (7.31)	7724-00-00-000000 1/8" Dia. x 47/64" Long
TF25	4687-12-00-000000	2.638" (67)	.644" (16.35)	3.282" (83.36)	3.032" (77)	.250" (6.35)	7730-00-00-000000 1/8" Dia. x 57/64" Long
TF30	4689-12-00-000000	2.760" (70)	.889" (22.58)	3.649" (92.68)	3.149" (79.98)	.500" (12.70)	7726-00-00-000000 1/8" Dia. x 1-11/64" Long
TF34	4691-12-00-000000	2.760" (70)	.894" (22.70)	3.654" (92.81)	3.154" (80.11)	.500" (12.70)	7726-00-00-000000 1/8" Dia. x 1-11/64" Long
TF37	4693-12-00-000000	3.230" (82)	.892" (22.65)	4.122" (104.69)	3.622" (92)	.500" (12.70)	7726-00-00-000000 1/8" Dia. x 1-11/64" Long
S16-HMS	4695-12-00-000000	2.165" (55)	.464" (11.78)	2.629" (66.78)	2.441" (62)	.188" (4.77)	7724-00-00-000000 1/8" Dia. x 47/64" Long
S25-HS	4697-12-00-000000	2.677" (68)	.972" (24.68)	3.649" (92.68)	3.149" (80)	.500" (12.70)	7728-00-00-000000 1/8" Dia. x 1-17/64" Long
0166	4677-12-00-000000	2.325" (59)	.984" (25)	3.309" (84.05)	2.559" (65)	.750" (19.05)	7726-00-00-000000 1/8" Dia. x 1/64" Long

Note: Emergency Collets have a 1/16" (1.58mm) pilot hole

Column "A" metric dimensions are rounded to nearest millimeter

Column "B" and "C" are the exact conversion of the inch dimensions

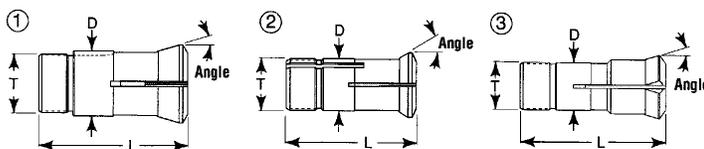
Millimeters in parentheses ()



These round Swiss Guide Bushings are carbide-lined to keep the stock clean and unmarked. Specials are available in hardened steel, Meehanite lining, angular & zig-zag slotted and extruded shapes.

Machine Tool Builder	Fig.	Guide Bushing Model No.	Cat. No.	Head Angle	D Bearing Diameter	L Overall Length	T Thread Diameter	GUIDE BUSHING CAPACITY			
								Carbide-Lined		Hardened Steel	
								Round Min./Max.	Hexagon Min./Max.	Square Min./Max.	
Citizen, Tornos, Peterman	2	0201	4639	30°	.9447" (24)	2.410" (61.21)	M24 x 1	.0625" to 5/8" (1.58 to 15.87)	.125" to .541" (3.17 to 13.74)	.125" to .442" (3.17 to 11.22)	
Citizen®, Hanwha, Hardinge, KSI, Maier, Tsugami, Star	1	CD25	4651	10°	1.3384" (34)	3.445" (87.5)	M34 x 1	3/32" to 11/32" (2.38 to 26.19)	.093" to .893" (2.36 to 22.68)	.093" to .729" (2.36 to 18.52)	
Citizen, Peterman	1	PD4	4675	16°	.3542" (9)	1.727" (44)	M8 x .75	.030" to .188" (.76 to 4.79)	.0625" to .163" (1.58 to 4.14)	.0625" to .133" (1.58 to 3.37)	
Hardinge	1	S20HGB	4657	16°	1.1810" (30)	2.756" (70)	M28 x 1	3/32" to 13/16" (2.38 to 20.63)	.125" to .684" (3.17 to 17.37)	.125" to .558" (3.17 to 14.17)	
Citizen, Hanwha, KSI, Maier, Tsugami, Bechler, Strohm, Tornos Star	2	SD125R	4633	30°	.7085" (18)	2.370" (60.20)	M18 x 1	1/32" to 1/2" (.79 to 12.70)	.0625" to .433" (1.58 to 10.99)	.0625" to .353" (1.58 to 8.96)	
Tsugami	1	SNC15	4637	12° 30'	.8266" (21)	2.263" (57.5)	M18 x 1	1/32" to 9/16" (.79 to 14.28)	.125" to .487" (3.17 to 12.36)	.125" to .397" (3.17 to 10.08)	
Tsugami	1	STM38	4739	16°	1.889" (47.98)	3.220" (81.79)	M46 x 1	1/4" to 1.496" (6.35 to 40)	1/4" to 1.295" (6.35 to 32.89)	1/4" to 1.058" (6.35 to 26.87)	
Tornos	3	T-200	4719	20° 5'	1.3383" (34)	5.920" (150.36)	M32 x 1.5	.1093" to 1.000" (2.77 to 25.40)	.1875" to .866" (4.76 to 21.99)	.1875" to .707" (4.76 to 17.95)	
Citizen, Tornos (CAM), Tsugami	1	TD7	4679	16°	.4329" (11)	2.120" (53.85)	M10 x .75	.030" to .250" (.76 to 6.35)	.0625" to .219" (1.59 to 5.56)	.0625" to .177" (1.59 to 4.5)	
Citizen, Star, Tornos, Bechler	1	TD10	4631	16°	.6298" (16)	2.377" (60.37)	M14 x 1	1/32" to 13/32" (.79 to 10.31)	.0625" to .351" (1.58 to 8.91)	.0625" to .287" (1.58 to 7.28)	
Tsugami, Tornos	1	TD20	4635	16°	.8660" (22)	2.686" (68.22)	M19 x 1	1/16" to 17/32" (1.58 to 13.49)	.0625" to .460" (1.58 to 11.68)	.0625" to .375" (1.58 to 9.52)	
Maier, Star, Tsugami, Traub	1	TD20R	4641	16°	.8660" (22)	2.686" (68.22)	M22 x 1	1/16" to 5/8" (1.58 to 15.87)	.0625" to .541" (1.58 to 13.74)	.0625" to .442" (1.58 to 11.22)	
Tsugami, Tornos, Bechler	2	TD25	4647	30°	1.1022" (28)	3.228" (82)	M25 x 1	3/32" to 25/32" (2.38 to 19.84)	.125" to .649" (3.18 to 16.48)	.125" to .530" (3.18 to 13.46)	
Maier, Hardinge, Star	1	TD25S	4649	16°	1.1022" (28)	3.228" (82)	M25 x 1	3/32" to 25/32" (2.38 to 19.84)	.125" to .649" (3.17 to 16.48)	.125" to .530" (3.17 to 13.46)	
Citizen, Hanwha, KSI	1	TD25NS	4659	16°	1.1022" (28)	3.228" (82)	M25 x 1	.0900" to 25/32" (2.28 to 19.84)	.125" to .649" (3.17 to 16.48)	.125" to .530" (3.17 to 13.46)	
Tsugami	1	TD26	4733	16°	1.0236" (26)	3.031" (76.99)	M25 x 1	1/16" to .781" (1.58 to 19.84)	1/16" to .676" (1.58 to 17.17)	1/16" to .552" (1.58 to 14.02)	
Citizen, Maier, Tsugami, Tornos	2	TD32	4653	20° 40'	1.6526" (41.29)	3.220" (81.79)	M40 x 1	3/16" to 1-17/64" (4.76 to 32.15)	.250" to 1.0826" (6.35 to 27.50)	.250" to .883" (6.35 to 22.42)	
Hanwha, KSI, Star, Tornos	1	TD32S	4655	16°	1.6526" (41.29)	3.232" (82.09)	M40 x 1	3/16" to 1-17/64" (4.76 to 32.15)	.250" to 1.0826" (6.35 to 27.50)	.250" to .883" (6.35 to 22.42)	
KSI	3	TD38	O/A	16°	1.811" (46)	3.622" (92)	M45 x 1	1/4" to 17/16" (6.35 to 36.50)	.250" to 1.250" (6.35 to 31.75)	.250" to 1.000" (6.35 to 25.40)	
Citizen, Tornos	2	TSD20	4645	30°	1.2597" (32)	2.805" (71.24)	M32 x 1	.060" to 13/16" (1.52 to 20.63)	.125" to .703" (3.17 to 17.85)	.125" to .574" (3.17 to 14.57)	
Hardinge, Tsugami	1	TSG-20R	4643	16°	.9054" (23)	2.835" (72)	M22 x 1	.030" to 11/16" (.76 to 17.46)	.0625" to .595" (1.58 to 15.11)	.0625" to .486" (1.58 to 12.34)	

Millimeters in parentheses ()



Somma Tool is now a full line distributor for Sumitomo High Precision Turning Tools and Carbide, CBN, and Diamond Inserts. Sumitomo offers a complete line of Swiss Tooling, steel and carbide Boring Bars, solid carbide cutoff & grooving holders at very competitive pricing. Somma Tool has found Sumitomo carbide inserts to be superior to the major brands previously used in our shop. Call Somma with your current insert manufacture's part number, grade and application to receive a quote. We believe you will be very pleased with the quality, performance and price.

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