



**WORKHOLDING**

Swiss-Type  
Collets and  
Guide Bushings



TURNING MILLING GRINDING WORKHOLDING ROTARY

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# DECIMAL EQUIVALENTS of Fraction, Wire Gage, Letter and Metric sizes

SIZE	DECIMAL INCHES	SIZE	DECIMAL INCHES	SIZE	DECIMAL INCHES	SIZE	DECIMAL INCHES	SIZE	DECIMAL INCHES
97	.0059	1.35mm	.0531	26	.1470	F	.2570	Z	.4130
96	.0063	54	.0550	3.75mm	.1476	6.6mm	.2598	10.5mm	.4134
95	.0067	1.4mm	.0551	25	.1495	G	.2610	27/64	.4219
94	.0071	1.45mm	.0571	3.8mm	.1496	6.7mm	.2638	11mm	.4331
93	.0075	1.5mm	.0591	24	.1520	17/64	.2656	7/16	.4375
92	.0079	53	.0595	3.9mm	.1535	6.75mm	.2657	11.5mm	.4528
.2mm	.0079	1.55mm	.0610	23	.1540	H	.2660	29/64	.4531
91	.0083	1/16	.0625	5/32	.1562	6.8mm	.2677	15/32	.4688
90	.0087	1.6mm	.0630	22	.1570	6.9mm	.2717	12mm	.4724
.22mm	.0087	52	.0635	4mm	.1575	I	.2720	31/64	.4844
89	.0091	1.65mm	.0650	21	.1590	7mm	.2756	12.5mm	.4921
88	.0095	1.7mm	.0669	20	.1610	J	.2770	1/2	.5000
.25mm	.0098	51	.0670	4.1mm	.1614	7.1mm	.2795	13mm	.5118
87	.0100	1.75mm	.0689	4.2mm	.1654	K	.2810	33/64	.5156
86	.0105	50	.0700	19	.1660	9/32	.2812	17/32	.5312
85	.0110	1.8mm	.0709	4.25mm	.1673	7.2mm	.2835	13.5mm	.5315
.28mm	.0110	1.85mm	.0728	4.3mm	.1693	7.25mm	.2854	35/64	.5469
84	.0115	49	.0730	18	.1695	7.3mm	.2874	14mm	.5512
.3mm	.0118	1.9mm	.0748	11/64	.1719	L	.2900	9/16	.5625
83	.0120	48	.0760	17	.1730	7.4mm	.2913	14.5mm	.5709
82	.0125	1.95mm	.0768	4.4mm	.1732	M	.2950	37/64	.5781
.32mm	.0126	5/64	.0781	16	.1770	7.5mm	.2953	15mm	.5906
81	.0130	47	.0785	4.5mm	.1772	19/64	.2969	19/32	.5938
80	.0135	2mm	.0787	15	.1800	7.6mm	.2992	39/64	.6094
.35mm	.0138	2.05mm	.0807	4.6mm	.1811	N	.3020	15.5mm	.6102
79	.0145	46	.0810	14	.1820	7.7mm	.3031	5/8	.6250
1/64	.0156	45	.0820	13	.1850	7.75mm	.3051	16mm	.6299
.4mm	.0157	2.1mm	.0827	4.7mm	.1850	7.8mm	.3071	41/64	.6406
78	.0160	2.15mm	.0846	4.75mm	.1870	7.9mm	.3110	16.5mm	.6496
.45mm	.0177	44	.0860	3/16	.1875	8mm	.3150	21/32	.6562
77	.0180	2.2mm	.0866	4.8mm	.1890	O	.3160	17mm	.6693
.5mm	.0197	2.25mm	.0886	12	.1890	8.1mm	.3189	43/64	.6719
76	.0200	43	.0890	11	.1910	8.2mm	.3228	11/16	.6875
75	.0210	2.3mm	.0906	4.9mm	.1929	P	.3230	17.5mm	.6890
.55mm	.0217	2.35mm	.0925	10	.1935	8.25mm	.3248	45/64	.7031
74	.0225	42	.0935	9	.1960	8.3mm	.3268	18mm	.7087
.6mm	.0236	3/32	.0938	5mm	.1969	8.4mm	.3307	23/32	.7188
73	.0240	2.4mm	.0945	8	.1990	21/64	.3281	18.5mm	.7283
72	.0250	41	.0960	5.1mm	.2008	8.4mm	.3307	47/64	.7344
.65mm	.0256	2.45mm	.0965	7	.2010	Q	.3320	19mm	.7480
71	.0260	40	.0980	13/64	.2031	8.5mm	.3346	3/4	.7500
.7mm	.0276	2.5mm	.0984	6	.2040	8.6mm	.3386	49/64	.7656
70	.0280	39	.0995	5.2mm	.2047	R	.3390	19.5mm	.7677
69	.0292	38	.1015	5	.2055	8.7mm	.3425	25/32	.7812
.75mm	.0295	2.6mm	.1024	5.25mm	.2067	11/32	.3438	20mm	.7874
68	.0310	37	.1040	5.3mm	.2087	8.75mm	.3445	51/64	.7969
1/32	.0312	2.7mm	.1063	4	.2090	8.8mm	.3465	20.5mm	.8071
.8mm	.0315	36	.1065	5.4mm	.2126	S	.3480	13/16	.8125
67	.0320	2.75mm	.1083	3	.2130	8.9mm	.3504	21mm	.8268
66	.0330	7/64	.1094	5.5mm	.2165	9mm	.3543	53/64	.8281
.85mm	.0335	35	.1100	7/32	.2188	T	.3580	27/32	.8438
65	.0350	2.8mm	.1102	5.6mm	.2205	9.1mm	.3583	21.5mm	.8465
.9mm	.0354	34	.1110	2	.2210	23/64	.3594	55/64	.8594
64	.0360	33	.1130	5.7mm	.2244	9.2mm	.3622	22mm	.8661
63	.0370	2.9mm	.1142	5.75mm	.2264	9.25mm	.3642	7/8	.8750
.95mm	.0374	32	.1160	I	.2280	9.3mm	.3661	22.5mm	.8858
62	.0380	3mm	.1181	5.8mm	.2283	U	.3680	57/64	.8906
61	.0390	31	.1200	5.9mm	.2323	9.4mm	.3701	23mm	.9055
1mm	.0394	3.1mm	.1220	A	.2340	9.5mm	.3740	29/32	.9062
60	.0400	1/8	.1250	15/64	.2344	3/8	.3750	59/64	.9219
59	.0410	3.2mm	.1260	6mm	.2362	V	.3770	23.5mm	.9252
1.05mm	.0413	3.25mm	.1280	B	.2380	9.6mm	.3780	15/16	.9375
58	.0420	30	.1285	6.1mm	.2402	9.7mm	.3819	24mm	.9449
57	.0430	3.3mm	.1299	C	.2420	9.75mm	.3839	61/64	.9531
1.1mm	.0433	3.4mm	.1339	6.2mm	.2441	9.8mm	.3858	24.5mm	.9646
1.15mm	.0453	29	.1360	D	.2460	9.9mm	.3898	31/32	.9688
56	.0465	3.5mm	.1378	6.25mm	.2461	9.9mm	.3898	25mm	.9843
3/64	.0469	28	.1405	6.3mm	.2480	25/64	.3905	63/64	.9844
1.2mm	.0472	9/64	.1406	E	.2500	10mm	.3937	I	1.000
1.25mm	.0492	3.6mm	.1417	1/4	.2500	X	.3970		
1.3mm	.0512	27	.1440	6.4mm	.2520	Y	.4040		
55	.0520	3.7mm	.1457	6.5mm	.2559	13/32	.4062		

# Precision Manufacturing in Elmira, New York

All the workholding you need for Swiss turning can be ordered from one reliable source...

- Headstock Collets
- Pickoff Collets
- Carbide Guide Bushings
- Bar Loader Collets
- Custom Manufacturing



Dedicated teams and work cells manufacture to rigid specifications including material and heat treatment, with a process control that leads the industry. Every collet and guide bushing is inspected on a Hardinge SUPER-PRECISION® (.000015" TIR) headstock before reaching the stock room.

Top-of-the-line machine tools and highly-skilled machinists provide exceptional productivity and accuracy. Wire and Ram (EDM) Electrical Discharge Machines produce custom collet shapes, stepped-holes and extended-nose pickoff collets.

Hardinge staffs a team of custom workholding engineers, phone correspondents and support staff, along with dedicated manufacturing cells, for fast and accurate turnaround to meet your custom Swiss turning requirements.

Hardinge and Citizen Machinery America Inc. have partnered to provide overgrip collets and adaptive guide bushings that will add flexibility to the machine and save money in the shop.



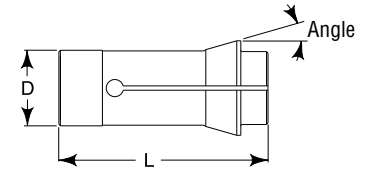
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# Hardened & Ground Collets

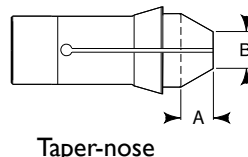
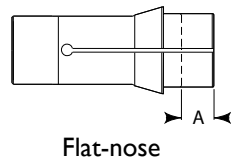
## Standard and Extended-Nose

Hardinge Swiss-type Collets are ground to precise size and TIR to meet precision machining requirements with a standard accuracy that rivals the industry. See pages 19-22 to order Custom Swiss-type Collets.



Machine Tool Builder	Collet Model No.	Hardinge Part No.	Head Angle	D Bearing Diameter	L Overall Length	RATED COLLET CAPACITY			
						Round Smooth Min./Max.	Round Serrated Min./Max.	Hex Min./Max.	Square Min./Max.
Tsugami	<b>BS38</b>	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	<b>F20-201</b>	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	<b>F32-221</b>	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	<b>TF8</b>	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	<b>TF10</b>	4703	20°	.3935" (10)	1.870" (47.50)	.008" to .281" (20 to 7.14)	—	.0625" to .243" (1.58 to 6.17)	.0625" to .198" (1.58 to 5.03)
Tornos	<b>TF13</b>	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	<b>TF15</b>	4607	16°	.5903" (15)	2.520" (64)	.008" to .499" * (20 to 12.67)	½" Only * (12.70)	.0625" to .433" (1.58 to 10.99)	.0625" to .353" (1.58 to 8.96)
Citizen, KSI, Hanwha, Tornos	<b>TF16</b>	4609	16°	.6297" (16)	2.520" (64)	.008" to .499" * (20 to 12.67)	½" Only * (12.70)	.0625" to .433" (1.58 to 10.99)	.0625" to .353" (1.58 to 8.96)
Maier, Star, Tornos, Tsugami, Traub	<b>TF20</b>	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	<b>TF24</b>	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	<b>TF25</b>	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	<b>TF30</b>	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	<b>TF34</b>	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	<b>TF37</b>	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	<b>TF37SP</b>	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	<b>TF43</b>	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	<b>TF44</b>	0A	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	<b>TF48</b> same as B42	3719	14° 50'	1.889" (48)	3.688" (93.68)	.008" to .499" * (20 to 12.67)	.500" to 1.657" ** (12.70 to 42.09)	½" to 1½" (1.27 to 35.71)	½" to 1½" (1.27 to 35.71)
Tornos	<b>0161</b>	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	<b>0166</b>	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	<b>S16-HMS</b>	4621	15° 40'	.9372" (23.80)	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	<b>S20-HM</b>	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" (1.58 to 17.88)	.0625" to .574" (1.58 to 14.57)
Hardinge	<b>S25-HM</b>	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	<b>S25-HS</b>	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.

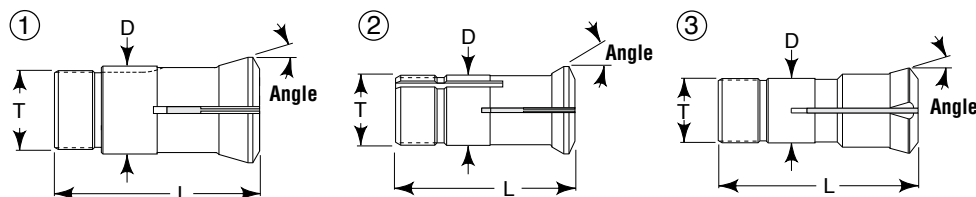
# Swiss Carbide Guide Bushings



Hardinge 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. See pages 19-22 to order Custom Guide Bushings.

Machine Tool Builder	Fig.	Guide Bushing Model No.	Hardinge® Part 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	<b>0201</b>	4639	30°	.9447" (24)	2.410" (61.21)	M24 x 1	.0625" to $\frac{5}{16}$ " (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	<b>CD25</b>	4651	10°	1.3384" (34)	3.445" (87.5)	M34 x 1	$\frac{3}{32}$ " to $\frac{1}{16}$ " (2.38 to 26.19)	.093" to .893" (2.36 to 22.68)	.093" to .729" (2.36 to 18.52)	
Citizen, Peterman	1	<b>PD4</b>	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	<b>S20HGB</b>	4657	16°	1.1810" (30)	2.756" (70)	M28 x 1	$\frac{3}{32}$ " to $\frac{1}{16}$ " (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	2	<b>SD125R</b>	4633	30°	.7085" (18)	2.370" (60.20)	M18 x 1	$\frac{1}{32}$ " to $\frac{1}{2}$ " (.79 to 12.70)	.0625" to .433" (1.58 to 10.99)	.0625" to .353" (1.58 to 8.96)	
Star	1	<b>SNC15</b>	4637	12° 30'	.8266" (21)	2.263" (57.5)	M18 x 1	$\frac{1}{32}$ " to $\frac{9}{16}$ " (.79 to 14.28)	.125" to .487" (3.17 to 12.36)	.125" to .397" (3.17 to 10.08)	
Tsugami	1	<b>STM38</b>	4739	16°	1.889" (47.98)	3.220" (81.79)	M46 x 1	$\frac{1}{4}$ " to 1.496" (6.35 to 40)	$\frac{1}{4}$ " to 1.295" (6.35 to 32.89)	$\frac{1}{4}$ " to 1.058" (6.35 to 26.87)	
Tornos	3	<b>T-200</b>	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	<b>TD7</b>	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	<b>TD10</b>	4631	16°	.6298" (16)	2.377" (60.37)	M14 x 1	$\frac{1}{32}$ " to $\frac{1}{16}$ " (.79 to 10.31)	.0625" to .351" (1.58 to 8.91)	.0625" to .287" (1.58 to 7.28)	
Tsugami, Tornos	1	<b>TD20</b>	4635	16°	.8660" (22)	2.686" (68.22)	M19 x 1	$\frac{1}{16}$ " to $\frac{1}{8}$ " (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	<b>TD20R</b>	4641	16°	.8660" (22)	2.686" (68.22)	M22 x 1	$\frac{1}{16}$ " to $\frac{5}{8}$ " (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	<b>TD25</b>	4647	30°	1.1022" (28)	3.228" (82)	M25 x 1	$\frac{3}{32}$ " to $\frac{25}{32}$ " (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	<b>TD25S</b>	4649	16°	1.1022" (28)	3.228" (82)	M25 x 1	$\frac{3}{32}$ " to $\frac{25}{32}$ " (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	<b>TD25NS</b>	4659	16°	1.1022" (28)	3.228" (82)	M25 x 1	.0900" to $\frac{25}{32}$ " (2.28 to 19.84)	.125" to .649" (3.17 to 16.48)	.125" to .530" (3.17 to 13.46)	
Tsugami	1	<b>TD26</b>	4733	16°	1.0236" (26)	3.031" (76.99)	M25 x 1	$\frac{1}{16}$ " to .781" (1.58 to 19.84)	$\frac{1}{16}$ " to .676" (1.58 to 17.17)	$\frac{1}{16}$ " to .552" (1.58 to 14.02)	
Citizen, Maier, Tsugami, Tornos	2	<b>TD32</b>	4653	20° 40'	1.6526" (41.29)	3.220" (81.79)	M40 x 1	$\frac{3}{16}$ " to $\frac{11}{16}$ " (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	<b>TD32S</b>	4655	16°	1.6526" (41.29)	3.232" (82.09)	M40 x 1	$\frac{3}{16}$ " to $\frac{11}{16}$ " (4.76 to 32.15)	.250" to 1.0826" (6.35 to 27.50)	.250" to .883" (6.35 to 22.42)	
KSI	3	<b>TD38</b>	O/A	16°	1.811" (46)	3.622" (92)	M45 x 1	$\frac{1}{4}$ " to $\frac{1}{2}$ " (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	<b>TSD20</b>	4645	30°	1.2597" (32)	2.805" (71.24)	M32 x 1	.060" to $\frac{1}{16}$ " (1.52 to 20.63)	.125" to .703" (3.17 to 17.85)	.125" to .574" (3.17 to 14.57)	
Hardinge, Tsugami	1	<b>TSG-20R</b>	4643	16°	.9054" (23)	2.835" (72)	M22 x 1	.030" to $\frac{1}{16}$ " (.76 to 17.46)	.0625" to .595" (1.58 to 15.11)	.0625" to .486" (1.58 to 12.34)	

Note: Millimeters in parentheses ( )



# Machine Tool Builders' Reference

Citizen®

Machine Builders' Model No.	HEADSTOCK COLLET		CARBIDE BUSHING		ADAPTIVE	PICK-OFF COLLET		DRILL SLEEVE COLLET		ROTARY TOOL COLLET	
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.	Guide Bushing*	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.
A16	TF20	4611	O201	4639	—	TF20	4611	ER11	1911	ER11	1911
A20 / 20VI	TF25	4613	TD25NS	4659	97Z-1102	TF25	4613	ER11   ER16	1911   1913	ER16	1913
A32	TF37SP	4629	TD32	4653	97Z-1653	TF37SP	4629	ER16	1913	ER16	1913
B12	TF16	4609	SD125R	4633	—	—	—	TF8   ER11	4701   1911	ER11	1911
B12 I	TF16	4609	SD125R	4633	—	—	—	ER11	1911	—	—
B12 II	TF16	4609	SD125R	4633	—	—	—	ER11	1911	ER8	2093
B12 V	TF16	4609	SD125R	4633	—	TF16	4609	ER11	1911	—	—
B12 VI	TF16	4609	SD125R	4633	—	TF16	4609	ER11	1911	ER8	2093
BL12	BL12	—	—	—	—	—	—	ER11   ER16	1911   1913	—	—
B20	TF25	4613	TD25NS	4659	—	TF25	4613	TF8   ER11	4701   1911	ER11	1911
B20 I	TF25	4613	TD25NS	4659	—	—	—	ER16	1913	—	—
B20 V	TF25	4613	TD25NS	4659	—	TF25	4613	ER16	1913	—	—
BL25	TF48	3719	—	—	—	TF30	4615	ER11   ER16	1911   1913	ER11	1911
C16	TF20	4611	O201	4639	—	TF20	4611	ER11	1911	ER11	1911
C32	TF37SP	4629	TD32	4653	—	TF37SP	4629	ER16	1913	ER16	1913
D10	TF15	4607	TD10	4631	—	—	—	TF8	4701	—	—
D16	TF25	4613	TP20	OA	—	—	—	TF12	OA	—	—
E16	TF25	4613	O201	4639	—	TF25	4613	ER16	1913	ER11	1911
E16J	TF25	4613	O201	4639	—	TF25	4613	TF8   ER16	4701   1913	O136   ER11	OA   9311
E216	TF25	4613	O201	4639	—	TF25	4613	ER16	1913	ER12   ER16	2091   1913
E220	TF25	4613	TSD20	4645	—	TF25	4613	ER16	1913	ER12   ER16	2091   1913
E225/25J	TF30	4615	CD25	4651	—	TF30	4615	ER16	1913	ER12   ER16	2091   1913
E32	TF37SP	4629	TD32	4653	—	TF37SP	4629	ER16	1913	ER12   ER16	2091   1913
E32 IV	TF37SP	4629	TD32	4653	—	TF37SP	4629	ER16	1913	ER11   ER16	OA   1913
E32K	TF37	4619	TD32	4653	—	TF37	4619	TF10   ER16	4703   1913	ER12   ER16	2091   1913
E232	TF37	4619	TD32	4653	—	TF37	4619	ER16	1913	ER12   ER16	2091   1913
F10	TF15	4607	TD10	4631	—	—	—	TF8	4701	—	—
F12	TF16	4609	SD125R	4633	—	TF16	4609	TF8   ER16	4701   1913	O136	OA
F16	TF25	4613	O201	4639	—	TF25	4613	TF8   ER16	4701   1913	O136	OA
F20	TF25	4613	TSD20	4645	—	TF25	4613	TF10   ER16	4703   1913	TF8   ER16	4701   1913
F25	TF30	4615	CD25	4651	—	TF30	4615	TF10   ER16	4703   1913	TF8   ER16	4701   1913
FL32	TF37SP	4629	—	—	—	TF37SP	4629	ER20   ER25	1915   2095	ER11/16/20	1911/13/15
FL42	TF48	3719	—	—	—	TF48	3719	—	—	—	—
G16	TF25	4613	O201	4639	—	—	—	TF8	4701	—	—
G32	TF37SP	4629	TD32	4653	—	TF37SP	4629	—	—	—	—
K16	TF20	4611	O201	4639	—	TF20	4611	ER11   ER16	1911   1913	ER11	1911
L10	TF15	4607	TD10	4631	—	TF8	4701	TF8	4701	TF8	4701
L16	TF25	4613	O201	4639	—	—	—	TF8   ER16	4701   1913	—	—
L16 V	TF25	4613	O201	4639	—	TF25	4613	TF8   ER16	4701   1913	—	—
L16 VI	TF25	4613	O201	4639	—	TF25	4613	TF8   ER16	4701   1913	ER16	1913
L20	TF25	4613	TD25NS	4659	—	TF25	4613	ER16	1913	ER16	1913
L20 I/ III	TF25	4613	TD25NS	4659	—	—	—	ER16	1913	ER11   ER16	OA   1913
L20VII	TF25	4613	TD25NS	4659	—	TF25	4613	ER16	1913	ER11   ER16	OA   1913
L25	TF30	4615	CD25	4651	—	TF30	4615	ER16	1913	ER16	1913
L32	TF37SP	4629	TD32	4653	—	TF37SP	4629	ER16	1913	ER12   ER16	2091   1913
L520/720	TF25	4613	TD25NS	4659	97Z-1102	TF25	4613	ER16	1913	ER16	1913
M12	TF16	4609	SD125R	4633	—	TF16	4609	ER11   ER16	1911   1913	TF8   ER16	4701   1913
M16	TF20	4611	O201	4639	—	TF20	4611	ER11   ER16	1911   1913	TF8   ER11	4701   OA
M20	TF25	4613	TD25NS	4659	97Z-1102	TF25	4613	TF8   ER16	4701   1913	O136   TF8	OA   4701
M32	TF37SP	4629	TD32	4653	97Z-1653	TF37SP	4629	ER16	1913	ER11   ER16	OA   1913
R04	TF8	4701	PD4	4675	—	TF8	4701	ER8	2093	ER8	2093
R07	TF15	4607	TD7	4679	—	TF15	4607	ER8	2093	ER8	2093

\* Adaptive guide bushings permit the use of non-ground stock. Machine kit required from Citizen. OA = On Application (may be available as a special order)

Hardinge®

Machine Builder's Model No.	HEADSTOCK COLLET		CARBIDE BUSHING		SUB-SPINDLE COLLET		TOOL HOLDER COLLET			
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.
ST16/216	S16-HMS	4621	TSG20R	4643	S16HMS	4621	ER11	ER16	1911	1913
ST20/220	S20-HM	4623	S20HGB	4657	TF25	4613	ER16	ER20	1913	1915
ST25/225	S25-HM	4625	CD25	4651	S25-HS	4627	ER16	ER20	1913	1915

Note: Adapter sleeves for other Swiss collets and guide bushings are available for Hardinge lathes on application

# Machine Tool Builders' Reference

## Hanwha

Machine Builders' Model No.	HEADSTOCK COLLET		CARBIDE BUSHING		PICK-OFF COLLET		TOOL HOLDER COLLET			
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.
HANEX 25	TF30	4615	CD25	4651	TF30	4615	ER11	ER16	1911	1913
ML12S	TF16	4609	SD125R	4633	TF16	4609	ER11		1911	
ML20H(18H)	TF25	4613	TD25-NS	4659	TF25	4613	ER11	ER16	1911	1913
ML20S(18S)	TF25	4613	TD25-NS	4659	TF25	4613	ER11	ER16	1911	1913
ML26H	TF30	4615	CD25	4651	TF30	4615	ER11	ER16	1911	1913
ML26S	TF30	4615	CD25	4651	TF30	4615	ER11	ER16	1911	1913
SL12S/H	TF16	4609	SD125R	4633	TF16	4609	ER11	ER16	1911	1913
SL12SE	TF16	4609	SD125R	4633	TF16	4609	ER11	ER16	1911	1913
SL20H	TF25	4613	TD25-NS	4659	TF25	4613	ER11	ER16	1911	1913
SL20HP	TF25	4613	TD25-NS	4659	TF25	4613	ER11	ER16	1911	1913
SL20S	TF25	4613	TD25-NS	4659	TF25	4613	ER11	ER16	1911	1913
SL26H	TF30	4615	CD25	4651	TF30	4615	ER11	ER16	1911	1913
SL26HP	TF30	4615	CD25	4651	TF30	4615	ER11	ER16	1911	1913
SL26S	TF30	4615	CD25	4651	TF30	4615	ER11	ER16	1911	1913
SL32HP	TF37	4619	TD32S	4655	TF37	4619	ER16		1913	
SL35HP	F40-SL35	O/A	TD35	O/A	F40-SL35	O/A	ER11	ER16	1911	1913
SL35	F40-SL35	O/A	TD45	O/A	F40-SL35	O/A	ER11	ER16	1911	1913
XP16	TF22	O/A	TD20R/16	O/A	TF22	O/A	ER11	ER16	1911	1913
XD20	TF25	4613	TD25-NS	4659	TF25	4613	ER11	ER16	1911	1913

## KSI

Machine Builders' Model No.	HEADSTOCK COLLET		CARBIDE BUSHING		PICK-OFF COLLET		TOOL HOLDER COLLET			
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.
SA12	TF16	4609	SD125R	4633	TF16	4609	ER11		1911	
SA20/SM20	TF25	4613	TD25-NS	4659	TF25	4613	ER16		1913	
SA26	F32-221	3731	CD25	4651	F32-221	3731	ER16		1913	
SA32	TF37	4619	TD32S	4655	TF37	4619	ER16		1913	
SA38	TF44	OA	TD38	OA	TF37	4619	ER16		1913	
SQC20	TF25	4613	TD25-NS	4659	TF25	4613	ER16		1913	
SQC32	TF44	OA	TD32S	4655	TF37	4619	ER16		1913	
SQC38	TF48	3719	TD38	OA	TF44	OA	ER16		1913	

## Maier

Machine Builders' Model No.	HEADSTOCK COLLET		CARBIDE BUSHING		PICK-OFF COLLET		TOOL HOLDER COLLET			
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.
ML-12A/12B	TF15	4607	SD125R	4633	TF15	4607	ER11		1911	
ML-12C/12D	TF15	4607	SD125R	4633	TF15	4607	ER11		1911	
ML-16A/16B	TF20	4611	TD20R	4641	TF20	4611	ER11		1911	
ML-16C/16D	TF20	4611	TD20R	4641	TF20	4611	ER11		1911	
ML-20A/20B	TF25	4613	TD25S	4649	TF25	4613	ER16		1913	
ML-20C/20D	TF25	4613	TD25S	4649	TF25	4613	ER16		1913	
ML-20E	TF25	4613	TD25S	4649	TF25	4613	ER16		1913	
ML-26A/26B	F32-221	3731	CD25	4651	F32-221	3731	ER16		1913	
ML-26C/26D	F32-221	3731	CD25	4651	F32-221	3731	ER16		1913	
ML-26E	F32-221	3731	CD25	4651	F32-221	3731	ER16		1913	
ML-32A/32B	TF37	4619	TD32S	4655	TF37	4619	ER16		1913	
ML-32C/32D	TF37	4619	TD32S	4655	TF37	4619	ER16		1913	
ML-32E	TF37	4619	TD32S	4655	TF37	4619	ER16		1913	
MLK-32	TF37	4619	TD32S	4655	TF37	4619	ER16		1913	

Note: OA = On Application (may be available as special order)

# Machine Tool Builders' Reference

## Star

Machine Builders' Model No.	HEADSTOCK COLLET		CARBIDE BUSHING		PICK-OFF COLLET		TOOL HOLDER COLLET				ATTACHMENT COLLET	
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.
ECAS 12/16	TF20	4611	TD20R	4641	TF20	4611	ER11	ER16	1911	1913	—	—
ECAS 20	TF25	4613	TD25S	4649	TF25	4613	ER11	ER16	1911	1913	—	—
ECAS 32	TF37	4619	TD32S	4655	TF37	4619	ER11	ER16	1911	1913	—	—
JNC10	TF15	4607	TD10	4631	—	—	—	—	—	—	TF10	4703
JNC16	TF20	4611	TD20R SNC15	4641 4637	—	—	—	—	—	—	TF10	4703
JNC25/32	TF37	4619	TD32S	4655	—	—	ER11	ER16	1911	1913	—	—
KNC16/20B	TF25	4613	TD25S	4649	TF25	4613	ER11	ER16	1911	1913	—	—
KNC20	TF25	4613	TD25S	4649	TF25	4613	ER11	ER16	1911	1913	—	—
KNC25/32B	TF37	4619	TD32S	4655	TF37	4619	ER11	ER16	1911	1913	—	—
KNC32	TF37	4619	TD32S	4655	TF37	4619	ER11	ER16	1911	1913	—	—
KJR16B	TF20	4611	TD20R	4641	TF20	4611	ER11	ER16	1911	1913	—	—
KJR25/25B	TF30	4615	CD25	4651	TF30	4615	ER11	ER16	1911	1913	—	—
MAF42	TF-48	3719	—	—	—	—	—	—	—	—	—	—
RNC10/10B	TF15	4607	TD10	4631	TF15	4607	ER11	ER16	1911	1913	—	—
RNC16 & II	TF20	4611	TD20R	4641	—	—	ER11	ER16	1911	1913	—	—
RNC16B & II	TF20	4611	TD20R	4641	TF15	TF20	4607	4611	ER11	ER16	1911	1913
SA12	TF20	4611	TD20R	4641	TF20	4611	—	—	—	—	—	—
SA16/16R	TF20	4611	TD20R	4641	TF20	4611	ER11	ER16	1911	1913	—	—
SB16/16S	TF20	4611	TD20R	4641	TF20	4611	ER11	ER16	1911	1913	—	—
SE12	TF20	4611	SNC15	4637	—	—	ER11	ER16	1911	1913	—	—
SE16	TF20	4611	TD20R	4641	—	—	ER11	ER16	1911	1913	—	—
SH7	TF15	4607	SW7	OA	—	—	ER11	ER16	1911	1913	—	—
SH12	TF20	4611	TD20R	4641	—	—	ER11	ER16	1911	1913	—	—
SH16	TF20	4611	TD20R	4641	—	—	ER11	ER16	1911	1913	—	—
SI 12/12C	TF20	4611	SNC15	4637	TF20	4611	ER11	ER16	1911	1913	—	—
SNC10DX	TF15	4607	TD10	4631	—	—	—	—	—	—	TF10	4703
SNC15DX	TF20	4611	TD20R	4641	—	—	—	—	—	—	TF10	4703
SNC25DX	TF34	4617	TD32S	4655	—	—	—	—	—	—	TF10	4703
			CD25	4651	—	—	—	—	—	—	F18-579	OA
SR10J	TF15	4607	TD10	4631	TF15	4607	—	—	—	—	TF10	4703
SR16/16R	TF20	4611	TD20R	4641	TF20	4611	ER11	ER16	1911	1913	—	—
SR20/20R	TF25	4613	TD25S	4649	TF25	4613	ER11	ER16	1911	1913	—	—
20R11/20RS	TF25	4613	TD25S	4649	TF25	4613	ER11	ER16	1911	1913	—	—
SR32/SR32J	TF37	4619	TD32S	4655	TF37	4619	—	—	—	—	—	—
SST16	TF20	4611	TD20R	4641	TF10	TF20	4703	4611	ER11	ER16	1911	1913
STM32	TF37	4619	TD32S	4655	—	—	—	—	—	—	TF10	TF15
					—	—	—	—	—	—	F18-579	4703
					—	—	—	—	—	—	OA	4607
STM38	TF48	3719	—	—	—	—	—	—	—	—	TF10	TF15
	same as B42		—	—	—	—	—	—	—	—	F18-579	4703
					—	—	—	—	—	—	OA	4607
SV12	TF20	4611	TD20R	4641	—	—	—	—	—	—	—	—
SV20	TF25	4613	TD25S	4649	TF25	4613	ER11/16/20	—	1911/13/15	—	—	—
SV32	TF37	4619	TD32S	4655	TF37	4619	—	—	—	—	—	—
SV32J/32J II	TF37	4619	TD32S	4655	TF37	4619	—	—	—	—	—	—
SW7	TF15	4607	TD10	SW7	4631	OA	TF15	4607	ER11	1911	—	—
VNC12	TF20	4611	TD20R	4641	TF15	4607	ER11	ER16	1911	1913	—	—
VNC20	TF25	4613	TD25S	4649	TF20	4611	ER11	ER16	1911	1913	—	—
VNC32	TF37	4619	TD32S	4655	TF30	4615	ER11	ER16	1911	1913	—	—

Note: OA = On Application (may be available as special order)

# Machine Tool Builders' Reference

## Tornos - CNC

Machine Builders' Model No.	HEADSTOCK COLLET		CARBIDE BUSHING		PICK-OFF COLLET		DRILL SLEEVE COLLET				CROSS DRILL COLLET			
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.
DECO 2000 10	TF13	4707	TD10	4631	TF13	4707	ER11	ER12	1911	OA	ER11	ER12	1911	OA
DECO 2000 13	F20-201	4709	0201	4639	TF20-201	4709	ER11	ER12	1911	OA	ER11	ER12	1911	OA
DECO 2000 20	TF25	4613	TD25-167	OA	TF25	4613	ER11	ER12	1911	OA	ER11	ER12	1911	OA
DECO 2000 25/32	TF37	4619	TD32S	4655	TF37	4619	ER11	ER12	1911	OA	ER11	ER12	1911	OA
DECO 2000 1*	0161	4711	CD25	4651	0161	4711	ER11	ER12	1911	OA	ER11	ER12	1911	OA
Elector16	F20-201	4709	0201	4639	-	-	AE4402		OA		WJ#3		OA	
ENC16	F20-201	4709	0201	4639	F20-201	4709	-		-		-		-	
ENC162	TF15 F20-201	4607 4709	0201	4639	-	-	ER16	ER25	1913	2095	WJ#3		OA	
ENC164	TF15 F20-201	4607 4709	0201	4639	TF15 F20-201	4607 4709	ER16	ER25	1913	2095	WJ#3		OA	
ENC167	TF25	4613	TD25/167	OA	TF25	4613	ER12 /16/20		OA/1913/15		ER12/16/20		OA/1913/15	
ENC74	TF13	4707	TD10	4631	TF13	4707	ER12		OA		ER12		OA	
ENC262	TF25 0161	4613 4711	T200	4719	TF25 0161	4613 4711	ER16	ER25	1913	2095	ER25		2095	
ENC264	TF25 0161	4613 4711	T200	4719	TF25 0161	4613 4711	ER16	ER25	1913	2095	ER25		2095	
TOP-100	TF16	4609	TD10TXP TD18TXP	OA OA	TF13	4707	ER16	ER25	1913	2095	ER12	ER25	OA	2095
TOP-200	0161	4711	T200	4719	TF25 0161	4613 4711	ER16/20/25		1913/15/2095		ER20	ER25	1915	2095
TMB26	F32-221	3731	SD255-36	OA	-	-	ER25	ER32	2095	1917	ER20		1915	
M10	TF15	4607	TD10/125	OA	-	-	-		-		-		-	
M20	TF25	4613	TD25TS	OA	-	-	-		-		-		-	
M25/28	TF34	OA	TD25TS	OA	-	-	-		-		-		-	
MR32	TF37	4619	TD32	OA	-	-	-		-		-		-	
R10	TF15	4607	TD10/125	OA	-	-	-		-		-		-	
R125	TF16	4609	TD10/125	OA	-	-	-		-		-		-	
R20/RR20	TF25	4613	TD25TS	OA	-	-	-		-		-		-	

## Traub

Machine Builders' Model No.	HEADSTOCK COLLET		CARBIDE BUSHING		PICK-OFF COLLET		STATIONARY COLLET				ROTATING COLLET			
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.
TNL-12	TF16	4609	TRB468	OA	TF16	4609	ER11	ER16	1911	1913	ER11	ER16	1911	1913
TNL-16G	TF20	4611	TD20R	4641	TF20	4611	ER11	ER16	1911	1913	ER11	ER16	1911	1913
TNL-16G	0156	OA	TD25S	4649	0156	OA	ER11	ER16	1911	1913	ER11	ER16	1911	1913
TNL-26	TF30	4615	TRB761	OA	TF30	4615	ER11	ER16	1911	1913	ER11	ER16	1911	1913

## NexTurn

Machine Builders' Model No.	HEADSTOCK COLLET		CARBIDE BUSHING		PICK-OFF COLLET		STATIONARY COLLET				ROTATING COLLET			
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.
SA12/12A	TF16	4609	SD125R	4633	TF16	4609	ER11		1911		ER11		1911	
SA18A	TF25	4613	TD25NS	4659	TF25	4613	ER11	ER16	1911	1913	ER11	ER16	1911	1913
SA20/20E	TF25	4613	TD25NS	4659	TF25	4613	ER16		1913		ER16		1913	
SA26/26E	F32-221	3731	CD25	4651	F32-221	3731	ER16		1913		ER16		1913	
SA32	TF37	4619	TD32S	4655	TF37	4619	ER16		1913		ER16		1913	
SA38	TF44	OA	TD38	OA	TF37 TF44	4619 OA	ER16		1913		ER16		1913	

Note: OA = On Application (may be available as special order)

# Machine Tool Builders' Reference

## Tsugami

Machine Builders' Model No.	HEADSTOCK COLLET		CARBIDE BUSHING		SUB-SPINDLE COLLET		TOOL HOLDER COLLETS				
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.	Collet Model No.	Hardinge Part No.	Cross Drill	Face Drill	Hi-Speed Drill	Cross Tap	Vertical Drill
BA26	0166	4677	TD33	OA	0166	4677	ER16	ER16	—	—	—
BE12/12III	TF24	4713	TSG20R	4653	TF24	4713	ER11 ER16	ER11 ER16	—	—	—
BE19	TF25	4613	TD25	4647	TF25	4613	ER11 ER16	ER11	—	—	—
B007	TF10	4703	TD7	4679	TF10	4703	—	—	—	—	—
BE20 III/20V	TF25	4613	TD25	4647	TF25	4613	ER16 ER20	—	—	—	—
BF20	TF25	4613	TD25	4647	TF25	4613	—	—	—	—	—
BH20	TF25	4613	TD25	4647	TF25	4613	ER16 ER20	—	—	—	—
BS12/B012	TF24	4713	TSG20R	4643	TF24	4713	—	ER11	—	—	—
BS19/BS20	TF25	4613	TD25	4647	TF25	4613	—	—	—	—	—
BS20B/C	TF25	4613	TD25	4647	TF25	4613	ER16	ER16	—	—	—
BS20V/SS20	TF25	4613	TD25	4647	TF25	4613	ER16 ER20	—	—	—	—
BS26/BU26	0166	4677	CD25	4651	0166	4677	—	—	—	—	—
BS32	BS32C	OA	BS32B	OA	BS32C	OA	—	—	—	—	—
BU20	TF25	4613	TD25	4647	TF25	4613	—	ER11 ER16	—	—	—
BW07	TF10	4703	TD7	4679	TF10	4703	—	ER11	—	—	—
BW12/BU12	TF24	4713	TSG20R	4643	TF24	4733	—	ER11 ER16	—	—	—
BX18/BZ18	TF24	4713	TSG20R	4643	TF24	4713	ER11	ER11	—	—	—
MB3516C	1717	—	—	—	—	—	—	—	—	—	—
MB38	16C	1717	—	—	BS38	4735	—	—	—	—	—
MU26S/SY	0166	4677	TD25	4647	0166	4677	various	various	various	various	various
MU38/BU38	TF43	4737	STM38	4739	BS38	4735	16C	1717	—	—	—
NP11	TF15	4607	SD125R	4633	TF15	4607	—	ER12	—	—	—
NP16/16 II	TF20	4611	TD25	4647	TF20	4611	ER12	ER12	TF8/4701	TF8/4701	ER16
NP17	TF24	4713	TSG20R	4643	TF24	4713	ER12	ER12	—	—	—
NP20/20 I	TF25	4613	TD25	4647	TF25	4613	ER16	ER16	—	—	ER16 ER20
NP20 II/20 III	TF25	4613	TD25	4647	TF25	4613	ER16	ER16	—	—	ER16 ER20
NP32	TF37	4619	TD32	4653	—	—	ER16	ER16	—	—	ER16 ER20
NP32 II/32 III	TF37	4619	TD32	4653	TF37	4619	ER16	ER16	—	—	ER16 ER20
NT11/11S	TF15	4607	SD125R	4633	—	—	—	—	—	—	—
NT12	TF20	4611	TD20 TD20R	4635 4641	—	—	ER12	ER12	TF8/4701	TF8/4701	ER16
NT16 II/16 III	TF20	4611	TD25	4647	—	—	ER12	ER12	TF8/4701	TF8/4701	ER12
NT17/17S	TF24	4713	TSG20R	4643	—	—	—	—	—	—	—
NT20	TF25	4613	TD25	4647	—	—	ER16	ER16	—	—	ER16 ER20
NT20, I, II & III	TF25	4613	TD25	4647	TF25	4613	ER16	ER16	—	—	ER16 ER20
NT25	TF37	4619	TD32	4653	—	—	ER16	ER16	—	—	ER16 ER20
NT32, II & III	TF37	4619	TD32	4653	—	—	ER16	ER16	—	—	ER16 ER20
S16D, H, P	TF24	4713	TSG20R	4643	TF24	4713	ER12	ER12	—	—	—
S20	TF25	4613	TD25	4647	—	—	—	—	—	—	—
S20D & H	TF25	4613	TD25	4647	TF25	4613	ER16	ER16	—	—	—
S20P	TF25	4613	TD25	4647	TF25	4613	—	ER16	—	—	—
S25	TF30	4615	CD35	OA	TF30	4615	—	—	—	—	—
S25D, H, P	0166	4677	CD25	4651	0166	4677	ER16	ER16	—	—	—
SS20	TF25	4613	TD25	4647	TF25	4613	ER16 ER20	—	—	—	—
SS32	TF37	4619	TD32	4653	TF37	4619	ER16 ER20	ER16	—	—	—
SX20A	TF25	4613	TD25	4647	TF25	4613	—	ER16	—	—	—
SX20B/20C	TF25	4613	TD25	4647	TF25	4613	ER16	ER16	—	—	—
SX25	0166	4677	CD25	4651	0166	4677	ER16	ER16	—	—	—
SX26	0166	4677	CD25	4651	0166	4677	ER16 ER20	ER16	—	—	—
600	TF20	4611	TD25	4647	—	—	—	—	—	—	—
600P	TF20	4611	TD25	4647	TF20	4611	—	—	—	—	—
S520/532	TF25	4613	TD25	4647	TF25	4613	MPC16/20	—	—	—	—
TMU1	TF43	4737	TD38	OA	BS38	4735	various	various	various	various	various

Note: ER11 Hardinge Part No: I911, ER16 Hardinge Part No: I913,  
ER20 Hardinge Part No: I915, ER12 On Application  
OA = On Application (may be available as a special order)

# Machine Tool Builders' Reference

## Cam-Operated Lathes

### Bechler

Machine Builders' Model No.	COLLET		CARBIDE DRAW BUSHING	
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.
A/AS/AR-10	OA	OA	TD10	4631
A/AS/AR-10	OA	OA	SD125	OA
A/AS/AR-10	OA	OA	SD125R	4633
A/AS/AR-10	OA	OA	BD10	OA
B/BR-20	OA	OA	TD25	4647

Note: Collets for Bechler Lathes are special order

### Methods

Machine Builders' Model No.	COLLET - RD / HEX / SQ		CARBIDE DRAW BUSHING	
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.
SS20	TF25	4613	TSD20	4645
SS25	TF30	4615	TD25	4647
SS32	TF37	4619	TD32	4653

### Peterman

Machine Builders' Model No.	STEEL COLLET		CARBIDE GUIDE BUSHING		
	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.	
—	P4	0131	OA	0100	OA
—	P4	—	—	PD4	4675
P0/P3	P7	0136	OA	—	—
P4	P7R	TF8	4701	—	—
P7	P10	TF10	4703	TD7	OA
—	P16	TF10	4703	—	—
P7R	—	0146	OA	—	—
P10	P16	0147	OA	—	—
—	P25	0147	OA	—	—
P10R	P16	0151	OA	—	—
—	P25	0151	OA	—	—
P16	—	0152	OA	0201	4639
2A	—	0156	OA	—	—
P25	—	0166	4677	0200	OA

### Strohm

Machine Builders' Model No.		COLLET - RD / HEX / SQ		CARBIDE GUIDE BUSHING	
Headstock	Attachments	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.
—	M45	TF5	OA	—	—
—	M125	TF5	OA	—	—
M45	—	—	—	TSD4	OA
M45	M105	TF8	4701	0100	OA
—	M125	TF8	4701	—	—
M75	—	TF10	4703	TSD7	OA
M125	M205	TF15	4607	SD125R	4633
M105	M255	TF15	4607	—	—
M125	—	TF15R	OA	SD125R-16	OA
M205	—	TF25	4613	SD205	OA
M255	—	TF30	4615	SD255	OA

### Tornos

Machine Builders' Model No.		COLLET		CARBIDE GUIDE BUSHING	
Headstock	Attachments	Collet Model No.	Hardinge Part No.	Bushing Model No.	Hardinge Part No.
—	M7 • R10/R125	TF6	OA	—	—
—	R10/R125	TF7	OA	—	—
M4	M7 • R10/R125	TF8	4701	TD4	OA
				TSD4	OA
M7	M15 • R16	TF10	4703	TD7	OA
				TSD7	OA
	M15 • R16/20	TF12	OA	—	—
MS7	M7 • CT.HSK.	TF13	4707	—	—
M20	—	TF25	4613	TD25	4647
				TSD20	4645
M10	—			TD10	4631
				SD125R-16	OA
M15	—	TF20	4611	TD20	4635
M15	—			TSD15	OA
M25/28	—	TF34	4617	TD25	4647
MR32	—	TF37	4619	TD32	4653
R10	—	TF15	4607	TD10	4631
				SD125R	4633
				SD125R-16	OA
R16	—	TF20	4611	TD20	4635
				TSD15	OA
R20	—	TF25	4613	TD25	4647
				TD20	4635
RR20	—	TF25	4613	TD25	4647
				TD20	4635
				TSD20	4645
R125	M20/25/28, MR32	TF16	4609	TD10	4631
				SD125R	4633
				SD125R-16	OA

Note: OA = On Application (may be available as a special order)

# Cross-Reference Guide

## Collets

Hardinge® Model Number	Hardinge Part Number	Southwick & Meister Model Number	KEB (MasWerks) Model Number	Schaublin Model Number
BS38	4735	BS38	—	—
F18-579	OA	F18-579	—	F18
F20-201	4709	F20-201	MC20-201	F20
F32-221	3731	F32-221	MC32-221	F32
TF8	4701	TF8	MC8	F8
TF10	4703	TF10	MC10	F10
TF12	OA	TF12	MC12	F12
TF13	4707	TF13	MC13	F13
TF15	4607	TF15	MC15	F15
TF16	4609	TF16	MC16	F16
TF20	4611	TF20	MC20	F20
TF24	4713	TF24	MC24	—
TF25	4613	TF25	MC25	F25
TF30	4615	TF30	MC30	F30
TF34	4617	TF34	MC34	F34
TF37	4619	TF37	MC37	F37
TF37SP	4629	TF37SP	—	—
TF43	4737	TF43	—	—
TF44	OA	TF44	MC44	—
TF48 (B42)	3719	TF48	MC48	F48
0136	OA	0136	0136	F7
0161	4711	0161	MC0161	—
0166	4677	0166	MC0166	F32
S16-HMS	4621	—	—	—
S20-HM	4623	—	—	—
S25-HM	4625	—	—	—
S25-HS	4627	—	—	—

Note: OA = On Application (may be available as special collets or guide bushings)

## Guide Bushings

Hardinge® Model Number	Hardinge Part Number	Southwick & Meister Model Number	KEB (MasWerks) Model Number	Schaublin Model Number
CD25	4651	CD25	MCD25	—
PD4	4675	PD4	—	—
S20HGB	4657	—	—	—
SD125R	4633	SD125R	MD125R	—
SNC15	4637	SNC15	MD15	—
STM38	4739	STM38	MD38S	—
SW7	OA	SW7	MD7	—
T-200	4719	T-200	—	—
TD7	4679	TD7	MD7	—
TD10	4631	TD10	MD10	—
TD10TXP	OA	TD1-TXP	—	—
TD20	4635	TD20	MD20	—
TD20R	4641	TD20R	MD20R	—
TD25	4647	TD25	MD25TS	—
TD25/167	OA	TD25/167	—	—
TD25S	4649	TD25S (Star)	MD25	—
TD25NS	4659	TD25NS	MD25	—
TD26	4733	TD26	—	—
TD32	4653	TD32	MD32	—
TD32S	4655	TD32S	MD32S	—
TD38	OA	TD38	—	—
TSD20	4645	TSD20	MSD20	—
TSG-20R	4643	TSG-20R	MD20RTS	—
0201	4639	0201	MDO201	—
TP20	OA	TP20	MD20	—

# Emergency Collets

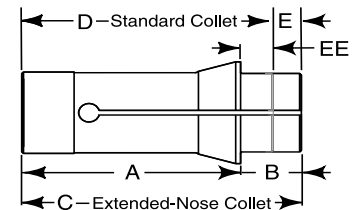
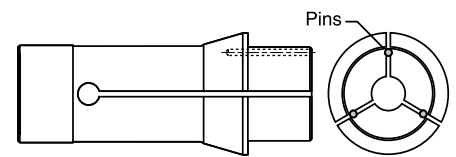


An **Emergency Collet** may be used when a standard collet is not in your current inventory. It can be machined to the desired bore size and used until a hardened collet arrives.

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
O166	4677-12-12-000000	2.325" (59)	—	—	2.559" (65)	.234" (6)	7723-00-00-000000 1/8" Dia. x 3/8" 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 ( )

## Extended-Nose Emergency Collets

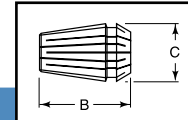
Style	Collet Part Number	A	B	C	D	E	Pin Part Number
TF15	4681-12-00-000000	2.284" (58)	.424" (10.76)	2.708" (68.78)	2.520" (64)	.188" (4.77)	7722-00-00-000000 1/8" Dia. x 4/64" Long
TF16	4683-12-00-000000	2.284" (58)	.424" (10.76)	2.708" (68.78)	2.520" (64)	.188" (4.77)	7722-00-00-000000 1/8" Dia. x 4/64" 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 4/64" 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 5/64" 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 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 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 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 4/64" 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 11/64" Long
O166	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

# Toolholder & Floating Tap Collets

**Hardinge Toolholder Collets** are hardened and ground to ensure maximum life during high-production machining on Swiss-type lathes. All collets are precision ground to extremely close specifications to ensure the highest concentricity possible. The collet collapsibility range is 1mm (.03937") and can be used in stationary and rotating tool holders including PCM tool holders.



## ER-Style Toolholder Collets – Inch & Metric



Description	Hardinge Part No.	Style	B Overall Length	C Outside Diameter	ID Capacity
ER-8 Collet – Metric	2093-00-17-Size	ER-8	.531" (13.50)	.334" (08.50)	1mm to 5mm by .5mm Increments
ER-11 Collet – Inch	1911-00-19-Size	ER-11	.708" (18.00)	.452" (11.50)	1/16" to 1/4" by 1/32" Increments
ER-11 Collet – Metric	1911-00-17-Size	ER-11	.708" (18.00)	.452" (11.50)	1mm to 7mm by .5mm Increments
ER-16 Collet – Inch	1913-00-19-Size	ER-16	1.083" (27.50)	.669" (16.00)	1/16" to 13/32" by 1/32" Increments
ER-16 Collet – Metric	1913-00-17-Size	ER-16	1.083" (27.50)	.669" (16.00)	1mm to 10mm by 1mm Increments
ER-20 Collet – Inch	1915-00-19-Size	ER-20	1.260" (32.00)	.827" (21.00)	1/16" to 1/2" by 1/32" Increments
ER-20 Collet – Metric	1915-00-17-Size	ER-20	1.260" (32.00)	.827" (21.00)	1mm to 13mm by 1mm Increments
ER-25 Collet – Inch	2095-00-19-Size	ER-25	1.338" (34.00)	.984" (25.00)	1/16" to 5/8" by 1/32" Increments
ER-25 Collet – Metric	2095-00-17-Size	ER-25	1.338" (34.00)	.984" (25.00)	2mm to 16mm by 1mm Increments
ER-32 Collet – Inch	1917-00-19-Size	ER-32	1.575" (40.00)	1.260" (32.00)	3/32" to 1" by 1/32" Increments
ER-32 Collet – Metric	1917-00-17-Size	ER-32	1.575" (40.00)	1.260" (32.00)	3mm to 20mm by 1mm Increments

**Quick-Change Tap Collets** can be used in any standard ER/DR/ESX style collet holder. Taps can be quickly changed without removing the collet, while maintaining gauge lengths from one tap to the next. The collet has a ball bearing tension compensating float and a solid square drive that eliminates tap slippage.



## ERQC Quick-Change Floating Solid Tap Collets

Description	Hardinge Part No.	Style	Shank & ID	Tap Capacity
ERQC-16 Quick-Change Tap Collet	2143-00-18-Size	ERQC-16	.141", .168" and .194"	#0 to #6, #8 and #10
ERQC-20 Quick-Change Tap Collet	2145-00-18-Size	ERQC-20	.141", .168", .194", .220" and .255"	#0 to #6, #8, #10, #12, and 1/4"
ERQC-25 Quick-Change Tap Collet	2147-00-18-Size	ERQC-25	.141", .168", .194", .220", .255", .318", .381", .323" and .367"	#0 to #6, #8, #10, #12, 1/4", 5/16", 3/8", 7/16" and 1/2"
ERQC-32 Quick-Change Tap Collet	2149-00-18-Size	ERQC-32	.141", .168", .194", .220", .255", .318", .381", .323", .367" and .429"	#0 to #6, #8, #10, #12, 1/4", 5/16", 3/8", 7/16", 1/2" and 5/8"

– Millimeters in parentheses ( )

## ANSI Standard Tap and Collet/Shank Sizes

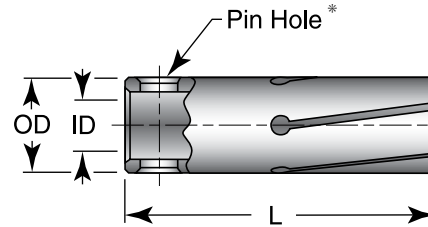
TAP Inch	#0 to #6	#8	#10	#12	1/4"	5/16"	7/16"	1/2"	3/8"	9/16"	1/8" NPT	5/8"
TAP mm	1 to 3.5	4 mm	5mm	—	6mm	8mm	—	12mm	10mm	14mm	—	16mm
SHANK	.141"	.168"	.194"	.220"	.255"	.318"	.323"	.367"	.381"	.429"	.437"	.480"

# FMB Bar Loader Collets

Hardinge **Bar Loader Collets** are engineered for wear resistance, thus requiring fewer collet replacements. D-style collets are supplied with a cross hole for pin mounting and are available in fractional and decimal sizes.



## Style-D



\* Models 4801, 4805 and 4809 have an internal thread with no pin holes.

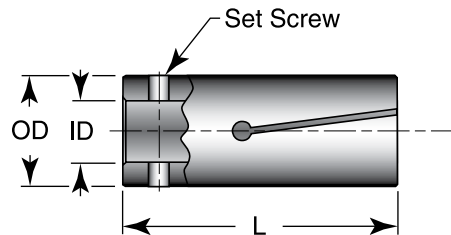
Machine Builders' Model No.	Hardinge Part No.	OD	ID	L Length	Collet Range	Increment
5D	4801*	.196" (5.00)	M4 x .7 THD	1.102" (28.00)	1/16" to 3/32"	.050" to .118"
7D	4805*	.275" (7.00)	M5 x .8 THD	1.102" (28.00)	1/16" to 3/16"	.050" to .197"
10D	4809*	.393" (10.00)	.275" (7.00)	1.574" (40.00)	1/16" to 5/16"	.050" to .315"
12D	4813	.472" (12.00)	.314" (8.00)	1.574" (40.00)	3/32" to 3/8"	.090" to .394"
15D	4819	.590" (15.00)	.433" (11.00)	1.574" (40.00)	1/8" to 1/2"	.100" to .512"
18D/15	4823	.708" (18.00)	.433" (11.00)	1.574" (40.00)	1/4" to 5/8"	.200" to .630"
18D/NS	4825	.708" (18.00)	.433" (11.00)	2.559" (65.00)	1/4" to 5/8"	.200" to .630"
18D	4827	.708" (18.00)	.551" (14.00)	2.559" (65.00)	1/8" to 5/8"	.093" to .630"
20D	4815	.787" (20.00)	.551" (14.00)	2.559" (65.00)	1/8" to 1 1/16"	.100" to .709"
22D/20	4835	.866" (22.00)	.551" (14.00)	2.559" (65.00)	1/4" to 3/4"	.200" to .787"
25D	4837	.984" (25.00)	.787" (20.00)	2.559" (65.00)	1/4" to 7/8"	.200" to .906"
28D	4841	1.102" (28.00)	.787" (20.00)	2.559" (65.00)	1/2" to 1"	.500" to 1.024"

Note: Order hole capacity is equal to actual size with a -.004" range and has no over-range capacity. Therefore, the order hole size cannot be smaller than the bar stock.



## Style-DL

DL-style Collets all have 20mm rear bore for mounting and are secured with two set screws. This common mounting feature allows interchanging the collets between different units. Available in fractional and decimal sizes.



Machine Builders' Model No.	Hardinge Part No.	OD	ID	L Length	Collet Range	Increment	Set Screw (mm)
25DL	4847	.984" (25.00)	.787" (20.00)	3.543" (90.00)	1 3/64" to 5 5/64"	.194" to .859"	6 x 1 x 6
30DL	4849	1.181" (30.00)	.787" (20.00)	3.543" (90.00)	1/2" to 1 1/16"	.500" to 1.063"	6 x 1 x 6
32DL	4851	1.259" (32.00)	.787" (20.00)	3.543" (90.00)	5/8" to 1 1/64"	.625" to 1.140"	6 x 1 x 6
34DL	4853	1.338" (34.00)	.787" (20.00)	3.543" (90.00)	3/4" to 1 1/32"	.750" to 1.218"	6 x 1 x 6
36DL	4855	1.417" (36.00)	.787" (20.00)	3.543" (90.00)	7/8" to 1 19/64"	.875" to 1.297"	8 x 1.25 x 8
38DL	4857	1.496" (38.00)	.787" (20.00)	3.543" (90.00)	1" to 1 3/8"	1.000" to 1.378"	8 x 1.25 x 8
42DL	4863	1.653" (42.00)	.787" (20.00)	3.543" (90.00)	1 1/4" to 1 17/32"	1.250" to 1.531"	8 x 1.25 x 10
45DL	4865	1.771" (45.00)	.787" (20.00)	3.543" (90.00)	1 3/8" to 1 41/64"	1.375" to 1.640"	8 x 1.25 x 10
50DL	4867	1.968" (50.00)	.787" (20.00)	3.543" (90.00)	1 1/2" to 1 27/32"	1.500" to 1.843"	8 x 1.25 x 16
60DL	4869	2.362" (60.00)	.787" (20.00)	3.543" (90.00)	1 3/4" to 2 1/4"	1.750" to 2.244"	8 x 1.25 x 20
65DL	4871	2.559" (65.00)	.787" (20.00)	3.543" (90.00)	2" to 2 1/16"	2.000" to 2.440"	8 x 1.25 x 20
70DL	4873	2.756" (70.00)	.787" (20.00)	3.543" (90.00)	2 3/16" to 2 5/8"	2.187" to 2.638"	8 x 1.25 x 20

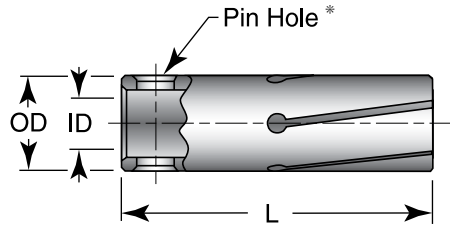
Note: Millimeters in parentheses ( )  
 Bar loader collets are set to normal tension unless otherwise specified.  
 If an application requires a lighter or heavier tension, please specify when ordering.

# LNS Bar Loader Collets

Hardinge **Bar Loader Collets** are engineered for wear resistance, thus requiring fewer collet replacements. D-style collets are supplied with a cross hole for pin mounting and are available in fractional and decimal sizes.



## Style-D



\* Models 4803, 4807 and 4811 have an internal thread with no pin holes.

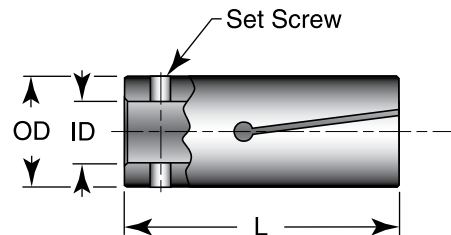
Machine Builders' Model No.	Hardinge Part No.	OD	ID	L Length	Collet Range	Increment	Cross Drill
LN6D	4803*	.236" (6.00)	M4 x .7mm THD	1.181" (30.00)	3/32" to 5/32"	.078" to .157"	1/32" .001"
LN7D	4807*	.275" (7.00)	M5 x .8mm THD	1.456" (37.00)	1/16" to 3/16"	.118" to .197"	1/32" .001"
LN10D	4811*	.393" (10.00)	M5 x .8mm THD	1.456" (37.00)	7/32" to 5/16"	.197" to .315"	1/32" .001"
10D	4809	.393" (10.00)	.275" (7.00)	1.574" (40.00)	7/32" to 5/16"	.197" to .315"	1/32" .001"
12D	4813	.472" (12.00)	.314" (8.00)	1.574" (40.00)	1/4" to 3/8"	.100" to .394"	1/32" .001"
13D	4831	.512" (13.00)	.314" (8.00)	1.574" (40.00)	1/4" to 17/32"	.236" to .433"	1/32" .001"
14D	4817	.551" (14.00)	.314" (8.00)	1.574" (40.00)	5/16" to 15/32"	.315" to .472"	1/32" .001"
15D	4819	.590" (15.00)	.433" (11.00)	1.574" (40.00)	7/16" to 1/2"	.393" to .512"	1/16" .001"
16D	4821	.630" (16.00)	.433" (11.00)	1.574" (40.00)	7/16" to 1/2"	.393" to .551"	1/16" .001"
18D/15	4823	.708" (18.00)	.433" (11.00)	1.574" (40.00)	9/16" to 5/8"	.511" to .630"	1/16" .001"
19D	4829	.748" (19.00)	.433" (11.00)	1.574" (40.00)	9/16" to 5/8"	.511" to .669"	1/16" .001"
20D	4815	.787" (20.00)	.551" (14.00)	2.559" (65.00)	9/16" to 1 1/16"	.511" to .709"	1/16" .001"
21D	4833	.826" (21.00)	.551" (14.00)	2.559" (65.00)	9/16" to 3/4"	.551" to .748"	1/16" .001"
22D/20	4835	.866" (22.00)	.551" (14.00)	2.559" (65.00)	5/8" to 3/4"	.625" to .787"	1/16" .001"
25D	4837	.984" (25.00)	.787" (20.00)	2.559" (65.00)	3/4" to 7/8"	.708" to .906"	1/16" .001"
27D	4839	1.062" (27.00)	.787" (20.00)	2.559" (65.00)	7/8" to 1 5/16"	.827" to .984"	1/16" .001"
28D	4841	1.102" (28.00)	.787" (20.00)	2.559" (65.00)	1 5/16" to 1"	.886" to 1.024"	1/16" .001"
30D	4843	1.181" (30.00)	.787" (20.00)	2.559" (65.00)	1" to 1 1/16"	.984" to 1.102"	1/16" .001"
32D	4845	1.259" (32.00)	.787" (20.00)	2.559" (65.00)	1" to 1 1/8"	.984" to 1.181"	1/16" .001"

Note: Order hole capacity is equal to actual size with a -.004" range and has no over-range capacity. Therefore, the order hole size cannot be smaller than the bar stock.



## Style-DL

DL-style Collets all have 20mm rear bore for mounting and are secured with two set screws. This common mounting feature allows interchanging the collets between different units. Available in fractional and decimal sizes.

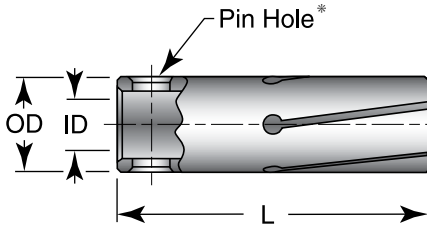


Machine Builders' Model	Hardinge Part No.	OD	ID	L Length	Collet Range	Increment	Set Screw
34DL	4853	1.338" (34.00)	.787" (20.00)	3.543" (90.00)	1 1/8" to 1 1/4"	1.102" to 1.220"	1/16" .001"
36DL	4855	1.417" (36.00)	.787" (20.00)	3.543" (90.00)	1 3/16" to 1 5/16"	1.181" to 1.299"	1/16" .001"
38DL	4857	1.496" (38.00)	.787" (20.00)	3.543" (90.00)	1 5/16" to 1 3/8"	1.260" to 1.378"	1/16" .001"
40DL	4859	1.574" (40.00)	.787" (20.00)	3.543" (90.00)	1 3/8" to 1 7/16"	1.339" to 1.457"	1/16" .001"
42DL	4863	1.653" (42.00)	.787" (20.00)	3.543" (90.00)	1 7/16" to 1 9/16"	1.417" to 1.535"	1/16" .001"

Note: Millimeters in parentheses ( ). Bar loader collets are set to normal tension unless otherwise specified. If an application requires a lighter or heavier tension, please specify when ordering. The bore range listed is recommended by LNS as the most desirable to use. Bores below listed minimum are available in fractional or decimal sizes.

# Robobar Bar Loader Collets

Hardinge **Bar Loader Collets** are engineered for wear resistance, thus requiring fewer collet replacements. D-style collets are supplied with a cross hole for pin mounting and are available in fractional and decimal sizes.



\* Models 4801, and 4805 have an internal thread with no pin holes.

## Robobar

Machine Builder's Model No.	Hardinge Part No.	OD	ID	L Length	Collet Range	Increment	Tornos Catalog No.	
5D	4801*	.196" (5.00)	M4 x .7mm THD	1.102" (28.00)	1/16" to 3/32"	.050" to .118"	1/32" .001"	26/5.5
7D	4805*	.275" (7.00)	M5 x .8mm THD	1.102" (28.00)	1/16" to 3/16"	.050" to .197"	1/32" .001"	26/7.5
10D	4809	.393" (10.00)	.275" (7.00)	1.574" (40.00)	1/16" to 5/16"	.050" to .315"	1/32" .001"	26/10.5
12D	4813	.472" (12.00)	.314" (8.00)	1.574" (40.00)	3/32" to 3/8"	.050" to .394"	1/32" .001"	26/12.5
15D	4819	.590" (15.00)	.433" (11.00)	1.574" (40.00)	1/8" to 1/2"	.090" to .512"	1/16" .001"	26/16
18D	4827	.708" (18.00)	.551" (14.00)	2.559" (65.00)	1/8" to 5/8"	.093" to .630"	1/16" .001"	—
20D	4815	.787" (20.00)	.551" (14.00)	2.559" (65.00)	1/8" to 1 1/16"	.100" to .709"	1/16" .001"	26/21
25D	4837	.984" (25.00)	.787" (20.00)	2.559" (65.00)	1/4" to 29/32"	.200" to .906"	1/16" .001"	26/26
28D	4841	1.102" (28.00)	.787" (20.00)	2.559" (65.00)	1/2" to 1"	.500" to 1.024"	1/16" .001"	—

Other Bar Loader Collets available on request.

Note: Millimeters in parentheses ( )  
 All "D" style collets have a pin hole for mounting. The bar loader collet mounting stud on the 25D collet must be altered when using 1/2" diameter stock and smaller.

# Spindle Tooling for your CNC Lathes



# Additional Products for Swiss-type Lathes

Hardinge offers a complete line of tool holders, tap holders, toolholder collets, tap collets and bushings that can be used on your Swiss-type lathe. We offer reliable and economical solutions for back-end, sub-spindle and end-working slides. For more information request brochure 2351.



**ERTCSP Tap Collets** are designed for use in a floating tap holder. They are multi-split with more shank bearing surface than ER/DR collets. The bore is the exact size of the shank with a square broached hole to eliminate tap slippage.

**ERTC Floating Tap Collets** are designed for a specific tap shank size to be used in combination with tool/tap holders. These collets are not used in floating tap holders.



**Floating Tap Holders** for standard ER (split) collets.

**Rigid Tap Holders** for floating tap collets.



**Standard Round Shank ER Collet Holders**



**HDB Hardened & Ground Split Bushings** help to eliminate interference common to ER tool holders. Knurled shoulder for easy installation and removal.



# Custom Application Manufacturing

For generations, Hardinge "Specials" have been the choice of experienced machinists, manufacturing engineers and forward-thinking manufacturers around the world:



Hardinge will custom manufacture Swiss-style collets and guide bushings, as well as draw collets and step chucks. Special-accuracy collets and step chucks (typically one-half of our standard accuracy), extremely deep and/or large diameter step chucks and closers are some of the frequently made items in our special collet department. If you have a special workholding application, Hardinge can manufacture a workholding device to grip it accurately.

Specials are manufactured to rigid specifications, including material, time-proven heat treatment and machined accuracy. Hardinge's engineering department provides technical assistance in designing your collet, step chuck or related workholding device for your special machining needs.

To request a quote or to order a special workholding device, fill out the forms on the following pages. Specifications for the most common Swiss-type special collets are shown on pages 21-22. These pages can be copied, filled out and faxed or mailed to the Hardinge Collet Sales Department. When sample parts are being sent to us, please call for an RMA (Return Material Authorization) number to help speed up the process.

- rectangular
- serrated hex or square
- extruded shapes
- zig-zag slotted
- angular slotted
- non-round
- stepped
- off-center
- expanding
- long bearing
- long bearing carbide
- Meehanite-lined
- special shape
- special accuracy
- extended nose
- expanding
- off-center
- stepped
- non-round
- angular slotted
- zig-zag slotted
- extruded shapes

# Custom Quote Request — 1 of 3

To place your order or request a quote, simply fill out this form and send the requested information below. All of this information is necessary for us to process your order quickly. Checking the box in front of each item will help to ensure everything is complete before sending the information to us. The following two pages will assist you in choosing your collet configuration.

- Your Name \_\_\_\_\_
- Company \_\_\_\_\_
- Address \_\_\_\_\_
- City, State & Zip \_\_\_\_\_
- Phone \_\_\_\_\_
- Fax \_\_\_\_\_
  
- Machine Make and Model Number on which workholding will be used:**  
(Example: Citizen model #, Star model #) \_\_\_\_\_
- Collet Required:**  
(Example: TF20, S20HM, etc.) \_\_\_\_\_
- Guide Bushing:**  
(Example: TD20, S20HGB, etc.) \_\_\_\_\_
- Sample Stock** (6" long - extruded stock), casting, first operation part, finished part
- Legible Prints** of the stock, finished part. These must be marked to show the diameters or surfaces to be gripped. Mark the locating surface used for length control. Please mark the surfaces to be machined.
- AutoCad Files** or dxf files of the above, if available.
- Written Explanation** of any special requirements:  
For example special concentricity or perpendicularity requirements, concerns with chip flushing, requirements for thru-spindle coolant, concerns with part being deformed by gripping, large variation of gripping surface or locating dimensions, etc.

Explanation:

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# Custom Quote Request — 2 of 3

- Fill in the Type of Collet or Special (example TF20)
  - Find the illustration of the feature needed in one of the boxes
  - Put a Bold "X" in the box to indicate that feature
  - Write the required dimensions next to their numbers in the chart to the right
- Note: Only fill in the dimensions for the numbers on one illustration

Today's Date \_\_\_\_\_  
 Date Required \_\_\_\_\_  
 Customer Number \_\_\_\_\_  
 Purchase Order Number \_\_\_\_\_  
 Method of Shipping \_\_\_\_\_

**Bill To:**  
 Name \_\_\_\_\_  
 Title/Dept. \_\_\_\_\_  
 Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 City, State, Zip \_\_\_\_\_  
 Phone \_\_\_\_\_ Fax \_\_\_\_\_

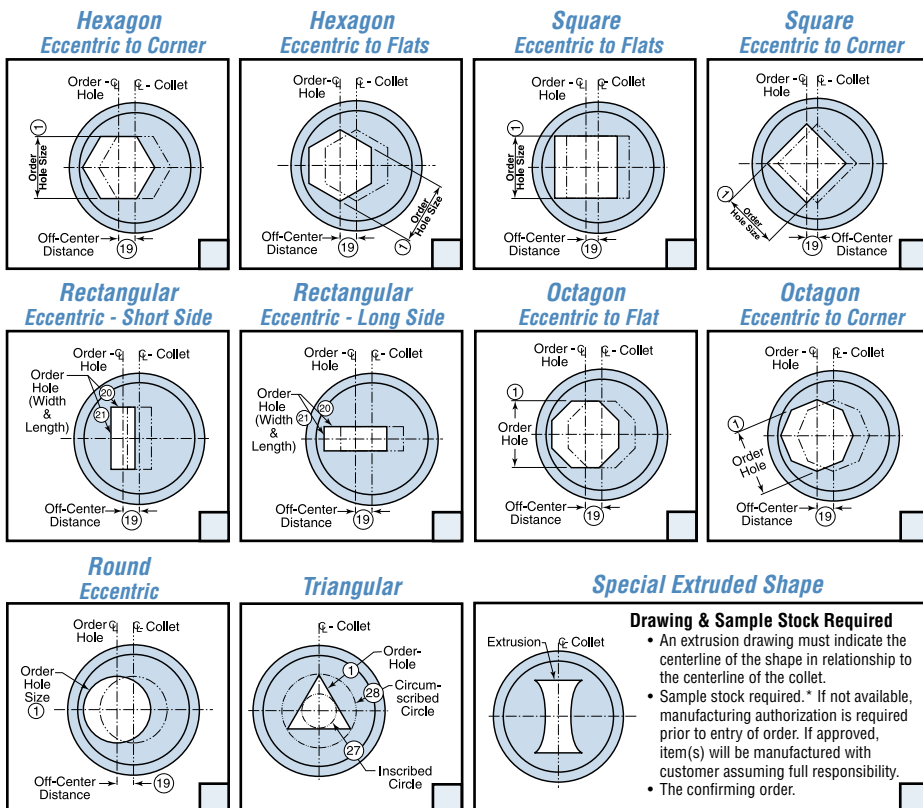
**Ship To:** (If different from Bill To)  
 Name \_\_\_\_\_  
 Title/Dept. \_\_\_\_\_  
 Company \_\_\_\_\_  
 Address \_\_\_\_\_  
 City, State, Zip \_\_\_\_\_  
 Phone \_\_\_\_\_ Fax \_\_\_\_\_

## Type of Collet or Special:

(example: TF20, S20HM, etc.)

Numbers below correspond to dimensions in boxes

- ① Order Hole Size: \_\_\_\_\_
- ② Order Hole, 2nd: \_\_\_\_\_
- ③ Number of Slots: \_\_\_\_\_
- ④ Radius: \_\_\_\_\_
- ⑤ Bearing Length: \_\_\_\_\_
- ⑥ Bearing Length Front: \_\_\_\_\_
- ⑦ Back Drill Dia.: \_\_\_\_\_
- ⑧ Relief Dia.: \_\_\_\_\_
- ⑨ Relief Length: \_\_\_\_\_
- ⑩ Depth of Step, 1st: \_\_\_\_\_
- ⑪ Depth of Step, 2nd.: \_\_\_\_\_
- ⑫ Auxiliary Hole Size: \_\_\_\_\_
- ⑬ Length of Extension: \_\_\_\_\_
- ⑭ Dia. at Face: \_\_\_\_\_
- ⑮ Degrees Taper/Chamfer: \_\_\_\_\_
- ⑯ Front Dimension of Taper: \_\_\_\_\_
- ⑰ Rear Dimension of Taper: \_\_\_\_\_
- ⑱ Taper-Industrial Std: \_\_\_\_\_
- ⑲ Off Center Distance: \_\_\_\_\_
- ⑳ Order Hole - Width: \_\_\_\_\_
- ㉑ Order Hole - Length: \_\_\_\_\_
- ㉒ Thread Length: \_\_\_\_\_
- ㉓ Threads Per Inch: \_\_\_\_\_
- ㉔ Right/Left Hand Thrd.: \_\_\_\_\_
- ㉕ Class Thread (1), (2), (3): \_\_\_\_\_
- ㉖ Chamfer Depth: \_\_\_\_\_
- ㉗ Inscribed Circle: \_\_\_\_\_
- ㉘ Circumscribed Circle: \_\_\_\_\_
- ㉙ Clearance Bore: \_\_\_\_\_
- ㉚ Actuator Stroke: \_\_\_\_\_



Send drawings, sample parts  
and this form to:

## Hardinge Inc.

Collet Sales Dept.  
One Hardinge Drive  
Elmira, New York 14902-1507

Phone: 800-843-8801

Fax: 607-734-3886

Email: [info@hardingetooling.com](mailto:info@hardingetooling.com)

Canada: 800-468-5946

Other countries: 607-378-4022

International Fax: 607-734-1701

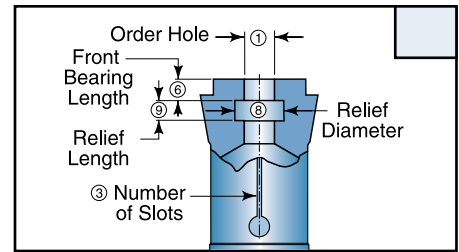
Return Material Authorization (RMA#) required  
for Hardinge to receive your Sample Part

\*One 6" length of stock required when ordering 1 to 3 collets; two 6" lengths for 4 to 7 collets; three 6" lengths for 8 to 11 collets; four 6" lengths for 12 to 15 collets ordered.

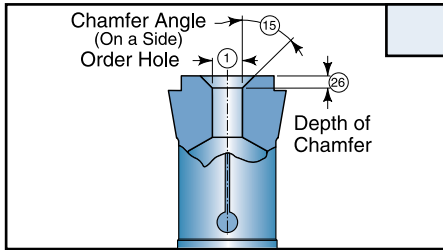
# Custom Quote Request — 3 of 3

Check mark the box with the feature you require and record the dimensions on the corresponding lines 1-30 on the previous page.

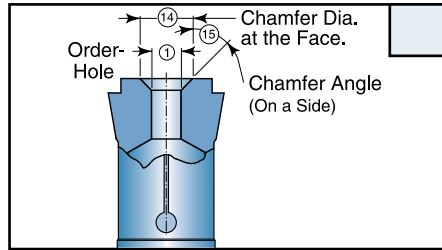
## Bearing Relief



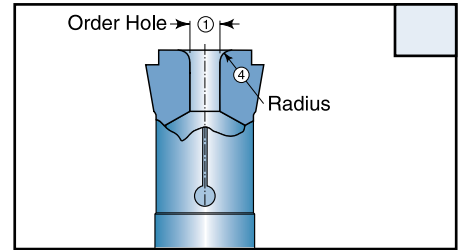
## Chamfer - Depth



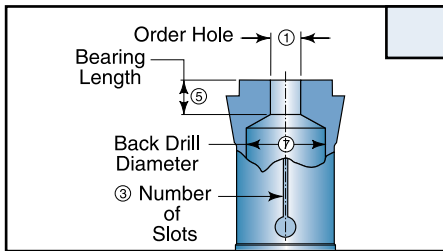
## Chamfer - Diameter



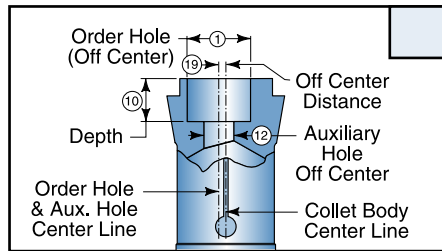
## Radius



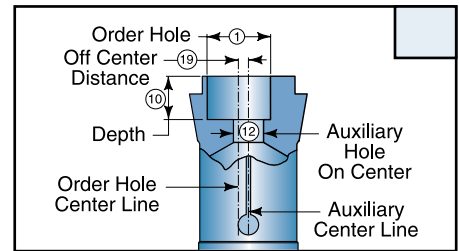
## Special Bearing Length



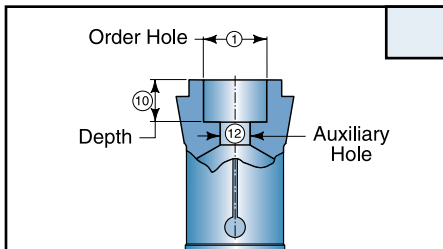
## Eccentric Step - Aux. Off Center



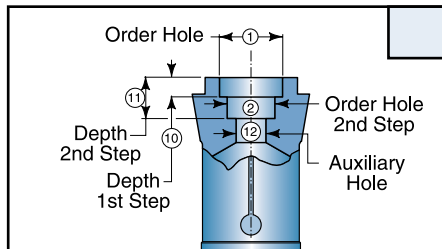
## Eccentric Step - Aux. On Center



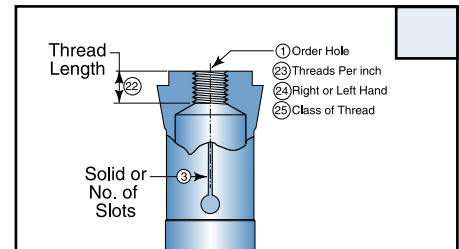
## Single-Stepped



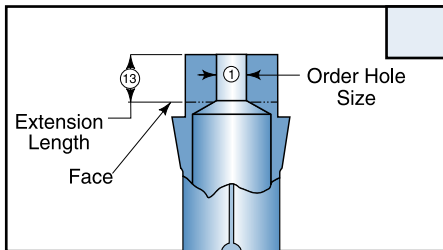
## Double-Stepped



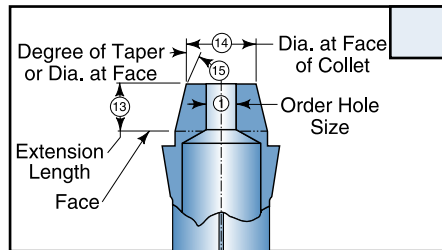
## Threaded Order Hole



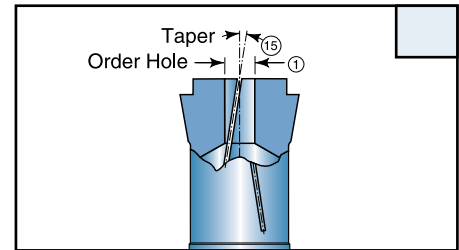
## Extended Nose - Straight



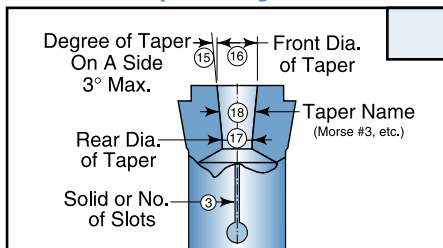
## Extended Nose - Tapered



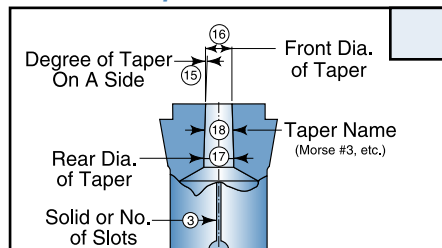
## Angular Slotted



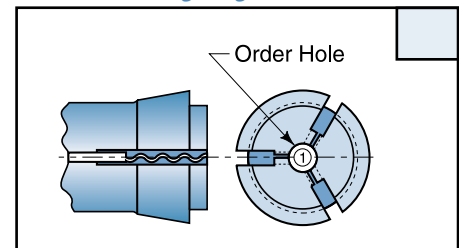
## Taper - Regular



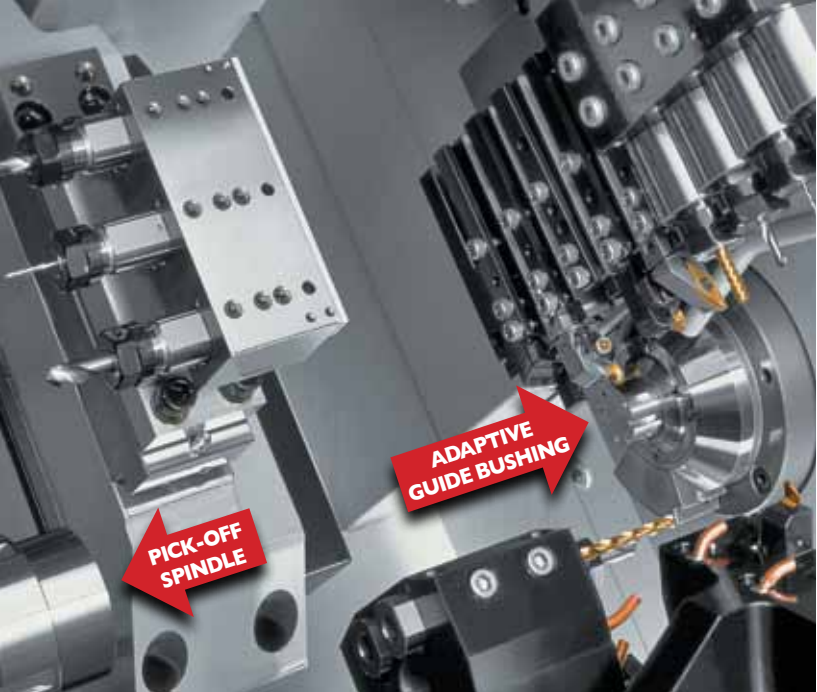
## Taper - Reverse



## Zig-Zag Slots



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## Custom Solutions for Citizen Lathes

add flexibility to the machine



### Adaptive Guide Bushing Collets

The high cost of ground stock leads some shops to turn to a newer type of guide bushing, the adaptive guide bushing, which permits the use of less costly non-ground stock.

The Citizen adaptive guide bushing system uses air pressure to open and close the guide bushing collet as the size of material being machined changes. Hardinge manufactures double-angle adaptive guide bushing collets in cooperation with Citizen Machinery America for use in Citizen machines that have the adaptive guide bushing kit installed.

- Premium material and heat treat process
- Superior surface finish
- Accuracy to 0.0005" (.0127mm) TIR
- Variation of  $\pm .003$ " (.08mm) to accommodate non-ground stock

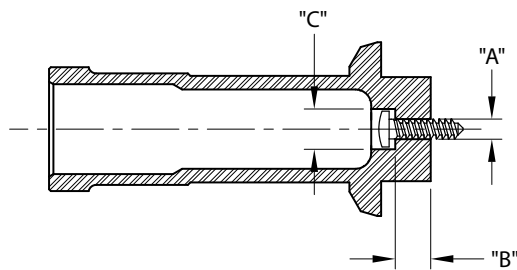
**The following information is required to place your order:**

Bar Size \_\_\_\_\_ Bar Tolerance \_\_\_\_\_ ( $\pm .003$  max)  
 Bar Material \_\_\_\_\_ Machine Model \_\_\_\_\_

\*\* A Citizen Adaptive Guide Bushing Kit must be installed in your machine to permit use of the adaptive guide bushing collet. Kits are available for new machine orders and can also be retrofitted to some existing machines. For more information call Citizen at 201-818-0100. Part numbers are included below.

### Overgrip Collets

Overgrip collets, also referred to as over-the-shoulder collets, are used on a pick-off spindle when it is required to clear a shoulder and grip on a smaller diameter beyond. A good example of this type of part would be a screw. Hardinge manufactures TF-25 OG overgrip collets for Citizen M20 and L720 lathes. **The following information is required to place your order:**



Grip Diameter "A" (max .505"/12.8mm) \_\_\_\_\_  
 Grip Length "B" (max .470"/11.9mm) \_\_\_\_\_  
 Part Diameter "C" (max .630"/16.0mm) \_\_\_\_\_\*

\* If the "C" dimension is greater than .086"/2.2mm, but less than .118"/3.0mm maximum overgrip, you must purchase an Overgrip Collet Kit from Citizen Machinery America Inc. (201-818-0100). Part numbers are included below.

## CITIZEN MACHINERY AMERICA INC

in partnership with Hardinge Inc.

Citizen Machine	Overgrip Collet Hardinge Part No.	Overgrip Collet Kit * Citizen Part No.
A20 (type 7)	—	—
A32	—	—
L720	4613-75-00000003	BD-6015
M20	4613-75-00000003	BD-6015
M32	—	—

Adaptive Guide Bushing Hardinge Part No.	Size	Capacity	Adaptive Guide Bushing Kit ** Citizen Part No.
97Z-1102	20mm	.157-.787" (4-20mm)	GB-A220-0000
97Z-1653	32mm	.236-1.259" (6-32mm)	GB-A332-0000
97Z-1102	20mm	.157-.787" (4-20mm)	GB-L720-0000
97Z-1102	20mm	.157-.787" (4-20mm)	GB-M220-0000
97Z-1653	32mm	.236-1.259" (6-32mm)	GB-M332-0000



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Sure-Grip® 3-Jaw Power Chucks

Chuck Jaws

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Precision CNC Tooling for Mills

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