

# HARDINGE WORKHOLDING

SWISS-TYPE COLLETS & BUSHINGS



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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.

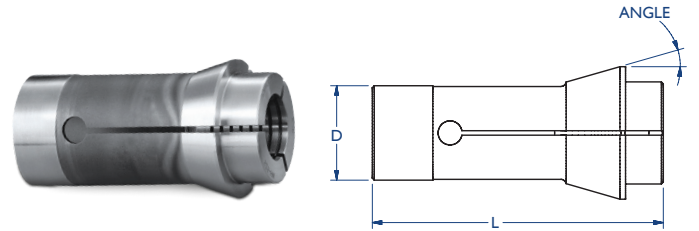
Top-of-the-line machine tools and highly-skilled machinists provide exceptional productivity and accuracy. Wire and Ram (EDM) Electrical Discharge Machines produce custom collet shapes, stepped-holes and extended-nose pickoff collets.

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.

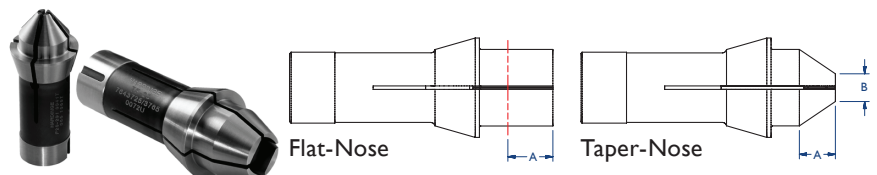
# PRECISION-MACHINED COLLETS

Hardinge 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.	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	BS38	4735	15° 15'	1.889" (47.98)	3.937" (100)	.008" to 1.562" (.20 to 39.67)	.078" to 1.562" (1.98 to 14.27)	.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 .630" * (.20 to 16.00)	.078" to .630" * (1.98 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)	.062" to 1" (1.58 to 25.4)	.078" to 1"*** (1.98 to 25.4)	.250" to .875" (6.35 to 22.23)	.250" to .687" (6.35 to 17.45)
Peterman, Strohm, Tornos, Tsugami, Citizen	TF8	4701	15° 35'	.3148" (8)	1.614" (41)	.008" to .250" (.20 to 6.35)	.078" to .250" (1.98 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" (47.50)	.008" to .281" (.20 to 7.14)	.078" to .281" (1.98 to 7.13)	.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)	.078" to .394" (1.98 to 10.00)	.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 .500" * (.20 to 12.70)	.078" to .500" * (1.98 to 12.70)	.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 .500" * (.20 to 12.70)	.078" to .500" * (1.98 to 12.70)	.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 .625" * (.20 to 15.87)	.078" to .625" * (1.98 to 15.87)	.0625" to .541" (1.58 to 13.74)	.0625" to .442" (1.58 to 11.22)
Hanwha	TF22 (#12 Index)	3701	14° 50'	.8642" (21.95)	2.172" (55.17)	.015" to .656" * (.38 to 16.66)	.078" to .625" ** (1.98 to 15.87)	.0625" to .562" (1.58 to 14.27)	.0625" to .469" (1.58 to 11.91)
Tsugami	TF24	4713	15° 20'	.9367" (23.79)	2.440" (62)	.008" to .688" * (.20 to 17.48)	.078" to .688" * (1.98 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 .813" * (.20 to 20.65)	.078" to .813" * (1.98 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 1" * (.20 to 25.40)	.078" to 1" * (1.98 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 1.125" * (.20 to 28.57)	.078" to 1.125" * (1.98 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 1.265" * (.20 to 32.13)	.078" to 1.250" * (1.98 to 31.75)	.093" to 1.082" (2.36 to 27.48)	.093" to .883" (2.36 to 22.43)
Citizen	TF37SP	4629	16° 7'	1.456" (36.98)	3.622" (92)	.008" to 1.265" * (.20 to 32.13)	.078" to 1.250" * (1.98 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 1.500" (.20 - 38.10)	.078" to 1.500" (1.98 to 38.10)	.250" to 1.296" (6.35 to 32.92)	.250" to 1.058" (6.35 to 26.87)
KSI	TF44	0136Y	16.5°	1.732" (44)	3.622" (92)	.200" to 1.490" (5.08 to 25.40)	.078" to 1.490" (1.98 to 37.84)	.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" (93.68)	.008" to 1.657" * (.20 to 42.09)	.078" to 1.657" ** (1.98 to 42.09)	1/32" to 1 13/32" (.79 to 35.71)	1/32" to 1 5/32" (.79 to 29.36)
Tornos	0161	4711	15°	1.1808" (30)	2.560" (65)	.008" to 1.000" * (.20 to 25.40)	.078" to 1.000" * (1.98 to 25.40)	.093" to .866" (2.36 to 22.00)	.093" to .707" (2.36 to 17.96)
Hardinge	0166	4677	15°	1.259" (32)	2.559" (65)	.008" to 1.125" * (.20 to 28.57)	.078" to 1.125" * (1.98 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" (23.80)	2.441" (62)	.008" to .686" (.20 to 17.42)	.078" to .686" (1.98 to 17.42)	.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 .813" * (.20 to 20.65)	.078" to .813" * (1.98 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 1.031" * (.20 to 26.19)	.078" to 1.031" * (1.98 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)	.078" to 1.00" (1.98 to 25.4)	.093" to .866" (2.36 to 21.99)	.093" to .707" (2.36 to 17.95)
Nomura	PI6C	4705	13 40'	0.786" (19.96)	2.677" (68)	.008" to .630" (.2 to 16)	.078" to .630" (1.98 / 16)	.062" to .551" (1.57 / 14)	.062" to .445" (1.57 / 11.3)
Nomura	P20C	4717	15	1.023" (25.98)	2.835" (72)	.008" to .813" (.2 to 20.65)	.078" to .813" (1.98 / 20.65)	.062" to .704" (1.57 / 17.88)	.062" to .574" (1.57 / 14.58)
Nomura	P25C	4743	13	1.259" (31.99)	3.346" (84.99)	.008" to 1.065" (.2 to 27.05)	.078" to 1.065" (1.98 to 27.05)	.062" to .923" (1.57 to 23.44)	.062" to .753" (1.57 to 19.13)

**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 .25" larger than the hole size.



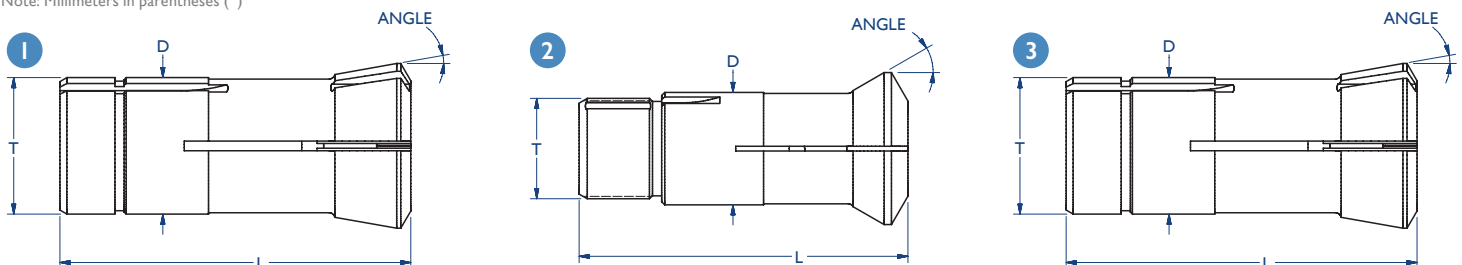
# SWISS CARBIDE GUIDE BUSHINGS

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, extruded shapes, and long bearings.



								GUIDE BUSHING CAPACITY		
								Carbide-Lined	Hardened Steel	
Machine Tool Builder	Fig.	Guide Bushing Model No.	Hardinge Part No.	Head Angle	D Bearing Diameter	L Overall Length	T Thread Diameter	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" (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 1/32" (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	2	SDI25R	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)
Star	1	SNCI5	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" (3.17 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 20.02)	.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/Tornos	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 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 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)
Nomura	1	PI6D	4715	15 30'	0.866" (22.00)	2.756" (70.00)	M20 X 1	.060" to .590" (1.5 to 15)	.062" to .512" (1.57 to 13)	.062" to .417" (1.57 to 10.6)
Nomura	1	P20D	4741	15 30'	1.181" (30)	2.677" (68)	M30 X 1	.090" to .813" (2.3 to 20.65)	.062" to .750" (1.57 to 19.05)	.062" to .625" (1.57 to 15.88)
Nomura	1	P25D	4745	13	1.417" (36)	3.543" (90)	M36 X 1	.090" to 1" (2.3 to 25.4)	.062" to .866" (1.57 to 22)	.062" to .707" (1.57 to 17.96)

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	OA	—	—	—	—	—	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	—	—	—	—		
DI6	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	0136	ER11	OA	9311
E216	TF25	4613	O201	4639	—	TF25	4613	ER16	1913	ER16	1913	—	—	—	—
E220	TF25	4613	TSD20	4645	—	TF25	4613	ER16	1913	ER16	1913	—	—	—	—
E225/25J	TF30	4615	CD25	4651	—	TF30	4615	ER16	1913	ER16	1913	—	—	—	—
E32	TF37SP	4629	TD32	4653	—	TF37SP	4629	ER16	1913	ER16	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	ER16	1913	—	—
E232	TF37	4619	TD32	4653	—	TF37	4619	ER16	1913	ER16	1913	—	—	—	—
F10	TF15	4607	TD10	4631	—	—	—	TF8	4701	—	—	—	—	—	—
F12	TF16	4609	SD125R	4633	—	TF16	4609	TF8	ER16	4701	1913	0136	OA	—	—
F16	TF25	4613	O201	4639	—	TF25	4613	TF8	ER16	4701	1913	0136	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	—	—	—	—	—	—	—	—
GI6	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	—	—
L12	TF16	4609	SD125R	4633	—	TF16	4609	TF8	ER11	4701	1911	ER11	1911	—	—
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	ER16	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	0136	TF8	OA	4701
M32	TF37SP	4629	TD32	4653	97Z-1653	TF37SP	4629	ER16	1913	ER11	ER16	OA	1911	1913	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 Builders' 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.		
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.	
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
XPI6	TF22 (#12 Index)	3701	TD20R/16	O/A	TF22	3701	ER11	ER16	1911	1913
XD12H	TF16	4609	SD125R	4633	TF16	4609	ER11		1911	
XD20	TF25	4613	TD25-NS	4659	TF25	4613	ER11	ER16	1911	1913
XD26H	TF30	4615	CD25	4651	TF30	4615	ER16		1913	
XD32H	TF37	4619	TD32	4653	TF37	4619	ER11/ER16		1911/1913	
XD42	—	6855Y	—	6853Y	—	—	ER20		1915	

## 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.
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.
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, 32T	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	—	—		
KJRI6B	TF20	4611	TD20R	4641	TF20	4611	ER11	ER16	1911	1913	—	—		
KJR25/25B	TF30	4615	CD25	4651	TF30	4615	ER11	ER16	1911	1913	—	—		
MAF42	TF48	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	—	—		
SB20	TF25	4613	TD25	4647	TF25	4613	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	SNC15	4637	—	—	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	4703	4607
STM38	TF48	3719	—	—	—	—	—	—	—	—	F18-579	OA		
	same as B42		—	—	—	—	—	—	—	—	TF10	TF15	4703	4607
			—	—	—	—	—	—	—	—	F18-579	OA		
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	—	—	—	—	—	—		
SR38	TF48NFT	4622Y	STM38ALT	I358Y	—	—	—	—	—	—	—	—		
SV38	TF48NFT	4622Y	STM38ALT	I358Y	—	—	—	—	—	—	—	—		
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)

## SWISTEK

Machine Builders' 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.
AB42 HYBRID	TF48	3719	STM38	4739	TF48	3719	ER11	ER16	1911	1913
BASIC 3/4	TF25	4613	TD32	4653	TF25	4613	ER11	ER16	1911	1913
AS20 HYBRID	TF25	4613	TD32	4653	TF25	4613	ER11	ER16	1911	1913
RB20/RB20Y	TF25	4613	TD32	4653	TF25	4613	ER11	ER16	1911	1913

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

# 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	2091	ER11	ER12	1911	2091			
DECO 2000 13	F20-201	4709	0201	4639	TF20-201	4709	ER11	ER12	1911	2091	ER11	ER12	1911	2091			
DECO 2000 20	TF25	4613	TD25-167	OA	TF25	4613	ER11	ER12	1911	2091	ER11	ER12	1911	2091			
DECO 2000 25/32	TF37	4619	TD32S	4655	TF37	4619	ER11	ER12	1911	2091	ER11	ER12	1911	2091			
DECO 2000 1"	0161	4711	CD25	4651	0161	4711	ER11	ER12	1911	2091	ER11	ER12	1911	2091			
Delta 20/5	TF25	4613	TD25	4647													
Delta 20/5 DD	TF25	4613	TD26	OA													
DT26	0161	4711	CD25	4651													
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				
ENC164	TF15	F20-201	4607	4709	0201	4639	TF15	F20-201	4607	4709	ER16	ER25	1913	2095	WJ#3		
ENC167	TF25		4613	TD25/167	OA	TF25		4613	ER12 /16/20		2091/1913/15		ER12/16/20		2091/1913/15		
ENC74	TF13		4707	TD10	4631	TF13		4707	ER12		2091		ER12		2091		
ENC262	TF25	0161	4613	4711	T200	4719	TF25	0161	4613	4711	ER16	ER25	1913	2095	ER25		
ENC264	TF25	0161	4613	4711	T200	4719	TF25	0161	4613	4711	ER16	ER25	1913	2095	ER25		
DT26	0161		4711	CD25	4651												
GT32	TF37		4619	TD32S	4651												
TOP-100	TF16		4609	TD10TXP TD18TXP	OA	OA	TF13		4707	ER16	ER25	1913	2095	ER12	ER25	2091	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
TNL32	TF37	4619	TD32S	4655										

## 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	

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

## Nomura

	Headstock Collet		Carbide Bushing		Pick-Off Collet		Toolholder Collet	
Model	Collet	Part No.	Bushing	Part No.	Collet	Part No.	Collet	Part No.
NNI6	PI6C	4705	PI6D	4715	PI6C	4705	ER11 / ER16	1911 / 1913
NN20U	P25C	4743	P25D	4745	P20C	4717	ER11 / ER16	1911 / 1913
NN20J	P20C	4717	P20D	4741	P20C	4717	ER11 / ER16	1911 / 1913
NN25	P25C	4743	P25D	4745	P25C	4743	ER11 / ER16	1911 / 1913
NN30TC	P30	4751						



# MACHINE TOOL BUILDERS' REFERENCE

## Tsugami

Machine Builders' Model No.	REM 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	BA26	0166	4677	TD33	OA	0166	4677	ER16		ER16		—	—	—
BE12/12 III	BE12/12 III	TF24	4713	TSG20R	4653	TF24	4713	ER11	ER16	ER11	ER16	—	—	—
BE19	BE19	TF25	4613	TD25	4647	TF25	4613	ER11	ER16	ER11		—	—	—
BE20 III	BE20 III	TF25	4613	TD25	4647	TF25	4613	ER16	ER20	—		—	—	—
BE20V	BE20V	TF25	4613	TD25	TD26 <sup>E</sup>	4647	4733	TF25	4613	ER16	ER20	—		—
BF20/BN/BW	BF20/BN/BW	TF25	4613	TD25	4647	TF25	4613	—		—		—	—	—
BH20	BH20	TF25	4613	TD25	TD26 <sup>E</sup>	4647	4733	TF25	4613	—		ER11	ER16	—
BH38/BU38	BH38/BU38	TF43	4737	STM38	4739	BS38	4735	various		various		various	various	various
BO07	BO07	TF10	4703	TD7	4679	TF10	4703	ER11		ER11		—	—	—
BO125/126	BO125/BO126	TF24	4713	TSG20R/-	4653/-	TF24	4713	ER11	ER16	ER11	ER16	—	—	—
BO205/206	BO205	TF25	4613	TD26	4733	TF25	4613	ER16	ER20	ER16	ER20	—	—	—
BS12/BO/BN	BX12	TF24	4713	TSG20R	4643	TF24	4713	ER16	ER20	ER11		—	—	—
BS12III / BO12III	BZ12	TF24	4713	TSG20R	4643	TF24	4713	ER16	ER20	ER11		—	—	—
BS12V / BO12V	BS12V / BO12V	TF24	4713	TSG20R	4643	TF24	4713	ER16	ER20	ER11		—	—	—
BS18/BO18	BX18	TF24	4713	TSG20R	4643	TF24	4713	ER11		ER11		—	—	—
BS19	BS19	TF25	4613	TD25	4647	TF25	4613	ER11		ER11		—	—	—
BS20A/B/C	SX20A/B/C	TF25	4613	TD25	4647	TF25	4613	ER16	ER20	—		—	—	—
BS20V/SS20	BS20V/SS20	TF25	4613	TD25	4647	TF25	4613	ER16	ER20	—		—	—	—
BS26/BU26	SX26/BU26	0166	4677	CD25	4651	0166	4677	ER16	ER20	ER16	ER20	—	—	—
BS32	BS32	BS32C	1048V	BS32B	1049V	BS32C	OA	ER16	ER20	ER11		—	—	—
BU20	BU20	TF25	4613	TD25	4647	TF25	4613	—		ER11	ER16	—	—	—
BW07	BW07	TF10	4703	TD7	4679	TF10	4703	ER11		ER11		—	—	—
BW12/BU12	BW12/BU12	TF24	4713	TSG20R	4643	TF24	4733	ER16	ER20	ER11	ER16	—	—	—
MB35	MB35	I6C	1717	—	—	—	—	—		—		—	—	—
MB38, 385/4	MB385/4	I6C	1717	—	—	BS38	4735	—		—		—	—	—
MU26S/SY	MU26S/SY	0166	4677	CD25	4651	0166	4677	various		various		various	various	various
MU38/BU38	MU38/BU38	TF43	4737	STM38	4739	BS38	4735	I6C		I717		—	—	—
NMPI6II	ST600MARKII	TF20	4611	TD25	4647	TF20	4611	—		—		—	—	—
NP11	ST400P	TF15	4607	SD125R	4633	TF15	4607	—		ER12		—	—	—
NP16/16 II	ST600P	TF20	4611	TD25	4647	TF20	4611	ER12	ER12	TF8/4701	TF8/4701	ER16	—	—
NP17	ST700P	TF24	4713	TSG20R	4643	TF24	4713	ER12	ER12	—		—	—	—
NP20/20 I	ST800P	TF25	4613	TD25	4647	TF25	4613	ER16	—		—		ER16	ER20
NP20 II	ST800MARKII	TF25	4613	TD25	4647	TF25	4613	—		—		—	—	—
NP20 III	NP20III	TF25	4613	TD25	4647	TF25	4613	ER16	ER16	—		—	ER16	ER20
NP32	ST1250P	TF37	4619	TD32	4653	—	—	ER16	ER16	—		—	ER16	ER20
NP32 II	ST1250MARKII	TF37	4619	TD32	4653	TF37	4619	ER16	ER16	—		—	ER16	ER20
NP32 III	NP32 III	TF37	4619	TD32	4653	TF37	4619	ER16	ER16	—		—	ER16	ER20
NT11	ST400	TF15	4607	SD125R	4633	—	—	—		—		—	—	—
NT11S	NT11S	TF15	4607	SD125R	4633	—	—	—		—		—	—	—
NT12	ST500	TF20	4611	TD20	TD20R	4635	4641	—	—	ER12	ER12	TF8/4701	TF8/4701	ER16
NT16 II/16 III	ST600	TF20	4611	TD25	4647	—	—	ER12	ER12	TF8/4701	TF8/4701	ER12	—	—
NT17	ST700	TF24	4713	TSG20R	4643	—	—	—		—		—	—	—
NT17S	NT17S	TF24	4713	TSG20R	4643	—	—	—		—		—	—	—
NT20	ST800	TF25	4613	TD25	4647	—	—	ER16	ER16	—		—	ER16	ER20
NT25	ST1000	TF37	4619	TD32	4653	—	—	ER16	—		—		ER16	ER20
NT32/ II/ III	ST1250	TF37	4619	TD32	4653	—	—	ER16	ER16	—		—	ER16	ER20
S16D/H/P	S16D/H/P	TF24	4713	TSG20R	4643	TF24	4713	ER12	ER12	—		—	—	—
S20	S20	TF25	4613	TD25	4647	—	—	—		—		—	—	—
S20D/S20H	S20D/S20H	TF25	4613	TD25	4647	TF25	4613	ER16	—		—		—	—
S20P	S20P	TF25	4613	TD25	4647	TF25	4613	—		—		—	—	—
S25	S25	TF30	4615	CD35	OA	TF30	4615	—		—		—	—	—
S25D/H/P	S25D/H/P	0166	4677	CD25	4651	0166	4677	ER16		ER16		—	—	—
S205/06/07	S205/06/07	TF25	4613	TD25	TD26 <sup>E</sup>	4647	4733	TF25	4613	ER11	ER16	ER16	—	—
SS20/532	SS20/532	TF25	4613	TD25	4647	TF25	4613	MPC16/20		—		—	—	—
SS20/20M	SS20	TF25	4613	TD25/-	4647/-	TF25	4613	ER16	ER20	—		—	—	—
SS26, BO265II, BO266II	SS26	0166	4677	CD25	4651	0166	4677	ER11	ER16	ER16		—	—	—
SS32, BO325II, 326II, 327II	SS32	TF37	4619	TD32	4653	TF37	4619	ER16	ER20	ER16		—	—	—
SX20A	SX20A	TF25	4613	TD25	4647	TF25	4613	—		ER16		—	—	—
SX20B/20C	SX20B/20C	TF25	4613	TD25	4647	TF25	4613	ER16	ER16	—		—	—	—
TMU1/R/BO385	TMU1/R/-	TF43	4737	STM38	4739	BS38	4735	various		various		various	various	various
600	TF20	4611	TD25	4647	—	—	—	—		—		—	—	—
600P	TF20	4611	TD25	4647	TF20	4611	—	—		—		—	—	—

ER11 Hardinge Part No: 1911, ER16 Hardinge Part No: 1913, ER20 Hardinge Part No: 1915, ER12 On Application OA = On Application (may be available as a special order) E = Electronic

# 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	3122R	TD25	4647

Note: Collets for Bechler Lathes are special order

### 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	—	—
—	MI25	TF5	OA	—	—
M45	—	—	—	TSD4	OA
M45	MI05	TF8	4701	0100	OA
—	MI25	TF8	4701	—	—
M75	—	TF10	4703	TSD7	OA
MI25	M205	TF15	4607	SD125R	4633
MI05	M255	TF15	4607	—	—
MI25	—	TF15R	OA	SD125R-16	OA
M205	—	TF25	4613	SD205	OA
M255	—	TF30	4615	SD255	OA

### 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

### 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	0258C	—	—
—	R10/R125	TF7	OA	—	—
M4	M7 • R10/R125	TF8	4701	TD4 TSD4	OA OA
M7	M15 • R16	TF10	4703	TD7 TSD7	OA OA
—	M15 • R16/20	TF12	OA	—	—
MS7	M7 • CT.HSK.	TF13	4707	—	—
M20	—	TF25	4613	TD25 TSD20	4647 4645
M10	—	—	—	TD10 SD125R-16	4631 OA
M15 M15	— —	TF20	4611	TD20 TSD15	4635 OA
M25/28	—	TF34	4617	TD25	4647
MR32	—	TF37	4619	TD32	4653
R10	—	TF15	4607	TD10 SD125R SD125R-16	4631 4633 OA
R16	—	TF20	4611	TD20 TSD15	4635 OA
R20	—	TF25	4613	TD25 TD20	4647 4635
RR20	—	TF25	4613	TD25 TD20 TSD20	4647 4635 4645
R125	M20/25/28, MR32	TF16	4609	TD10 SD125R SD125R-16	4631 4633 OA

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

### Peterman

Machine Builders' Model No.		STEEL COLLET		CARBIDE GUIDE BUSHING	
Headstock	Attachments	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	PI0 PI6	TF10 TF10	4703 4703	TD7	4679
P7R	—	0146	OA	—	—
PI0	PI6	0147	OA	—	—
—	P25	0147	OA	—	—
PI0R	PI6	0151	OA	—	—
—	P25	0151	OA	—	—
PI6	—	0152	OA	0201	4639
2A	—	0156	OA	—	—
P25	—	0166	4677	0200	OA

# 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
TF22 (#12 Index)	3701	TF22	—	F22
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	—	—	—
PI6C	4705	PI653C	—	—
P20C	4717	NN20KFC	—	—
P25C	4743	P2553C	—	—

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	—
PI6D	4715	PI653D	—	—
P20D	4741	NN20KD	—	—
P25D	4745	P2553D	—	—

# EMERGENCY COLLETS

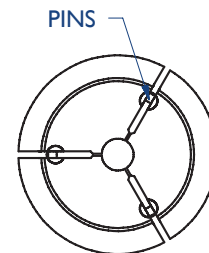
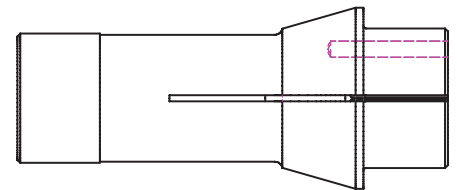
An Emergency Collet may be used when a standard collet is not in your current inventory. It can be machined to the desired bore size and used until a hardened collet arrives.

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.



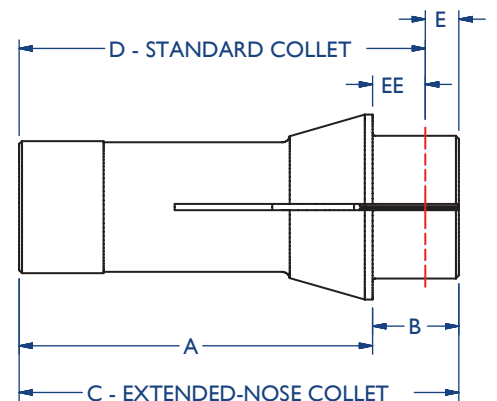
## Standard Emergency Collets

Style	Collet Part Number	A	B	C	D	EE	Pin Part Number
P30	4751-12-12-000000	3.700" (78)	—	—	3.346" (85)	.276" (7.0)	7723-00-00-000000 1/8" Dia. x 3/8" Long
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

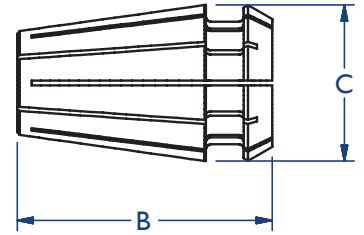
Style	Collet Part Number	A	B	C	D	E	Pin Part Number
P30	4751-12-00-000000	3.700" (78)	.776" (19.7)	3.846" (97.7)	3.459" (88)	.776" (19.7)	7726-00-00-000000 1/8" Dia. x 1 11/64" Long
TF15	4681-12-00-000000	2.284" (58)	.424" (10.76)	2.708" (68.78)	2.520" (64)	.188" (4.77)	7722-00-00-000000 1/8" Dia. x 43/64" 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 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 ( )

# 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

## ERQC Quick-Change Floating Solid Tap Collets

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.



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 9/16"

– Millimeters in parentheses ( )

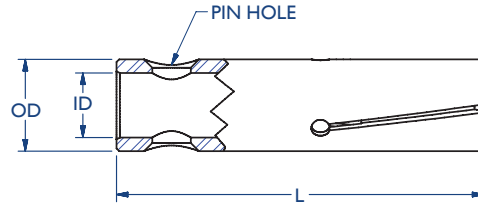
## ANSI Standard Tap and Collet/Shank Sizes

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 COLLET

## Style-D

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.



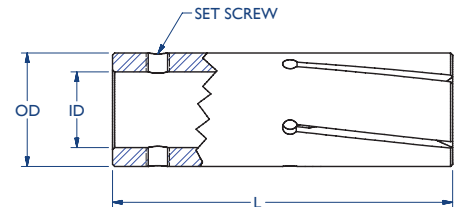
\* Models 4801, 4805 and 4809 have an internal thread with no pin holes.

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 7/64"	.050" to .118"	1/32"	.001"
7D	4805*	.275"	(7.00)	M5 x .8 THD		1.102"	(28.00)	1/16" to 3/16"	.050" to .197"	1/32"	.001"
10D	4809*	.393"	(10.00)	.275"	(7.00)	1.574"	(40.00)	1/16" to 5/16"	.050" to .315"	1/32"	.001"
12D	4813	.472"	(12.00)	.314"	(8.00)	1.574"	(40.00)	1/16" to 25/64"	.050" to .394"	1/32"	.001"
15D	4819	.590"	(15.00)	.433"	(11.00)	1.574"	(40.00)	1/16" to 1/2"	.050" to .512"	1/16"	.001"
18D/15	4823	.708"	(18.00)	.433"	(11.00)	1.574"	(40.00)	13/64" to 5/8"	.200" to .630"	1/16"	.001"
18D/NS	4825	.708"	(18.00)	.433"	(11.00)	2.559"	(65.00)	13/64" to 5/8"	.200" to .630"	1/16"	.001"
18D	4827	.708"	(18.00)	.551"	(14.00)	2.559"	(65.00)	3/32" to 5/8"	.093" to .630"	1/16"	.001"
20D	4815	.787"	(20.00)	.551"	(14.00)	2.559"	(65.00)	7/64" to 11/16"	.100" to .709"	1/16"	.001"
22D/20	4835	.866"	(22.00)	.551"	(14.00)	2.559"	(65.00)	13/64" to 25/32"	.200" to .787"	1/16"	.001"
25D	4837	.984"	(25.00)	.787"	(20.00)	2.559"	(65.00)	13/64" to 29/32"	.200" to .906"	1/16"	.001"
28D	4841	1.102"	(28.00)	.787"	(20.00)	2.559"	(65.00)	1/2" to 1 1/64" .500" to 1.024"		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.



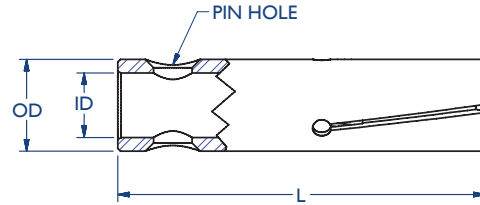
Machine Builders' Model No.	Hardinge Part No.	OD		ID		L Length		Collet Range		Increment		Set Screw (mm)
25DL	4847	.984"	(25.00)	.787"	(20.00)	3.543"	(90.00)	13/64" to 55/64"	.194" to .866"	1/16"	.001"	M6 x 1 x 6
30DL	4849	1.181"	(30.00)	.787"	(20.00)	3.543"	(90.00)	1/2" to 1 1/16"	.500" to 1.063"	1/16"	.001"	M6 x 1 x 6
32DL	4851	1.259"	(32.00)	.787"	(20.00)	3.543"	(90.00)	5/8" to 9/64"	.625" to 1.140"	1/16"	.001"	M6 x 1 x 6
34DL	4853	1.338"	(34.00)	.787"	(20.00)	3.543"	(90.00)	3/4" to 1 7/32"	.750" to 1.218"	1/16"	.001"	M6 x 1 x 6
36DL	4855	1.417"	(36.00)	.787"	(20.00)	3.543"	(90.00)	7/8" to 1 9/64"	.875" to 1.297"	1/16"	.001"	M8 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"	1/16"	.001"	M8 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"	1/16"	.001"	M8 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 1.653"	1/16"	.001"	M8 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"	1/16"	.001"	M8 x 1.25 x 16
60DL	4869	2.362"	(60.00)	.787"	(20.00)	3.543"	(90.00)	1 3/4" to 2 15/64"	1.750" to 2.244"	1/16"	.001"	M8 x 1.25 x 20
65DL	4871	2.559"	(65.00)	.787"	(20.00)	3.543"	(90.00)	2" to 2 7/16"	2.000" to 2.440"	1/16"	.001"	M8 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"	1/16"	.001"	M8 x 1.25 x 20

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 COLLET

## Style-D

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.



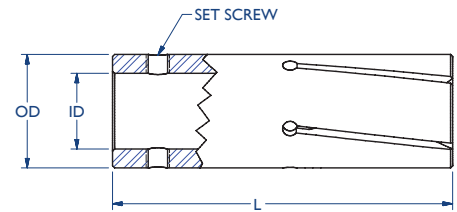
\* Models 4803, 4807 and 4811 have an internal thread with no pin holes.

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)	5/64" to 5/32"	.078" to .157"	1/32"	.001"	---	
LN7D	4807*	.275"	(7.00)	M5 x .8mm THD		1.456"	(37.00)	1/8" to 3/16"	.118" to .197"	1/32"	.001"	---	
LN10D	4811*	.393"	(10.00)	M5 x .8mm THD		1.456"	(37.00)	5/64" to 5/16"	.078" to .315"	1/32"	.001"	---	
I0D	4809	.393"	(10.00)	.275"	(7.00)	1.574"	(40.00)	1/16" to 5/16"	.050" to .315"	1/32"	.001"	.165"	(4.20)
I2D	4813	.472"	(12.00)	.314"	(8.00)	1.574"	(40.00)	1/16" to 25/64"	.050" to .394"	1/32"	.001"	.165"	(4.20)
I3D	4831	.512"	(13.00)	.314"	(8.00)	1.574"	(40.00)	7/64" to 27/64"	.100" to .433"	1/32"	.001"	.165"	(4.20)
I4D	4817	.551"	(14.00)	.314"	(8.00)	1.574"	(40.00)	5/16" to 15/32"	.315" to .472"	1/32"	.001"	.165"	(4.20)
I5D	4819	.590"	(15.00)	.433"	(11.00)	1.574"	(40.00)	1/16" to 1/2"	.050" to .512"	1/16"	.001"	.244"	(6.20)
I6D	4821	.630"	(16.00)	.433"	(11.00)	1.574"	(40.00)	7/64" to 36/64"	.100" to .551"	1/16"	.001"	.244"	(6.20)
I8D/15	4823	.708"	(18.00)	.433"	(11.00)	1.574"	(40.00)	13/64" to 5/8"	.200" to .630"	1/16"	.001"	.244"	(6.20)
I9D	4829	.748"	(19.00)	.433"	(11.00)	1.574"	(40.00)	33/64" to 21/32"	.511" to .669"	1/16"	.001"	.322"	(6.20)
I20D	4815	.787"	(20.00)	.551"	(14.00)	2.559"	(65.00)	7/64" to 11/16"	.100" to .709"	1/16"	.001"	.322"	(8.20)
I21D	4833	.826"	(21.00)	.551"	(14.00)	2.559"	(65.00)	9/16" to 3/4"	.551" to .748"	1/16"	.001"	.322"	(8.20)
I22D/20	4835	.866"	(22.00)	.551"	(14.00)	2.559"	(65.00)	13/64" to 25/32"	.200" to .787"	1/16"	.001"	.322"	(8.20)
I25D	4837	.984"	(25.00)	.787"	(20.00)	2.559"	(65.00)	13/64" to 29/32"	.200" to .906"	1/16"	.001"	.322"	(8.20)
I27D	4839	1.062"	(27.00)	.787"	(20.00)	2.559"	(65.00)	53/64" to 63/64"	.827" to .984"	1/16"	.001"	.322"	(8.20)
I28D	4841	1.102"	(28.00)	.787"	(20.00)	2.559"	(65.00)	1/2" to 1 1/64"	.500" to 1.024"	1/16"	.001"	.322"	(8.20)
I30D	4843	1.181"	(30.00)	.787"	(20.00)	2.559"	(65.00)	63/64" to 1 3/32"	.984" to 1.102"	1/16"	.001"	.322"	(8.20)
I32D	4845	1.259"	(32.00)	.787"	(20.00)	2.559"	(65.00)	63/64" to 1 1/64"	.984" to 1.181"	1/16"	.001"	.322"	(8.20)

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.

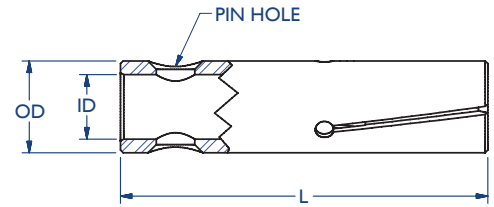


Machine Builders' Model No.	Hardinge Part No.	OD		ID		L Length		Collet Range		Increment		Set Screw (mm)
34DL	4853	1.338"	(34.00)	.787"	(20.00)	3.543"	(90.00)	11/8" to 11/4"	1.102" to 1.220"	1/16"	.001"	M6 x 1.00mm
36DL	4855	1.417"	(36.00)	.787"	(20.00)	3.543"	(90.00)	13/16" to 15/16"	1.181" to 1.299"	1/16"	.001"	M8 x 1.25mm
38DL	4857	1.496"	(38.00)	.787"	(20.00)	3.543"	(90.00)	15/16" to 13/8"	1.260" to 1.378"	1/16"	.001"	M8 x 1.25mm
40DL	4859	1.574"	(40.00)	.787"	(20.00)	3.543"	(90.00)	111/32" to 17/16"	1.339" to 1.457"	1/16"	.001"	M8 x 1.25mm
42DL	4863	1.653"	(42.00)	.787"	(20.00)	3.543"	(90.00)	17/16" to 19/16"	1.417" to 1.535"	1/16"	.001"	M8 x 1.25mm

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.

# 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.



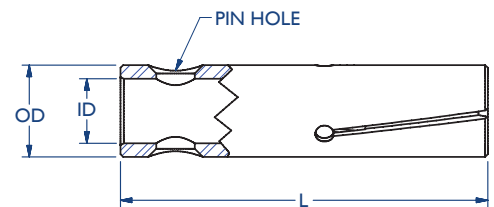
\* Models 4801 and 4805 have an internal thread with no pin holes.

## Robobar

Machine Builders' Model No.	Hardinge Part No.	OD	ID	Length	Collet Range	Increment	Tomos Catalog No.
5D	4801*	.196" (5.00)	M4 x .7mm THD	1.102" (28.00)	1/16" to 7/64"	.050" to .118"	1/32" .001"
7D	4805*	.275" (7.00)	M5 x .8mm THD	1.102" (28.00)	1/16" to 3/16"	.050" to .197"	1/32" .001"
10D	4809	.393" (10.00)	.275" (7.00)	1.574" (40.00)	1/16" to 5/16"	.050" to .315"	1/32" .001"
12D	4813	.472" (12.00)	.314" (8.00)	1.574" (40.00)	1/16" to 25/64"	.050" to .394"	1/32" .001"
15D	4819	.590" (15.00)	.433" (11.00)	1.574" (40.00)	1/16" to 1/2"	.050" to .512"	1/16" .001"
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)	7/64" to 11/16"	.100" to .709"	1/16" .001"
25D	4837	.984" (25.00)	.787" (20.00)	2.559" (65.00)	13/64" to 29/32"	.200" to .906"	1/16" .001"
28D	4841	1.102" (28.00)	.787" (20.00)	2.559" (65.00)	1/2" to 1 1/64"	.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.



\* Models 4889 and 4891 have an internal thread with no pin holes.

## Citizen

Machine Builders' Model No.	Hardinge Part No.	OD	ID	Length	Collet Range	Cross Hole
4.5L	4889-	.177" (4.5)	M3 X .5 LH	1.063" (27)	.030" - .137"	
5.5L	4891-	.216" (5.5)	M3 X .5 LH	1.063" (27)	.030" - .175"	
FC7DL	4909-	.276" (7)	M6 X 1 LH EXT	1.575" (40)	.061" - .231"	
FC10DL	4911-	.393" (10)	M6 X 1 LH EXT	1.575" (40)	.078" - .334"	
FC12DL	4913-	.472" (12)	M6 X 1 LH EXT	1.575" (40)	.334" - .413"	
FC25NF	4901-	.986" (25)	.635" (16.1)	2.992" (76)	.200" - .875"	.317" (8)
FC32NF	4905-	1.260" (32)	.635" (16.1)	2.992" (76)	.625" - 1.140"	.317" (8)
FC34NF	4907-	1.339" (34)	.635" (16.1)	2.992" (76)	.750" - 1.215"	.317" (8)
CIT15NF	4893-	.591" (15)	.396" (10)	2.165" (55)	.078" - .546"	.238" (6)
CIT17NF	4895-	.669" (17)	.396" (10)	2.165" (55)	.546" - .629"	.238" (6)
CIT19NF	4897-	.748" (19)	.396" (10)	2.224" (56.5)	.629" - .669"	.238" (6)
CIT21NF	4899-	.790" (20)	.396" (10)	2.224" (56.5)	.669" - .748"	.238" (6)



# TOOL HOLDERS, COLLETS & BUSHINGS

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 MFG.



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.

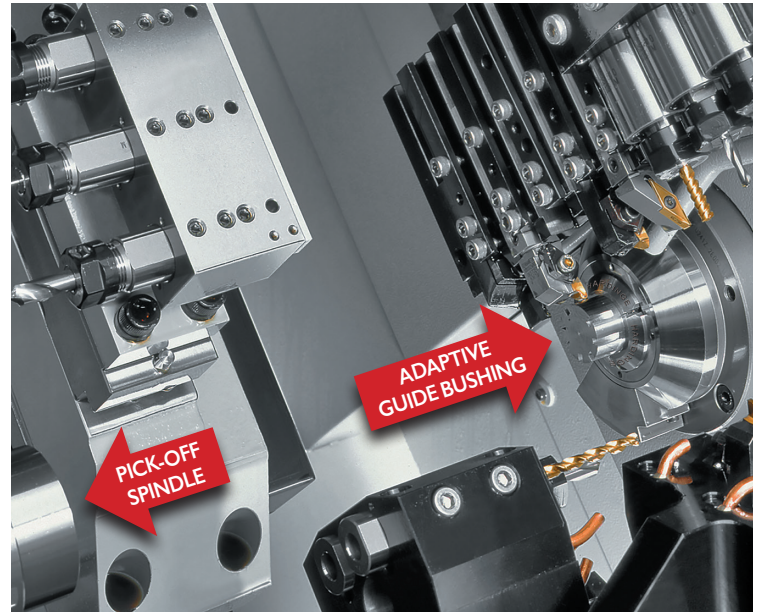
Specials are manufactured to rigid specifications, including material, time-proven heat treatment and machined accuracy. Hardinge's engineering department provides technical assistance in designing your collet, step chuck or related workholding device for your special machining needs.

When sample parts are being sent to us, please call for an RMA (Return Material Authorization) number to help speed up the quote process.

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

- 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

# CUSTOM SOLUTIONS FOR CITIZEN LATHES



## 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)

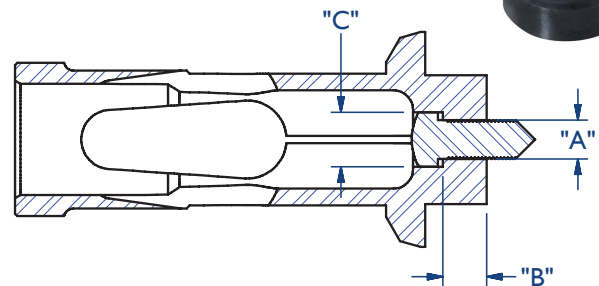
Bar Material \_\_\_\_\_ Machine Model \_\_\_\_\_

\*\* 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.

CITIZEN MACHINERY AMERICA INC  
in partnership with Hardinge Inc.

## 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) \_\_\_\_\_

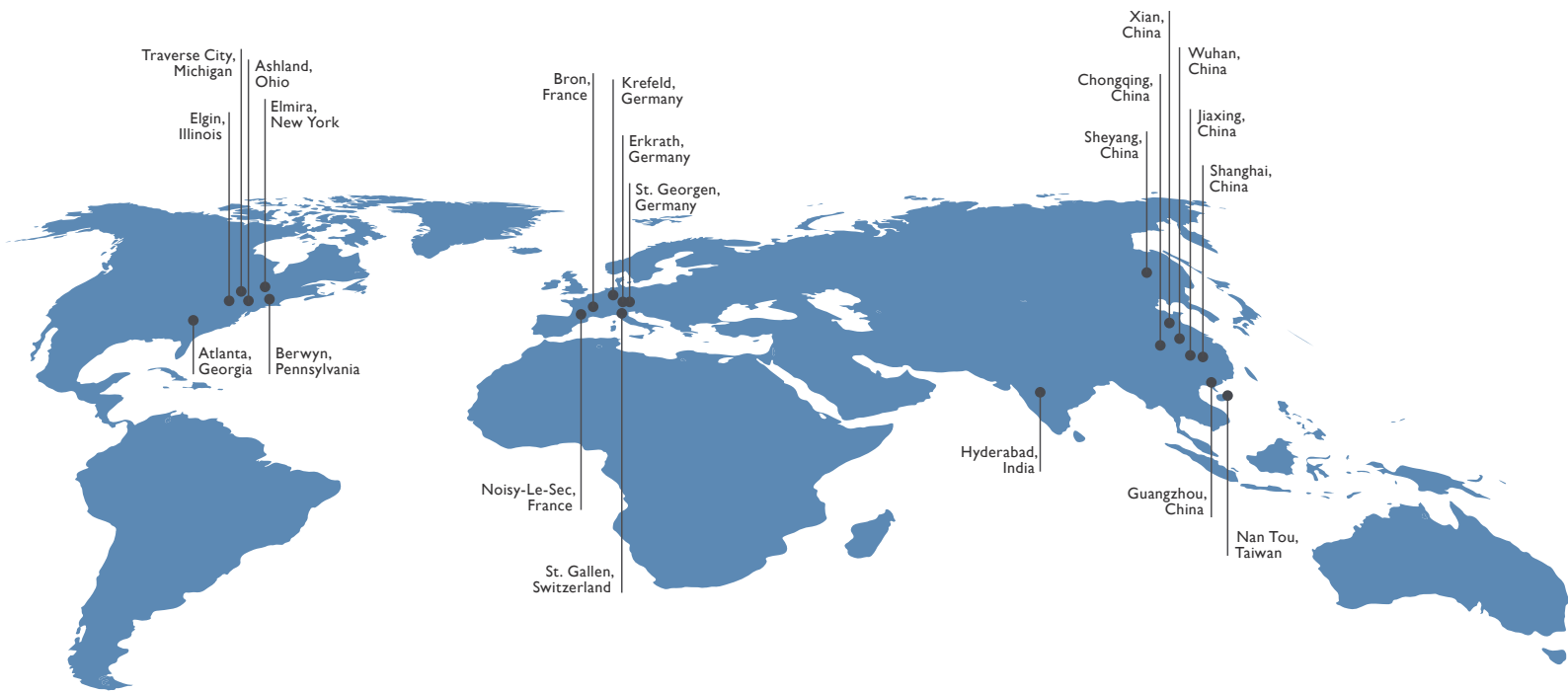
Part Diameter "C" (max .630"/16.0mm) \_\_\_\_\_ \*

\* 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.

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

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	—	—

# HARDINGE WORLDWIDE



Hardinge is a leading international provider of advanced metal-cutting solutions. We provide a full spectrum of highly reliable CNC turning, milling, grinding, and honing machines as well as technologically advanced workholding accessories.

The diverse products we offer enable us to support a variety of market applications in industries including aerospace, agricultural, automotive, construction, consumer products, defense, energy, medical, technology, transportation and more.

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