

Premium Tool Holding Systems





Since 1974, Pioneer has delivered world class tool and work holding products, earning a reputation built on unsurpassed service, custom solutions, and innovation.

We understand the engineering intricacies that vary by industry. That's why Pioneer actively invests in research and development to enhance our already superior line of products and allow for development of individualized solutions. We are continuously working to expand our available product lines by listening to our customers while staying on top of market trends and new technology.



We believe that a quality tool requires quality balance and are uncompromising in our pursuit to provide the most cost effective tool holding in the market, going above and beyond the industry standard. Why? Because we know that higher accuracy results in superior outcomes, while also reducing wear and tear, and ultimately saving our customers money by extending their tool life.



Whatever your need, we have your business covered with our Premium and Standard product lines. We are passionate about providing our customers the latest, most sophisticated technology to guarantee a competitive advantage. We guarantee better performance through increased consistency and accuracy and invite you to explore the Pioneer difference. **Call us today!**

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BC - Bearingless Milling Chuck

Ultimate Precision | Milling | Precision Drilling | Indexable Threading & Milling



Premium Performance

Ultimate Precision

0.0002" TIR Guaranteed @ 50mm (2")

Bearingless Design

Eliminating wear components & easy to clean & service

Over Tightening Eliminated

Solid Shoulder Design prevents over tightening

Low Profile

Smaller OD than Traditional Mill Chucks

Coolant Thru

Self sealing bore design for high pressure applications

Powerful

Over 400 ft/lbs of radial torque on 1.25" Carbide Shanks

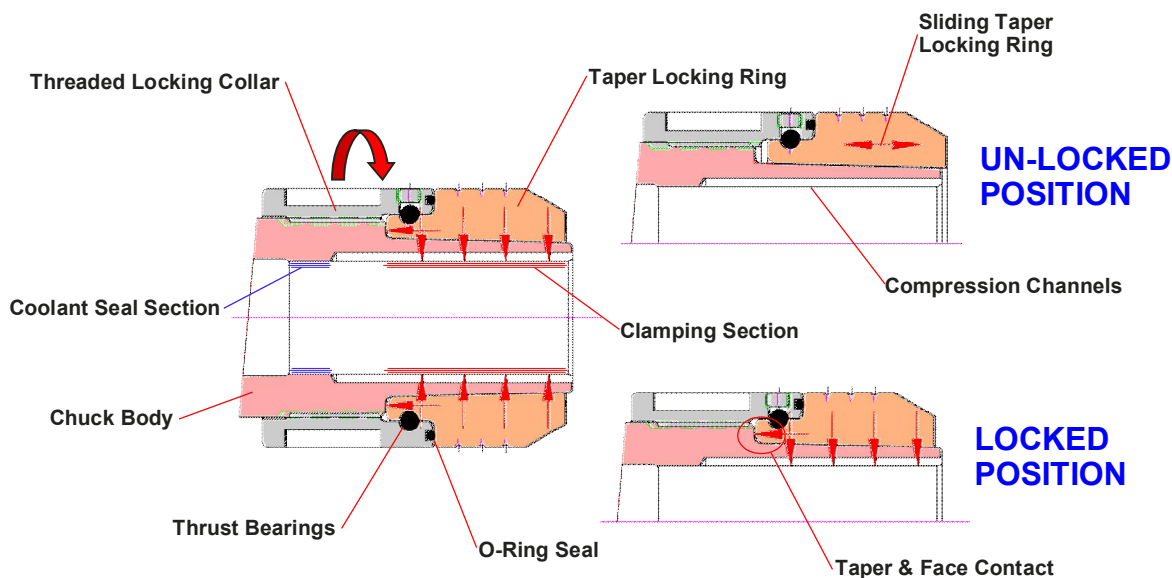
Vibration Dampening

Unlike materials & mass dampen cutting harmonics

Performance Milling

Designed for Performance Milling with Neutral to 30° flute geometry, not designed for hi-helix applications

Bearingless Mill Chuck Design Features



BC - Bearingless Milling Chuck

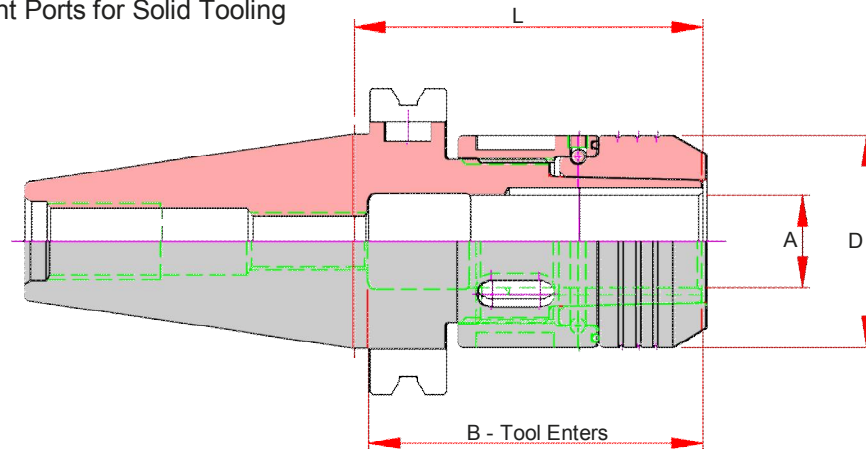
Bearingless Mill Chucks

Features

- 5 μ m - 0.0002" Runout @ 2" out
- Designed for Tool Shanks w/ ISO h6 Class Tolerance
- Sealed by Design for High Pressure Coolant
- Dynamically Balanced G2.5 @ 20,000 RPM

Optional (Order Separately):

- Wrench
- Coolant Thru w/ Nylon Screw Seal for short tool shanks
- DIN-B Flange Coolant
- Jet-Blast Coolant Ports for Solid Tooling



Part Number	A Bore	B Max. Tool Enters	D	L Projection	Coolant Seal Depth (Min. Shank Length)	Optional Preset Screw (Order Separately)	Wrench (Order Separately)
BT30-BC075-0295	0.7500	2.72	1.73	2.95	1.62	ASC-12-30	SXW-16
BT40-BC075-0315	0.7500	2.72	1.73	3.15	1.62	ASC-12-30	SXW-16
BT40-BC100-0331	1.0000	3.00	2.12	3.31	1.65	ASC-12-30	MCW-20
BT40-BC125-0403	1.2500	3.00	2.56	4.03	2.05	ASC-12-30	MCW-25
CAT40-BC075-0283	0.7500	2.72	1.73	2.83	1.62	ASC-12-30	SXW-16
CAT40-BC100-0300	1.0000	3.00	2.12	3.00	1.65	ASC-12-30	MCW-20
CAT40-BC125-0350*	1.2500	3.00	2.56	3.50	2.05	ASC-12-30	MCW-25
CAT40-BCM20-0283	20mm	2.72	1.73	2.83	1.62	ASC-12-30	SXW-16
CAT40-BCM25-0300	25mm	3.00	2.12	3.00	1.65	ASC-12-30	MCW-20
CAT40-BCM32-0350*	32mm	3.00	2.56	3.50	2.05	ASC-12-30	MCW-25
CAT50-BC075-0283	0.7500	2.72	1.73	2.83	1.62	ASC-12-30	SXW-16
CAT50-BC100-0300	1.0000	3.00	2.12	3.00	1.65	ASC-12-30	MCW-20
CAT50-BC125-0350	1.2500	3.00	2.56	3.50	2.05	ASC-12-30	MCW-25
HSK63A-BC075-0311	0.7500	2.16	1.73	3.11	1.62	-	SXW-16
HSK63A-BC100-0391	1.0000	2.96	2.12	3.91	1.65	-	MCW-20
HSK63A-BC125-0433	1.2500	3.00	2.56	4.33	2.05	-	MCW-25

* No ANSI Safety Area - will not function in umbrella style tool changers

SX - Super Chucks

Ultimate Precision | Drilling | Reaming | Thread Milling | Milling



Premium Performance

Ultimate Precision

0.0001" TIR Guaranteed on UP Collets

Accurate

4X more accurate than ER with 10X better repeatability

Powerful

2X the driving torque than ER

Compact Design

Compact designed for close clearance programming

Versatile

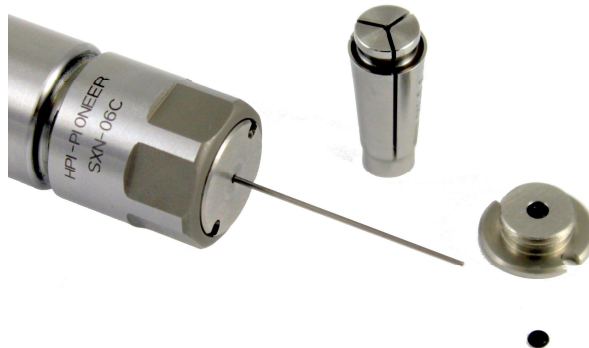
Designed for Drilling, Reaming, Thread Milling, Tapping & Milling

Wide Range

For tooling from 0.031" to 1.000"

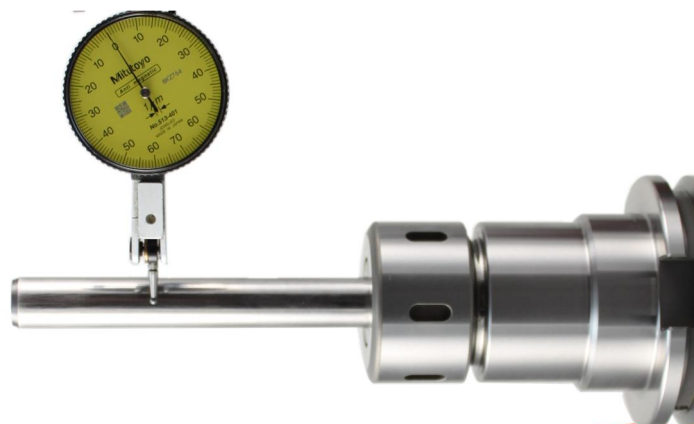
Coolant Cap Sealing System

SX Coolant Caps allows you to add coolant seals to any collet & chuck. Available in O-Ring and **Jet-Blast**.



Accuracy "is" Everything

Guaranteed for 0.0002" (0.005mm) @ 4X Dia., that is 1/2 of ER at 2 times the distance out! Nothing out performs SX in long drilling & reaming applications



Performance Drilling

Side by Side comparison of a 1/4" drill at 10 times diameter in length from the collet face (2.50").

- ER Standards (US 0.0004") - (DIN 0.0006") TIR at 2 times diameter (0.50") from the face of the chuck
- SX Standards are 0.0002" TIR at 4 times the diameter (1.00") from the face of the chuck

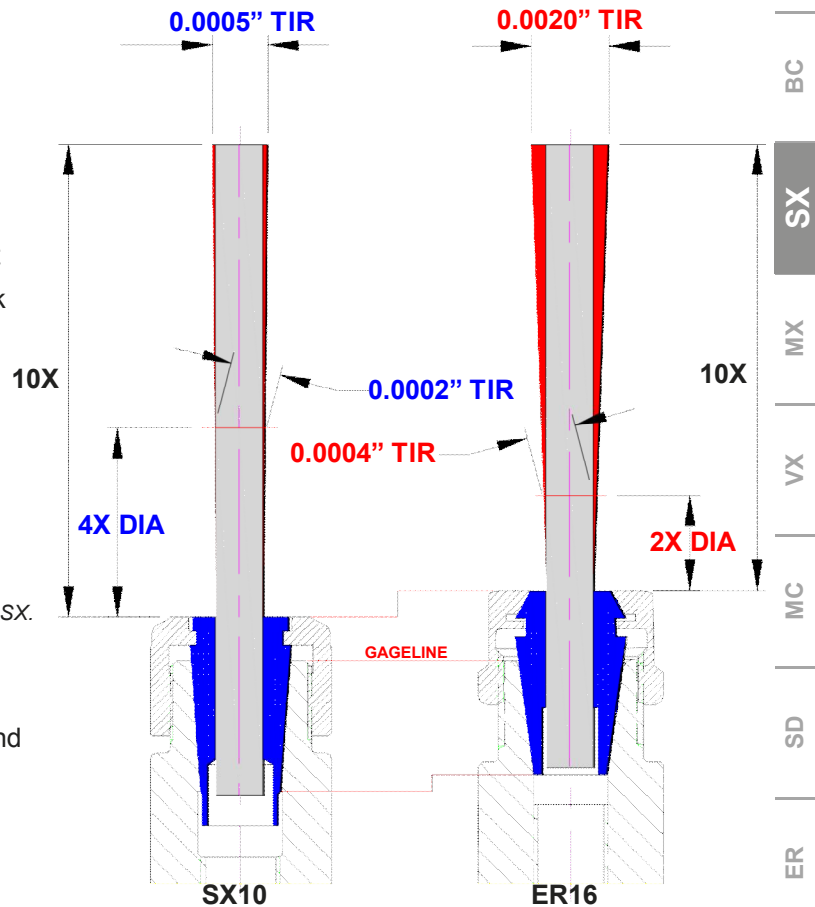
Many applications require extending the drills out 10 times diameter, 2.50" from the chuck face.

Results: SX TIR is 4 times better than ER!

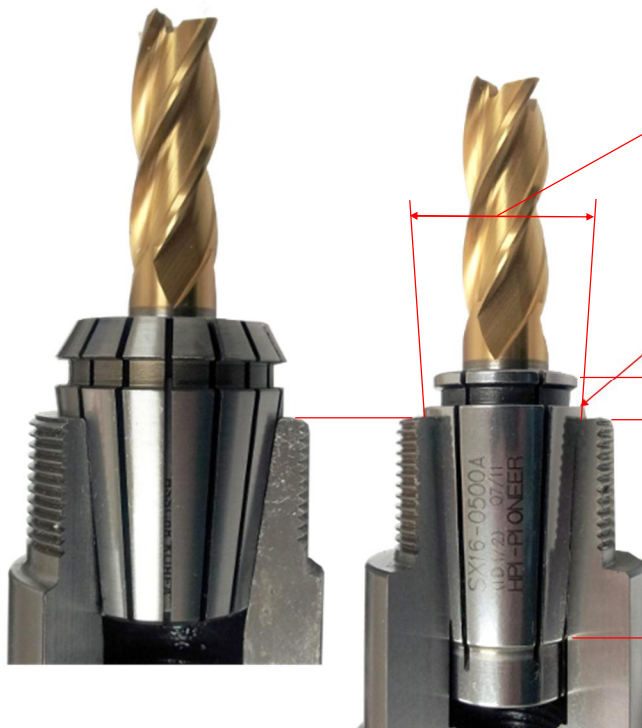
This is worst case numbers, most customers see better results with SX.

SX is a longer collet which provides more surface engagement in the pocket for improved consistency and repeatability.

TIR = Total Indicator Reading - The process of measuring the movement of the tool while rotating the assembly 360 degree's. Machine wear may add to the results.



Superior Design



SX collet taper is 1/2 of ER, 8° vs 16°, which provides double the clamping torque and superior centering.

Square shoulder removes influence from the collet nut from the nose of the collet.

Reduced Overhang eliminates tool drift allowing the system to provide consistent Run-out tool change to tool change.

Longer engagement provides 30% more driving torque w/ increased rigidity and superior repeatability.

ER32 vs SX16 with 1/2" End Mill on the same gageline to show lock up position, collet overhang and tool engagement.

SX - Super Chucks

New SX25M Mini-Max Nut Mini Clearance Maximum Capacity & Performance

Introducing the next step in performance Collet Chucks. Designed to fit existing ER32 applications and provide superior TIR, Driving Torque and 25% greater tool capacity. The Stub projection model provides superior rigidity in some of the most demanding applications.

- Nut Diameter of 1.97", 50mm, same as ER32 for optimal clearance
- 1" Capacity (ER32 is 3/4") for extended range
- 1.75" Stub Designed for Maximum Rigidity
- Performance Nut for High Radial Slip Torque of 150 ft/lbs on 1" Carbide Shanks
- 0.0002" TIR at 4" from the Collet Face (1" Tooling)
- 8° Collet, 4X Better TIR than ER
- Interchangeable with existing SX25 holders, collets & wrenches



New SX25MB Mini-Max Bearing Nut

Advancing the SX25M further, SX25MB increases locking torque and holding power. MB (Mini Bearing) is a true ball bearing design which increases holding power an additional 25% to 200 ft/lbs of Radial Slip Torque over non-bearing SX designs and 40% higher than ER40. SX25MB fit all existing SX25 collet chucks.



SXN-25MB Mini Bearing Nut



ERN32 E Style Nut

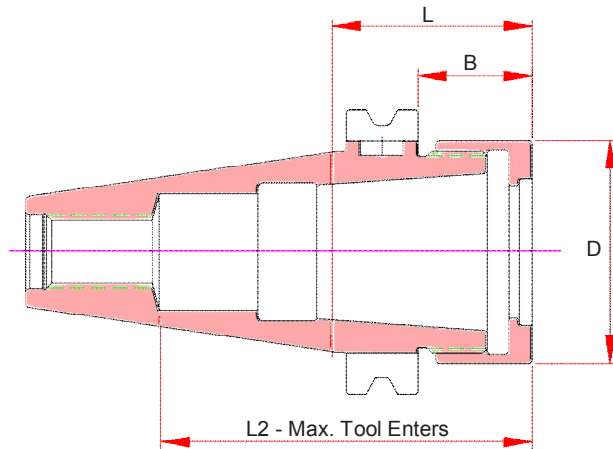


SXN-25M Mini Nut

CAT40 SX Mini-Max Collet Chucks

Features

- 3 μm - 0.0001" Runout Taper to Taper
- Mini Nut for Maximum Clearance
- DIN B Flange Coolant Standard
- Dynamically Balanced G2.5 @ 25,000 RPM
- Order Collets & Wrench Separately



Capacity	Part Number	Range	B	D	L Projection	L2 Max. Tool	Collet	Nut Included	Wrench
1"	CAT40-SX25M-0175-D**		1.00		1.75	3.22			
	CAT40-SX25M-090-D	.125 - 1.000	2.79	1.98	3.54	3.20	SX25	SXN-25M	MCW-20
	CAT40-SX25M-120-D		3.97		4.72	3.68			
	CAT40-SX25M-150-D		5.16		5.91	3.68			

** Nut Diameter is larger than ANSI B5.50 Safety Area, may not function in Umbrella Style Tool Changers

SX Collet Nuts



Mini-Max Bearing Nut



Mini-Max Solid Nut

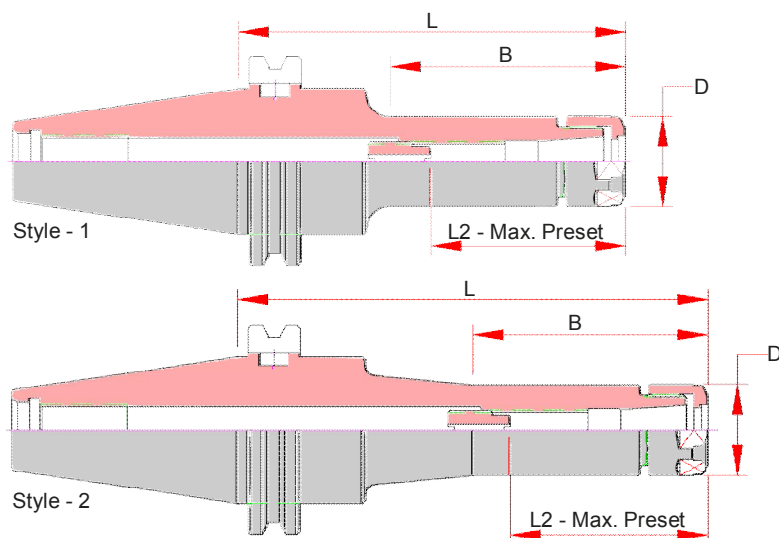
Nut Part Number	Description	Wrench Part Number	Thread	Max. Torque
SXN-25S	SX25 Spanner Nut			85 ft/lbs
SXN-25M	SX25 Mini-Max Spanner Nut	MCW20	M45 x 1.5	85 ft/lbs
SXN-25MB	SX25 Mini-Max Bearing Spanner Nut			120 ft/lbs

SX - Super Chucks

CAT40 SX Collet Chucks

Features

- **3 μ m - 0.0001" Runout Taper to Taper**
- DIN B Flange Coolant Optional (See Next Page)
- Dynamically Balanced G2.5 @ 25,000 RPM
- Order Collets, Preset Screw & Wrench Separately

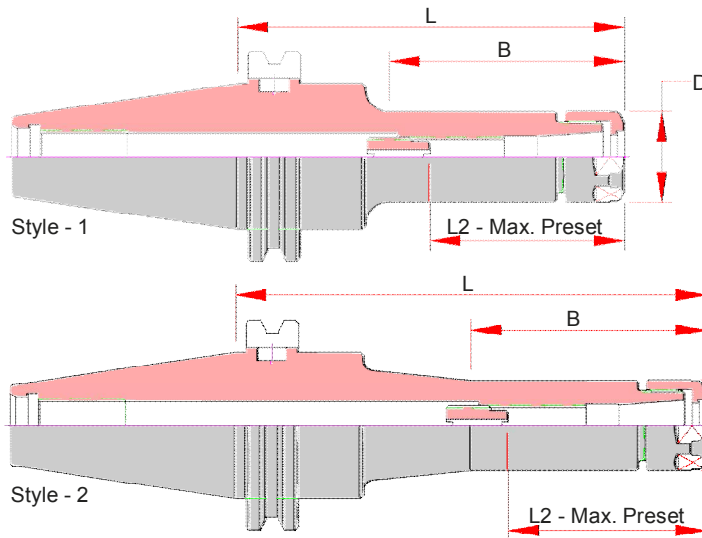


Capacity	Part Number	Range	B	D	L Projection	L2 Max. Preset	Collet	Nut	Wrench	Style
1/4	CAT40-SX06-090		1.97		3.54					1
	CAT40-SX06-120	.030 - .250	2.36	0.77	4.72	2.16	SX06	SXN-06	SXW-06	2
	CAT40-SX06-150		2.36		5.91					2
3/8	CAT40-SX10-090		1.97		3.54					1
	CAT40-SX10-120	.069 - .394	2.76	1.08	4.72	2.81	SX10	SXN-10	SXW-10	2
	CAT40-SX10-150		2.76		5.91					2
	CAT40-SX10-180		2.76		7.09					2
5/8	CAT40-SX16-090		2.12		3.54	3.03				1
	CAT40-SX16-120	.108 - .630	3.30	1.58	4.72	2.95	SX16	SXN-16	SXW-16	1
	CAT40-SX16-150		4.48		5.91	2.95				1
	CAT40-SX16-180		5.66		7.09	2.63				1
1"	CAT40-SX25-090		2.79		3.54	3.20				1
	CAT40-SX25-120	.630 - 1.000	3.97	2.17	4.72	3.68	SX25	SXN-25	MCW-20	1
	CAT40-SX25-150		5.15		5.91	3.68				1

CAT40 SX Collet Chucks w/ DIN B

Features

- 3 μ m - 0.0001" Runout Taper to Taper
- DIN AD/B Flange Coolant Included
- Dynamically Balanced G2.5 @ 25,000 RPM
- Order Collets, Preset Screw & Wrench Separately



Capacity	Part Number	Range	B	D	L Projection	L2 Max. Preset	Collet	Nut	Wrench	Style
1/4	CAT40-SX06-090-D		1.97		3.54					1
	CAT40-SX06-120-D	.030 - .250	2.36	0.77	4.72	2.16	SX06	SXN-06	SXW-06	2
	CAT40-SX06-150-D		2.36		5.91					2
3/8	CAT40-SX10-090-D		1.97		3.54					1
	CAT40-SX10-120-D	.069 - .394	2.76	1.08	4.72	2.81	SX10	SXN-10	SXW-10	2
	CAT40-SX10-150-D		2.76		5.91					2
	CAT40-SX10-180-D		2.76		7.09					2
5/8	CAT40-SX16-090-D		2.12		3.54	3.03				1
	CAT40-SX16-120-D	.108 - .630	3.30	1.58	4.72	2.95	SX16	SXN-16	SXW-16	1
	CAT40-SX16-150-D		4.48		5.91	2.95				1
	CAT40-SX16-180-D		5.66		7.09	2.63				1
1"	CAT40-SX25M-0175-D**		1.00		1.75	3.25				1
	CAT40-SX25M-090-D	.630 - 1.000	2.79	1.97	3.54	3.20	SX25	SXN-25M	MCW-20	1
	CAT40-SX25M-120-D		3.97		4.72	3.68				1
	CAT40-SX25M-150-D		5.15		5.91	3.68				1

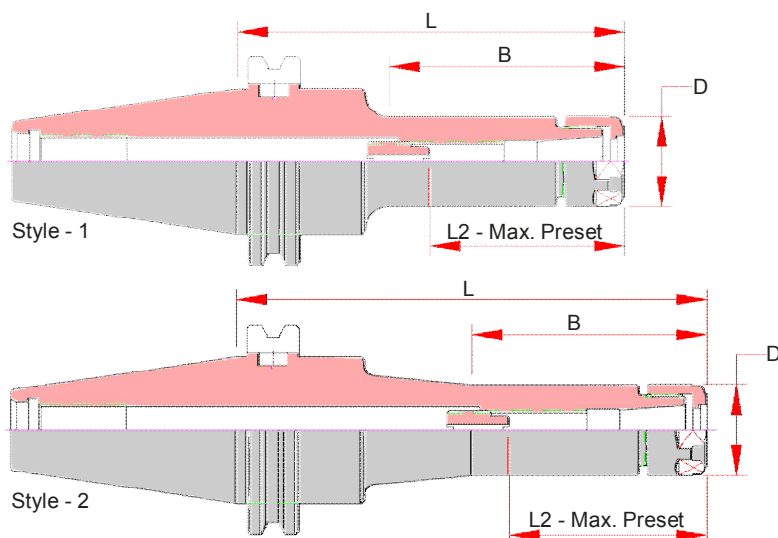
** Nut Diameter is larger than ANSI B5.50 Safety Area, may not function in Umbrella Style Tool Changers

SX - Super Chucks

CAT50 SX Collet Chucks

Features

- 3 μm - 0.0001" Runout Taper to Taper
- DIN B Flange Coolant Optional
- Dynamically Balanced G2.5 @ 25,000 RPM
- Order Collets, Preset Screws & Wrench Separately

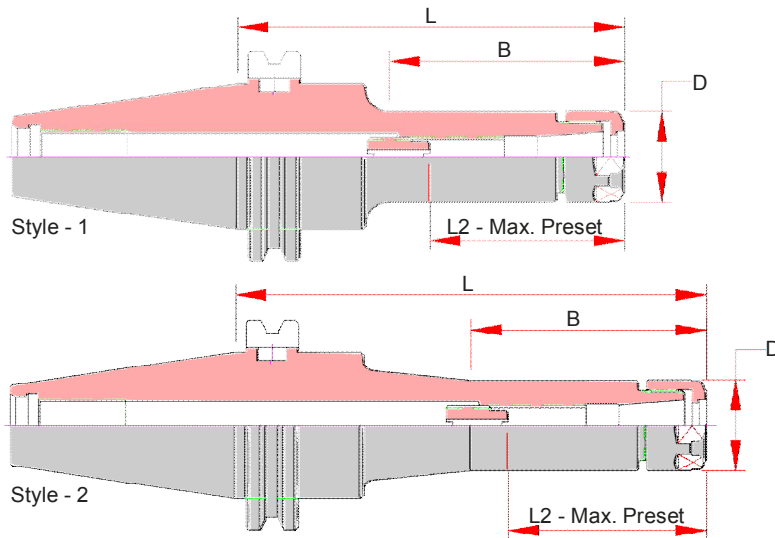


Capacity	Part Number	Range	B	D	L Projection	L2 Max. Preset	Collet	Nut	Wrench	Style
1/4	CAT50-SX06-105	.030 - .250	2.36	0.77	4.13	2.11	SX06	SXN-06	SXW-06	2
	CAT50-SX06-135				5.31	2.11				2
	CAT50-SX06-165				6.50	2.11				2
	CAT50-SX06-195				7.68	1.37				2
3/8	CAT50-SX10-105	.069 - .394	2.36	1.08	4.13	3.05	SX10	SXN-10	SXW-10	1
	CAT50-SX10-135		2.95		5.31	3.05				2
	CAT50-SX10-165		2.95		6.50	2.71				2
	CAT50-SX10-195		2.95		7.68	2.71				2
5/8	CAT50-SX16-105	.108 - .630	2.56	1.58	4.13	3.15	SX16	SXN-16	SXW-16	1
	CAT50-SX16-135		3.54		5.31					1
	CAT50-SX16-165		3.54		6.50					2
	CAT50-SX16-195		3.54		7.68					2
1"	CAT50-SX25-105	.630 - 1.000	2.56	2.17	4.13	3.87	SX25	SXN-25	MCW-20	1
	CAT50-SX25-135		3.74		5.31	3.87				1
	CAT50-SX25-165		4.92		6.50	3.80				1
	CAT50-SX25-195		6.10		7.68	3.87				1

CAT50 SX Collet Chucks w/ DIN-B

Features

- 3 μ m - 0.0001" Runout Taper to Taper
- DIN AD/B Flange Coolant
- Dynamically Balanced G2.5 @ 25,000 RPM
- Order Collets, Preset Screws & Wrench Separately



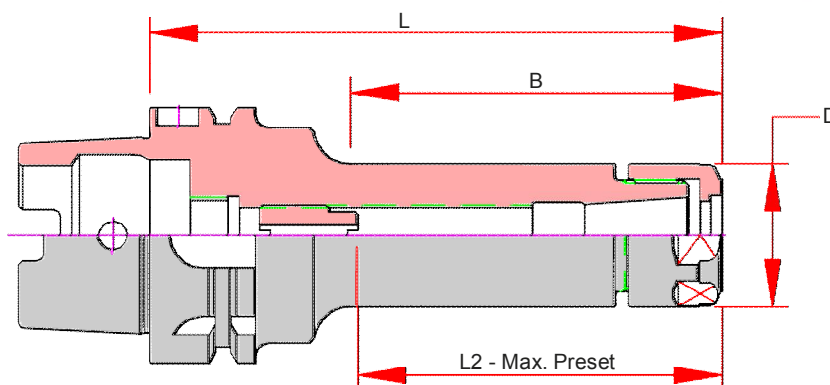
Capacity	Part Number	Range	B	D	L Projection	L2 Max. Preset	Collet	Nut	Wrench	Style
1/4	CAT50-SX06-105-D	.030 - .250	2.36	0.77	4.13	2.11	SX06	SXN-06	SXW-06	2
	CAT50-SX06-135-D				5.31	2.11				2
	CAT50-SX06-165-D				6.50	2.11				2
	CAT50-SX06-195-D				7.68	1.37				2
3/8	CAT50-SX10-105-D	.069 - .394	2.36	1.08	4.13	3.05	SX10	SXN-10	SXW-10	1
	CAT50-SX10-135-D		2.95		5.31	3.05				2
	CAT50-SX10-165-D		2.95		6.50	2.71				2
	CAT50-SX10-195-D		2.95		7.68	2.71				2
5/8	CAT50-SX16-105-D	.108 - .630	2.56	1.58	4.13	3.15	SX16	SXN-16	SXW-16	1
	CAT50-SX16-135-D		3.54		5.31					1
	CAT50-SX16-165-D		3.54		6.50					2
	CAT50-SX16-195-D		3.54		7.68					2
1"	CAT50-SX25M-105-D	.630 - 1.000	2.56	1.97	4.13	3.87	SX25	SXN-25M	MCW-20	1
	CAT50-SX25M-135-D		3.74		5.31	3.87				1
	CAT50-SX25M-165-D		4.92		6.50	3.80				1
	CAT50-SX25M-195-D		6.10		7.68	3.87				1

SX - Super Chucks

HSK SX Collet Chucks

Features

- 3 μm - 0.0001" Runout Taper to Taper
- Balanced G2.5 @ 25,000 RPM
- Order Collets, Coolant Tube & Wrench Separately



HSK63A SX Collet Chucks

Capacity	Part Number	Range	B	D	L Projection	L2 Max. Preset	Collet	Nut	Wrench
1/4	HSK63A-SX06-100	0.030 - 0.236	1.97	0.77	3.94	1.73	SX06	SXN-06	SXW-06
	HSK63A-SX06-150		2.36		5.91				
3/8	HSK63A-SX10-105	0.069 - 0.394	2.91	1.08	4.13	1.65	SX10	SXN-10	SXW-10
	HSK63A-SX10-150		2.76		5.91	1.89			
5/8	HSK63A-SX16-120	0.108 - 0.630	3.50	1.58	4.72	2.44	SX16	SXN-16	SXW-16
	HSK63A-SX16-150		4.68		5.91	2.83			
1"	HSK63A-SX25M-090	0.630 - 1.000	2.52	1.97	3.54	2.44	SX25	SXN-25M	MCW-20
	HSK63A-SX25M-135		4.29		5.31	2.89			

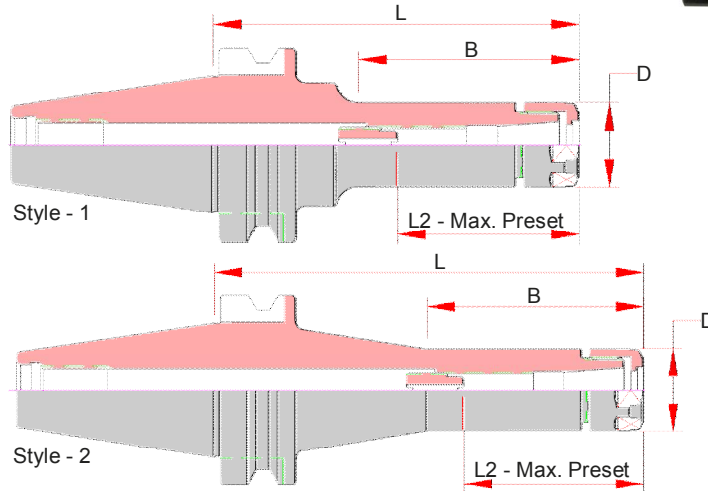
HSK100A SX Collet Chucks *Build on Request*

Capacity	Part Number	Range	B	D	L Projection	L2 Max. Preset	Collet	Nut	Wrench
3/8	HSK100A-SX10-105	0.069 - 0.394	2.83	1.08	4.13	1.65	SX10	SXN-10	SXW-10
	HSK100A-SX10-150		4.50		5.91				
5/8	HSK100A-SX16-120	0.108 - 0.630	3.54	1.58	4.72	2.44	SX16	SXN-16	SXW-16
	HSK100A-SX16-150		4.68		5.91				
1"	HSK100A-SX25M-095	0.630 - 1.000	2.60	1.97	3.74	2.44	SX25	SXN-25M	MCW-20
	HSK100A-SX25M-135		4.17		5.31	2.89			
	HSK100A-SX25M-200		6.73		7.87	2.89			

BT SX Collet Chucks

Features

- 3 μ m - 0.0001" Runout Taper to Taper
- DIN B Flange Coolant Optional in BT40
- Dynamically Balanced G2.5 @ 20,000 RPM
- Order Collets, Preset Screws & Wrench Separately



BT30 SX Collet Chucks

Capacity	Part Number	Range	B	D	L Projection	L2 Max. Preset	Collet	Nut	Wrench	Style
1/4	BT30-SX06-060	0.030 - 0.236	1.30	0.77	2.36	2.15	SX06	SXN-06	SXW-06	1
	BT30-SX06-090		2.20		3.54	2.15				
3/8	BT30-SX10-045	0.069 - 0.394	0.87	1.08	1.77	1.70	SX10	SXN-10	SXW-10	1
	BT30-SX10-060		1.38		2.36	2.30				
	BT30-SX10-090		2.56		3.54	2.40				
5/8	BT30-SX16-060	0.108 - 0.630	1.46	1.58	2.36	2.30	SX16	SXN-16	SXW-16	1
	BT30-SX16-090		2.64		3.54	3.03**				
1"	BT30-SX25M-090	0.630 - 1.000	2.68	1.97	3.54	2.50	SX25	SXN-25	MCW-20	1

** 10MM Tool Shanks & Smaller

BT40 SX Collet Chucks

Capacity	Part Number	Range	B	D	L Projection	L2 Max. Preset	Collet	Nut	Wrench	Style
1/4	BT40-SX06-090	0.030 - 0.236	2.36	0.77	3.54	2.16	SX06	SXN-06	SXW-06	1
	BT40-SX06-120		2.36		4.72	2.00				2
3/8	BT40-SX10-060	0.069 - 0.394	1.18	1.08	2.36	2.20	SX10	SXN-10	SXW-10	1
	BT40-SX10-090		2.36		3.54	2.76				1
	BT40-SX10-120		2.76		4.72	2.56				2
	BT40-SX10-150		2.87		5.91	2.76				2
5/8	BT40-SX16-090	0.108 - 0.630	2.28	1.58	3.54	2.92	SX16	SXN-16	SXW-16	1
	BT40-SX16-120		3.46		4.72	3.00				1
	BT40-SX16-150		4.64		5.91	3.00				1
	BT40-SX16-180		5.82		7.09	3.00				1
1"	BT40-SX25M-090	0.630 - 1.000	2.40	1.97	3.54	3.16	SX25	SXN-25M	MCW-20	1
	BT40-SX25M-120		2.40		4.72	3.16				

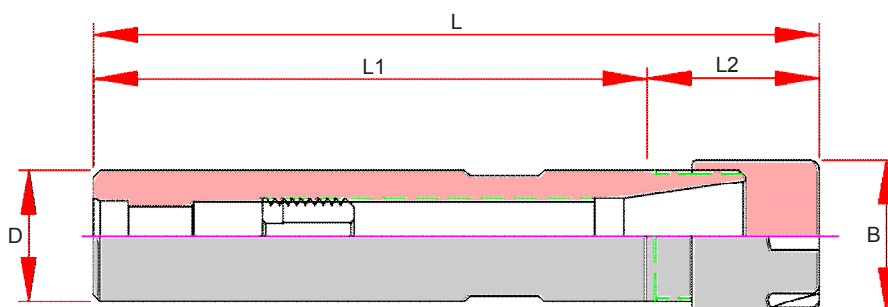


SX - Super Chucks

SX Mini Collet Chuck Extensions

Features

- 3 μm - 0.0001" Runout Taper to Taper
- Optional Coolant Thru
- DIN B Flange Coolant Optional
- Balanced G2.5 @ 20,000 RPM
- Order Collets & Wrench Separately



Part Number	Collet Type	B	D	L	L1	L2	Set Screw	Wrench	Nut Type
S050-SX06M-0552	SX06	0.63	0.500	6.58	5.52	1.07	ASC-SX06-SS	ERW-11M	SX-Mini
S075-SX10M-0640	SX10	0.87	0.750	7.87	6.40	1.47	ASC-ER16-SS	ERW-16M	SX-Mini

SX Collet Nuts

Nut Part Number	Description	Wrench Part Number	Thread	Max. Torque
SXN-06M	SX06 Mini Nut	ERW-11M	M13 x 0.75	9 ft/lbs
SXN-10M	SX10 Mini Nut	ERW-106M	M19 x 1.0	13 ft/lbs
SXN-06H	SX06 Hex Nut	SXW-06H	M15.5 x 1.0	22 ft/lbs
SXN-10H	SX10 Hex Nut	SXW-10H	M21.5 x 1.0	41 ft/lbs
SXN-16S	SX16 Spanner Nut	SXW-16S	M32 x 1.5	55 ft/lbs
SXN-25S	SX25 Spanner Nut	MCW20	M45 x 1.5	85 ft/lbs
SXN-25M	SX25 Mini Spanner Nut	MCW20	M45 x 1.5	85 ft/lbs
SXN-25MB	SX25 Mini Bearing Spanner Nut	MCW20	M45 x 1.5	120 ft/lbs



SX Collet Assembly Instructions



Insert Collet into Assembly Tool until collet collapse's enough to clears the nut ID.



Assemble Collet into the nut, move off center and pull back on the assembly tool.



The collet should lock into the counter bore in the nut and the collet spins freely.

SX Collet Assembly Tool

- Tool is required for assembly and removal of the SX collets from the nut.

NUT SERIES	PART NUMBER
SXN-06M	SXR-06M
SXN-06H	SXR-06
SXN-10H	SXR-10
SXN-16S	SXR-16
SXN-25S	SXR-25



Preset Screws

- Solid Standard Screw
- Nylon Coolant Screw w/ O-Ring Optional



Screw Part Number	Description	Coolant Hole	O-Ring	Thread	Length mm	Wrench
ASC-8-24	SX06 Nylon Coolant Preset Screw	1.50	6mm OD x 1.0mm	M8 x 1.25	24	2.0mm Hex
ASC-12-30	SX10 Nylon Coolant Preset Screw	2.50	10mm OD x 1.5mm	M12 x 1.75	30	2.5mm & 5.0mm Hex
ASC-18-33	SX16 Nylon Coolant Preset Screw	3.00	14mm OD x 2.0mm	M18 x 1.5	33	5.0mm Hex
ASC-25-30	SX25 Nylon Coolant Preset Screw	4.00	17mm OD x 2.0mm	M25 x 2.0	30	4.0mm & 8.0mm Hex

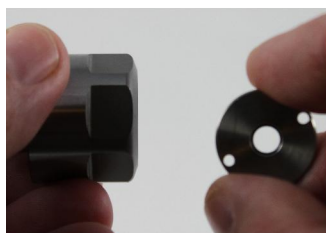
SX - Super Chucks

SX Coolant Cap System

Seals Collet Chucks for Air/Coolant Thru applications and prevents dirt, chips & swarf from entering the slots of the collet.

What do you need?

- 1 SX Collet Chuck
- 1 SX Collet
- 1 SX Coolant Cap Nut
- 1 SX Coolant Cap



Thread Coolant Cap into SX nut, do not tighten, assemble the collet.



Insert cutting tool with the seal engaged on the round part of the shank, tighten cap.



SX Coolant Cap Nuts

Coolant Nut Part Number	Description	Type	Nut Wrench Part Number	Thread	Coolant Cap Wrench	Tightening Torque
SXCN-06	SX06 Coolant Cap Nut	Hex	SXW-06	M15.5 X 1.0	SXW-CC	22 ft/lbs
SXCN-10	SX10 Coolant Cap Nut	Hex	SXW-10	M21.5 X 1.0		41 ft/lbs
SXCN-16	SX16 Coolant Cap Nut	Spanner	SXW-16	M32 X 1.5		55 ft/lbs
SXCN-25	SX25 Coolant Cap Nut	Spanner	MCW20	M45 X 1.5		85 ft/lbs



SX Coolant Caps - Inch

Features

- O-ring seal for pressures up to 1500 PSI
- Prevents chips, dust & swarf from entering the holder
- Requires Coolant Cap Nut (See Above)
- Jet Blast for Non-Coolant Cutting Tools Available
 - Order by adding a "J" to the end of the part number



w/ Jet-Blast Option

Inch Shank	MM	SX06	SX10	SX16	SX25
1/8	0.1250	3.175	SXC06-0125	SXC10-0125	SXC16-0125
3/16	0.1875	4.763	SXC06-0187	SXC10-0187	SXC16-0187
1/4	0.2500	6.350	SXC06-0250	SXC10-0250	SXC16-0250
5/16	0.3125	7.938		SXC10-0312	SXC16-0312
3/8	0.3750	9.525		SXC10-0375	SXC16-0375
7/16	0.4375	11.113			SXC16-0437
1/2	0.5000	12.700			SXC16-0500
9/16	0.5625	14.288			SXC16-0562
5/8	0.6250	15.875			SXC16-0625
3/4	0.7500	19.050			SXC25-0750
7/8	0.8750	22.225			SXC25-0875
1	1.0000	25.400			SXC25-1000

SX Coolant Caps - Metric

Features

- O-ring seal for pressures up to 1500 PSI
- Prevents chips, dust & swarf from entering the holder
- Requires Coolant Cap Nut (Page 18)
- Jet Blast for Non-Coolant Cutting Tools Available
 - Order by adding a "J" to the end of the part number



w/ Jet-Blast Option

MM	Inch	SX06	SX10	SX16	SX25
1.0	0.039	SXC06-M010	SXC10-M010		
1.5	0.059	SXC06-M015	SXC10-M015		
2.0	0.079	SXC06-M020	SXC10-M020		
2.5	0.098	SXC06-M025	SXC10-M025		
3.0	0.118	SXC06-M030	SXC10-M030	SXC16-M030	SXC25-M030
3.5	0.138	SXC06-M035	SXC10-M035	SXC16-M035	SXC25-M035
4.0	0.157	SXC06-M040	SXC10-M040	SXC16-M040	SXC25-M040
4.5	0.177	SXC06-M045	SXC10-M045	SXC16-M045	SXC25-M045
5.0	0.197	SXC06-M050	SXC10-M050	SXC16-M050	SXC25-M050
5.5	0.217	SXC06-M055	SXC10-M055	SXC16-M055	SXC25-M055
6.0	0.236	SXC06-M060	SXC10-M060	SXC16-M060	SXC25-M060
6.5	0.256		SXC10-M065	SXC16-M065	SXC25-M065
7.0	0.276		SXC10-M070	SXC16-M070	SXC25-M070
7.5	0.295		SXC10-M075	SXC16-M075	SXC25-M075
8.0	0.315		SXC10-M080	SXC16-M080	SXC25-M080
8.5	0.335		SXC10-M085	SXC16-M085	SXC25-M085
9.0	0.354		SXC10-M090	SXC16-M090	SXC25-M090
9.5	0.374		SXC10-M095	SXC16-M095	SXC25-M095
10.0	0.394		SXC10-M100	SXC16-M100	SXC25-M100
10.5	0.413			SXC16-M105	SXC25-M105
11.0	0.433			SXC16-M110	SXC25-M110
11.5	0.453			SXC16-M115	SXC25-M115
12.0	0.472			SXC16-M120	SXC25-M120
12.5	0.492			SXC16-M125	SXC25-M125
13.0	0.512			SXC16-M130	SXC25-M130
13.5	0.531			SXC16-M135	SXC25-M135
14.0	0.551			SXC16-M140	SXC25-M140
14.5	0.571			SXC16-M145	SXC25-M145
15.0	0.591			SXC16-M150	SXC25-M150
15.5	0.610			SXC16-M155	SXC25-M155
16.0	0.630			SXC16-M160	SXC25-M160
16.5	0.650				SXC25-M165
17.0	0.669				SXC25-M170
17.5	0.689				SXC25-M175
18.0	0.709				SXC25-M180
18.5	0.728				SXC25-M185
19.0	0.748				SXC25-M190
19.5	0.768				SXC25-M195
20.0	0.787				SXC25-M200
20.5	0.807				SXC25-M205
21.0	0.827				SXC25-M210
21.5	0.846				SXC25-M215
22.0	0.866				SXC25-M220
22.5	0.886				SXC25-M225
23.0	0.906				SXC25-M230
23.5	0.925				SXC25-M235
24.0	0.945				SXC25-M240
24.5	0.965				SXC25-M245
25.0	0.984				SXC25-M250

SX - Super Chucks

SX Collet Sets

Features

- 5 µm - 0.0002" or Better
 - Includes Collet Tray
- Note: Collet Tray includes positions for Inch and Metric collets, will not be filled unless all sizes are ordered*



Part Number	Chuck Size	Pieces	Range	Increments	Collapse	Includes Tray
Metric						
SX06-MSET-07	SX06	7	3.0mm - 6.0mm	0.5mm	0.5mm	SX06 TRAY
SX10-MSET-15	SX10	15	3.0mm - 10.0mm	0.5mm	0.5mm	SX10 TRAY
SX10-MSET-08	SX10	8	3.0mm - 10.0mm	1.0mm	0.5mm	SX10 TRAY
SX16-MSET-27	SX16	27	3.0mm - 16.0mm	0.5mm	0.5mm	SX16 TRAY
SX16-MSET-14	SX25	14	3.0mm - 16.0mm	1.0mm	0.5mm	SX16 TRAY
SX25-MSET-19	SX25	19	16.0mm - 25.0mm	0.5mm	0.5mm	SX25 TRAY
SX25-MSET-10	SX25	10	16.0mm - 25.0mm	1.0mm	0.5mm	SX25 TRAY
SX25-MSET-45	SX25	45	3.0mm - 25.0mm	0.5mm	0.5mm	SX25 TRAY
SX25-MSET-23	SX25	23	3.0mm - 25.0mm	1.0mm	0.5mm	SX25 TRAY
Inch						
SX06-iSET-05	SX06	5	1/8 - 1/4"	1/32 "	0.02"	SX06 TRAY
SX10-iSET-09	SX10	9	1/8 - 3/8"	1/32 "	0.02"	SX10 TRAY
SX10-iSET-05	SX10	5	1/8 - 3/8"	1/16 "	0.02"	SX10 TRAY
SX16-iSET-17	SX16	17	1/8 - 5/8"	1/32 "	0.02"	SX16 TRAY
SX16-iSET-09	SX16	9	1/8 - 5/8"	1/16 "	0.02"	SX16 TRAY
SX25-iSET-29	SX25	29	1/8 - 1"	1/32 "	0.02"	SX25 TRAY
SX25-iSET-15	SX25	15	1/8 - 1"	1/16 "	0.02"	SX25 TRAY
SX25-iSET-08	SX25	8	1/8 - 1"	1/8 "	0.02"	SX25 TRAY

SX Collet Trays

Features

- Collet Tray includes positions for Inch and Metric collets.
- Steel Construction with Sizes Laser marked

Part Number	Amount of Collets
SX06 TRAY	23
SX10 TRAY	30
SX16 TRAY	44
SX25 TRAY	76



SX Collets B - Type Ranging Collets Inch

Features

- Premium 5µm - 0.0002" T.I.R. @ 4X tool diameter
- Flat ground shoulder guarantees the collet to be seated correctly for optimal repeatability.
- Up to 0.020" (0.5mm) Collapse Range (see chart)

SX06 Inch Collets

Size	Inch	Inch Min.	MM	MM Min.	SX06
1/8	0.1250	0.1053	3.175	2.675	SX06-0125
5/32	0.1563	0.1366	3.970	3.470	SX06-0156
3/16	0.1875	0.1678	4.763	4.262	SX06-0187
7/32	0.2188	0.1991	5.558	5.057	SX06-0218
1/4	0.2500	0.2303	6.350	5.850	SX06-0250

SX10 Inch Collets

Size	Inch	Inch Min.	MM	MM Min.	SX10
1/8	0.1250	0.1053	3.175	2.675	SX10-0125
5/32	0.1563	0.1366	3.970	3.470	SX10-0156
3/16	0.1875	0.1678	4.763	4.262	SX10-0187
7/32	0.2188	0.1991	5.558	5.057	SX10-0218
1/4	0.2500	0.2303	6.350	5.850	SX10-0250
9/32	0.2813	0.2616	7.145	6.645	SX10-0281
5/16	0.3125	0.2928	7.938	7.437	SX10-0312
11/32	0.3438	0.3241	8.733	8.232	SX10-0343
3/8	0.3750	0.3553	9.525	9.025	SX10-0375

SX16 Inch Collets

Size	Inch	Inch Min.	MM	MM Min.	SX16
1/8	0.1250	0.1053	3.175	2.675	SX16-0125
5/32	0.1563	0.1366	3.970	3.470	SX16-0156
3/16	0.1875	0.1678	4.763	4.262	SX16-0187
7/32	0.2188	0.1991	5.558	5.057	SX16-0218
1/4	0.2500	0.2303	6.350	5.850	SX16-0250
9/32	0.2813	0.2616	7.145	6.645	SX16-0281
5/16	0.3125	0.2928	7.938	7.437	SX16-0312
11/32	0.3438	0.3241	8.733	8.232	SX16-0343
3/8	0.3750	0.3553	9.525	9.025	SX16-0375
13/32	0.4063	0.3866	10.320	9.820	SX16-0406
7/16	0.4375	0.4178	11.113	10.612	SX16-0437
15/32	0.4688	0.4491	11.908	11.407	SX16-0468
1/2	0.5000	0.4803	12.700	12.200	SX16-0500
17/32	0.5313	0.5116	13.495	12.995	SX16-0531
9/16	0.5625	0.5428	14.288	13.787	SX16-0562
19/32	0.5938	0.5741	15.083	14.582	SX16-0593
5/8	0.6250	0.6053	15.875	15.375	SX16-0625



SX25 Inch Collets

Size	Inch	Inch Min.	MM	MM Min.	SX25
1/8	0.1250	0.1053	3.175	2.675	SX25-0125
5/32	0.1563	0.1366	3.970	3.470	SX25-0156
3/16	0.1875	0.1678	4.763	4.262	SX25-0187
7/32	0.2188	0.1991	5.558	5.057	SX25-0218
1/4	0.2500	0.2303	6.350	5.850	SX25-0250
9/32	0.2813	0.2616	7.145	6.645	SX25-0281
5/16	0.3125	0.2928	7.938	7.437	SX25-0312
11/32	0.3438	0.3241	8.733	8.232	SX25-0343
3/8	0.3750	0.3553	9.525	9.025	SX25-0375
13/32	0.4063	0.3866	10.320	9.820	SX25-0406
7/16	0.4375	0.4178	11.113	10.612	SX25-0437
15/32	0.4688	0.4491	11.908	11.407	SX25-0469
1/2	0.5000	0.4803	12.700	12.200	SX25-0500
17/32	0.5313	0.5116	13.495	12.995	SX25-0531
9/16	0.5625	0.5428	14.288	13.787	SX25-0562
19/32	0.5938	0.5741	15.083	14.582	SX25-0593
5/8	0.6250	0.6053	15.875	15.375	SX25-0625
21/32	0.6563	0.6366	16.670	16.170	SX25-0656
11/16	0.6875	0.6678	17.463	16.962	SX25-0687
23/32	0.7188	0.6991	18.258	17.757	SX25-0718
3/4	0.7500	0.7303	19.050	18.550	SX25-0750
25/32	0.7813	0.7616	19.845	19.345	SX25-0781
13/16	0.8125	0.7928	20.638	20.137	SX25-0812
27/32	0.8438	0.8241	21.433	20.932	SX25-0843
7/8	0.8750	0.8553	22.225	21.725	SX25-0875
29/32	0.9063	0.8866	23.020	22.520	SX25-0906
15/16	0.9375	0.9178	23.813	23.312	SX25-0937
31/32	0.9688	0.9491	24.608	24.107	SX25-0968
1	1.0000	0.9803	25.400	24.900	SX25-1000

SX - Super Chucks

SX Collets B - Type Ranging Collets

Metric

Features

- Premium 5µm - 0.0002" T.I.R. @ 4X tool diameter
- Flat ground shoulder guarantees the collet to be seated correctly for optimal repeatability.
- Up to 0.020" (0.5mm) Collapse Range (see chart)



SX06 Metric Collets

MM	MM Min.	Inch	Inch Min	SX06
0.80	0.70	0.0315	0.0276	SX06-M008
1.00	0.90	0.0394	0.0354	SX06-M010
1.25	1.15	0.0492	0.0453	SX06-M0125
1.50	1.30	0.0591	0.0512	SX06-M015
1.75	1.55	0.0689	0.0610	SX06-M0175
2.00	1.80	0.0787	0.0709	SX06-M020
2.25	2.05	0.0886	0.0807	SX06-M0225
2.50	2.30	0.0984	0.0906	SX06-M025
2.75	2.55	0.1083	0.1004	SX06-M0275
3.00	2.80	0.1181	0.1102	SX06-M030
3.50	3.00	0.1378	0.1181	SX06-M035
4.00	3.50	0.1575	0.1378	SX06-M040
4.50	4.00	0.1772	0.1575	SX06-M045
5.00	4.50	0.1969	0.1772	SX06-M050
5.50	5.00	0.2165	0.1969	SX06-M055
6.00	5.50	0.2362	0.2165	SX06-M060

SX10 Metric Collets

MM	MM Min.	Inch	Inch Min	SX10
2.00	1.75	0.0787	0.0689	SX10-M020
2.25	2.00	0.0886	0.0787	SX10-M0225
2.50	2.25	0.0984	0.0886	SX10-M025
2.75	2.50	0.1083	0.0984	SX10-M0275
3.00	2.75	0.1181	0.1083	SX10-M030
3.50	3.00	0.1378	0.1181	SX10-M035
4.00	3.50	0.1575	0.1378	SX10-M040
4.50	4.00	0.1772	0.1575	SX10-M045
5.00	4.50	0.1969	0.1772	SX10-M050
5.50	5.00	0.2165	0.1969	SX10-M055
6.00	5.50	0.2362	0.2165	SX10-M060
6.50	6.00	0.2559	0.2362	SX10-M065
7.00	6.50	0.2756	0.2559	SX10-M070
7.50	7.00	0.2953	0.2756	SX10-M075
8.00	7.50	0.3150	0.2953	SX10-M080
8.50	8.00	0.3346	0.3150	SX10-M085
9.00	8.50	0.3543	0.3346	SX10-M090
9.50	9.00	0.3740	0.3543	SX10-M095
10.00	9.50	0.3937	0.3740	SX10-M100

SX Collets B - Type Ranging Collets Metric

Features

- Premium 5µm - 0.0002" T.I.R. @ 4X tool diameter
- Flat ground shoulder guarantees the collet to be seated correctly for optimal repeatability.
- Up to 0.020" (0.5mm) Collapse Range (see chart)



SX16 Metric Collets

MM	MM Min.	Inch	Inch Min	SX16
3.00	2.75	0.1181	0.1083	SX16-M030
3.50	3.00	0.1378	0.1181	SX16-M035
4.00	3.50	0.1575	0.1378	SX16-M040
4.50	4.00	0.1772	0.1575	SX16-M045
5.00	4.50	0.1969	0.1772	SX16-M050
5.50	5.00	0.2165	0.1969	SX16-M055
6.00	5.50	0.2362	0.2165	SX16-M060
6.50	6.00	0.2559	0.2362	SX16-M065
7.00	6.50	0.2756	0.2559	SX16-M070
7.50	7.00	0.2953	0.2756	SX16-M075
8.00	7.50	0.3150	0.2953	SX16-M080
8.50	8.00	0.3346	0.3150	SX16-M085
9.00	8.50	0.3543	0.3346	SX16-M090
9.50	9.00	0.3740	0.3543	SX16-M095
10.00	9.50	0.3937	0.3740	SX16-M100
10.50	10.00	0.4134	0.3937	SX16-M105
11.00	10.50	0.4331	0.4134	SX16-M110
11.50	11.00	0.4528	0.4331	SX16-M115
12.00	11.50	0.4724	0.4528	SX16-M120
12.50	12.00	0.4921	0.4724	SX16-M125
13.00	12.50	0.5118	0.4921	SX16-M130
13.50	13.00	0.5315	0.5118	SX16-M135
14.00	13.50	0.5512	0.5315	SX16-M140
14.50	14.00	0.5709	0.5512	SX16-M145
15.00	14.50	0.5906	0.5709	SX16-M150
15.50	15.00	0.6102	0.5906	SX16-M155
16.00	15.50	0.6299	0.6102	SX16-M160

SX25 Metric Collets

MM	MM Min.	Inch	Inch Min	SX25
3.0	2.8	0.1181	0.1102	SX25-M030
3.5	3.0	0.1378	0.1185	SX25-M035
4.0	3.5	0.1575	0.1382	SX25-M040
4.5	4.0	0.1772	0.1579	SX25-M045
5.0	4.5	0.1969	0.1776	SX25-M050
5.5	5.0	0.2165	0.1972	SX25-M055
6.0	5.5	0.2362	0.2169	SX25-M060
6.5	6.0	0.2559	0.2366	SX25-M065
7.0	6.5	0.2756	0.2563	SX25-M070
7.5	7.0	0.2953	0.2760	SX25-M075
8.0	7.5	0.3150	0.2957	SX25-M080
8.5	8.0	0.3346	0.3154	SX25-M085
9.0	8.5	0.3543	0.3350	SX25-M090
9.5	9.0	0.3740	0.3547	SX25-M095
10.0	9.5	0.3937	0.3744	SX25-M100
10.5	10.0	0.4134	0.3941	SX25-M105
11.0	10.5	0.4331	0.4138	SX25-M110
11.5	11.0	0.4528	0.4335	SX25-M115
12.0	11.5	0.4724	0.4531	SX25-M120
12.5	12.0	0.4921	0.4728	SX25-M125
13.0	12.5	0.5118	0.4925	SX25-M130
13.5	13.0	0.5315	0.5122	SX25-M135
14.0	13.5	0.5512	0.5319	SX25-M140
14.5	14.0	0.5709	0.5516	SX25-M145
15.0	14.5	0.5906	0.5713	SX25-M150
15.5	15.0	0.6102	0.5909	SX25-M155
16.0	15.5	0.6299	0.6106	SX25-M160
16.5	16.0	0.6496	0.6303	SX25-M165
17.0	16.5	0.6693	0.6500	SX25-M170
17.5	17.0	0.6890	0.6697	SX25-M175
18.0	17.5	0.7087	0.6894	SX25-M180
18.5	18.0	0.7283	0.7091	SX25-M185
19.0	18.5	0.7480	0.7287	SX25-M190
19.5	19.0	0.7677	0.7484	SX25-M195
20.0	19.5	0.7874	0.7681	SX25-M200
20.5	20.0	0.8071	0.7878	SX25-M205
21.0	20.5	0.8268	0.8075	SX25-M210
21.5	21.0	0.8465	0.8272	SX25-M215
22.0	21.5	0.8661	0.8469	SX25-M220
22.5	22.0	0.8858	0.8665	SX25-M225
23.0	22.5	0.9055	0.8862	SX25-M230
23.5	23.0	0.9252	0.9059	SX25-M235
24.0	23.5	0.9449	0.9256	SX25-M240
24.5	24.0	0.9646	0.9453	SX25-M245
25.0	24.5	0.9843	0.9650	SX25-M250

SX - Collets

SSX Coolant Collets

Inch & Metric

Features

- Premium 5µm - 0.0002" T.I.R. @ 4X tool diameter
- Sealed for up to 2,000 PSI
- Flat ground shoulder guarantees the collet to be seated correctly for optimal repeatability.
- On Size Collets—h6 Tool Shank Required

A - Type Collets

- On Size Collets
- h6 Shank Size



SSX06 Collets

Cutter Size	Tool Size"	SSX06
1/8	0.1250	SSX06-0125
3/16	0.1875	SSX06-0187
1/4	0.2500	SSX06-0250
3mm	0.1181	SSX06-M030
4mm	0.1575	SSX06-M040
5mm	0.1969	SSX06-M050
6mm	0.2362	SSX06-M060

SSX16 Collets

Cutter Size	Tool Size"	SSX16
1/4	0.2500	SSX16-0250
5/16	0.3125	SSX16-0312
3/8	0.3750	SSX16-0375
7/16	0.4375	SSX16-0437
1/2	0.5000	SSX16-0500
9/16	0.5625	SSX16-0562
5/8	0.6250	SSX16-0625
6mm	0.2362	SSX16-M060
8mm	0.3150	SSX16-M080
10mm	0.3937	SSX16-M100
12mm	0.4724	SSX16-M120
16mm	0.6300	SSX16-M160

SSX10 Collets

Cutter Size	Tool Size"	SSX10
3/16	0.1875	SSX10-0187
1/4	0.2500	SSX10-0250
5/16	0.3125	SSX10-0312
3/8	0.3750	SSX10-0375
4mm	0.1575	SSX10-M040
5mm	0.1969	SSX10-M050
6mm	0.2362	SSX10-M060
8mm	0.3150	SSX10-M080
10mm	0.3937	SSX10-M100

SSX25 Collets

Cutter Size	Tool Size"	SSX25
3/4	0.7500	SSX25-0750
7/8	0.8750	SSX25-0875
1	1.0000	SSX25-1000
16mm	0.6300	SSX25-M160
20mm	0.7874	SSX25-M200
25mm	0.9843	SSX25-M250

Jet-Blast SX Coolant Collets with Coolant Ports

Features

- Premium 5µm - 0.0002" T.I.R. @ 4X tool diameter
- Flat ground shoulder guarantees the collet to be seated correctly for optimal repeatability.
- On Size Collets—h6 Tool Shank Required
- Add -C to the SSX Part Number (shown below)

Flood coolant thru standard collet slots create a loss in pressure and flow control, allowing coolant to fly everywhere. The **Jet-Blast** option for SSX forces the coolant into the **Jet-Blast Ports** maintaining pressure and directing the coolant down the flutes of the cutting tool.

A - Type Collets

- On Size Collets
- h6 Shank Size



SSX06 Collets

Cutter Size	Tool Size"	SSX06	Port Type
1/8	0.1250	SSX06-0125-C	Full
3/16	0.1875	SSX06-0187-C	Half
1/4	0.2500	SSX06-0250-C	Half
3mm	0.1181	SSX06-M030-C	Full
4mm	0.1575	SSX06-M040-C	Full
5mm	0.1969	SSX06-M050-C	Half
6mm	0.2362	SSX06-M060-C	Half

SSX10 Collets

Cutter Size	Tool Size"	SSX10	Port Type
3/16	0.1875	SSX10-0187-C	Full
1/4	0.2500	SSX10-0250-C	Full
5/16	0.3125	SSX10-0312-C	Full
3/8	0.3750	SSX10-0375-C	Half
4mm	0.1575	SSX10-M040-C	Full
5mm	0.1969	SSX10-M050-C	Full
6mm	0.2362	SSX10-M060-C	Full
8mm	0.3150	SSX10-M080-C	Full
10mm	0.3937	SSX10-M100-C	Half

SSX16 Collets

Cutter Size	Tool Size"	SSX16	Port Type
1/4	0.2500	SSX16-0250-C	Full
5/16	0.3125	SSX16-0312-C	Full
3/8	0.3750	SSX16-0375-C	Full
7/16	0.4375	SSX16-0437-C	Full
1/2	0.5000	SSX16-0500-C	Full
9/16	0.5625	SSX16-0562-C	Full
5/8	0.6250	SSX16-0625-C	Half
6mm	0.2362	SSX16-M060-C	Full
8mm	0.3150	SSX16-M080-C	Full
10mm	0.3937	SSX16-M100-C	Full
12mm	0.4724	SSX16-M120-C	Full
16mm	0.6300	SSX16-M160-C	Half

SSX25 Collets

Cutter Size	Tool Size"	SSX25	Port Type
3/4	0.7500	SSX25-0750-C	Full
7/8	0.8750	SSX25-0875-C	Half
1	1.0000	SSX25-1000-C	Half
16mm	0.6300	SSX25-M160-C	Full
20mm	0.7874	SSX25-M200-C	Full
25mm	0.9843	SSX25-M250-C	Half

SX - Super Chucks

Wrenches



Hex



Hook Spanner

Wrench Part Number	Description	Wrench Type	Max. Torque
ERW-11M	SX06 Mini Nut	Mini E	9 ft/lbs
ERW-16M	SX10 Mini Nut	Mini E	13 ft/lbs
SXW-06H	SX06 Hex Nut	Hex	22 ft/lbs
SXW-10H	SX10 Hex Nut	Hex	41 ft/lbs
SXW-16S	SX16 Spanner Nut	Spanner	55 ft/lbs
MCW20	SX25 Spanner Nut	Spanner	85 ft/lbs
MCW20	SX25 Mini Spanner Nut	Spanner	85 ft/lbs
SXW-CC	SX Coolant Cap Face Spanner	Face Spanner	10 ft/lbs

Torque Wrenches



Professional Torque Wrench with ISO-9001 Certifications

The proper torque is a necessity in machining:

- Quality: Proper torque assures maximum cutting accuracy.
- Cost Savings: Proper torque extends the life of collets, tools, and holders.
- Safety: Proper torque reduces the possibility of tools loosening up and coming out of the holder.

Part Number	Description	Torque Range		Length		Weight	Spigot
TW-060	Torque Wrench	5-45 ft/lbs	8-60 Nm	11.9"	301mm	0.55 Kg	16mm round
TW-100		15-80 ft/lbs	20-100 Nm	13.4"	340mm	0.60 Kg	
TW-200		30-150 ft/lbs	40-200 Nm	16.5"	423mm	0.78 Kg	
TW-300		45-228 ft/lbs	60-300 Nm	21.5"	548mm	1.13 Kg	

Torque Wrench Heads

- Use Recommended Wrench with Torque Heads
Using the incorrect wrench can cause over tightening, deflection and damage to the tool holder and collet.
- Do not exceed maximum torque or damage may occur



Wrench Head Part Number	Collet Nut	Description	Wrench Type	Max. Torque	Recommended Wrench
TWH-ER11M	SXN-06M	SX06 Mini Nut Adapter	Mini E	9 ft/lbs	TW-060
TWH-ER16M	SXN-10M	SX10 Mini Nut Adapter	Mini E	13 ft/lbs	TW-060
TWH-SX06	SXN-06H	SX06 Hex Nut Adapter	Hex	22 ft/lbs	TW-060
TWH-SX10	SXN-10H	SX10 Hex Nut Adapter	Hex	41 ft/lbs	TW-100
TWH-SX16	SXN-16S	SX16 Spanner Nut Adapter	Spanner	55 ft/lbs	TW-200
TWH-SX25	SXN-25S	SX25 Spanner Nut Adapter	Spanner	85 ft/lbs	TW-200

MX - Mini Chuck

Ultimate Precision | Finish Milling | Precision Drilling | Threading



Ultimate in Finish Milling

Ultimate Precision

0.0001" TIR Guaranteed @ 4 Time Diameter Out

Accurate

Most accurate collet chuck in the market today

Compact Design

Compact designed for close clearance programming

Versatile

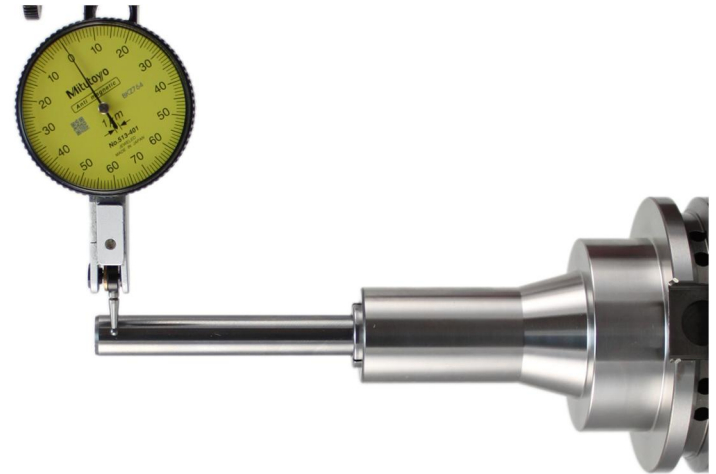
Designed for Thread Milling, Finish Milling, & Precision Drilling

Sealed

Sealed by design for high pressure applications

Ultimate Precision 0.0001" @ 4X Diameter

Ultimate Precision Collets 3 Microns (0.0001") @ 4X dia.



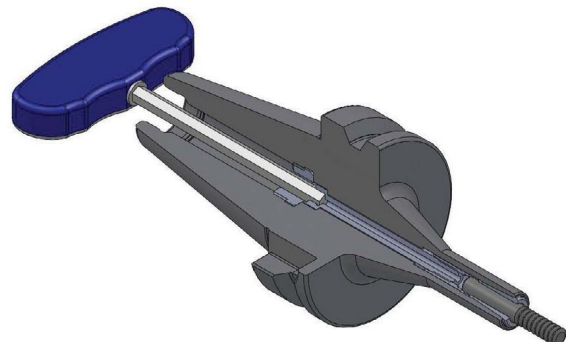
Compact & Sealed for High Pressure

Pioneer MX Chucks are compact for maximum nose clearance for hard to reach applications. MX collets will seal for high pressure coolant by design for pressures as high as 2,000 psi.



Rear Center Pull Locking System

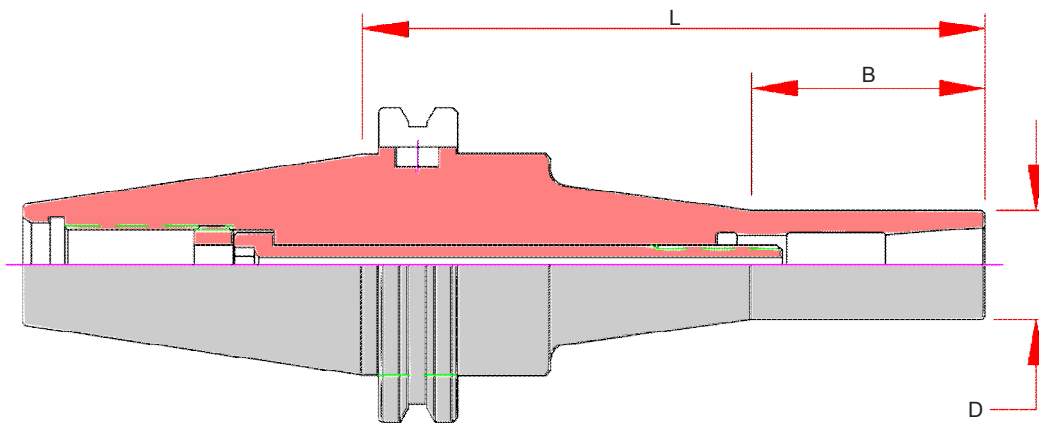
The MX nut free design eliminates collets twist and provides ultra fine run-out. It also provides less interference and excellent holder balance for high speed applications.



MX - Mini Chuck

Features

- 3 μ m - 0.0001" Runout @ 4X Diameter
- Rear Draw Bolt System
- Coolant Thru the Center
- DIN B Flange Coolant Optional (add -D)
- Dynamically Balanced
 - 30, 40 & 63A - G2.5 @ 25,000 RPM
 - CAT50 - G2.5 @ 15,000 RPM
- Order Collets & Wrench Separately



Capacity	Part Number	Collet Range	B	D	L Projection	Collet	Wrench
CAT40	1/4 CAT40-MX06-085	0.031 - 0.250	1.42	0.50	3.35	MX06	MXW05
	CAT40-MX06-150				5.91		
	3/8 CAT40-MX08-085	0.125 - 0.394	1.42	0.87	3.35	MX08	MXW05
	CAT40-MX08-120				4.72		
	CAT40-MX08-150				5.91		
	1/2 CAT40-MX12-090	0.157 - 0.500	1.38	1.18	3.54	MX12	MXW05
	CAT40-MX12-120				4.72		
CAT50	3/8 CAT50-MX08-110	0.125 - 0.394	1.42	0.87	4.33	MX08	MXW05
	CAT50-MX08-165				6.50		
	1/2 CAT50-MX12-105	0.157 - 0.500	1.38	1.18	4.13	MX12	MXW05
	CAT50-MX12-165				6.50		
BT30	1/4 BT30-MX06-090	0.031 - 0.250	1.42	0.50	3.54	MX06	MXW05
	3/8 BT30-MX08-090	0.125 - 0.394	1.42	0.87	3.54	MX08	MXW05
	1/2 BT30-MX12-105	0.157 - 0.500	1.38	1.18	4.13	MX12	MXW05
BT40	1/4 BT40-MX06-085	0.031 - 0.250	1.42	0.50	3.35	MX06	MXW05
	BT40-MX06-150				5.91		
	3/8 BT40-MX08-085	0.125 - 0.394	1.42	0.87	3.35	MX08	MXW05
	BT40-MX08-120				4.72		
	1/2 BT40-MX12-090				3.54		
	1/2 BT40-MX12-110	0.157 - 0.500	1.54	1.18	4.33	MX12	MXW05
HSK63A	1/4 HSK 63A-MX06-100	0.031 - 0.250	1.42	0.50	3.94	MX06	MXW05
	3/8 HSK 63A-MX08-100	0.125 - 0.394	1.42	0.87	3.94	MX08	MXW05
	1/2 HSK 63A-MX12-110	0.157 - 0.500	1.54	1.18	4.33	MX12	MXW05

VX - Mini Chuck+

Ultimate Precision | Finish Milling | Precision Drilling | Threading



Ultimate in Finish Milling

Ultimate Precision

0.0001" TIR @ 4 Time Diameter Out

Accurate

Most accurate collet chuck in the market today

Compact Design

Compact designed for close clearance programming

Versatile

Designed for Thread Milling, Finish Milling,
& Precision Drilling

Front Locking

Front Locking Center Pull System prevents the collet
from twisting for constant accuracy

Increased Locking Torque

5X the holding power of MX and greater holding power
than Hydraulic & ER

Sealed

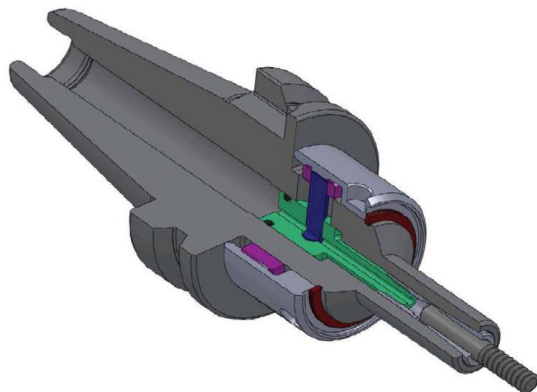
Sealed by design for high pressure applications

Repairable Design

Removal of the front retaining ring provides instant
access to the locking mechanism for easy maintenance

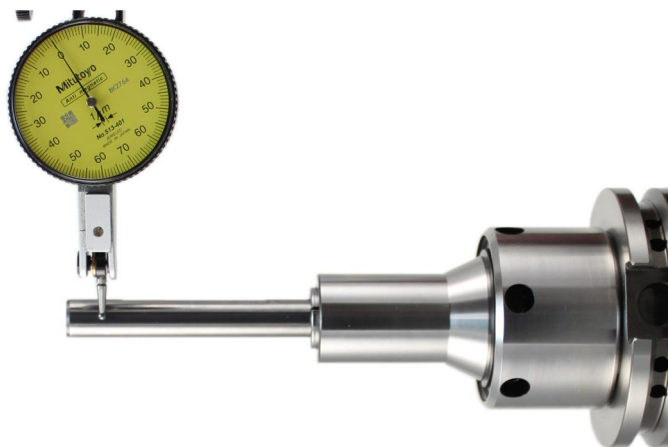
Front Locking Center Pull System

The VX nut free design eliminates collets twist & provides ultra fine run-out. The front locking systems supplies 5 times the locking pressure of the MX rear pull design.



Ultimate Precision 0.0001" @ 4X Diameter

Ultimate Precision Collets 3 Microns (0.0001") @ 4X dia.

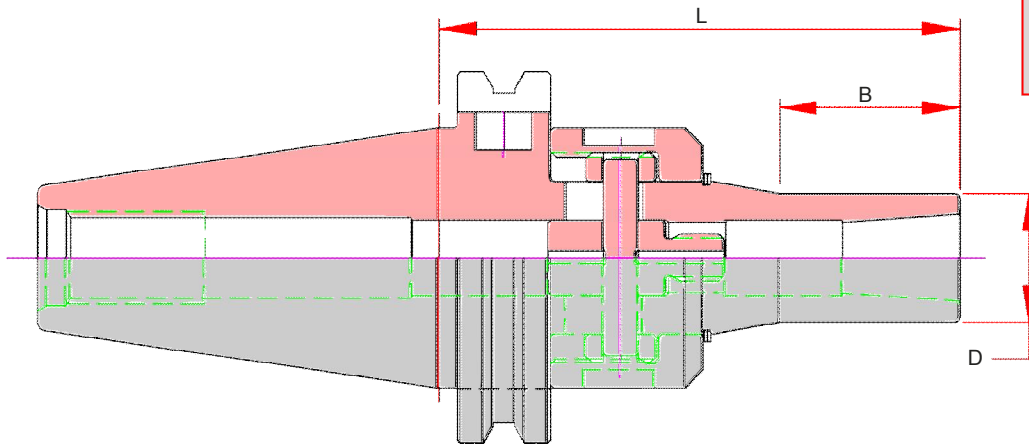


VX Mini Chuck+

Features

- 3 µm - 0.0001" Runout @ 4X Diameter
- Front Locking System
- Coolant Thru
- Dynamically Balanced
 - 30, 40 & 63A - G2.5 @ 25,000 RPM
 - CAT50 - G2.5 @ 15,000 RPM
- DIN-B Flange Coolant upon request (add -D)
- Order Collets & Wrench Separately

See Page 32 for Operation Instructions



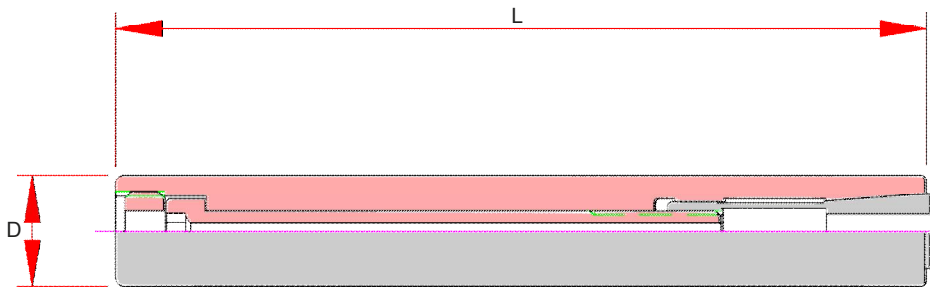
Capacity		Part Number	Collet Range	B	D	L Projection	Collet	Wrench
CAT40	1/4	CAT40-VX06-0394	0.031 - 0.250	1.48	0.62	3.94	MX06	VXW12
		CAT40-VX06-0591				5.91		
	3/8	CAT40-VX08-0350	0.125 - 0.394	1.21	0.87	3.50	MX08	
		CAT40-VX08-0591				5.91		
	1/2	CAT40-VX12-0394	0.157 - 0.500	2.03	1.18	3.94	MX12	
		CAT40-VX12-0591				5.91		
CAT50	3/8	CAT50-VX08-0413	0.125 - 0.394	1.21	0.87	4.13	MX08	
		CAT50-VX08-0654				6.54		
	1/2	CAT50-VX12-0457	0.157 - 0.500	2.03	1.18	4.57	MX12	
		CAT50-VX12-0654				6.54		
BT30	1/4	BT30-VX06-090	0.031 - 0.250	1.37	1.42	3.54	MX06	
	3/8	BT30-VX08-092	0.125 - 0.394	1.21	1.42	3.62	MX08	
BT40	1/4	BT40-VX06-100	0.031 - 0.250	1.48	0.62	3.94	MX06	
		BT40-VX06-150				5.91		
	3/8	BT40-VX08-100	0.125 - 0.394	1.21	0.87	3.94	MX08	
		BT40-VX08-150				5.91		
	1/2	BT40-VX12-110	0.157 - 0.500	2.03	1.18	4.33	MX12	
		BT40-VX12-150				5.91		
HSK63A	1/4	HSK 63A-VX06-105	0.031 - 0.250	1.48	0.62	4.13	MX06	
		HSK 63A-VX06-150				5.91		
	3/8	HSK 63A-VX08-105	0.125 - 0.394	1.21	0.87	4.13	MX08	
		HSK 63A-VX08-150				5.91		
	1/2	HSK 63A-VX12-115	0.157 - 0.500	2.03	1.18	4.53	MX12	
		HSK 63A-VX12-150				5.91		

MX - Collets

Straight Shank

Features

- 3µm - 0.0001" Runout @ 4X Diameter
- Coolant Thru



Part Number	Collet Range	D	L	Collet	Wrench
S050-MX06-0400	0.031 - 0.250	0.5000	4.00	MX06	MXW05
S050-MX06-0600			6.00		
S075-MX08-0600	0.125 - 0.394	0.7500	6.00	MX08	
S075-MX08-0800			8.00		
S075-MX08-1000			10.00		
S100-MX12-0600	0.157 - 0.500	1.0000	6.00	MX12	
S100-MX12-0800			8.00		

VX Assembly Instructions

The instructions below are a basic procedure. Always use proper safety equipment when working with any machine tool component. Contact your safety officer for your facilities recommended safety equipment and procedures.



Turn locking collar counter-clockwise until it stops.



Insert collet and turn clockwise. Use Flat Screw Driver if required.



Turn collet until it stops or reaches 1/8" from the face of the chuck. Assemble loose, **Do not tighten!** Thread gap is required for proper function.



Insert cutter, while holding the cutter hand tighten the locking collar clockwise until the collet holds the tool.



Tighten locking collar to 70 ft/lbs Maximum. Do not over tighten!

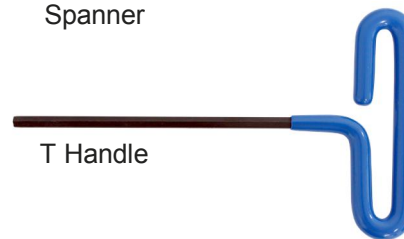
Wrenches

Notes:

- Verify holder number prior to ordering.



Spanner



T Handle

Wrench Part Number	Description	Wrench Type	Max. Torque
VXW12	VX Pin Spanner Wrench	Pin Spanner	70 ft/lbs
MXW05	MX T-Handle Wrench	T Handle	30 ft/lbs
HSK63A COOLNT TUBE	HSK 63A Coolant Tube Wrench	T Handle	10 ft/lbs
HSK100 COOLNT TUBE	HSK 100A Coolant Tube Wrench	T Handle	10 ft/lbs

Torque Wrenches



Professional Torque Wrench with ISO-9001 Certifications

The proper torque is a necessity in machining:

- Quality: Proper torque assures maximum cutting accuracy.
- Cost Savings: Proper torque extends the life of collets, tools, and holders.
- Safety: Proper torque reduces the possibility of tools loosening up and coming out of the holder.

Part Number	Description	Torque Range	Length	Weight	Spigot
TW-200	Torque Wrench	30-150 ft/lbs 40-200 Nm	16.5" 423mm	0.78 Kg	16mm round

Torque Wrench Heads

- Use Recommended Wrench with Torque Heads
Using the incorrect wrench can cause over tightening, deflection and damage to the tool holder and collet.
- Do not exceed maximum torque or damage may occur



Wrench Head Part Number	For Series	Description	Wrench Type	Max. Torque	Recommended Wrench
TWH-VX12	VX06, VX08, VX12	VX Spanner Adapter	Pin Spanner	70 ft/lbs	TW-200

MX - Collets

MX Coolant Collets

Features

- 3µm - 0.0001" Runout @ 4X Diameter
- Seals up to 1,500 PSI Coolant
- Fits MX & VX Collet Chucks
- On-Size Type "A" Collets for h6 tolerance cutting tools
- Cutting tools must be fully inserted for sealed applications
- Jet-Blast Available - Add -C to the part number (see next page for details)

MX06 Collets

Tool Shank h6		MX06
1/8	0.1250	MX06-0125
5/32	0.1563	MX06-0156
3/16	0.1875	MX06-0187
7/32	0.2188	MX06-0218
1/4	0.2500	MX06-0250
2.0	0.0787	MX06-M020
2.5	0.0984	MX06-M025
3.0	0.1181	MX06-M030
3.5	0.1378	MX06-M035
4.0	0.1575	MX06-M040
4.5	0.1772	MX06-M045
5.0	0.1969	MX06-M050
5.5	0.2165	MX06-M055
6.0	0.2362	MX06-M060



MX08 Collets

Tool Shank h6		MX08
1/8	0.1250	MX08-0125
5/32	0.1563	MX08-0156
3/16	0.1875	MX08-0187
1/4	0.2500	MX08-0250
5/16	0.3125	MX08-0312
3/8	0.3750	MX08-0375
3.0	0.1181	MX08-M030
4.0	0.1575	MX08-M040
5.0	0.1969	MX08-M050
6.0	0.2362	MX08-M060
7.0	0.2756	MX08-M070
8.0	0.3150	MX08-M080
9.0	0.3543	MX08-M090
10.0	0.3937	MX08-M100

MX12 Collets

Tool Shank h6		MX12
1/8	0.1250	MX12-0125
3/16	0.1875	MX12-0187
1/4	0.2500	MX12-0250
5/16	0.3125	MX12-0312
3/8	0.3750	MX12-0375
7/16	0.4375	MX12-0437
1/2	0.5000	MX12-0500
3.0	0.1181	MX12-M030
4.0	0.1575	MX12-M040
5.0	0.1969	MX12-M050
6.0	0.2362	MX12-M060
8.0	0.3150	MX12-M080
10.0	0.3937	MX12-M100
12.0	0.4724	MX12-M120

MX Jet-Blast Collets

Features

- 3µm - 0.0001" Runout @ 4X Diameter
- **Jet-Blast for Coolant Around Solid Tools**
- **MX08 & MX12 Collets Only**
- Fits MX & VX Collet Chucks
- Designed for h6 tolerance cutting tools
- Coolant ports are 2 ports
Additional holes can be added as an up charge
- **To Order, add -C to the end of the MX Collet numbers on the previous page**

Jet-Blast
Optional 4 Port shown



MX Coolant Collet Sets

Features

- 3 µm - 0.0001" or Better
 - Includes Collet Tray
- Note: Collet Tray includes positions for Inch and Metric collets, will not be filled unless all sizes are ordered*



Part Number	Collet Size	Pieces	Includes
MX06-MSET-7	MX06	7	3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0
MX06-ISET-5	MX06	5	1/8, 5/32, 3/16, 7/32, 1/4
MX08-MSET-8	MX08	8	3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0
MX08-ISET-6	MX08	6	1/8, 5/32, 3/16, 1/4, 5/16, 3/8
MX12-MSET-7	MX12	7	3.0, 4.0, 5.0, 6.0, 8.0, 10.0, 12.0
MX12-ISET-7	MX12	7	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2

MX Collet Trays

Features

- Collet Tray includes positions for Inch and Metric collets.
- Steel Construction with Sizes Laser marked

Part Number	Amount of Collets
MX06 TRAY	14
MX08 TRAY	14
MX12 TRAY	14



MC - Milling Chuck

Ultimate Precision | Milling | Precision Drilling | Indexable Threading & Milling



Premium Performance

Ultimate Precision

0.0002" TIR Guaranteed @ 100mm (4") with MC125

Accurate

4X more accurate than End Mill Holder

Powerful

5X the driving torque than ER on nominal sizes, over 600 ft/lbs of radial torque on 1.25" Carbide Shanks

Vibration Dampening

Unlike materials & mass dampen cutting harmonics

Performance Milling

Designed for Performance Milling with Neutral flute geometry, not designed for hi-helix applications

Flexible Range

Reducing sleeves down to 1/8"

Ultra-low Temperature Treatment

Sub-zero temperature treatment at -100°C to remove the residual austenite from the holder which provides increased durability and long lasting performance.



Ultimate Precision 0.0002" @ 100mm

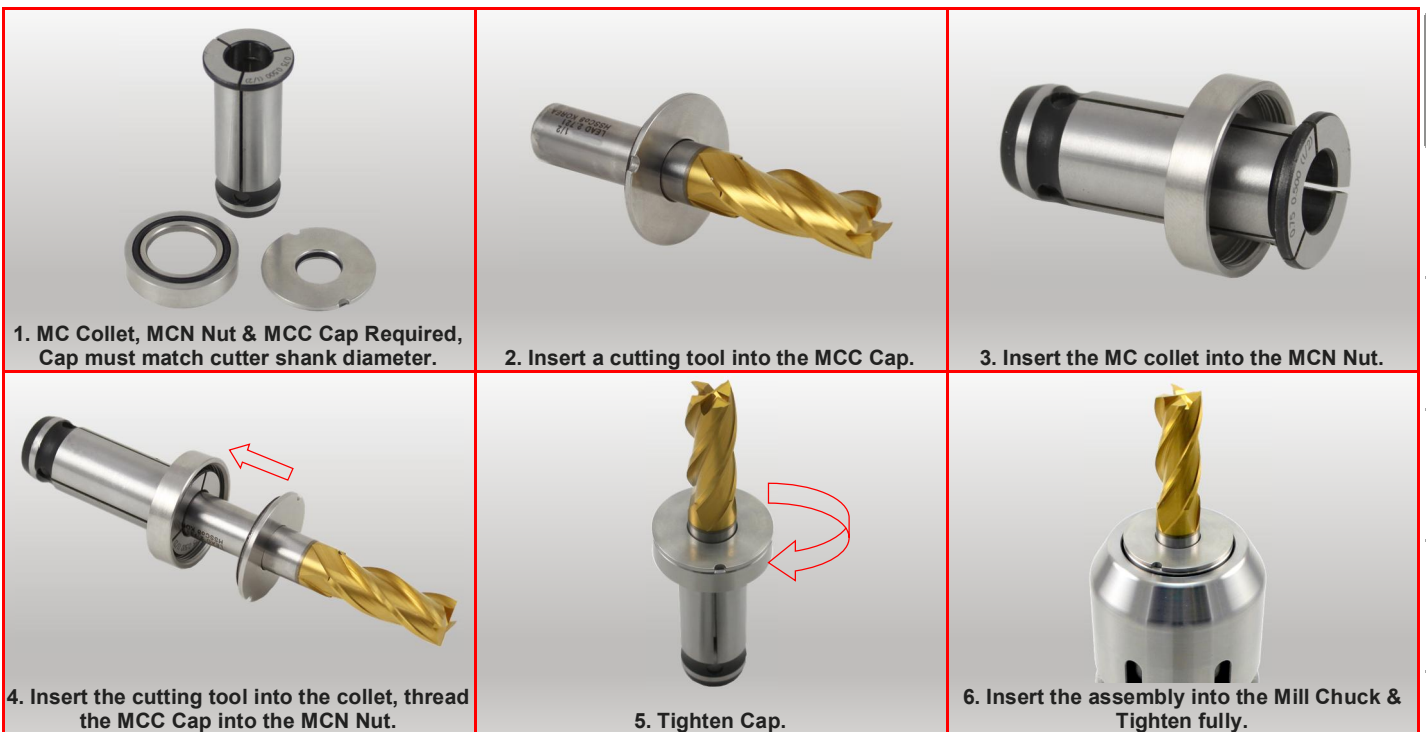
Runout at the end of the 1-1/4" tool 4" from the chuck face is within 0.0002" TIR, that is 8" from the spindle!



Coolant Cap Sealing System for MC Collets

Pioneer Coolant Cap Seals create a positive seal against the face of the Mill Chuck body and the shank of the cutting tool. The system utilizes a standard MC collet, a coolant cap that matches the collet ID, and a coolant cap nut.

- **Low Cost** - Uses standard MC collets
- **Replaceable Seals** - Utilizes standard O-rings for easy low cost replacement
- **Universal** - Works with any standard Mill Chuck



MC Coolant Cap

- Works with all MC Collets
- Requires (1) MCN Nut and (1) MCC Cap
- Order Cap to match MC Collet ID Size
 - Example: MCC075-0250 for Collet MC075-0250

Nut Part Number	Collet Size	Cap Part Number	Available Sizes
MCN075	MC075	MCC075-	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8
MCN100	MC100	MCC100-	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8
MCN125	MC125	MCC125-	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1"
MCN075	MC075	MCC075-	6, 8, 10, 12, 14, 16
MCN100	MC100	MCC100-	6, 8, 10, 12, 14, 16, 18, 20
MCN125	MC125	MCC125-	6, 8, 10, 12, 14, 16, 18, 20, 22, 25

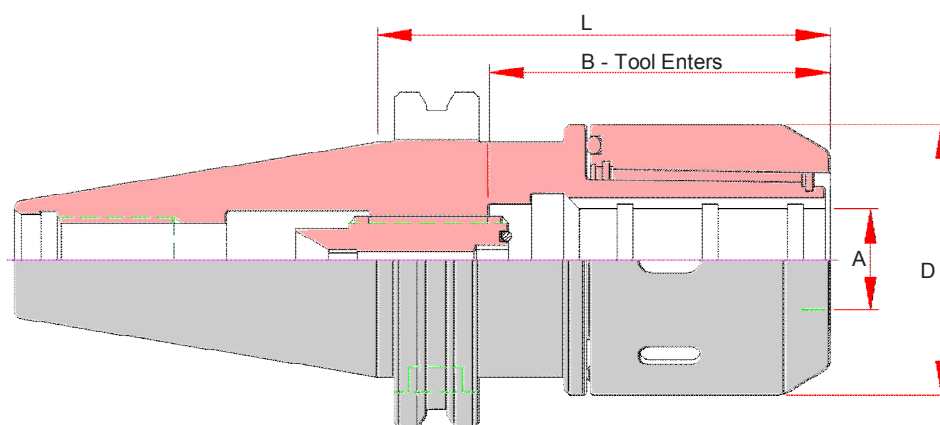


MC - Milling Chuck

CAT40 Mill Chucks

Features

- 5 μ m - 0.0002" Runout @ 4" out
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Dynamically Balanced G6.3 @ 20,000 RPM
- Radial Slip Torque 4X ER Chucks
- Order Collets & Wrench Separately



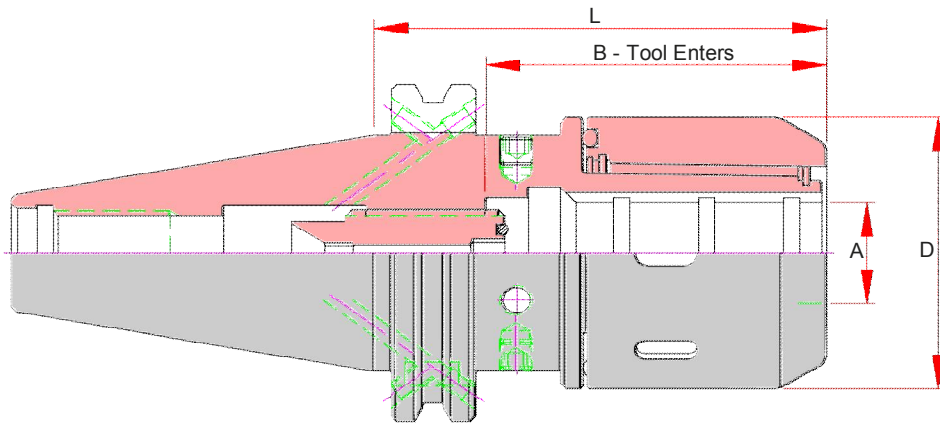
Capacity	Part Number	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench
3/4	CAT40-MC075-0335	0.7500	2.76	2.09	3.35	ASC-16-40	MC075	MCW20
	CAT40-MC075-0472				4.72			
1"	CAT40-MC100-0335	1.0000	2.91	2.44	3.35	ASC-16-40	MC100	MCW25
	CAT40-MC100-0413				4.13			
1-1/4	CAT40-MC125-0354*	1.2500	3.07	2.76	3.54	ASC-16-40	MC125	MCW32
	CAT40-MC125-0413				4.13			
	CAT40-MC125-0472				4.72			
20mm	CAT40-MC20-085	20.000	2.76	2.09	3.35	ASC-16-40	MC20	MCW20
32mm	CAT40-MC32-105	32.000	3.07	2.76	4.13	ASC-16-40	MC32	MCW32

* No ANSI Safety Area - will not function in umbrella style tool changers

CAT40 Mill Chucks w/ DIN AD+B

Features

- 5 μ m - 0.0002" Runout @ 4" out
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Dynamically Balanced G6.3 @ 20,000 RPM
- Radial Slip Torque 4X ER Chucks
- DIN AD+B & Balanceable
- Order Collets & Wrench Separately



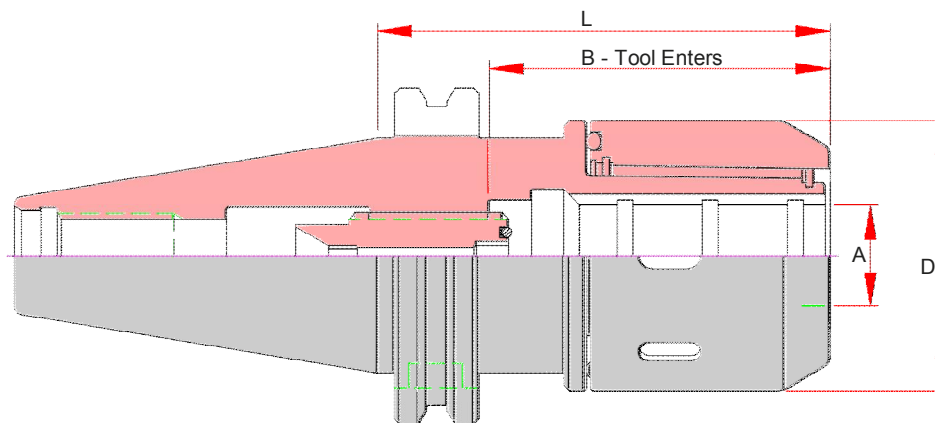
Capacity	Part Number	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench
3/4	CAT40-MC075-0335-S	0.7500	2.76	2.09	3.35	ASC-16-40	MC075	MCW20
	CAT40-MC075-0591-S				5.91			
1"	CAT40-MC100-0374-S	1.0000	2.91	2.44	3.74	ASC-16-40	MC100	MCW25
	CAT40-MC100-0591-S				5.91			
1-1/4	CAT40-MC125-0472-S	1.2500	3.07	2.76	4.72	ASC-16-40	MC125	MCW32
	CAT40-MC125-0591-S				5.91			

MC - Milling Chuck

CAT50 Mill Chucks

Features

- 5 μ m - 0.0002" Runout @ 4" out
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Dynamically Balanced G6.3 @ 15,000 RPM
- Radial Slip Torque 4X ER Chucks
- Order Collets & Wrench Separately

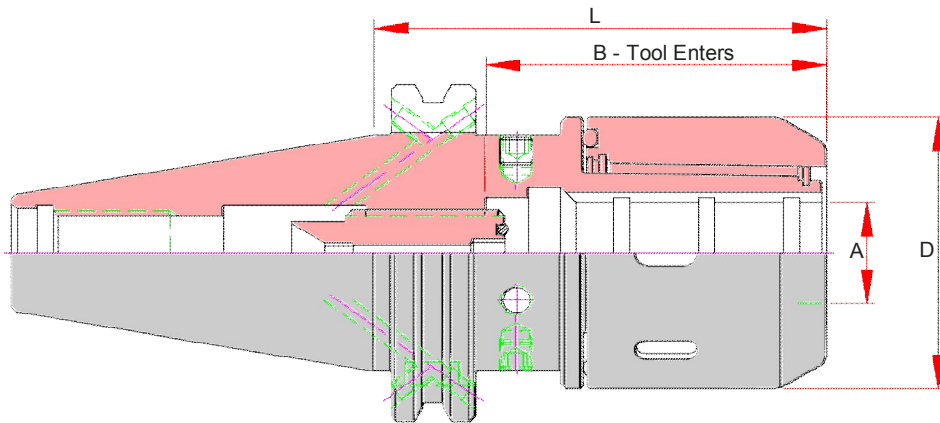


	Part Number	A Bore	B Max. Tool	D	L Projection	Preset Screw	Collet	Wrench
3/4	CAT50-MC075-0413				4.13			
	CAT50-MC075-0531	0.7500	2.76	2.09	5.31	ASC-16-40	MC075	MCW20
	CAT50-MC075-0650				6.50			
1"	CAT50-MC100-0315				3.15			
	CAT50-MC100-0413	1.0000	2.95	2.44	4.13	ASC-16-40	MC100	MCW25
	CAT50-MC100-0531				5.31			
1-1/4	CAT50-MC125-0354				3.54			
	CAT50-MC125-0413	1.2500	3.23	2.76	4.13	ASC-16-40	MC125	MCW32
	CAT50-MC125-0531				5.31			
	CAT50-MC125-0650				6.50			
20MM	CAT50-MC20-105				4.13			
	CAT50-MC20-135	20.0000	3.54	2.09	5.31	ASC-16-40	MC20	MCW20
	CAT50-MC20-165				6.50			
32MM	CAT50-MC32-105				4.13			
	CAT50-MC32-135	32.0000	3.54	2.76	5.31	ASC-16-40	MC32	MCW32
	CAT50-MC32-165				6.50			

CAT50 Mill Chucks w/ DIN AD+B

Features

- 5 μ m - 0.0002" Runout @ 4" out
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Dynamically Balanced G6.3 @ 15,000 RPM
- DIN AD+B & Balanceable
- Order Collets & Wrench Separately



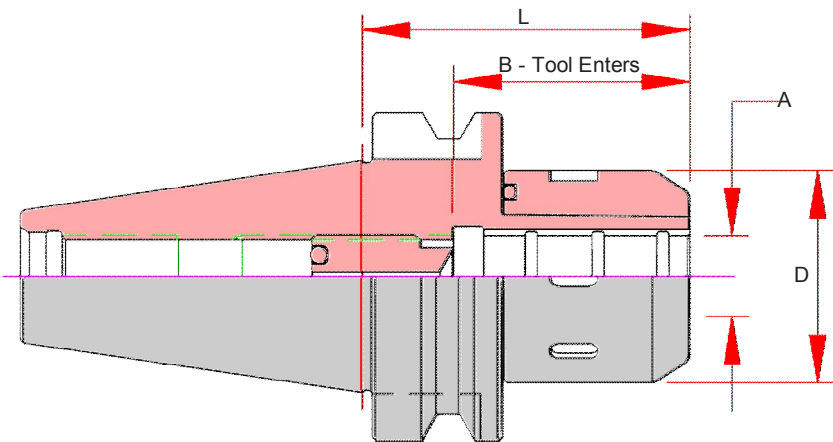
	Part Number	A Bore	B Max. Tool	D	L Projection	Preset Screw	Collet	Wrench
3/4	CAT50-MC075-0354-S	0.7500	2.76	2.09	3.54	ASC-16-40	MC075	MCW20
	CAT50-MC075-0650-S				6.50			
1"	CAT50-MC100-0354-S	1.0000	2.95	2.44	3.54	ASC-16-40	MC100	MCW25
	CAT50-MC100-0531-S				5.31			
	CAT50-MC100-0650-S				6.50			
1-1/4	CAT50-MC125-0354-S	1.2500	3.23	2.76	3.54	ASC-16-40	MC125	MCW32
	CAT50-MC125-0531-S				5.31			
	CAT50-MC125-0650-S				6.50			

MC - Milling Chuck

BT30 Mill Chucks

Features

- 5 µm - 0.0002” Runout @ 4” out
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Dynamically Balanced G6.3 @ 20,000 RPM
- -S = DIN AD+B & Balanceable Available (See Chart)
- Order Collets & Wrench Separately

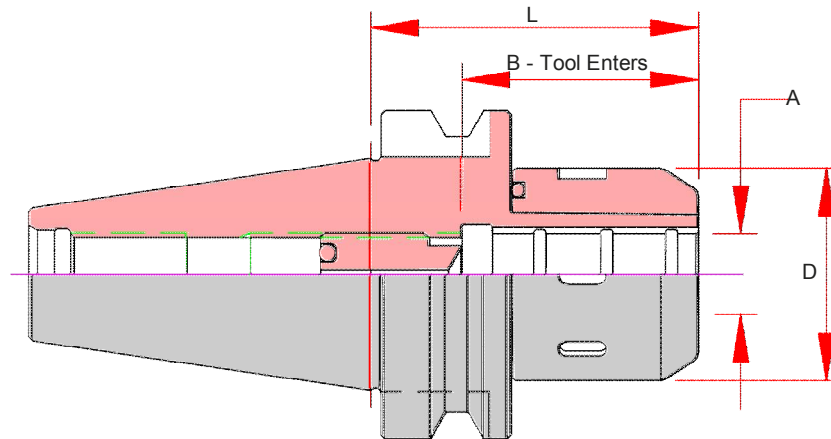


	Part Number	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench
3/4	BT30-MC075-0315	0.7500	2.76	2.09	3.15	ASC-12-30	MC075	MCW20
	BT30-MC075-0335-S				3.35			
20mm	BT30-MC20-080	20mm	2.76	2.09	3.15	ASC-12-30	MC20	MCW20

BT40 Mill Chucks

Features

- 5 μ m - 0.0002" Runout @ 4" out
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Dynamically Balanced G6.3 @ 20,000 RPM
- Order Collets & Wrench Separately



	Part Number	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench
3/4	BT40-MC075-0295	0.7500	2.76	2.09	2.95	ASC-16-40	MC075	MCW20
	BT40-MC075-0472				4.72			
1"	BT40-MC100-0315	1.0000	2.91	2.44	3.15	ASC-16-40	MC100	MCW25
	BT40-MC100-0413				4.13			
1-1/4	BT40-MC125-0335	1.2500	3.07	2.76	3.35	ASC-16-40	MC125	MCW32
	BT40-MC125-0472				4.72			

BT40 Mill Chucks w/ DIN AD+B

Features

- 5 μ m - 0.0002" Runout @ 4" out
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Dynamically Balanced G6.3 @ 20,000 RPM
- DIN AD+B Flange Coolant & Balanceable Included
- Order Collets & Wrench Separately

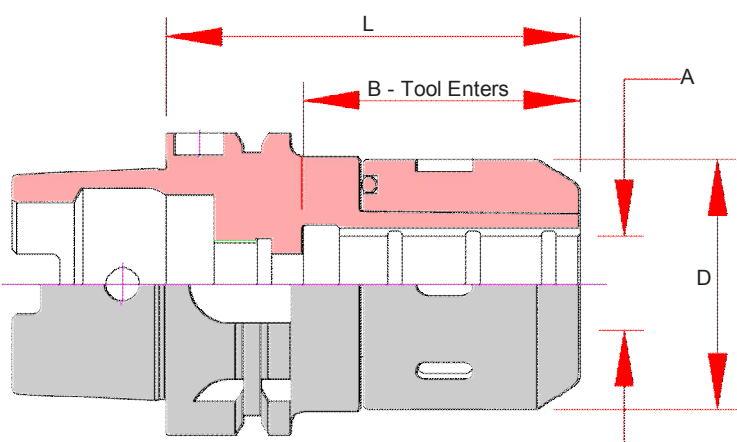
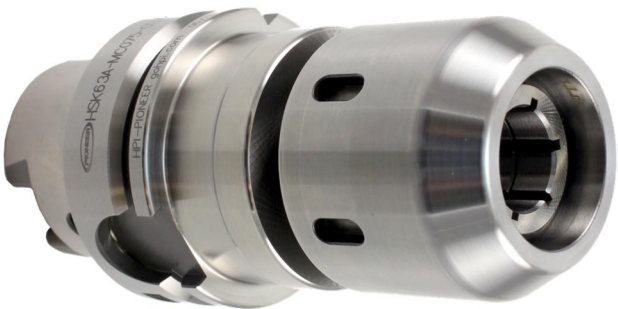
	Part Number	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench
3/4	BT40-MC075-0295-S	0.7500	2.76	2.09	2.95	ASC-16-40	MC075	MCW20
	BT40-MC075-0472-S				4.72			
1"	BT40-MC100-0335-S	1.0000	2.91	2.44	3.35	ASC-16-40	MC100	MCW25
	BT40-MC100-0472-S				4.72			
1-1/4	BT40-MC125-0354-S	1.2500	3.07	2.76	3.54	ASC-16-40	MC125	MCW32
	BT40-MC125-0472-S				4.72			



HSK63A Mill Chuck

Features

- 5 µm - 0.0002” Runout @ 4” out
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Dynamically Balanced HSK 63A G6.3 @ 20,000 RPM
- Radial Slip Torque 4X ER Chucks
- Order Collets & Wrench Separately

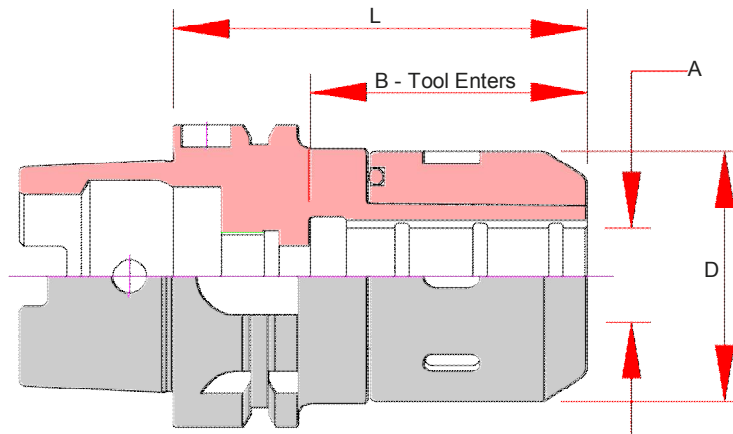
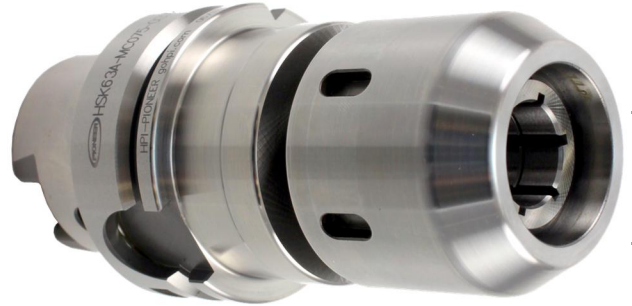


Capacity	Part Number	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench	Balanceable
3/4	HSK63A-MC075-0374	0.7500	2.36	2.09	3.74	-	MC075	MCW20	N
3/4	HSK63A-MC075-0433-S	0.7500	2.36	2.09	4.33	ASC-16-18	MC075	MCW20	Y
1"	HSK63A-MC100-0394	1.0000	2.40	2.44	3.94	-	MC100	MCW25	N
1"	HSK63A-MC100-0472-S	1.0000	2.40	2.44	4.72	ASC-16-18	MC100	MCW25	Y
1-1/4	HSK63A-MC125-0394	1.2500	2.99	2.76	3.94	-	MC125	MCW32	N
1-1/4	HSK63A-MC125-0472-S	1.2500	2.99	2.76	4.72	ASC-16-18	MC125	MCW32	Y
20mm	HSK63A-MC20-110-S	20.000	2.36	2.09	4.33	ASC-16-18	MC20	MCW20	Y
32mm	HSK63A-MC32-120-S	32.000	2.99	2.76	4.72	ASC-16-18	MC32	MCW32	Y

HSK100A Mill Chuck

Features

- 5 μ m - 0.0002" Runout @ 4" out
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Dynamically Balanced HSK100A G6.3 @ 15,000 RPM
- Radial Slip Torque 4X ER Chucks
- Order Collets & Wrench Separately



Capacity	Part Number	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench	Balanceable
3/4	HSK100A-MC075-0453-S	0.7500	2.52	2.09	4.53	ASC-16-18	MC075	MCW20	Y
1"	HSK100A-MC100-0512-S	1.0000	2.40	2.44	5.12	ASC-16-18	MC100	MCW25	Y
1-1/4	HSK100A-MC125-0531-S	1.2500	3.07	2.76	5.31	ASC-16-18	MC125	MCW32	Y
20mm	HSK100A-MC20-115-S	20.000	2.52	2.09	4.53	ASC-16-18	MC20	MCW20	Y
32mm	HSK100A-MC32-135-S	32.000	3.07	2.76	5.31	ASC-16-18	MC32	MCW32	Y

MC - Milling Chuck

MC - Milling Chuck Collets - Inch

MC Collets are Straight Sleeves that allow you to expand the capabilities of your Mill Chuck.

- **Collets Ground 3µm - 0.0001" Runout OD to ID**
- Interchangeable with most competitive models
- Designed for h6 tolerance cutting tool shanks



Cutter Shank Size		MC075
1/8	0.1250	MC075-0125
3/16	0.1875	MC075-0187
1/4	0.2500	MC075-0250
5/16	0.3125	MC075-0312
3/8	0.3750	MC075-0375
7/16	0.4375	MC075-0437
1/2	0.5000	MC075-0500
9/16	0.5625	MC075-0562
5/8	0.6250	MC075-0625
6mm	0.2362	MC075-M060
8mm	0.3150	MC075-M080
10mm	0.3937	MC075-M100
12mm	0.4724	MC075-M120
14mm	0.5512	MC075-M140
16mm	0.6299	MC075-M160

Cutter Shank Size		MC100
1/8	0.1250	MC100-0125
3/16	0.1875	MC100-0187
1/4	0.2500	MC100-0250
5/16	0.3125	MC100-0312
3/8	0.3750	MC100-0375
7/16	0.4375	MC100-0437
1/2	0.5000	MC100-0500
9/16	0.5625	MC100-0562
5/8	0.6250	MC100-0625
3/4	0.7500	MC100-0750
7/8	0.8750	MC100-0875
6mm	0.2362	MC100-M060
8mm	0.3150	MC100-M080
10mm	0.3937	MC100-M100
12mm	0.4724	MC100-M120
14mm	0.5512	MC100-M140
16mm	0.6299	MC100-M160
18mm	0.7087	MC100-M180
20mm	0.7874	MC100-M200

Cutter Shank Size		MC125
1/8	0.1250	MC125-0125
3/16	0.1875	MC125-0187
1/4	0.2500	MC125-0250
5/16	0.3125	MC125-0312
3/8	0.3750	MC125-0375
7/16	0.4375	MC125-0437
1/2	0.5000	MC125-0500
9/16	0.5625	MC125-0562
5/8	0.6250	MC125-0625
11/16	0.6875	MC125-0687
3/4	0.7500	MC125-0750
13/16	0.8125	MC125-0812
7/8	0.8750	MC125-0875
15/16	0.9375	MC125-0937
1	1.0000	MC125-1000
3mm	0.1181	MC125-M030
4mm	0.1575	MC125-M040
5mm	0.1969	MC125-M050
6mm	0.2362	MC125-M060
8mm	0.3150	MC125-M080
10mm	0.3937	MC125-M100
12mm	0.4724	MC125-M120
14mm	0.5512	MC125-M140
16mm	0.6299	MC125-M160
18mm	0.7087	MC125-M180
20mm	0.7874	MC125-M200
22mm	0.8661	MC125-M220
25mm	0.9843	MC125-M250

MC - Milling Chuck Collets - Metric

MC Collets are Straight Sleeves that allow you to expand the capabilities of your Mill Chuck.

- Collets Ground $3\mu\text{m}$ - 0.0001" Runout OD to ID
- Interchangeable with most competitive models
- Designed for h6 tolerance cutting tool shanks



Cutter Shank Size		MC20
1/8	0.1250	MC20-0125
3/16	0.1875	MC20-0187
1/4	0.2500	MC20-0250
5/16	0.3125	MC20-0312
3/8	0.3750	MC20-0375
7/16	0.4375	MC20-0437
1/2	0.5000	MC20-0500
9/16	0.5625	MC20-0562
5/8	0.6250	MC20-0625
2mm	0.0787	MC20-M020
4mm	0.1575	MC20-M040
5mm	0.1969	MC20-M050
6mm	0.2362	MC20-M060
8mm	0.3150	MC20-M080
10mm	0.3937	MC20-M100
12mm	0.4724	MC20-M120
14mm	0.5512	MC20-M140
16mm	0.6299	MC20-M160
18mm	0.7087	MC20-M180

Cutter Shank Size		MC32
1/8	0.1250	MC32-0125
3/16	0.1875	MC32-0187
1/4	0.2500	MC32-0250
9/32	0.2813	MC32-0281
5/16	0.3125	MC32-0312
11/32	0.3438	MC32-0343
3/8	0.3750	MC32-0375
13/32	0.4063	MC32-0406
7/16	0.4375	MC32-0437
1/2	0.5000	MC32-0500
9/16	0.5625	MC32-0562
5/8	0.6250	MC32-0625
11/16	0.6875	MC32-0687
3/4	0.7500	MC32-0750
13/16	0.8125	MC32-0812
7/8	0.8750	MC32-0875
15/16	0.9375	MC32-0937
1"	1.0000	MC32-1000
6mm	0.2362	MC32-M060
8mm	0.3150	MC32-M080
10mm	0.3937	MC32-M100
12mm	0.4724	MC32-M120
14mm	0.5512	MC32-M140
16mm	0.6299	MC32-M160
18mm	0.7087	MC32-M180
20mm	0.7874	MC32-M200
22mm	0.8661	MC32-M220
24mm	0.9449	MC32-M240
25mm	0.9843	MC32-M250

MC - Milling Chuck

Collet Sets

MC Collets are Straight Sleeves that allow you to expand the capabilities of your Mill Chuck.

- Interchangeable with most competitive models
- Designed for h6 tolerance cutting tool shanks
- Collet Tray Included



Part Number	Collet Size	Pieces	Includes
MC075-ISET	MC075	9	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8
MC100-ISET	MC100	11	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8
MC125-ISET	MC125	12	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1"
MC075-MSET	MC075	6	6, 8, 10, 12, 14, 16
MC100-MSET	MC100	8	6, 8, 10, 12, 14, 16, 18, 20
MC125-MSET	MC125	10	6, 8, 10, 12, 14, 16, 18, 20, 22, 25

Mill Chuck Kits

Includes:

- (1) Mill Chuck
- (1) Set of Collets (see sizes in chart)
- (1) Wrench
- Wooden Case



Part Number	Collets Included
CAT40-MC075-0335-KIT	(8) Collets - 5/8, 1/2, 7/16, 3/8, 5/16, 1/4, 3/16, 1/8
CAT40-MC100-0335-KIT	(9) Collets - 7/8, 3/4, 5/8, 1/2, 3/8, 5/16, 1/4, 3/16, 1/8
CAT40-MC125-0354-KIT	(10) Collets - 1", 7/8, 3/4, 5/8, 1/2, 3/8, 5/16, 1/4, 3/16, 1/8

Wrenches



Part Number	Chuck Sizes
MCW20	3/4" & 20MM
MCW25	1" & 25MM
MCW32	1-1/4 & 32MM

Preset Screws

- Nylon Coolant Screw w/ O-Ring Standard



Screw Part Number	Description	Coolant Hole	O-Ring	Thread	Length	Wrench
ASC-16-40	MC20, 25, 32, 075, 100 & 125 Nylon Coolant	2.50	11mm OD x 2.0mm	M16 x 2.00	40	2.5mm & 5.0mm Hex
ASC-12-30	BT30 - MC20 & MC075 Nylon Coolant	2.50	10mm OD x 1.5mm	M12 x 1.75	30	2.5mm & 5.0mm Hex
ASC-16-18	HSK - MC20, 25, 32, 075, 100 & 125 Nylon Coolant	2.50	11mm OD x 2.0mm	M16 x 2.00	18	2.5mm & 5.0mm Hex

SD - Shrink Fit

Milling | Precision Drilling



Premium Performance

Ultimate Precision

0.0001" TIR Guaranteed @ Bore

Long Lasting

Manufactured from ISO-40CrMoV5 Material, Heat Treated for Optimum Elasticity and Tool Life

Powerful

Toleranced and Ground for 10,000 lbs of pull out force

Performance Milling

Designed for Performance Milling with Neutral flute geometry, not designed for hi-helix applications



Highest Quality - Designed to Last

PIONEER Shrink Fit is manufactured from ISO-40CrMoV5 Tool Steel, Double Tempered at 1050°F to withstand up to 10,000 tool changes.

All holders are 100% inspected on Air/Electronic gaging and the ID is ground for a maximum of 3 microns (0.0001") Runout (TIR) in the Bore.

Dynamically Balanced

PIONEER Tapered Shrink Fit Holders are Dynamically Balanced for G2.5 @ 25,000 RPM's

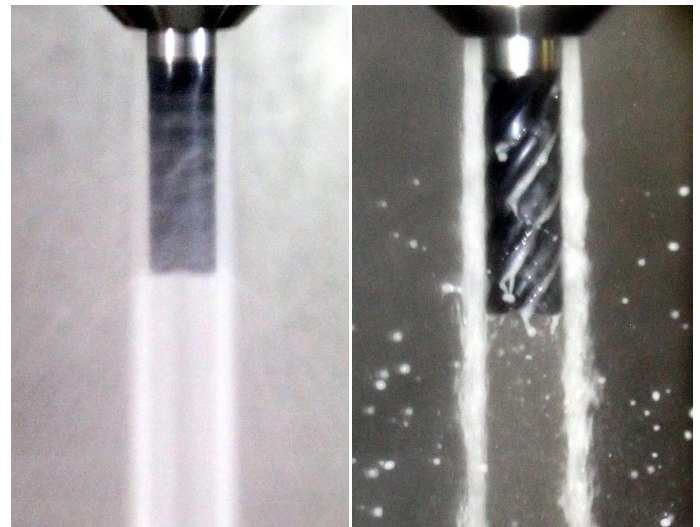
Jet-Blast Options to fit YOUR Application

We at Pioneer have invested in an EDM Drilling machine which allow us to customize Jet-Blast coolant holes to your application.

It comes down to coolant volume.

Every Jet-Blast Holder or collet comes with 2 ports standard. Depending on style and type we have the ability of adding as many holes as your coolant volume can support without losing pressure.

The goal is to create a reducing effect to the volume of coolant to maintain or increase pressure. This allows for increased chip evacuation and free cutting.



2 - Port Jet-Blast

Same tool shot with a High Speed Shutter

Any standard Shrink can be modified from stock. Adding a "C" to the end of the part number will provide you with 2 coolant ports.

Need additional ports? Add "C 4-Port" to the part number for additional ports (additional fees will apply).

Contact our customer service department for details and pricing.

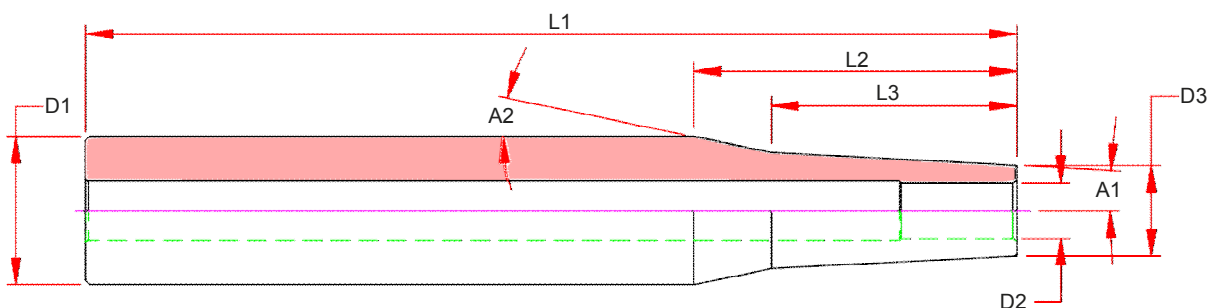


SD - Shrink Fit

SD - Shrink Fit Extensions

Features:

- **3 μm - 0.0001" Runout**
- Designed to work in standard Milling Chucks
- Designed for Cutting Tools with h6 shank tolerance
- Close Center to clear fixtures or part walls



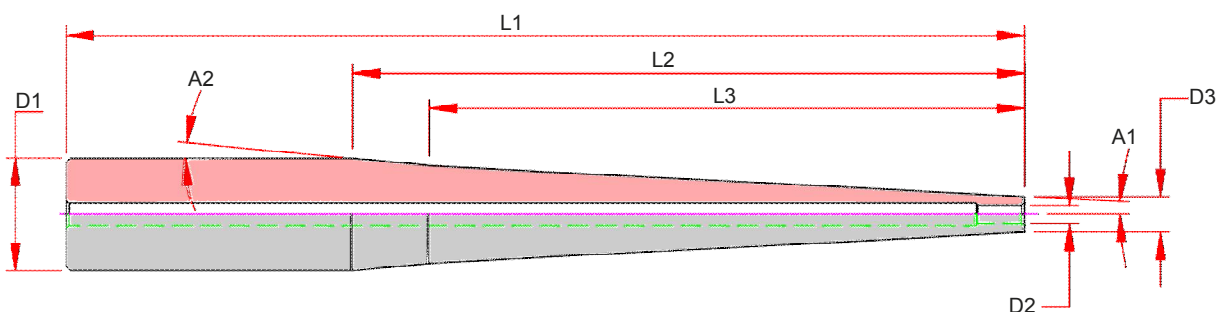
Part Number	D1	D2	D3	L1	L2	L3	A1	A2
S100-SD025-0800	1.0000	0.2500	0.49	8.00	2.17	1.65	3.0	17.9
S100-SD031-0800	1.0000	0.3125	0.55	8.00	2.17	1.65	3.0	14.9
S100-SD037-0800	1.0000	0.3750	0.61	8.00	2.17	1.65	3.0	11.8
S100-SD050-0800	1.0000	0.5000	0.81	8.00	1.71	1.43	2.5	6.5



SN - Shrink Fit Slim Nose Extensions - Inch

Features:

- **3 μm - 0.0001" Runout**
- Designed to work in standard Milling Chucks
- Designed for Cutting Tools with h6 shank tolerance
- Close Center to clear fixtures or part walls

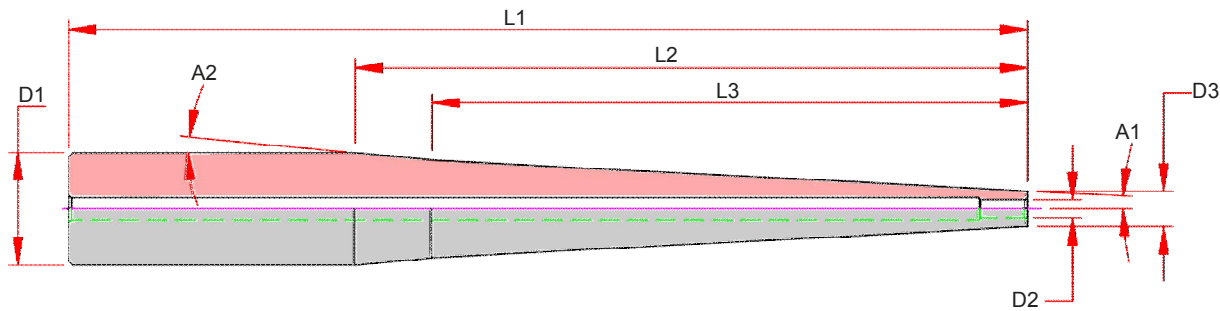


Part Number	D1	D2	D3	L1	L2	L3	A1	A2
S037-SN012-0315	0.3750	0.1250	0.24	3.15	1.40	-	2.8	-
S037-SN018-0315		0.1875	0.31				1.5	-
S050-SN025-0315	0.5000	0.2500	0.37	8.00	4.46	-	2.8	-
S075-SN012-0800	0.7500	0.1250	0.24			3.95	3.0	5.4
S075-SN018-0800		0.1875	0.31			-	2.9	-
S075-SN025-0800		0.2500	0.37			-	2.5	-
S100-SN037-0800	1.0000	0.3750	0.49	4.33	3.82	-	3.0	6.0
S100-SN050-0800		0.5000	0.62				2.0	-



SN - Shrink Fit Slim Nose Extensions - Metric**- Build on Demand Items****Features:**

- **3 μm - 0.0001" Runout**
- Designed to work in standard Milling Chucks
- Designed for Cutting Tools with h6 shank tolerance
- Close Center to clear fixtures or part walls



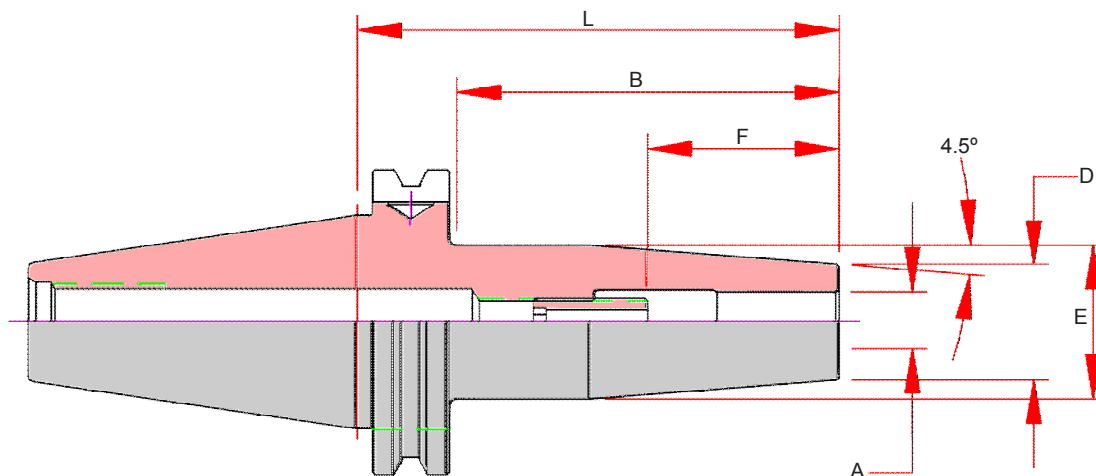
Part Number	D1	D2	D3	L1	L2	L3	A1	A2
S10-SN03-080	10	3	6	80	35	-	2.8	-
S10-SN04-080		4	8				1.5	-
S16-SN03-140	16	3	6	140	67	-	3	-
S16-SN04-140		4	8					
S16-SN06-140		6	10					
S16-SN08-140		8	12					
S20-SN03-200	20	3	6	200	113	-	3	-
S20-SN04-200		4	8			100	2.9	5.4
S20-SN06-200		6	10			-	2.5	-
S20-SN08-200		8	12			-	2.5	-
S25-SN10-200	25	10	12	200	110	97	3	6
S25-SN12-200		12	15			-	2	

SD - Shrink Fit

CAT40 Shrink Fit Inch

Features

- 3 μm - 0.0001" Runout Taper to Bore
- Manufactured from ISO-40CrMoV5 (USA-H13)
- Coolant Thru the Center & DIN AD+B Flange Coolant
- Dynamically Balanced for G2.5 @ 25,000 RPM
- Tapers are ground better than AT3 for optimal T.I.R.
- Preset Screw included for 1/4" & larger for positive stop
- Designed for Cutting Tools with h6 shank tolerance
- Add "-C" for Jet-Blast Coolant Ports

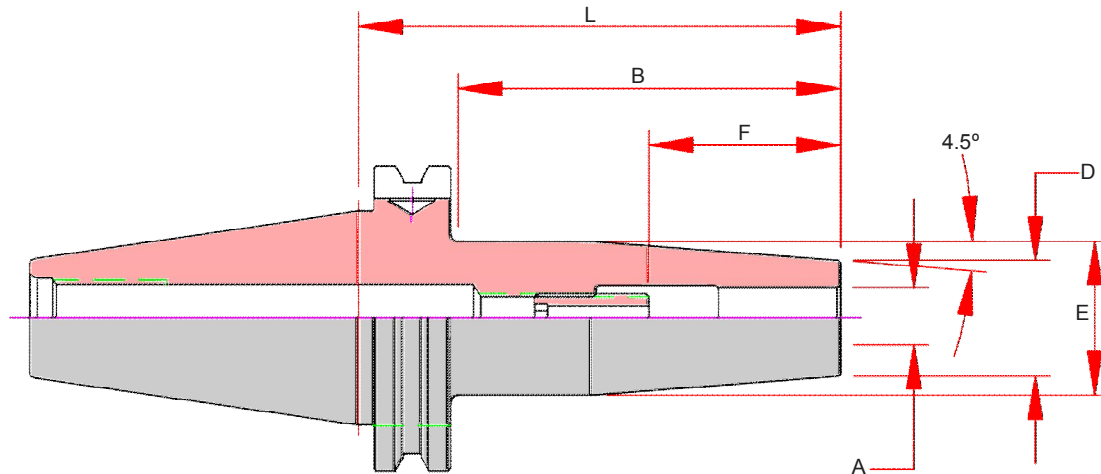


Part Number	A Bore	B	D	E	F Max	L Projection
CAT40-SD012-080	0.1250	2.28	0.39	0.77	4.57	3.15
CAT40-SD012-160	0.1250	5.43	0.39	0.77	7.73	6.30
CAT40-SD018-080	0.1875	2.28	0.39	0.77	4.57	3.15
CAT40-SD018-160	0.1875	5.43	0.39	0.77	7.73	6.30
CAT40-SD025-080	0.2500	2.28	0.83	1.06	1.54	3.15
CAT40-SD025-160	0.2500	5.43	0.83	1.06	1.54	6.30
CAT40-SD031-080	0.3125	2.28	0.83	1.06	1.54	3.15
CAT40-SD031-160	0.3125	5.43	0.83	1.06	1.54	6.30
CAT40-SD037-080	0.3750	2.28	0.94	1.26	1.73	3.15
CAT40-SD037-160	0.3750	5.43	0.94	1.26	1.73	6.30
CAT40-SD043-080	0.4375	2.28	0.94	1.26	1.73	3.15
CAT40-SD043-160	0.4375	5.43	0.94	1.26	1.73	6.30
CAT40-SD050-080	0.5000	2.28	0.94	1.26	1.97	3.15
CAT40-SD050-160	0.5000	5.43	0.94	1.26	1.97	6.30
CAT40-SD062-080	0.6250	2.28	1.06	1.34	2.09	3.15
CAT40-SD062-160	0.6250	5.43	1.06	1.34	2.09	6.30
CAT40-SD075-080	0.7500	2.28	1.30	1.65	2.09	3.15
CAT40-SD075-160	0.7500	5.43	1.30	1.65	2.09	6.30
CAT40-SD100-100	1.0000	3.07	1.73	2.09	2.28	3.94
CAT40-SD100-160	1.0000	5.43	1.73	2.09	2.28	6.30
CAT40-SD125-100	1.2500	3.07	1.73	2.09	2.28	3.94
CAT40-SD125-160	1.2500	5.43	1.73	2.09	2.28	6.30

CAT40 Shrink Fit Metric

Features

- 3 μm - 0.0001" Runout Taper to Bore
- Manufactured from ISO-40CrMoV5 (USA-H13)
- Coolant Thru the Center & DIN AD+B Flange Coolant
- Dynamically Balanced for G2.5 @ 25,000 RPM
- Tapers are ground better than AT3 for optimal T.I.R.
- Preset Screw included for 1/4" & larger for positive stop
- Designed for Cutting Tools with h6 shank tolerance
- Add "-C" for Jet-Blast Coolant Ports



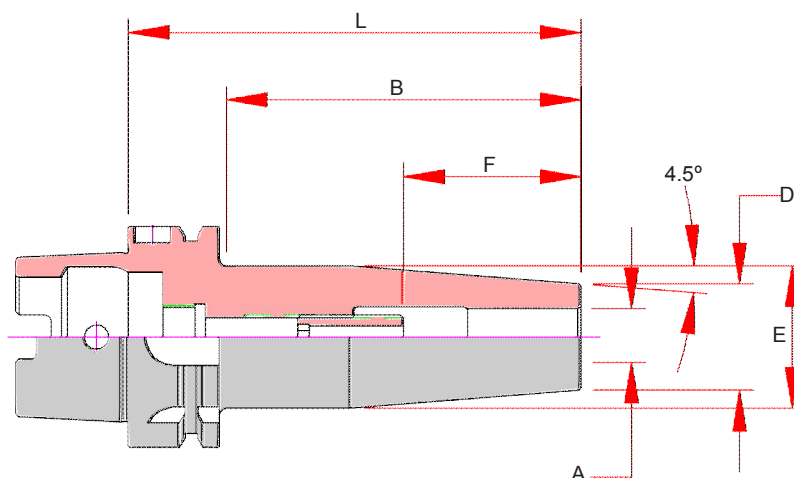
Part Number	A Bore	B	D	E	F Max	L Projection
CAT40-SDM03-080	3.000	2.28	0.39	0.75	4.57	3.15
CAT40-SDM04-080	4.000	2.28	0.39	0.75	4.57	3.15
CAT40-SDM06-080	6.000	2.28	0.83	1.06	1.54	3.15
CAT40-SDM08-080	8.000	2.28	0.83	1.06	1.54	3.15
CAT40-SDM10-080	10.000	2.28	0.94	1.26	1.73	3.15
CAT40-SDM12-080	12.000	2.28	0.94	1.26	1.97	3.15
CAT40-SDM16-080	16.000	2.28	1.06	1.34	1.97	3.15
CAT40-SDM20-080	20.000	2.28	1.30	1.65	2.17	3.15
CAT40-SDM25-100	25.000	3.07	1.73	2.09	2.28	3.94
CAT40-SDM32-100	32.000	3.07	1.73	2.09	2.28	3.94

SD - Shrink Fit

HSK63A

Features

- 3 μm - 0.0001" Runout
- Manufactured from ISO-40CrMoV5 (USA-H13)
- Coolant Thru the Center
- Dynamically Balanced for G2.5 @ 25,000 RPM
- Tapers are ground better than AT3 for optimal T.I.R.
- Preset Screw included for 1/4" & larger for positive stop
- Designed for Cutting Tools with h6 shank tolerance
- Add "-C" for Jet-Blast Coolant Ports

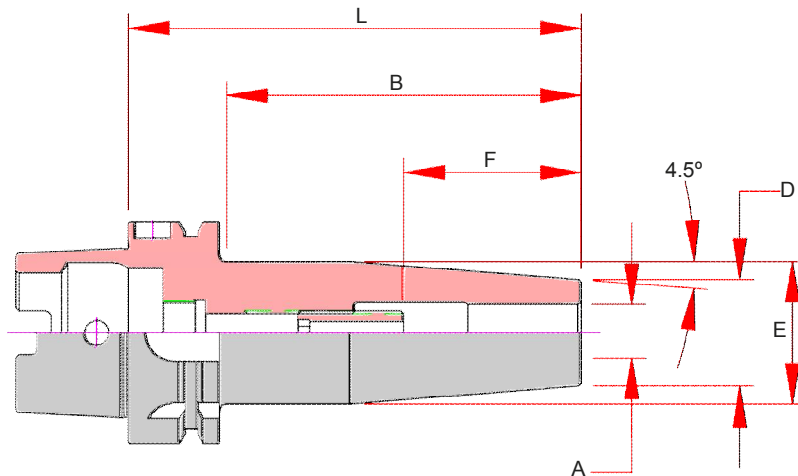


Part Number	A Bore	B	D	E	F Max Tool Enters	L Projection
HSK 63A-SD012-080	0.1250	2.02	0.39	0.71	2.28	3.15
HSK 63A-SD012-160	0.1250	5.16	0.39	0.75	5.43	6.30
HSK 63A-SD018-080	0.1875	2.02	0.39	0.71	2.28	3.15
HSK 63A-SD018-160	0.1875	5.16	0.39	0.75	5.43	6.30
HSK 63A-SD025-080	0.2500	2.02	0.83	1.06	1.54	3.15
HSK 63A-SD025-160	0.2500	5.16	0.83	1.06	1.54	6.30
HSK 63A-SD037-085	0.3750	2.21	0.94	1.06	1.73	3.35
HSK 63A-SD037-160	0.3750	5.16	0.94	1.06	1.73	6.30
HSK 63A-SD050-090	0.5000	2.41	0.94	1.26	1.97	3.54
HSK 63A-SD050-160	0.5000	5.16	0.94	1.26	1.97	6.30
HSK 63A-SD062-095	0.6250	2.61	1.06	1.34	1.97	3.74
HSK 63A-SD062-160	0.6250	5.16	1.06	1.34	1.97	6.30
HSK 63A-SD075-100	0.7500	2.80	1.30	1.65	2.05	3.94
HSK 63A-SD075-160	0.7500	5.16	1.30	1.65	2.05	6.30
HSK 63A-SD100-115	1.0000	3.50	1.73	2.09	2.28	4.53
HSK 63A-SD100-160	1.0000	5.16	1.73	2.09	2.28	6.30
HSK 63A-SD125-120	1.2500	3.70	1.73	2.09	2.40	4.72
HSK 63A-SD125-160	1.2500	5.16	1.73	2.09	2.40	6.30

HSK63A

Features

- 3 μm - 0.0001" Runout
- Manufactured from ISO-40CrMoV5 (USA-H13)
- Coolant Thru the Center
- Dynamically Balanced for G2.5 @ 25,000 RPM
- Tapers are ground better than AT3 for optimal T.I.R.
- Preset Screw included for 1/4" & larger for positive stop
- Designed for Cutting Tools with h6 shank tolerance
- Add "-C" for Jet-Blast Coolant Ports



Part Number	A Bore	B	D	E	F Max Tool Enters	L Projection
HSK 63A-SDM03-080	3.000	2.02	0.39	0.71	2.28	3.15
HSK 63A-SDM03-160	3.000	5.16	0.39	0.75	5.43	6.30
HSK 63A-SDM04-080	4.000	2.02	0.39	0.71	2.28	3.15
HSK 63A-SDM04-160	4.000	5.16	0.39	0.75	5.43	6.30
HSK 63A-SDM06-080	6.000	2.02	0.83	1.06	1.54	3.15
HSK 63A-SDM06-160	6.000	5.16	0.83	1.06	1.54	6.30
HSK 63A-SDM08-080	8.000	2.02	0.83	1.06	1.54	3.15
HSK 63A-SDM08-160	8.000	5.16	0.83	1.06	1.54	6.30
HSK 63A-SDM10-085	10.000	2.21	0.94	1.26	1.73	3.35
HSK 63A-SDM10-160	10.000	5.16	0.94	1.26	1.73	6.30
HSK 63A-SDM12-090	12.000	2.41	0.94	1.26	1.97	3.54
HSK 63A-SDM12-160	12.000	5.16	0.94	1.26	1.97	6.30
HSK 63A-SDM16-095	16.000	2.61	1.06	1.34	1.97	3.74
HSK 63A-SDM16-160	16.000	5.16	1.06	1.34	1.97	6.30
HSK 63A-SDM20-100	20.000	2.80	1.30	1.65	2.17	3.94
HSK 63A-SDM20-160	20.000	5.16	1.30	1.65	2.17	6.30
HSK 63A-SDM25-115	25.000	3.50	1.73	2.09	2.40	4.53
HSK 63A-SDM25-160	25.000	5.16	1.73	2.09	2.40	6.30

ER - Collet Chuck

Drilling | Reaming | Threading | Lite Milling



Premium Performance

Premium Precision

0.0001" TIR OD Taper to ID Taper Guaranteed

Dynamic Balance

Dynamically Balanced Body for G6.3 @ 20,000 RPM's (CAT50 @ 15,000) and the Nuts are also Dynamically Balanced Separately

Best in Class Performance

Pioneer ER exceeds DIN 6499 to provide optimum performance and interchangeability

True Dynamic Balance

PIONEER ER holder bodies and collet nuts are individually dynamically balanced, not in sets, for maximum flexibility and balance compensation.

Dynamic Balance Compensation



Sealed or Jet-Blast Coolant Cap

Seal Collets or ER Coolant Caps provide a coolant seal up to 1,500 PSI.

Coolant Caps preventing chips & debris from enter the collet and chuck.

Available in a Jet-Blast model for directional coolant into the cutter flutes.



Standard Features

Dynamic Balance Compensation

ID Chip Hole

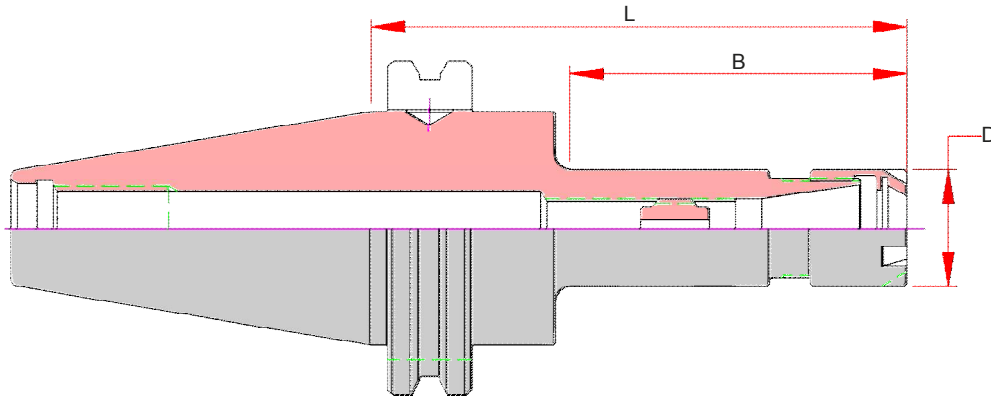


DIN AD+B Flange Coolant

CAT40 ER Mini Collet Chucks

Features

- 3 μm - 0.0001" Runout Taper to Taper
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Dynamically Balanced G6.3 @ 20,000 RPM
- Order Collets & Wrench Separately



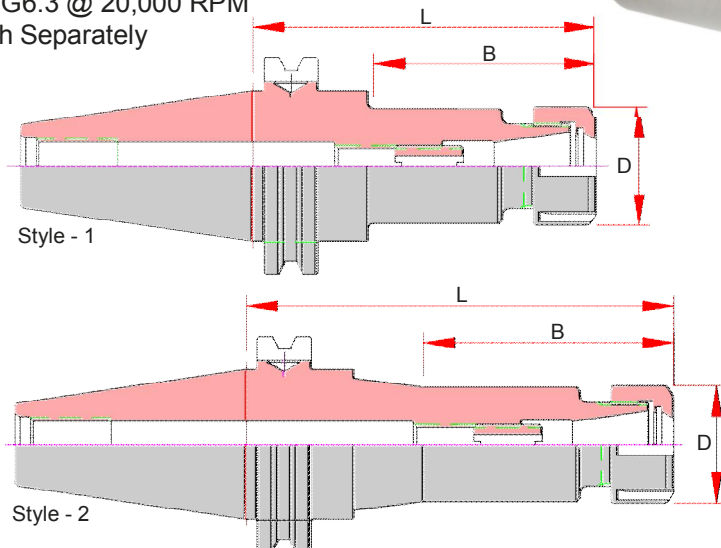
Capacity	Part Number	Range	B	D	L Projection	Screw	Nut	Wrench
1/4	CAT40-ER11M-0250	.019-.276	1.56	0.63	2.50	ASC-ER11	ERN-11M	ERW-11M
	CAT40-ER11M-0400		2.42		4.00			
3/8	CAT40-ER16M-0250	.019-.394	1.56	0.87	2.50	ASC-ER16	ERN-16M	ERW-16M
	CAT40-ER16M-0400		2.42		4.00			

ER - Collet Chuck

CAT40 ER Collet Chucks

Features

- **3 µm - 0.0001" Runout Taper to Taper**
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Dynamically Balanced G6.3 @ 20,000 RPM
- Order Collets & Wrench Separately

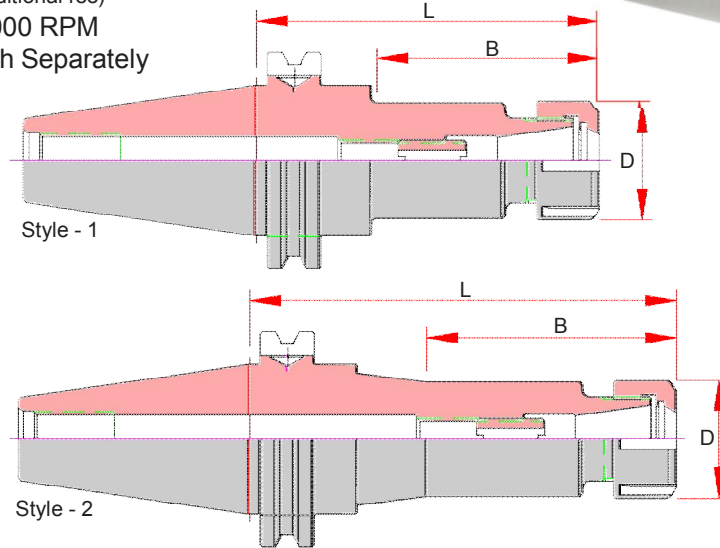


Capacity	Part Number	Range	B	D	L Projection	Screw	Nut	Wrench	Style
1/4	CAT40-ER11H-0250		0.92		2.50				1
	CAT40-ER11H-0400	.019-.276	2.50	0.79	4.00	ASC-ER11	ERN-11H	ERW-11H	1
	CAT40-ER11H-0600		1.83		6.00				2
3/8	CAT40-ER16H-0250		1.55		2.50				1
	CAT40-ER16H-0400	.019-.394	2.42	1.10	4.00	ASC-ER16	ERN-16H	ERW-16H	1
	CAT40-ER16H-0600		4.42		6.00				1
	CAT40-ER16H-0800		6.42		8.00				1
1/2	CAT40-ER20H-0250		1.63		2.50				1
	CAT40-ER20H-0400	.019-.512	2.50	1.33	4.00	ASC-ER20	ERN-20H	ERW-20H	1
	CAT40-ER20H-0600		4.60		6.00				1
	CAT40-ER20H-0800		6.60		8.00				1
5/8	CAT40-ER25-0250		1.73		2.50				1
	CAT40-ER25-0400	.019-.630	2.58	1.65	4.00	ASC-ER25	ERN-25	ERW-25E	1
	CAT40-ER25-0600		4.60		6.00				1
	CAT40-ER25-0800		6.60		8.00				1
3/4	CAT40-ER32-0250		1.73		2.50				1
	CAT40-ER32-0400	.039-.787	3.23	1.96	4.00	ASC-ER32	ERN-32	ERW-32E	1
	CAT40-ER32-0600		5.23		6.00				1
	CAT40-ER32-0800		7.25		8.00				1
1"	CAT40-ER40-0250		1.75		2.50				1
	CAT40-ER40-0400	.079-1.024	3.25	2.48	4.00	ASC-ER40	ERN-40	ERW-40E	1
	CAT40-ER40-0600		5.25		6.00				1

CAT50 ER Collet Chucks

Features

- 3 μ m - 0.0001" Runout Taper to Taper
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
(* 15" Projection Holders additional fee)
- Balanced G6.3 @ 15,000 RPM
- Order Collets & Wrench Separately



Capacity	Part Number	Range	B	D	L Projection	Screw	Nut	Wrench	Style
1/4	CAT50-ER16H-0250		1.55		2.50				1
	CAT50-ER16H-0400		2.42		4.00				1
	CAT50-ER16H-0600		2.39		6.00				2
	CAT50-ER16H-0800	.019-.394	2.39	1.10	8.00	ASC-ER16	ERN-16H	ERW-16H	2
	CAT50-ER16H-1000		2.39		10.00				2
	CAT50-ER16H-1200		2.39		12.00				2
	CAT50-ER16H-1500		2.39		15.00				2
1/2	CAT50-ER20H-0250		1.55		2.50				1
	CAT50-ER20H-0400		2.42		4.00				1
	CAT50-ER20H-0600	.019-.512	2.42	1.33	6.00	ASC-ER20	ERN-20H	ERW-20H	2
	CAT50-ER20H-0800		2.42		8.00				2
	CAT50-ER20H-1500		3.40		15.00				
5/8	CAT50-ER25-0250		1.55		2.50				1
	CAT50-ER25-0400		2.42		4.00				1
	CAT50-ER25-0600	.019-.630	4.42	1.65	6.00	ASC-ER25	ERN-25	ERW-25E	1
	CAT50-ER25-0800		2.44		8.00				2
	CAT50-ER25-1500		3.42		15.00				
3/4	CAT50-ER32-0250		1.71		2.50				1
	CAT50-ER32-0400		2.50		4.00				1
	CAT50-ER32-0500		3.50		5.00				1
	CAT50-ER32-0600	.039-.787	4.50	1.96	6.00	ASC-ER32	ERN-32	ERW-32E	1
	CAT50-ER32-0800		6.50		8.00				1
	CAT50-ER32-1000		4.45		10.00				2
	CAT50-ER32-1200		4.45		12.00				2
	CAT50-ER32-1500		4.45		15.00				2
1"	CAT50-ER40-0400		2.54		4.00				1
	CAT50-ER40-0500	.079-1.024	3.54	2.48	5.00	ASC-ER40	ERN-40	ERW-40E	1
	CAT50-ER40-0600		4.54		6.00				1
	CAT50-ER40-0800		6.54		8.00				1

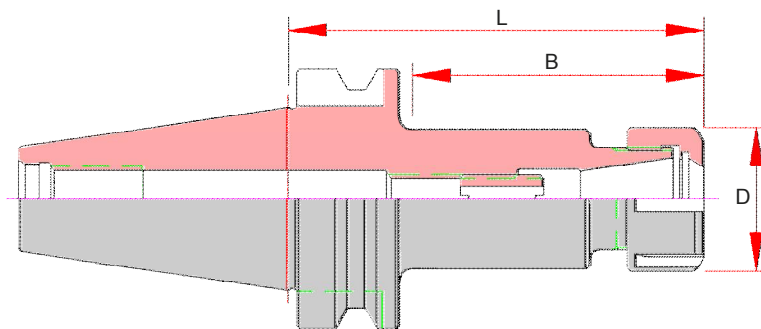


ER - Collet Chuck

BT30 ER Collet Chucks

Features

- **3 μm - 0.0001" Runout Taper to Taper**
- Coolant Thru Center
- Balanced G6.3 @ 20,000 RPM
- Order Collets & Wrench Separately

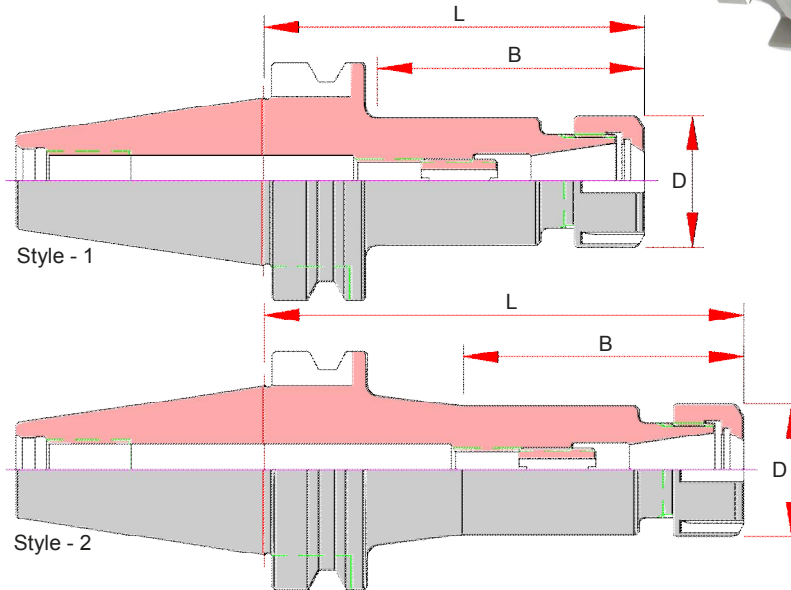


Capacity	Part Number	Range	B	D	L Projection	Screw	Nut	Wrench
1/4	BT30-ER11H-060	.019-.276	1.45	0.74	2.36	ASC-ER11	ERN-11H	ERW-11H
	BT30-ER11H-100		2.95		3.94			
3/8	BT30-ER16H-070	.019-.394	1.85	1.10	2.76	ASC-ER16	ERN-16H	ERW-16H
	BT30-ER16H-100		3.03		3.94			
1/2	BT30-ER20H-070	.019-.512	1.85	1.33	2.76	ASC-ER20	ERN-20H	ERW-20H
	BT30-ER20H-100		3.03		3.94			
5/8	BT30-ER25-070	.019-.630	1.93	1.65	2.76	ASC-ER25	ERN-25	ERW-25E
	BT30-ER25-100		3.11		3.94			
3/4	BT30-ER32-070	.039-.787	1.93	1.96	2.76	ASC-ER32	ERN-32	ERW-32E

BT40 ER Collet Chucks

Features

- 3 μ m - 0.0001" Runout Taper to Taper
- Coolant Thru Center
- Balanced G6.3 @ 20,000 RPM
- Order Collets & Wrench Separately



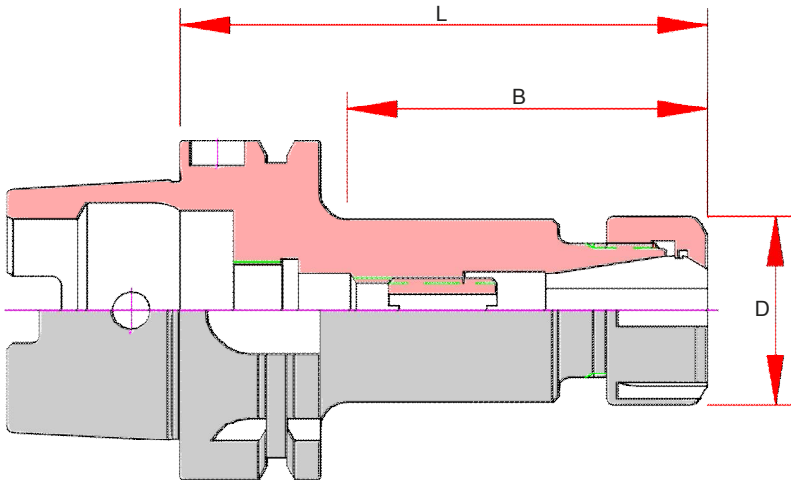
Capacity	Part Number	Range	B	D	L Projection	Screw	Nut	Wrench	Style
1/4	BT40-ER11H-060		1.18		2.36				1
	BT40-ER11H-100	.019-.276	2.75	0.74	3.94	ASC-ER11	ERN-11H	ERW-11H	1
	BT40-ER11H-150		1.57		5.91				1
3/8	BT40-ER16H-060		1.18		2.36				1
	BT40-ER16H-100	.019-.394	2.75	1.10	3.94	ASC-ER16	ERN-16H	ERW-16H	1
	BT40-ER16H-160		5.11		6.30				2
1/2	BT40-ER20H-070		1.57		2.76				1
	BT40-ER20H-100	.019-.512	2.75	1.33	3.94	ASC-ER20	ERN-20H	ERW-20H	1
	BT40-ER20H-160		5.11		6.30				1
5/8	BT40-ER25-060		1.26		2.36				1
	BT40-ER25-100	.019-.630	2.83	1.65	3.94	ASC-ER25	ERN-25	ERW-25E	1
	BT40-ER25-160		5.19		6.30				1
3/4	BT40-ER32-075		1.88		2.95				1
	BT40-ER32-100	.039-.787	2.87	1.96	3.94	ASC-ER32	ERN-32	ERW-32E	1
	BT40-ER32-160		5.23		6.30				1
1"	BT40-ER40-080	.079-1.024	2.04	2.48	3.15	ASC-ER40	ERN-40	ERW-40E	1
	BT40-ER40-160		4.40		6.30				1

ER - Collet Chuck

HSK

Features

- 3 µm - 0.0001” Runout Taper to Taper
- Coolant Thru Center
- Balanced G6.3 @ 20,000 RPM
- Order Collets & Wrench Separately



Capacity	Part Number	Range	B	D	L Projection	Screw	Nut	Wrench
3/8	HSK63A-ER16H-100	.019-.394	2.79	1.10	3.94	ASC-ER16	ERN-16H	ERW-16H
	HSK63A-ER16H-160				6.30			
1/2	HSK63A-ER20H-100	.019-.512	2.72	1.33	3.94	ASC-ER20	ERN-20H	ERW-20H
	HSK63A-ER20H-160				6.30			
5/8	HSK63A-ER25-100	.019-.630	2.72	1.65	3.94	ASC-ER25	ERN-25	ERW-25E
	HSK63A-ER25-160				6.30			
3/4	HSK63A-ER32-100	.039-.787	2.72	1.96	3.94	ASC-ER32	ERN-32	ERW-32E
	HSK63A-ER32-160				6.30			
1"	HSK63A-ER40-120	.079-1.024	3.50	2.48	4.72	ASC-ER40	ERN-40	ERW-40E
	HSK63A-ER40-150		4.68		5.91			

HSK Coolant Tubes

- Fits HSK Form A Shanks
- Double Seal Design

Part Number	Description	Wrench
TUBE-063A	HSK 63A Coolant Tube	WRENCH HSK63A COOLNT TUBE
TUBE-100A	HSK 100A Coolant Tube	WRENCH HSK100 COOLNT TUBE



Collet Nuts



Hex Style



E Type



Mini Type

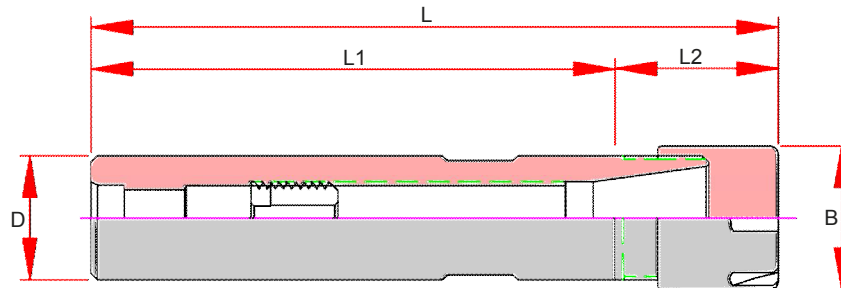
Nut Part Number	Description	Wrench Part Number	Thread	Max. Torque
ERN-11H	ER 11 Nut -Hex	ERW-11H	M14 x 0.75	18 ft/lbs
ERN-16H	ER 16 Nut -Hex	ERW-16H	M22 x 1.5	40 ft/lbs
ERN-20H	ER 20 Nut -Hex	ERW-20H	M25 x 1.5	60 ft/lbs
ERN-16E	ER 16 Nut - E Type	ERW-16E	M22 x 1.5	40 ft/lbs
ERN-20E	ER 20 Nut - E Type	ERW-20E	M25 x 1.5	60 ft/lbs
ERN-25E	ER 25 Nut - E Type	ERW-25E	M32 x 1.5	75 ft/lbs
ERN-32E	ER 32 Nut - E Type	ERW-32E	M40 x 1.5	100 ft/lbs
ERN-40E	ER 40 Nut - E Type	ERW-40E	M50 x 1.5	125 ft/lbs
ERN-8M	ER 8 Mini Nut	ERW-8M	M10 x 0.75	6 ft/lbs
ERN-11M	ER 11 Mini Nut	ERW-11M	M13 x 0.75	9 ft/lbs
ERN-16M	ER 16 Mini Nut	ERW-16M	M19 x 1.0	13 ft/lbs
ERN-20M	ER 20 Mini Nut	ERW-20M	M24 x 1.0	17 ft/lbs

ER - Collet Chuck

Mini-Nut ER Straight Shank

Features

- 3µm 0.0001" Runout Shank to Taper
- Coolant Thru Center
- Mini-Nut for Close Cen-

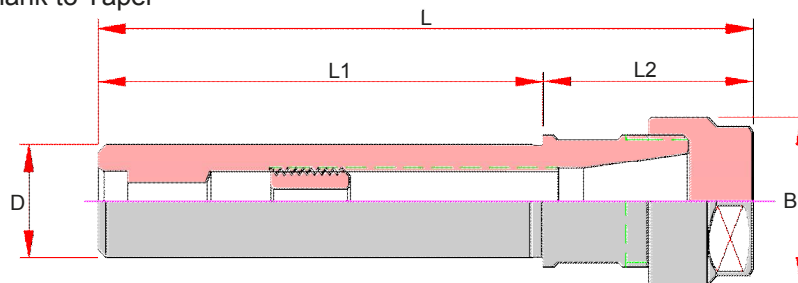


Part Number	Collet Type	B	D	L	L1	L2	Preset Screw	Max Tool Dia.	Wrench	Nut Type	Coolant Thru	Optional 1/8 Hole
S037-ER08M-0394	ER8	0.47	0.375	4.88	3.94	0.94	N/A	0.19	ERW-08M	Mini	N	-C
S050-ER11M-0552	ER11	0.63	0.500	6.56	5.51	1.04	N/A	0.29	ERW-11M	Mini	N	-C
S050-ER16M-0552	ER16	0.87	0.500	6.97	5.51	1.46	N/A	0.26	ERW-16M	Mini	N	-C
S062-ER11M-0552	ER11	0.63	0.625	6.24	5.51	0.73	N/A	0.29	ERW-11M	Mini	N	-C
S075-ER16M-0552	ER16	0.87	0.750	6.50	5.51	0.98	ASC-ER16	0.38	ERW-16M	Mini	Y	-
S100-ER20M-0552	ER20	1.10	1.000	6.61	5.51	1.10	ASC-ER20	0.50	ERW-20M	Mini	Y	-

ER Straight Shank

Features

- 3µm 0.0001" Runout Shank to Taper
- Coolant Thru Center

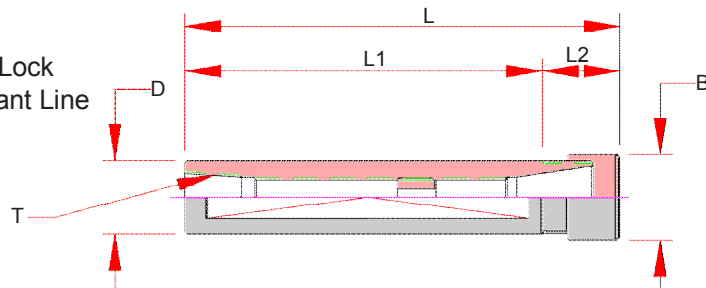


Part Number	Collet Type	B	D	L	L1	L2	Preset Screw	Max Tool Dia.	Wrench	Nut Type	Coolant Thru	Optional 1/8 Hole
S050-ER11H-0552	ER11	0.75	0.500	6.87	5.51	0.85	N/A	0.28	ERW-11H	Hex	N	-C
S062-ER11H-0552	ER11	0.75	0.625	6.87	5.51	0.85	N/A	0.28	ERW-11H	Hex	N	-C
S062-ER16H-0236	ER16	1.10	0.625	3.74	2.36	1.38	N/A	0.28	ERW-16H	Hex	N	-C
S075-ER16H-0197	ER16	1.10	0.750	3.35	1.97	1.38	ASC-ER16	0.38	ERW-16H	Hex	Y	
S075-ER16H-0394	ER16	1.10	0.750	5.32	3.94	1.38	ASC-ER16	0.38	ERW-16H	Hex	Y	
S075-ER16H-0552	ER16	1.10	0.750	6.89	5.51	1.38	ASC-ER16	0.38	ERW-16H	Hex	Y	
S075-ER20H-0250	ER20	1.34	0.750	3.94	2.50	1.50	ASC-ER16	0.38	ERW-20H	Hex	Y	
S100-ER20H-0552	ER20	1.34	1.000	7.11	5.51	1.59	ASC-ER20	0.50	ERW-20H	Hex	Y	
S100-ER25-0197	ER25	1.65	1.000	3.98	1.97	2.01	ASC-ER25	0.63	ERW-25E	Spanner	Y	
S100-ER32-0197	ER32	1.97	1.000	4.00	1.97	2.03	ASC-ER25	0.63	ERW-32E	Spanner	Y	
S125-ER32-0236	ER32	1.97	1.250	4.39	2.36	2.03	ASC-ER32	0.75	ERW-32E	Spanner	Y	
S125-ER32-0552	ER32	1.97	1.250	7.54	5.51	2.03	ASC-ER32	0.75	ERW-32E	Spanner	Y	
S100-ER40-0197	ER40	2.48	1.000	4.53	1.97	2.56	ASC-ER16	0.38	ERW-40E	Spanner	Y	

Coolant Thru Straight Shank

Features

- 3µm 0.0001" Runout Shank to Taper
- Coolant Thru Center
- Seals up to 1,500 PSI
- Flat on the Shank for Positive Lock
- Includes Pipe Thread for Coolant Line

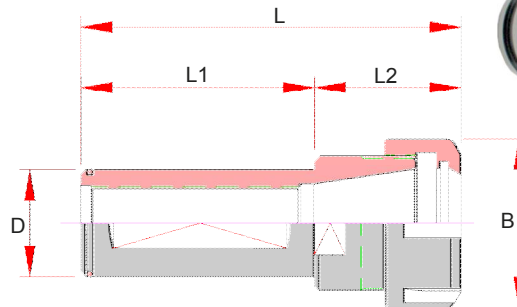


Part Number	Collet Type	B	D	L	L1	L2	T- Thread	Set Screw	Max Tool Dia.	Wrench	Nut Type
S075-ER16M-0342C	ER16	0.87	3/4"	4.34	3.42	0.92		ASC-ER16	0.38	ERW-16M	Mini
S100-ER20M-0331C	ER20	1.10	1"	4.38	3.31	1.07	1/4" NPT	ASC-ER20	0.50	ERW-20M	Mini
S125-ER32-0236C	ER32	1.97	1 1/4"	4.52	2.36	2.16		ASC-ER32	0.75	ERW-32E	E -Spanner

CNC Lathe ER Straight Shank

Features

- 3µm 0.0001" Runout Shank to Taper
- Coolant Thru Center
- Seals up to 1,500 PSI
- Flat on the Shank for Positive Lock
- O-ring on the end of the shank for bore seal

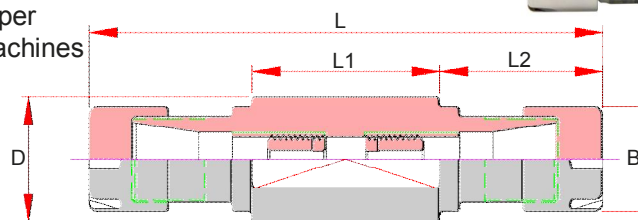


Part Number	Collet Type	B	D	L	L1	L2	ID Thread	Wrench	Nut Type	O-Ring Shank Seal
S125-ER25-0236NC	ER25	1.65	1-1/4"	3.82	2.36	1.46	11/16-16	ERW-25E	E -Spanner	AS-024
S125-ER32-0236NC	ER32	1.97	1-1/4"	4.06	2.36	1.69	15/16-16	ERW-32E	E -Spanner	AS-024
S125-ER40-0236NC	ER40	2.48	1-1/4"	4.72	2.36	2.36	15/16-16	ERW-40E	E -Spanner	AS-024
S150-ER32-0315NC	ER32	1.97	1-1/2"	4.65	3.15	1.50	15/16-16	ERW-32E	E -Spanner	AS-028
S150-ER40-0295NC	ER40	2.48	1-1/2"	5.31	2.95	2.36	1 1/8-16	ERW-40E	E -Spanner	AS-028

Swiss Double Ended Collet Holder

Features

- 3µm 0.0001" Runout Shank to Taper
- Designed for CNC Swiss Style Machines



Part Number	Collet Type	B	D	L	L1	L2	Wrench	Nut Type
S075-ER11M-0173DE	ER11	0.63	3/4"	2.68	1.73	0.47	ERW-11M	Mini
S075-ER11M-0256DE	ER11	0.63	3/4"	3.50	2.56	0.47	ERW-11M	Mini
S075-ER11M-0303DE	ER11	0.63	3/4"	3.98	3.03	0.47	ERW-11M	Mini
S075-ER11M-0392DE	ER11	0.63	3/4"	4.86	3.92	0.47	ERW-11M	Mini

ER - Inch Collets

ER Precision Inch Collets

Features

- Standard .0004" T.I.R.
- Ultra Precision .0002" T.I.R.
- Collapse Range: 1mm (.039)

Note:

For Ultra Precision place "P" at the end of the part number.

Example: ER32-0375P



ER11 Inch Collets

Drill Shank	Tool Max	Tool Min	ER 11
1/16	0.0625	0.0425	ER11-0062
3/32	0.0938	0.0544	ER11-0093
1/8	0.1250	0.0856	ER11-0125
5/32	0.1563	0.1169	ER11-0156
3/16	0.1875	0.1481	ER11-0187
7/32	0.2188	0.1794	ER11-0218
1/4	0.2500	0.2106	ER11-0250

ER16 Inch Collets

Drill Shank	Tool Max	Tool Min	ER 16
1/16	0.0625	0.0231	ER16-0062
3/32	0.0938	0.0544	ER16-0093
1/8	0.1250	0.0856	ER16-0125
5/32	0.1563	0.1169	ER16-0156
3/16	0.1875	0.1481	ER16-0187
7/32	0.2188	0.1794	ER16-0218
1/4	0.2500	0.2106	ER16-0250
9/32	0.2813	0.2419	ER16-0281
5/16	0.3125	0.2731	ER16-0312
11/32	0.3438	0.3044	ER16-0344
3/8	0.3750	0.3356	ER16-0375
13/32	0.4063	0.3669	ER16-0406

ER20 Inch Collets

Drill Shank	Tool Max	Tool Min	ER 20
3/32	0.0938	0.0544	ER20-0093
1/8	0.1250	0.0856	ER20-0125
5/32	0.1563	0.1169	ER20-0156
3/16	0.1875	0.1481	ER20-0187
7/32	0.2188	0.1794	ER20-0218
1/4	0.2500	0.2106	ER20-0250
9/32	0.2813	0.2419	ER20-0281
5/16	0.3125	0.2731	ER20-0312
11/32	0.3438	0.3044	ER20-0344
3/8	0.3750	0.3356	ER20-0375
13/32	0.4063	0.3669	ER20-0406
7/16	0.4375	0.3981	ER20-0438
15/32	0.4688	0.4294	ER20-0469
1/2	0.5000	0.4606	ER20-0500



Collet Sets

Part Number	Collet Size	Pieces	Includes
ER11-ISET	ER11	7	1/16 - 1/4" by 1/32"
ER16-ISET	ER16	10	3/32 - 3/8" by 1/32"
ER20-ISET	ER20	12	5/32 - 1/2" by 1/32"
ER25-ISET	ER25	15	3/16 - 5/8" by 1/32"
ER32-ISET	ER32	18	7/32 - 3/4" by 1/32"
ER40-ISET	ER40	13	1/8 - 1" by 1/16"

ER Precision Inch Collets

Features

- Standard .0004" T.I.R.
- Ultra Precision .0002" T.I.R.
- Collapse Range: 1mm (.039)

Note:

For Ultra Precision place "P" at the end of the part number.

Example: ER32-0375P



ER25 Inch Collets

Drill Shank	Tool Max	Tool Min	ER 25
3/32	0.0938	0.0544	ER25-0093
1/8	0.1250	0.0856	ER25-0125
5/32	0.1563	0.1169	ER25-0156
3/16	0.1875	0.1481	ER25-0187
7/32	0.2188	0.1794	ER25-0218
1/4	0.2500	0.2106	ER25-0250
9/32	0.2813	0.2419	ER25-0281
5/16	0.3125	0.2731	ER25-0312
11/32	0.3438	0.3044	ER25-0344
3/8	0.3750	0.3356	ER25-0375
13/32	0.4063	0.3669	ER25-0406
7/16	0.4375	0.3981	ER25-0438
15/32	0.4688	0.4294	ER25-0469
1/2	0.5000	0.4606	ER25-0500
17/32	0.5313	0.4919	ER25-0531
9/16	0.5625	0.5231	ER25-0563
19/32	0.5938	0.5544	ER25-0594
5/8	0.6250	0.5856	ER25-0625

ER32 Inch Collets

Drill Shank	Tool Max	Tool Min	ER 32
3/32	0.0938	0.0544	ER32-0093
1/8	0.1250	0.0856	ER32-0125
5/32	0.1563	0.1169	ER32-0156
3/16	0.1875	0.1481	ER32-0187
7/32	0.2188	0.1794	ER32-0218
1/4	0.2500	0.2106	ER32-0250
9/32	0.2813	0.2419	ER32-0281
5/16	0.3125	0.2731	ER32-0312
11/32	0.3438	0.3044	ER32-0344
3/8	0.3750	0.3356	ER32-0375
13/32	0.4063	0.3669	ER32-0406
7/16	0.4375	0.3981	ER32-0438
15/32	0.4688	0.4294	ER32-0469
1/2	0.5000	0.4606	ER32-0500
17/32	0.5313	0.4919	ER32-0531
9/16	0.5625	0.5231	ER32-0563
19/32	0.5938	0.5544	ER32-0594
5/8	0.6250	0.5856	ER32-0625
21/32	0.6563	0.6169	ER32-0656
11/16	0.6875	0.6481	ER32-0688
23/32	0.7188	0.6794	ER32-0719
3/4	0.7500	0.7106	ER32-0750

ER40 Inch Collets

Drill Shank	Tool Max	Tool Min	ER 40
1/8	0.1250	0.0856	ER40-0125
5/32	0.1563	0.1169	ER40-0156
3/16	0.1875	0.1481	ER40-0187
7/32	0.2188	0.1794	ER40-0218
1/4	0.2500	0.2106	ER40-0250
9/32	0.2813	0.2419	ER40-0281
5/16	0.3125	0.2731	ER40-0312
11/32	0.3438	0.3044	ER40-0344
3/8	0.3750	0.3356	ER40-0375
13/32	0.4063	0.3669	ER40-0406
7/16	0.4375	0.3981	ER40-0438
15/32	0.4688	0.4294	ER40-0469
1/2	0.5000	0.4606	ER40-0500
17/32	0.5313	0.4919	ER40-0531
9/16	0.5625	0.5231	ER40-0563
19/32	0.5938	0.5544	ER40-0594
5/8	0.6250	0.5856	ER40-0625
21/32	0.6563	0.6169	ER40-0656
11/16	0.6875	0.6481	ER40-0688
23/32	0.7188	0.6794	ER40-0719
3/4	0.7500	0.7106	ER40-0750
25/32	0.7813	0.7419	ER40-0781
13/16	0.8125	0.7731	ER40-0813
27/32	0.8438	0.8044	ER40-0844
7/8	0.8750	0.8356	ER40-0875
29/32	0.9063	0.8669	ER40-0906
15/16	0.9375	0.8981	ER40-0938
31/32	0.9688	0.9294	ER40-0969
1	1.0000	0.9606	ER40-1000

ER - Metric Collets

ER Precision Metric Collets

Features

- Standard .0004" T.I.R.
- Ultra Precision .0002" T.I.R.
- Collapse Range: .039

Note:

For Ultra Precision place "P" at the end of the part number.

Example: ER32-M100P



ER08 Metric Collets

Tool Max	Tool Min	Tool Max"	Tool Min"	ER 8
1.0	0.5	0.0394	0.0197	ER08-M010
1.5	1.0	0.0591	0.0394	ER08-M015
2.0	1.5	0.0787	0.0591	ER08-M020
2.5	2.0	0.0984	0.0787	ER08-M025
3.0	2.5	0.1181	0.0984	ER08-M030
3.5	3.0	0.1378	0.1181	ER08-M035
4.0	3.5	0.1575	0.1378	ER08-M040
4.5	4.0	0.1772	0.1575	ER08-M045
5.0	4.5	0.1969	0.1772	ER08-M050

ER11 Metric Collets

Tool Max	Tool Min	Tool Max"	Tool Min"	ER 11
1.0	0.5	0.0394	0.0197	ER11-M010
1.5	1.0	0.0591	0.0394	ER11-M015
2.0	1.5	0.0787	0.0591	ER11-M020
2.5	2.0	0.0984	0.0787	ER11-M025
3.0	2.5	0.1181	0.0984	ER11-M030
3.5	3.0	0.1378	0.1181	ER11-M035
4.0	3.5	0.1575	0.1378	ER11-M040
4.5	4.0	0.1772	0.1575	ER11-M045
5.0	4.5	0.1969	0.1772	ER11-M050
5.5	5.0	0.2165	0.1969	ER11-M055
6.0	5.5	0.2362	0.2165	ER11-M060
6.5	6.0	0.2559	0.2362	ER11-M065
7.0	6.5	0.2756	0.2559	ER11-M070

ER16 Metric Collets

Tool Max	Tool Min	Tool Max"	Tool Min"	ER 16
1.0	0.5	0.0394	0.0197	ER16-M010
1.5	1.0	0.0591	0.0394	ER16-M015
2.0	1.0	0.0787	0.0394	ER16-M020
2.5	2.0	0.0984	0.0787	ER16-M025
3.0	2.0	0.1181	0.0787	ER16-M030
3.5	3.0	0.1378	0.1181	ER16-M035
4.0	3.0	0.1575	0.1181	ER16-M040
5.0	4.0	0.1969	0.1575	ER16-M050
6.0	5.0	0.2362	0.1969	ER16-M060
7.0	6.0	0.2756	0.2362	ER16-M070
8.0	7.0	0.3150	0.2756	ER16-M080
9.0	8.0	0.3543	0.3150	ER16-M090
10.0	9.0	0.3937	0.3543	ER16-M100

Collet Sets

Part Number	Collet Size	Pieces	Includes
ER08-MSET	ER8	9	1 - 5mm by 0.5mm
ER11-MSET	ER11	13	1 - 7mm by 0.5mm
ER16-MSET	ER16	10	1 - 10mm by 1.0mm
ER20-MSET	ER20	12	2 - 13mm by 1.0mm
ER25-MSET	ER25	15	2 - 16mm by 1.0mm
ER32-MSET	ER32	18	3 - 20mm by 1.0mm
ER40-MSET	ER40	23	4 - 26mm by 1.0mm



ER Precision Metric Collets

Features

- Standard .0004" T.I.R.
- Ultra Precision .0002" T.I.R.
- Collapse Range: .039

Note:

For Ultra Precision place "P" at the end of the part number. Example: ER32-M100P



ER20 Metric Collets

Tool Max	Tool Min	Tool Max"	Tool Min"	ER 20
1.0	0.5	0.0394	0.0197	ER20-M010
1.5	1.0	0.0591	0.0394	ER20-M015
2.0	1.0	0.0787	0.0394	ER20-M020
2.5	1.5	0.0984	0.0591	ER20-M025
3.0	2.0	0.1181	0.0787	ER20-M030
3.5	2.5	0.1378	0.0984	ER20-M035
4.0	3.0	0.1575	0.1181	ER20-M040
5.0	4.0	0.1969	0.1575	ER20-M050
6.0	5.0	0.2362	0.1969	ER20-M060
7.0	6.0	0.2756	0.2362	ER20-M070
8.0	7.0	0.3150	0.2756	ER20-M080
9.0	8.0	0.3543	0.3150	ER20-M090
10.0	9.0	0.3937	0.3543	ER20-M100
11.0	10.0	0.4331	0.3937	ER20-M110
12.0	11.0	0.4724	0.4331	ER20-M120
13.0	12.0	0.5118	0.4724	ER20-M130

ER25 Metric Collets

Tool Max	Tool Min	Tool Max"	Tool Min"	ER 25
1.5	0.5	0.0591	0.0197	ER25-M015
2.0	1.0	0.0787	0.0394	ER25-M020
2.5	1.5	0.0984	0.0591	ER25-M025
3.0	2.0	0.1181	0.0787	ER25-M030
3.5	2.5	0.1378	0.0984	ER25-M035
4.0	3.0	0.1575	0.1181	ER25-M040
5.0	4.0	0.1969	0.1575	ER25-M050
6.0	5.0	0.2362	0.1969	ER25-M060
7.0	6.0	0.2756	0.2362	ER25-M070
8.0	7.0	0.3150	0.2756	ER25-M080
9.0	8.0	0.3543	0.3150	ER25-M090
10.0	9.0	0.3937	0.3543	ER25-M100
11.0	10.0	0.4331	0.3937	ER25-M110
12.0	11.0	0.4724	0.4331	ER25-M120
13.0	12.0	0.5118	0.4724	ER25-M130
14.0	13.0	0.5512	0.5118	ER25-M140
15.0	14.0	0.5906	0.5512	ER25-M150
16.0	15.0	0.6299	0.5906	ER25-M160

ER32 Metric Collets

Tool Max	Tool Min	Tool Max"	Tool Min"	ER 32
2.0	1.5	0.0787	0.0591	ER32-M020
2.5	2.0	0.0984	0.0787	ER32-M025
3.0	2.0	0.1181	0.0787	ER32-M030
3.5	3.0	0.1378	0.1181	ER32-M035
4.0	3.0	0.1575	0.1181	ER32-M040
5.0	4.0	0.1969	0.1575	ER32-M050
6.0	5.0	0.2362	0.1969	ER32-M060
7.0	6.0	0.2756	0.2362	ER32-M070
8.0	7.0	0.3150	0.2756	ER32-M080
9.0	8.0	0.3543	0.3150	ER32-M090
10.0	9.0	0.3937	0.3543	ER32-M100
11.0	10.0	0.4331	0.3937	ER32-M110
12.0	11.0	0.4724	0.4331	ER32-M120
13.0	12.0	0.5118	0.4724	ER32-M130
14.0	13.0	0.5512	0.5118	ER32-M140
15.0	14.0	0.5906	0.5512	ER32-M150
16.0	15.0	0.6299	0.5906	ER32-M160
17.0	16.0	0.6693	0.6299	ER32-M170
18.0	17.0	0.7087	0.6693	ER32-M180
19.0	18.0	0.7480	0.7087	ER32-M190
20.0	19.0	0.7874	0.7480	ER32-M200

ER40 Metric Collets

Tool Max	Tool Min	Tool Max"	Tool Min"	ER 40
3.0	2.5	0.1181	0.0984	ER40-M030
3.5	3.0	0.1378	0.1181	ER40-M035
4.0	3.0	0.1575	0.1181	ER40-M040
5.0	4.0	0.1969	0.1575	ER40-M050
6.0	5.0	0.2362	0.1969	ER40-M060
7.0	6.0	0.2756	0.2362	ER40-M070
8.0	7.0	0.3150	0.2756	ER40-M080
9.0	8.0	0.3543	0.3150	ER40-M090
10.0	9.0	0.3937	0.3543	ER40-M100
11.0	10.0	0.4331	0.3937	ER40-M110
12.0	11.0	0.4724	0.4331	ER40-M120
13.0	12.0	0.5118	0.4724	ER40-M130
14.0	13.0	0.5512	0.5118	ER40-M140
15.0	14.0	0.5906	0.5512	ER40-M150
16.0	15.0	0.6299	0.5906	ER40-M160
17.0	16.0	0.6693	0.6299	ER40-M170
18.0	17.0	0.7087	0.6693	ER40-M180
19.0	18.0	0.7480	0.7087	ER40-M190
20.0	19.0	0.7874	0.7480	ER40-M200
21.0	20.0	0.8268	0.7874	ER40-M210
22.0	21.0	0.8661	0.8268	ER40-M220
23.0	22.0	0.9055	0.8661	ER40-M230
24.0	23.0	0.9449	0.9055	ER40-M240
25.0	24.0	0.9843	0.9449	ER40-M250
26.0	25.0	1.0236	0.9843	ER40-M260
27.0	26.0	1.0630	1.0236	ER40-M270
28.0	27.0	1.1024	1.0630	ER40-M280
29.0	28.0	1.1417	1.1024	ER40-M290
30.0	29.0	1.1811	1.1417	ER40-M300

ER - Coolant Collets

SSER Coolant Collets - Inch

Features

- High Pressure Coolant - 1,500 PSI
- Standard .0004" T.I.R.
- On Size Collets - Will Not Collapse
- Designed for h6 Tool Shanks



Cutter Shank	Inch	Metric	SSER 16	SSER 20	SSER 25	SSER 32	SSER 40
3/32	0.0938	2.383	SSER16-0093				
1/8	0.1250	3.175	SSER16-0125				
5/32	0.1563	3.969	SSER16-0156	SSER20-0156	SSER25-0156	SSER32-0156	SSER40-0156
3/16	0.1880	4.775	SSER16-0187	SSER20-0187	SSER25-0187	SSER32-0187	SSER40-0187
7/32	0.2188	5.558	SSER16-0218	SSER20-0218	SSER25-0218	SSER32-0219	SSER40-0218
1/4	0.2500	6.350	SSER16-0250	SSER20-0250	SSER25-0250	SSER32-0250	SSER40-0250
9/32	0.2813	7.145	SSER16-0281	SSER20-0281	SSER25-0281	SSER32-0281	SSER40-0281
5/16	0.3125	7.938	SSER16-0312	SSER20-0312	SSER25-0312	SSER32-0312	SSER40-0312
11/32	0.3437	8.730	SSER16-0344	SSER20-0344	SSER25-0344	SSER32-0344	SSER40-0344
3/8	0.3750	9.525	SSER16-0375	SSER20-0375	SSER25-0375	SSER32-0375	SSER40-0375
13/32	0.4063	10.320	SSER16-0406	SSER20-0406	SSER25-0406	SSER32-0406	SSER40-0406
7/16	0.4375	11.113		SSER20-0438	SSER25-0438	SSER32-0438	SSER40-0438
15/32	0.4688	11.908		SSER20-0469	SSER25-0469	SSER32-0469	SSER40-0469
1/2	0.5000	12.700		SSER20-0500	SSER25-0500	SSER32-0500	SSER40-0500
17/32	0.5313	13.495			SSER25-0531	SSER32-0531	SSER40-0531
9/16	0.5625	14.288			SSER25-0563	SSER32-0563	SSER40-0563
19/32	0.5938	15.083			SSER25-0594	SSER32-0594	SSER40-0594
5/8	0.6250	15.875			SSER25-0625	SSER32-0625	SSER40-0625
21/32	0.6563	16.670				SSER32-0656	SSER40-0656
11/16	0.6875	17.463				SSER32-0688	SSER40-0688
23/32	0.7188	18.258				SSER32-0719	SSER40-0719
3/4	0.7500	19.050				SSER32-0750	SSER40-0750
25/32	0.7813	19.845					SSER40-0781
13/16	0.8125	20.638					SSER40-0812
27/32	0.8438	21.433					SSER40-0844
7/8	0.8750	22.225					SSER40-0875
29/32	0.9063	23.020					SSER40-0906
15/16	0.9375	23.813					SSER40-0937
31/32	0.9688	24.608					SSER40-0969
1	1.0000	25.400					SSER40-1000

SSER Coolant Collets - Metric

Features

- High Pressure Coolant - 1,500 PSI
- Standard .0004" T.I.R.
- On Size Collets - Will Not Collapse
- Designed for h6 Tool Shanks



Cutter Shank	Tool Size Inch	SSER 16	SSER 20	SSER 25	SSER 32	SSER 40
4.0	0.1575	SSER16-M040	SSER20-M040	SSER25-M040	SSER32-M040	
5.0	0.1969	SSER16-M050	SSER20-M050	SSER25-M050	SSER32-M050	
6.0	0.2362	SSER16-M060	SSER20-M060	SSER25-M060	SSER32-M060	SSER40-M060
7.0	0.2756	SSER16-M070	SSER20-M070	SSER25-M070	SSER32-M070	SSER40-M070
8.0	0.3150	SSER16-M080	SSER20-M080	SSER25-M080	SSER32-M080	SSER40-M080
9.0	0.3543	SSER16-M090	SSER20-M090	SSER25-M090	SSER32-M090	SSER40-M090
10.0	0.3937	SSER16-M100	SSER20-M100	SSER25-M100	SSER32-M100	SSER40-M100
11.0	0.4331		SSER20-M110	SSER25-M110	SSER32-M110	SSER40-M110
12.0	0.4724		SSER20-M120	SSER25-M120	SSER32-M120	SSER40-M120
13.0	0.5118		SSER20-M130	SSER25-M130	SSER32-M130	SSER40-M130
14.0	0.5512			SSER25-M140	SSER32-M140	SSER40-M140
15.0	0.5906			SSER25-M150	SSER32-M150	SSER40-M150
16.0	0.6299			SSER25-M160	SSER32-M160	SSER40-M160
17.0	0.6693				SSER32-M170	SSER40-M170
18.0	0.7087				SSER32-M180	SSER40-M180
19.0	0.7480				SSER32-M190	SSER40-M190
20.0	0.7874				SSER32-M200	SSER40-M200
21.0	0.8268					SSER40-M210
22.0	0.8661					SSER40-M220
23.0	0.9055					SSER40-M230
24.0	0.9449					SSER40-M240
25.0	0.9843					SSER40-M250
26.0	1.0236					SSER40-M260

Jet-Blast SSER Coolant ER Collets

Features:

- High Pressure Coolant - 1,500 PSI
- Standard .0004" T.I.R.
- Designed for h6 Tool Shanks
- Add -C to any SSER collet part number

Flood coolant thru standard collet slots create a loss in pressure and flow control, allowing coolant to fly everywhere. The **Jet-Blast** option for SSER forces the coolant into the **Jet-Blast Ports** maintaining pressure and directing the coolant down the flutes of the cutting tool.



ER - Tap Collets

ER Rigid Tap Collets - ANSI

Features

Special design locks tap flats into the collet slots preventing the tap from spinning inside the collet.

- ANSI Shank and Square Standard

Note:

Due to Multiple Standards for Metric Taps, the actual shank and square must be supplied to verify compatibility.



ØShank	Metric	Square	Metric	Tap Size	TER16	TER20	TER25	TER32	TER40
0.141	3.58	0.110	2.79	#6	TER16-141	TER20-141	TER25-141	TER32-141	TER40-141
0.168	4.27	0.131	3.33	#8	TER16-168	TER20-168	TER25-168	TER32-168	TER40-168
0.194	4.93	0.152	3.86	#10	TER16-194	TER20-194	TER25-194	TER32-194	TER40-194
0.220	5.59	0.165	4.19	#12	TER16-220	TER20-220	TER25-220	TER32-220	TER40-220
0.255	6.48	0.191	4.85	1/4"	TER16-255	TER20-255	TER25-255	TER32-255	TER40-255
0.318	8.08	0.238	6.05	5/16"		TER20-318	TER25-318	TER32-318	TER40-318
0.323	8.20	0.242	6.15	7/16"		TER20-323	TER25-323	TER32-323	TER40-323
0.367	9.32	0.275	6.99	1/2"		TER20-367	TER25-367	TER32-367	TER40-367
0.381	9.68	0.286	7.26	3/8"		TER20-381	TER25-381	TER32-381	TER40-381
0.429	10.90	0.322	8.18	9/16"			TER25-429	TER32-429	TER40-429
0.437	11.10	0.328	8.33	1/8" NPT			TER25-437	TER32-437	TER40-437
0.480	12.19	0.360	9.14	5/8"			TER25-480	TER32-480	TER40-480
0.542	13.77	0.406	10.31	11/16"				TER32-542	TER40-542
0.562	14.27	0.421	10.69	1/4" NPT				TER32-562	TER40-562
0.590	14.99	0.442	11.23	3/4"				TER32-590	TER40-590
0.652	16.56	0.489	12.42	13/16"				TER32-652	TER40-652
0.687	17.45	0.515	13.08	1/2" NPT					TER40-687
0.697	17.70	0.523	13.28	7/8"					TER40-697
0.700	17.78	0.531	13.49	3/8" NPT					TER40-700
0.760	19.30	0.570	14.48	15/16"					TER40-760
0.800	20.32	0.600	15.24	1"					TER40-800

ER Rigid Tap Collets - DIN

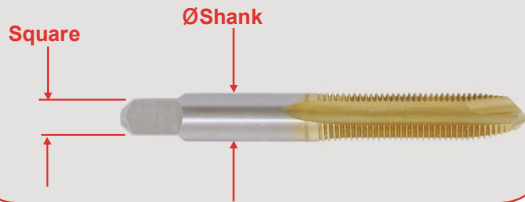
Features

Special design locks tap flats into the collet slots preventing the tap from spinning inside the collet.

- DIN Shank and Square Standard

Note:

Due to Multiple Standards for Metric Taps, the actual shank and square must be supplied to verify compatibility.



ØShank	Inch	Square	Inch	TER16	TER20	TER25	TER32	TER40
3.5	0.138	2.7	0.106	TER16D-035		TER25D-035		
4.0	0.157	3.0	0.118	TER16D-040	TER20D-040	TER25D-040		
4.5	0.177	3.4	0.134	TER16D-045	TER20D-045	TER25D-045	TER32D-045	
5.5	0.217	4.3	0.169	TER16D-055	TER20D-055	TER25D-055	TER32D-055	
6.0	0.236	4.9	0.193	TER16D-060	TER20D-060	TER25D-060	TER32D-060	TER40D-060
7.0	0.276	5.5	0.217	TER16D-070	TER20D-070	TER25D-070	TER32D-070	TER40D-070
8.0	0.315	6.2	0.244	TER16D-080	TER20D-080	TER25D-080	TER32D-080	TER40D-080
9.0	0.354	7.0	0.276	TER16D-090	TER20D-090	TER25D-090	TER32D-090	TER40D-090
10.0	0.394	8.0	0.315	TER16D-100	TER20D-100	TER25D-100	TER32D-100	TER40D-100
11.0	0.433	9.0	0.354			TER25D-110	TER32D-110	TER40D-110
12.0	0.472	9.0	0.354			TER25D-120	TER32D-120	TER40D-120
14.0	0.551	11.0	0.433			TER25D-140	TER32D-140	TER40D-140
16.0	0.630	12.0	0.472			TER25D-160	TER32D-160	TER40D-160
18.0	0.709	14.5	0.571				TER32D-180	TER40D-180
20.0	0.787	16.0	0.630				TER32D-200	TER40D-200
22.0	0.866	18.0	0.709					TER40D-220

ER Coolant Cap Collet Nuts

Features

- For coolant pressures up to 1,500 PSI.
- Fits standard ER collet chucks.
- Jet-Blast Caps Available Upon Request
- Uses SX Coolant Caps below and on the following page.



Nut Part Number	Description	Coolant Cap	Wrench Part Number	Thread	Max. Torque
ERN11-CC	ER 11 Nut - Hex	SXC06	ERW-11H	M14 x 0.75	18 ft/lbs Max
ERN16-CC	ER 16 Nut - Hex	SXC10	ERW-16H	M22 x 1.50	40 ft/lbs Max
ERN20-CC	ER 20 Nut - Hex	SXC16	ERW-20H	M25 x 1.50	60 ft/lbs Max
ERN25-CC	ER 25 Nut - E Type	SXC16	ERW-25	M32 x 1.50	75 ft/lbs Max
ERN32-CC	ER 32 Nut - E Type	SXC25	ERW-32	M40 x 1.50	100 ft/lbs Max
ERN40-CC	ER 40 Nut - E Type	SXC25	ERW-40	M50 x 1.50	125 ft/lbs Max

ER Coolant Caps - Inch

Features

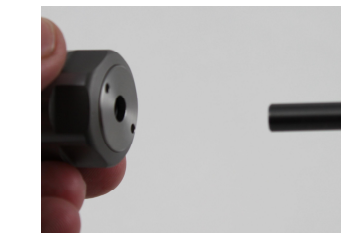
- O-ring seal for pressures up to 1500 PSI
- Prevents chips, dust, & swarf from entering the holder
- Seal range +0 / -.50mm (+0 / -.020")
- Requires Coolant Cap Nut (See Above)
- Jet Slot for Non-Coolant Cutting Tools Available
 - Order by adding a "J" to the end of the Cap part number



Inch Shank		ER11	ER 16	ER 20	ER 25	ER 32	ER 40
1/8	0.1250	SXC06-0125	SXC10-0125	SXC16-0125	SXC16-0125	SXC25-0125	SXC25-0125
3/16	0.1875	SXC06-0187	SXC10-0187	SXC16-0187	SXC16-0187	SXC25-0187	SXC25-0187
1/4	0.2500	SXC06-0250	SXC10-0250	SXC16-0250	SXC16-0250	SXC25-0250	SXC25-0250
5/16	0.3125		SXC10-0312	SXC16-0312	SXC16-0312	SXC25-0312	SXC25-0312
3/8	0.3750		SXC10-0375	SXC16-0375	SXC16-0375	SXC25-0375	SXC25-0375
7/16	0.4375			SXC16-0437	SXC16-0437	SXC25-0437	SXC25-0437
1/2	0.5000			SXC16-0500	SXC16-0500	SXC25-0500	SXC25-0500
9/16	0.5625				SXC16-0562	SXC25-0562	SXC25-0562
5/8	0.6250				SXC16-0625	SXC25-0625	SXC25-0625
3/4	0.7500					SXC25-0750	SXC25-0750
7/8	0.8750						SXC25-0875
1"	1.0000						SXC25-M254



Thread Coolant Cap into ER nut, snug with wrench after the collet has been assembled.



Insert cutting tool with the seal engaged on the round part of the shank

ER Coolant Caps - Metric

Features

- O-ring seal for pressures up to 1500 PSI
- Prevents chips, dust & swarf from entering the holder
- Seal range +0 / -.50mm (+0 / -.020")
- Requires Coolant Cap Nut (See Previous Page)
- Jet Slot for Non-Coolant Cutting Tools Available
 - Order by adding a "J" to the end of the Cap part number
- Blanks available for custom applications



Range	Inch Shank	ER11	ER 16	ER 20	ER 25	ER 32	ER 40	BC	SX	MX	VX	MC	SD	ER	TG	DA	EM	SM	MISC.	QC TAP	ACC.
1.0 - 0.7mm	1/32	SXC06-M010	SXC10-M010																		
1.5 - 1.2mm	3/64	SXC06-M015	SXC10-M015																		
2.0 - 1.5mm	1/16	SXC06-M020	SXC10-M020																		
2.5 - 2.0mm	3/32	SXC06-M025	SXC10-M025																		
3.0 - 2.5mm	7/64	SXC06-M030	SXC10-M030	SXC16-M030	SXC16-M030	SXC25-M030	SXC25-M030														
3.5 - 3.0mm	1/8"	SXC06-M035	SXC10-M035	SXC16-M035	SXC16-M035	SXC25-M035	SXC25-M035														
4.0 - 3.5mm	5/32"	SXC06-M040	SXC10-M040	SXC16-M040	SXC16-M040	SXC25-M040	SXC25-M040														
4.5 - 4.0mm	11/64"	SXC06-M045	SXC10-M045	SXC16-M045	SXC16-M045	SXC25-M045	SXC25-M045														
5.0 - 4.5mm	3/16"	SXC06-M050	SXC10-M050	SXC16-M050	SXC16-M050	SXC25-M050	SXC25-M050														
5.5 - 5.0mm	13/64"	SXC06-M055	SXC10-M055	SXC16-M055	SXC16-M055	SXC25-M055	SXC25-M055														
6.0 - 5.5mm	7/32"	SXC06-M060	SXC10-M060	SXC16-M060	SXC16-M060	SXC25-M060	SXC25-M060														
6.5 - 6.0mm	1/4"		SXC10-M065	SXC16-M065	SXC16-M065	SXC25-M065	SXC25-M065														
7.0 - 6.5mm	17/64"		SXC10-M070	SXC16-M070	SXC16-M070	SXC25-M070	SXC25-M070														
7.5 - 7.0mm	9/32"		SXC10-M075	SXC16-M075	SXC16-M075	SXC25-M075	SXC25-M075														
8.0 - 7.5mm	5/16"		SXC10-M080	SXC16-M080	SXC16-M080	SXC25-M080	SXC25-M080														
8.5 - 8.0mm	21/64"		SXC10-M085	SXC16-M085	SXC16-M085	SXC25-M085	SXC25-M085														
9.0 - 8.5mm	11/32"		SXC10-M090	SXC16-M090	SXC16-M090	SXC25-M090	SXC25-M090														
9.5 - 9.0mm	3/8"		SXC10-M095	SXC16-M095	SXC16-M095	SXC25-M095	SXC25-M095														
10.0 - 9.5mm	25/64"		SXC10-M100	SXC16-M100	SXC16-M100	SXC25-M100	SXC25-M100														
10.5 - 10.0mm	13/32"			SXC16-M105	SXC16-M105	SXC25-M105	SXC25-M105														
11.0 - 10.5mm	27/64"			SXC16-M110	SXC16-M110	SXC25-M110	SXC25-M110														
11.5 - 11.0mm	7/16"			SXC16-M115	SXC16-M115	SXC25-M115	SXC25-M115														
12.0 - 11.5mm	15/32"			SXC16-M120	SXC16-M120	SXC25-M120	SXC25-M120														
12.5 - 12.0mm	31/64"			SXC16-M125	SXC16-M125	SXC25-M125	SXC25-M125														
13.0 - 12.5mm	1/2"			SXC16-M130	SXC16-M130	SXC25-M130	SXC25-M130														
13.5 - 13.0mm	17/32"				SXC16-M135	SXC25-M135	SXC25-M135														
14.0 - 13.5mm	35/64"				SXC16-M140	SXC25-M140	SXC25-M140														
14.5 - 14.0mm	9/16"				SXC16-M145	SXC25-M145	SXC25-M145														
15.0 - 14.5mm	37/64"				SXC16-M150	SXC25-M150	SXC25-M150														
15.5 - 15.0mm	19/32"				SXC16-M155	SXC25-M155	SXC25-M155														
16.0 - 15.5mm	5/8"				SXC16-M160	SXC25-M160	SXC25-M160														
16.5 - 16.0mm	41/64"					SXC25-M165	SXC25-M165														
17.0 - 16.5mm	21/32"					SXC25-M170	SXC25-M170														
17.5 - 17.0mm	11/16"					SXC25-M175	SXC25-M175														
18.0 - 17.5mm	45/64"					SXC25-M180	SXC25-M180														
18.5 - 18.0mm	23/32"					SXC25-M185	SXC25-M185														
19.0 - 18.5mm	3/4"					SXC25-M190	SXC25-M190														
19.5 - 19.0mm	49/64"					SXC25-M195	SXC25-M195														
20.0 - 19.5mm	25/32"					SXC25-M200	SXC25-M200														
20.5 - 20.0mm	51/64"						SXC25-M205														
21.0 - 20.5mm	13/16"						SXC25-M210														
21.5 - 21.0mm	27/32"						SXC25-M215														
22.0 - 21.5mm	55/64"						SXC25-M220														
22.5 - 22.0mm	7/8"						SXC25-M225														
23.0 - 22.5mm	29/32"						SXC25-M230														
23.5 - 23.0mm	59/64"						SXC25-M235														
24.0 - 23.5mm	15/16"						SXC25-M240														
24.5 - 24.0mm	61/64"						SXC25-M245														
25.0 - 24.5mm	31/32"						SXC25-M250														
25.4 - 25.0mm	1"						SXC25-M254														

ER - Wrenches

Wrenches



Hex



E Type



Mini E Type

Wrench Part Number	Description	Wrench Type	Max. Torque
ERW-11H	ER 11 Nut -Hex	Hex	18 ft/lbs Max
ERW-16H	ER 16 Nut -Hex	Hex	40 ft/lbs Max
ERW-20H	ER 20 Nut -Hex	Hex	60 ft/lbs Max
ERW-16E	ER 16 Nut - E Type	E Type	40 ft/lbs Max
ERW-20E	ER 20 Nut - E Type	E Type	60 ft/lbs Max
ERW-25E	ER 25 Nut - E Type	E Type	75 ft/lbs Max
ERW-32E	ER 32 Nut - E Type	E Type	100 ft/lbs Max
ERW-40E	ER 40 Nut - E Type	E Type	125 ft/lbs Max
ERW-8M	ER 8 Mini Nut	Mini E Type	6 ft/lbs Max
ERW-11M	ER 11 Mini Nut	Mini E Type	9 ft/lbs Max
ERW-16M	ER 16 Mini Nut	Mini E Type	13 ft/lbs Max
ERW-20M	ER 20 Mini Nut	Mini E Type	17 ft/lbs Max
HSK- 63A	HSK 63A Coolant Tube Wrench	T Handle	10 ft/lbs Max
HSK-100A	HSK 100A Coolant Tube Wrench	T Handle	15 ft/lbs Max

Torque Wrenches

Professional Torque Wrench with ISO-9001 Certifications

The proper torque is a necessity in machining:

- Quality: Proper torque assures maximum cutting accuracy.
- Cost Savings: Proper torque extends the life of collets, tools, and holders.
- Safety: Proper torque reduces the possibility of tools loosening up and coming out of the holder.



Part Number	Description	Torque Range		Length		Weight	Spigot
TW-060	Torque Wrench	5-45 ft/lbs	8-60 Nm	11.9"	301mm	0.55 Kg	16mm round
TW-100		15-80 ft/lbs	20-100 Nm	13.4"	340mm	0.60 Kg	
TW-200		30-150 ft/lbs	40-200 Nm	16.5"	423mm	0.78 Kg	
TW-300		45-228 ft/lbs	60-300 Nm	21.5"	548mm	1.13 Kg	

Torque Wrench Heads



Wrench Head Part Number	Description	Wrench Type	Max. Torque
TWH-ER08M	ER8 Mini Nut - Mini E	Mini E	6 ft/lbs Max
TWH-ER11M	ER11 Mini Nut - Mini E	Mini E	9 ft/lbs Max
TWH-ER16M	ER16 Mini Nut - Mini E	Mini E	13 ft/lbs Max
TWH-ER20M	ER20 Mini Nut - Mini E	Mini E	17 ft/lbs Max
TWH-ER11H	ER11 Hex Nut	Hex	16 ft/lbs Max
TWH-ER16H	ER 16 Hex Nut	Hex	40 ft/lbs Max
TWH-ER20H	ER 20 Hex Nut	Hex	60 ft/lbs Max
TWH-ER16E	ER 16 Nut - E Type	E Type	40 ft/lbs Max
TWH-ER20E	ER 20 Nut - E Type	E Type	60 ft/lbs Max
TWH-ER25E	ER 25 Nut - E Type	E Type	75 ft/lbs Max
TWH-ER32E	ER 32 Nut - E Type	E Type	100 ft/lbs Max
TWH-ER40E	ER 40 Nut - E Type	E Type	125 ft/lbs Max

TG - Collet Chuck

Drilling | Reaming | Threading | Lite Milling



Premium Performance

Premium Precision

0.0001" TIR OD Taper to ID Taper Guaranteed

Dynamic Balance

Dynamically Balanced Body for
G6.3 @ 20,000 RPM's (CAT50 @ 15,000)

Best in Class Performance

Pioneer TG exceeds industry standards to provide optimum performance and interchangeability

Standard Features

Dynamic Balance Compensation

ID Chip Hole



DIN AD+B Flange Coolant

Standard Features

Optional Coolant Cap System for TG075 & TG100 Collet Chucks sealed up to 1,500 PSI.

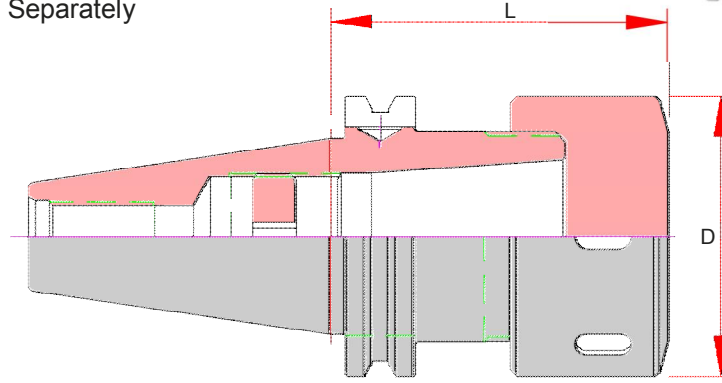
Jet-Blast Caps available for directional Coolant flow to the cutter flutes.



TG - Collet Chuck

Features

- 3 µm - 0.0001" Runout Taper to Taper
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Balanced G6.3 @ 20,000 RPM
- Order Collets & Wrench Separately



	Capacity	Part Number	Range	D	L Projection	Collet	Screw	Nut	Wrench
CAT40	3/4"	CAT40-TG075-0300	.094 - .750	1.97	3.00	TG075	ASC-TG075	TGN075	MCW-20
		CAT40-TG075-0500			5.00				
	1"	CAT40-TG100-0300	.094 - 1.00	2.48	3.00	TG100	ASC-ER40	TGN100	MCW-25
		CAT40-TG100-0550			5.50				
CAT50	1"	CAT50-TG100-0350	.094 - 1.00	2.48	3.50	TG100	ASC-ER40	TGN100	MCW-25
		CAT50-TG100-0550			5.50				
		CAT50-TG100-0750			7.50				
	1-1/2"	CAT50-TG150-0350	.500 - 1.50	3.23	3.50	TG150	ASC-TG150	TGN150	TGW150
		CAT50-TG150-0550			5.50				
BT40	1"	BT40-TG100-0300	.094 - 1.00	2.48	3.00	TG100	ASC-ER40	TGN100	MCW-25
		BT40-TG100-0550			5.50				

Wrenches



Hook Spanner

Wrench Part Number	Description	Wrench Type	Max. Torque
MCW-20	TG75 Spanner Bearing Nut	Hook Spanner	55 ft/lbs Max
MCW-25	TG100 Spanner Bearing Nut	Hook Spanner	75 ft/lbs Max
TGW-150	TG150 Spanner Bearing Nut	Hook Spanner	100 ft/lbs Max

Collet Nuts

Nut Part Number	Description	Wrench Part Number	Coolant Cap	Thread	Max. Torque
TGN-075	TG75 Spanner Bearing Nut	MCW-20	-	1 1/2-12 Acme	55 ft/lbs Max
TGN-100	TG100 Spanner Bearing Nut	MCW-25	-	1 7/8-12 Acme	75 ft/lbs Max
TGN-150	TG150 Spanner Bearing Nut	TGW-150	-	2 5/8-12 Acme	100 ft/lbs Max
TGN-075-CC	TG75 Coolant Cap Nut	MCW-20	SXC25	1 1/2-12 Acme	55 ft/lbs Max
TGN-100-CC	TG100 Coolant Cap Nut	MCW-25	SXC25	1 7/8-12 Acme	75 ft/lbs Max



TG - Collets

TG Precision Inch Collets

Features:

- Standard .0004" T.I.R.
- Collapse Range: .020

We use only the best material and a Swiss grinding technique that ensures accuracy on each grind.



TG075 Inch Collets

Nominal Tool	Tool Max	Tool Min	TG075
3/32	0.0938	0.0781	TG075-0094
7/64	0.1094	0.0938	TG075-0109
1/8	0.1250	0.1094	TG075-0125
9/64	0.1406	0.1250	TG075-0141
5/32	0.1563	0.1406	TG075-0156
11/64	0.1719	0.1563	TG075-0172
3/16	0.1875	0.1719	TG075-0188
13/64	0.2031	0.1875	TG075-0203
7/32	0.2188	0.2031	TG075-0219
15/64	0.2344	0.2188	TG075-0234
1/4	0.2500	0.2344	TG075-0250
17/64	0.2656	0.2500	TG075-0266
9/32	0.2813	0.2656	TG075-0281
19/64	0.2969	0.2813	TG075-0297
5/16	0.3125	0.2969	TG075-0313

Nominal Tool	Tool Max	Tool Min	TG075
21/64	0.3281	0.3125	TG075-0328
11/32	0.3438	0.3281	TG075-0344
23/64	0.3594	0.3438	TG075-0359
3/8	0.3750	0.3594	TG075-0375
25/64	0.3906	0.3750	TG075-0391
13/32	0.4063	0.3906	TG075-0406
27/64	0.4219	0.4063	TG075-0422
7/16	0.4375	0.4219	TG075-0438
29/64	0.4531	0.4375	TG075-0453
15/32	0.4688	0.4531	TG075-0469
31/64	0.4844	0.4688	TG075-0484
1/2	0.5000	0.4844	TG075-0500
33/64	0.5156	0.5000	TG075-0516
17/32	0.5313	0.5156	TG075-0531
35/64	0.5469	0.5313	TG075-0547

Nominal Tool	Tool Max	Tool Min	TG075
9/16	0.5625	0.5469	TG075-0563
37/64	0.5781	0.5625	TG075-0578
19/32	0.5938	0.5781	TG075-0594
39/64	0.6094	0.5938	TG075-0609
5/8	0.6250	0.6094	TG075-0625
41/64	0.6406	0.6250	TG075-0641
21/32	0.6563	0.6406	TG075-0656
43/64	0.6719	0.6563	TG075-0672
11/16	0.6875	0.6719	TG075-0688
45/64	0.7031	0.6875	TG075-0703
23/32	0.7188	0.7031	TG075-0719
47/64	0.7344	0.7188	TG075-0734
3/4	0.7500	0.7344	TG075-0750

Collet Sets

Part Number	Collet Size	Pieces	Range	Increments
TG075-SET11	TG75	11	3/32-3/4	1/16
TG075-SET22	TG75	22	3/32-3/4	1/32
TG075-SET43	TG75	43	3/32-3/4	1/64
TG100-SET15	TG100	15	1/8-1"	1/16
TG100-SET21	TG100	21	3/8-1"	1/32
TG100-SET30	TG100	30	3/32-1"	1/32
TG100-SET41	TG100	41	3/8-1"	1/64
TG100-SET59	TG100	59	3/32-1"	1/64
TG150-SET17	TG150	17	1/2-1-1/2	1/16
TG150-SET33	TG150	33	1/2-1-1/2	1/32
TG150-SET65	TG150	65	1/2-1-1/2	1/64



TG100 Inch Collets

Nominal Tool	Tool Max	Tool Min	TG100	Nominal Tool	Tool Max	Tool Min	TG100	Nominal Tool	Tool Max	Tool Min	TG100	BC
3/32	0.0938	0.0781	TG100-0094	13/32	0.4063	0.3906	TG100-0406	23/32	0.7188	0.7031	TG100-0719	SX
7/64	0.1094	0.0938	TG100-0109	27/64	0.4219	0.4063	TG100-0422	47/64	0.7344	0.7188	TG100-0734	
1/8	0.1250	0.1094	TG100-0125	7/16	0.4375	0.4219	TG100-0438	3/4	0.7500	0.7344	TG100-0750	
9/64	0.1406	0.1250	TG100-0141	29/64	0.4531	0.4375	TG100-0453	49/64	0.7656	0.7500	TG100-0766	MX
5/32	0.1563	0.1406	TG100-0156	15/32	0.4688	0.4531	TG100-0469	25/32	0.7813	0.7656	TG100-0781	
11/64	0.1719	0.1563	TG100-0172	31/64	0.4844	0.4688	TG100-0484	51/64	0.7969	0.7813	TG100-0797	
3/16	0.1875	0.1719	TG100-0188	1/2	0.5000	0.4844	TG100-0500	13/16	0.8125	0.7969	TG100-0813	VX
13/64	0.2031	0.1875	TG100-0203	33/64	0.5156	0.5000	TG100-0516	53/64	0.8281	0.8125	TG100-0828	
7/32	0.2188	0.2031	TG100-0219	17/32	0.5313	0.5156	TG100-0531	27/32	0.8438	0.8281	TG100-0844	
15/64	0.2344	0.2188	TG100-0234	35/64	0.5469	0.5313	TG100-0547	55/64	0.8594	0.8438	TG100-0859	MC
1/4	0.2500	0.2344	TG100-0250	9/16	0.5625	0.5469	TG100-0563	7/8	0.8750	0.8594	TG100-0875	
17/64	0.2656	0.2500	TG100-0266	37/64	0.5781	0.5625	TG100-0578	57/64	0.8906	0.8750	TG100-0891	
9/32	0.2813	0.2656	TG100-0281	19/32	0.5938	0.5781	TG100-0594	29/32	0.9063	0.8906	TG100-0906	SD
19/64	0.2969	0.2813	TG100-0297	39/64	0.6094	0.5938	TG100-0609	59/64	0.9219	0.9063	TG100-0922	
5/16	0.3125	0.2969	TG100-0313	5/8	0.6250	0.6094	TG100-0625	15/16	0.9375	0.9219	TG100-0938	
21/64	0.3281	0.3125	TG100-0328	41/64	0.6406	0.6250	TG100-0641	61/64	0.9531	0.9375	TG100-0953	ER
11/32	0.3438	0.3281	TG100-0344	21/32	0.6563	0.6406	TG100-0656	31/32	0.9688	0.9531	TG100-0969	
23/64	0.3594	0.3438	TG100-0359	43/64	0.6719	0.6563	TG100-0672	63/64	0.9844	0.9688	TG100-0984	
3/8	0.3750	0.3594	TG100-0375	11/16	0.6875	0.6719	TG100-0688	1	1.0000	0.9844	TG100-1000	
25/64	0.3906	0.3750	TG100-0391	45/64	0.7031	0.6875	TG100-0703					

TG150 Inch Collets

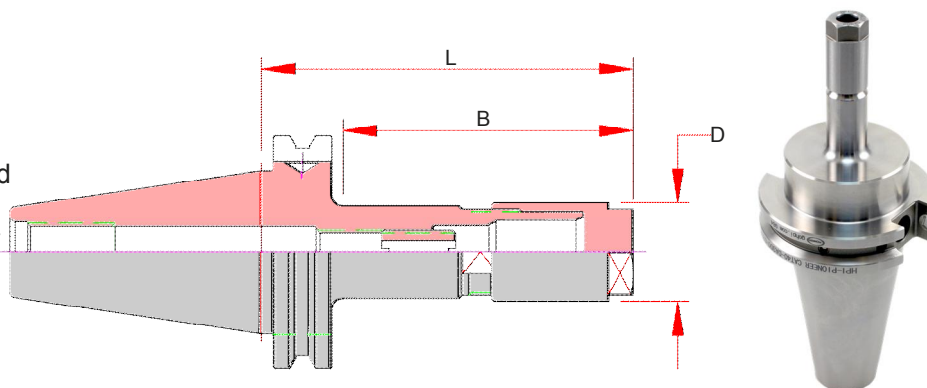
Nominal Tool	Tool Max	Tool Min	TG150	Nominal Tool	Tool Max	Tool Min	TG150	Nominal Tool	Tool Max	Tool Min	TG150	TG
1/2	0.5000	0.4844	TG150-0500	27/32	0.8438	0.8281	TG150-0844	1 3/16	1.1875	1.1719	TG150-1188	DA
33/64	0.5156	0.5000	TG150-0516	55/64	0.8594	0.8438	TG150-0859	1 13/64	1.2031	1.1875	TG150-1203	
17/32	0.5313	0.5156	TG150-0531	7/8	0.8750	0.8594	TG150-0875	1 7/32	1.2188	1.2031	TG150-1219	
35/64	0.5469	0.5313	TG150-0547	57/64	0.8906	0.8750	TG150-0891	1 15/64	1.2344	1.2188	TG150-1234	EM
9/16	0.5625	0.5469	TG150-0563	29/32	0.9063	0.8906	TG150-0906	1 1/4	1.2500	1.2344	TG150-1250	
37/64	0.5781	0.5625	TG150-0578	59/64	0.9219	0.9063	TG150-0922	1 17/64	1.2656	1.2500	TG150-1266	
19/32	0.5938	0.5781	TG150-0594	15/16	0.9375	0.9219	TG150-0938	1 9/32	1.2813	1.2656	TG150-1281	SM
39/64	0.6094	0.5938	TG150-0609	61/64	0.9531	0.9375	TG150-0953	1 19/64	1.2969	1.2813	TG150-1297	
5/8	0.6250	0.6094	TG150-0625	31/32	0.9688	0.9531	TG150-0969	1 5/16	1.3125	1.2969	TG150-1313	
41/64	0.6406	0.6250	TG150-0641	63/64	0.9844	0.9688	TG150-0984	1 21/64	1.3281	1.3125	TG150-1328	MISC.
21/32	0.6563	0.6406	TG150-0656	1	1.0000	0.9844	TG150-1000	1 11/32	1.3438	1.3281	TG150-1344	
43/64	0.6719	0.6563	TG150-0672	1 1/64	1.0156	1.0000	TG150-1016	1 23/64	1.3594	1.3438	TG150-1359	
11/16	0.6875	0.6719	TG150-0688	1 1/32	1.0313	1.0156	TG150-1031	1 3/8	1.3750	1.3594	TG150-1375	QC TAP
45/64	0.7031	0.6875	TG150-0703	1 3/64	1.0469	1.0313	TG150-1047	1 25/64	1.3906	1.3750	TG150-1391	
23/32	0.7188	0.7031	TG150-0719	1 1/16	1.0625	1.0469	TG150-1063	1 13/32	1.4063	1.3906	TG150-1406	
47/64	0.7344	0.7188	TG150-0734	1 5/64	1.0781	1.0625	TG150-1078	1 27/64	1.4219	1.4063	TG150-1422	ACC.
3/4	0.7500	0.7344	TG150-0750	1 3/32	1.0938	1.0781	TG150-1094	1 7/16	1.4375	1.4219	TG150-1438	
49/64	0.7656	0.7500	TG150-0766	1 7/64	1.1094	1.0938	TG150-1109	1 29/64	1.4531	1.4375	TG150-1453	
25/32	0.7813	0.7656	TG150-0781	1 1/8	1.1250	1.1094	TG150-1125	1 15/32	1.4688	1.4531	TG150-1469	
51/64	0.7969	0.7813	TG150-0797	1 9/64	1.1406	1.1250	TG150-1141	1 31/64	1.4844	1.4688	TG150-1484	
13/16	0.8125	0.7969	TG150-0813	1 5/32	1.1563	1.1406	TG150-1156	1 1/2	1.5000	1.4844	TG150-1500	
53/64	0.8281	0.8125	TG150-0828	1 11/64	1.1719	1.1563	TG150-1172					

DA - Collet Chuck

DA - Collet Chuck

Features

- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Balanced G6.3 @ 20,000 RPM
- Order Collets & Wrench Separately

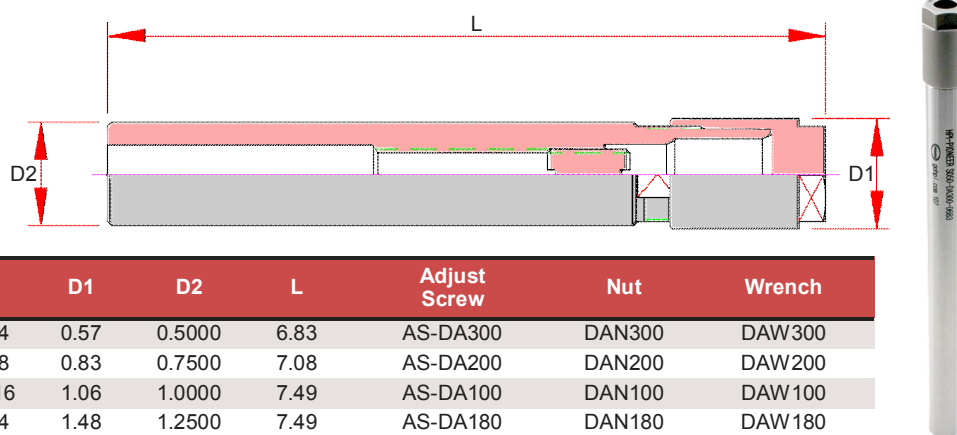


	Capacity	Part Number	Range	B	D	L Projection	Collet	Screw	Nut	Wrench
CAT40	1/4	CAT40-DA300-0338	3/64 - 1/4	1.88	0.57	3.38	DA300	ASC-DA300	DAN300	DAW300
	3/8	CAT40-DA200-0300	1/16 - 3/8	1.58	0.83	3.00	DA200	ASC-DA200	DAN200	DAW200
		CAT40-DA200-0500		1.93		5.00				
	9/16	CAT40-DA100-0350	1/16 - 9/16	2.00	1.06	3.50	DA100	ASC-DA100	DAN100	DAW100
		CAT40-DA100-0600		4.50		6.00				
	CAT50	3/4	CAT40-DA180-0295	1/16 - 3/4	2.15	1.48	2.95	DA180	ASC-DA180	DAN180
CAT40-DA180-0515			3.73		5.15					
CAT50-DA180-0338			1.88		3.38					
CAT50-DA180-0600			4.42		6.00					

DA Collet Extensions

Features

- Mini-Nut for Close Center Work



Part Number	Collet Range	D1	D2	L	Adjust Screw	Nut	Wrench
S050-DA300-0683	3/64 - 1/4	0.57	0.5000	6.83	AS-DA300	DAN300	DAW300
S075-DA200-0709	1/16 - 3/8	0.83	0.7500	7.08	AS-DA200	DAN200	DAW200
S100-DA100-0749	1/16 - 9/16	1.06	1.0000	7.49	AS-DA100	DAN100	DAW100
S125-DA180-0749	1/16 - 3/4	1.48	1.2500	7.49	AS-DA180	DAN180	DAW180

Wrenches

Wrench Part Number	Description	Wrench Type	Max. Torque
DAW-300	DA300 Close Center Nut	Hex	20 ft/lbs
DAW-200	DA200 Close Center Nut	Hex	25 ft/lbs
DAW-100	DA100 Close Center Nut	Hex	30 ft/lbs
DAW-180	DA180 Close Center Nut	Hex	40 ft/lbs



Nuts

Nut Part Number	Description	Wrench Part Number	Thread	Max. Torque
DAN-300	DA300 Close Center Nut	DAW-300	7/16-32	20 ft/lbs
DAN-200	DA200 Close Center Nut	DAW-200	3/4-16	25 ft/lbs
DAN-100	DA100 Close Center Nut	DAW-100	15/16-20	30 ft/lbs
DAN-180	DA180 Close Center Nut	DAW-180	1 1/4-12	40 ft/lbs



DA Inch Collets

Features:

- Collapse Range: .020
- Fits all standard DA collet chucks.



Collet Sets

Part Number	Collet Size	Pieces	Range	Incr.
DA180-SET9	DA180	9	1/4-3/4	1/16
DA180-SET17	DA180	17	1/4-3/4	1/32
DA180-SET21	DA180	21	1/8-3/4	1/32
DA180-SET33	DA180	33	1/4-3/4	1/64
DA180-SET41	DA180	41	1/8-3/4	1/64
DA100-SET8	DA100	8	1/8-9/16	1/16
DA100-SET15	DA100	15	1/8-9/16	1/32
DA100-SET21	DA100	21	1/4-9/16	1/64
DA100-SET29	DA100	29	1/8-9/16	1/64
DA100-SET33	DA100	33	1/16-9/16	1/64
DA200-SET9	DA200	9	1/8-3/8	1/32
DA200-SET17	DA200	17	1/8-3/8	1/64
DA200-SET21	DA200	21	1/16-3/8	1/64
DA300-SET7	DA300	7	1/16-1/4	1/32
DA300-SET14	DA300	14	3/64-1/4	1/64

Size	DA 180	DA 100	DA 200	DA 300
3/64"			DA200-0047	DA300-0047
1/16"	DA180-0063	DA100-0063	DA200-0063	DA300-0063
5/64"	DA180-0078	DA100-0078	DA200-0078	DA300-0078
3/32"	DA180-0094	DA100-0094	DA200-0094	DA300-0094
7/64"	DA180-0109	DA100-0109	DA200-0109	DA300-0109
1/8"	DA180-0125	DA100-0125	DA200-0125	DA300-0125
9/64"	DA180-0141	DA100-0141	DA200-0141	DA300-0141
5/32"	DA180-0156	DA100-0156	DA200-0156	DA300-0156
11/64"	DA180-0172	DA100-0172	DA200-0172	DA300-0172
3/16"	DA180-0188	DA100-0188	DA200-0188	DA300-0188
13/64"	DA180-0203	DA100-0203	DA200-0203	DA300-0203
7/32"	DA180-0219	DA100-0219	DA200-0219	DA300-0219
15/64"	DA180-0234	DA100-0234	DA200-0234	DA300-0234
1/4"	DA180-0250	DA100-0250	DA200-0250	DA300-0250
17/64"	DA180-0266	DA100-0266	DA200-0266	
9/32"	DA180-0281	DA100-0281	DA200-0281	
19/64"	DA180-0297	DA100-0297	DA200-0297	
5/16"	DA180-0313	DA100-0313	DA200-0313	
21/64"	DA180-0328	DA100-0328	DA200-0328	
11/32"	DA180-0344	DA100-0344	DA200-0344	
23/64"	DA180-0359	DA100-0359	DA200-0359	
3/8"	DA180-0375	DA100-0375	DA200-0375	
25/64"	DA180-0391	DA100-0391		
13/32"	DA180-0406	DA100-0406		
27/64"	DA180-0422	DA100-0422		
7/16"	DA180-0438	DA100-0438		
29/64"	DA180-0453	DA100-0453		
15/32"	DA180-0469	DA100-0469		
31/64"	DA180-0484	DA100-0484		
1/2"	DA180-0500	DA100-0500		
33/64"	DA180-0516	DA100-0516		
17/32"	DA180-0531	DA100-0531		
35/64"	DA180-0547	DA100-0547		
9/16"	DA180-0563	DA100-0563		
37/64"	DA180-0578			
19/32"	DA180-0594			
39/64"	DA180-0609			
5/8"	DA180-0625			
41/64"	DA180-0641			
21/32"	DA180-0656			
43/64"	DA180-0672			
11/16"	DA180-0688			
45/64"	DA180-0703			
23/32"	DA180-0719			
47/64"	DA180-0734			
3/4"	DA180-0750			

BC

SX

MX

VX

MC

SD

ER

TG

DA

EM

SM

MISC.

QC TAP

ACC.

EM - End Mill Adapters

Milling



Premium Performance

Premium Precision

0.0001" TIR OD Taper to ID Bore Guaranteed

Dynamic Balance

Dynamically Balanced Body for
G6.3 @ 20,000 RPM's (CAT50 @ 15,000)

Best in Class Performance

Pioneer EM exceeds industry standards to provide optimum performance and interchangeability

Building the Best in the Industry!

- 3 μ m - 0.0001" Bore Runout Standard
- H5 Bore Tolerance Standard
- Coolant Thru Center Standard
- DIN AD+B Flange Coolant Standard
- Dynamic Balance Standard
- ID Chip Hole Standard
- Jet-Blast available on all projections (10" and shorter altered in Chicago)

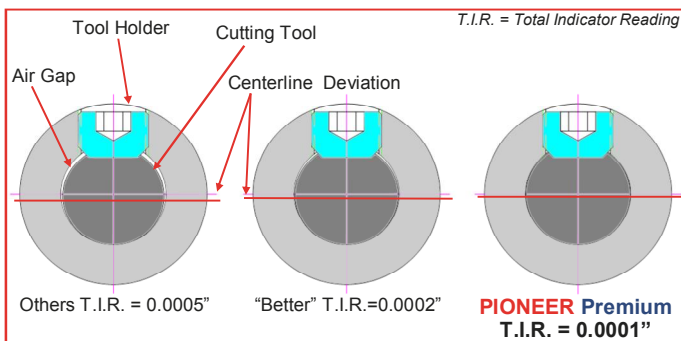
Standard Features

Dynamic Balance Compensation

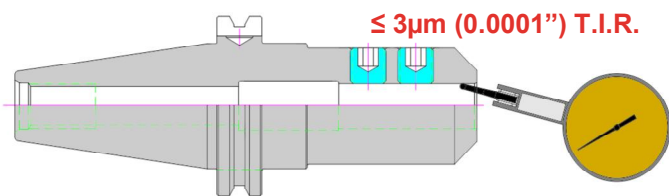
ID Chip Hole



DIN AD+B Flange Coolant



You lose 10% of cutter life for every 0.0001" of T.I.R.

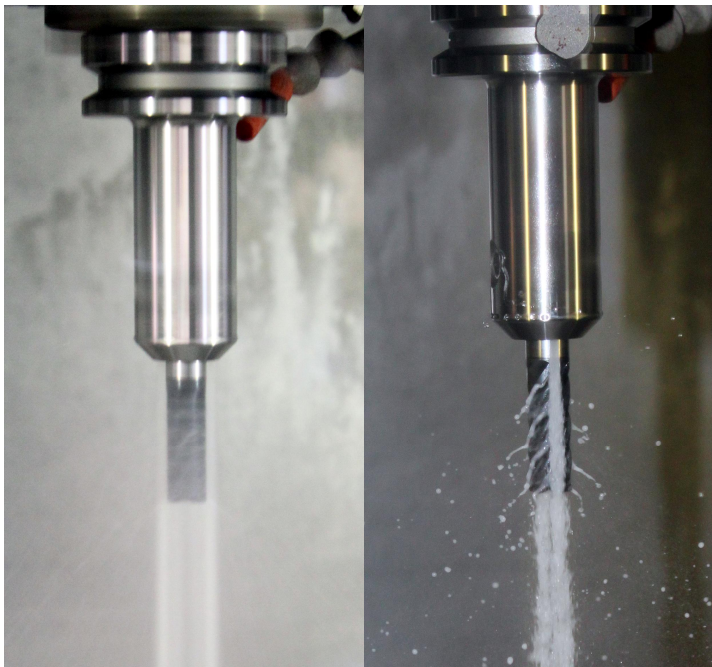


Jet-Blast Coolant Option

Jet-Blast Coolant Ports allow coolant to go around solid cuttings tools and delivery coolant at the top of the cutting flutes.

The coolant ports are EDM beside the bore of the end mill holder intersecting the relief behind the ground bore. Coolant is fed from the center or from DIN-B Flange Coolant into the relief and around the cutting tool.

Jet-Blast is available in all holders with a 10” projection or shorter. Longer projections are a factory build and available upon request.



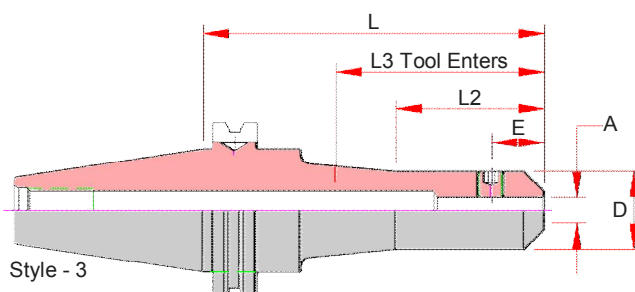
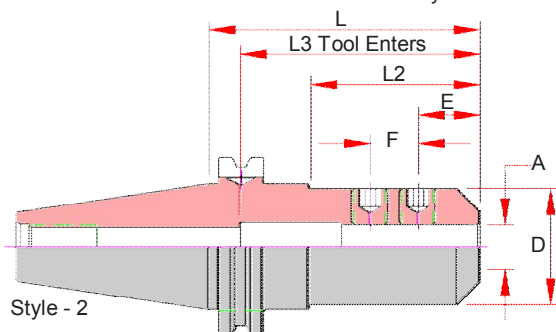
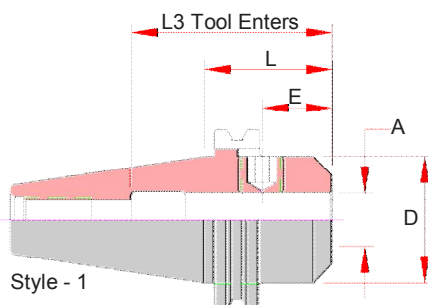
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MISC.
QC TAP
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EM - End Mill Adapters

CAT40 End Mill Adapters

Features

- **3 μ m - 0.0001" Bore Runout**
- H5 Bore Tolerance
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Balanced G6.3 @ 20,000 RPM
- Add "-C" for Jet-Blast Coolant Ports

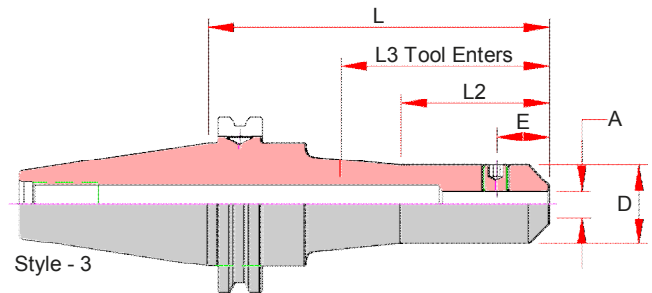
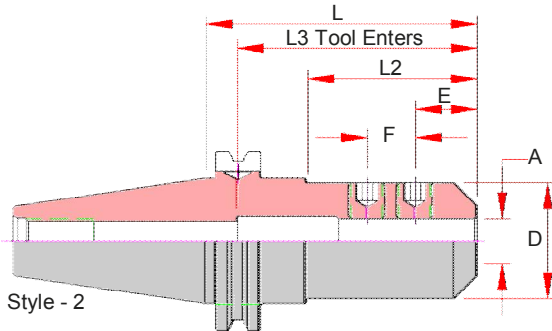
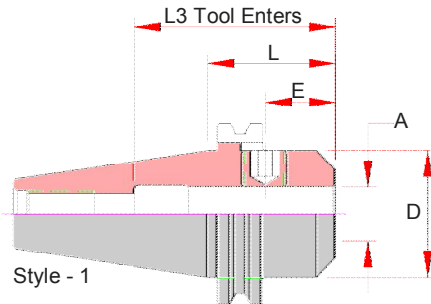


	Part Number	A Bore	D	E	L Projection	L2	L3 Max. Tool Enters	Screw Number	Style
1/8	CAT40-EM012-0175	0.1250	0.69	0.19	1.75	0.80	3.32	3	1
	CAT40-EM012-0250		0.69		2.50	0.92	4.07		2
	CAT40-EM012-0400		1.00		4.00	2.42	5.57		2
	CAT40-EM012-0500		1.00		5.00	1.57	6.57		3
	CAT40-EM012-0600		1.00		6.00	1.57	7.57		3
3/16	CAT40-EM018-0175	0.1875	0.69	0.44	1.75	0.88	3.32	3	1
	CAT40-EM018-0250		0.69		2.50	0.92	4.07		2
	CAT40-EM018-0400		1.00		4.00	2.42	5.57		2
	CAT40-EM018-0600		1.00		6.00	2.50	7.57		3
1/4	CAT40-EM025-0175	0.2500	0.88	0.44	1.75	0.80	3.32	4	1
	CAT40-EM025-0250		0.88		2.50	0.92	4.07		2
	CAT40-EM025-0400		1.00		4.00	2.42	5.57		2
	CAT40-EM025-0500		1.00		5.00	2.50	6.57		3
	CAT40-EM025-0600		1.00		6.00	2.50	7.57		3
5/16	CAT40-EM031-0175	0.3125	1.00	0.44	1.75	0.88	3.32	4	1
	CAT40-EM031-0250				2.50	0.92	4.07		2
	CAT40-EM031-0400				4.00	2.42	5.57		2
	CAT40-EM031-0600				6.00	3.00	7.57		3
3/8	CAT40-EM037-0175	0.3750	1.00	0.75	1.75	0.88	4.07	5	1
	CAT40-EM037-0250				2.50	1.00	4.07		2
	CAT40-EM037-0400				4.00	2.50	5.57		2
	CAT40-EM037-0450				4.50	1.00	6.07		3
	CAT40-EM037-0500				5.00	1.00	6.57		3
	CAT40-EM037-0600				6.00	2.50	7.57		3
7/16	CAT40-EM043-0250	0.4375	1.25	0.75	2.50	1.00	4.07	5	2
1/2	CAT40-EM050-0175	0.5000	1.75	0.88	1.75	0.96	3.32	6	1
	CAT40-EM050-0250		1.25		2.50	1.00	4.07		2
	CAT40-EM050-0262		1.25		2.62	1.12	4.19		2
	CAT40-EM050-0400		1.25		4.00	2.58	5.57		2
	CAT40-EM050-0462		1.25		4.62	3.20	6.19		2
	CAT40-EM050-0500		1.25		5.00	3.50	6.57		2
	CAT40-EM050-0600		1.25		6.00	3.00	7.57		3

CAT40 End Mill Adapters

Features

- 3 μ m - 0.0001" Bore Runout
- H5 Bore Tolerance
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Balanced G6.3 @ 20,000 RPM
- Add "-C" for Jet-Blast Coolant Ports



	Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool Enters	Screw Number	Style
5/8	CAT40-EM062-0175	0.6250	1.75	0.94	-	1.75	0.95	3.25	7	1
	CAT40-EM062-0250		1.50			2.50	1.70	3.62		2
	CAT40-EM062-0300		1.50			3.00	1.50	3.50		2
	CAT40-EM062-0400		1.50			4.00	2.50	3.50		2
	CAT40-EM062-0500		1.50			5.00	3.50	3.50		2
	CAT40-EM062-0600		1.50			6.00	4.50	3.50		2
3/4	CAT40-EM075-0175	0.7500	1.75	1.00	-	1.75	0.95	3.23	8	1
	CAT40-EM075-0250					2.50	1.70	3.94		2
	CAT40-EM075-0300					3.00	2.20	3.94		2
	CAT40-EM075-0350					3.50	2.70	3.94		2
	CAT40-EM075-0400					4.00	3.20	3.94		2
	CAT40-EM075-0500					5.00	4.20	3.94		2
	CAT40-EM075-0600					6.00	5.20	3.94		2
7/8	CAT40-EM087-0175	0.8750	1.75	1.00	-	1.75	0.95	2.38	8	1
	CAT40-EM087-0350		1.75		0.81	3.50	2.70	4.25		2
	CAT40-EM087-0600		1.88		0.81	6.00	5.24	4.25		2
1	CAT40-EM100-0175	1.0000	1.75	1.12	-	1.75	0.95	2.38	9	1
	CAT40-EM100-0300		2.00		1.00	3.00	2.24	3.15	9 & 10	2
	CAT40-EM100-0400		2.00		1.00	4.00	3.24	4.50	(2) 10	2
	CAT40-EM100-0500		2.00		1.00	5.00	4.24	4.50	(2) 10	2
	CAT40-EM100-0600		2.00		1.00	6.00	5.24	4.50	(2) 10	2
1 1/4	CAT40-EM125-0200**	1.2500	2.25**	1.12	-	2.00	1.20	2.38	9	1
	CAT40-EM125-0400		2.50		1.00	4.00	3.24	3.54	(2) 11	2
	CAT40-EM125-0425		2.50		1.00	4.25	3.49	3.54	(2) 11	2
	CAT40-EM125-0600		2.50		1.00	6.00	5.24	3.54	(2) 11	2
1 1/2	CAT40-EM150-0400	1.5000	2.62	1.12	1.00	4.00	3.24	2.52	(2) 11	2
	CAT40-EM150-0462				1.00	4.62	3.86	2.52	(2) 11	2
	CAT40-EM150-0600				1.00	6.00	5.24	3.15	(2) 11	2

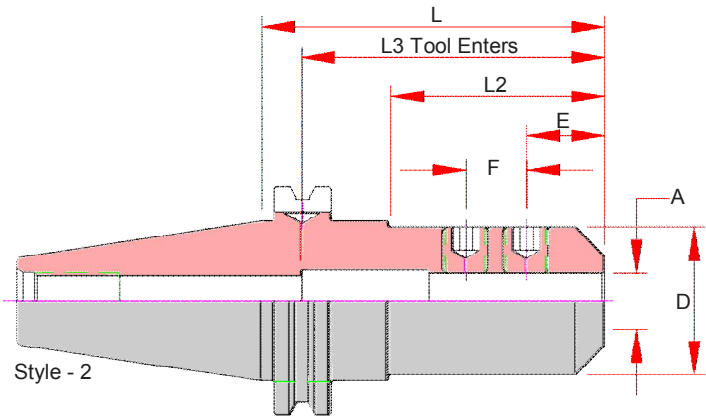
** No DIN AD+B Option Available - No ANSI Safety Area due to bore size - Will not tool change in Umbrella style tool changers & Alarm

EM - End Mill Adapters

CAT40 Metric End Mill Adapters

Features

- 3 µm - 0.0001” Bore Runout
- H5 Bore Tolerance
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Balanced G6.3 @ 20,000 RPM
- Add “-C” for Jet-Blast Coolant Ports

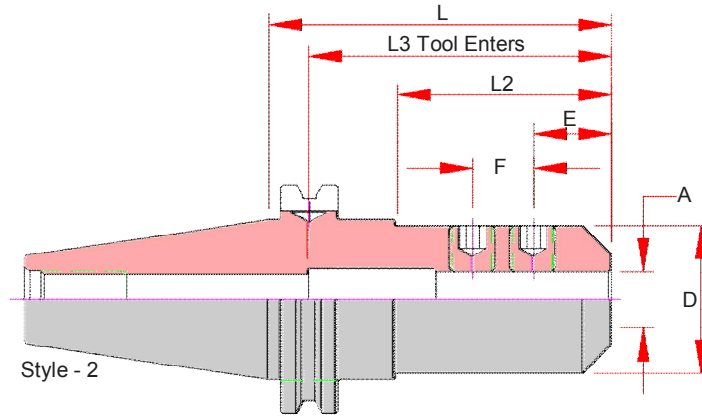


Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool Enters	Screw #	Style
CAT40-EMM06-0250	6mm	0.78	0.38	-	2.50	0.93	4.06	4	2
CAT40-EMM08-0250	8mm	0.88	0.44	-	2.50	1.00	4.06	4	2
CAT40-EMM10-0250	10mm	1.00	0.75	-	2.50	1.00	4.06	5	2
CAT40-EMM12-0250	12mm	1.25	0.87	-	2.50	1.00	4.06	6	2
CAT40-EMM14-0250	14mm	1.50	0.87	-	2.50	1.73	3.50	6	2
CAT40-EMM16-0250	16mm	1.50	0.94	-	2.50	1.73	3.94	7	2
CAT40-EMM18-0250	18mm	1.75	0.94	-	2.50	1.73	3.94	8	2
CAT40-EMM20-0250	20mm	1.75	1.00	-	2.50	1.73	3.94	8	2
CAT40-EMM25-0300	25mm	2.00	0.94	0.98	3.00	2.25	3.15	(2) 10	2
CAT40-EMM32-0400	32mm	2.50	0.94	1.10	3.00	2.25	3.54	(2) 11	2

CAT50 Metric End Mill Adapters

Features

- 3 μ m - 0.0001" Bore Runout
- H5 Bore Tolerance
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Balanced G6.3 @ 20,000 RPM
- Add "-C" for Jet-Blast Coolant Ports



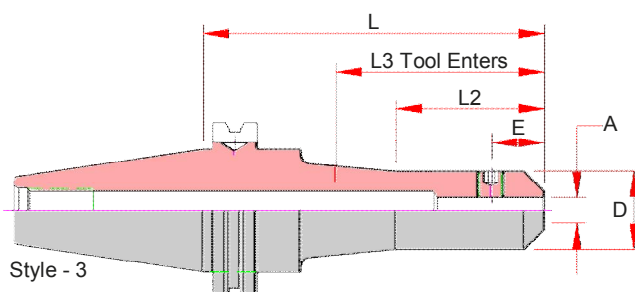
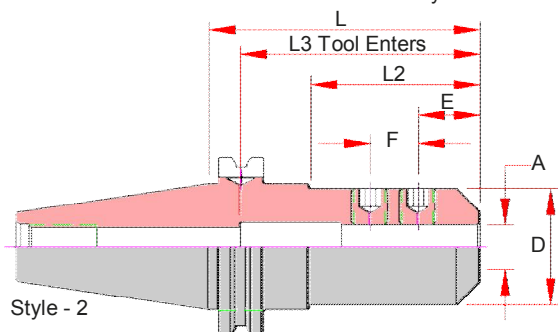
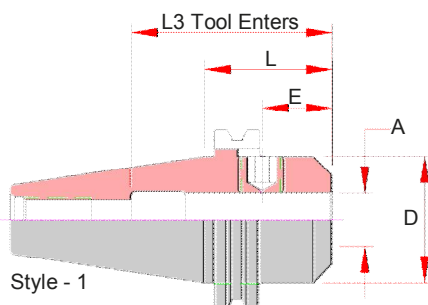
Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool Enters	Screw #	Style
CAT50-EMM06-0400	6mm	0.78	0.38	-	4.00	2.43	6.25	4	2
CAT50-EMM08-0400	8mm	0.88	0.44	-	4.00	2.43	6.25	4	2
CAT50-EMM10-0400	10mm	1.00	0.75	-	4.00	2.43	6.25	5	2
CAT50-EMM12-0400	12mm	1.25	0.87	-	4.00	2.43	6.25	6	2
CAT50-EMM14-0400	14mm	1.50	0.87	-	4.00	2.50	6.25	6	2
CAT50-EMM16-0400	16mm	1.50	0.94	-	4.00	2.50	6.25	7	2
CAT50-EMM18-0400	18mm	1.75	0.94	-	4.00	2.50	6.25	8	2
CAT50-EMM20-0400	20mm	1.75	1	-	4.00	2.5	6.25	8	2
CAT50-EMM25-0400	25mm	2.00	0.94	0.98	4.00	2.50	4.45	(2) 10	2
CAT50-EMM32-0400	32mm	2.50	0.94	1.10	4.00	2.50	3.35	(2) 11	2

EM - End Mill Adapters

CAT50 End Mill Adapters

Features

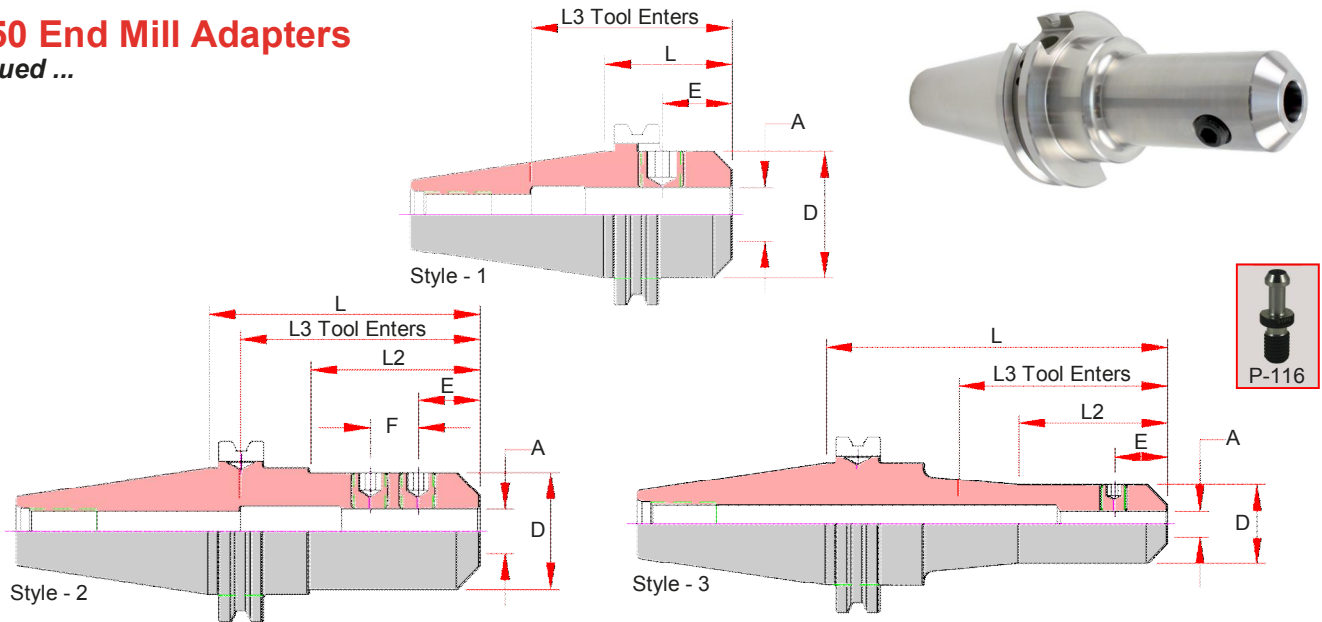
- **3 μ m - 0.0001" Bore Runout**
- H5 Bore Tolerance
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Balanced G6.3 @ 15,000 RPM
- Add "-C" for Jet-Blast Coolant Ports



	Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool Enters	Screw Number	Style
1/8	CAT50-EM012-0250	0.1250	0.69	0.19	-	2.50	0.92	4.75	3	2
	CAT50-EM012-0531					5.31	1.57	7.56		3
3/16	CAT50-EM018-0250	0.1875	0.69	0.44	-	2.50	0.92	4.75	3	2
	CAT50-EM018-0531					5.31	1.57	7.56		3
1/4	CAT50-EM025-0250	0.2500	0.88	0.44	-	2.50	0.92	4.75	4	2
	CAT50-EM025-0400					4.00	2.42	6.25		2
	CAT50-EM025-0531					5.31	1.57	7.56		3
	CAT50-EM025-0600					6.00	1.57	8.25		3
5/16	CAT50-EM031-0250	0.3125	1.00	0.44	-	2.50	1.00	4.75	4	2
	CAT50-EM031-0400					4.00	2.42	6.25		2
	CAT50-EM031-0531					5.31	1.57	7.56		3
	CAT50-EM031-0600					6.00	1.57	8.25		3
3/8	CAT50-EM037-0250	0.3750	1.00	0.75	-	2.50	1.00	4.75	5	2
	CAT50-EM037-0300					3.00	1.42	5.25		2
	CAT50-EM037-0400					4.00	2.42	6.25		2
	CAT50-EM037-0450					4.50	2.92	6.75		2
	CAT50-EM037-0600					6.00	3.00	8.25		3
	CAT50-EM037-0650					6.50	3.00	8.75		3
	CAT50-EM037-0800					8.00	3.00	10.25		3
	CAT50-EM037-1000					10.00	3.00	12.25		3
	CAT50-EM037-1200					12.00	3.00	14.25		3
	CAT50-EM037-1500 ‡					15.00	3.00	17.25		3
7/16	CAT50-EM043-0262	0.4375	1.25	0.88	-	2.62	1.12	4.87	5	2
	CAT50-EM043-0400					4.00	2.42	6.25		2
	CAT50-EM043-0600					6.00	1.96	8.25		3
1/2	CAT50-EM050-0262	0.5000	1.25	0.88	-	2.62	1.20	4.87	6	2
	CAT50-EM050-0300					3.00	1.42	5.25		2
	CAT50-EM050-0400					4.00	2.42	6.25		2
	CAT50-EM050-0462					4.62	3.04	6.87		2
	CAT50-EM050-0600					6.00	3.13	8.25		3
	CAT50-EM050-0662					6.62	3.13	8.87		3
	CAT50-EM050-0800					8.00	3.13	10.25		3
	CAT50-EM050-1000					10.00	3.13	12.25		3
	CAT50-EM050-1200					12.00	3.13	14.25		3
	CAT50-EM050-1500					15.00	3.13	17.25		3

CAT50 End Mill Adapters

Continued ...



	Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool Enters	Screw Number	Style	
9/16	CAT50-EM056-0262	0.5625	1.50	0.88	-	2.62	1.12	4.87	6	2	SD
	CAT50-EM062-0300					3.00	1.50	5.25		2	
	CAT50-EM062-0375					3.75	2.25	6.00		2	
	CAT50-EM062-0400					4.00	2.50	6.25		2	
5/8	CAT50-EM062-0600	0.6250	1.50	0.94	-	6.00	4.42	8.25	7	2	ER
	CAT50-EM062-0775					7.75	4.25	10.00		3	
	CAT50-EM062-1000					10.00				3	
	CAT50-EM062-1200					10.00				3	
3/4	CAT50-EM075-0175	0.7500	1.75	1.00	-	1.75	0.25	2.76	8	1	TG
	CAT50-EM075-0300					3.00	1.50	3.86		2	
	CAT50-EM075-0375					3.75	2.25	4.00		2	
	CAT50-EM075-0400					4.00	2.50	3.94		2	
	CAT50-EM075-0575					5.75	4.17	3.94		2	
	CAT50-EM075-0600					6.00	1.96	3.94		3	
	CAT50-EM075-0800					8.00	1.96	3.94		3	
	CAT50-EM075-1000					10.00	1.96	3.94		3	
	CAT50-EM075-1200					12.00	1.96	3.94		3	
	CAT50-EM075-1500					15.00	1.96	N/A		3	
7/8	CAT50-EM087-0350	0.8750	1.88	1.00	0.81	3.50	2.00	4.19	8	2	DA
	CAT50-EM087-0600					6.00	4.42	4.06		2	
	CAT50-EM087-0775					7.75	6.17	4.06		2	
1	CAT50-EM100-0162	1.0000	2.75	1.12	-	1.62	0.62	2.50	10	1	EM
	CAT50-EM100-0300		2.00	1.12	-	3.00	1.50	4.44	10	1	
	CAT50-EM100-0400		2.00	1.12	1.00	4.00	2.54	4.44	(2) 10	2	
	CAT50-EM100-0600		2.00	1.12	1.00	6.00	4.50	4.44	(2) 10	2	
	CAT50-EM100-0800		2.00	1.12	1.00	8.00	6.50	4.44	(2) 10	2	
	CAT50-EM100-1000		2.00	1.12	1.00	10.00	4.50	4.44	(2) 10	3	
1 1/4	CAT50-EM125-0200	1.2500	2.75	1.50	-	2.00	1.20	3.50	11	1	SM
	CAT50-EM125-0300			1.12	1.00	3.00	2.20	3.50	(2) 11	2	
	CAT50-EM125-0400			1.12	1.00	4.00	2.58	3.35	(2) 11	2	
	CAT50-EM125-0600			1.12	1.00	6.00	4.58	3.35	(2) 11	2	
	CAT50-EM125-0800			1.12	1.00	8.00	6.58	3.35	(2) 11	2	
	CAT50-EM125-1000			1.12	1.00	10.00	8.58	3.35	(2) 11	2	
1 1/2	CAT50-EM150-0225	1.5000	2.75	1.50	-	2.25	1.45	2.44	11	1	MISC.
	CAT50-EM150-0400			1.12	1.00	4.00	3.20	4.50	(2) 11	2	
	CAT50-EM150-0600			1.12	1.00	6.00	5.20	4.50	(2) 11	2	
	CAT50-EM150-0800			1.12	1.00	8.00	7.20	4.50	(2) 11	2	
	CAT50-EM150-1000			1.12	1.00	10.00	9.20	4.50	(2) 11	2	
	CAT50-EM200-0362 **					3.62	2.82	3.66	12 & 13	2	
2	CAT50-EM200-0562	2.0000	3.75	1.41	1.50	5.62	4.86	4.13	(2) 13	2	QC TAP
	CAT50-EM200-0800					8.00	7.24	4.13	(2) 13	2	
	CAT50-EM200-1000					10.00	9.24	4.13	(2) 13	2	
2 1/2	CAT50-EM250-0650	2.5000	4.00	1.50	1.56	6.50	5.74	4.00	(2) 13	2	ACC.

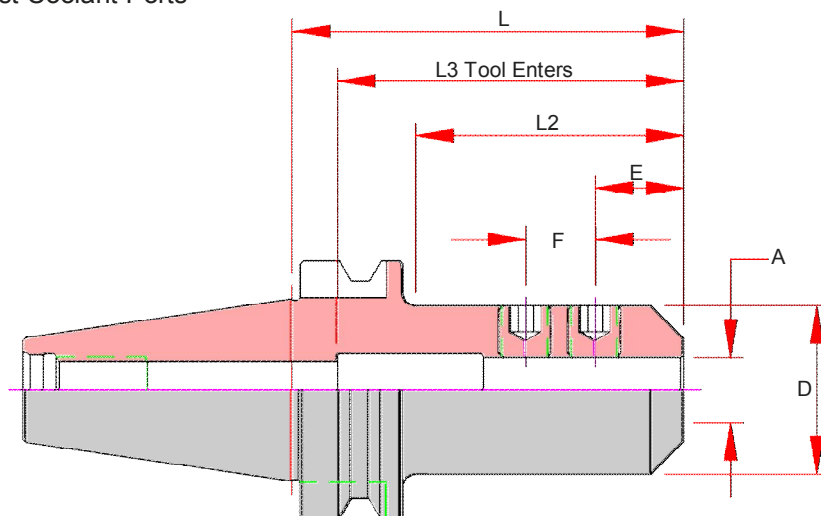
** No DIN AD+B Option Available - No ANSI Safety Area due to bore size. Check Tool Change Clearance prior to ordering.

EM - End Mill Adapters

BT30 End Mill Adapters

Features

- **3 μm - 0.0001" Bore Runout**
- H5 Bore Tolerance
- Coolant Thru Center
- Balanced G6.3 @ 20,000 RPM
- Add "-C" for Jet-Blast Coolant Ports

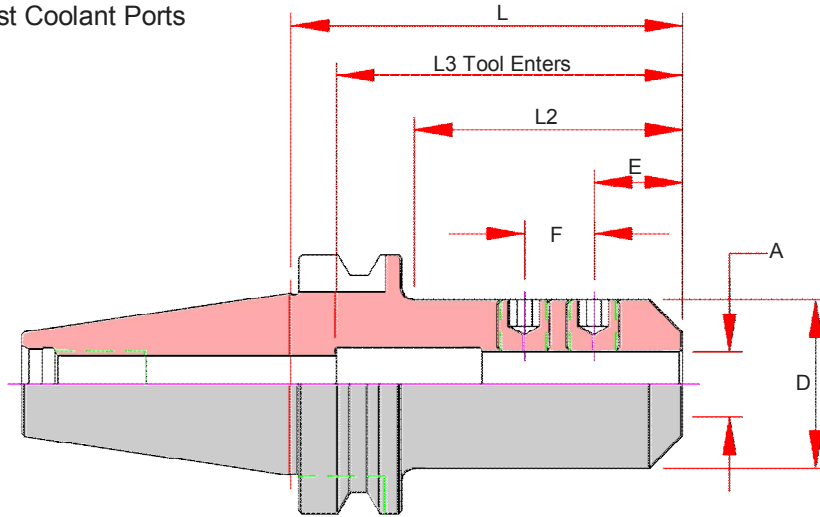


	Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool Enters	Screw Number
1/8	BT30-EM012-0236	0.1250	0.75	0.38	-	2.36	1.37	3.32	3
	BT30-EM012-0400					4.00	3.00	4.96	
3/16	BT30-EM018-0236	0.1875	0.75	0.50	-	2.36	1.37	3.32	4
	BT30-EM018-0400					4.00	3.00	4.96	
1/4	BT30-EM025-0236	0.2500	0.81	0.38	-	2.36	1.37	3.32	4
	BT30-EM025-0400					4.00	3.00	4.96	
5/16	BT30-EM031-0236	0.3125	1.00	0.60	-	2.36	1.37	3.32	4
	BT30-EM031-0400					4.00	3.00	2.96	
3/8	BT30-EM037-0236	0.3750	1.38	0.75	-	2.36	1.37	2.36	5
	BT30-EM037-0400					4.00	3.00	2.36	
1/2	BT30-EM050-0236	0.5000	1.38	0.88	-	2.36	1.37	2.56	6
	BT30-EM050-0400					4.00	3.00	2.56	
5/8	BT30-EM062-0236	0.6250	1.44	0.94	-	2.36	1.37	2.25	7
	BT30-EM062-0400					4.00	3.00	2.25	
3/4	BT30-EM075-0236	0.7500	2.00	1.00	-	2.36	1.57	2.56	8
	BT30-EM075-0400					4.00	3.21	2.56	
7/8	BT30-EM087-0354	0.8750	2.00	1.00	0.81	3.54	2.75	3.15	(2) 8
1	BT30-EM100-0275	1.0000	2.38	1.12	-	2.75	1.96	2.50	10

BT40 End Mill Adapters

Features

- 3 μ m - 0.0001" Bore Runout
- H5 Bore Tolerance
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Balanced G6.3 @ 20,000 RPM
- Add "-C" for Jet-Blast Coolant Ports



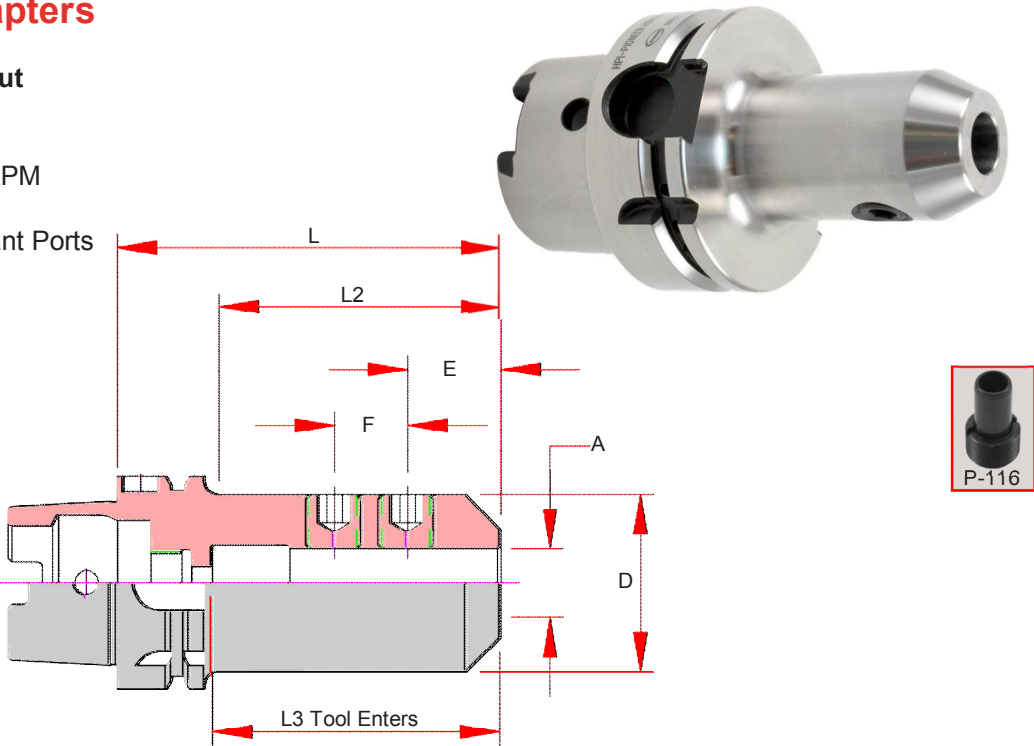
	Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool Enters	Screw Number	Style	
1/8	BT40-EM012-0250	0.1250	0.69	0.19	-	2.50	1.31	3.89	3	1	ER
	BT40-EM012-0400					4.00	1.00	5.39		2	
3/16	BT40-EM018-0250	0.1875	0.69	0.44	-	2.50	1.31	3.89	4	1	TG
	BT40-EM018-0400					4.00	2.81	5.39		1	
1/4	BT40-EM025-0250	0.2500	0.88	0.44	-	2.50	1.31	3.89	4	1	DA
	BT40-EM025-0400					4.00	2.81	5.39		1	
	BT40-EM025-0600					6.00	2.50	7.39		2	
5/16	BT40-EM031-0250	0.3125	1.00	0.44	-	2.50	1.31	3.89	4	1	EM
	BT40-EM031-0400					4.00	2.81	5.41		1	
3/8	BT40-EM037-0250	0.3750	1.00	0.75	-	2.50	1.31	3.89	5	1	SM
	BT40-EM037-0400					4.00	2.81	5.39		1	
	BT40-EM037-0600					6.00	2.50	7.39		2	
1/2	BT40-EM050-0250	0.5000	1.25	0.88	-	2.50	1.31	2.56	6	1	MISC.
	BT40-EM050-0400					4.00	2.81	2.56		1	
	BT40-EM050-0600					6.00	2.50	2.56		1	
5/8	BT40-EM062-0250	0.6250	1.50	0.94	-	2.50	1.31	3.50	7	1	QC TAP
	BT40-EM062-0400					4.00	2.81	3.50		1	
	BT40-EM062-0600					6.00	4.81	3.50		1	
3/4	BT40-EM075-0175	0.7500	1.75	1.00	-	1.75	0.56	2.38	8	1	ACC.
	BT40-EM075-0250					2.50	1.31	2.38		1	
	BT40-EM075-0400					4.00	2.81	4.00		1	
	BT40-EM075-0600					6.00	4.81	4.00		1	
7/8	BT40-EM087-0335	0.8750	1.88	1.00	0.81	3.35	2.28	4.18	8	1	
	BT40-EM087-0500					5.00	3.93	4.18		1	
1	BT40-EM100-0200	1.0000	2.00	1.12	-	2.00	0.97	2.38	10	1	
	BT40-EM100-0300				-	3.00	1.97	3.15		1	
	BT40-EM100-0400				1.00	4.00	2.97	4.44		(2) 10	
	BT40-EM100-0600				1.00	6.00	4.97	4.44		(2) 10	
1 1/4	BT40-EM125-0200	1.2500	2.25	1.12	-	2.00	0.97	2.36	9	1	
	BT40-EM125-0356				1.00	3.56	2.57	3.54		(2) 11	
	BT40-EM125-0600				1.12	6.00	5.00	3.54		(2) 11	
1 1/2	BT40-EM150-0433	1.5000	2.62	1.12	1.00	4.33	3.34	2.52	(2) 11	1	

EM - End Mill Adapters

HSK63A End Mill Adapters

Features

- 3 µm - 0.0001” Bore Runout
- H5 Bore Tolerance
- Coolant Thru Center
- Balanced G6.3 @ 20,000 RPM
- Order Wrench Separately
- Add “-C” for Jet-Blast Coolant Ports

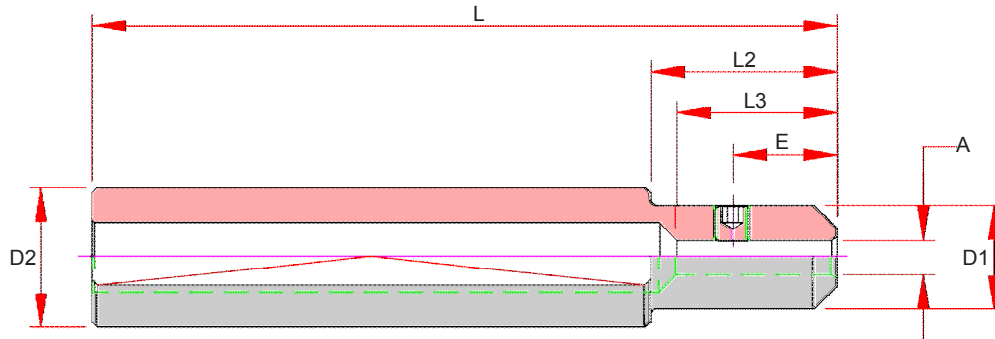


	Part Number	A Bore	L Projection	D	E	F	L2	L3 Max. Tool Enters	Screw Number
1/8	HSK63A-EM012-0250	0.1250	2.50	1.00	0.19	-	1.28	1.63	3
3/16	HSK63A-EM018-0250	0.1875	2.50	1.00	0.44	-	1.28	1.63	3
1/4	HSK63A-EM025-0250	0.2500	2.50	1.00	0.44	-	1.28	1.63	4
5/16	HSK63A-EM031-0250	0.3125	2.50	1.00	0.44	-	1.28	1.63	4
3/8	HSK63A-EM037-0250	0.3750	2.50	1.00	0.75	-	1.28	1.50	5
1/2	HSK63A-EM050-0315	0.5000	3.15	1.25	0.88	-	1.93	2.10	6
5/8	HSK63A-EM062-0315	0.6250	3.15	1.50	0.94	-	1.93	2.10	7
3/4	HSK63A-EM075-0315	0.7500	3.15	1.75	1.00	-	2.08	1.97	8
1	HSK63A-EM100-0400	1.0000	4.00	2.00	1.12	1.00	2.94	2.95	(2) 10
1 1/4	HSK63A-EM125-0435	1.2500	4.35	2.50	1.12	1.00	3.32	3.23	(2) 11

Straight Shank End Mill Adapters

Features:

- Coolant Thru
- Flats for Lathe Applications
- Add "-C" for Jet-Blast Coolant Ports



	Part Number	A	D1	D2	E	L Length	L2	L3 Max. Tool Enters	Screw Number
1/8	S075-EM012-0600	0.1250	0.50	0.7500	0.19	6.00	2.00	6.00	1
3/16	S075-EM018-0600	0.1875	0.56		0.44		2.00		2
1/4	S075-EM025-0600	0.2500	0.75		0.59		-		4
5/16	S075-EM031-0600	0.3125	0.75	1.0000	0.44		-		4
3/8	S100-EM037-0600	0.3750	1.00		0.75		-		5
1/2	S100-EM050-0600	0.5000	1.00		0.39 & 0.98		-		(2) 4

Control Point End Mill Adapter Screws

- Ground control point for angular locking
- Use holder part number to verify screw size and length



Screw Number	Part Number	End Mill Bore Size	Thread	OD Screw	Length	Hex	Max. Torque ft/lbs
1	SCW-EM01	1/8	#6-32	0.14	0.19	1/16	1
2	SCW-EM02	3/16	#8-32	0.16	0.19	5/64	2
3	SCW-EM03	1/8	#10-32	0.19	0.25	3/32	3
4	SCW-EM04	3/16, 1/4, 5/16, 6mm, 8mm	1/4-28	0.25	0.25	1/8	4
5	SCW-EM05	3/8, 7/16, 10mm	3/8-24	0.38	0.31	3/16	12
6	SCW-EM06	1/2, 12mm, 14mm	7/16-20	0.44	0.37	7/32	17
7	SCW-EM07	5/8, 16mm, 18mm	9/16-18	0.56	0.50	9/32	31
8	SCW-EM08	3/4, 7/8, 20mm	5/8-18	0.63	0.50	5/16	48
9	SCW-EM09	1", 1-1/4 STUB, 25mm	3/4-16	0.75	0.37	3/8	69
10	SCW-EM10	1", 1-1/4, 1-1/2, 25mm	3/4-16	0.75	0.50	3/8	69
11	SCW-EM11	1", 1-1/4, 1-1/2, 32mm	3/4-16	0.75	0.62	3/8	69
12	SCW-EM12	2", 2-1/2	1"-14	1.00	0.47	1/2	125
13	SCW-EM13	2", 2-1/2	1"-14	1.00	0.87	1/2	125

SM - Shell Mill Adapters

Rough Milling



Shown body mounted with Shell Mill and Inserts not included.

Premium Performance

Dynamic Balance

Dynamically Balanced Body for
G6.3 @ 20,000 RPM's (CAT50 @ 15,000)

Best in Class Performance

Pioneer SM exceeds industry standards to provide
optimum performance and interchangeability

More Standard Features!

- Body - Coolant Thru the Center
- DIN AD+B Flange Coolant in all Models
- Dynamic Balance Standard
- ID Chip Hole Standard
- Standard & Extended Lengths up to 15"
- Replaceable Keys

Optional

- FX High Volume Coolant System
for Ported Cutter Bodies

Standard Features

Dynamic Balance Compensation

ID Chip Hole



DIN AD+B Flange Coolant

FX - High Volume Coolant System



Shown body mounted with Shell Mill and Inserts not included.



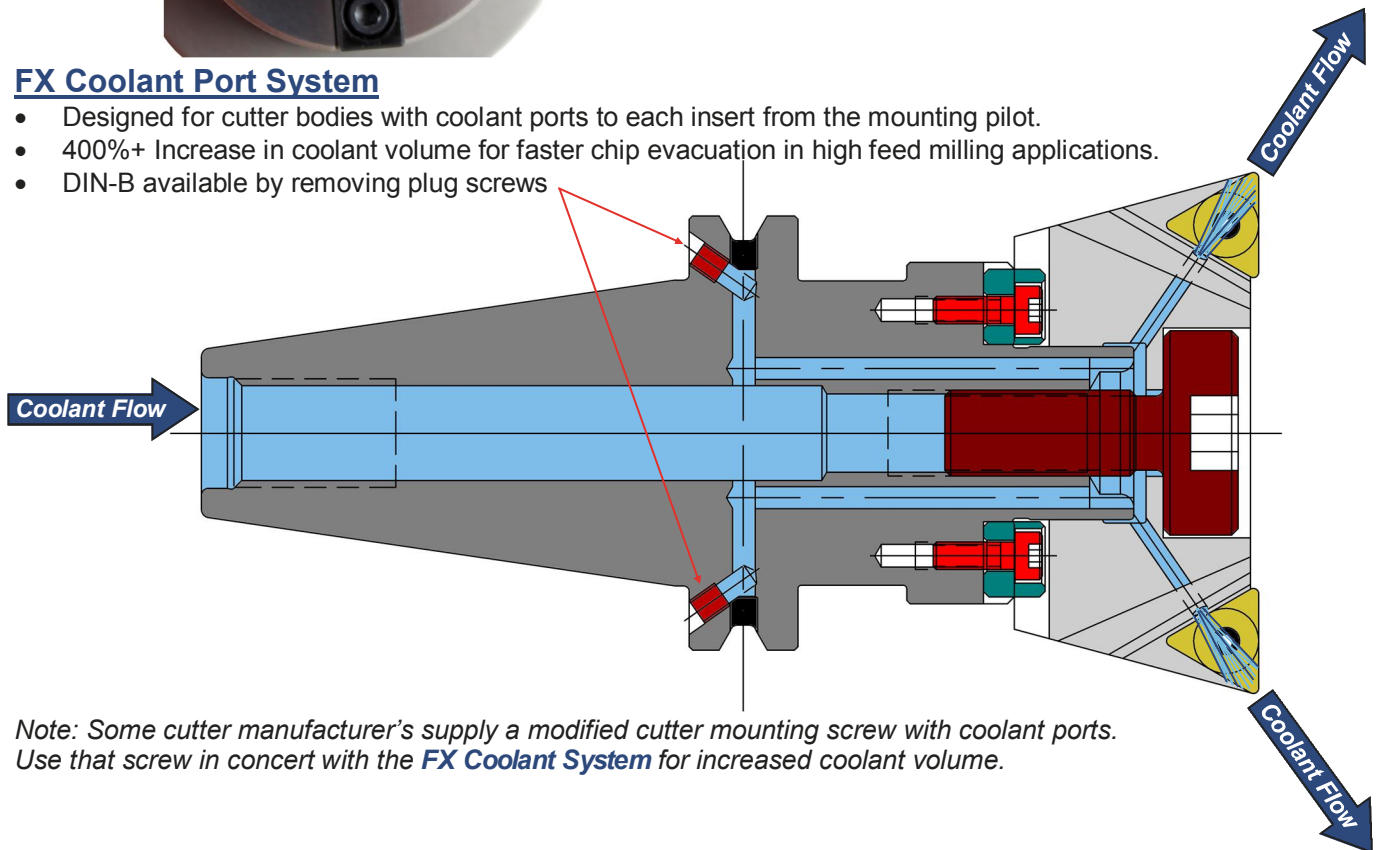
Did your cutter company supply a coolant screw?

Use our standard holder for coolant through the modified screw - or - use our FX model for additional coolant flow!

The standard model is designed for non-coolant and coolant screw applications. For ported cutters, coolant holes to the insert from the pilot of the holder, the FX model is required.

FX Coolant Port System

- Designed for cutter bodies with coolant ports to each insert from the mounting pilot.
- 400%+ Increase in coolant volume for faster chip evacuation in high feed milling applications.
- DIN-B available by removing plug screws



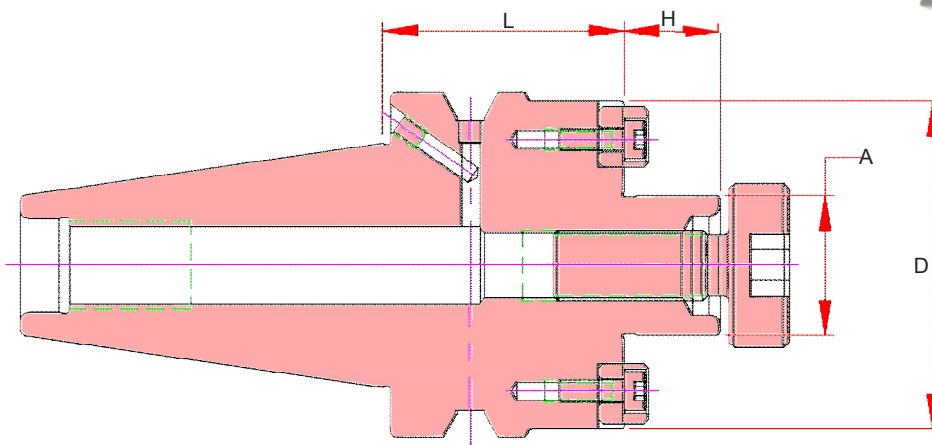
Note: Some cutter manufacturer's supply a modified cutter mounting screw with coolant ports. Use that screw in concert with the **FX Coolant System** for increased coolant volume.

SM - Shell Mill Adapters

BT Shell Mill Adapters

Features

- Body - Coolant Thru Center for modified screws
- DIN AD+B Flange Coolant Standard on BT40
- Balanced G6.3 @ 20,000 RPM
- FX option available, see chart below



Standard Non-Coolant

	Pilot Size	Part Number	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
BT30	1/2	BT30-SM050-0119	0.50	1.38	0.57	1.19	0.250	DK-SM050	1/4-28	SCW-SM050
	3/4	BT30-SM075-0119	0.75	1.75	0.69	1.19	0.312	DK-SM075	3/8-24	SCW-SM075
	1"	BT30-SM100-0119	1.00	2.36	0.69	1.19	0.375	DK-SM100	1/2-20	SCW-SM100
BT40	3/4	BT40-SM075-0175	0.75	1.75	0.69	1.75	0.312	DK-SM075	3/8-24	SCW-SM075
		BT40-SM075-0400				4.00				
	1"	BT40-SM100-0175	1.00	2.36	0.69	1.75	0.375	DK-SM100	1/2-20	SCW-SM100
		BT40-SM100-0400				4.00				
	1-1/4	BT40-SM125-0200	1.25	2.87	0.69	2.00	0.500	DK-SM125	5/8-18	SCW-SM125
		BT40-SM125-0400				4.00				
	1-1/2	BT40-SM150-0200	1.50	3.82	0.94	2.00	0.625	DK-SM150	3/4-16	SCW-SM150

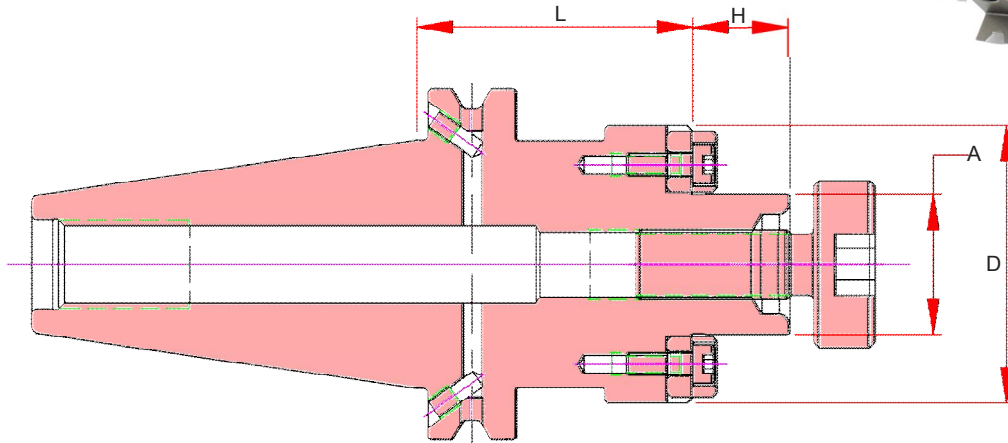
FX - High Volume Coolant System

	Pilot Size	Part Number	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
BT30	1/2	BT30-SM050-0119-F	0.50	1.38	0.57	1.19	0.250	DK-SM050	1/4-28	SCW-SM050
	3/4	BT30-SM075-0119-F	0.75	1.75	0.69	1.19	0.312	DK-SM075	3/8-24	SCW-SM075
	1"	BT30-SM100-0119-F	1.00	2.36	0.69	1.19	0.375	DK-SM100	1/2-20	SCW-SM100
BT40	3/4	BT40-SM075-0175-F	0.75	1.75	0.69	1.75	0.312	DK-SM075	3/8-24	SCW-SM075
		BT40-SM075-0400-F				4.00				
	1"	BT40-SM100-0175-F	1.00	2.36	0.69	1.75	0.375	DK-SM100	1/2-20	SCW-SM100
		BT40-SM100-0400-F				4.00				
	1-1/4	BT40-SM125-0200-F	1.25	2.87	0.69	2.00	0.500	DK-SM125	5/8-18	SCW-SM125
		BT40-SM125-0400-F				4.00				
	1-1/2	BT40-SM150-0200-F	1.50	3.82	0.94	2.00	0.625	DK-SM150	3/4-16	SCW-SM150

CAT40 Shell Mill Adapters

Features

- Body - Coolant Thru Center for modified screws
- DIN AD+B Flange Coolant Standard
- Balanced G6.3 @ 20,000 RPM
- FX Coolant option available, see chart below



Standard Non-Coolant

Pilot Size	Part Number	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
3/4	CAT40-SM075-0175	0.75	1.75	0.69	1.75	0.312	DK-SM075	3/8-24	SCW-SM075
	CAT40-SM075-0400				4.00				
	CAT40-SM075-0600				6.00				
	CAT40-SM075-0800				8.00				
1"	CAT40-SM100-0200	1.00	1.97	0.69	2.00	0.375	DK-SM100	1/2-20	SCW-SM100
	CAT40-SM100-0400				4.00				
	CAT40-SM100-0600				6.00				
	CAT40-SM100-0800				8.00				
1-1/4	CAT40-SM125-0225	1.25	2.87	0.69	2.25	0.500	DK-SM125	5/8-18	SCW-SM125
1-1/2	CAT40-SM150-0240	1.50	3.82	0.94	2.40	0.625	DK-SM150	3/4-16	SCW-SM150
2"	CAT40-SM200-0240	2.00	4.37	0.94	2.40	0.750	DK-SM200	1"-14	SCW-SM200

FX - High Volume Coolant System

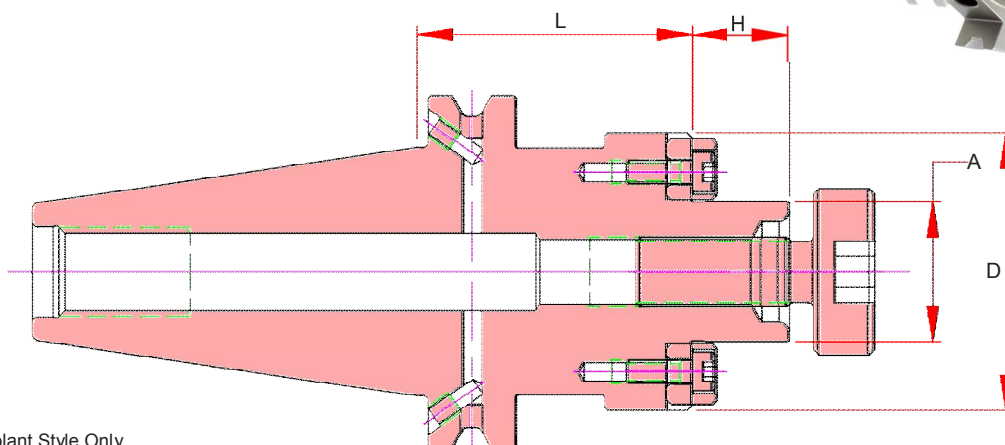
Pilot Size	Part Number	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
3/4	CAT40-SM075-0175-F	0.75	1.75	0.69	1.75	0.312	DK-SM075	3/8-24	SCW-SM075
	CAT40-SM075-0400-F				4.00				
	CAT40-SM075-0600-F				6.00				
	CAT40-SM075-0800-F				8.00				
1"	CAT40-SM100-0200-F	1.00	1.97	0.69	2.00	0.375	DK-SM100	1/2-20	SCW-SM100
	CAT40-SM100-0400-F				4.00				
	CAT40-SM100-0600-F				6.00				
	CAT40-SM100-0800-F				8.00				
1-1/4	CAT40-SM125-0225-F	1.25	2.87	0.69	2.25	0.500	DK-SM125	5/8-18	SCW-SM125
1-1/2	CAT40-SM150-0240-F	1.50	3.82	0.94	2.40	0.625	DK-SM150	3/4-16	SCW-SM150
2"	CAT40-SM200-0240-F	2.00	4.37	0.94	2.40	0.750	DK-SM200	1"-14	SCW-SM200

SM - Shell Mill Adapters

CAT50 Shell Mill Adapters

Features

- Body - Coolant Thru Center for modified screws
- DIN AD+B Flange Coolant Standard
- Balanced G6.3 @ 15,000 RPM
- FX Option Available, see chart below



** Stocked in "FX" Coolant Style Only

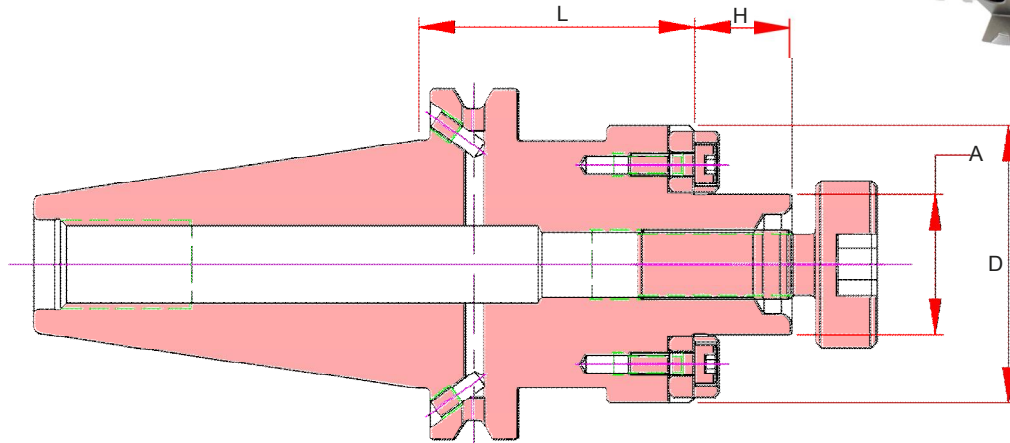
Standard Non-Coolant

Pilot Size	Part Number	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
3/4	CAT50-SM075-0150	0.75	1.75	0.69	1.50	0.312	DK-SM075	3/8-24	SCW-SM075
	CAT50-SM075-0350				3.50				
	CAT50-SM075-0550				5.50				
	CAT50-SM075-0800				8.00				
	CAT50-SM075-1000-F**				10.00				
	CAT50-SM075-1200-F**				12.00				
	CAT50-SM075-1500-F**				15.00				
1"	CAT50-SM100-0200	1.00	2.36	0.69	2.00	0.375	DK-SM100	1/2-20	SCW-SM100
	CAT50-SM100-0400				4.00				
	CAT50-SM100-0600				6.00				
	CAT50-SM100-0800				8.00				
	CAT50-SM100-1000-F**				10.00				
	CAT50-SM100-1200-F**				12.00				
	CAT50-SM100-1500-F**				15.00				
1-1/4	CAT50-SM125-0150	1.25	2.75	0.69	1.50	0.500	DK-SM125	5/8-18	SCW-SM125
	CAT50-SM125-0350				3.50				
	CAT50-SM125-0550				5.50				
	CAT50-SM125-0800				8.00				
	CAT50-SM125-1200-F**				12.00				
	CAT50-SM125-1500-F**				15.00				
1-1/2	CAT50-SM150-0240	1.50	3.82	0.94	2.40	0.625	DK-SM150-C	3/4-16	SCW-SM150
	CAT50-SM150-0400				4.00		DK-SM150		
	CAT50-SM150-0600				6.00		DK-SM150		
	CAT50-SM150-0800				8.00		DK-SM150		
	CAT50-SM150-1200-F**				12.00				
2"	CAT50-SM200-0240	2.00	4.37	0.94	2.40	0.750	DK-SM200	1"-14	SCW-SM200
	CAT50-SM200-0400				4.00				

CAT50 FX Shell Mill Adapters

Features

- FX Coolant Holes for Ported Cutters
- DIN AD+B Flange Coolant Standard
- Balanced G6.3 @ 15,000 RPM



FX - High Volume Coolant System

Pilot Size	Part Number	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
3/4	CAT50-SM075-0150-F	0.75	1.75	0.69	1.50	0.312	DK-SM075	3/8-24	SCW-SM075
	CAT50-SM075-0350-F				3.50				
	CAT50-SM075-0550-F				5.50				
	CAT50-SM075-0800-F				8.00				
	CAT50-SM075-1000-F				10.00				
	CAT50-SM075-1200-F				12.00				
	CAT50-SM075-1500-F								
1"	CAT50-SM100-0200-F	1.00	2.36	0.69	2.00	0.375	DK-SM100	1/2-20	SCW-SM100
	CAT50-SM100-0400-F				4.00				
	CAT50-SM100-0600-F				6.00				
	CAT50-SM100-0800-F				8.00				
	CAT50-SM100-1000-F				10.00				
	CAT50-SM100-1200-F				12.00				
	CAT50-SM100-1500-F				15.00				
1-1/4	CAT50-SM125-0150-F	1.25	2.75	0.69	1.50	0.500	DK-SM125	5/8-18	SCW-SM125
	CAT50-SM125-0350-F				3.50				
	CAT50-SM125-0550-F				5.50				
	CAT50-SM125-0800-F				8.00				
	CAT50-SM125-1200-F				12.00				
	CAT50-SM125-1500-F				15.00				
1-1/2	CAT50-SM150-0240-F	1.50	3.82	0.94	2.40	0.625	DK-SM150-C	3/4-16	SCW-SM150
	CAT50-SM150-0400-F				4.00		DK-SM150		
	CAT50-SM150-0600-F				6.00		DK-SM150		
	CAT50-SM150-0800-F				8.00		DK-SM150		
2"	CAT50-SM200-0240-F	2.00	4.37	0.94	2.40	0.750	DK-SM200	1"-14	SCW-SM200
	CAT50-SM200-0400-F				4.00				

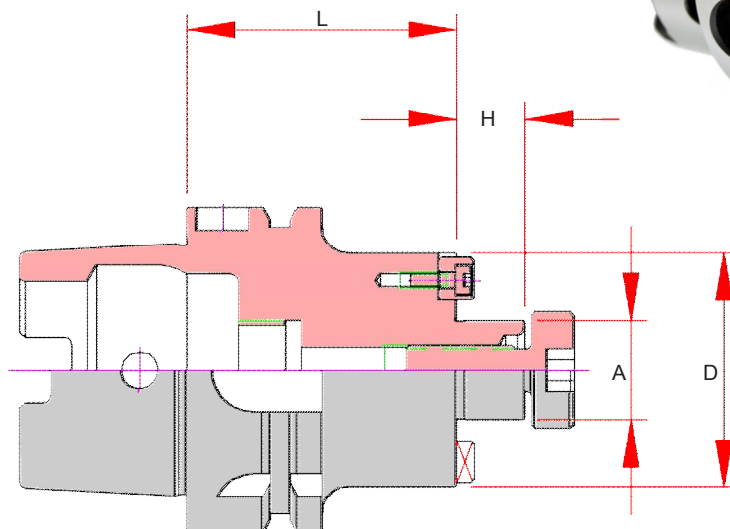


SM - Shell Mill Adapters

HSK 63A Shell Mill Adapters

Features

- Body - Coolant Thru Center for modified screws
- Balanced G6.3 @ 20,000 RPM
- FX Option Available, See Chart Below



Standard Non-Coolant

Pilot Size	Part Number	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
3/4	HSK63A-SM075-0177	0.75	1.71	0.69	1.77	0.312	DK-SM075	3/8-24	SCW-SM075
	HSK63A-SM075-0394				3.94				
	HSK63A-SM075-0630				6.30				
1"	HSK63A-SM100-0197	1.00	2.17	0.69	1.97	0.375	DK-SM100	1/2-20	SCW-SM100
	HSK63A-SM100-0394				3.94				
	HSK63A-SM100-0630				6.30				
1-1/4	HSK63A-SM125-0236	1.25	2.75	0.69	2.36	0.500	DK-SM125	5/8-18	SCW-SM125
	HSK63A-SM125-0394				3.94				
1-1/2	HSK63A-SM150-0236	1.50	3.78	0.94	2.36	0.625	DK-SM150	3/4-16	SCW-SM150

FX - High Volume Coolant System

Pilot Size	Part Number	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
3/4	HSK63A-SM075-0177-F	0.75	1.71	0.69	1.77	0.312	DK-SM075	3/8-24	SCW-SM075
	HSK63A-SM075-0394-F				3.94				
	HSK63A-SM075-0630-F				6.30				
1"	HSK63A-SM100-0197-F	1.00	2.17	0.69	1.97	0.375	DK-SM100	1/2-20	SCW-SM100
	HSK63A-SM100-0394-F				3.94				
	HSK63A-SM100-0630-F				6.30				
1-1/4	HSK63A-SM125-0236-F	1.25	2.75	0.69	2.36	0.500	DK-SM125	5/8-18	SCW-SM125
	HSK63A-SM125-0394-F				3.94				
1-1/2	HSK63A-SM150-0236-F	1.50	3.78	0.94	2.36	0.625	DK-SM150	3/4-16	SCW-SM150

Shell Mill Screws

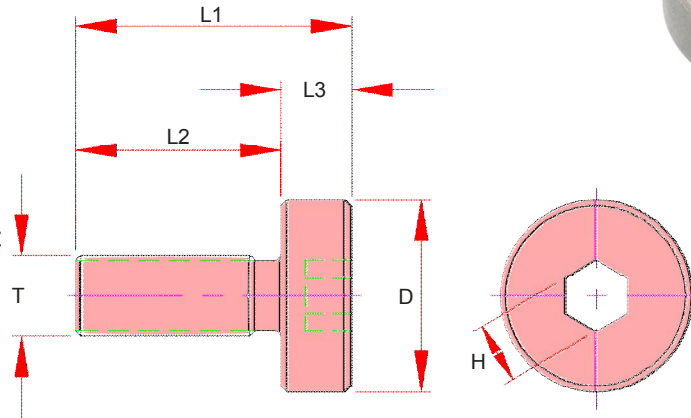
Replacement screw for catalog holders

Note:

Coolant Screws not available.

- Coolant flow from a modified screw does not feed full volume to the inserts
- Modifying the screw weakens the screw causing damage to the cutter and machine tool

FX Holders are available for coolant cutter applications



Shell Mill Pilot	Mount Screw Number	T Thread (UNF)	D	H Hex	L1	L2	L3
1/2	SCW-SM050	1/4-28	0.62	0.25	0.91	0.51	0.28
1/2	SCW-SM050-SM	1/4-28	0.38	0.25	1.00	0.75	0.25
3/4	SCW-SM075	3/8-24	0.87	0.31	1.26	0.79	0.31
3/4	SCW-SM075-SM	3/8-24	0.56	0.31	1.38	1.00	0.38
1	SCW-SM100	1/2-20	1.18	0.38	1.69	1.26	0.43
1	SCW-SM100-SM	1/2-20	0.75	0.38	2.00	1.50	0.50
1-1/4	SCW-SM125	5/8-18	1.50	0.50	2.05	1.57	0.47
1-1/2	SCW-SM150	3/4-16	1.89	0.63	2.36	1.81	0.55
2"	SCW-SM200	1"-14	2.48	0.83	2.52	1.97	0.55

Shell Mill Drive Keys

- Kit includes
 - (2) Drive Keys
 - (2) Mounting Screws



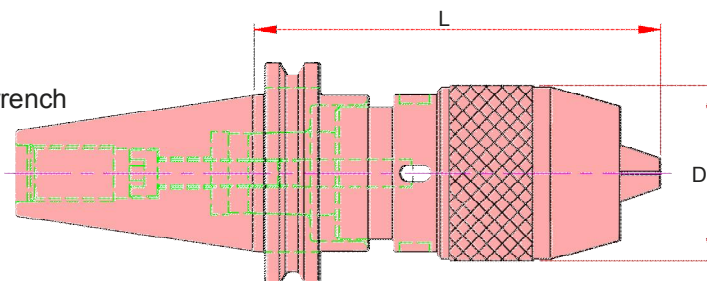
Shell Mill Pilot	Drive Key Number	Drive Key Size	Specifications
1/2	DK-SM050	0.250	
3/4	DK-SM075	0.312	
1"	DK-SM100	0.375	
1"	DK-SM100-B	0.375	Fits BT30-SM100-0119
1-1/4	DK-SM125	0.500	
1-1/2	DK-SM150	0.625	
1-1/2	DK-SM150-C	0.625	Fits CAT50-SM150-0240
2"	DK-SM200	0.750	

DC, SB, TB Adapters

DC - Drill Chuck

Features:

- Non Coolant
- Keyless w/ slots for spanner wrench (sold separately)



Part Number	Range	D	L Projection	Wrench
CAT40-DC050-0413			4.13	DCW13
CAT50-DC050-0394			3.94	DCW13
BT30-DC13-105	0.04 - 0.50	1.96	4.13	DCW13
BT40-DC13-110			4.33	DCW13
HSK 63A-DC13-155			6.10	DCW13

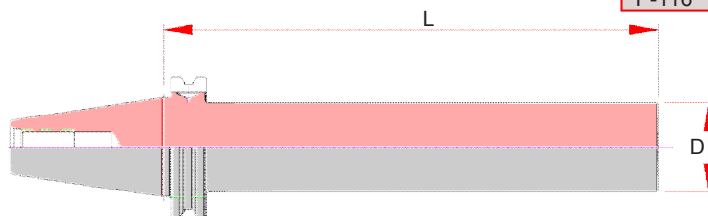
TB - Test Bar

Features

- Concentric to Taper within 3µm (0.0001") TIR
- Hardened & Normalized for consistency
- 100% Individually inspected with Certification Sheet included
- Wood Box Included
- Laser Marked with Actual Diameter and Length



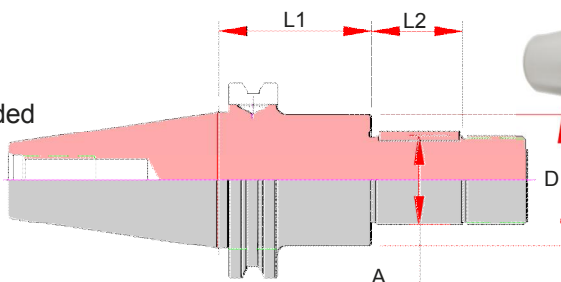
Part Number	D	L Projection
CAT40-TB150-1000	1.50	10.00
CAT50-TB200-1200	2.00	12.00
BT40-TB150-1000	1.50	10.00
HSK63A-TB150-1000	1.50	10.00



SB - Stub Arbor

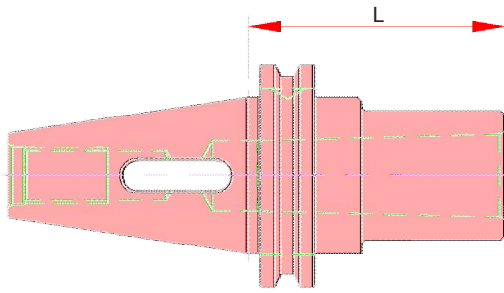
Features:

- Non Coolant
- Spacers & Locking Nut Included



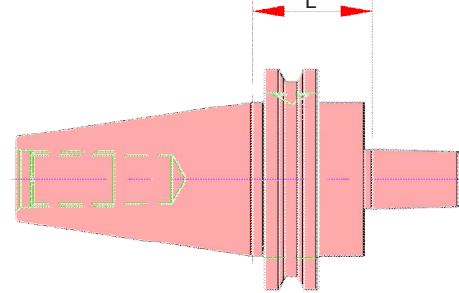
Shank	Part Number	A	D	L1	L2	Key Size
CAT40	CAT40-SB100-0300	1.0000	1.50	3.00	1.24	0.25
	CAT40-SB125-0350	1.2500	1.75	3.50		0.31
CAT50	CAT50-SB100-0300	1.0000	1.50	3.00		0.25
	CAT50-SB125-0300	1.2500	1.75	3.00		0.31
BT30	BT30-SB100-0300	1.0000	1.50	3.00		0.25
BT40	BT40-SB100-0300	1.0000	1.50	3.00		0.25

MA - Morse Taper Adapter



Part Number	Morse Taper Number	L Projection
CAT40-MA1-0177	1	1.77
CAT40-MA1-0472		4.72
CAT40-MA2-0236	2	2.36
CAT40-MA2-0472		4.72
CAT40-MA3-0295	3	2.95
CAT40-MA3-0531		5.31
CAT40-MA4-0374	4	3.74
CAT40-MA4-0650		6.50
CAT50-MA1-0177	1	1.77
CAT50-MA1-0472		4.72
CAT50-MA1-0709		7.09
CAT50-MA2-0177	2	1.77
CAT50-MA2-0531		5.31
CAT50-MA2-0709		7.09
CAT50-MA3-0177	3	1.77
CAT50-MA3-0591		5.91
CAT50-MA3-0709		7.09
CAT50-MA4-0295	4	2.95
CAT50-MA4-0709		7.09
CAT50-MA5-0413	5	4.13
CAT50-MA5-0709		7.09
BT40-MA1-045	1	1.77
BT40-MA1-120		4.72
BT40-MA2-050	2	1.97
BT40-MA2-120		4.72
BT40-MA3-070	3	2.76

JT - Jacobs Taper Adapter



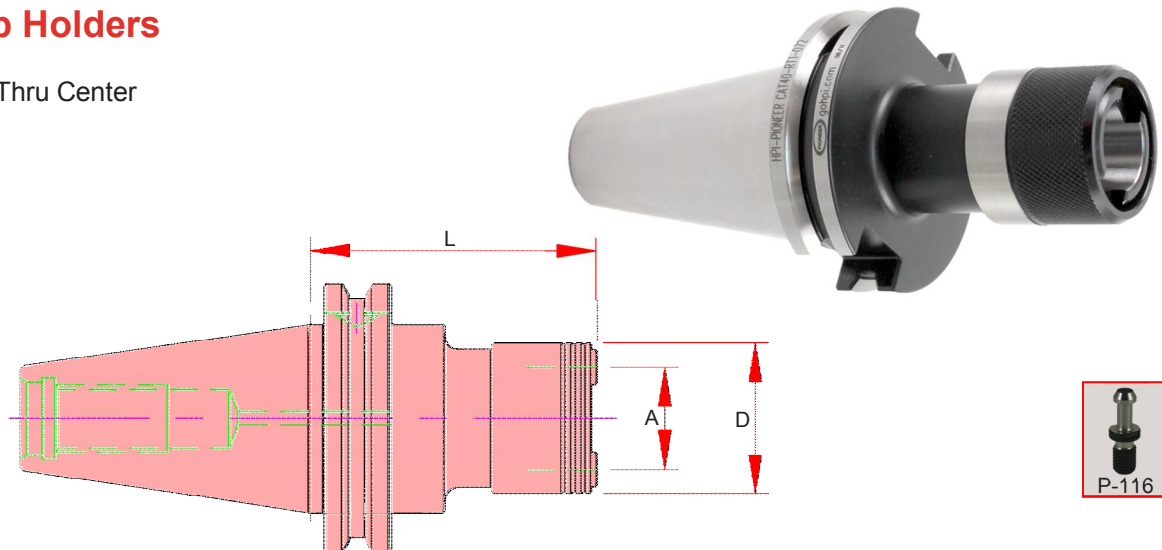
Part Number	Jacobs Taper Number	L Projection
CAT40-JT02-0177	2	1.77
CAT40-JT03-0177	3	1.77
CAT40-JT06-0177	6	1.77
CAT40-JT06-0354		3.54
CAT40-JT33-0177	33	1.77
CAT40-JT33-0354		3.54
CAT50-JT01-0177	1	1.77
CAT50-JT02-0177	2	1.77
CAT50-JT03-0177	3	1.77
CAT50-JT03-0413		4.13
CAT50-JT06-0177	6	1.77
CAT50-JT33-0177	33	1.77
CAT50-JT33-0413		4.13
BT40-JT01-045	1	1.77
BT40-JT02-045	2	1.77
BT40-JT02-090		3.54
BT40-JT03-045	3	1.77
BT40-JT03-090		3.54
BT40-JT06-045	6	1.77
BT40-JT06-090		3.54
BT40-JT33-045	33	1.77
BT40-JT33-090		3.54

RT - Rigid Tap Holders

RT - Rigid Tap Holders

Features

- Body - Coolant Thru Center

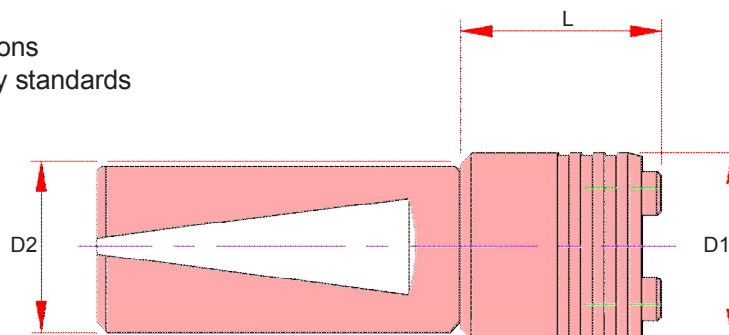


Adapter Size	Part Number	Capacity	A	D	L Projection
1	CAT40-RT1-72	#6-9/16	0.75	1.34	2.83
2	CAT40-RT2-91	5/16-7/8	1.22	1.93	3.58
3	CAT40-RT3-130	9/16-1-3/8	1.89	2.89	5.12
1	CAT50-RT1-72	#6-9/16	0.75	1.34	2.83
2	CAT50-RT2-91	5/16-7/8	1.22	1.93	3.58
3	CAT50-RT3-130	9/16-1-3/8	1.89	2.89	5.12
1	BT40-RT1-72	#6-9/16	0.75	1.34	2.83
2	BT40-RT2-91	5/16-7/8	1.22	1.93	3.58
3	BT40-RT3-130	9/16-1-3/8	1.89	2.89	5.12
1	HSK 63A-RT1-65	#6-9/16	0.75	1.34	2.56
2	HSK 63A-RT2-98	5/16-7/8	1.22	1.93	3.86

RT - Straight Shank

Features:

- Flats for Lathe Applications
- Compatible with industry standards



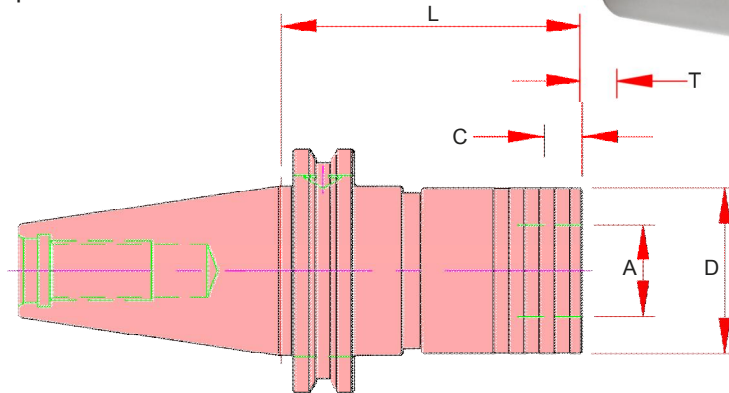
Adapter Size	Part Number	Capacity	D1	D2	L Projection
1	S100-RT1-0158	#6 - 9/16	1.34	1"	1.57
2	S100-RT2-0237	5/16 - 7/8	1.93	1"	2.36
3	S125-RT3-0375	9/16 - 1-3/8	2.89	1-1/4"	3.74

TC - Tension & Compression Holders

TC - Tension & Compression Holders

Features

- Tension and Compression Stroke for improved tap life
- Pressure Point Mechanism to increase the cutting pressure and ensure a positive start

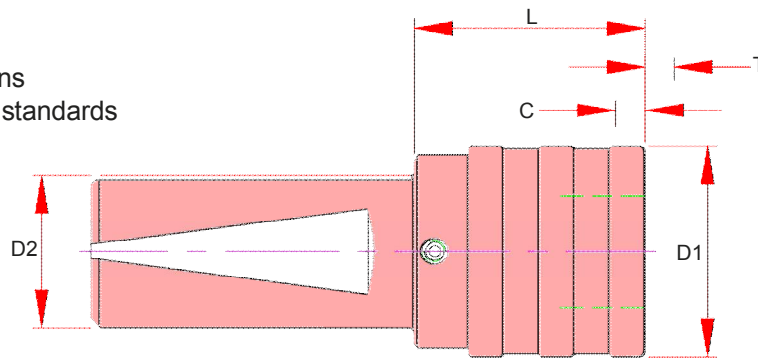


Adapter Size	Part Number	Capacity	A	D	L Projection	T - Tension	C - Compression
1	CAT40-TC1-59	#6-9/16	0.75	1.42	2.32	0.30	0.30
2	CAT40-TC2-97	5/16-7/8	1.22	2.09	3.82	0.49	0.49
3	CAT40-TC3-149	9/16-1-3/8	1.89	3.07	5.87	0.79	0.79
1	CAT50-TC1-59	#6-9/16	0.75	1.42	2.32	0.30	0.30
2	CAT50-TC2-97	5/16-7/8	1.22	2.09	3.82	0.49	0.49
3	CAT50-TC3-141	9/16-1-3/8	1.89	3.07	5.55	0.79	0.79
1	BT40-TC1-67	#6-9/16	0.75	1.42	2.64	0.30	0.30
2	BT40-TC2-94	5/16-7/8	1.22	2.09	3.70	0.49	0.49
3	BT40-TC3-167	9/16-1-3/8	1.89	3.07	6.57	0.79	0.79
1	HSK 63A-TC1-102	#6-9/16	0.75	1.42	4.02	0.30	0.30
2	HSK 63A-TC2-137	5/16-7/8	1.22	2.09	5.39	0.49	0.49

TC - Straight Shank

Features:

- Non Coolant
- Flats for Lathe Applications
- Compatible with industry standards



Adapter Size	Part Number	Capacity	D1	D2	L Projection	T - TENSION	C - COMP.
1	S100-TC1-0158	#6 - 9/16	1.42	1"	1.57	0.30	0.30
2	S100-TC2-0256	5/16 - 7/8	2.09	1"	2.36	0.49	0.49
3	S125-TC3-0504	9/16 - 1-3/8	3.07	1-1/4"	3.94	0.79	0.79



RA - Rigid Tap Adapters

RA - Rigid Tap Adapters

Features:

- Direct Drive for Rigid Tapping
- Bilz Quick Change Compatible
- Push to load / release system for quick tool change



Note:

Due to Multiple Standards for Metric Taps, the actual shank and square must be supplied to verify compatibility.



ANSI Tap Size	Metric	Shank"	Shank MM	Square"	Square MM	SIZE 1	SIZE 2	SIZE 3
#0 - #6	M1.6	0.141	3.58	0.110	2.79	RA1U-0141		
#8	M4	0.168	4.27	0.131	3.33	RA1U-0168		
#10	M4.5, M5	0.194	4.93	0.152	3.86	RA1U-0194		
#12		0.220	5.59	0.165	4.19	RA1U-0220		
	M6, M8		6.00		4.90	RA1D-M060X049		
1/4	M6, M6.3	0.255	6.48	0.191	4.85	RA1U-0255		
	M7, M9, M10		7.00		5.50	RA1D-M070X055		
	M11		8.00		6.00	RA1J-M080X060		
	M8, M11		8.00		6.20	RA1D-M080X062		
5/16	M7, M8	0.318	8.08	0.238	6.05	RA1U-0318	RA2U-0318	
3/8	M10	0.381	9.68	0.286	7.26	RA1U-0381	RA2U-0381	
7/16		0.323	8.20	0.242	6.15	RA1U-0323	RA2U-0323	
	M9, M12		9.00		7.00	RA1D-M090X070		
1/2	M12, M12.5	0.367	9.32	0.275	6.99	RA1U-0367	RA2U-0367	
9/16	M14	0.429	10.90	0.322	8.18	RA1U-0429	RA2U-0429	RA3U-0429
	M16		12.00		9.00		RA2D-M120X090	
5/8	M16	0.480	12.19	0.360	9.14		RA2U-0480	RA3U-0480
11/16	M18	0.542	13.77	0.406	10.31		RA2U-0542	RA3U-0542
3/4		0.590	14.99	0.442	11.23		RA2U-0590	RA3U-0590
13/16	M20	0.652	16.56	0.489	12.42		RA2U-0652	RA3U-0652
7/8	M22	0.697	17.70	0.523	13.28		RA2U-0697	RA3U-0697
15/16	M24	0.760	19.30	0.570	14.48			RA3U-0760
1"	M25	0.800	20.32	0.600	15.24			RA3U-0800
1-1/16 - 1-1/8	M27	0.896	22.76	0.672	17.07			RA3U-0896
1-3/16 - 1-1/4	M30	1.021	25.93	0.766	19.46			RA3U-1021
1-5/16 - 1-3/8	M33	1.108	28.14	0.831	21.11			RA3U-1108
PIPE TAP								
1/8 PIPE SS		0.313	7.95	0.234	5.94	RA1U-0313		
1/8 PIPE LS		0.438	11.13	0.328	8.33	RA1U-0438	RA2U-0438	
1/4 PIPE		0.563	14.30	0.421	10.69		RA2U-0563	
3/8 PIPE		0.700	17.78	0.531	13.49		RA2U-0700	RA3U-0700
1/2 PIPE		0.688	17.48	0.515	13.08		RA2U-0688	RA3U-0688
3/4 PIPE		0.906	23.01	0.679	17.25			RA3U-0906
1" PIPE		1.125	28.58	0.843	21.41			RA3U-1125

TC - Torque Control Adapters

Features:

- Direct Drive for Rigid Tapping
- Bilz Quick Change Compatible
- Push to load / release system for quick tool change

Recommended Usage: Tension and Compression Holders Only!

Note:

Due to Multiple Standards for Metric Taps, the actual shank and square must be supplied to verify compatibility.



ANSI Tap Size	ANSI Metric	Shank"	Shank MM	Square"	Square MM	SIZE 1	SIZE 2	SIZE 3
#0 - #6	M1.6	0.141	3.58	0.110	2.79	TC1U-0141		
#8	M4	0.168	4.27	0.131	3.33	TC1U-0168		
#10	M4.5, M5	0.194	4.93	0.152	3.86	TC1U-0194		
#12		0.220	5.59	0.165	4.19	TC1U-0220		
1/4	M6, M6.3	0.255	6.48	0.191	4.85	TC1U-0255		
5/16	M7, M8	0.318	8.08	0.238	6.05	TC1U-0318	TC2U-0318	
3/8	M10	0.381	9.68	0.286	7.26	TC1U-0381	TC2U-0381	
7/16		0.323	8.20	0.242	6.15	TC1U-0323	TC2U-0323	
1/2	M12, M12.5	0.367	9.32	0.275	6.99	TC1U-0367	TC2U-0367	
9/16	M14	0.429	10.90	0.322	8.18	TC1U-0429	TC2U-0429	TC3U-0429
5/8	M16	0.480	12.19	0.360	9.14		TC2U-0480	TC3U-0480
11/16	M18	0.542	13.77	0.406	10.31		TC2U-0542	TC3U-0542
3/4		0.590	14.99	0.442	11.23		TC2U-0590	TC3U-0590
13/16	M20	0.652	16.56	0.489	12.42		TC2U-0652	TC3U-0652
7/8	M22	0.697	17.70	0.523	13.28		TC2U-0697	TC3U-0697
15/16	M24	0.760	19.30	0.570	14.48			TC3U-0760
1"	M25	0.800	20.32	0.600	15.24			TC3U-0800
1-1/16 - 1-1/8	M27	0.896	22.76	0.672	17.07			TC3U-0896
1-3/16 - 1-1/4	M30	1.021	25.93	0.766	19.46			TC3U-1021
1-5/16 - 1-3/8	M33	1.108	28.14	0.831	21.11			TC3U-1108
PIPE TAP								
1/8 PIPE SS		0.313	7.95	0.234	5.94	TC1U-0313		
1/8 PIPE LS		0.438	11.13	0.328	8.33	TC1U-0438		
1/4 PIPE		0.563	14.30	0.421	10.69		TC2U-0563	
3/8 PIPE		0.700	17.78	0.531	13.49		TC2U-0700	TC3U-0700
1/2 PIPE		0.688	17.48	0.515	13.08		TC2U-0688	TC3U-0688
3/4 PIPE		0.906	23.01	0.679	17.25			TC3U-0906
1" PIPE		1.125	28.58	0.843	21.41			TC3U-1125

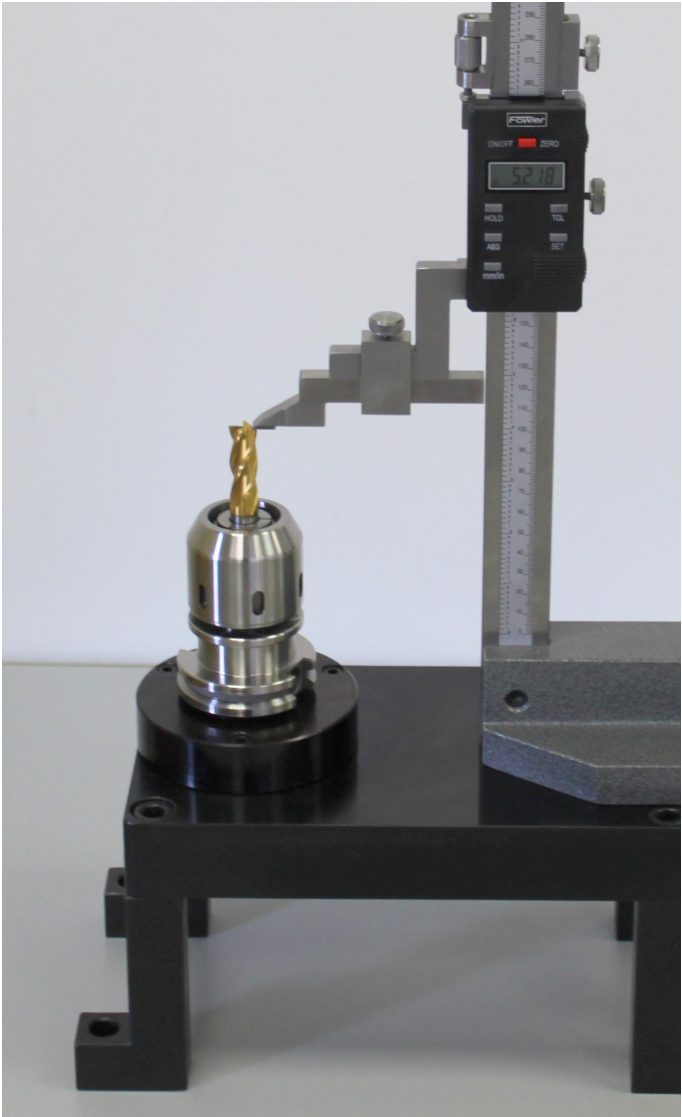
HG - Height Gage

Height Gage Fixtures

- Order Base & Legs (Pot not included)
- Order Pot Separately
- Bolts to Workbench
- 4" Legs for Retention Knob Clearance
- For use with standard Height Stand (Order Separately)

This low cost height stand uses any standard height stand, (20" Digital shown) analog or digital to provide simple accurate height preset. Legs provide height so the pull stud does not hit the table. The legs are equipped with bolt holes so the unit can be mounted to the table top.

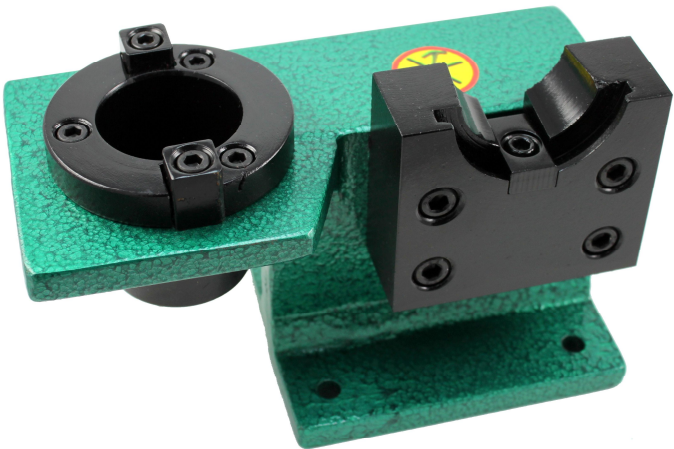
Part Number	Shank
HG-BASE+LEGS	Base & Legs
HG-BT30-POT	BT30, SK30
HG-CAT40-POT	BT40, CAT40, SK40
HG-CAT50-POT	BT50, CAT50, SK50
HG-HSK63A-POT	HSK63A, HSK80F
HG-HSK100A-POT	HSK100A



Locking Fixtures

- Bolts to Workbench
- Easy Access to Retention Knob

Part Number	Shank
TLD-BT30	BT30
TLD-BT40	BT40
TLD-CAT40	Cat40
TLD-CAT50	Cat50



Tool Block 2.0

PIONEER's Flexible, Index-able Tool Block with Interchangeable Heads Now Push Button!

The system is designed to prevent injury and allow the operator to move the holder into the best position for manipulation. 4 locking positions (90 degree's apart) with auto lock provides the easiest and safest way of changing cutters and retention knobs. Interchangeable with heads from competitive systems, Tool Block is a must for all tool rooms.

Order Tool Block Head and Base Separately!



Insert Holder into Assembly



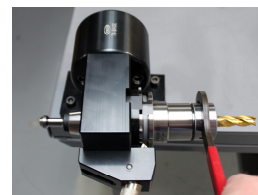
Assemble cutting tool, snug by hand to hold the cutter in place



Rotate the Head to the 270° position to tighten the locking nut



Rotate to the 180° position to install and tighten retention knob



When tool change is require rotate into the 90° position to loosen the collet nut

Tool Block Head



Tool Block Base



Part Number	Shank
TB-BT30 HEAD	BT30, ISO7388-30, DIN69871-30
TB-CAT40 HEAD	CAT40, ISO7388-40, DIN69871-40, BT40**
TB-CAT50 HEAD	CAT50, ISO7388-50, DIN69871-50, BT50**
TB-HSK32A HEAD	DIN69893 HSK32-A
TB-HSK40A HEAD	DIN69893 HSK40-A
TB-HSK50A HEAD	DIN69893 HSK50-A
TB-HSK63A HEAD	DIN69893 HSK63-A
TB-HSK100A HEAD	DIN69893 HSK100-A

**Head can be adjusted to work with BT tooling.
The head must be adjusted back for CAT, ISO or DIN tooling.

Part Number
TB-BASE (1) Base Required

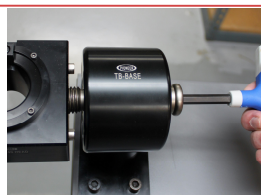
Base includes Mounting Bolts & Hex Wrench

Note:
PIONEER Tool Block Base will accept competitor's Head Assemblies. Some versions of the competitor's bases will not accept PIONEER Tool Block Heads. An alteration or conversion bolt is required on the competitor's base.

Please contact PIONEER customer service for more information.



Assemble Tool Block Head to Base by rotating the Push Knob on the back of the Base



Optional: Assemble Tool Block Head to the Base by rotating the Push Knob on the back of the Base, Snug tighten with supplied 8mm Wrench



Push in on the Push Knob to unlock the head from the base



Rotate the knob to the desired location, the head will lock in 90 degree increments



The tool holder will snap in automatically.

RW - Rotary Wipers

ROTARY WIPER makes it possible to view the production/machining process clearly within the machine enclosure. Window always get dirty because of oils, coolants and chips.



By installing ROTARY WIPER, even large amount of coolants, etc., will not prevent an operator from being able to observe set-ups and production runs of all sorts.

- Improved Visible Area
- Less Air Consumption & Lower Noise Level
- Easier Maintenance Work
- Improved Sealing Performance against Coolant (For Tape Fitting Type)
- Special chemically treated glass provides long life from chips and debris
- Low Profile for tight installation area's



Version 2 Refined Design

This air driven rotary window does not require special wiring like competitive models. Installation could not be more simple:

1. Choose your mount type (Bolt or Tape)
 2. Install in machine per provided instructions
 3. Run Air Cable to the machine control side air bank
 4. Attached Air Cable to your Rotary Wiper
- Done!

If RW window was to become damaged, easy removal of the 4 screws from the center hub makes window replacement easy.

Rotary Wiper is available in 2 different mountings, Bolt & Tape. Bolt mountings require 8 mounting screw holes in the windows. Tape on uses a high end adhesive with the only requirement is a clean window.



Tape Fitting

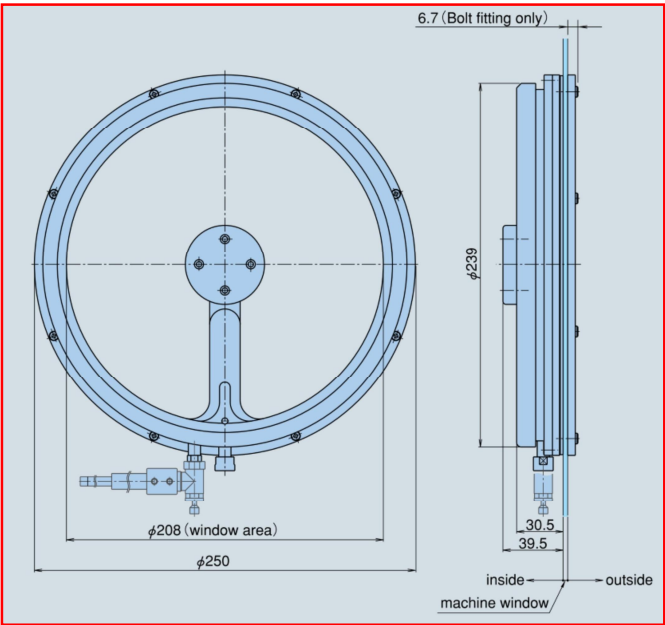


Bolt Fitting



Air Cable

Type	Mounting	Ø6mm Air Cable (Ø10mm Conduit)
RW-V2-25	Bolt Fitting Type	Ø6mm x 8.2 ft (2.5M)
RW-V2-50	Bolt Fitting Type	Ø6mm x 16.4 ft (5.0M)
RW-V2-T25	Tape Fitting Type	Ø6mm x 8.2 ft (2.5M)
RW-V2-T50	Tape Fitting Type	Ø6mm x 16.4 ft (5.0M)



TWS - Retention Knobs.Sockets

Features

- Fits HPS Retention Knobs on the following page
- May not fit other manufacturer's designs & styles
- Uses standard torque wrench fractional drive
- **Use Machine Tool Manufacturer's recommended tightening torque**

Part Number	Retention Knob Flats	Torque Wrench Drive	Socket Length	Socket Diameter
TWS-075	0.750	1/2	1.15	1.30
TWS-125	1.250	1/2	1.56	1.93
TWS-118	1.187	1/2	1.56	1.93
TWS-M13	13mm	3/8	1.40	0.98
TWS-M17	17mm	1/2	1.74	1.30
TWS-M19	19mm	1/2	1.74	1.30
TWS-M30	30mm	1/2	2.24	1.97

Retention Knob Tightening Torque

There are 2 different approaches to Retention Knob Tightening Torque. Traditional and Light Torque.

To avoid any warranty and safety issues always use the machine tool manufacturer's specifications.

Traditional locking torque for Retention Knobs are as follows:

- 30 Taper = 36-40 ft/lbs
- 40 Taper = 76-85 ft/lbs
- 50 Taper = 100-110 ft/lbs

Depending on the material, heat treat and wall thickness of the tool holder the above torque specifications can expand the tool holder taper at the small end causing uneven spindle wear and cutting tool runout.

Many companies have started using a lighter torque number to reduce or eliminate the expansion. Many machine tool manufacturer's do not recommend this lighter system. Check with your machine tool manufacturer for recommending operational torque.

Low Torque Retention Knob Tightening

The information below is a guide.

To avoid any warranty and safety issues always use the machine tool manufacturer's specifications.

As described above, proper retention knob locking torque is critical to reduce spindle wear and maintain cutting tool life. Over tightening the retention knob will expand the small end of the tool holder shank. The expanded area will make contact in the spindle taper and cause uneven wear. **Thread locking material is required when cutting tool vibration is present or operating at high spindle RPM's. To reduce or eliminate tool holder expansion reducing the torque to the chart below with the combination of thread locking material.**

Note: High RPM applications also require thread locking material to compensate for centrifugal expansion.

30 Taper		40 Taper		50 Taper	
Drawbar Force lbs	Locking Torque ft/lbs 1.00% of Drawbar Force w/ Thread Locker	Drawbar Force lbs	Locking Torque ft/lbs 1.25% of Drawbar Force w/ Thread Locker	Drawbar Force lbs	Locking Torque ft/lbs 2.00% of Drawbar Force w/ Thread Locker
800	8	1500	19	3000	60
1000	10	2000	25	3500	70
1200	12	2500	31	4000	80
1500	15	3000	38	4500	90
1800	18	3500	44	5000	100
2000	20	4000	50	6000	120
2200	22	4500	56	7000	140



BC

SX

MX

VX

MC

SD

ER

TG

DA

EM

SM

MISC.

QC TAP

ACC.

HPS - Retention Knobs

HPS - Retention Knobs

Features

- Manufactured to the Industry Standards or machine builders specifications.
- The cross reference chart is a guide only. Retention knobs are based on the spindle and coolant configuration.
The dimensions must be verified to avoid damage or warranty issues.



Machine Builder	BT30	BT40	CAT40	CAT50
AKIRA SEIKI			HPS-806U-1	
BRIDGEPORT	HPS-17	HPS-1	HPS-D72	
BROTHER	HPS-17			
DAEWOO			HPS-72	
DOOSAN		HPS-806-1	HPS-806U-1	
ENSHU	HPS-16	HPS-1 / 2	HPS-72 / 72C	HPS- 54
FADAL			HPS-D72	
FANUC	HPS-16			
HAAS	HPS-16 / 16C	HPS-1	HPS-72 / 72C	HPS- 54
HITACHI SEIKI	HPS-16	HPS-H28	HPS-H30	HPS- 54
HOWA		HPS-1	HPS-72	
HURCO		HPS-1	HPS-D72 / D2	HPS-D92
JOHNFORD		HPS-1		
KIA		HPS-1 / O8	HPS-72 / O14	
KIRA	HPS-16	HPS-1 / 2	HPS-26	
KITAMURA		HPS-1	HPS-72	HPS- 54
KIWA	HPS-17	HPS-1		
KURAKI		HPS-1 / 2	HPS-72	HPS- 54
LEADWELL		HPS-1	HPS-72	
MAKINO		HPS-806-1	HPS-806U-1	HPS- 54
MATSUURA	HPS-17	HPS-806-1	HPS-806U-1	HPS-63
MAZAK		HPS-G51	HPS-G53	HPS-G43
MIGHTY		HPS-1	HPS-72	
MILLTRONICS		HPS-2	HPS-26	
MITSUBISHI		HPS-1	HPS-72	HPS-63
MITSUMI SEIKI	HPS-P10	HPS-P5	HPS-P53	HPS-P11 / P14
MIYANO	HPS-17	HPS-1	HPS-72	
MORI SEIKI		HPS-O8	HPS-O14	HPS-O19
NIIGATA		HPS-2		HPS-63
NTC		HPS-1	HPS-72	
OKK	HPS-16	HPS-1 / O8	HPS-72 / O14	HPS-54 / O19
OKUMA & HOWA		HPS-1	HPS-72	HPS-63
OKUMA	HPS-17	HPS-1 / 2 / B62-1	HPS-B64 / G60	HPS-B61 / 63B
PARPAS		HPS-1 / 2		
ROKU-ROKU	HPS-16	HPS-1 / 2	HPS-72	
SHIZUOKA		HPS-O8	HPS-72	HPS-O19
TAKISAWA		HPS-1	HPS-72	HPS- 54
TOSHIBA	HPS-16	HPS-1	HPS-72	HPS- 54
TOYODA		HPS-1		
YASDA		HPS-806-1	HPS-72	HPS- 54
YCI		HPS-1	HPS-72	HPS- 54

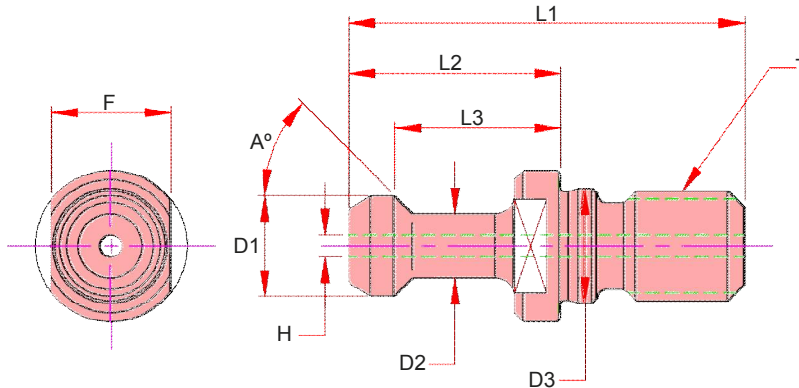
HPS - Retention Knobs

Features

- Manufactured to the Industry Standards or machine builders specifications.

Note:

- Please specify dimension and machine make and model when inquiring on pull studs.
- It is critical that the correct retention knob is used with each machining center. Please verify all dimensions prior to ordering. Machine specifications will be located in your machine manual.**



	Part Number	A Angle	D1 Head	D2 Neck	D3 Pilot	L1 OAL	L2 Proj.	L3 - Pull Loc.	H Hole	F Flats	T Thread	Notes
BT30	HPS- 16	45	0.433	0.276	0.492	1.693	0.906	0.709	-	13mm	M12	MAS P30T-1
	HPS- 16C								0.078			MAS P30T-1 Coolant
	HPS- 17	60							-			MAS P30T-2
	HPS- 17C								0.078			MAS P30T-2 Coolant
BT40	HPS- 1	45	0.591	0.394	0.669	2.362	1.378	1.102	-	19mm	M16	MAS P40T-1
	HPS- 1C								0.120			MAS P40T-1 Coolant
	HPS- 2	60							-			MAS P40T-2
	HPS-806 -1	75							0.236			JIS B6339 Coolant
	HPS-G51	45							0.276			Coolant
	HPS-O 8	90							-			
CAT40	HPS- 72	45	0.591	0.394	0.641	2.250	1.266	0.990	-	19mm	5/8-11	MAS P40T-1
	HPS- 72C	45	0.591	0.394	0.641	2.250	1.266	0.990	0.120	19mm		MAS P40T-1 Coolant
	HPS- 26	60	0.591	0.394	0.630	2.252	1.268	0.992	-	19mm		MAS P40T-2
	HPS- 26C	60	0.591	0.394	0.630	2.252	1.268	0.992	0.120	19mm		MAS P40T-2 Coolant
	HPS-806U-1	75	0.748	0.551	-	1.882	1.024	0.787	0.236	19mm		JIS B6339 Coolant
	HPS-B64-1	45	0.740	0.490	0.641	1.624	0.640	0.440	0.157	0.750		Coolant w/ O'ring on OD Pilot
	HPS-D72	45	0.740	0.490	-	1.500	0.640	0.440	0.283	0.750		ANSI B5. 50-1985
	HPS-G53	45	0.740	0.490	0.641	1.624	0.640	0.440	0.276	0.750		Coolant
	HPS-G60	45	0.740	0.490	0.641	1.624	0.640	0.440	-	0.750		
	HPS-H30	45	0.591	0.394	-	2.252	1.268	0.992	-	19mm		
HPS-O14	90	0.591	0.394	-	2.244	1.260	0.984	-	17mm			
CAT50	HPS- 54	45	0.906	0.669	1.031	3.354	1.780	1.386	0.236	30mm	1"-8	MAS P50T-1 Coolant
	HPS- 63	60	0.906	0.669	1.024	3.248	1.772	1.378	-	30mm		MAS P50T-2
	HPS-B61	60	0.906	0.669	0.984	3.248	1.772	1.378	0.236	30mm		Coolant
	HPS-D92	45	1.140	0.820	-	2.300	1.000	0.700	0.461	1.250		ANSI B5. 50-1985
	HPS-G43	45	1.140	0.820	1.031	2.303	1.000	0.700	0.394	1.187		Coolant
	HPS-O19	90	0.906	0.669	-	3.346	1.780	1.386	-	30mm		
	HPS-P14	90	0.945	0.709	-	2.520	1.220	0.906	0.315	30mm		Coolant
	HPS-711-45	75	1.101	0.845	-	2.640	1.338	0.984	0.468	30mm		JIS B6339 Coolant

A - CAT40-EM075-0300

ASC-12-30	17	BT30-SX06-060	15	BT40-ER11H-150	63	BT40-RT2-91	108	CAT40-DA100-0600	84
ASC-12-30	49	BT30-SX06-090	15	BT40-ER16H-060	63	BT40-RT3-130	108	CAT40-DA180-0295	84
ASC-16-18	49	BT30-SX10-045	15	BT40-ER16H-100	63	BT40-SB100-0300	106	CAT40-DA180-0515	84
ASC-16-40	49	BT30-SX10-060	15	BT40-ER16H-160	63	BT40-SM075-0175	100	CAT40-DA200-0300	84
ASC-18-33	17	BT30-SX10-090	15	BT40-ER20H-070	63	BT40-SM075-0175-F	100	CAT40-DA200-0500	84
ASC-25-30	17	BT30-SX16-060	15	BT40-ER20H-100	63	BT40-SM075-0400	100	CAT40-DA300-0338	84
ASC-8-24	17	BT30-SX16-090	15	BT40-ER20H-160	63	BT40-SM075-0400-F	100	CAT40-DC050-0413	106
BT30-BC075-0295	5	BT30-SX25M-090	15	BT40-ER25-060	63	BT40-SM100-0175	100	CAT40-EM012-0175	88
BT30-DC13-105	106	BT30-VX06-090	31	BT40-ER25-100	63	BT40-SM100-0175-F	100	CAT40-EM012-0250	88
BT30-EM012-0236	94	BT30-VX08-092	31	BT40-ER25-160	63	BT40-SM100-0400	100	CAT40-EM012-0400	88
BT30-EM012-0400	94	BT40-BC075-0315	5	BT40-ER32-075	63	BT40-SM100-0400-F	100	CAT40-EM012-0500	88
BT30-EM018-0236	94	BT40-BC100-0331	5	BT40-ER32-100	63	BT40-SM125-0200	100	CAT40-EM012-0600	88
BT30-EM018-0400	94	BT40-BC125-0403	5	BT40-ER32-160	63	BT40-SM125-0200-F	100	CAT40-EM018-0175	88
BT30-EM025-0236	94	BT40-DC13-110	106	BT40-ER40-080	63	BT40-SM125-0400	100	CAT40-EM018-0250	88
BT30-EM025-0400	94	BT40-EM012-0250	95	BT40-ER40-160	63	BT40-SM125-0400-F	100	CAT40-EM018-0400	88
BT30-EM031-0236	94	BT40-EM012-0400	95	BT40-JT01-045	107	BT40-SM150-0200	100	CAT40-EM018-0600	88
BT30-EM031-0400	94	BT40-EM018-0250	95	BT40-JT02-045	107	BT40-SM150-0200-F	100	CAT40-EM025-0175	88
BT30-EM037-0236	94	BT40-EM018-0400	95	BT40-JT02-090	107	BT40-SX06-090	15	CAT40-EM025-0250	88
BT30-EM037-0400	94	BT40-EM025-0250	95	BT40-JT03-045	107	BT40-SX06-120	15	CAT40-EM025-0400	88
BT30-EM050-0236	94	BT40-EM025-0400	95	BT40-JT03-090	107	BT40-SX10-060	15	CAT40-EM025-0500	88
BT30-EM050-0400	94	BT40-EM025-0600	95	BT40-JT06-045	107	BT40-SX10-090	15	CAT40-EM025-0600	88
BT30-EM062-0236	94	BT40-EM031-0250	95	BT40-JT06-090	107	BT40-SX10-120	15	CAT40-EM031-0175	88
BT30-EM062-0400	94	BT40-EM031-0400	95	BT40-JT33-045	107	BT40-SX10-150	15	CAT40-EM031-0250	88
BT30-EM075-0236	94	BT40-EM037-0250	95	BT40-JT33-090	107	BT40-SX16-090	15	CAT40-EM031-0400	88
BT30-EM075-0400	94	BT40-EM037-0400	95	BT40-MA1-045	107	BT40-SX16-120	15	CAT40-EM031-0600	88
BT30-EM087-0354	94	BT40-EM037-0600	95	BT40-MA1-120	107	BT40-SX16-150	15	CAT40-EM037-0175	88
BT30-EM100-0275	94	BT40-EM050-0250	95	BT40-MA2-050	107	BT40-SX16-180	15	CAT40-EM037-0250	88
BT30-ER11H-060	62	BT40-EM050-0400	95	BT40-MA2-120	107	BT40-SX25M-090	15	CAT40-EM037-0400	88
BT30-ER11H-100	62	BT40-EM050-0600	95	BT40-MA3-070	107	BT40-SX25M-120	15	CAT40-EM037-0450	88
BT30-ER16H-070	62	BT40-EM062-0250	95	BT40-MC075-0295	43	BT40-TB150-1000	106	CAT40-EM037-0500	88
BT30-ER16H-100	62	BT40-EM062-0400	95	BT40-MC075-0295-S	43	BT40-TC1-67	109	CAT40-EM037-0600	88
BT30-ER20H-070	62	BT40-EM062-0600	95	BT40-MC075-0354	43	BT40-TC2-94	109	CAT40-EM043-0250	88
BT30-ER20H-100	62	BT40-EM075-0175	95	BT40-MC075-0472	43	BT40-TC3-167	109	CAT40-EM050-0175	88
BT30-ER25-070	62	BT40-EM075-0250	95	BT40-MC075-0472-S	43	BT40-TG100-0300	81	CAT40-EM050-0250	88
BT30-ER25-100	62	BT40-EM075-0400	95	BT40-MC100-0315	43	BT40-TG100-0550	81	CAT40-EM050-0262	88
BT30-ER32-070	62	BT40-EM075-0600	95	BT40-MC100-0335-S	43	BT40-VX06-100	31	CAT40-EM050-0400	88
BT30-MC075-0315	42	BT40-EM087-0335	95	BT40-MC100-0413	43	BT40-VX06-150	31	CAT40-EM050-0462	88
BT30-MC075-0335-S	42	BT40-EM087-0500	95	BT40-MC100-0472-S	43	BT40-VX08-100	31	CAT40-EM050-0500	88
BT30-MX06-090	29	BT40-EM100-0200	95	BT40-MC125-0335	43	BT40-VX08-150	31	CAT40-EM050-0600	88
BT30-MX08-090	29	BT40-EM100-0300	95	BT40-MC125-0354-S	43	BT40-VX12-110	31	CAT40-EM062-0175	89
BT30-MX12-105	29	BT40-EM100-0400	95	BT40-MC125-0472	43	BT40-VX12-150	31	CAT40-EM062-0250	89
BT30-SB100-0300	106	BT40-EM100-0600	95	BT40-MC125-0472-S	43	CAT40-BC075-0283	5	CAT40-EM062-0300	89
BT30-SM050-0119	100	BT40-EM125-0200	95	BT40-MX06-085	29	CAT40-BC100-0300	5	CAT40-EM062-0400	89
BT30-SM050-0119-F	100	BT40-EM125-0356	95	BT40-MX06-150	29	CAT40-BC125-0350	5	CAT40-EM062-0500	89
BT30-SM075-0119	100	BT40-EM125-0600	95	BT40-MX08-085	29	CAT40-BCM20-0283	5	CAT40-EM062-0600	89
BT30-SM075-0119-F	100	BT40-EM150-0433	95	BT40-MX08-120	29	CAT40-BCM25-0300	5	CAT40-EM075-0175	89
BT30-SM100-0119	100	BT40-ER11H-060	63	BT40-MX12-090	29	CAT40-BCM32-0350	5	CAT40-EM075-0250	89
BT30-SM100-0119-F	100	BT40-ER11H-100	63	BT40-RT1-72	108	CAT40-DA100-0350	84	CAT40-EM075-0300	89

CAT40-EM075-0350 - CAT40-TG100-0550

CAT40-EM075-0350	89	CAT40-ER32-0250	60	CAT40-SB125-0350	106	CAT40-SM100-0800-F	101	CAT40-SM100-0800-F	101
CAT40-EM075-0400	89	CAT40-ER32-0400	60	CAT40-SD012-080	54	CAT40-SM125-0225	101	CAT40-SM125-0225	101
CAT40-EM075-0500	89	CAT40-ER32-0600	60	CAT40-SD012-160	54	CAT40-SM125-0225-F	101	CAT40-SM125-0225-F	101
CAT40-EM075-0600	89	CAT40-ER32-0800	60	CAT40-SD018-080	54	CAT40-SM150-0240	101	CAT40-SM150-0240	101
CAT40-EM087-0175	89	CAT40-ER40-0250	60	CAT40-SD018-160	54	CAT40-SM150-0240-F	101	CAT40-SM150-0240-F	101
CAT40-EM087-0350	89	CAT40-ER40-0400	60	CAT40-SD025-080	54	CAT40-SM200-0240	101	CAT40-SM200-0240	101
CAT40-EM087-0600	89	CAT40-ER40-0600	60	CAT40-SD025-160	54	CAT40-SM200-0240-F	101	CAT40-SM200-0240-F	101
CAT40-EM100-0175	89	CAT40-JT02-0177	107	CAT40-SD031-080	54	CAT40-SX06-090	10	CAT40-SX06-090	10
CAT40-EM100-0300	89	CAT40-JT03-0177	107	CAT40-SD031-160	54	CAT40-SX06-090-D	11	CAT40-SX06-090-D	11
CAT40-EM100-0400	89	CAT40-JT06-0177	107	CAT40-SD037-080	54	CAT40-SX06-120	10	CAT40-SX06-120	10
CAT40-EM100-0500	89	CAT40-JT06-0354	107	CAT40-SD037-160	54	CAT40-SX06-120-D	11	CAT40-SX06-120-D	11
CAT40-EM100-0600	89	CAT40-JT33-0177	107	CAT40-SD043-080	54	CAT40-SX06-150	10	CAT40-SX06-150	10
CAT40-EM125-0200	89	CAT40-JT33-0354	107	CAT40-SD043-160	54	CAT40-SX06-150-D	11	CAT40-SX06-150-D	11
CAT40-EM125-0400	89	CAT40-MA1-0177	107	CAT40-SD050-080	54	CAT40-SX10-090	10	CAT40-SX10-090	10
CAT40-EM125-0425	89	CAT40-MA1-0472	107	CAT40-SD050-160	54	CAT40-SX10-090-D	11	CAT40-SX10-090-D	11
CAT40-EM125-0600	89	CAT40-MA2-0236	107	CAT40-SD062-080	54	CAT40-SX10-120	10	CAT40-SX10-120	10
CAT40-EM150-0400	89	CAT40-MA2-0472	107	CAT40-SD062-160	54	CAT40-SX10-120-D	11	CAT40-SX10-120-D	11
CAT40-EM150-0462	89	CAT40-MA3-0295	107	CAT40-SD075-080	54	CAT40-SX10-150	10	CAT40-SX10-150	10
CAT40-EM150-0600	89	CAT40-MA3-0531	107	CAT40-SD075-160	54	CAT40-SX10-150-D	11	CAT40-SX10-150-D	11
CAT40-EMM06-0250	90	CAT40-MA4-0374	107	CAT40-SD100-100	54	CAT40-SX10-180	10	CAT40-SX10-180	10
CAT40-EMM08-0250	90	CAT40-MA4-0650	107	CAT40-SD100-160	54	CAT40-SX10-180-D	11	CAT40-SX10-180-D	11
CAT40-EMM10-0250	90	CAT40-MC075-0335	38	CAT40-SD125-100	54	CAT40-SX16-090	10	CAT40-SX16-090	10
CAT40-EMM12-0250	90	CAT40-MC075-0335-KIT	48	CAT40-SD125-160	54	CAT40-SX16-090-D	11	CAT40-SX16-090-D	11
CAT40-EMM14-0250	90	CAT40-MC075-0335-S	39	CAT40-SDM03-080	55	CAT40-SX16-120	10	CAT40-SX16-120	10
CAT40-EMM16-0250	90	CAT40-MC075-0472	38	CAT40-SDM04-080	55	CAT40-SX16-120-D	11	CAT40-SX16-120-D	11
CAT40-EMM18-0250	90	CAT40-MC075-0591-S	39	CAT40-SDM06-080	55	CAT40-SX16-150	10	CAT40-SX16-150	10
CAT40-EMM20-0250	90	CAT40-MC100-0335	38	CAT40-SDM08-080	55	CAT40-SX16-150-D	11	CAT40-SX16-150-D	11
CAT40-EMM25-0300	90	CAT40-MC100-0335-KIT	48	CAT40-SDM10-080	55	CAT40-SX16-180	10	CAT40-SX16-180	10
CAT40-EMM32-0400	90	CAT40-MC100-0374-S	39	CAT40-SDM12-080	55	CAT40-SX16-180-D	11	CAT40-SX16-180-D	11
CAT40-ER11H-0250	60	CAT40-MC100-0413	38	CAT40-SDM16-080	55	CAT40-SX25-090	10	CAT40-SX25-090	10
CAT40-ER11H-0400	60	CAT40-MC100-0591-S	39	CAT40-SDM20-080	55	CAT40-SX25-120	10	CAT40-SX25-120	10
CAT40-ER11H-0600	60	CAT40-MC125-0354*	38	CAT40-SDM25-100	55	CAT40-SX25-150	10	CAT40-SX25-150	10
CAT40-ER11M-0250	59	CAT40-MC125-0354-KIT	48	CAT40-SDM32-100	55	CAT40-SX25M-0175-D	9	CAT40-SX25M-0175-D	9
CAT40-ER11M-0400	59	CAT40-MC125-0413	38	CAT40-SM075-0175	101	CAT40-SX25M-0175-D	11	CAT40-SX25M-0175-D	11
CAT40-ER16H-0250	60	CAT40-MC125-0472	38	CAT40-SM075-0175-F	101	CAT40-SX25M-090-D	9	CAT40-SX25M-090-D	9
CAT40-ER16H-0400	60	CAT40-MC125-0472-S	39	CAT40-SM075-0400	101	CAT40-SX25M-090-D	11	CAT40-SX25M-090-D	11
CAT40-ER16H-0600	60	CAT40-MC125-0591-S	39	CAT40-SM075-0400-F	101	CAT40-SX25M-120-D	9	CAT40-SX25M-120-D	9
CAT40-ER16H-0800	60	CAT40-MX06-085	29	CAT40-SM075-0600	101	CAT40-SX25M-120-D	11	CAT40-SX25M-120-D	11
CAT40-ER16M-0250	59	CAT40-MX06-150	29	CAT40-SM075-0600-F	101	CAT40-SX25M-150-D	9	CAT40-SX25M-150-D	9
CAT40-ER16M-0400	59	CAT40-MX08-085	29	CAT40-SM075-0800	101	CAT40-SX25M-150-D	11	CAT40-SX25M-150-D	11
CAT40-ER20H-0250	60	CAT40-MX08-120	29	CAT40-SM075-0800-F	101	CAT40-TB150-1000	106	CAT40-TB150-1000	106
CAT40-ER20H-0400	60	CAT40-MX08-150	29	CAT40-SM100-0200	101	CAT40-TC1-59	109	CAT40-TC1-59	109
CAT40-ER20H-0600	60	CAT40-MX12-090	29	CAT40-SM100-0200-F	101	CAT40-TC2-97	109	CAT40-TC2-97	109
CAT40-ER20H-0800	60	CAT40-MX12-120	29	CAT40-SM100-0400	101	CAT40-TC3-149	109	CAT40-TC3-149	109
CAT40-ER25-0250	60	CAT40-RT1-72	108	CAT40-SM100-0400-F	101	CAT40-TG075-0300	81	CAT40-TG075-0300	81
CAT40-ER25-0400	60	CAT40-RT2-91	108	CAT40-SM100-0600	101	CAT40-TG075-0500	81	CAT40-TG075-0500	81
CAT40-ER25-0600	60	CAT40-RT3-130	108	CAT40-SM100-0600-F	101	CAT40-TG100-0300	81	CAT40-TG100-0300	81
CAT40-ER25-0800	60	CAT40-SB100-0300	106	CAT40-SM100-0800	101	CAT40-TG100-0550	81	CAT40-TG100-0550	81

CAT50-EM062-0300 - DA100-0281

CAT50-EM062-0300	93	CAT50-EMM18-0400	91	CAT50-MA3-0709	107	CAT50-SM100-0400	102	CAT50-SX10-165	12
CAT50-EM062-0375	93	CAT50-EMM20-0400	91	CAT50-MA4-0295	107	CAT50-SM100-0400-F	103	CAT50-SX10-165-D	13
CAT50-EM062-0400	93	CAT50-EMM25-0400	91	CAT50-MA4-0709	107	CAT50-SM100-0600	102	CAT50-SX10-195	12
CAT50-EM062-0600	93	CAT50-EMM32-0400	91	CAT50-MA5-0413	107	CAT50-SM100-0600-F	103	CAT50-SX10-195-D	13
CAT50-EM062-0775	93	CAT50-ER16H-0250	61	CAT50-MA5-0709	107	CAT50-SM100-0800	102	CAT50-SX16-105	12
CAT50-EM062-1000	93	CAT50-ER16H-0400	61	CAT50-MC075-0354-S	41	CAT50-SM100-0800-F	103	CAT50-SX16-105-D	13
CAT50-EM062-1200	93	CAT50-ER16H-0600	61	CAT50-MC075-0413	40	CAT50-SM100-1000-F	103	CAT50-SX16-135	12
CAT50-EM075-0175	93	CAT50-ER16H-0800	61	CAT50-MC075-0531	40	CAT50-SM100-1000-F	102	CAT50-SX16-135-D	13
CAT50-EM075-0300	93	CAT50-ER16H-1000	61	CAT50-MC075-0650	40	CAT50-SM100-1200-F	103	CAT50-SX16-165	12
CAT50-EM075-0375	93	CAT50-ER16H-1200	61	CAT50-MC075-0650-S	41	CAT50-SM100-1200-F	102	CAT50-SX16-165-D	13
CAT50-EM075-0400	93	CAT50-ER16H-1500	61	CAT50-MC100-0315	40	CAT50-SM100-1500-F	103	CAT50-SX16-195	12
CAT50-EM075-0575	93	CAT50-ER20H-0250	61	CAT50-MC100-0354-S	41	CAT50-SM100-1500-F	102	CAT50-SX16-195-D	13
CAT50-EM075-0600	93	CAT50-ER20H-0400	61	CAT50-MC100-0413	40	CAT50-SM125-0150	102	CAT50-SX25-105	12
CAT50-EM075-0800	93	CAT50-ER20H-0600	61	CAT50-MC100-0531	40	CAT50-SM125-0150-F	103	CAT50-SX25-135	12
CAT50-EM075-1000	93	CAT50-ER20H-0800	61	CAT50-MC100-0531-S	41	CAT50-SM125-0350	102	CAT50-SX25-165	12
CAT50-EM075-1200	93	CAT50-ER20H-1500	61	CAT50-MC100-0650-S	41	CAT50-SM125-0350-F	103	CAT50-SX25-195	12
CAT50-EM075-1500	93	CAT50-ER25-0250	61	CAT50-MC125-0354	40	CAT50-SM125-0550	102	CAT50-SX25M-105-D	13
CAT50-EM087-0350	93	CAT50-ER25-0400	61	CAT50-MC125-0354-S	41	CAT50-SM125-0550-F	103	CAT50-SX25M-135-D	13
CAT50-EM087-0600	93	CAT50-ER25-0600	61	CAT50-MC125-0413	40	CAT50-SM125-0800	102	CAT50-SX25M-165-D	13
CAT50-EM087-0775	93	CAT50-ER25-0800	61	CAT50-MC125-0531	40	CAT50-SM125-0800-F	103	CAT50-SX25M-195-D	13
CAT50-EM100-0162	93	CAT50-ER25-1500	61	CAT50-MC125-0531-S	41	CAT50-SM125-1200-F	103	CAT50-TB200-1200	106
CAT50-EM100-0300	93	CAT50-ER32-0250	61	CAT50-MC125-0650	40	CAT50-SM125-1200-F	102	CAT50-TC1-59	109
CAT50-EM100-0400	93	CAT50-ER32-0400	61	CAT50-MC125-0650-S	41	CAT50-SM125-1500-F	103	CAT50-TC2-97	109
CAT50-EM100-0600	93	CAT50-ER32-0500	61	CAT50-MX08-110	29	CAT50-SM125-1500-F	102	CAT50-TC3-141	109
CAT50-EM100-0800	93	CAT50-ER32-0600	61	CAT50-MX08-165	29	CAT50-SM150-0240	102	CAT50-TG100-0350	81
CAT50-EM100-1000	93	CAT50-ER32-0800	61	CAT50-MX12-105	29	CAT50-SM150-0240-F	103	CAT50-TG100-0550	81
CAT50-EM125-0200	93	CAT50-ER32-1000	61	CAT50-MX12-165	29	CAT50-SM150-0400	102	CAT50-TG100-0750	81
CAT50-EM125-0300	93	CAT50-ER32-1200	61	CAT50-RT1-72	108	CAT50-SM150-0400-F	103	CAT50-TG150-0350	81
CAT50-EM125-0400	93	CAT50-ER32-1500	61	CAT50-RT2-91	108	CAT50-SM150-0600	102	CAT50-TG150-0550	81
CAT50-EM125-0600	93	CAT50-ER40-0400	61	CAT50-RT3-130	108	CAT50-SM150-0600-F	103	CAT50-VX08-0413	31
CAT50-EM125-0800	93	CAT50-ER40-0500	61	CAT50-SB100-0300	106	CAT50-SM150-0800	102	CAT50-VX08-0654	31
CAT50-EM125-1000	93	CAT50-ER40-0600	61	CAT50-SB125-0300	106	CAT50-SM150-0800-F	103	CAT50-VX12-0457	31
CAT50-EM150-0225	93	CAT50-ER40-0800	61	CAT50-SM075-0150	102	CAT50-SM200-0240	102	CAT50-VX12-0654	31
CAT50-EM150-0400	93	CAT50-JT01-0177	107	CAT50-SM075-0150-F	103	CAT50-SM200-0240-F	103	DA100-0063	85
CAT50-EM150-0600	93	CAT50-JT02-0177	107	CAT50-SM075-0350	102	CAT50-SM200-0400	102	DA100-0078	85
CAT50-EM150-0800	93	CAT50-JT03-0177	107	CAT50-SM075-0350-F	103	CAT50-SM200-0400-F	103	DA100-0094	85
CAT50-EM150-1000	93	CAT50-JT03-0413	107	CAT50-SM075-0550	102	CAT50-SX06-105	12	DA100-0109	85
CAT50-EM200-0362	93	CAT50-JT06-0177	107	CAT50-SM075-0550-F	103	CAT50-SX06-105-D	13	DA100-0125	85
CAT50-EM200-0562	93	CAT50-JT33-0177	107	CAT50-SM075-0800	102	CAT50-SX06-135	12	DA100-0141	85
CAT50-EM200-0800	93	CAT50-JT33-0413	107	CAT50-SM075-0800-F	103	CAT50-SX06-135-D	13	DA100-0156	85
CAT50-EM200-1000	93	CAT50-MA1-0177	107	CAT50-SM075-1000-F	103	CAT50-SX06-165	12	DA100-0172	85
CAT50-EM250-0650	93	CAT50-MA1-0472	107	CAT50-SM075-1000-F	102	CAT50-SX06-165-D	13	DA100-0188	85
CAT50-EMM06-0400	91	CAT50-MA1-0709	107	CAT50-SM075-1200-F	103	CAT50-SX06-195	12	DA100-0203	85
CAT50-EMM08-0400	91	CAT50-MA2-0177	107	CAT50-SM075-1200-F	102	CAT50-SX06-195-D	13	DA100-0219	85
CAT50-EMM10-0400	91	CAT50-MA2-0531	107	CAT50-SM075-1500-F	103	CAT50-SX10-105	12	DA100-0234	85
CAT50-EMM12-0400	91	CAT50-MA2-0709	107	CAT50-SM075-1500-F	102	CAT50-SX10-105-D	13	DA100-0250	85
CAT50-EMM14-0400	91	CAT50-MA3-0177	107	CAT50-SM100-0200	102	CAT50-SX10-135	12	DA100-0266	85
CAT50-EMM16-0400	91	CAT50-MA3-0591	107	CAT50-SM100-0200-F	103	CAT50-SX10-135-D	13	DA100-0281	85

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DA100-0297	85	DA180-0453	85	DA200-SET21	85	ER11-0187	68	ER20-0187	68
DA100-0313	85	DA180-0469	85	DA200-SET9	85	ER11-0218	68	ER20-0218	68
DA100-0328	85	DA180-0484	85	DA300-0047	85	ER11-0250	68	ER20-0250	68
DA100-0344	85	DA180-0500	85	DA300-0063	85	ER11-ISET	68	ER20-0281	68
DA100-0359	85	DA180-0516	85	DA300-0078	85	ER11-M010	70	ER20-0312	68
DA100-0375	85	DA180-0531	85	DA300-0094	85	ER11-M015	70	ER20-0344	68
DA100-0391	85	DA180-0547	85	DA300-0109	85	ER11-M020	70	ER20-0375	68
DA100-0406	85	DA180-0563	85	DA300-0125	85	ER11-M025	70	ER20-0406	68
DA100-0422	85	DA180-0578	85	DA300-0141	85	ER11-M030	70	ER20-0438	68
DA100-0438	85	DA180-0594	85	DA300-0156	85	ER11-M035	70	ER20-0469	68
DA100-0453	85	DA180-0609	85	DA300-0172	85	ER11-M040	70	ER20-0500	68
DA100-0469	85	DA180-0625	85	DA300-0188	85	ER11-M045	70	ER20-ISET	68
DA100-0484	85	DA180-0641	85	DA300-0203	85	ER11-M050	70	ER20-M010	71
DA100-0500	85	DA180-0656	85	DA300-0219	85	ER11-M055	70	ER20-M015	71
DA100-0516	85	DA180-0672	85	DA300-0234	85	ER11-M060	70	ER20-M020	71
DA100-0531	85	DA180-0688	85	DA300-0250	85	ER11-M065	70	ER20-M025	71
DA100-0547	85	DA180-0703	85	DA300-SET14	85	ER11-M070	70	ER20-M030	71
DA100-0563	85	DA180-0719	85	DA300-SET7	85	ER11-MSET	70	ER20-M035	71
DA100-SET15	85	DA180-0734	85	DAN-100	84	ER16-0062	68	ER20-M040	71
DA100-SET21	85	DA180-0750	85	DAN-180	84	ER16-0093	68	ER20-M050	71
DA100-SET29	85	DA180-SET17	85	DAN-200	84	ER16-0125	68	ER20-M060	71
DA100-SET33	85	DA180-SET21	85	DAN-300	84	ER16-0156	68	ER20-M070	71
DA100-SET8	85	DA180-SET33	85	DAW-100	84	ER16-0187	68	ER20-M080	71
DA180-0063	85	DA180-SET41	85	DAW-180	84	ER16-0218	68	ER20-M090	71
DA180-0078	85	DA180-SET9	85	DAW-200	84	ER16-0250	68	ER20-M100	71
DA180-0094	85	DA200-0047	85	DAW-300	84	ER16-0281	68	ER20-M110	71
DA180-0109	85	DA200-0063	85	DK-SM050	105	ER16-0312	68	ER20-M120	71
DA180-0125	85	DA200-0078	85	DK-SM075	105	ER16-0344	68	ER20-M130	71
DA180-0141	85	DA200-0094	85	DK-SM100	105	ER16-0375	68	ER20-MSET	70
DA180-0156	85	DA200-0109	85	DK-SM100-B	105	ER16-0406	68	ER25-0093	69
DA180-0172	85	DA200-0125	85	DK-SM125	105	ER16-ISET	68	ER25-0125	69
DA180-0188	85	DA200-0141	85	DK-SM150	105	ER16-M010	70	ER25-0156	69
DA180-0203	85	DA200-0156	85	DK-SM150-C	105	ER16-M015	70	ER25-0187	69
DA180-0219	85	DA200-0172	85	DK-SM200	105	ER16-M020	70	ER25-0218	69
DA180-0234	85	DA200-0188	85	ER08-M010	70	ER16-M025	70	ER25-0250	69
DA180-0250	85	DA200-0203	85	ER08-M015	70	ER16-M030	70	ER25-0281	69
DA180-0266	85	DA200-0219	85	ER08-M020	70	ER16-M035	70	ER25-0312	69
DA180-0281	85	DA200-0234	85	ER08-M025	70	ER16-M040	70	ER25-0344	69
DA180-0297	85	DA200-0250	85	ER08-M030	70	ER16-M050	70	ER25-0375	69
DA180-0313	85	DA200-0266	85	ER08-M035	70	ER16-M060	70	ER25-0406	69
DA180-0328	85	DA200-0281	85	ER08-M040	70	ER16-M070	70	ER25-0438	69
DA180-0344	85	DA200-0297	85	ER08-M045	70	ER16-M080	70	ER25-0469	69
DA180-0359	85	DA200-0313	85	ER08-M050	70	ER16-M090	70	ER25-0500	69
DA180-0375	85	DA200-0328	85	ER08-MSET	70	ER16-M100	70	ER25-0531	69
DA180-0391	85	DA200-0344	85	ER11-0062	68	ER16-MSET	70	ER25-0563	69
DA180-0406	85	DA200-0359	85	ER11-0093	68	ER20-0093	68	ER25-0594	69
DA180-0422	85	DA200-0375	85	ER11-0125	68	ER20-0125	68	ER25-0625	69
DA180-0438	85	DA200-SET17	85	ER11-0156	68	ER20-0156	68	ER25-ISET	68

ER25-M015 - HSK 63A-SD062-095

ER25-M015	71	ER32-M060	71	ER40-M040	71	ERW-11M	78	HSK 63A-DC13-155	106
ER25-M020	71	ER32-M070	71	ER40-M050	71	ERW-16E	78	HSK63A COOLNT TUBE	33
ER25-M025	71	ER32-M080	71	ER40-M060	71	ERW-16H	78	HSK63A-BC075-0311	5
ER25-M030	71	ER32-M090	71	ER40-M070	71	ERW-16M	26	HSK63A-BC100-0391	5
ER25-M035	71	ER32-M100	71	ER40-M080	71	ERW-16M	78	HSK63A-BC125-0433	5
ER25-M040	71	ER32-M110	71	ER40-M090	71	ERW-20E	78	HSK 63A-DC13-155	106
ER25-M050	71	ER32-M120	71	ER40-M100	71	ERW-20H	78	HSK63A-EM012-0250	96
ER25-M060	71	ER32-M130	71	ER40-M110	71	ERW-20M	78	HSK63A-EM018-0250	96
ER25-M070	71	ER32-M140	71	ER40-M120	71	ERW-25E	78	HSK63A-EM025-0250	96
ER25-M080	71	ER32-M150	71	ER40-M130	71	ERW-32E	78	HSK63A-EM031-0250	96
ER25-M090	71	ER32-M160	71	ER40-M140	71	ERW-40E	78	HSK63A-EM037-0250	96
ER25-M100	71	ER32-M170	71	ER40-M150	71	ERW-8M	78	HSK63A-EM050-0315	96
ER25-M110	71	ER32-M180	71	ER40-M160	71	HG-BASE+LEGS	112	HSK63A-EM062-0315	96
ER25-M120	71	ER32-M190	71	ER40-M170	71	HG-BT30-POT	112	HSK63A-EM075-0315	96
ER25-M130	71	ER32-M200	71	ER40-M180	71	HG-CAT40-POT	112	HSK63A-EM100-0400	96
ER25-M140	71	ER32-MSET	70	ER40-M190	71	HG-CAT50-POT	112	HSK63A-EM125-0435	96
ER25-M150	71	ER40-0125	69	ER40-M200	71	HG-HSK100A-POT	112	HSK63A-ER16H-100	64
ER25-M160	71	ER40-0156	69	ER40-M210	71	HG-HSK63A-POT	112	HSK63A-ER16H-160	64
ER25-MSET	70	ER40-0187	69	ER40-M220	71	HPS- 1	117	HSK63A-ER20H-100	64
ER32-0093	69	ER40-0218	69	ER40-M230	71	HPS- 16	117	HSK63A-ER20H-160	64
ER32-0125	69	ER40-0250	69	ER40-M240	71	HPS- 16C	117	HSK63A-ER25-100	64
ER32-0156	69	ER40-0281	69	ER40-M250	71	HPS- 17	117	HSK63A-ER25-160	64
ER32-0187	69	ER40-0312	69	ER40-M260	71	HPS- 17C	117	HSK63A-ER32-100	64
ER32-0218	69	ER40-0344	69	ER40-M270	71	HPS- 1C	117	HSK63A-ER32-160	64
ER32-0250	69	ER40-0375	69	ER40-M280	71	HPS- 2	117	HSK63A-ER40-120	64
ER32-0281	69	ER40-0406	69	ER40-M290	71	HPS- 26	117	HSK63A-ER40-150	64
ER32-0312	69	ER40-0438	69	ER40-M300	71	HPS- 26C	117	HSK63A-MC075-0374	44
ER32-0344	69	ER40-0469	69	ER40-MSET	70	HPS- 54	117	HSK63A-MC075-0433-S	44
ER32-0375	69	ER40-0500	69	ERN11-CC	76	HPS- 63	117	HSK63A-MC100-0394	44
ER32-0406	69	ER40-0531	69	ERN-11H	65	HPS-711-45	117	HSK63A-MC100-0472-S	44
ER32-0438	69	ER40-0563	69	ERN-11M	65	HPS- 72	117	HSK63A-MC125-0394	44
ER32-0469	69	ER40-0594	69	ERN16-CC	76	HPS- 72C	117	HSK63A-MC125-0472-S	44
ER32-0500	69	ER40-0625	69	ERN-16E	65	HPS-806 -1	117	HSK 63A-MX06-100	29
ER32-0531	69	ER40-0656	69	ERN-16H	65	HPS-806U-1	117	HSK 63A-MX08-100	29
ER32-0563	69	ER40-0688	69	ERN-16M	65	HPS-B61	117	HSK 63A-MX12-110	29
ER32-0594	69	ER40-0719	69	ERN20-CC	76	HPS-B64-1	117	HSK 63A-RT1-65	108
ER32-0625	69	ER40-0750	69	ERN-20E	65	HPS-D72	117	HSK 63A-RT2-98	108
ER32-0656	69	ER40-0781	69	ERN-20H	65	HPS-D92	117	HSK 63A-SD012-080	56
ER32-0688	69	ER40-0813	69	ERN-20M	65	HPS-G43	117	HSK 63A-SD012-160	56
ER32-0719	69	ER40-0844	69	ERN25-CC	76	HPS-G51	117	HSK 63A-SD018-080	56
ER32-0750	69	ER40-0875	69	ERN-25E	65	HPS-G53	117	HSK 63A-SD018-160	56
ER32-ISET	68	ER40-0906	69	ERN32-CC	76	HPS-G60	117	HSK 63A-SD025-080	56
ER32-M020	71	ER40-0938	69	ERN-32E	65	HPS-H30	117	HSK 63A-SD025-160	56
ER32-M025	71	ER40-0969	69	ERN40-CC	76	HPS-O 8	117	HSK 63A-SD037-085	56
ER32-M030	71	ER40-1000	69	ERN-40E	65	HPS-O14	117	HSK 63A-SD037-160	56
ER32-M035	71	ER40-ISET	68	ERN-8M	65	HPS-O19	117	HSK 63A-SD050-090	56
ER32-M040	71	ER40-M030	71	ERW-11H	78	HPS-P14	117	HSK 63A-SD050-160	56
ER32-M050	71	ER40-M035	71	ERW-11M	26	HSK- 63A WRENCH	78	HSK 63A-SD062-095	56

HSK 63A-SD062-160 - MX08-M090

HSK 63A-SD062-160	56	HSK63A-SX16-150	14	MC100-0500	46	MC20-0312	47	MCC100-	37
HSK 63A-SD075-100	56	HSK63A-SX25M-090	14	MC100-0562	46	MC20-0375	47	MCC125-	37
HSK 63A-SD075-160	56	HSK63A-SX25M-135	14	MC100-0625	46	MC20-0437	47	MCC125-	37
HSK 63A-SD100-115	56	HSK63A-TB150-1000	106	MC100-0750	46	MC20-0500	47	MCN075	37
HSK 63A-SD100-160	56	HSK 63A-TC1-102	109	MC100-0875	46	MC20-0562	47	MCN075	37
HSK 63A-SD125-120	56	HSK 63A-TC2-137	109	MC100-ISET	48	MC20-0625	47	MCN100	37
HSK 63A-SD125-160	56	HSK 63A-VX06-105	31	MC100-M060	46	MC20-M020	47	MCN100	37
HSK 63A-SDM03-080	57	HSK 63A-VX06-150	31	MC100-M080	46	MC20-M040	47	MCN125	37
HSK 63A-SDM03-160	57	HSK 63A-VX08-105	31	MC100-M100	46	MC20-M050	47	MCN125	37
HSK 63A-SDM04-080	57	HSK 63A-VX08-150	31	MC100-M120	46	MC20-M060	47	MCW20	26
HSK 63A-SDM04-160	57	HSK 63A-VX12-115	31	MC100-M140	46	MC20-M080	47	MCW20	26
HSK 63A-SDM06-080	57	HSK 63A-VX12-150	31	MC100-M160	46	MC20-M100	47	MCW20	49
HSK 63A-SDM06-160	57	HSK100 COOLNT TUBE	33	MC100-M180	46	MC20-M120	47	MCW-20	81
HSK 63A-SDM08-080	57	HSK100A-MC075-0453-S	45	MC100-M200	46	MC20-M140	47	MCW25	49
HSK 63A-SDM08-160	57	HSK100A-MC100-0512-S	45	MC100-MSET	48	MC20-M160	47	MCW-25	81
HSK 63A-SDM10-085	57	HSK100A-MC125-0531-S	45	MC125-0125	46	MC20-M180	47	MCW32	49
HSK 63A-SDM10-160	57	HSK100A-MC20-115-S	45	MC125-0187	46	MC32-0125	47	MX06 TRAY	35
HSK 63A-SDM12-090	57	HSK100A-MC32-135-S	45	MC125-0250	46	MC32-0187	47	MX06-0125	34
HSK 63A-SDM12-160	57	HSK100A-SX10-105	14	MC125-0312	46	MC32-0250	47	MX06-0156	34
HSK 63A-SDM16-095	57	HSK100A-SX10-150	14	MC125-0375	46	MC32-0281	47	MX06-0187	34
HSK 63A-SDM16-160	57	HSK100A-SX16-120	14	MC125-0437	46	MC32-0312	47	MX06-0218	34
HSK 63A-SDM20-100	57	HSK100A-SX16-150	14	MC125-0500	46	MC32-0343	47	MX06-0250	34
HSK 63A-SDM20-160	57	HSK100A-SX25M-095	14	MC125-0562	46	MC32-0375	47	MX06-ISET-5	35
HSK 63A-SDM25-115	57	HSK100A-SX25M-135	14	MC125-0625	46	MC32-0406	47	MX06-M020	34
HSK 63A-SDM25-160	57	HSK100A-SX25M-200	14	MC125-0687	46	MC32-0437	47	MX06-M025	34
HSK63A-SM075-0177	104	MC075-0125	46	MC125-0750	46	MC32-0500	47	MX06-M030	34
HSK63A-SM075-0177-F	104	MC075-0187	46	MC125-0812	46	MC32-0562	47	MX06-M035	34
HSK63A-SM075-0394	104	MC075-0250	46	MC125-0875	46	MC32-0625	47	MX06-M040	34
HSK63A-SM075-0394-F	104	MC075-0312	46	MC125-0937	46	MC32-0687	47	MX06-M045	34
HSK63A-SM075-0630	104	MC075-0375	46	MC125-1000	46	MC32-0750	47	MX06-M050	34
HSK63A-SM075-0630-F	104	MC075-0437	46	MC125-ISET	48	MC32-0812	47	MX06-M055	34
HSK63A-SM100-0197	104	MC075-0500	46	MC125-M030	46	MC32-0875	47	MX06-M060	34
HSK63A-SM100-0197-F	104	MC075-0562	46	MC125-M040	46	MC32-0937	47	MX06-MSET-7	35
HSK63A-SM100-0394	104	MC075-0625	46	MC125-M050	46	MC32-1000	47	MX08 TRAY	35
HSK63A-SM100-0394-F	104	MC075-ISET	48	MC125-M060	46	MC32-M060	47	MX08-0125	34
HSK63A-SM100-0630	104	MC075-M060	46	MC125-M080	46	MC32-M080	47	MX08-0156	34
HSK63A-SM100-0630-F	104	MC075-M080	46	MC125-M100	46	MC32-M100	47	MX08-0187	34
HSK63A-SM125-0236	104	MC075-M100	46	MC125-M120	46	MC32-M120	47	MX08-0250	34
HSK63A-SM125-0236-F	104	MC075-M120	46	MC125-M140	46	MC32-M140	47	MX08-0312	34
HSK63A-SM125-0394	104	MC075-M140	46	MC125-M160	46	MC32-M160	47	MX08-0375	34
HSK63A-SM125-0394-F	104	MC075-M160	46	MC125-M180	46	MC32-M180	47	MX08-ISET-6	35
HSK63A-SM150-0236	104	MC075-MSET	48	MC125-M200	46	MC32-M200	47	MX08-M030	34
HSK63A-SM150-0236-F	104	MC100-0125	46	MC125-M220	46	MC32-M220	47	MX08-M040	34
HSK63A-SX06-100	14	MC100-0187	46	MC125-M250	46	MC32-M240	47	MX08-M050	34
HSK63A-SX06-150	14	MC100-0250	46	MC125-MSET	48	MC32-M250	47	MX08-M060	34
HSK63A-SX10-105	14	MC100-0312	46	MC20-0125	47	MCC075-	37	MX08-M070	34
HSK63A-SX10-150	14	MC100-0375	46	MC20-0187	47	MCC075-	37	MX08-M080	34
HSK63A-SX16-120	14	MC100-0437	46	MC20-0250	47	MCC100-	37	MX08-M090	34

MX08-M100 - SSER25-M140

MX08-M100	34	RA2U-0652	110	S075-ER16H-0552	66	S16-SN08-140	53	SSER20-0187	72
MX08-MSET-8	35	RA2U-0688	110	S075-ER16M-0342C	67	S20-SN03-200	53	SSER20-0218	72
MX12 TRAY	35	RA2U-0697	110	S075-ER16M-0552	66	S20-SN04-200	53	SSER20-0250	72
MX12-0125	34	RA2U-0700	110	S075-ER20H-0250	66	S20-SN06-200	53	SSER20-0281	72
MX12-0187	34	RA3U-0429	110	S075-MX08-0600	32	S20-SN08-200	53	SSER20-0312	72
MX12-0250	34	RA3U-0480	110	S075-MX08-0800	32	S25-SN10-200	53	SSER20-0344	72
MX12-0312	34	RA3U-0542	110	S075-MX08-1000	32	S25-SN12-200	53	SSER20-0375	72
MX12-0375	34	RA3U-0590	110	S075-SN012-0800	52	SCW-EM01	97	SSER20-0406	72
MX12-0437	34	RA3U-0652	110	S075-SN018-0800	52	SCW-EM02	97	SSER20-0438	72
MX12-0500	34	RA3U-0688	110	S075-SN025-0800	52	SCW-EM03	97	SSER20-0469	72
MX12-ISET-7	35	RA3U-0697	110	S075-SX10M-0640	16	SCW-EM04	97	SSER20-0500	72
MX12-M030	34	RA3U-0700	110	S100-DA100-0749	84	SCW-EM05	97	SSER20-M040	73
MX12-M040	34	RA3U-0760	110	S100-EM037-0600	97	SCW-EM06	97	SSER20-M050	73
MX12-M050	34	RA3U-0800	110	S100-EM050-0600	97	SCW-EM07	97	SSER20-M060	73
MX12-M060	34	RA3U-0896	110	S100-ER20H-0552	66	SCW-EM08	97	SSER20-M070	73
MX12-M080	34	RA3U-0906	110	S100-ER20M-0331C	67	SCW-EM09	97	SSER20-M080	73
MX12-M100	34	RA3U-1021	110	S100-ER20M-0552	66	SCW-EM10	97	SSER20-M090	73
MX12-M120	34	RA3U-1108	110	S100-ER25-0197	66	SCW-EM11	97	SSER20-M100	73
MX12-MSET-7	35	RA3U-1125	110	S100-ER32-0197	66	SCW-EM12	97	SSER20-M110	73
MXW05	33	RW-V2-25	114	S100-ER40-0197	66	SCW-EM13	97	SSER20-M120	73
RA1D-M060X049	110	RW-V2-50	114	S100-MX12-0600	32	SCW-SM050	105	SSER20-M130	73
RA1D-M070X055	110	RW-V2-T25	114	S100-MX12-0800	32	SCW-SM050-SM	105	SSER25-0156	72
RA1D-M080X062	110	RW-V2-T50	114	S100-RT1-0158	108	SCW-SM075	105	SSER25-0187	72
RA1D-M090X070	110	S037-ER08M-0394	66	S100-RT2-0237	108	SCW-SM075-SM	105	SSER25-0218	72
RA1J-M080X060	110	S037-SN012-0315	52	S100-SD025-0800	52	SCW-SM100	105	SSER25-0250	72
RA1U-0141	110	S037-SN018-0315	52	S100-SD031-0800	52	SCW-SM100-SM	105	SSER25-0281	72
RA1U-0168	110	S050-DA300-0683	84	S100-SD037-0800	52	SCW-SM125	105	SSER25-0312	72
RA1U-0194	110	S050-ER11H-0552	66	S100-SD050-0800	52	SCW-SM150	105	SSER25-0344	72
RA1U-0220	110	S050-ER11M-0552	66	S100-SN037-0800	52	SCW-SM200	105	SSER25-0375	72
RA1U-0255	110	S050-ER16M-0552	66	S100-SN050-0800	52	SSER16-0093	72	SSER25-0406	72
RA1U-0313	110	S050-MX06-0400	32	S100-TC1-0158	109	SSER16-0125	72	SSER25-0438	72
RA1U-0318	110	S050-MX06-0600	32	S100-TC2-0256	109	SSER16-0156	72	SSER25-0469	72
RA1U-0323	110	S050-SN025-0315	52	S10-SN03-080	53	SSER16-0187	72	SSER25-0500	72
RA1U-0367	110	S050-SX06M-0552	16	S10-SN04-080	53	SSER16-0218	72	SSER25-0531	72
RA1U-0381	110	S062-ER11H-0552	66	S125-DA180-0749	84	SSER16-0250	72	SSER25-0563	72
RA1U-0429	110	S062-ER11M-0552	66	S125-ER25-0236NC	67	SSER16-0281	72	SSER25-0594	72
RA1U-0438	110	S062-ER16H-0236	66	S125-ER32-0236	66	SSER16-0312	72	SSER25-0625	72
RA2D-M120X090	110	S075-DA200-0709	84	S125-ER32-0236C	67	SSER16-0344	72	SSER25-M040	73
RA2U-0318	110	S075-EM012-0600	97	S125-ER32-0236NC	67	SSER16-0375	72	SSER25-M050	73
RA2U-0323	110	S075-EM018-0600	97	S125-ER32-0552	66	SSER16-0406	72	SSER25-M060	73
RA2U-0367	110	S075-EM025-0600	97	S125-ER40-0236NC	67	SSER16-M040	73	SSER25-M070	73
RA2U-0381	110	S075-EM031-0600	97	S125-RT3-0375	108	SSER16-M050	73	SSER25-M080	73
RA2U-0429	110	S075-ER11M-0173DE	67	S125-TC3-0504	109	SSER16-M060	73	SSER25-M090	73
RA2U-0438	110	S075-ER11M-0256DE	67	S150-ER32-0315NC	67	SSER16-M070	73	SSER25-M100	73
RA2U-0480	110	S075-ER11M-0303DE	67	S150-ER40-0295NC	67	SSER16-M080	73	SSER25-M110	73
RA2U-0542	110	S075-ER11M-0392DE	67	S16-SN03-140	53	SSER16-M090	73	SSER25-M120	73
RA2U-0563	110	S075-ER16H-0197	66	S16-SN04-140	53	SSER16-M100	73	SSER25-M130	73
RA2U-0590	110	S075-ER16H-0394	66	S16-SN06-140	53	SSER20-0156	72	SSER25-M140	73

SSER25-M150 - SX16-M060

SSER25-M150	73	SSER40-0438	72	SSX06-M040	24	SSX25-0750	24	SX10-M020	22
SSER25-M160	73	SSER40-0469	72	SSX06-M040-C	25	SSX25-0750-C	25	SX10-M0225	22
SSER32-0156	72	SSER40-0500	72	SSX06-M050	24	SSX25-0875	24	SX10-M025	22
SSER32-0187	72	SSER40-0531	72	SSX06-M050-C	25	SSX25-0875-C	25	SX10-M0275	22
SSER32-0219	72	SSER40-0563	72	SSX06-M060	24	SSX25-1000	24	SX10-M030	22
SSER32-0250	72	SSER40-0594	72	SSX06-M060-C	25	SSX25-1000-C	25	SX10-M035	22
SSER32-0281	72	SSER40-0625	72	SSX10-0187	24	SSX25-M160	24	SX10-M040	22
SSER32-0312	72	SSER40-0656	72	SSX10-0187-C	25	SSX25-M160-C	25	SX10-M045	22
SSER32-0344	72	SSER40-0688	72	SSX10-0250	24	SSX25-M200	24	SX10-M050	22
SSER32-0375	72	SSER40-0719	72	SSX10-0250-C	25	SSX25-M200-C	25	SX10-M055	22
SSER32-0406	72	SSER40-0750	72	SSX10-0312	24	SSX25-M250	24	SX10-M060	22
SSER32-0438	72	SSER40-0781	72	SSX10-0312-C	25	SSX25-M250-C	25	SX10-M065	22
SSER32-0469	72	SSER40-0812	72	SSX10-0375	24	SX06 TRAY	20	SX10-M070	22
SSER32-0500	72	SSER40-0844	72	SSX10-0375-C	25	SX06-0125	21	SX10-M075	22
SSER32-0531	72	SSER40-0875	72	SSX10-M040	24	SX06-0156	21	SX10-M080	22
SSER32-0563	72	SSER40-0906	72	SSX10-M040-C	25	SX06-0187	21	SX10-M085	22
SSER32-0594	72	SSER40-0937	72	SSX10-M050	24	SX06-0218	21	SX10-M090	22
SSER32-0625	72	SSER40-0969	72	SSX10-M050-C	25	SX06-0250	21	SX10-M095	22
SSER32-0656	72	SSER40-1000	72	SSX10-M060	24	SX06-iSET-05	20	SX10-M100	22
SSER32-0688	72	SSER40-M060	73	SSX10-M060-C	25	SX06-M008	22	SX10-MSET-08	20
SSER32-0719	72	SSER40-M070	73	SSX10-M080	24	SX06-M010	22	SX10-MSET-15	20
SSER32-0750	72	SSER40-M080	73	SSX10-M080-C	25	SX06-M0125	22	SX16 TRAY	20
SSER32-M040	73	SSER40-M090	73	SSX10-M100	24	SX06-M015	22	SX16-0125	21
SSER32-M050	73	SSER40-M100	73	SSX10-M100-C	25	SX06-M0175	22	SX16-0156	21
SSER32-M060	73	SSER40-M110	73	SSX16-0250	24	SX06-M020	22	SX16-0187	21
SSER32-M070	73	SSER40-M120	73	SSX16-0250-C	25	SX06-M0225	22	SX16-0218	21
SSER32-M080	73	SSER40-M130	73	SSX16-0312	24	SX06-M025	22	SX16-0250	21
SSER32-M090	73	SSER40-M140	73	SSX16-0312-C	25	SX06-M0275	22	SX16-0281	21
SSER32-M100	73	SSER40-M150	73	SSX16-0375	24	SX06-M030	22	SX16-0312	21
SSER32-M110	73	SSER40-M160	73	SSX16-0375-C	25	SX06-M035	22	SX16-0343	21
SSER32-M120	73	SSER40-M170	73	SSX16-0437	24	SX06-M040	22	SX16-0375	21
SSER32-M130	73	SSER40-M180	73	SSX16-0437-C	25	SX06-M045	22	SX16-0406	21
SSER32-M140	73	SSER40-M190	73	SSX16-0500	24	SX06-M050	22	SX16-0437	21
SSER32-M150	73	SSER40-M200	73	SSX16-0500-C	25	SX06-M055	22	SX16-0468	21
SSER32-M160	73	SSER40-M210	73	SSX16-0562	24	SX06-M060	22	SX16-0500	21
SSER32-M170	73	SSER40-M220	73	SSX16-0562-C	25	SX06-MSET-07	20	SX16-0531	21
SSER32-M180	73	SSER40-M230	73	SSX16-0625	24	SX10 TRAY	20	SX16-0562	21
SSER32-M190	73	SSER40-M240	73	SSX16-0625-C	25	SX10-0125	21	SX16-0593	21
SSER32-M200	73	SSER40-M250	73	SSX16-M060	24	SX10-0156	21	SX16-0625	21
SSER40-0156	72	SSER40-M260	73	SSX16-M060-C	25	SX10-0187	21	SX16-iSET-09	20
SSER40-0187	72	SSX06-0125	24	SSX16-M080	24	SX10-0218	21	SX16-iSET-17	20
SSER40-0218	72	SSX06-0125-C	25	SSX16-M080-C	25	SX10-0250	21	SX16-M030	23
SSER40-0250	72	SSX06-0187	24	SSX16-M100	24	SX10-0281	21	SX16-M035	23
SSER40-0281	72	SSX06-0187-C	25	SSX16-M100-C	25	SX10-0312	21	SX16-M040	23
SSER40-0312	72	SSX06-0250	24	SSX16-M120	24	SX10-0343	21	SX16-M045	23
SSER40-0344	72	SSX06-0250-C	25	SSX16-M120-C	25	SX10-0375	21	SX16-M050	23
SSER40-0375	72	SSX06-M030	24	SSX16-M160	24	SX10-iSET-05	20	SX16-M055	23
SSER40-0406	72	SSX06-M030-C	25	SSX16-M160-C	25	SX10-iSET-09	20	SX16-M060	23

SX16-M065 - SXC16-M130

SX16-M065	23	SX25-0906	21	SX25-M235	23	SXC10-M015	19	SXC16-0500	18
SX16-M070	23	SX25-0937	21	SX25-M240	23	SXC10-M015	77	SXC16-0500	76
SX16-M075	23	SX25-0968	21	SX25-M245	23	SXC10-M020	19	SXC16-0562	18
SX16-M080	23	SX25-1000	21	SX25-M250	23	SXC10-M020	77	SXC16-0562	76
SX16-M085	23	SX25-iSET-08	20	SX25-MSET-10	20	SXC10-M025	19	SXC16-0625	18
SX16-M090	23	SX25-iSET-15	20	SX25-MSET-19	20	SXC10-M025	77	SXC16-0625	76
SX16-M095	23	SX25-iSET-29	20	SX25-MSET-23	20	SXC10-M030	19	SXC16-M030	19
SX16-M100	23	SX25-M030	23	SX25-MSET-45	20	SXC10-M030	77	SXC16-M030	77
SX16-M105	23	SX25-M035	23	SXC06-0125	18	SXC10-M035	19	SXC16-M035	19
SX16-M110	23	SX25-M040	23	SXC06-0125	76	SXC10-M035	77	SXC16-M035	77
SX16-M115	23	SX25-M045	23	SXC06-0187	18	SXC10-M040	19	SXC16-M040	19
SX16-M120	23	SX25-M050	23	SXC06-0187	76	SXC10-M040	77	SXC16-M040	77
SX16-M125	23	SX25-M055	23	SXC06-0250	18	SXC10-M045	19	SXC16-M045	19
SX16-M130	23	SX25-M060	23	SXC06-0250	76	SXC10-M045	77	SXC16-M045	77
SX16-M135	23	SX25-M065	23	SXC06-M010	19	SXC10-M050	19	SXC16-M050	19
SX16-M140	23	SX25-M070	23	SXC06-M010	77	SXC10-M050	77	SXC16-M050	77
SX16-M145	23	SX25-M075	23	SXC06-M015	19	SXC10-M055	19	SXC16-M055	19
SX16-M150	23	SX25-M080	23	SXC06-M015	77	SXC10-M055	77	SXC16-M055	77
SX16-M155	23	SX25-M085	23	SXC06-M020	19	SXC10-M060	19	SXC16-M060	19
SX16-M160	23	SX25-M090	23	SXC06-M020	77	SXC10-M060	77	SXC16-M060	77
SX16-MSET-14	20	SX25-M095	23	SXC06-M025	19	SXC10-M065	19	SXC16-M065	19
SX16-MSET-27	20	SX25-M100	23	SXC06-M025	77	SXC10-M065	77	SXC16-M065	77
SX25 TRAY	20	SX25-M105	23	SXC06-M030	19	SXC10-M070	19	SXC16-M070	19
SX25-0125	21	SX25-M110	23	SXC06-M030	77	SXC10-M070	77	SXC16-M070	77
SX25-0156	21	SX25-M115	23	SXC06-M035	19	SXC10-M075	19	SXC16-M075	19
SX25-0187	21	SX25-M120	23	SXC06-M035	77	SXC10-M075	77	SXC16-M075	77
SX25-0218	21	SX25-M125	23	SXC06-M040	19	SXC10-M080	19	SXC16-M080	19
SX25-0250	21	SX25-M130	23	SXC06-M040	77	SXC10-M080	77	SXC16-M080	77
SX25-0281	21	SX25-M135	23	SXC06-M045	19	SXC10-M085	19	SXC16-M085	19
SX25-0312	21	SX25-M140	23	SXC06-M045	77	SXC10-M085	77	SXC16-M085	77
SX25-0343	21	SX25-M145	23	SXC06-M050	19	SXC10-M090	19	SXC16-M090	19
SX25-0375	21	SX25-M150	23	SXC06-M050	77	SXC10-M090	77	SXC16-M090	77
SX25-0406	21	SX25-M155	23	SXC06-M055	19	SXC10-M095	19	SXC16-M095	19
SX25-0437	21	SX25-M160	23	SXC06-M055	77	SXC10-M095	77	SXC16-M095	77
SX25-0468	21	SX25-M165	23	SXC06-M060	19	SXC10-M100	19	SXC16-M100	19
SX25-0500	21	SX25-M170	23	SXC06-M060	77	SXC10-M100	77	SXC16-M100	77
SX25-0531	21	SX25-M175	23	SXC10-0125	18	SXC16-0125	18	SXC16-M105	19
SX25-0562	21	SX25-M180	23	SXC10-0125	76	SXC16-0125	76	SXC16-M105	77
SX25-0593	21	SX25-M185	23	SXC10-0187	18	SXC16-0187	18	SXC16-M110	19
SX25-0625	21	SX25-M190	23	SXC10-0187	76	SXC16-0187	76	SXC16-M110	77
SX25-0656	21	SX25-M195	23	SXC10-0250	18	SXC16-0250	18	SXC16-M115	19
SX25-0687	21	SX25-M200	23	SXC10-0250	76	SXC16-0250	76	SXC16-M115	77
SX25-0718	21	SX25-M205	23	SXC10-0312	18	SXC16-0312	18	SXC16-M120	19
SX25-0750	21	SX25-M210	23	SXC10-0312	76	SXC16-0312	76	SXC16-M120	77
SX25-0781	21	SX25-M215	23	SXC10-0375	18	SXC16-0375	18	SXC16-M125	19
SX25-0812	21	SX25-M220	23	SXC10-0375	76	SXC16-0375	76	SXC16-M125	77
SX25-0843	21	SX25-M225	23	SXC10-M010	19	SXC16-0437	18	SXC16-M130	19
SX25-0875	21	SX25-M230	23	SXC10-M010	77	SXC16-0437	76	SXC16-M130	77

SXC16-M135 - TER25-437

SXC16-M135	19	SXC25-M065	19	SXC25-M185	19	SXR-25	17	TC3U-0800	111
SXC16-M135	77	SXC25-M065	77	SXC25-M185	77	SXW-06H	26	TC3U-0896	111
SXC16-M140	19	SXC25-M070	19	SXC25-M190	19	SXW-10H	26	TC3U-0906	111
SXC16-M140	77	SXC25-M070	77	SXC25-M190	77	SXW-16S	26	TC3U-1021	111
SXC16-M145	19	SXC25-M075	19	SXC25-M195	19	SXW-CC	26	TC3U-1108	111
SXC16-M145	77	SXC25-M075	77	SXC25-M195	77	TB-BASE	113	TC3U-1125	111
SXC16-M150	19	SXC25-M080	19	SXC25-M200	19	TB-BT30 HEAD	113	TER16-141	74
SXC16-M150	77	SXC25-M080	77	SXC25-M200	77	TB-CAT40 HEAD	113	TER16-168	74
SXC16-M155	19	SXC25-M085	19	SXC25-M205	19	TB-CAT50 HEAD	113	TER16-194	74
SXC16-M155	77	SXC25-M085	77	SXC25-M205	77	TB-HSK100A HEAD	113	TER16-220	74
SXC16-M160	19	SXC25-M090	19	SXC25-M210	19	TB-HSK32A HEAD	113	TER16-255	74
SXC16-M160	77	SXC25-M090	77	SXC25-M210	77	TB-HSK40A HEAD	113	TER16D-035	75
SXC25-0125	76	SXC25-M095	19	SXC25-M215	19	TB-HSK50A HEAD	113	TER16D-040	75
SXC25-0187	18	SXC25-M095	77	SXC25-M215	77	TB-HSK63A HEAD	113	TER16D-045	75
SXC25-0187	76	SXC25-M100	19	SXC25-M220	19	TC1U-0141	111	TER16D-055	75
SXC25-0250	18	SXC25-M100	77	SXC25-M220	77	TC1U-0168	111	TER16D-060	75
SXC25-0250	76	SXC25-M105	19	SXC25-M225	19	TC1U-0194	111	TER16D-070	75
SXC25-0312	18	SXC25-M105	77	SXC25-M225	77	TC1U-0220	111	TER16D-080	75
SXC25-0312	76	SXC25-M110	19	SXC25-M230	19	TC1U-0255	111	TER16D-090	75
SXC25-0375	18	SXC25-M110	77	SXC25-M230	77	TC1U-0313	111	TER16D-100	75
SXC25-0375	76	SXC25-M115	19	SXC25-M235	19	TC1U-0318	111	TER20-141	74
SXC25-0437	18	SXC25-M115	77	SXC25-M235	77	TC1U-0323	111	TER20-168	74
SXC25-0437	76	SXC25-M120	19	SXC25-M240	19	TC1U-0367	111	TER20-194	74
SXC25-0500	18	SXC25-M120	77	SXC25-M240	77	TC1U-0381	111	TER20-220	74
SXC25-0500	76	SXC25-M125	19	SXC25-M245	19	TC1U-0429	111	TER20-255	74
SXC25-0562	18	SXC25-M125	77	SXC25-M245	77	TC1U-0438	111	TER20-318	74
SXC25-0562	76	SXC25-M130	19	SXC25-M250	19	TC2U-0318	111	TER20-323	74
SXC25-0625	18	SXC25-M130	77	SXC25-M250	77	TC2U-0323	111	TER20-367	74
SXC25-0625	76	SXC25-M135	19	SXC25-M254	18	TC2U-0367	111	TER20-381	74
SXC25-0750	18	SXC25-M135	77	SXCN-06	18	TC2U-0381	111	TER20D-040	75
SXC25-0750	76	SXC25-M140	19	SXCN-10	18	TC2U-0429	111	TER20D-045	75
SXC25-0875	18	SXC25-M140	77	SXCN-16	18	TC2U-0480	111	TER20D-055	75
SXC25-0875	76	SXC25-M145	19	SXCN-25	18	TC2U-0542	111	TER20D-060	75
SXC25-1000	76	SXC25-M145	77	SXN-06H	16	TC2U-0563	111	TER20D-070	75
SXC25-M030	19	SXC25-M150	19	SXN-06M	16	TC2U-0590	111	TER20D-080	75
SXC25-M030	77	SXC25-M150	77	SXN-10H	16	TC2U-0652	111	TER20D-090	75
SXC25-M035	19	SXC25-M155	19	SXN-10M	16	TC2U-0688	111	TER20D-100	75
SXC25-M035	77	SXC25-M155	77	SXN-16S	16	TC2U-0697	111	TER25-141	74
SXC25-M040	19	SXC25-M160	19	SXN-25M	9	TC2U-0700	111	TER25-168	74
SXC25-M040	77	SXC25-M160	77	SXN-25M	16	TC3U-0429	111	TER25-194	74
SXC25-M045	19	SXC25-M165	19	SXN-25MB	9	TC3U-0480	111	TER25-220	74
SXC25-M045	77	SXC25-M165	77	SXN-25MB	16	TC3U-0542	111	TER25-255	74
SXC25-M050	19	SXC25-M170	19	SXN-25S	9	TC3U-0590	111	TER25-318	74
SXC25-M050	77	SXC25-M170	77	SXN-25S	16	TC3U-0652	111	TER25-323	74
SXC25-M055	19	SXC25-M175	19	SXR-06	17	TC3U-0688	111	TER25-367	74
SXC25-M055	77	SXC25-M175	77	SXR-06M	17	TC3U-0697	111	TER25-381	74
SXC25-M060	19	SXC25-M180	19	SXR-10	17	TC3U-0700	111	TER25-429	74
SXC25-M060	77	SXC25-M180	77	SXR-16	17	TC3U-0760	111	TER25-437	74

TER25-480 - TG150-1328

TER25-480	74	TER40-318	74	TG075-0406	82	TG100-0438	83	TG150-0594	83
TER25D-035	75	TER40-323	74	TG075-0422	82	TG100-0453	83	TG150-0609	83
TER25D-040	75	TER40-367	74	TG075-0438	82	TG100-0469	83	TG150-0625	83
TER25D-045	75	TER40-381	74	TG075-0453	82	TG100-0484	83	TG150-0641	83
TER25D-055	75	TER40-429	74	TG075-0469	82	TG100-0500	83	TG150-0656	83
TER25D-060	75	TER40-437	74	TG075-0484	82	TG100-0516	83	TG150-0672	83
TER25D-070	75	TER40-480	74	TG075-0500	82	TG100-0531	83	TG150-0688	83
TER25D-080	75	TER40-542	74	TG075-0516	82	TG100-0547	83	TG150-0703	83
TER25D-090	75	TER40-562	74	TG075-0531	82	TG100-0563	83	TG150-0719	83
TER25D-100	75	TER40-590	74	TG075-0547	82	TG100-0578	83	TG150-0734	83
TER25D-110	75	TER40-652	74	TG075-0563	82	TG100-0594	83	TG150-0750	83
TER25D-120	75	TER40-687	74	TG075-0578	82	TG100-0609	83	TG150-0766	83
TER25D-140	75	TER40-697	74	TG075-0594	82	TG100-0625	83	TG150-0781	83
TER25D-160	75	TER40-700	74	TG075-0609	82	TG100-0641	83	TG150-0797	83
TER32-141	74	TER40-760	74	TG075-0625	82	TG100-0656	83	TG150-0813	83
TER32-168	74	TER40-800	74	TG075-0641	82	TG100-0672	83	TG150-0828	83
TER32-194	74	TER40D-060	75	TG075-0656	82	TG100-0688	83	TG150-0844	83
TER32-220	74	TER40D-070	75	TG075-0672	82	TG100-0703	83	TG150-0859	83
TER32-255	74	TER40D-080	75	TG075-0688	82	TG100-0719	83	TG150-0875	83
TER32-318	74	TER40D-090	75	TG075-0703	82	TG100-0734	83	TG150-0891	83
TER32-323	74	TER40D-100	75	TG075-0719	82	TG100-0750	83	TG150-0906	83
TER32-367	74	TER40D-110	75	TG075-0734	82	TG100-0766	83	TG150-0922	83
TER32-381	74	TER40D-120	75	TG075-0750	82	TG100-0781	83	TG150-0938	83
TER32-429	74	TER40D-140	75	TG075-SET11	82	TG100-0797	83	TG150-0953	83
TER32-437	74	TER40D-160	75	TG075-SET22	82	TG100-0813	83	TG150-0969	83
TER32-480	74	TER40D-180	75	TG075-SET43	82	TG100-0828	83	TG150-0984	83
TER32-542	74	TER40D-200	75	TG100-0094	83	TG100-0844	83	TG150-1000	83
TER32-562	74	TER40D-220	75	TG100-0109	83	TG100-0859	83	TG150-1016	83
TER32-590	74	TG075-0094	82	TG100-0125	83	TG100-0875	83	TG150-1031	83
TER32-652	74	TG075-0109	82	TG100-0141	83	TG100-0891	83	TG150-1047	83
TER32D-045	75	TG075-0125	82	TG100-0156	83	TG100-0906	83	TG150-1063	83
TER32D-055	75	TG075-0141	82	TG100-0172	83	TG100-0922	83	TG150-1078	83
TER32D-060	75	TG075-0156	82	TG100-0188	83	TG100-0938	83	TG150-1094	83
TER32D-070	75	TG075-0172	82	TG100-0203	83	TG100-0953	83	TG150-1109	83
TER32D-080	75	TG075-0188	82	TG100-0219	83	TG100-0969	83	TG150-1125	83
TER32D-090	75	TG075-0203	82	TG100-0234	83	TG100-0984	83	TG150-1141	83
TER32D-100	75	TG075-0219	82	TG100-0250	83	TG100-1000	83	TG150-1156	83
TER32D-110	75	TG075-0234	82	TG100-0266	83	TG100-SET15	82	TG150-1172	83
TER32D-120	75	TG075-0250	82	TG100-0281	83	TG100-SET21	82	TG150-1188	83
TER32D-140	75	TG075-0266	82	TG100-0297	83	TG100-SET30	82	TG150-1203	83
TER32D-160	75	TG075-0281	82	TG100-0313	83	TG100-SET41	82	TG150-1219	83
TER32D-180	75	TG075-0297	82	TG100-0328	83	TG100-SET59	82	TG150-1234	83
TER32D-200	75	TG075-0313	82	TG100-0344	83	TG150-0500	83	TG150-1250	83
TER40-141	74	TG075-0328	82	TG100-0359	83	TG150-0516	83	TG150-1266	83
TER40-168	74	TG075-0344	82	TG100-0375	83	TG150-0531	83	TG150-1281	83
TER40-194	74	TG075-0359	82	TG100-0391	83	TG150-0547	83	TG150-1297	83
TER40-220	74	TG075-0375	82	TG100-0406	83	TG150-0563	83	TG150-1313	83
TER40-255	74	TG075-0391	82	TG100-0422	83	TG150-0578	83	TG150-1328	83

TG150-1344 - VXW12

TG150-1344	83	TWH-ER40E	79
TG150-1359	83	TWH-SX06	27
TG150-1375	83	TWH-SX10	27
TG150-1391	83	TWH-SX16	27
TG150-1406	83	TWH-SX25	27
TG150-1422	83	TWH-VX12	33
TG150-1438	83	TWS-075	115
TG150-1453	83	TWS-118	115
TG150-1469	83	TWS-125	115
TG150-1484	83	TWS-M13	115
TG150-1500	83	TWS-M17	115
TG150-SET17	82	TWS-M19	115
TG150-SET33	82	TWS-M30	115
TG150-SET65	82	VXW12	33
TGN-075	81		
TGN-075-CC	81		
TGN-100	81		
TGN-100-CC	81		
TGN-150	81		
TGW-150	81		
TLD-BT30	112		
TLD-BT40	112		
TLD-CAT40	112		
TLD-CAT50	112		
TUBE-063A	64		
TUBE-100A	64		
TW-060	27		
TW-060	79		
TW-100	27		
TW-100	79		
TW-200	27		
TW-200	33		
TW-200	79		
TW-300	27		
TW-300	79		
TWH-ER08M	79		
TWH-ER11H	79		
TWH-ER11M	27		
TWH-ER11M	79		
TWH-ER16E	79		
TWH-ER16H	79		
TWH-ER16M	27		
TWH-ER16M	79		
TWH-ER20E	79		
TWH-ER20H	79		
TWH-ER20M	79		
TWH-ER25E	79		
TWH-ER32E	79		



CAT40 Professional Pack

56 Piece Tooling Package | Dynamically Balanced for up to 20,000 RPM's | Optional Jet-Blast



ER Collet Chucks

QTY	PART NUMBER	DESCRIPTION
2	CAT40-ER16-0250	CAT40 ER16 COLLET CHUCKS 2.50"
3	CAT40-ER32-0250	CAT40 ER32 COLLET CHUCKS 2.50"



ER Collets

QTY	PART NUMBER	DESCRIPTION
1	ER16-iSET	10 COLLETS 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8
1	ER32-iSET	18 COLLETS 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 13/32, 7/16, 15/32, 1/2, 17/32, 9/16, 19/32, 5/8, 21/32, 11/16, 23/32, 3/4



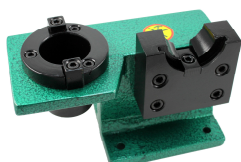
Retention Knobs

QTY	PART NUMBER	DESCRIPTION
12	HPS-72C	MAS403 Type 1 (45°) Coolant Thru



Wrench's

QTY	PART NUMBER	DESCRIPTION
1	ERW-16H	ER16 WRENCH
1	ERW-32E	ER32 WRENCH
1	BCW-20	3/4 BC MILL CHUCK WRENCH



Locking Fixture

QTY	PART NUMBER	DESCRIPTION
1	TLD-CAT40	CAT40 LOCKING FIXTURE



End Mill Adapters

QTY	PART NUMBER	DESCRIPTION
1	CAT40-EM037-0250	CAT40 3/8 END MILL X 2.50"
1	CAT40-EM050-0250	CAT40 1/2 END MILL X 2.50"
1	CAT40-EM062-0250	CAT40 5/8 END MILL X 2.50"
1	CAT40-EM075-0250	CAT40 3/4 END MILL X 2.50"
1	CAT40-EM100-0300	CAT40 1" END MILL X 3.00"

What is Jet-Blast?

Coolant Ports for around solid cutters.



I want Jet-Blast!

YES ☐

NO ☐



Shell Mill Adapter

QTY	PART NUMBER	DESCRIPTION
1	CAT40-SM075-0175-F	CAT40 3/4 SHELL MILL 1.75" COOLANT THRU FOR PORTED CUTTERS



BC Mill Chuck

QTY	PART NUMBER	DESCRIPTION
1	CAT40-BC075-0283	CAT40 3/4 MILL CHUCK BEARINGLESS - COOLANT THRU

Sorry no substitutions, additions or subtractions from the items in this package. Subject to change without notice.

CAT40 FlexPack-12

Pick **6** Collet Chucks, **6** End Mill Adapters, your choice from the list below @ Package Price. Receive **1 Collet Set** and **1 Locking Fixture** **FREE!**

- Add Optional *Jet-Blast* to the End Mill Holders
- Contact your local sales for current Package Pricing.

- ✓ **The Highest Quality**
All Holders Ground @ $\leq 0.0001"$ Taper to Bore
Exceed AT3 Taper Tolerances
- ✓ **The Best Balance**
Dynamically Balanced to 20,000 RPM's
- ✓ **Coolant Thru the Center & DIN AD+B Flange Coolant STANDARD!**



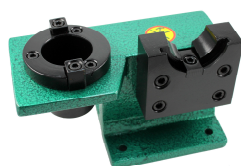
Choose 6 from the list below, mix or match:

QTY	PART NUMBER	DESCRIPTION
	CAT40-ER11H-0250	CAT40-ER11 X 2.50"
	CAT40-ER11H-0400	CAT40-ER11 X 4.00"
	CAT40-ER16H-0250	CAT40-ER16 X 2.50"
	CAT40-ER16H-0400	CAT40-ER16 X 4.00"
	CAT40-ER20H-0250	CAT40-ER20 X 2.50"
	CAT40-ER20H-0400	CAT40-ER20 X 4.00"
	CAT40-ER25-0250	CAT40-ER25 X 2.50"
	CAT40-ER25-0400	CAT40-ER25 X 4.00"
	CAT40-ER32-0250	CAT40-ER32 X 2.50"
	CAT40-ER32-0400	CAT40-ER32 X 4.00"
	CAT40-ER40-0250	CAT40-ER40 X 2.50"



Choose 1 from the list below FREE:

Select	PART NUMBER	DESCRIPTION
	ER11 ISET 7PCS	ER11 INCH SET 7 PIECES
	ER11 MSET 13PCS	ER11 METRIC SET 13 PIECES
	ER16 ISET 10PCS	ER16 INCH SET 10 PIECES
	ER16 MSET 10PCS	ER16 METRIC SET 10 PIECES
	ER20 ISET 12PCS	ER20 INCH SET 12 PIECES
	ER20 MSET 12PCS	ER20 METRIC SET 12 PIECES
	ER25 ISET 15PCS	ER25 INCH SET 15 PIECES
	ER25 MSET 15PCS	ER25 METRIC SET 15 PIECES
	ER32 ISET 18PCS	ER32 INCH SET 18 PIECES
	ER32 MSET 18PCS	ER32 METRIC SET 18 PIECES
	ER40 ISET 13PCS	ER40 INCH SET 13 PIECES



Locking Fixture FREE:

PART NUMBER	DESCRIPTION
TLD-CAT40	CAT40 Locking Fixture

What is Jet-Blast?

Coolant Ports for around solid cutters.



I want Jet-Blast on my End Mill Adapters

☐ YES

☐ NO



Choose 6 from the list below, mix or match:

QTY	PART NUMBER	DESCRIPTION
	CAT40-EM012-0250	CAT40 1/8 END MILL X 2.50"
	CAT40-EM018-0250	CAT40 3/16 END MILL X 2.50"
	CAT40-EM025-0250	CAT40 1/4 END MILL X 2.50"
	CAT40-EM025-0400	CAT40 1/4 END MILL X 4.00"
	CAT40-EM031-0250	CAT40 5/16 END MILL X 2.50"
	CAT40-EM031-0400	CAT40 5/16 END MILL X 4.00"
	CAT40-EM037-0250	CAT40 3/8 END MILL X 2.50"
	CAT40-EM037-0400	CAT40 3/8 END MILL X 4.00"
	CAT40-EM050-0250	CAT40 1/2 END MILL X 2.50"
	CAT40-EM050-0262	CAT40 1/2 END MILL X 2.62"
	CAT40-EM050-0400	CAT40 1/2 END MILL X 4.00"
	CAT40-EM062-0250	CAT40 5/8 END MILL X 2.50"
	CAT40-EM062-0300	CAT40 5/8 END MILL X 3.00"
	CAT40-EM062-0400	CAT40 5/8 END MILL X 4.00"
	CAT40-EM075-0250	CAT40 3/4 END MILL X 2.50"
	CAT40-EM075-0300	CAT40 3/4 END MILL X 3.00"
	CAT40-EM075-0350	CAT40 3/4 END MILL X 3.50"
	CAT40-EM075-0400	CAT40 3/4 END MILL X 4.00"
	CAT40-EM087-0350	CAT40 7/8 END MILL X 3.50"
	CAT40-EM100-0300	CAT40 1" END MILL X 3.00"
	CAT40-EM100-0400	CAT40 1" END MILL X 4.00"

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The Pioneer Group



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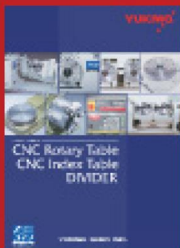
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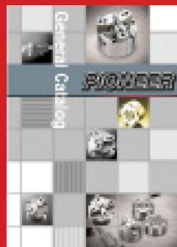
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