PIONEER

PREMIUM TOOL HOLDING SYSTEMS

What is Dual Contact

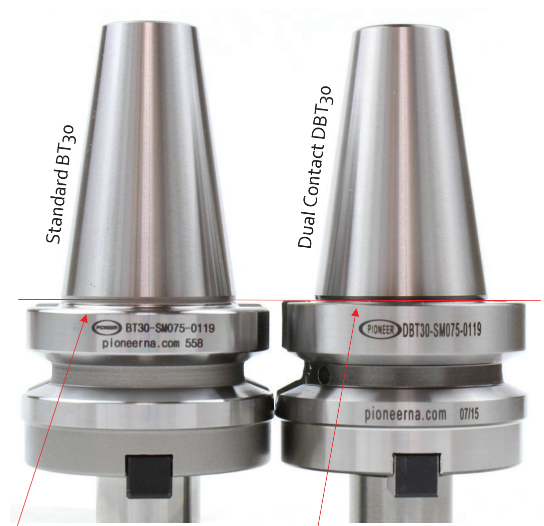
Dual Contact spindle gageline is ground to a controlled dimension to the taper of the spindle and tool holder. Standard spindles have a 0.078"/0.125" gap from the back of the tool holder flange to the spindle face. Dual contact reduces the gap to microns.

How is Dual Contact Effective

If enough side pressure (radial load) is applied to a milling tool it will cause the tool taper to disengage from the spindle, causing the tool to dog tail, effecting assembly runout and rigidity. Dual Contact uses the face of the spindle for additional support creating a higher displacement pressure point allowing the machine to operate at a higher radial load. The amount of pressure is dependent on the draw bar system in the machine. Lower draw bar pressure machines will see a greater improvement in side load applications than higher machines.

Made for Standard Spindles,
Works in Dual Contact*

Made for Dual Contact Spindles,
Works in Standard



Made for Standard Spindles,
Works in Dual Contact*

Made for Dual Contact Spindles,
Works in Standard

*Verify Machine Spindle warrantee and Machine Tool manufacturers recommendation when using standard tooling in Dual Contact Spindles.

Standard tooling can wear spindle tapers causing dual contact tooling to lock on the face before locking on the taper requiring a spindle repair to regain taper & face lockup.

The reverse is also true, Dual Contact tooling used in standard spindles can wear the taper of the tool holder and cause lock up issues over time.

How does HSK differ from Dual Contact

HSK was designed with Face Contact in mind. There is no retention knob but the machine spindle has a clamping collet that enters the back of the tool holder. All HSK tooling is face contact. The clamping collet expands the taper of the tool holder to lock the tapers as the face is seated tight.
This process compensates for taper wear over time. Clamping mechanism on CNC machine is manufactured with greater locking pressure on HSK spindles compared to CAT and BT dual contact spindles. The secondary benefit of the HSK clamping system is at high RPM the clamping collet expands making the fit even tighter where in CAT and BT spindles the expansion from centrifugal force loosens the connection. HSK is strongly recommended in all high speed applications.

HSK63A shown

PIONEER

Ultimate Precision | Milling | Precision Drilling | Non-Pull Out | Volume Milling | High Feed Milling

Premium Performance

Ultimate Precision

0.0002" TIR Guaranteed @ 50mm (2")

Bearingless Design

Eliminating wear components & easy to clean

Over Tightening Eliminated

Solid Shoulder Design prevents over tightening

Low Profile

Smaller OD than Traditional Mill Chucks

Coolant Thru

Sealed bore design for high pressure applications

Powerful

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

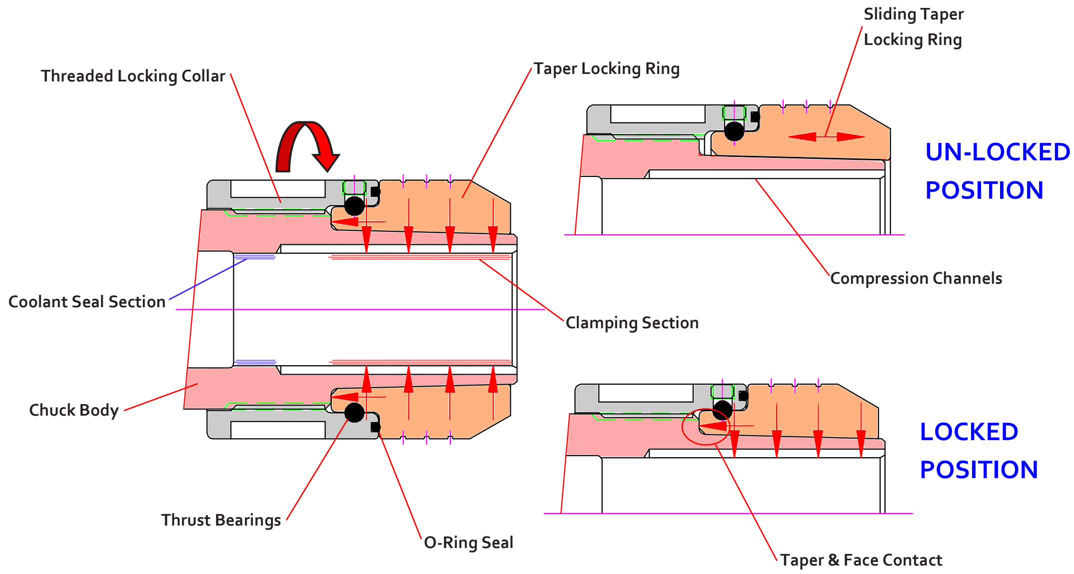
Vibration Dampening

Unlike materials & mass dampen cutting harmonics

Performance Milling

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

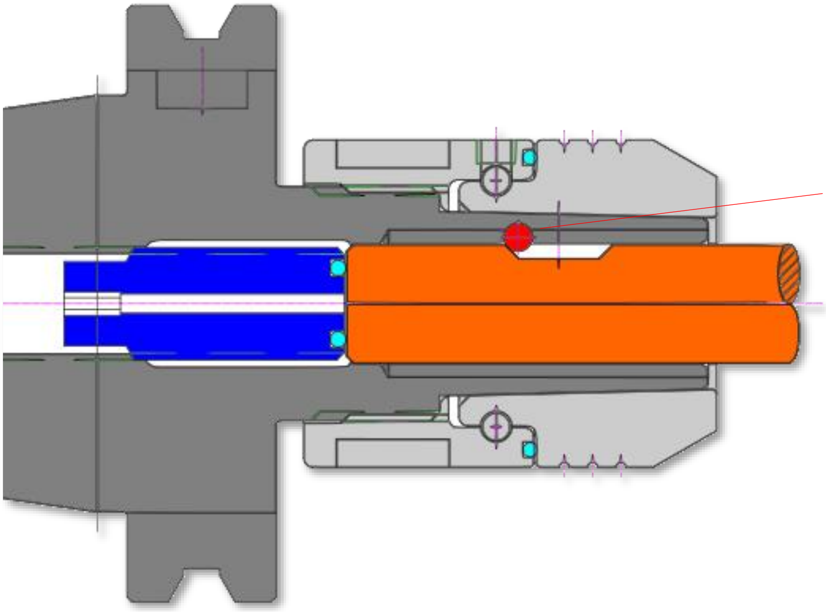
Bearingless Mill Chuck Design Features



PIONEER

BC-NP — Non Pull Out

For Volume & High Feed Milling



The NP Milling System provides a cost effective solution to prevent cutter pull out. Designed to work with any standard Weldon flat, the system can be adapted to other flat styles and radial grooves.

Pioneer modifies a standard BC Mill Chuck by EDM, allowing for quick delivery and special configurations in under a week.

The result is a 100% Non-Pull out holder with all the vibration dampening of a Mill Chuck for improved cutter performance.

Combined with the BC Chucks vibration dampening and you have a cost effective performance combination.

How it works

Insert the End mill, orientate the flat to the cross hole

Insert the Hardened Dowel Pin

Grease Taper & Assemble the Lock Nut, Hand Tight

Adjust and Tighten the Preset Screw until tight against the Dowel Pin

Tighten the Lock Nut in a Locking Fixture

BC
SX
MX
VX
MC
SD
ER
TG
DA
EM
SM
MISC.
QC TAP
ACC.

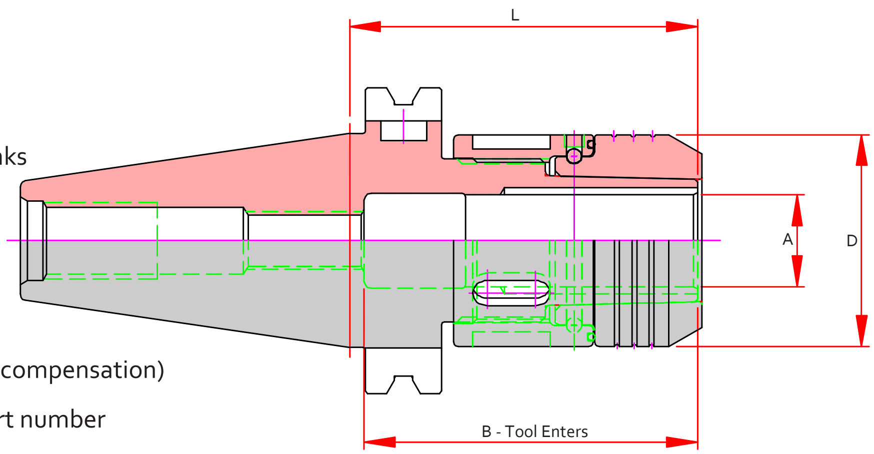
BT Dual Contact Bearingless Mill Chucks

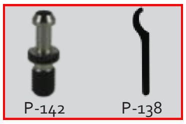
Features

- **5 µm - 0.0002" Runout @ 2 x Cutter Shank Dia.**
- Works in both Standard and Dual Contact Spindles
- Designed for Tool Shanks w/ ISO h6 Class Tolerance
- Sealed by Design for High Pressure Coolant
- Balanced for use @ 20,000 RPM

Optional (Order Separately):

- Wrench
- Nylon Screw Seal for short tool shanks
- DIN-B Flange Coolant
- Jet-Blast Coolant Ports
  (for Solid Tooling)
- Fine Trim Balance
  (Sample cutter required for balance compensation)
- For Non-Pull Out add –NP to the part number





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)
DBT30-BC050-0268	0.5000	2.36	1.38	2.68	1.38	ASC-12-30	34-38 HOOK
DBT30-BC062-0268	0.6250	2.36	1.50	2.68	1.38	ASC-12-30	40-42 HOOK
DBT30-BC075-0295	0.7500	2.72	1.73	2.95	1.62	ASC-12-30	45-48 HOOK
DBT40-BC075-0315	0.7500	2.72	1.73	3.15	1.62	ASC-12-30	45-48 HOOK
DBT40-BC100-0331	1.0000	3.00	2.12	3.31	1.65	ASC-12-30	50-55 HOOK
DBT40-BC125-0403	1.2500	3.00	2.56	4.03	2.05	ASC-12-30	58-65 HOOK

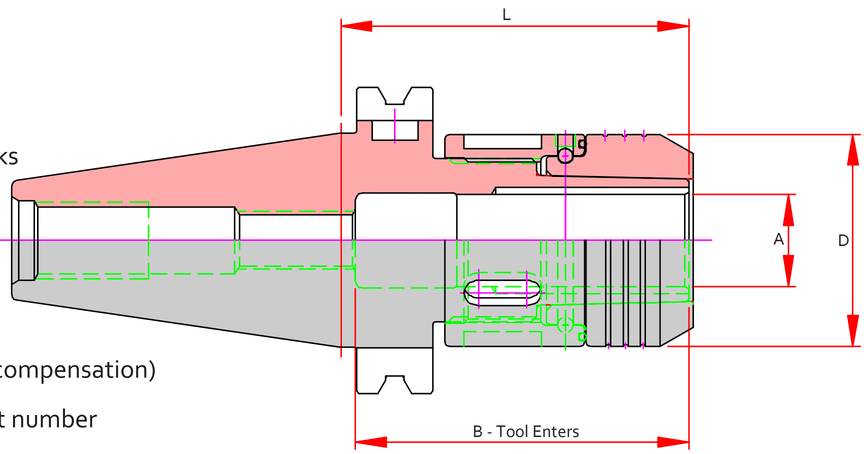
CAT Dual Contact Bearingless Mill Chucks

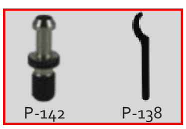
Features

- **5 µm - 0.0002" Runout @ 2 x Cutter Shank Dia.**
- Works in both Standard and Dual Contact Spindles
- Designed for Tool Shanks w/ ISO h6 Class Tolerance
- Sealed by Design for High Pressure Coolant
- Balanced for use @ 20,000 RPM

Optional (Order Separately):

- Wrench
- Nylon Screw Seal for short tool shanks
- DIN-B Flange Coolant
- Jet-Blast Coolant Ports
  (for Solid Tooling)
- Fine Trim Balance
  (Sample cutter required for balance compensation)
- For Non-Pull Out add –NP to the part number





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)
DCAT40-BC050-0256	0.5000	2.36	1.38	2.56	1.38	ASC-12-30	34-38 HOOK
DCAT40-BC062-0256	0.6250	2.36	1.50	2.56	1.38	ASC-12-30	40-42 HOOK
DCAT40-BC075-0283	0.7500	2.72	1.73	2.83	1.62	ASC-12-30	45-48 HOOK
DCAT40-BC100-0300	1.0000	3.00	2.12	3.00	1.65	ASC-12-30	50-55 HOOK
DCAT40-BC125-0350*	1.2500	3.00	2.56	3.50	2.05	ASC-12-30	58-65 HOOK
DCAT40-BCM20-0283	20mm	2.72	1.73	2.83	1.62	ASC-12-30	45-48 HOOK
DCAT40-BCM25-0300	25mm	3.00	2.12	3.00	1.65	ASC-12-30	50-55 HOOK
DCAT40-BCM32-0350*	32mm	3.00	2.56	3.50	2.05	ASC-12-30	58-65 HOOK
DCAT50-BC050-0256	0.5000	2.36	1.38	2.56	1.38	ASC-12-30	34-38 HOOK
DCAT50-BC062-0256	0.6250	2.36	1.50	2.56	1.38	ASC-12-30	40-42 HOOK
DCAT50-BC075-0283	0.7500	2.72	1.73	2.83	1.62	ASC-12-30	45-48 HOOK
DCAT50-BC100-0300	1.0000	3.00	2.12	3.00	1.65	ASC-12-30	50-55 HOOK
DCAT50-BC125-0350	1.2500	3.00	2.56	3.50	2.05	ASC-12-30	58-65 HOOK

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

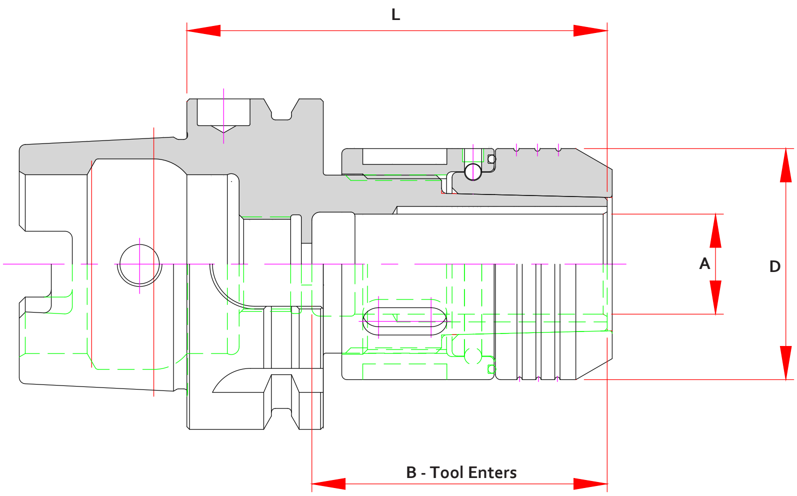
HSK Bearingless Mill Chucks

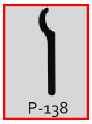
Features

- **5 µm - 0.0002" Runout @ 2" out**
- Designed for Tool Shanks w/ ISO h6 Class Tolerance
- Sealed by Design for High Pressure Coolant
- Balanced for use @ 20,000 RPM

Optional (Order Separately):

- Wrench
- Nylon Screw Seal for short tool shanks
- Jet-Blast Coolant Ports for Solid Tooling
- Finer Balance
  (Sample cutter required for
  balance compensation)
- For Non-Pull Out add –NP to the part number





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)
HSK63A-BC050-0362	0.5000	2.36	1.38	3.62	1.38	ASC-12-30	34-38 HOOK
HSK63A-BC062-0362	0.6250	2.36	1.50	3.62	1.38	ASC-12-30	40-42 HOOK
HSK63A-BC075-0311	0.7500	2.16	1.73	3.11	1.62		45-48 HOOK
HSK63A-BC100-0394	1.0000	2.96	2.12	3.94	1.65		50-55 HOOK
HSK63A-BC125-0394	1.2500	3.00	2.56	3.94	2.05		58-65 HOOK
HSK100A-BC075-0394	0.7500	2.16	1.73	3.11	1.62		45-48 HOOK
HSK100A-BC100-0394	1.0000	2.96	2.12	3.94	1.65		50-55 HOOK
HSK100A-BC125-0453	1.2500	3.00	2.56	3.94	2.05		58-65 HOOK

BC Replacement Nuts

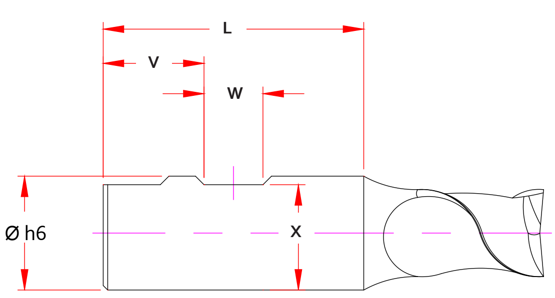
Holder Size	Nut
BC050	NUT BC050
BC062	NUT BC062
BC075 / BCM20	NUT BC075
BC100 / BCM25	NUT BC100
BC125 / BCM32	NUT BC125

Non-Pull Out Replacement Parts

Holder Size	Dowel Pin	Preset Screw
BC050	DP03X08	SCW-ASC-12-30
BC062	DP03X10	
BC075 / BCM20	DP03X12	
BC100 / BCM25	DP03X16	
BC125 / BCM32	DP03X20	

Weldon Flat Information

Industry standard Weldon Flat Information. Non-Pull Out Pin location can be set to match your cutter if different from information provided below.



	Shank		L	V	W		X	
	Max Ø	Min Ø (ISO h6)			Min	Max	Max	Min
Inch	0.3750	0.3746	1.563	0.641	0.125	0.282	0.333	0.325
Inch	0.5000	0.4996	1.781	0.616	0.125	0.332	0.458	0.440
Inch	0.6250	0.6246	1.906	0.581	0.125	0.402	0.583	0.560
Inch	0.7500	0.7495	2.031	0.554	0.125	0.457	0.695	0.675
Inch	0.8750	0.8745	2.031	0.554	0.125	0.457	0.820	0.810
Inch	1.0000	0.9995	2.281	0.524	0.125	0.517	0.945	0.925
Inch	1.2500	1.2494	2.281	0.524	0.125	0.517	1.176	1.156
Inch	1.5000	1.4994	2.688	0.524	0.125	0.517	1.426	1.406
Inch	2.0000	1.9993	3.250	0.431	0.125	0.702	1.920	1.900
Metric	16.000	15.989	48	19.0	10.0	10.2	14.2	13.8
Metric	20.000	19.987	50	19.5	11.0	11.2	18.2	17.8
Metric	25.000	24.987	56	26.0	12.0	12.2	23.0	22.6
Metric	32.000	31.984	60	29.0	14.0	14.2	30.0	29.6

SX-P 3 Micron Chuck

Clamping Range : 0.031" - 1.000"

Collet Range : 0.020" (0.5mm)

Ultimate Precision Collet Chuck
Designed for Drilling & Finish Milling

For the best tool life and superior finish.

Smaller Nose for Tight Applications

SX holders are designed to provide additional clearance for close wall applications.
The SX25M has been re-designed to provide additional clearance. SX25M provides the same clearance as ER32 but with a tool capacity up to 1".

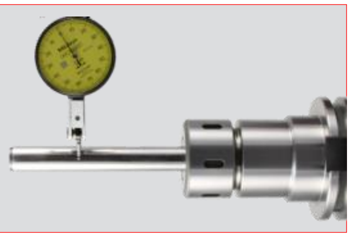
Holder	Max. Cutting Tool	Nose Ø
SX06	0.250" (6mm)	0.77"
SX06M	0.250" (6mm)	0.63"
SX10	0.375" (10mm)	1.08"
SX10M	0.375" (10mm)	0.87"
SX16	0.625" (16mm)	1.58"
SX25M	1.000" (25mm)	1.97"

T.I.R. - 3µm @ 4D, Second to None!

- All SX-P Collets are hand inspected and checked 3 times for guaranteed performance
- Standard 5µm Grade Available
- Fraction & Inch Sizes

Collet TIR

Collet Class	Max. TIR
SX	0.00020" @ 4D
SX-P	**0.00012" @ 4D**



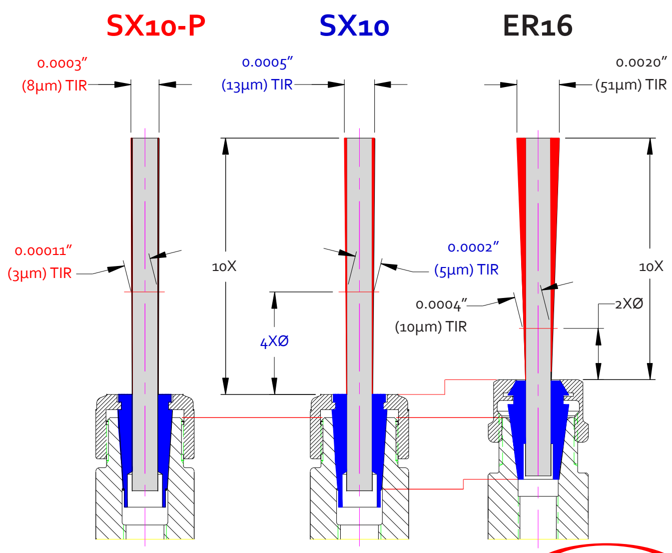
Reduced Harmonic Design

When gage-lines are aligned, SX16 sits deeper in the chuck with less overhang and more shank support than ER32.

The Flat Locking Surface eliminates any influence from the locking nut for consistency on every tool change.

3 Micron Provides Results

Shown below a 1/4" at 10X. Worst Case Runout Shown with each collet at maximum TIR.



High Pressure Coolant Caps

SX Coolant Caps supply up to 1,000 psi coolant seal. The threaded cap design when properly tightened has no effect on the TIR of the assembly, even at 30D!

Jet-Blast also available for solid cutting tools.

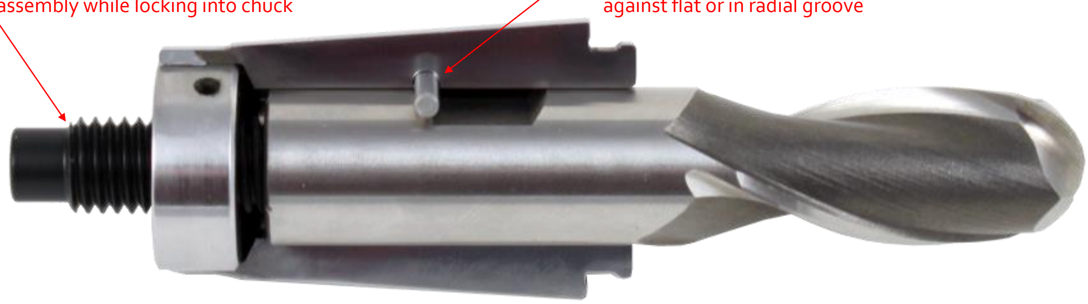
PIONEER

SX25 Non-Pull Out Collets

For Hi-Feed Milling Applications

Non Pull out collets are developed for hi feed titanium and aluminum applications with cutter helix of 45° or greater to prevent cutter pull out.

The Pioneer design utilizes a standard hardened 62Rc 3mm dowel pin to provide contact across the flat and superior sheer strength. The preset screw is used to hold the cutter in position, preventing any movement while being locked into the tool holder.
The modification is performed at our location in Chicago, the pin location can be adjusted to fit any flat or groove position within the collet bore behind the nut. Special configurations available upon request.



PART NUMBER	BORE
SX25-0375NP	0.3750
SX25-0500NP	0.5000
SX25-0625NP	0.6250
SX25-0750NP	0.7500
SX25-0875NP	0.8750
SX25-M120NP	12MM
SX25-M160NP	16MM
SX25-M200NP	20MM

SX25 Non-Pull Out Assembly - How does it work!


Insert SX25-NP Collet into the SXN25M Nut


Insert cutting tool into the collet, cutter flat orientation to the pin hole as shown

Use safety gloves if required


Fully insert cutter into the collet


Insert Pin into the Pin Hole Note: if cutting tool flat is not in the correct orienta-tion the pin will not insert, rotate cutter if needed to align the pin to the flat


Once the pin is fully inserted pull out on the cutting tool so the back of the flat is tight against the pin

Use safety gloves if required


Insert the preset screw finger tight against the back of the cutting tool to hold the cutter in place and eliminate gap and movement

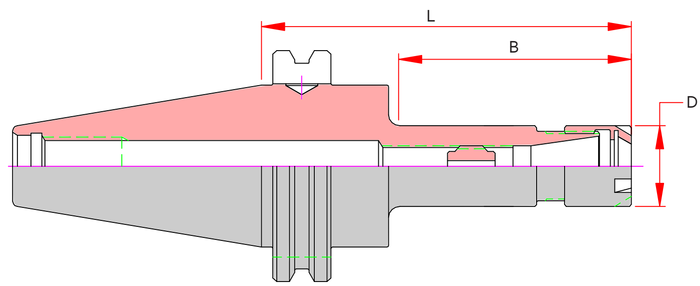
Assemble into the collet chuck, torque to 85 ft/lbs, you are ready to go!

BC
SX
MX
VX
MC
SD
ER
TG
DA
EM
SM
MISC.
QC TAP
ACC.

CAT40 SX Mini Collet Chucks

Features

- **3 µm - 0.0001" Runout Taper to Taper**
- Coolant Thru the Center
- DIN B Flange Coolant Optional, see chart
- Dynamically Balanced G2.5 @ 25,000 RPM or < 1gmm
- Order Collets, Preset Screw & Wrench Separately

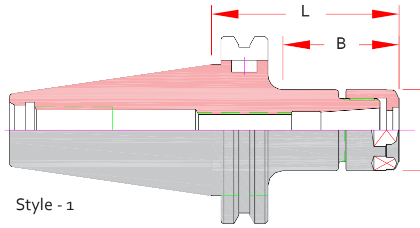


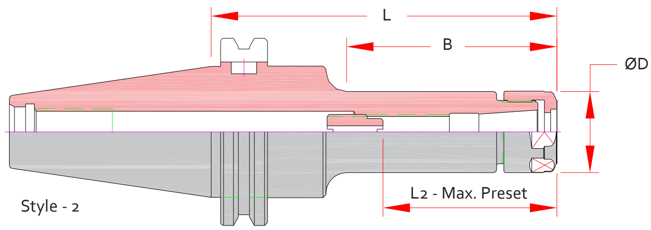
Max Capacity	Part Number	Flange Coolant	B	D	L Projection	Max. Preset	Collet	Nut	Wrench
0.250	CAT40-SX06M-0250-D	Included	1.56	0.63	2.50	2.12	SX06	SXN-06M	ERW-11M
	CAT40-SX06M-0400-D		2.42		4.00				
0.394	CAT40-SX10M-0250-D	Included	1.56	0.87	2.50	2.70	SX10	SXN-10M	ERW-16M
	CAT40-SX10M-0400-D		2.42		4.00				
1.000	CAT40-SX25M-0175-D**	Included	1.00	1.97	1.75	3.25	SX25	SXN-25M	50-55 HOOK
	CAT40-SX25M-0250-D		1.75		2.50	2.18			
	CAT40-SX25M-0354	Optional Add –D	2.79		3.54	3.20			
	CAT40-SX25M-0472		3.97		4.72	3.68			
	CAT40-SX25M-0591		5.15		5.91	3.68			

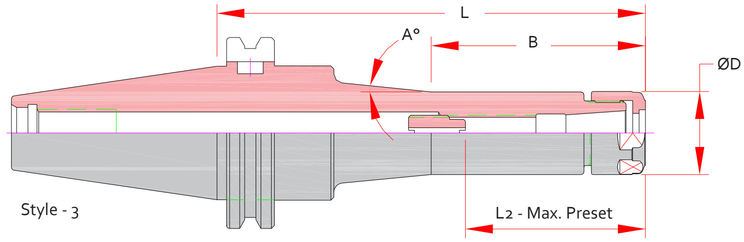
Dual Contact DCAT40 SX Collet Chucks

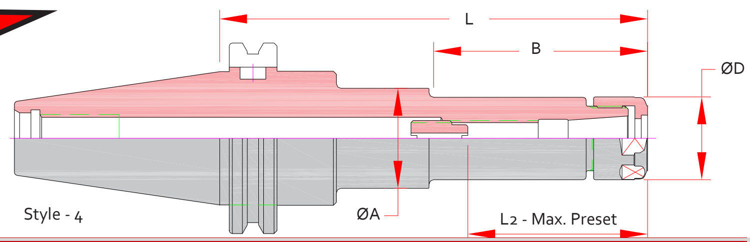
Features

- **3 µm - 0.0001" Runout Taper to Taper**
- DIN AD/B Flange Coolant Included
- Dynamically Balanced G2.5 @ 25,000 RPM or < 1gmm
- Order Collets, Preset Screw & Wrench Separately









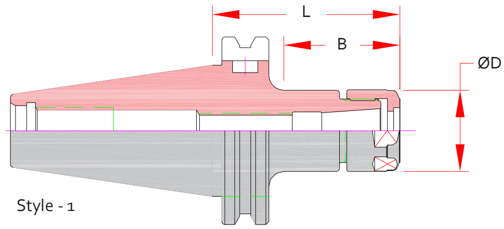
Max Capacity	Part Number	Style	Flange Coolant	A	B	ØD	L Projection	L2 Max. Preset	Collet	Nut	Wrench
0.394	DCAT40-SX10-0250-D	1	Included	-	1.63	1.08	2.50	2.81	SX10	SXN-10	SXW-10
	DCAT40-SX10-0354	2	Optional Add –D	-	1.97		3.54				
	DCAT40-SX10-0591	4		Ø32	2.76		5.91				
0.630	DCAT40-SX16-0250-D	1	Included	-	1.63	1.58	2.50	3.12	SX16	SXN-16	SXW-16
	DCAT40-SX16-0354	2	Optional Add –D	-	2.12		3.54	3.03			
	DCAT40-SX16-0591	2		-	4.48		5.91	2.95			
1.000	DCAT40-SX25M-0175-D**	1	Included	-	1.00	1.97	1.75	3.25	SX25	SXN-25M	50-55 HOOK
	DCAT40-SX25M-0250-D	1		-	1.75		2.50	2.62			
	DCAT40-SX25M-0354	2	Optional Add –D	-	2.79		3.54	3.20			
	DCAT40-SX25M-0591	2		-	5.15		5.91	3.68			

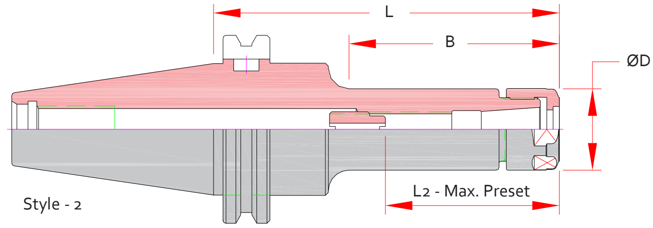
*** Nut Diameter is larger than ANSI B5.50 Safety Area, may not function in Umbrella Style Tool Changers*

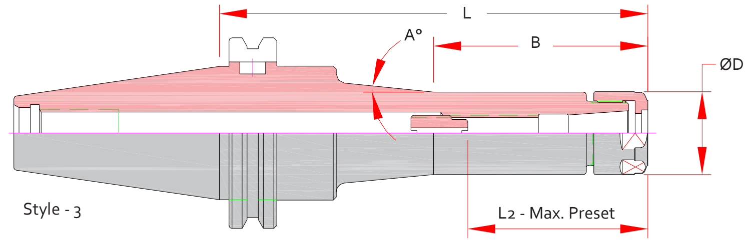
CAT40 SX Collet Chucks

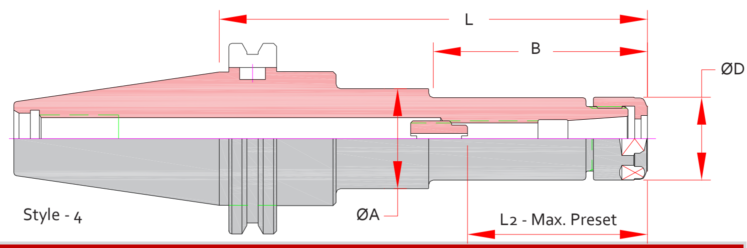
Features

- **3 µm - 0.0001" Runout Taper to Taper**
- DIN AD/B Flange Coolant Included
- Dynamically Balanced G2.5 @ 25,000 RPM or < 1gmm
- Order Collets, Preset Screw & Wrench Separately









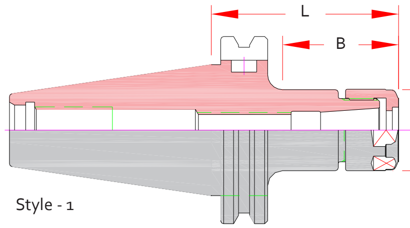
Max Capacity	Part Number	Style	Flange Coolant	A	B	ØD	L Projection	L2 Max. Preset	Collet	Nut	Wrench
	CAT40-SX06-0250-D	1	Included	-	1.63		2.50				
0.250	CAT40-SX06-0354-D	2		-	1.97	0.77	3.54	2.16	SX06	SXN-06	SXW-06
	CAT40-SX06-0472-D	4	Optional Add –D	Ø32	2.36		4.72				
	CAT40-SX06-0591-D	4		Ø32	2.36		5.91				
	CAT40-SX10-0250-D	1	Included	-	1.63		2.50				
	CAT40-SX10-0354	2		-	1.97		3.54				
0.394	CAT40-SX10-0472	4	Optional Add –D	Ø32	2.76	1.08	4.72	2.81	SX10	SXN-10	SXW-10
	CAT40-SX10-0591	4		Ø32	2.76		5.91				
	CAT40-SX10-0709	3		2.67°	2.76		7.09				
	CAT40-SX16-0250-D	1	Included	-	1.63		2.50	3.12			
	CAT40-SX16-0354	2		-	2.12		3.54	3.03			
0.630	CAT40-SX16-0472	2	Optional Add –D	-	3.30	1.58	4.72	2.95	SX16	SXN-16	SXW-16
	CAT40-SX16-0591	2		-	4.48		5.91	2.95			
	CAT40-SX16-0709	2		-	5.66		7.09	2.63			
	CAT40-SX25M-0175-D**	1	Included	-	1.00		1.75	3.25			
	CAT40-SX25M-0250-D	1		-	1.75		2.50	2.62			
1.000	CAT40-SX25M-0354	2		-	2.79	1.97	3.54	3.20	SX25	SXN-25M	50-55 HOOK
	CAT40-SX25M-0472	2	Optional Add –D	-	3.97		4.72	3.68			
	CAT40-SX25M-0591	2		-	5.15		5.91	3.68			

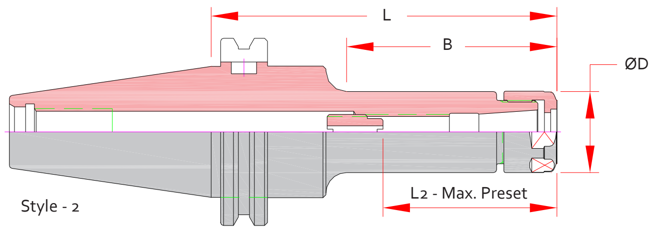
*** Nut Diameter is larger than ANSI B5.50 Safety Area, may not function in Umbrella Style Tool Changers*

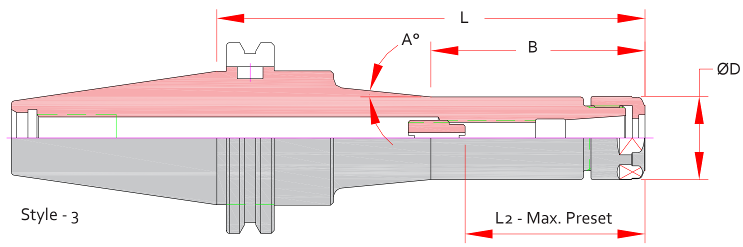
CAT50 SX Collet Chucks

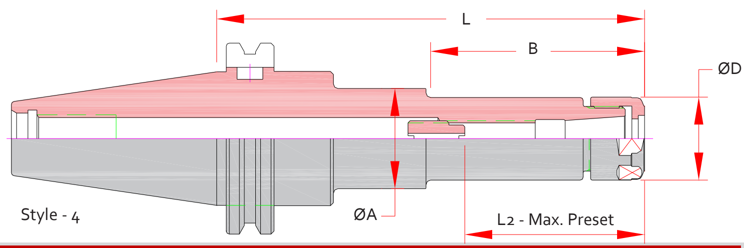
Features

- **3 µm - 0.0001" Runout Taper to Taper**
- DIN AD/B Flange Coolant Included
- Dynamically Balanced G2.5 @ 25,000 RPM or < 1gmm
- Order Collets, Preset Screw & Wrench Separately









Max	Part	Style	Flange	A	B	D	L	L2	Collet	Nut	Wrench
0.250	CAT50-SX06-0413	1	Optional Add –D	-	2.36	0.77	4.13	2.11	SX06	SXN-06	SXW-06
	CAT50-SX06-0531	4		Ø32mm			5.31	2.11			
	CAT50-SX06-0650	4		Ø32mm			6.50	2.11			
	CAT50-SX06-0768	4		Ø30mm			7.68	1.37			
0.394	CAT50-SX10-0413	1	Optional Add –D	-	2.36	1.08	4.13	3.05	SX10	SXN-10	SXW-10
	CAT50-SX10-0531	4		Ø32mm	2.95		5.31	3.05			
	CAT50-SX10-0650	4		Ø32mm	2.95		6.50	2.71			
	CAT50-SX10-0768	4		Ø40mm	2.95		7.68	2.71			
0.630	CAT50-SX16-0413	1	Optional Add –D	-	2.56	1.58	4.13	3.15	SX16	SXN-16	SXW-16
	CAT50-SX16-0531	1		-	3.54		5.31				
	CAT50-SX16-0650	3		8.27°	3.54		6.50				
	CAT50-SX16-0768	3		3.88°	3.54		7.68				
1.000	CAT50-SX25M-0413	1	Optional Add –D	-	2.56	1.97	4.13	3.87	SX25	SXN-25M	50-55 HOOK
	CAT50-SX25M-0531	1		-	3.74		5.31	3.87			
	CAT50-SX25M-0650	1		-	4.92		6.50	3.80			
	CAT50-SX25M-0800	1		-	6.10		8.00	3.87			

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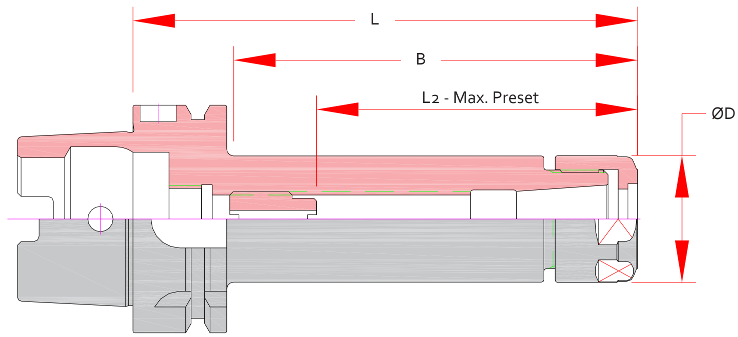
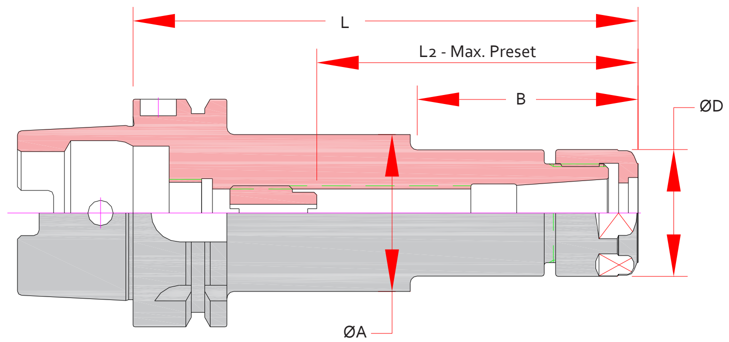
HSK63A SX Collet Chucks

Features

- **3 µm - 0.0001" Runout Taper to Taper**
- Balanced G2.5 @ 25,000 RPM or < 1gmm
- Order Collets, Coolant Tube & Wrench Separately



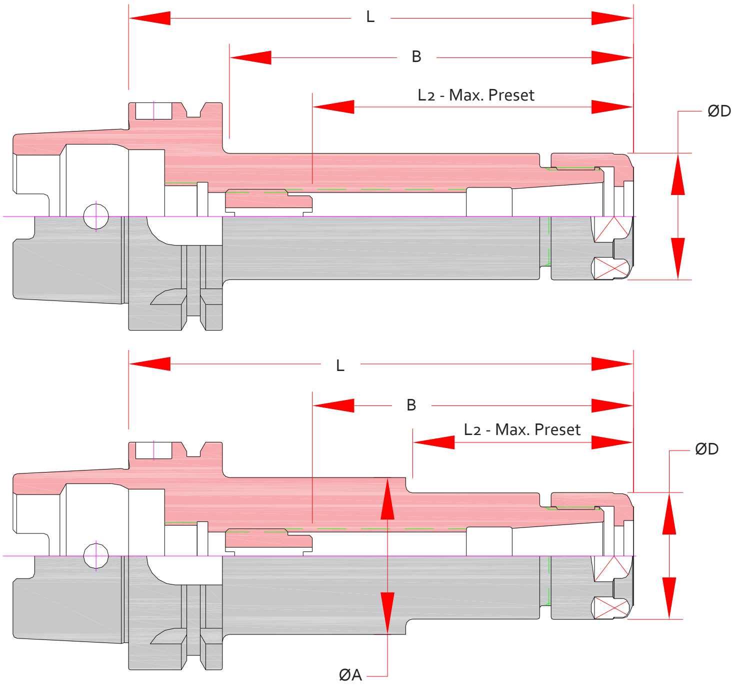


Max Capacity	Part Number	Style	A	B	D	L Projection	L2 Max. Preset	Collet	Nut	Wrench
0.250	HSK63A-SX06-100	1	-	1.97	0.77	3.94	1.73	SX06	SXN-06	SXW-06
	HSK63A-SX06-150	2	Ø32	2.36		5.91				
0.394	HSK63A-SX10-105	1	-	2.91	1.08	4.13	1.65	SX10	SXN-10	SXW-10
	HSK63A-SX10-150	2	Ø32	2.76		5.91	1.89			
0.630	HSK63A-SX16-120	1	-	3.50	1.58	4.72	2.44	SX16	SXN-16	SXW-16
	HSK63A-SX16-150	1	-	4.68		5.91	2.83			
1.000	HSK63A-SX25M-090	1	-	2.52	1.97	3.54	2.44	SX25	SXN-25M	50-55 HOOK
	HSK63A-SX25M-135	1	-	4.29		5.31	2.89			

HSK100A SX Collet Chucks

Features

- **3 µm - 0.0001" Runout Taper to Taper**
- Balanced G2.5 @ 25,000 RPM or < 1gmm
- Order Collets, Coolant Tube & Wrench Separately



Build on Request

Capacity	Part Number	Style	A	B	D	L Projection	L2 Max. Preset	Collet	Nut	Wrench
0.394	HSK100A-SX10-105	1	-	2.83	1.08	4.13	1.65	SX10	SXN-10	SXW-10
	HSK100A-SX10-150	2	5°	4.50		5.91				
0.630	HSK100A-SX16-120	1	-	3.54	1.58	4.72	2.44	SX16	SXN-16	SXW-16
	HSK100A-SX16-150	1	-	4.68		5.91				
1.000	HSK100A-SX25M-095	1	-	2.60	1.97	3.74	2.44	SX25	SXN-25M	50-55 HOOK
	HSK100A-SX25M-135	1	-	4.17		5.31	2.89			
	HSK100A-SX25M-200	1	-	6.73		7.87	2.89			

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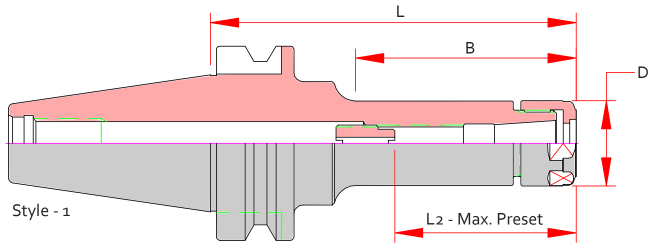
DBT30 Dual Contact SX Collet Chucks



Features

- **3 µm - 0.0001" Runout Taper to Taper**
- Dynamically Balanced G2.5 @ 25,000 RPM or < 1gmm
- Order Collets, Preset Screws & Wrench Separately
- Functions in Standard & Dual Contact Spindles

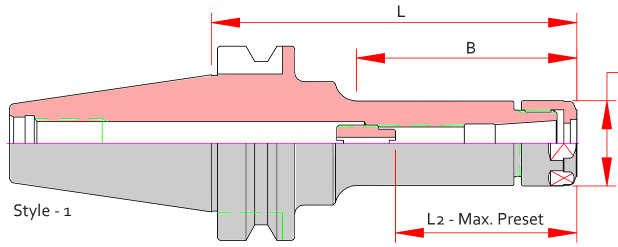
Capacity	Part Number	B	D	L Projection	L2 Max. Preset	Collet	Nut	Wrench	Style
1/4	DBT30-SX06-060	1.30	0.77	2.36	2.15	SX06	SXN-06	SXW-06	1
	DBT30-SX06–090	2.20		3.54	2.15				
3/8	DBT30-SX10–060	1.38	1.08	2.36	2.30	SX10	SXN-10	SXW-10	1
	DBT30-SX10-090	2.56		3.54	2.40				
5/8	DBT30-SX16–060	1.46	1.58	2.36	2.30	SX16	SXN-16	SXW-16	1
	DBT30-SX16-090	2.64		3.54	3.03**				
1"	DBT30-SX25M–070	2.68	1.97	2.76	2.42	SX25	SXN-25	50-55 HOOK	1

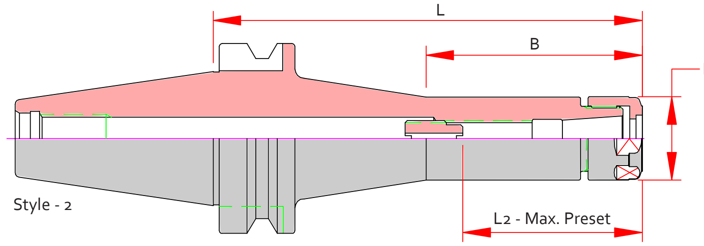
** 10MM Tool Shanks & Smaller

BT40 SX Collet Chucks

Features

- **3 µm - 0.0001" Runout Taper to Taper**
- DIN B Flange Coolant Optional in BT40
- Dynamically Balanced G2.5 @ 25,000 RPM or < 1gmm
- Order Collets, Preset Screws & Wrench Separately



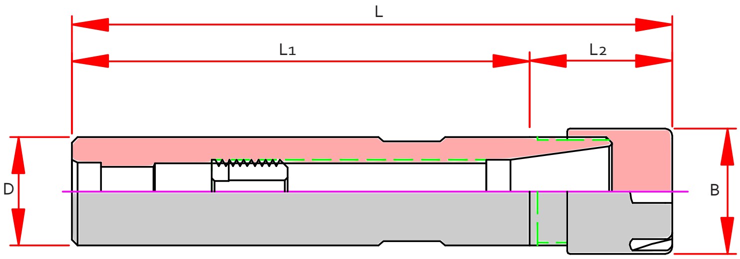


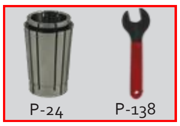
Capacity	Part Number	Dual Contact Available	B	D	L Projection	L2 Max. Preset	Collet	Nut	Wrench	Style
1/4	BT40-SX06-090	Y	2.36	0.77	3.54	2.16	SX06	SXN-06	SXW-06	1
	BT40-SX06-120	Y	2.36		4.72	2.00				2
	BT40-SX06-150	Y	2.36		5.91	2.00				2
3/8	BT40-SX10-060	Y	1.18	1.08	2.36	2.20	SX10	SXN-10	SXW-10	1
	BT40-SX10-090	Y	2.36		3.54	2.76				1
	BT40-SX10-120	Y	2.76		4.72	2.56				2
	BT40-SX10-150	Y	2.87		5.91	2.76				2
5/8	BT40-SX16-090	Y	2.28	1.58	3.54	2.92	SX16	SXN-16	SXW-16	1
	BT40-SX16-120	Y	3.46		4.72	3.00				1
	BT40-SX16-150	Y	4.64		5.91	3.00				1
	BT40-SX16-180	Y	5.82		7.09	3.00				1
1"	BT40-SX25M-090	Y	2.40	1.97	3.54	3.16	SX25	SXN-25M	50-55 HOOK	1
	BT40-SX25M-120	Y	2.40		4.72	3.16				

SX Mini Collet Chuck Extensions

Features

- **3 µm - 0.0001" Runout Taper to Taper**
- Optional Coolant Thru
- DIN B Flange Coolant Optional
- Order Collets & Wrench Separately





Capacity	Part Number	Collet Type	B	D	L	L1	L2	Set Screw	Wrench	Nut Type
0.250	S050-SX06M-0552	SX06	0.63	0.500	6.58	5.52	1.07	ASC-SX06-SS	ERW-11M	SX-Mini
0.394	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	O.D.	Hex	Thread	Max. Torque
SXN-06M	SX06 Mini Nut	ERW-11M	0.63	-	M13 x 0.75	9 ft/lbs
SXN-10M	SX10 Mini Nut	ERW-106M	0.87	-	M19 x 1.0	13 ft/lbs
SXN-06H	SX06 Hex Nut	SXW-06H	0.77	18mm	M15.5 x 1.0	22 ft/lbs
SXN-10H	SX10 Hex Nut	SXW-10H	1.08	25.4mm	M21.5 x 1.0	41 ft/lbs
SXN-16S	SX16 Spanner Nut	SXW-16S	1.58	-	M32 x 1.5	55 ft/lbs
SXN-25S	SX25 Spanner Nut	50-55 HOOK	2.17	-	M45 x 1.5	85 ft/lbs
SXN-25M	SX25 Mini Spanner Nut	50-55 HOOK	1.97	-	M45 x 1.5	85 ft/lbs
SXN-25MB	SX25 Mini Bearing Spanner Nut	50-55 HOOK	1.97	-	M45 x 1.5	120 ft/lbs

SX Collet Assembly Instructions

Set the small end of the collet remover on the taper

Push down on the collet remover until the slots collapse

Flip the collet over on the tail end

Set the collet nut on the collet

Push down on the collet remover, the collet will expand into the nut

SX Collet Assembly Tool

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

NUT SERIES	PART NUMBER
SXN-06H & M	SXR-06
SXN-10H	SXR-10
SXN-10M	SXR-10M
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	1.5	6mm OD x 1.0mm	M8 x 1.25	24	2.0mm Hex
ASC-12-30	SX10 Nylon Coolant Preset Screw	2.5	10mm OD x 1.5mm	M12 x 1.75	30	2.5mm & 5.0mm Hex
ASC-18-33	SX16 Nylon Coolant Preset Screw	3.0	14mm OD x 2.0mm	M18 x 1.5	33	5.0mm Hex
ASC-25-30	SX25 Nylon Coolant Preset Screw	4.0	17mm OD x 2.0mm	M25 x 2.0	30	4.0mm & 8.0mm Hex
ASC-28-25	SX25 Nylon Coolant Preset Screw	4.0	17mm OD x 2.0mm	M28 x 2.0	25	4.0mm & 8.0mm Hex

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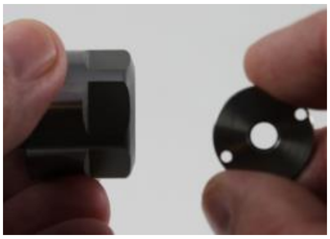
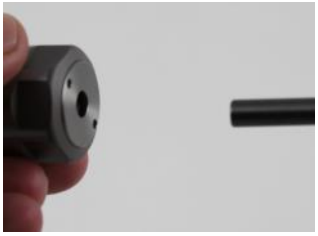
SX Coolant Cap System

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	50-55 HOOK	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

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	SXC25-0187
1/4	0.2500	6.350	SXC06-0250	SXC10-0250	SXC16-0250	SXC25-0250
5/16	0.3125	7.938		SXC10-0312	SXC16-0312	SXC25-0312
3/8	0.3750	9.525		SXC10-0375	SXC16-0375	SXC25-0375
7/16	0.4375	11.113			SXC16-0437	SXC25-0437
1/2	0.5000	12.700			SXC16-0500	SXC25-0500
9/16	0.5625	14.288			SXC16-0562	SXC25-0562
5/8	0.6250	15.875			SXC16-0625	SXC25-0625
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 (See Previous Page)
- Jet Blast for Non-Coolant Cutting Tools Available
    - Order by adding a "J" to the end of the part number

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 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 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

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

Jet-Blast Option Available

- Add "J" to the part number
- Note: Large Hole sizes will be 1/2 Moon type coolant holes due to thin wall of the collet.

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

SSX10 Collets

Cutter Size	Tool Size"	SSX10
1/8	0.1250	SSX10-0125
3/16	0.1875	SSX10-0187
1/4	0.2500	SSX10-0250
5/16	0.3125	SSX10-0312
3/8	0.3750	SSX10-0375
3mm	0.1181	SSX10-M030
4mm	0.1575	SSX10-M040
5mm	0.1969	SSX10-M050
6mm	0.2362	SSX10-M060
7mm	0.2756	SSX10-M070
8mm	0.3150	SSX10-M080
9mm	0.3543	SSX10-M090
10mm	0.3937	SSX10-M100

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

Jet-Blast Option Available

- Add "J" to the part number
- Note: Large Hole sizes will be 1/2 Moon type coolant holes due to thin wall of the collet.

SSX16 Collets

Cutter Size	Tool Size"	SSX16
3/16	0.1875	SSX16-01875
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
5mm	0.1969	SSX16-M050
6mm	0.2362	SSX16-M060
7mm	0.2756	SSX16-M070
8mm	0.3150	SSX16-M080
9mm	0.3543	SSX16-M090
10mm	0.3937	SSX16-M100
11mm	0.4331	SSX16-M110
12mm	0.4724	SSX16-M120
13mm	0.5118	SSX16-M130
14mm	0.5512	SSX16-M140
15mm	0.5906	SSX16-M150
16mm	0.6300	SSX16-M160

SSX25 Collets

Cutter Size	Tool Size"	SSX16
1/2	0.5000	SSX16-0500
9/16	0.5625	SSX16-0562
5/8	0.6250	SSX16-0625
11/16	0.6875	SSX16-0687
3/4	0.7500	SSX16-0750
13/16	0.8125	SSX16-0812
7/8	0.8750	SSX16-0875
15/16	0.9375	SSX16-0937
1"	1.0000	SSX16-1000
12mm	0.4724	SSX16-M120
13mm	0.5118	SSX16-M130
14mm	0.5512	SSX16-M140
15mm	0.5906	SSX16-M150
16mm	0.6300	SSX16-M160
17mm	0.6693	SSX16-M170
18mm	0.7087	SSX16-M180
19mm	0.7480	SSX16-M190
20mm	0.7874	SSX16-M200
21mm	0.8268	SSX16-M210
22mm	0.8661	SSX16-M220
23mm	0.9055	SSX16-M230
24mm	0.9449	SSX16-M240
25mm	0.9843	SSX16-M250

MX & VX 3 Micron Chuck

Clamping Range : 0.125" - 0.500"
ISO h6 Tool Shanks Required

Simply the Best Finish & Tool Life in a Cost Effective Milling System

Hands Down Winner in any Finish Milling Application!

Designed for Finish Milling

Once you pre-load the collet into the VX holder, repeatability is less than 0.0001" Tool to Tool due to the cross pin design which prevents twisting on the collet while tightening.

Reduced Harmonic Design

Unlike materials, taper nose and draw bar design provide superior vibration dampening over Slim Nose Shrink holders and extensions.

Compact Design

The MX and VX system are compact to provide maximum nose clearance for hard to reach applications.

We have redesigned the nose ends for additional clearance:

VX06 = 0.500 (Previously 0.625)
VX08 = 0.787 (Previously 0.870)
VX12 = 1.000 (Previously 1.180)

When you "have to" use Extensions

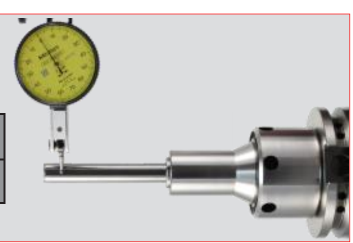
No one wants to use extensions but when you have to, use an extension that has the Best TIR in the industry.

Guaranteed 3µm @ 4D, no extension runs better. Coolant Thru for High Pressure with a Jet-Blast option for solid tools.

Unbeatable T.I.R. - 3µm @ 4D or better!

Collet TIR

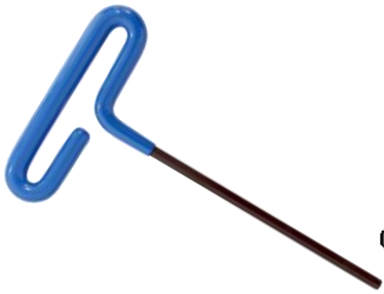
Collet Class	Max. TIR
MX	0.00012" @ 4D



Coolant Thru for High Pressure or Jet-Blast

Collets are sealed by design for high pressure coolant or air. Jet-Blast is available for coolant around solid tools.

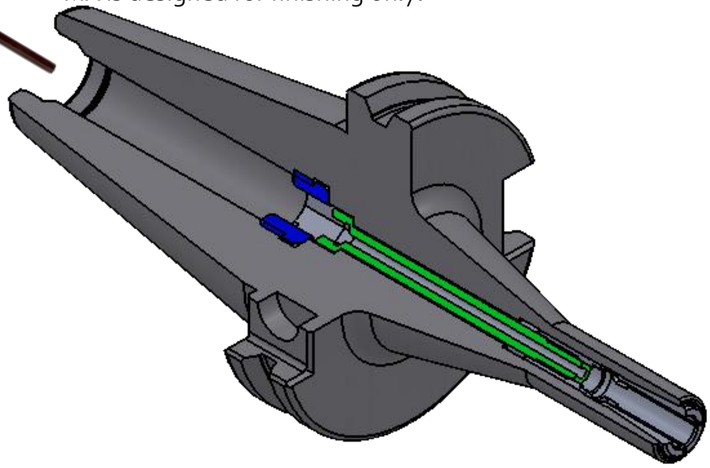
How MX Works



Coolant thru center draw bolt accessed from the retention knob end of the holder draws the collet into the pocket and tightens the collet.

Please note the retention knob must have a 6mm or larger coolant hole for the 5mm wrench to clear or the knob will have to be removed to change cutting tools.

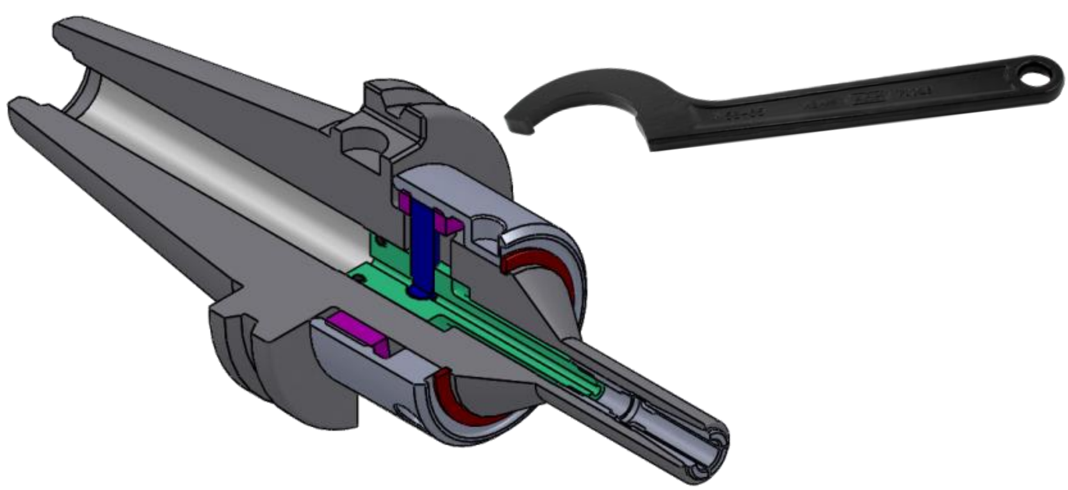
Design uses a T-Handle Hex wrench to tighten which limits the maximum gripping force, MX is designed for finishing only.



How VX Works

VX is a front locking collar design utilizing a pin spanner wrench to tighten. This allows for increased locking pressure over MX up to 5X the holding power.

The front locking mechanism requires the collet to be threaded into the holder before the collar can be locked.

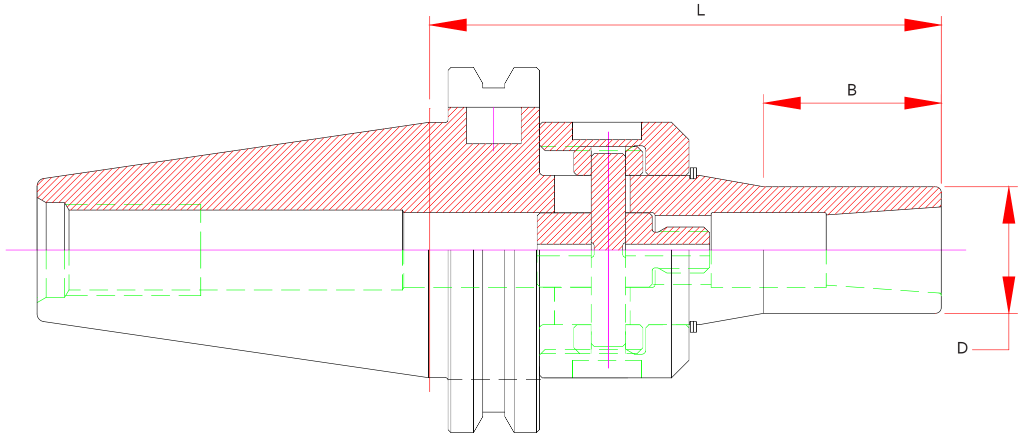


CAT VX Mini Chuck+

Features

- **3 µm - 0.0001" Runout @ 4X Diameter**
- Front Locking System
- Coolant Thru
- Dynamically Pre-Balanced G2.5 @ 25,000 RPM or < 1gmm
- DIN-B Flange Coolant upon request (add –D)
- Order Collets & Wrench Separately

See Page 35 for Operation Instructions



	Capacity	Part Number	Dual Contact Available	Collet Range	B	D	L Projection	Collet	Wrench
CAT40	1/4	CAT40-VX06-0394	Y	0.079 - 0.250	1.48	0.50	3.94	MX06	
		CAT40-VX06-0591					5.91		
	3/8	CAT40-VX08-0350	Y	0.125 - 0.394	1.21	0.787	3.50	MX08	
		CAT40-VX08-0591					5.91		
	1/2	CAT40-VX12-0380	Y	0.157 - 0.500	2.03	1.00	3.80	MX12	
		CAT40-VX12-0394					3.94		45-48 PIN
		CAT40-VX12-0591					5.91		
CAT50	3/8	CAT50-VX08-0413	Y	0.125 - 0.394	1.21	0.787	4.13	MX08	
		CAT50-VX08-0654					6.54		
	1/2	CAT50-VX12-0457	Y	0.157 - 0.500	2.03	1.00	4.57	MX12	
		CAT50-VX12-0654					6.54		

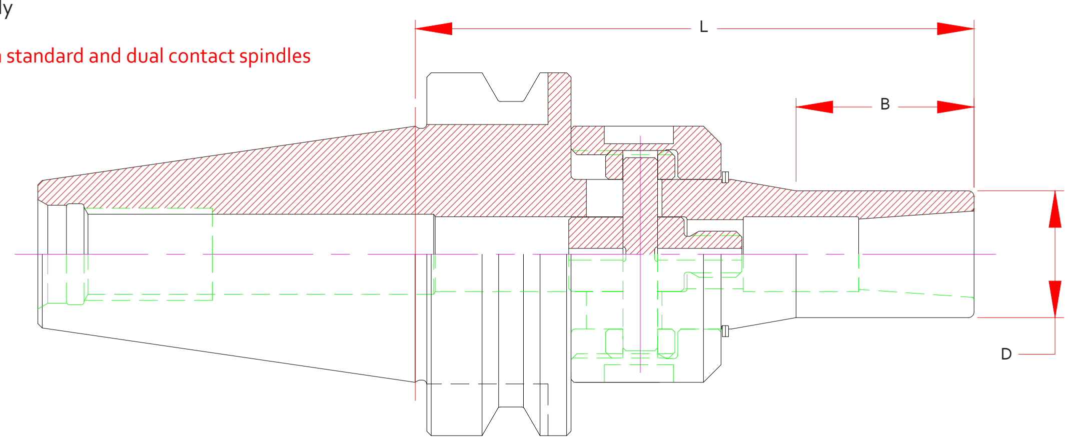
PIONEER

BT VX Mini Chuck+

Features

- **3 µm - 0.0001" Runout @ 4X Diameter**
- Front Locking System
- Coolant Thru
- Dynamically Pre-Balanced G2.5 @ 25,000 RPM or < 1gmm
- DIN-B Flange Coolant upon request (add –D)
- Order Collets & Wrench Separately
- Dual Contact BT30 will function in standard and dual contact spindles

See Page 35 for Operation Instructions



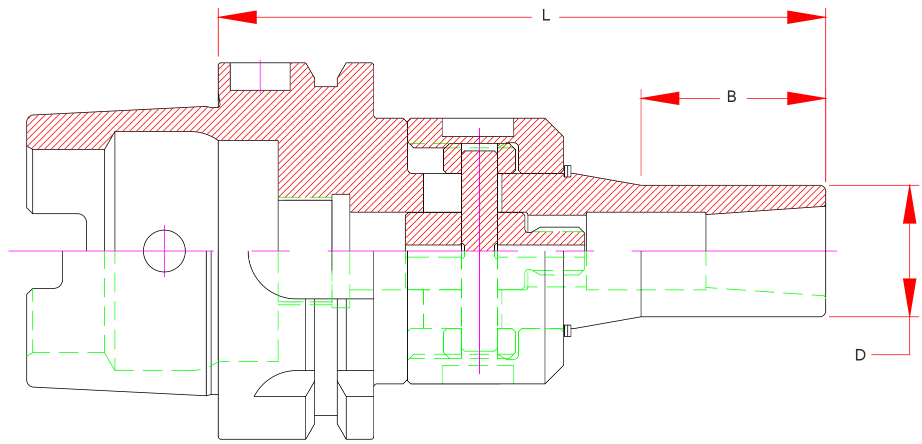
	Capacity	Part Number	Collet Range	B	D	L Projection	Collet	Wrench
BT30	1/4	DBT30-VX06-090	0.079 - 0.250	1.37	0.50	3.54	MX06	45-48 PIN
	3/8	DBT30-VX08-092	0.125 - 0.394	1.21	0.787	3.62	MX08	
BT40	1/4	DBT40-VX06-100	0.079 - 0.250	1.48	0.50	3.94	MX06	
		DBT40-VX06-150				5.91		
	3/8	DBT40-VX08-100	0.125 - 0.394	1.21	0.787	3.94	MX08	
		DBT40-VX08-150				5.91		
	1/2	DBT40-VX12-110	0.157 - 0.500	2.03	1.00	4.33	MX12	
		DBT40-VX12-150				5.91		

HSK VX Mini Chuck+

Features

- **3 µm - 0.0001" Runout @ 4X Diameter**
- Front Locking System
- Coolant Thru
- Dynamically Pre-Balanced G2.5 @ 25,000 RPM or < 1gmm
- Order Collets & Wrench Separately

See Page 35 for Operation Instructions



	Max Capacity	Part Number	Collet Range	B	D	L Projection	Collet	Wrench
HSK63A	1/4	HSK 63A-VX06-105	0.079 - 0.250	1.48	0.50	4.13	MX06	45-48 PIN
		HSK 63A-VX06-150				5.91		
	3/8	HSK 63A-VX08-105	0.125 - 0.394	1.21	0.787	4.13	MX08	
		HSK 63A-VX08-150				5.91		
	1/2	HSK 63A-VX12-115	0.157 - 0.500	2.03	1.00	4.53	MX12	
		HSK 63A-VX12-150				5.91		

	Max Capacity	Part Number	Collet Range	B	D	L Projection	Collet	Wrench
HSK100A	1/4	HSK 100A-VX06-110	0.079 - 0.250	1.48	0.50	4.33	MX06	45-48 PIN
		HSK 100A-VX06-150				5.91		
	3/8	HSK 100A-VX08-110	0.125 - 0.394	1.21	0.787	4.33	MX08	
		HSK 100A-VX08-150				5.91		
	1/2	HSK 100A-VX12-120	0.157 - 0.500	2.03	1.00	4.53	MX12	
		HSK 100A-VX12-165				6.49		

VX Assembly & Tightening Instructions

The instructions below are a basic procedure. Always use proper safety equipment when working with any machine tool component.

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.

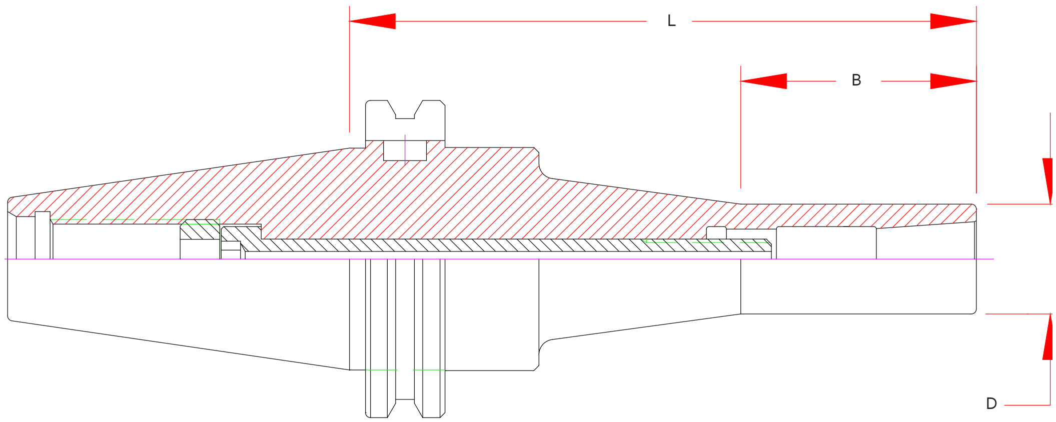
Insert cutter, while holding the cutter hand tighten the locking collar clockwise until the collet holds the tool.

Tighten locking collar to 50 ft/lbs Maximum (70 ft/lbs on 1/2″ & 12mm tools) Do not over tighten or tool can jam or cause excessive TIR!

CAT MX - Mini Chuck

Features

- **3 µm - 0.0001" Runout @ 4X Diameter**
- Rear Draw Bolt System
- Coolant Thru the Center
- DIN B Flange Coolant Optional (add –D)
- Dynamically Pre-Balanced G2.5 @ 25,000 RPM or < 1gmm
- Order Collets & Wrench Separately

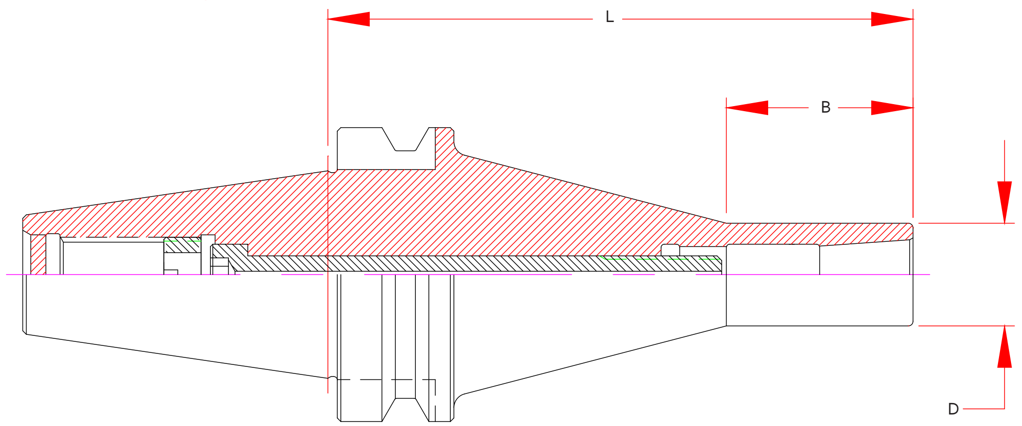


	Capacity	Part Number	Collet Range	B	D	L Projection	Collet	Wrench
CAT40	1/4	CAT40-MX06-085	0.079 - 0.250	1.42	0.50	3.35	MX06	MXW05
		CAT40-MX06-150				5.91		
	3/8	CAT40-MX08-085	0.125 - 0.394	1.42	0.787	3.35	MX08	MXW05
		CAT40-MX08-120				4.72		
		CAT40-MX08-150				5.91		
	1/2	CAT40-MX12-090	0.157 - 0.500	1.38	1.00	3.54	MX12	MXW05
		CAT40-MX12-120				4.72		
CAT50	3/8	CAT50-MX08-110	0.125 - 0.394	1.42	0.787	4.33	MX08	MXW05
		CAT50-MX08-165				6.50		
	1/2	CAT50-MX12-105	0.157 - 0.500	1.38	1.00	4.13	MX12	MXW05
		CAT50-MX12-165				6.50		

BT MX - Mini Chuck

Features

- **3 µm - 0.0001" Runout @ 4X Diameter**
- Rear Draw Bolt System
- Coolant Thru the Center
- DIN B Flange Coolant Optional (add –D)
- Dynamically Pre-Balanced G2.5 @ 25,000 RPM or < 1gmm
- Order Collets & Wrench Separately
- Dual Contact BT30 will function in standard and dual contact spindles

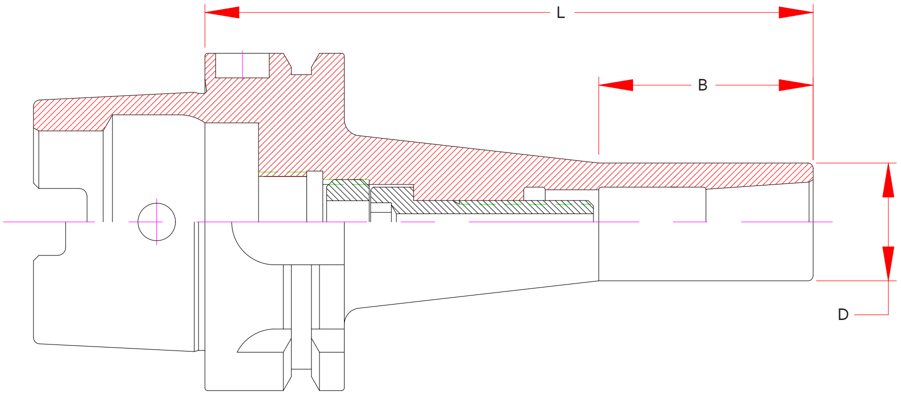


	Capacity	Part Number	Dual Contact Optional	Collet Range	B	D	L Projection	Collet	Wrench
BT30	1/4	DBT30-MX06-090	-	0.079 - 0.250	1.42	0.50	3.54	MX06	MXW05
	3/8	DBT30-MX08-090	-	0.125 - 0.394	1.42	0.787	3.54	MX08	MXW05
	1/2	DBT30-MX12-105	-	0.157 - 0.500	1.38	1.00	4.13	MX12	MXW05
BT40	1/4	BT40-MX06-085	Y	0.079 - 0.250	1.42	0.50	3.35	MX06	MXW05
		BT40-MX06-150					5.91		
	3/8	BT40-MX08-085	Y	0.125 - 0.394	1.42	0.787	3.35	MX08	MXW05
		BT40-MX08-120					4.72		
	1/2	BT40-MX12-090	Y	0.157 - 0.500	1.38	1.00	3.54	MX12	MXW05

HSK MX - Mini Chuck

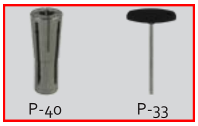
Features

- **3 µm - 0.0001" Runout @ 4X Diameter**
- Rear Draw Bolt System
- Coolant Thru the Center
- Dynamically Pre-Balanced G2.5 @ 25,000 RPM or < 1gmm
- Order Collets & Wrench Separately



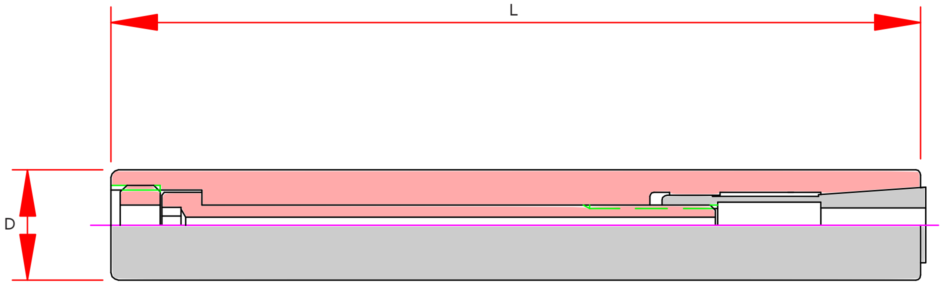
	Capacity	Part Number	Collet Range	B	D	L Projection	Collet	Wrench
HSK63A	1/4	HSK 63A-MX06-100	0.079 - 0.250	1.42	0.50	3.94	MX06	MXW05
	3/8	HSK 63A-MX08-100	0.125 - 0.394	1.42	0.787	3.94	MX08	MXW05
	1/2	HSK 63A-MX12-110	0.157 - 0.500	1.54	1.00	4.33	MX12	MXW05

MX Straight Shank Extensions



Features

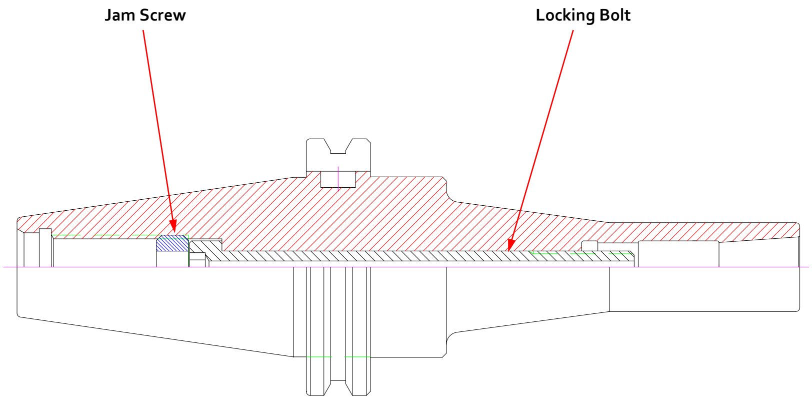
- 3µm - 0.0001" Runout @ 4X Diameter
- Coolant Thru



Part Number	Max Capacity	D	L	Collet	Wrench
S050-MX06-0400	1/4	0.5000	4.00	MX06	MXW05
S050-MX06-0600			6.00		
S075-MX08-0600	3/8	0.7500	6.00	MX08	
S075-MX08-0800			8.00		
S075-MX08-1000			10.00		
S100-MX12-0600	1/2	1.0000	6.00	MX12	
S100-MX12-0800			8.00		

MX - Mini Chuck Replacement Parts

- Select replacement Locking Bolt by Holder #
- Replacement Locking Bolts are coolant thru
- * –FM series is front mounting, requires special assembly tool



Holder #	Locking Bolt #	Bolt Hex	Jam Screw #
BT30-MX06-090	MX/MXCS M06X056C HEX5	5mm	JAM-NUT BT30
BT30-MX08-090	MX/MXCS M08X060-10.0 HEX5	5mm	JAM-NUT BT30
BT30-MX12-105	MX/MXCS M10X025-13.0 HEX5	5mm	JAM-NUT BT30-FM*
BT40-MX06-085	MX/MXCS M06X056C HEX5	5mm	JAM-NUT BT40
BT40-MX06-150	MX/MXCS M06X091C HEX5	5mm	JAM-NUT BT40X60
BT40-MX08-085	MX/MXCS M08X060-13.0 HEX5	5mm	JAM-NUT BT40
BT40-MX08-120	MX/MXCS M08X090-13.0 HEX5	5mm	JAM-NUT BT40
BT40-MX08-150	MX/MXCS M08X120-13.0 HEX5	5mm	JAM-NUT BT40
BT40-MX12-090	MX/MXCS M10X060-13.0 HEX5	5mm	JAM-NUT BT40
BT40-MX12-120	MX/MXCS M10X090-13.0 HEX5	5mm	JAM-NUT BT40
CAT40-MX06-085	MX/MXCS M06X056C HEX5	5mm	JAM-NUT CAT40
CAT40-MX06-120	MX/MXCS M06X091C HEX5	5mm	JAM-NUT CAT40X30
CAT40-MX06-150	MX/MXCS M06X091C HEX5	5mm	JAM-NUT CAT40X60
CAT40-MX08-085	MX/MXCS M08X060-13.0 HEX5	5mm	JAM-NUT CAT40
CAT40-MX08-120	MX/MXCS M08X090-13.0 HEX5	5mm	JAM-NUT CAT40
CAT40-MX08-150 N	MX/MXCS M08X124-13.0 HEX5	5mm	JAM-NUT CAT40
CAT40-MX08-150 P	MX/MXCS M08X124-13.0 HEX5	5mm	JAM-NUT CAT40
CAT40-MX12-090	MX/MXCS M10X060-13.0 HEX5	5mm	JAM-NUT CAT40
CAT40-MX12-120	MX/MXCS M10X090-13.0 HEX5	5mm	JAM-NUT CAT40
CAT50-MX08-110	MX/MXCS M08X090-13.0 HEX5	5mm	JAM-NUT CAT50
CAT50-MX08-165	MX/MXCS M08X120-13.0 HEX5	5mm	JAM-NUT CAT50
CAT50-MX08-225 D	MX/MXCS M08X120-13.0 HEX5	5mm	JAM-NUT CAT50
CAT50-MX08-225 P	MX/MXCS M08X190-13.0 HEX5	5mm	JAM-NUT CAT50
CAT50-MX12-105	MX/MXCS M10X090-13.0 HEX5	5mm	JAM-NUT CAT50
CAT50-MX12-120	MX/MXCS M10X120-13.0 HEX5	5mm	JAM-NUT CAT50
CAT50-MX12-165 D	MX/MXCS M10X120-13.0 HEX5	5mm	JAM-NUT CAT50
CAT50-MX12-165 P	MX/MXCS M10X090-13.0 HEX5	5mm	JAM-NUT CAT50
HSK63A-MX06-100	MX/MXCS M06X035C HEX5	5mm	JAM-NUT BT40
HSK63A-MX08-100	MX/MXCS M08X020-13.0 HEX5	5mm	JAM-NUT BT40
HSK63A-MX12-110	MX/MXCS M10X025-13.0 HEX5	5mm	JAM-NUT BT40
S050-MX06-0400	MX/MXCS M06X064C HEX5	5mm	JAM-NUT S050
S050-MX06-0600	MX/MXCS M06X115C HEX5	5mm	JAM-NUT S050
S075-MX08-0600	MX/MXCS M08X090-10.0 HEX5	5mm	JAM-NUT BT30
S075-MX08-0800	MX/MXCS M08X120-10.0 HEX5	5mm	JAM-NUT BT30
S075-MX08-1000	MX/MXCS M08X171-10.0 HEX5	5mm	JAM-NUT BT30
S100-MX12-0600	MX/MXCS M10X090-13.0 HEX5	5mm	JAM-NUT BT40
S100-MX12-0800	MX/MXCS M10X120-13.0 HEX5	5mm	JAM-NUT BT40

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 –J to the part number (see next page for details)

MX06 Collets

Tool Shank h6		MX06	Tool Shank Enters Depth
1/8	0.1250	MX06-0125	0.81—0.94
5/32	0.1563	MX06-0156	0.83— 0.94
3/16	0.1875	MX06-0187	
7/32	0.2188	MX06-0218	
1/4	0.2500	MX06-0250	0.85—0.94
2.0	0.0787	MX06-M020	0.81—0.94
2.5	0.0984	MX06-M025	
3.0	0.1181	MX06-M030	
3.5	0.1378	MX06-M035	
4.0	0.1575	MX06-M040	0.83— 0.94
4.5	0.1772	MX06-M045	
5.0	0.1969	MX06-M050	
5.5	0.2165	MX06-M055	0.85—0.94
6.0	0.2362	MX06-M060	

MX08 Collets

Tool Shank h6		MX08	Tool Shank Enters Depth
1/8	0.125	MX08-0125	0.75—1.42
5/32	0.1563	MX08-0156	
3/16	0.1875	MX08-0187	0.87—1.42
1/4	0.25	MX08-0250	0.98—1.18
5/16	0.3125	MX08-0312	
3/8	0.375	MX08-0375	1.14—1.18
3.0	0.1181	MX08-M030	0.75—1.42
4.0	0.1575	MX08-M040	0.83—1.42
5.0	0.1969	MX08-M050	0.87—1.42
6.0	0.2362	MX08-M060	0.98—1.42
7.0	0.2756	MX08-M070	1.14—1.18
8.0	0.315	MX08-M080	
9.0	0.3543	MX08-M090	
10.0	0.3937	MX08-M100	

MX12 Collets

Tool Shank h6		MX12	Tool Shank Enters Depth
1/8	0.1250	MX12-0125	0.75—1.61
3/16	0.1875	MX12-0187	0.87—1.61
1/4	0.2500	MX12-0250	1.06—1.61
5/16	0.3125	MX12-0312	1.56—1.61
3/8	0.3750	MX12-0375	1.56—1.65
7/16	0.4375	MX12-0437	
1/2	0.5000	MX12-0500	1.61—1.74
3.0	0.1181	MX12-M030	0.75—1.61
4.0	0.1575	MX12-M040	0.83—1.61
5.0	0.1969	MX12-M050	0.95—1.61
6.0	0.2362	MX12-M060	1.06—1.61
8.0	0.3150	MX12-M080	1.56—1.61
10.0	0.3937	MX12-M100	1.56—1.65
12.0	0.4724	MX12-M120	

PIONEER

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 –Jto the end of the MX Collet number

1/2 Moon Jet-Blast, only used when collet wall is too thin for full diameter Jet-Blast holes.

MX Collet Sets

Features

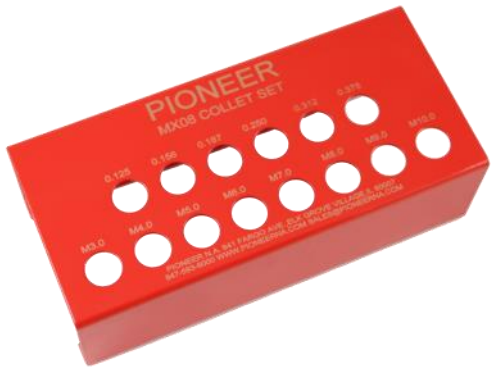
- **3 µm - 0.0001" or Better**
- Includes Collet Tray
  Note: Collet Tray includes positions for Inch and Metric collets, will not be filled unless all sizes are ordered

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

Ultimate Precision | Milling | Precision Drilling | Superior Vibration Dampening

Premium Performance

Ultimate Precision
0.0002" TIR Guaranteed @ 4D or up to 100mm

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

Superior 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 –100ºC 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!

PIONEER

Coolant Cap Sealing System for MC Collets

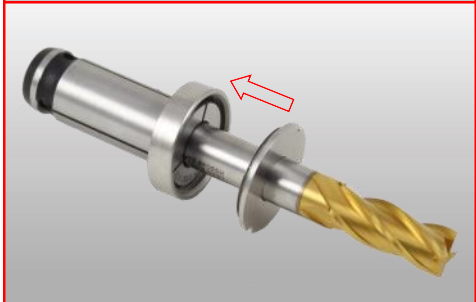
Pioneer Coolant Cap Seals create a positive seal against the face of the Mill Chuck body and the shank of the cutting tool. The system utilizes a standard MC collet, a coolant cap that matches the collet ID, and a coolant cap nut.

- **Low Cost** - Uses standard MC collets
- **Replaceable Seals** - Utilizes standard O-rings for easy low cost replacement

1. MC Collet, MCN Nut & MCC Cap Required, Cap must match cutter shank diameter.

2. Insert a cutting tool into the MCC Cap.

3. Insert the MC collet into the MCN Nut.



4. Insert the cutting tool into the collet, thread the MCC Cap into the MCN Nut.

5. Tighten Cap.

6. Insert the assembly into the Mill Chuck & Tighten fully.

MC Coolant Cap

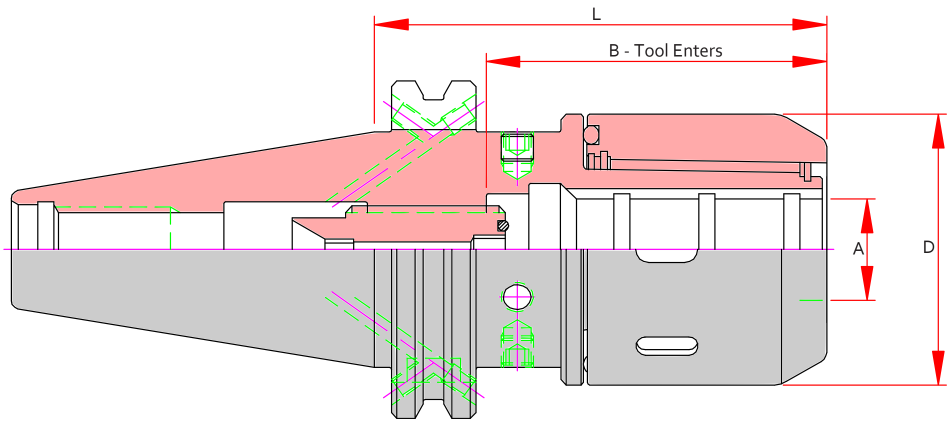
- Works with all MC Collets
- Requires (1) MCN Nut and (1) MCC Cap
- Order Cap to match MC Collet ID Size

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

CAT40 Mill Chucks

Features

- **5 µm - 0.0002" Runout @ 4" out**
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Pre-Balanced for use @ 20,000 RPM's
- Radial Slip Torque 4X ER Chucks
- Order Collets & Wrench Separately
- -S = DIN AD/B and Balanceable Screw Holes



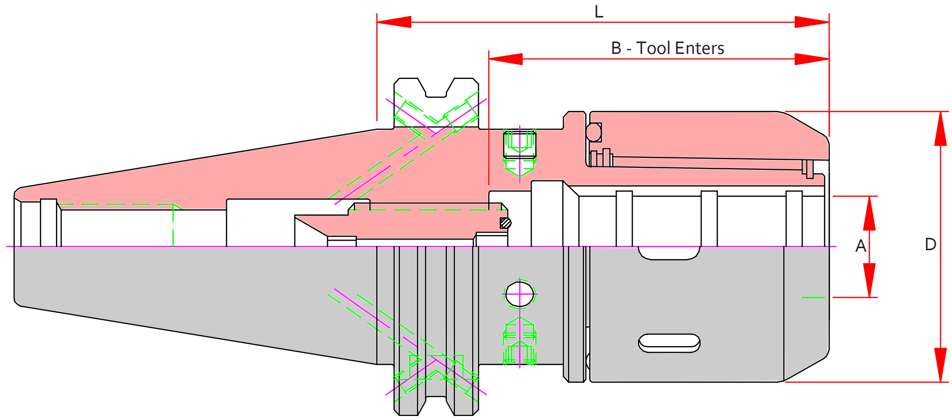
	Part Number	DIN AD/B	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench
3/4	CAT40-MC075-0276 * & **	N	0.7500	2.76	2.09	2.76	ASC-16-40	MC075	50-55 HOOK
	CAT40-MC075-0335-S *	Y				3.35			
	CAT40-MC075-0472	N				4.72			
	CAT40-MC075-0591-S *	Y				5.91			
1"	CAT40-MC100-0335	N	1.0000	2.91	2.44	3.35	ASC-16-40	MC100	58-65 HOOK
	CAT40-MC100-0374-S *	Y				3.74			
	CAT40-MC100-0413	N				4.13			
	CAT40-MC100-0591-S *	Y				5.91			
1-1/4	CAT40-MC125-0354**	N	1.2500	3.07	2.76	3.54	ASC-16-40	MC125	65-70 HOOK
	CAT40-MC125-0413	N				4.13			
	CAT40-MC125-0472-S *	Y				4.72			
	CAT40-MC125-0591-S *	Y				5.91			

* Grey Matt Finish Nut
** No ANSI Safety Area - will not function in umbrella style tool changers

CAT50 Mill Chucks

Features

- **5 µm - 0.0002" Runout @ 4" out**
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Pre-Balanced for use @ 15,000 RPM's
- Radial Slip Torque 4X ER Chucks
- Order Collets & Wrench Separately
- -S = DIN AD/B and Balanceable Screw Holes



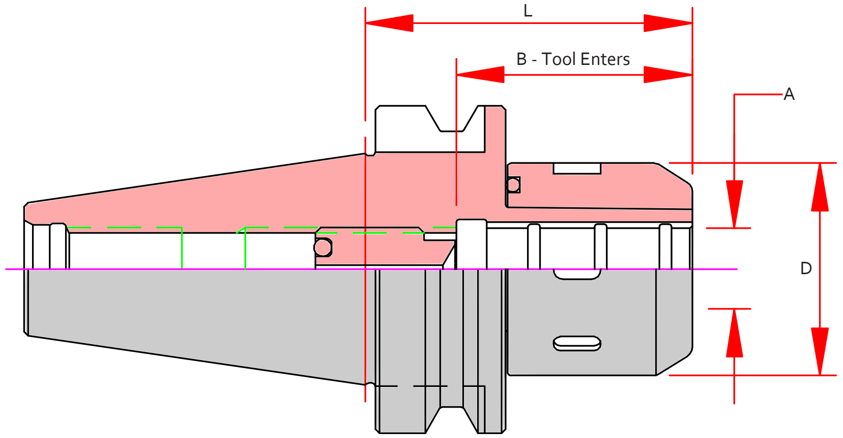
	Part Number	DIN AD/B	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench
3/4	CAT50-MC075-0354-S *	Y	0.7500	2.76	2.09	3.54	ASC-16-40	MC075	50-55 HOOK
	CAT50-MC075-0413	N				4.13			
	CAT50-MC075-0531	N				5.31			
	CAT50-MC075-0650-S *	Y				6.50			
1"	CAT50-MC100-0315	N	1.0000	2.95	2.44	3.15	ASC-16-40	MC100	58-65 HOOK
	CAT50-MC100-0354-S *	Y				3.54			
	CAT50-MC100-0413	N				4.13			
	CAT50-MC100-0531	N				5.31			
	CAT50-MC100-0650-S *	Y				6.50			
1-1/4	CAT50-MC125-0354-S *	Y	1.2500	3.23	2.76	3.54	ASC-16-40	MC125	65-70 HOOK
	CAT50-MC125-0413	N				4.13			
	CAT50-MC125-0531-S *	Y				5.31			
	CAT50-MC125-0650-S *	Y				6.50			

* Grey Matt Finish Nut

BT30 Mill Chucks

Features

- **5 µm - 0.0002" Runout @ 4" out**
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Pre-Balanced for use @ 20,000 RPM's
- -S = Balanceable Screw Holes
- Order Collets & Wrench Separately



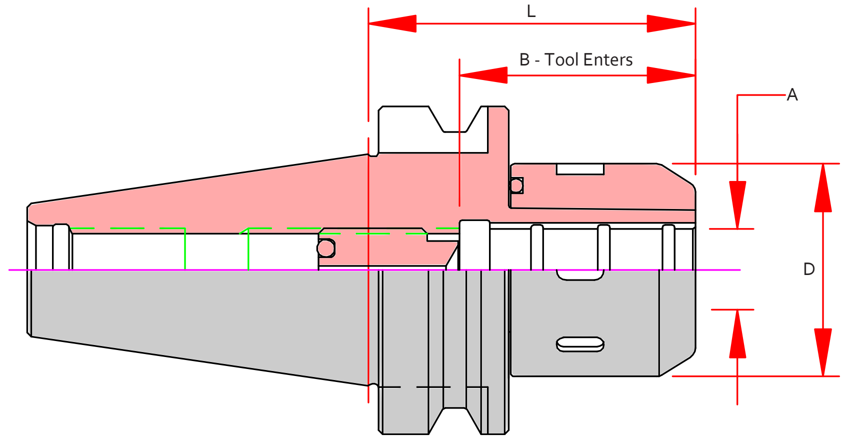
	Part Number	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench
3/4	BT30-MC075-0315	0.7500	2.76	2.09	3.15	ASC-12-30	MC075	50-55 HOOK
	BT30-MC075-0335-S *				3.35			
20mm	BT30-MC20-080	20mm	2.76	2.09	3.15	ASC-12-30	MC20	50-55 HOOK

* Grey Matt Finish Nut

BT40 Mill Chucks

Features

- **5 µm - 0.0002" Runout @ 4" out**
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Pre-Balanced for use @ 20,000 RPM's
- -S = DIN AD/B and Balanceable Screw Holes
- Order Collets & Wrench Separately



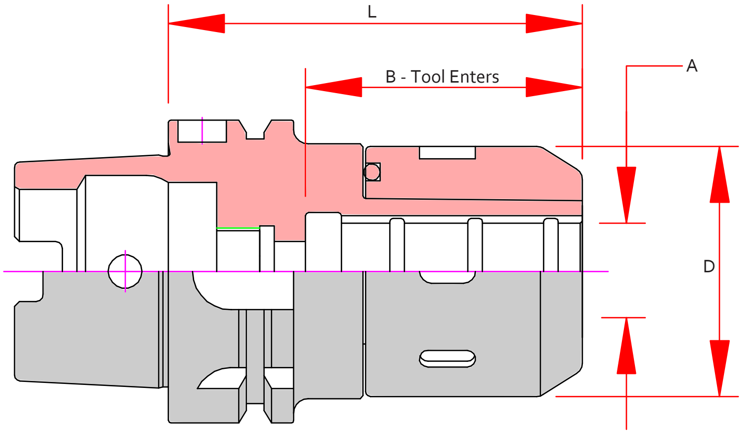
	Part Number	DIN AD/B	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench
3/4	BT40-MC075-0295-S *	Y	0.7500	2.76	2.09	2.95	ASC-16-40	MC075	50-55 HOOK
	BT40-MC075-0472-S *	Y				4.72			
	BT40-MC100-0315	N				3.15			
1"	BT40-MC100-0335-S *	Y	1.0000	2.91	2.44		ASC-16-40	MC100	58-65 HOOK
	BT40-MC100-0472-S *	Y							
	BT40-MC125-0335	N				3.35			
1-1/4	BT40-MC125-0354-S *	Y	1.2500	3.07	2.76		ASC-16-40	MC125	65-70 HOOK
	BT40-MC125-0472-S *	Y				4.72			

* Grey Matt Finish Nut

HSK63A Mill Chuck

Features

- **5 µm - 0.0002” Runout @ 4” out**
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Pre-Balanced for use @ 20,000 RPM’s
- Radial Slip Torque 4X ER Chucks
- Order Collets & Wrench Separately



	Part Number	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench	Balance -able
3/4	HSK63A-MC075-0374	0.7500	2.36	2.09	3.74	-	MC075	50-55 HOOK	N
3/4	HSK63A-MC075-0433-S *	0.7500	2.36	2.09	4.33	ASC-16-18	MC075	50-55 HOOK	Y
1"	HSK63A-MC100-0394	1.0000	2.40	2.44	3.94	-	MC100	58-65 HOOK	N
1"	HSK63A-MC100-0472-S *	1.0000	2.40	2.44	4.72	ASC-16-18	MC100	58-65 HOOK	Y
1-1/4	HSK63A-MC125-0394	1.2500	2.99	2.76	3.94	-	MC125	65-70 HOOK	N
1-1/4	HSK63A-MC125-0472-S *	1.2500	2.99	2.76	4.72	ASC-16-18	MC125	65-70 HOOK	Y
20mm	HSK63A-MC20-110-S	20.000	2.36	2.09	4.33	ASC-16-18	MC20	50-55 HOOK	Y
32mm	HSK63A-MC32-120-S	32.000	2.99	2.76	4.72	ASC-16-18	MC32	65-70 HOOK	Y

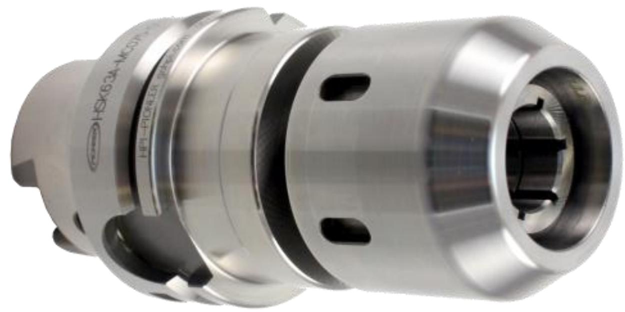
* Grey Matt Finish Nut

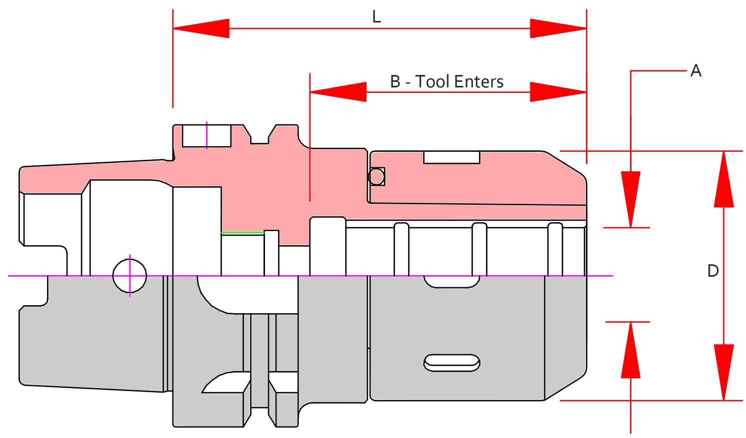
PIONEER

HSK100A Mill Chuck

Features

- **5 µm - 0.0002" Runout @ 4" out**
- Designed for tool shanks w/ h6 tolerance
- Coolant Thru w/ Nylon Screw Seal
- Pre-Balanced for use @ 15,000 RPM's
- Radial Slip Torque 4X ER Chucks
- Order Collets & Wrench Separately





	Part Number	A Bore	B Max. Tool Enters	D	L Projection	Preset Screw	Collet	Wrench	Balance -able
3/4	HSK100A-MC075-0453-S *	0.7500	2.52	2.09	4.53	ASC-16-18	MC075	50-55 HOOK	Y
1"	HSK100A-MC100-0512-S *	1.0000	2.40	2.44	5.12	ASC-16-18	MC100	58-65 HOOK	Y
1-1/4	HSK100A-MC125-0531-S *	1.2500	3.07	2.76	5.31	ASC-16-18	MC125	65-70 HOOK	Y
20mm	HSK100A-MC20-115-S *	20.000	2.52	2.09	4.53	ASC-16-18	MC20	50-55 HOOK	Y
32mm	HSK100A-MC32-135-S *	32.000	3.07	2.76	5.31	ASC-16-18	MC32	65-70 HOOK	Y

* Grey Matt Finish Nut

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
- On Size
  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 3µm - 0.0001" Runout OD to ID**
- Interchangeable with most competitive models
- On Size
  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

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

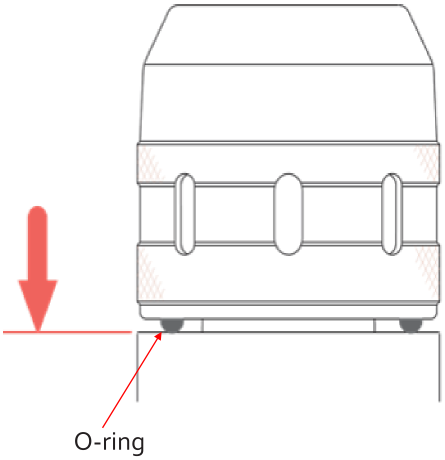
Part Number	Collet Size	Pieces	Includes
MC075-ISET	MC075	9	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8
MC100-ISET	MC100	11	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8
MC125-ISET	MC125	12	1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 3/4, 7/8, 1"
MC075-MSET	MC075	6	6, 8, 10, 12, 14,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

Preset Screws

- Nylon Coolant Screw w/ O-Ring Standard

Part Number	Description	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

Mill Chuck Operation



1. Cutting tools must have an ISO shank tolerance of h6 (0 / -0.0005").
2. It is strongly recommended that the cutting tools have a straight cylindrical shanks to optimize performance. Reducing sleeves (collets) should not be used if possible because holding power is reduced 2-6X using reducing sleeves. Mill Chucks are designed for direct drive without a reducing sleeve (collet). For best performance keep flats on the cutting tools to a minimum.
3. Clean the ID of the Chuck, ID and OD of the Collet and the OD of the tool shank
4. Firmly hold the mill chuck with a tool fixture. Insert the collet or cutter shank into the ID of the MC Chuck, for proper holding the round part of the cutting shank must engage the complete bore depth. When using reducing sleeves (collets) verify the round portion of the cutting tool shank enters the complete length of the collet bore.
5. Tighten the nut using MCW wrench. Tighten the nut all the way down until the O-ring located at the bottom of the nut touches the flange of the body. Note: The nut hitting the shoulder will cause additional TIR. See Step 6.
6. Back off 1/8 - 1/4 turn for semi-finishing and finishing applications, TIR is restored the holder is back to where it was ground.
7. DO NOT tighten the mill chuck without a cutting tool shank inserted. This may cause damage to the mill chuck, or loss of performance.
8. DO NOT tighten past the O-ring touching the body. Over tightening does not increase pressure and damages the bearings in the nut.
9. When changing tools and storing mill chucks it is important to loosen the mill chuck nut completely and disengage the nut until is spins freely. This allows the bearing to return to the home position.
10. If there is noticeable corrosion or wear on the mill chuck ID, taper of the shank, or excessive unsmooth feeling when tightening or loosening the mill chuck nut, please stop using the mill chuck and contact your local service center.

Due to the tolerance variance of the cutter shanks and pressure required a tightening torque value is not supplied. The procedure above if followed will allow the holder to operate for many years without issue.

Premium Performance

Ultimate Precision

0.0001" TIR Guaranteed @ Bore

Long Lasting

Manufactured from ISO-40CrMoV5 (H13) Material, Heat Treated for Optimum Elasticity and Tool Life

Powerful

Toleranced and Ground for as close to 10,000 lbs of pull out force or higher
(cutter shank finish may effect results)

Performance Milling

Designed for Performance Milling with Neutral flute geometry, not designed for hi-helix applications
For Carbide Cutting Tools with h6 shank tolerance

Premium Balance

Dynamically Balanced for
G2.5 @ 25,000 RPM or < 1 gmm's

Highest Quality - Designed to Last

PIONEER Shrink Fit is manufactured from ISO-40CrMoV5 Tool Steel, Double Tempered at 1050ºF 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 or < 1 gmm's

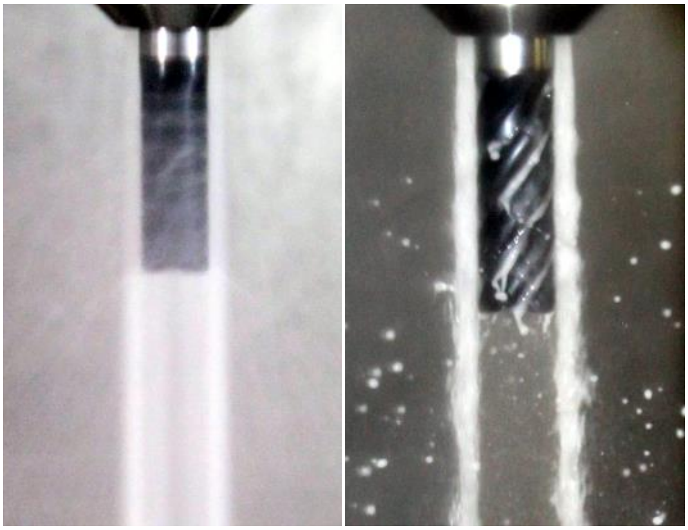
Jet-Blast Options to fit YOUR Application

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 "J" to the end of the part number will provide you with 2 coolant ports. Need additional ports? Add "J 4-Port" to the part number for additional ports (additional fees will apply). Contact our customer service department for details and pricing.

ez Shrink System

EZ-SHRINK-EZ3K-KIT

3kw, 1/8-3/4 Capacity, 220V, 20A Single Phase
User adjustable settings.

Includes:

- EZ Shrink Machine
- (2) Bases
- (1) Cutting Tool Tray
- (1) Pair of Gloves

EZ-COOL-EZ3W-KIT

2 Station, 110V, 16A

Includes:

- EZ Cooling Machine
- (1) Hose Kit
- (1) Cooling Adapter

Part Number	Includes
EZ-SHRINK-EZ3K	Machine Only
EZ-SHRINK-EZ3K-KIT-40	Machine, (2) Base-T40, Gloves, Tool Tray
EZ-SHRINK-EZ3K-KIT-50	Machine, (2) Base-T50, Gloves, Tool Tray
EZ-SHRINK-EZ3K-KIT-63A	Machine, (2) Base-HSK63A, Gloves, Tool Tray
EZ-SHRINK-EZ3K-KIT-100A	Machine, (2) Base-HSK100A, Gloves, Tool Tray

Part Number	Includes
EZ-COOL-EZ3W	Unit Only
EZ-COOL-EZ3W-KIT	Base, Adapter & Hose
EZ-COOL-ADAPTER	Cooling Adapter to fit Base
EZ-COOL-HOSE	Hose & 2 Hose Clamps

Proper cooling is the key to preventing over heating of the tool holders and long life of the H13 tool steel. EZ Cool units uses your shop coolant to returns the holder to a safe to handle temperature in 30 seconds.

EZ Shrink Machine is a 3kw, 30 second unit that functions with 1/8-3/4 (3mm-20mm) cutter shanks (carbide only). Pre-programmed and user adjustable EZ Shrink is simple and effective.

EZ-BASE

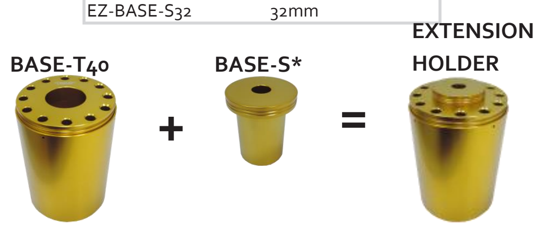
Tapered Shank Bases
For use with EZ3K & EZ3W

Part Number	Shank Size
EZ-BASE-T30	BT30, CAT30, ISO30, SK30
EZ-BASE-T40	BT40, CAT40, ISO40, SK40
EZ-BASE-T50	BT50, CAT50, ISO50, SK50
EZ-BASE-HSK040A	HSK40A, C, E, HSK50F
EZ-BASE-HSK050A	HSK50A, C, E, HSK63F
EZ-BASE-HSK063A	HSK63A, C, E, HSK80F
EZ-BASE-HSK100A	HSK100A, C, E

EZ-BASE-S

Straight Shank Adapters
For use with EZ-BASE-CAT40
(Order Separately)

Part Number	Shank Size
EZ-BASE-S037	3/8"
EZ-BASE-S050	1/2"
EZ-BASE-S075	3/4"
EZ-BASE-S100	1"
EZ-BASE-S10	10mm
EZ-BASE-S12	12mm
EZ-BASE-S16	16mm
EZ-BASE-S20	20mm
EZ-BASE-S25	25mm
EZ-BASE-S32	32mm



EZ-COOL-EXT

Spacer to increase height for extended length holders in the EZ-COOL-EZ3W

Part Number	Description
EZ-COOL-EXT	Extension for Longer Tools

EZ-TOOL-TRAY

For storage of the cutting tools

Part Number	Description
EZ-TOOL-TRAY	Cutting Tool Holder

EZ-GLOVE

Safety Gloves

Part Number	Description
EZ-GLOVE	Protective Gloves

EZ-TABLE

- Dimensions: 48" W x 24" D x 39" H
- Polyurethane coated solid wooden top (48" x 24" x 1.5" thick)
- 2 solid steel drawers with ball bearing sliders; 4 wheels (2 locking)
- Steel frame in graphite finish

Part Number	Size
EZ-TABLE	48" W x 24" D x 39" H

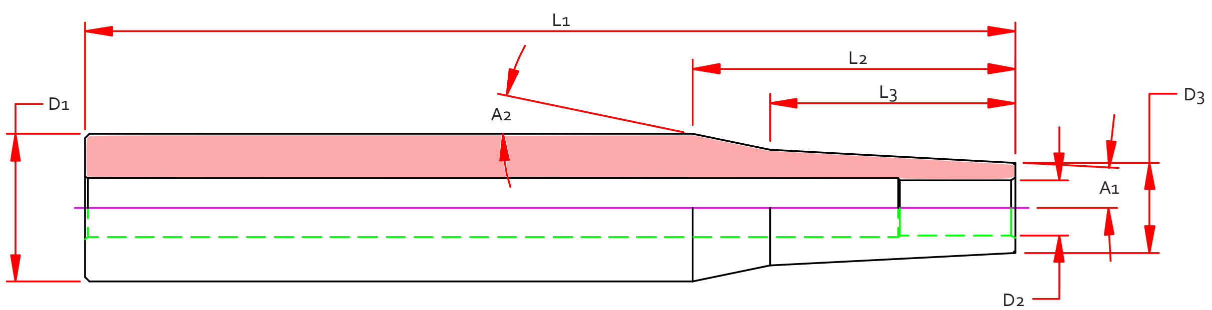
BC
SX
MX
VX
MC
SD
ER
TG
DA
EM
SM
MISC.
QC TAP
ACC.

PIONEER

SD - Shrink Fit Extensions - Inch

Features:

- 3 µm - 0.0001" Runout
- **Designed for Carbide Cutting Tools with h6 shank tolerance**
- Close Center to clear fixtures or part walls
- Manufactured from ISO-40CrMoV5 (H13) Material, Heat Treated for Optimum Elasticity and Tool Life
- Add "-J" for Jet-Blast Coolant Ports
  Note: Due to the thin wall Jet-Blast Ports may be into the bore of the extension.

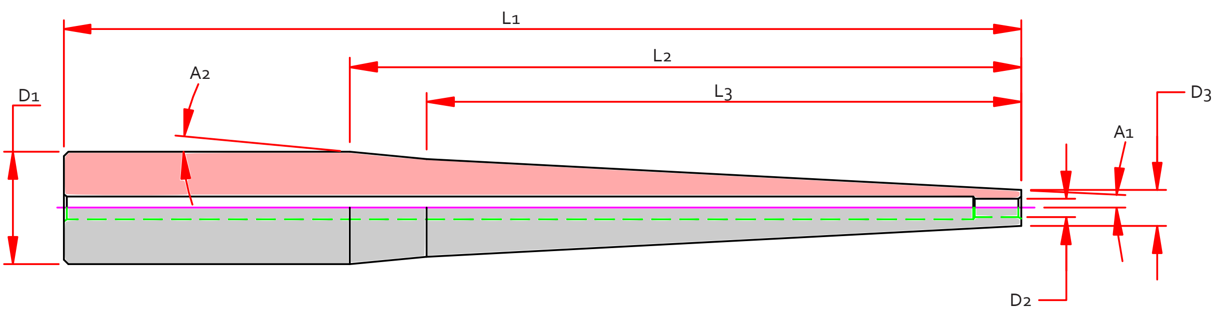


Part Number	D1	D2	D3	L1	L2	L3	A1	A2
S100-SD025-0800	1.0000	0.2500	0.49	8.00	2.17	1.65	3.0°	17.9°
S100-SD031–0800	1.0000	0.3125	0.55	8.00	2.17	1.65	3.0°	14.9°
S100-SD037–0800	1.0000	0.3750	0.61	8.00	2.17	1.65	3.0°	11.8°
S100-SD050–0800	1.0000	0.5000	0.81	8.00	1.71	1.43	2.5°	6.5°

SN - Shrink Fit Slim Nose Extensions - Inch

Features:

- 3 µm - 0.0001" Runout
- **Designed for Carbide Cutting Tools with h6 shank tolerance**
- Close Center to clear fixtures or part walls
- Manufactured from ISO-40CrMoV5 (H13) Material, Heat Treated for Optimum Elasticity and Tool Life
- Add "-J" for Jet-Blast Coolant Ports
  Note: Due to the thin wall Jet-Blast Ports may be into the bore of the extension.

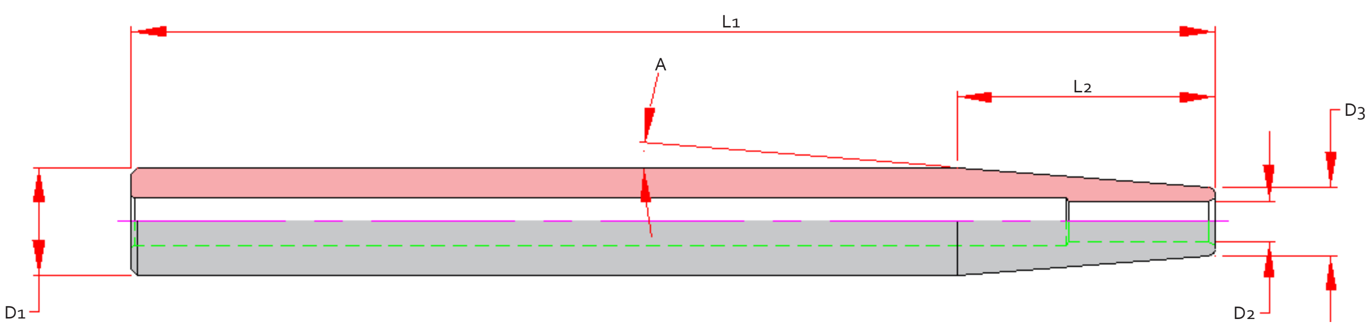


Part Number	D1	D2	D3	L1	L2	L3	A1	A2
S037-SN012-0315	0.3750	0.1250	0.24	3.15	1.40	-	2.8°	-
S037-SN018-0315		0.1875	0.31				1.5°	
S050-SN025–0315	0.5000	0.2500	0.37				2.8°	
S075-SN012–0800	0.7500	0.1250	0.24	8.00	4.46	3.95	3.0°	5.4°
S075-SN018–0800		0.1875	0.31	8.00	4.46	-	2.9°	-
S075-SN025-0433		0.2500	0.37	4.33	1.38	25.6	3.0°	20.2°
S075-SN025–0800		0.2500	0.37	8.00	4.46	-	2.5°	-
S075-SN031-0433		0.3125	0.43	4.33	1.38	1.00	3.0°	16.1°
S075-SN037-0433		0.3750	0.49	4.33	1.38	1.00	3.0°	11.8°
S100-SN037–0800	1.0000	0.3750	0.49	8.00	4.33	3.82	3.0°	6.0°
S100-SN050-0610		0.5000	0.62	6.10	2.00	1.63	2.9°	16.1°
S100-SN050-0800		0.5000	0.62	8.00	4.33	3.82	2.0°	6.0°

SD - Shrink Fit Extensions - Metric

Features:

- 3 µm - 0.0001" Runout
- **Designed for Carbide Cutting Tools with h6 shank tolerance**
- Close Center to clear fixtures or part walls
- Manufactured from ISO-40CrMoV5 (H13) Material, Heat Treated for Optimum Elasticity and Tool Life
- Add "-J" for Jet-Blast Coolant Ports
  Note: Due to the thin wall Jet-Blast Ports may be into the bore of the extension.



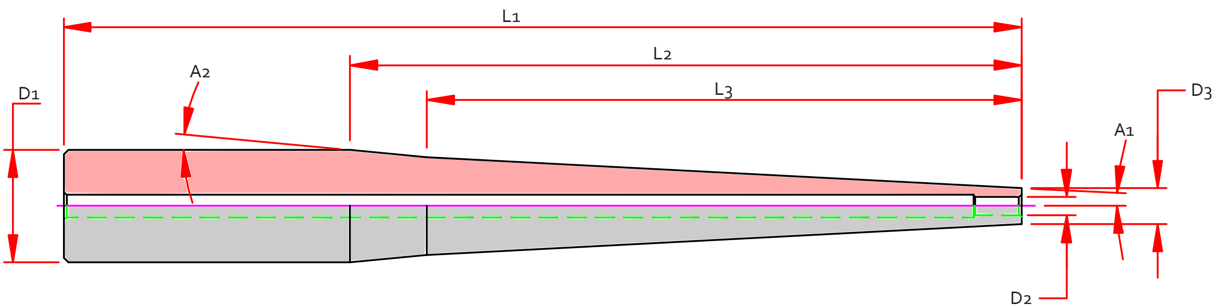
Part Number	D1 Shank mm	D2 Bore mm	D3 Nose mm	L1 Length mm	L2 Nose mm	A Angle
S12-SD03-160	12	3	8	160	25.4	4.5°
S12-SD04-160	12	4	8	160	25.4	4.5°
S16-SD03-160	16	3	10	160	38.1	4.5°
S16-SD04-160	16	4	10	160	38.1	4.5°
S16-SD05-160	16	5	10	160	38.1	4.5°
S16-SN06-140	16	6	9	140	67	3°
S16-SD06-160	16	6	10	160	38.1	4.5°
S20-SD06-160	20	6	14	160	38.1	4.5°
S20-SD06-300	20	6	14	300	38.1	4.5°
S20-SD08-160	20	8	14	160	38.1	4.5°
S20-SD08-300	20	8	14	300	38.1	4.5°
S25-SD10-160	25	10	20	160	31.8	4.5°
S25-SD10-300	25	10	20	300	31.8	4.5°
S25-SD12-160	25	12	20	160	31.8	4.5°
S25-SD12-300	25	12	20	300	31.8	4.5°
S25-SD14-160	25	14	20	160	31.8	4.5°
S25-SD16-160	25	16	22	160	19.1	4.5°
S25-SD16-300	25	16	22	300	19.1	4.5°

PIONEER

SN - Shrink Fit Slim Nose Extensions - Metric

Features:

- 3 µm - 0.0001" Runout
- **Designed for Carbide Cutting Tools with h6 shank tolerance**
- Close Center to clear fixtures or part walls
- Manufactured from ISO-40CrMoV5 (H13) Material, Heat Treated for Optimum Elasticity and Tool Life
- Add "-J" for Jet-Blast Coolant Ports
  Note: Due to the thin wall Jet-Blast Ports may be into the bore of the extension.



Part Number	D1 Shank mm	D2 Bore mm	D3 Nose mm	L1 Length mm	L2 Nose Taper	L3 Nose Taper	A1 Angle 1	A2 Angle 2
S10-SN04-080	10	4	8	80	-	35	1.5	-
S16-SN06-140	16	6	9	140	-	67	3	-
S25-SN10-200	25	10	12.1	200	110	97	3	6

CAT40 Shrink Fit—Inch

Features

- 3 µm - 0.0001" Runout Taper to Bore
- Manufactured from ISO-40CrMoV5 (H13) Material, Heat Treated for Optimum Elasticity and Tool Life
- Coolant Thru the Center & DIN AD+B Flange Coolant
- Tapers are ground better than AT3 for optimal T.I.R.
- Dynamically Balanced for G2.5 @ 25,000 RPM or < 1 gmm
- Preset Screw included for 1/4" & larger for positive stop
- **Designed for Carbide Cutting Tools with h6 shank tolerance**
- Add "-J" for Jet-Blast Coolant Ports
  Note: Due to the construction of the shrink holder the Jet-Blast Ports may be into the bore of the holder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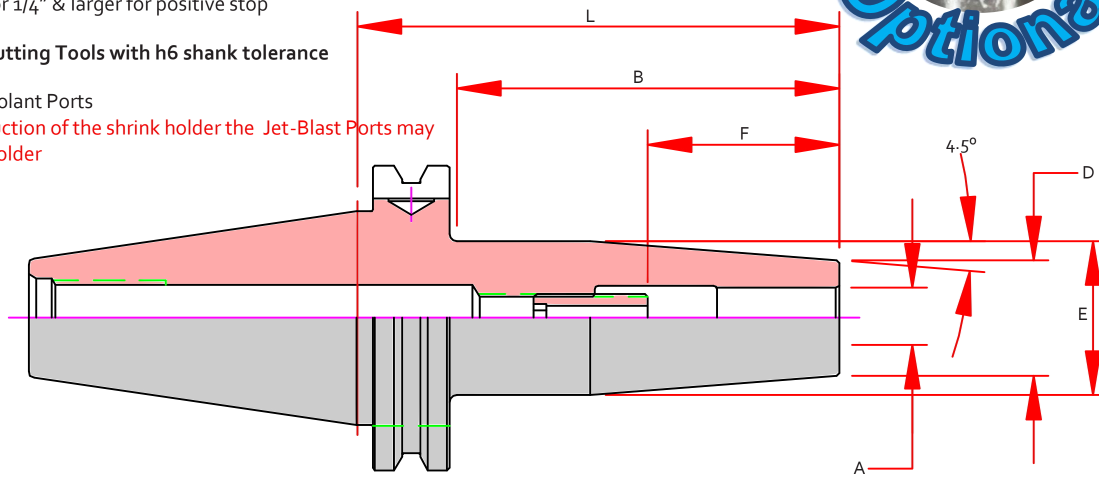


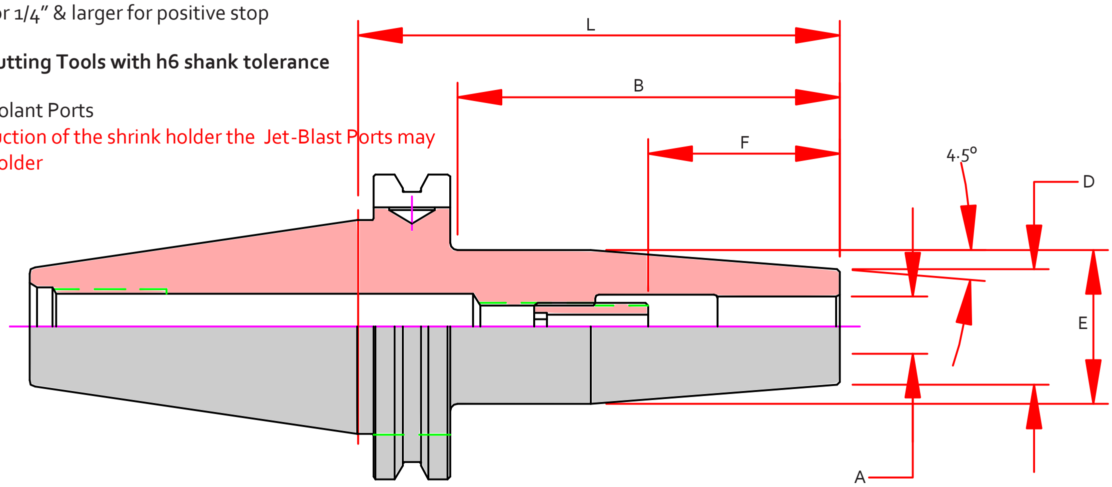
Part Number	A Bore	B	D	E	F Max Tool Enters	L Projection
CAT40-SD012-080	0.1250	2.28	0.39	0.77	4.57	3.15
CAT40-SD012-160	0.1250	5.43	0.39	0.77	7.73	6.30
CAT40-SD018-080	0.1875	2.28	0.39	0.77	4.57	3.15
CAT40-SD018-160	0.1875	5.43	0.39	0.77	7.73	6.30
CAT40-SD025-080	0.2500	2.28	0.83	1.06	1.54	3.15
CAT40-SD025-160	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 (H13) Material, Heat Treated for Optimum Elasticity and Tool Life
- Coolant Thru the Center & DIN AD+B Flange Coolant
- Dynamically Balanced for G2.5 @ 25,000 RPM or < 1 gmm's
- Tapers are ground better than AT3 for optimal T.I.R.
- Preset Screw included for 1/4" & larger for positive stop
- **Designed for Carbide Cutting Tools with h6 shank tolerance**
- Add "-J" for Jet-Blast Coolant Ports
  Note: Due to the construction of the shrink holder the Jet-Blast Ports may be into the bore of the holder

P-142



Part Number	A Bore	B	D	E	F Max Tool Enters	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

BC
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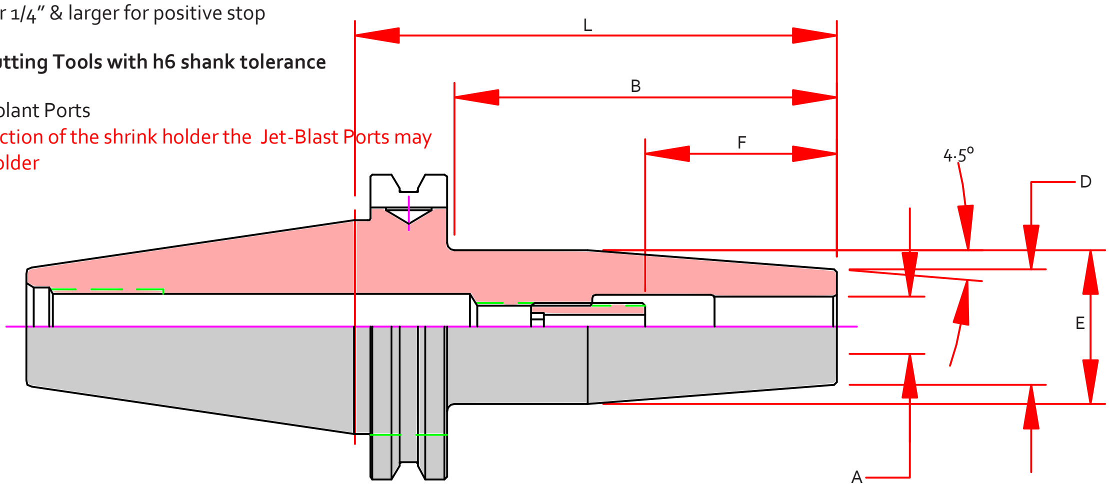
QC TAP
ACC.

CAT50 Shrink Fit—Inch

Features

- 3 µm - 0.0001" Runout Taper to Bore
- Manufactured from ISO-40CrMoV5 (H13) Material, Heat Treated for Optimum Elasticity and Tool Life
- Coolant Thru the Center & DIN AD+B Flange Coolant
- Dynamically Balanced for G2.5 @ 25,000 RPM or < 1 gmm's
- Tapers are ground better than AT3 for optimal T.I.R.
- Preset Screw included for 1/4" & larger for positive stop
- **Designed for Carbide Cutting Tools with h6 shank tolerance**
- Add "-J" for Jet-Blast Coolant Ports
  Note: Due to the construction of the shrink holder the Jet-Blast Ports may be into the bore of the holder
- Made in Germany

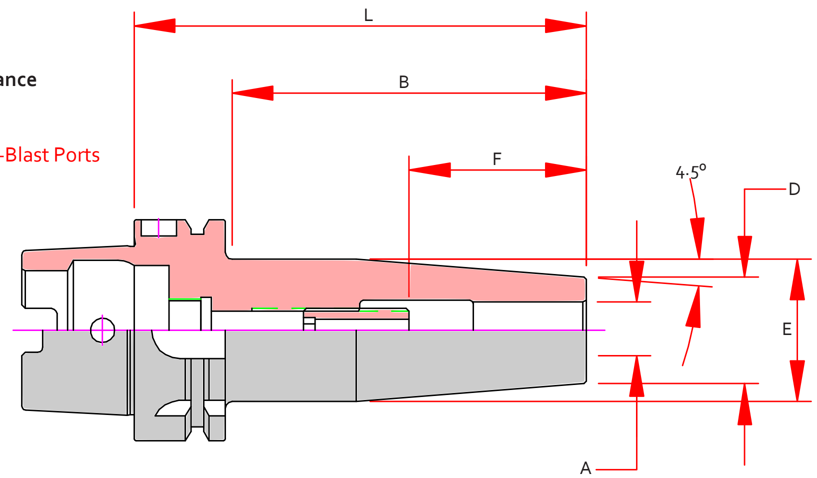


Part Number	A	B	D	E	F	L
CAT50-SD025-080	0.2500	2.32	0.83	1.06	1.46	3.15
CAT50-SD025-160	0.2500	2.76	0.83	1.06	1.46	6.30
CAT50-SD031-080	0.3125	2.32	0.83	1.06	1.46	3.15
CAT50-SD031-160	0.3125	2.76	0.83	1.06	1.46	6.30
CAT50-SD037-080	0.3750	2.32	0.94	1.24	1.65	3.15
CAT50-SD037-160	0.3750	2.76	0.94	1.26	1.65	6.30
CAT50-SD050-080	0.5000	2.32	0.94	1.24	1.65	3.15
CAT50-SD050-160	0.5000	2.76	0.94	1.26	1.65	6.30
CAT50-SD062-080	0.6250	2.32	1.06	1.34	2.01	3.15
CAT50-SD062-160	0.6250	2.76	1.06	1.34	2.01	6.30
CAT50-SD075-080	0.7500	2.32	1.30	1.61	2.09	3.15
CAT50-SD075-160	0.7500	3.35	1.30	1.61	2.09	6.30
CAT50-SD100-100	1.0000	3.11	1.73	2.09	2.32	3.94
CAT50-SD100-160	1.0000	3.35	1.73	2.09	2.32	6.30
CAT50-SD125-100	1.2500	3.11	1.73	2.09	2.48	3.94
CAT50-SD125-160	1.2500	3.35	1.73	2.09	2.48	6.30

HSK63A Shrink Fit—Inch

Features

- 3 µm - 0.0001" Runout
- Manufactured from ISO-40CrMoV5 (H13) Material, Heat Treated for Optimum Elasticity and Tool Life
- Coolant Thru the Center
- Dynamically Balanced for G2.5 @ 25,000 RPM or < 1 gmm's
- Tapers are ground better than AT3 for optimal T.I.R.
- Preset Screw included for 1/4" & larger for positive stop
- **Designed for Carbide Cutting Tools with h6 shank tolerance**
- Add "-J" for Jet-Blast Coolant Ports
  Note: Due to the construction of the shrink holder the Jet-Blast Ports may be into the bore of the holder

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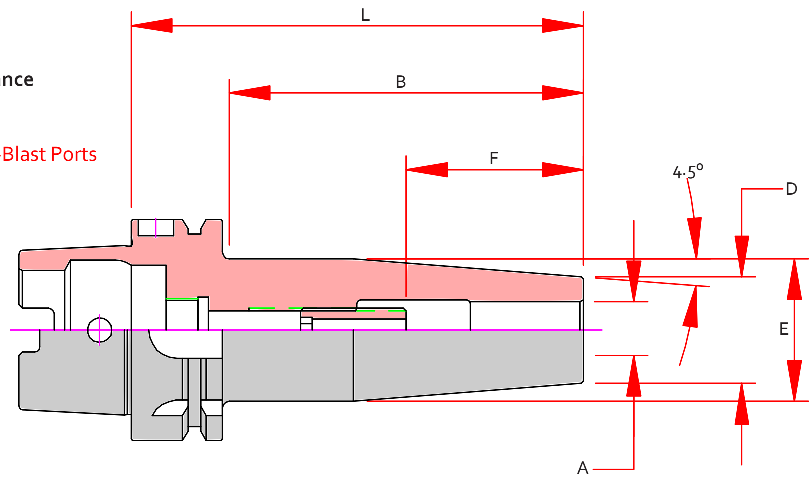
Part Number	A Bore	B	D	E	F Max Tool Enters	L Projection
HSK 63A-SD012-080	0.1250	2.02	0.39	0.71	2.28	3.15
HSK 63A-SD012-160	0.1250	5.16	0.39	0.75	5.43	6.30
HSK 63A-SD018-080	0.1875	2.02	0.39	0.71	2.28	3.15
HSK 63A-SD018-160	0.1875	5.16	0.39	0.75	5.43	6.30
HSK 63A-SD025-080	0.2500	2.02	0.83	1.06	1.54	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 Shrink Fit—Metric

Features

- 3 µm - 0.0001" Runout
- Manufactured from ISO-40CrMoV5 (H13) Material, Heat Treated for Optimum Elasticity and Tool Life
- Coolant Thru the Center
- Dynamically Balanced for G2.5 @ 25,000 RPM or < 1 gmm's
- Tapers are ground better than AT3 for optimal T.I.R.
- Preset Screw included for 1/4" & larger for positive stop
- **Designed for Carbide Cutting Tools with h6 shank tolerance**
- Add "-J" for Jet-Blast Coolant Ports
  Note: Due to the construction of the shrink holder the Jet-Blast Ports may be into the bore of the holder


P-80

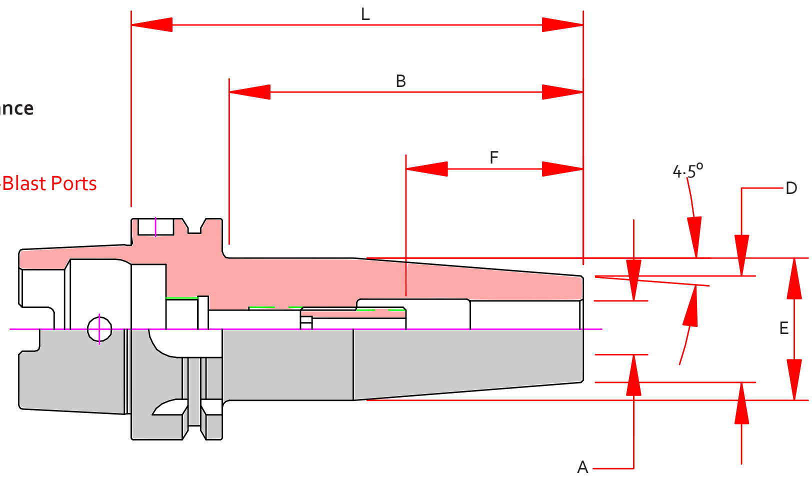


Part Number	A Bore	B	D	E	F Max Tool Enters	L Projection
HSK 63A-SDM03-080	3.000	2.02	0.39	0.71	2.28	3.15
HSK 63A-SDM03-160	3.000	5.16	0.39	0.75	5.43	6.30
HSK 63A-SDM04-080	4.000	2.02	0.39	0.71	2.28	3.15
HSK 63A-SDM04-160	4.000	5.16	0.39	0.75	5.43	6.30
HSK 63A-SDM06-080	6.000	2.02	0.83	1.06	1.54	3.15
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

HSK100A Shrink Fit—Inch

Features

- 3 µm - 0.0001" Runout
- Manufactured from ISO-40CrMoV5 (H13) Material, Heat Treated for Optimum Elasticity and Tool Life
- Coolant Thru the Center
- Dynamically Balanced for G2.5 @ 25,000 RPM or < 1 gmm's
- Tapers are ground better than AT3 for optimal T.I.R.
- Preset Screw included for 1/4" & larger for positive stop
- **Designed for Carbide Cutting Tools with h6 shank tolerance**
- Add "-J" for Jet-Blast Coolant Ports
  Note: Due to the construction of the shrink holder the Jet-Blast Ports may be into the bore of the holder
- Made in Germany



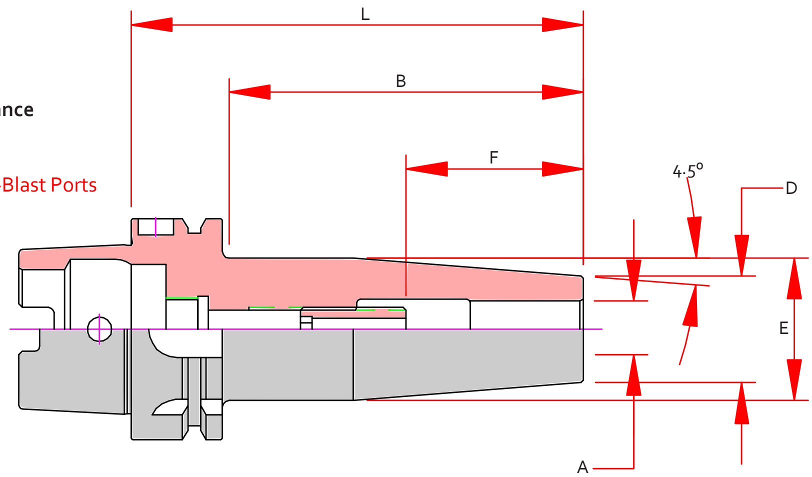
Part Number	A	B	D	E	F	L
HSK100A-SD025-085	0.2500	1.91	0.83	1.06	1.46	3.35
HSK100A-SD025-160	0.2500	2.40	0.83	1.06	1.46	6.30
HSK100A-SD031-085	0.3125	1.91	0.83	1.06	1.46	3.35
HSK100A-SD031-160	0.3125	2.40	0.83	1.06	1.46	6.30
HSK100A-SD037-090	0.3750	2.20	0.94	1.24	1.65	3.54
HSK100A-SD037-160	0.3750	2.40	0.94	1.26	1.65	6.30
HSK100A-SD050-095	0.5000	2.40	0.94	1.26	1.89	3.74
HSK100A-SD050-160	0.5000	2.40	0.94	1.26	1.89	6.30
HSK100A-SD062-100	0.6250	2.60	1.06	1.34	2.01	3.94
HSK100A-SD062-160	0.6250	2.40	1.06	1.34	2.01	6.30
HSK100A-SD075-105	0.7500	2.80	1.30	1.61	2.09	4.13
HSK100A-SD075-160	0.7500	2.99	1.30	1.61	2.09	6.30
HSK100A-SD100-115	1.0000	3.19	1.73	2.09	2.32	4.53
HSK100A-SD100-160	1.0000	4.57	1.73	2.09	2.32	6.30
HSK100A-SD125-120	1.2500	3.39	1.73	2.09	2.48	4.72
HSK100A-SD125-160	1.2500	4.57	1.73	2.09	2.48	6.30

HSK100A Shrink Fit—Metric

__Metric Shrink Inventoried in Germany__
__Extended Delivery time may apply__

Features

- 3 µm - 0.0001" Runout
- Manufactured from ISO-40CrMoV5 (H13) Material, Heat Treated for Optimum Elasticity and Tool Life
- Coolant Thru the Center
- Dynamically Balanced for G2.5 @ 25,000 RPM or < 1 gmm's
- Tapers are ground better than AT3 for optimal T.I.R.
- Preset Screw included for 1/4" & larger for positive stop
- **Designed for Carbide Cutting Tools with h6 shank tolerance**
- Add "-J" for Jet-Blast Coolant Ports
  Note: Due to the construction of the shrink holder the Jet-Blast Ports may be into the bore of the holder
- Made in Germany



Part Number	A	B	D	E	F	L
HSK100A-SDM06-085	6		21	27	37	85
HSK100A-SDM06-160	6		21	27	37	160
HSK100A-SDM06-200	6		21	27	37	200
HSK100A-SDM08-085	8		21	27	37	85
HSK100A-SDM08-160	8		21	27	37	160
HSK100A-SDM08-200	8		21	27	37	200
HSK100A-SDM10-090	10		24	32	42	90
HSK100A-SDM10-160	10		24	32	42	160
HSK100A-SDM10-200	10		24	32	42	200
HSK100A-SDM12-095	12		24	32	48	95
HSK100A-SDM12-160	12		24	32	48	160
HSK100A-SDM12-200	12		24	32	48	200
HSK100A-SDM14-085	14		27	34	48	95
HSK100A-SDM14-160	14		27	34	48	160
HSK100A-SDM14-200	14		27	34	48	200
HSK100A-SDM16-100	16		27	34	51	100
HSK100A-SDM16-160	16		27	34	51	160
HSK100A-SDM16-200	16		27	34	51	200
HSK100A-SDM18-100	18		33	42	51	100
HSK100A-SDM18-160	18		33	42	51	160
HSK100A-SDM18-200	18		33	42	51	200
HSK100A-SDM20-105	20		33	42	53	105
HSK100A-SDM20-160	20		33	42	53	160
HSK100A-SDM20-200	20		33	42	53	200
HSK100A-SDM25-115	25		44	53	59	115
HSK100A-SDM25-160	25		44	53	59	160
HSK100A-SDM25-200	25		44	53	59	200
HSK100A-SDM32-120	32		44	53	63	120
HSK100A-SDM32-160	32		44	53	63	160
HSK100A-SDM32-200	32		44	53	63	200

Drilling | Reaming | Threading | Lite Milling

Premium Performance

Premium Precision

0.0001” TIR OD Taper to ID Taper Guaranteed

Dynamic Balance

Dynamically Balanced Body for use @ 20,000 RPM’s (CAT50 @ 15,000) and the Nuts are also individually 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 prevents chips & debris from entering 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

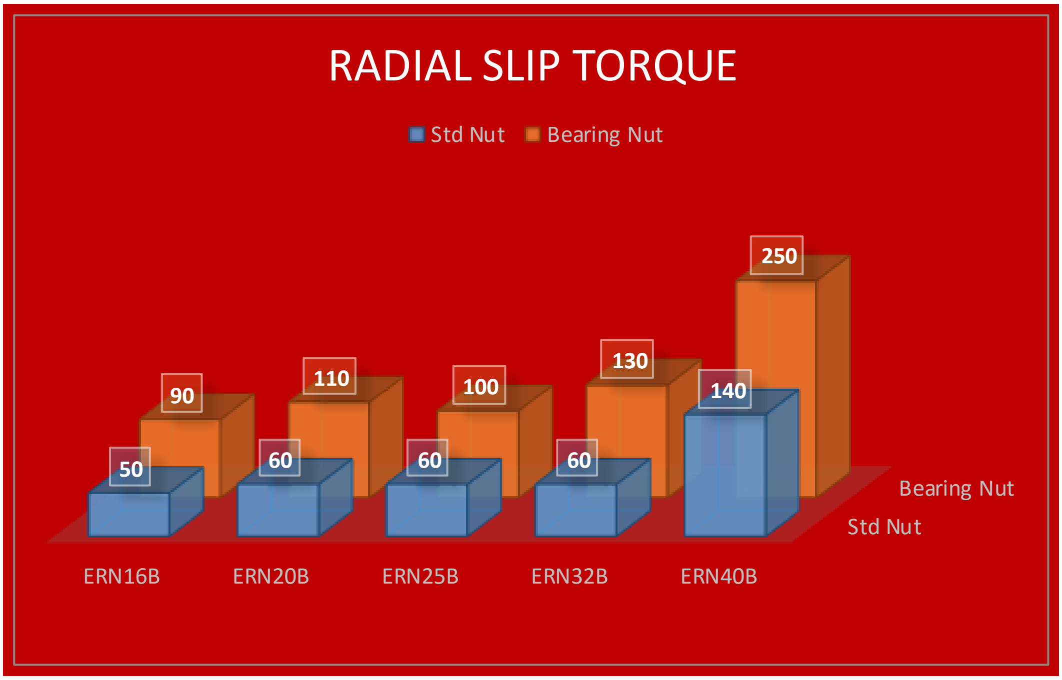
PIONEER

New High Performance Bearing Nuts

Double your grip force

without increasing your locking pressure.

New design provides more holding power than locking torque applied.



ER32 standard nut locked at 100 ft/lbs using a 1/2" carbide test arbor, the arbor slips at 60 ft/lbs of radial torque, using a Pioneer Bearing Nut the arbor slipped at 130 ft/lbs of radial toque. The average improvement on ER16 thru ER40 was 75% to 125% increase in radial holding power.

*Note: Cutter size, material and finish may effect results. Recommend on-size collets when available.

Available sizes & specifications

Part Number	Diameter	Locking Torque ft/lbs	Std Wrench #	Torque Wrench Head #
NUT ERN16B	32 [1.26"]	40	WRENCH 30-32 HOOK	WRENCH TWSQ050-S32
NUT ERN20B	36 [1.42"]	60	WRENCH 34-38 HOOK	WRENCH TWSQ050-S38
NUT ERN25B	43 [1.69"]	75	WRENCH 40-42 HOOK	WRENCH TWSQ050-S40
NUT ERN32B	51 [2.01"]	100	WRENCH 50-55 HOOK	WRENCH TWSQ050-S55
NUT ERN40B	63 [2.48"]	125	WRENCH 58-65 HOOK	WRENCH TWSQ050-S65

Collet Nuts

Pioneer replacement ER nuts exceed industry standard for fit, finish and balance.

ER nuts are in 4 styles, Mini, Hex, E Type & RD Type.

- **Hex Nuts** are standard for ER11, ER16 & ER20. Smaller diameter than E-Type with standard chuck threads. Hex nuts are machined with an eccentric for easy collet installation and removal.
- **E-Type** or castle type use the 4 prong wrench or spanner wrench, standard on ER25, ER32 & ER40. E-Type nuts are machined with a eccentric for easy collet installation and removal.
- **RD** are E Type but with reduced diameters, they are designed to use the E-type wrench, optional on ER16 and ER20. RD nuts are machined with an eccentric for easy collet installation and removal.
- **Mini nuts** are designed for reduced threaded Mini Chucks. Mini nuts use a special E type wrench. Mini's are not interchangeable with Hex or E-Type. Mini nuts are a compression type nut, must be pressed onto the collet for the nut to extract the collet from the chuck.

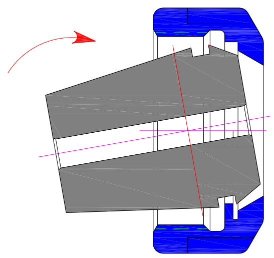
  Note: Mini Nuts do not function well with some sealed and tap collets due to the limited space to tip the collet for removal. Some small ID, tap and sealed collets are difficult to compress causing issues in installation and removal.

Mini Type

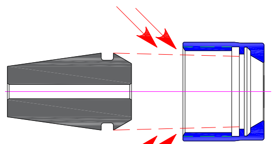
Hex Style

E Type

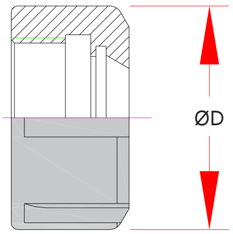
Collet Retainer Type



Hex, E-Type & RD Eccentric Design



Mini Compression Design



RD Nut Comparison

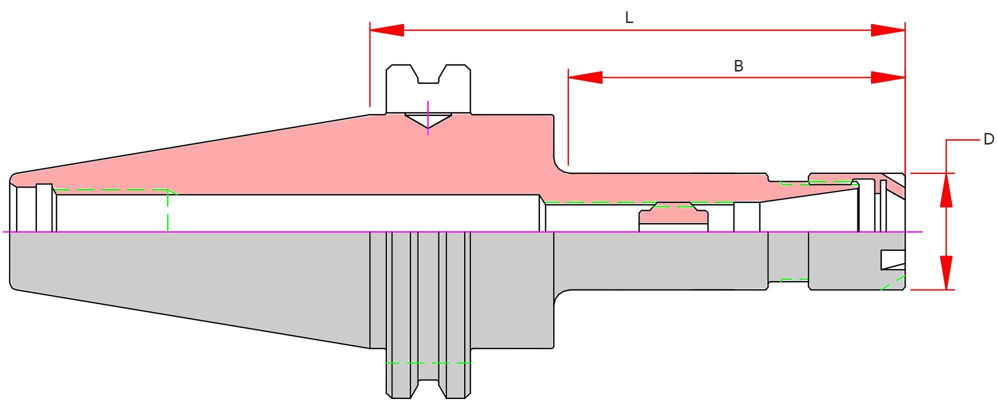
E Type **RD- E Type**

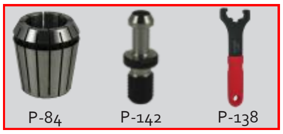
Nut Part Number	Description	Wrench Part Number	Collet Retainer	Ø D	Thread	Max. Torque
ERN-08M	ER 8 Mini Nut	ERW-8M	Compression	0.472 / 12mm	M10 x 0.75	6 ft/lbs
ERN-11H	ER 11 Nut -Hex	ERW-11H	Eccentric	0.787 / 20mm	M14 x 0.75	18 ft/lbs
ERN-11M	ER 11 Mini Nut	ERW-11M	Compression	0.630 / 16mm	M13 x 0.75	9 ft/lbs
ERN-16B	ER 16 Nut - E Type	ERW-16E	Eccentric	1.260 / 32mm	M22 x 1.5	40 ft/lbs
ERN-16H	ER 16 Nut -Hex	ERW-16H	Eccentric	1.102 / 28mm	M22 x 1.5	40 ft/lbs
ERN-16E	ER 16 Nut - E Type	ERW-16E	Eccentric	1.260 / 32mm	M22 x 1.5	40 ft/lbs
ERN-16E-RD	ER 16 Nut - E Type	ERW-16E	Eccentric	1.085 / 27.5mm	M22 x 1.5	40 ft/lbs
ERN-16M	ER 16 Mini Nut	ERW-16M	Compression	0.866 / 22mm	M19 x 1.0	13 ft/lbs
ERN-20B	ER 20 Nut - E Type	ERW-20E	Eccentric	1.380 / 35mm	M25 x 1.5	60 ft/lbs
ERN-20H	ER 20 Nut -Hex	ERW-20H	Eccentric	1.338 / 34mm	M25 x 1.5	60 ft/lbs
ERN-20E	ER 20 Nut - E Type	ERW-20E	Eccentric	1.380 / 35mm	M25 x 1.5	60 ft/lbs
ERN-20E-RD	ER 20 Nut - E Type	ERW-20E	Eccentric	1.260 / 32mm	M25 x 1.5	60 ft/lbs
ERN-20M	ER 20 Mini Nut	ERW-20M	Compression	1.102 / 28mm	M24 x 1.0	17 ft/lbs
ERN-25B	ER 25 Nut - E Type	ERW-25E	Eccentric	1.654 / 42mm	M32 x 1.5	75 ft/lbs
ERN-25E	ER 25 Nut - E Type	ERW-25E	Eccentric	1.654 / 42mm	M32 x 1.5	75 ft/lbs
ERN-32B	ER 32 Nut - E Type	ERW-32E	Eccentric	1.969 / 50mm	M40 x 1.5	100 ft/lbs
ERN-32E	ER 32 Nut - E Type	ERW-32E	Eccentric	1.969 / 50mm	M40 x 1.5	100 ft/lbs
ERN-40B	ER 40 Nut - E Type	ERW-40E	Eccentric	2.480 / 63mm	M50 x 1.5	125 ft/lbs
ERN-40E	ER 40 Nut - E Type	ERW-40E	Eccentric	2.480 / 63mm	M50 x 1.5	125 ft/lbs

CAT40 ER Mini Collet Chucks

Features

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





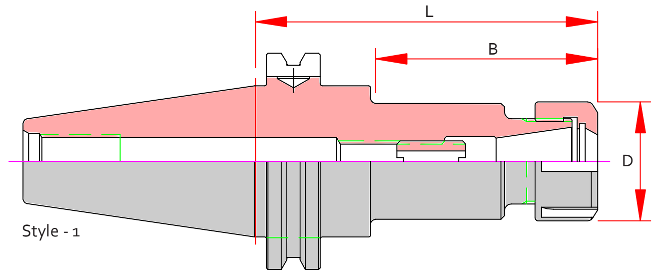
Capacity	Part Number	Range	B	D	L Projection	Screw	Nut	Wrench
1/4	CAT40-ER11M-0250	.019-.276	1.56	0.63	2.50	ASC-ER11	ERN-11M	ERW-11M
	CAT40-ER11M-0400		2.42		4.00			
	CAT40-ER11M-0600		4.42		6.00			
	CAT40-ER11M-0800		6.42		8.00			
3/8	CAT40-ER16M-0250	.019-.394	1.56	0.87	2.50	ASC-ER16	ERN-16M	ERW-16M
	CAT40-ER16M-0400		2.42		4.00			
	CAT40-ER16M-0600		4.42		6.00			
	CAT40-ER16M-0800		6.42		8.00			

Note: Mini Nuts use compression to insert and remove the collet. Due to the size of the nut collet removal can be difficult.

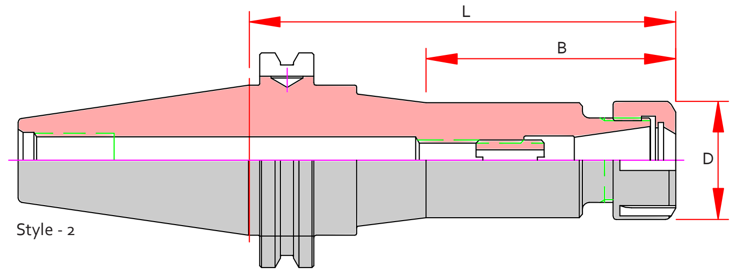
CAT40 ER Collet Chucks

Features

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



Style - 1



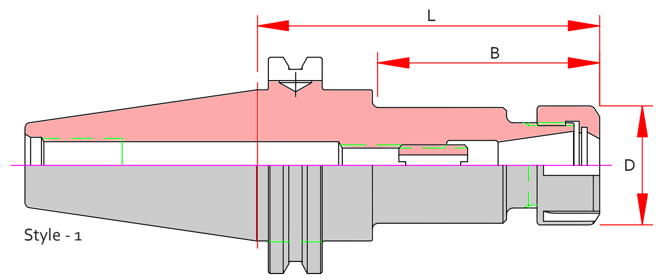
Style - 2

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

Dual Contact CAT40 ER Collet Chucks

Features

- Works in Standard and Dual Contact Spindles
- **3 µm - 0.0001" Runout Taper to Taper**
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 20,000 RPM
- Order Collets & Wrench Separately

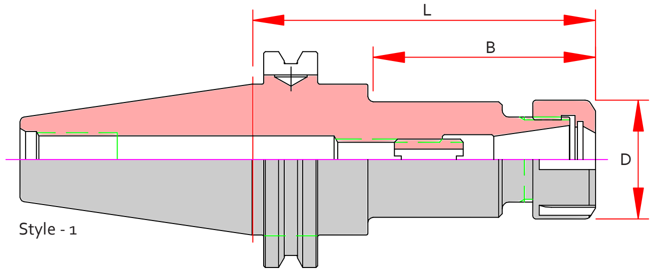


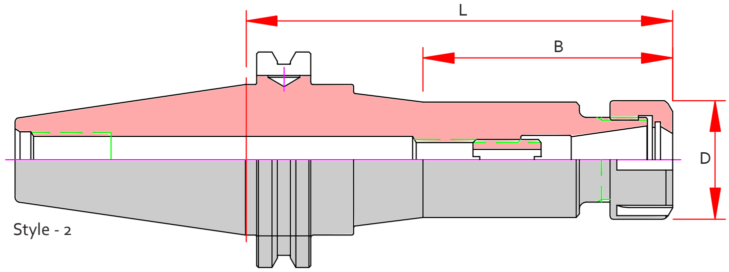
Capacity	Part	Range	B	D	L	Screw	Nut	Wrench	Style
3/8	DCAT40-ER16H-0250	.019-.394	1.55	1.10	2.50	ASC-ER16	ERN-16H	ERW-16H	1
	DCAT40-ER16H-0400		2.42		4.00				1
3/4	DCAT40-ER32-0250	.039-.787	1.73	1.96	2.50	ASC-ER32	ERN-32	ERW-32E	1
	DCAT40-ER32-0400		3.23		4.00				1

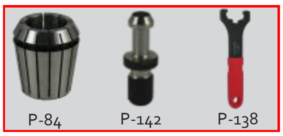
CAT50 ER Collet Chucks

Features

- **3 µm - 0.0001" Runout Taper to Taper**
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 15,000 RPM
- Order Collets & Wrench Separately





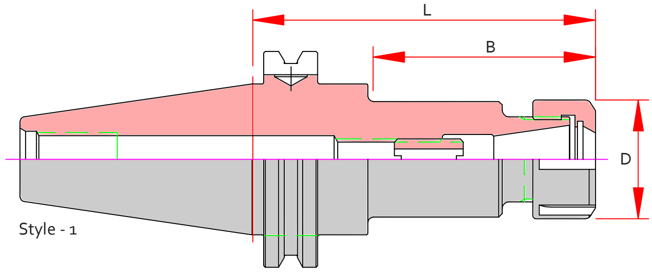


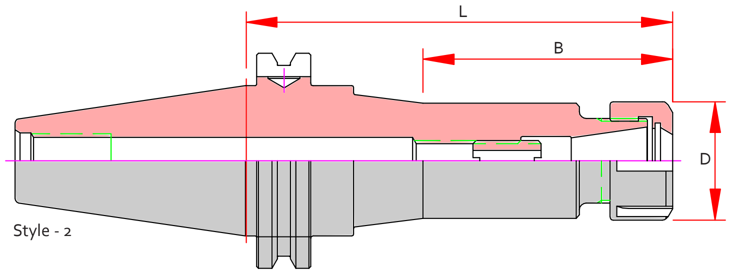
Capacity	Part Number	Range	B	D	L Projection	Screw	Nut	Wrench	Style
3/8	CAT50-ER16H-0250	.019-.394	1.55	1.10	2.50	ASC-ER16	ERN-16H	ERW-16H	1
	CAT50-ER16H-0400		2.42		4.00				1
	CAT50-ER16H-0600		2.39		6.00				2
	CAT50-ER16H-0800		2.39		8.00				2
	CAT50-ER16H-1000		2.39		10.00				2
	CAT50-ER16H-1200		2.39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

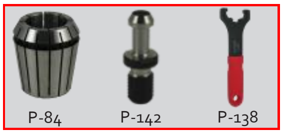
Dual Contact CAT50 ER Collet Chucks

Features

- Works with Standard and Dual Contact Spindles
- **3 µm - 0.0001" Runout Taper to Taper**
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 15,000 RPM
- Order Collets & Wrench Separately





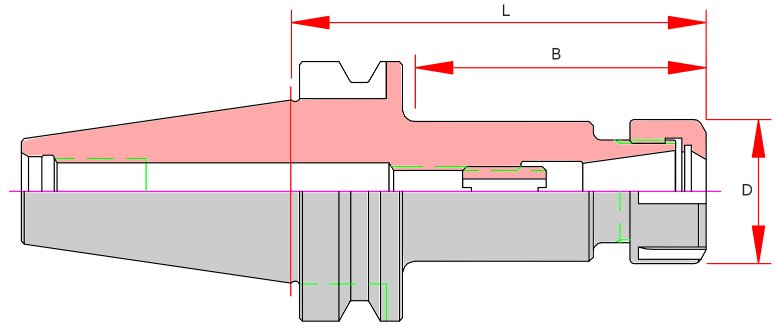


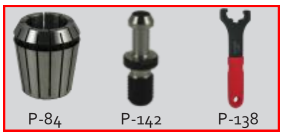
Capacity	Part Number	Range	B	D	L Projection	Screw	Nut	Wrench	Style
3/8	DCAT50-ER16H-0400	.019-.394	2.42	1.10	4.00	ASC-ER16	ERN-16H	ERW-16H	1
	DCAT50-ER16H-0600		2.39		6.00				2
	DCAT50-ER16H-0800		2.39		8.00				2
	DCAT50-ER16H-1000		2.39		10.00				2
	DCAT50-ER16H-1200		2.39		12.00				2
	DCAT50-ER16H-1500		2.39		15.00				2
3/4	DCAT50-ER32-0400	.039-.787	2.50	1.96	4.00	ASC-ER32	ERN-32	ERW-32E	1
	DCAT50-ER32-0600		4.50		6.00				1
	DCAT50-ER32-0800		6.50		8.00				1
	DCAT50-ER32-1000		4.45		10.00				2
	DCAT50-ER32-1200		4.45		12.00				2
	DCAT50-ER32-1500		4.45		15.00				2

BT30 ER Collet Chucks

Features

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



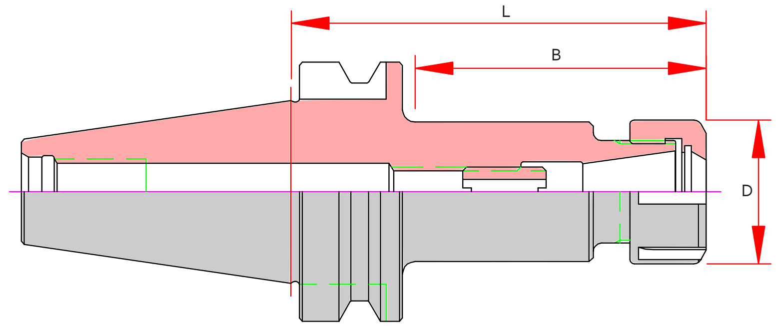


Capacity	Part Number	Range	B	D	L Projection	Screw	Nut	Wrench
1/4	BT30-ER11H-060	.019-.276	1.45	0.74	2.36	ASC-ER11	ERN-11H	ERW-11H
	BT30-ER11H-100		2.95		3.94			
3/8	BT30-ER16H-070	.019-.394	1.85	1.10	2.76	ASC-ER16	ERN-16H	ERW-16H
	BT30-ER16H-100		3.03		3.94			
1/2	BT30-ER20H-070	.019-.512	1.85	1.33	2.76	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

Dual Contact BT30 ER Collet Chucks

Features

- Works in Standard and Dual Contact Spindles
- **3 µm - 0.0001" Runout Taper to Taper**
- Coolant Thru Center
- Balanced G2.5 @ 25,000 RPM
- Order Collets & Wrench Separately

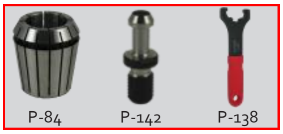


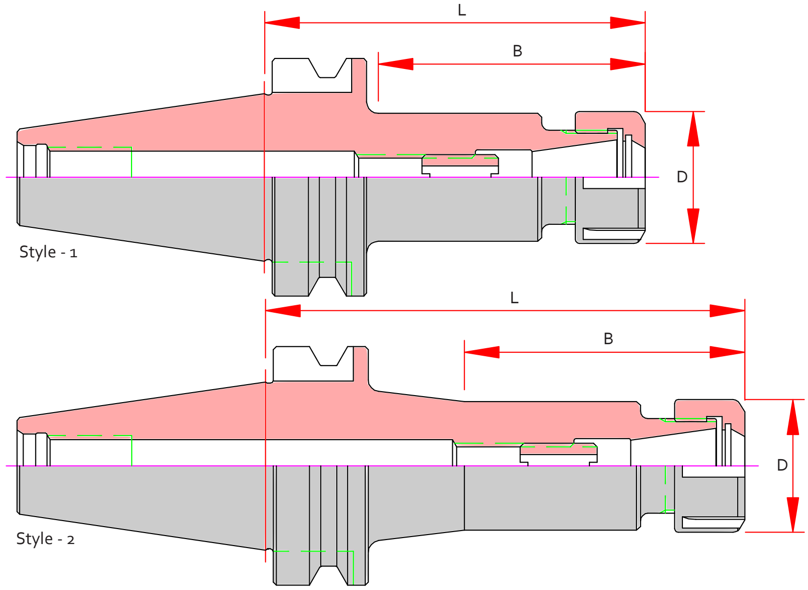
Capacity	Part Number	Range	B	D	L Projection	Screw	Nut	Wrench
1/4	DBT30-ER11H-060	.019-.276	1.45	0.74	2.36	ASC-ER11	ERN-11H	ERW-11H
3/8	DBT30-ER16H-060	.019-.394	1.73	1.10	2.36	ASC-ER16	ERN-16H	ERW-16H
1/2	DBT30-ER20H-060	.019-.512	1.73	1.33	2.36	ASC-ER20	ERN-20H	ERW-20H
5/8	DBT30-ER25-060	.019-.630	1.73	1.65	2.36	ASC-ER25	ERN-25	ERW-25E
3/4	DBT30-ER32-060	.039-.787	1.73	1.96	2.36	ASC-ER32	ERN-32	ERW-32E

BT40 ER Collet Chucks

Features

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



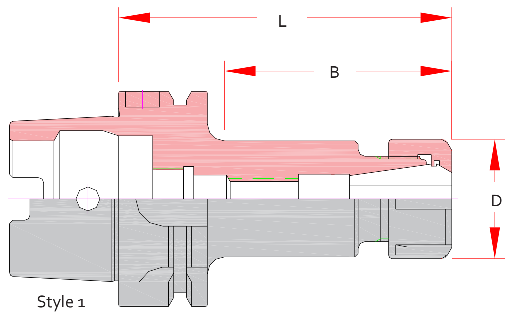


Capacity	Part Number	Range	B	D	L Projection	Screw	Nut	Wrench	Style
	BT40-ER11H-060		1.18		2.36				1
1/4	BT40-ER11H-100	.019-.276	2.75	0.74	3.94	ASC-ER11	ERN-11H	ERW-11H	1
	BT40-ER11H-150		1.57		5.91				1
	BT40-ER16H-060		1.18		2.36				1
3/8	BT40-ER16H-100	.019-.394	2.75	1.10	3.94	ASC-ER16	ERN-16H	ERW-16H	1
	BT40-ER16H-160		5.11		6.30				2
	BT40-ER20H-070		1.57		2.76				1
1/2	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
	BT40-ER25-060		1.26		2.36				1
5/8	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
	BT40-ER32-075		1.88		2.95				1
3/4	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

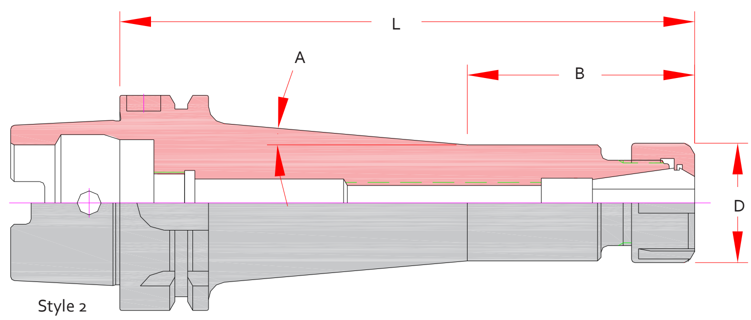
HSK 63A ER Collet Chucks

Features

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



Style 1



Style 2

Capacity	Part	Style	A	B	D	Max.	L	Screw	Nut	Wrench
0.394	HSK63A-ER16H-100	1	-	2.79	1.10	2.00	3.94	ASC-ER16	ERN-16H	ERW-16H
	HSK63A-ER16H-160	2	5°	2.36		3.05	6.30			
0.512	HSK63A-ER20H-100	1	-	2.65	1.33	1.87	3.94	ASC-ER20	ERN-20H	ERW-20H
	HSK63A-ER20H-160	1	-	5.08		2.89	6.30			
0.630	HSK63A-ER25-100	1	-	2.72	1.65	2.20	3.94	ASC-ER25	ERN-25	ERW-25\E
	HSK63A-ER25-160	1	-	5.08		3.90	6.30			
0.787	HSK63A-ER32-100	1	-	2.83	1.96	2.17	3.94	ASC-ER32	ERN-32	ERW-32E
	HSK63A-ER32-160	1	-	5.20		4.33	6.30			
1.024	HSK63A-ER40-120	1	-	3.70	2.48	2.83	4.72	ASC-ER40	ERN-40	ERW-40E
	HSK63A-ER40-150	1	-	4.88		4.02	5.91			

HSK Coolant Tubes

- Fits HSK Form A Shanks
- Double Seal Design
  Replacement O-Rings listed, CS= Cross Section

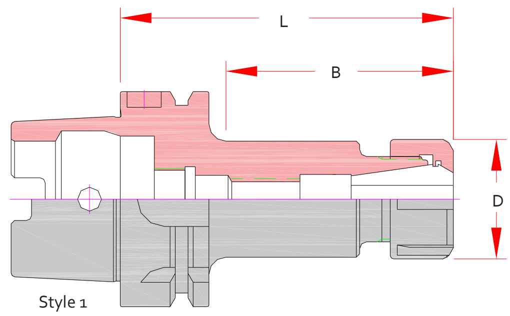
Part	Description	Inner	Outer	Wrench
TUBE-063A	HSK 63A Coolant Tube	10mm ID x 2mm CS	10.8mm ID x 2.4mm CS	WRENCH HSK63A COOLNT TUBE
TUBE-100A	HSK 100A Coolant Tube	15mm ID x 3mm CS	15mm ID x 3mm CS	WRENCH HSK100 COOLNT TUBE

PIONEER

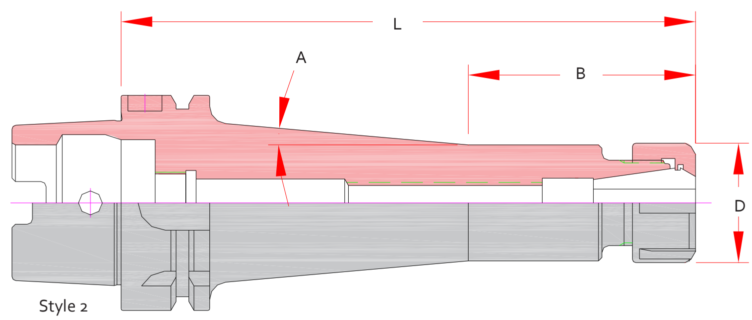
HSK 100A ER Collet Chucks

Features

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



Style 1



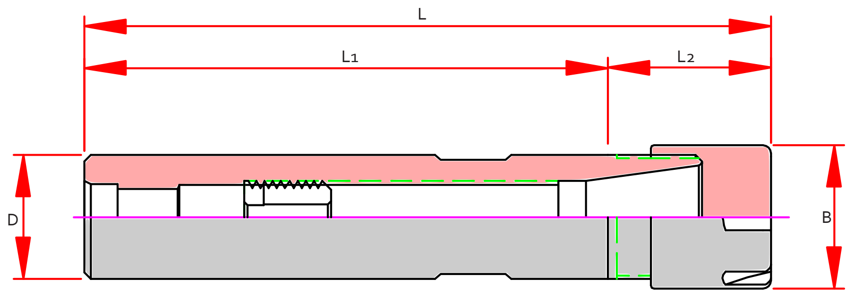
Style 2

Capacity	Part	Style	A	B	D	Max.	L	Screw	Nut	Wrench
0.394	HSK100A-ER16H-100	1	-	2.20	1.10	2.80	3.94	ASC-ER16	ERN-16H	ERW-16H
	HSK100A-ER16H-160	2	6°	2.76		5.17	6.30			
0.630	HSK100A-ER25-100	1	-	2.20	1.65	2.63	3.94	ASC-ER25	ERN-25	ERW-25\E
	HSK100A-ER25-160	2	3°	3.35		2.95	6.30			
0.787	HSK100A-ER32-100	1	-	2.20	1.96	2.67	3.94	ASC-ER32	ERN-32	ERW-32E
	HSK100A-ER32-160	2	3°	3.39		3.22	6.30			
1.024	HSK100A-ER40-120	1	-	3.39	2.48	3.46	4.72	ASC-ER40	ERN-40	ERW-40E
	HSK100A-ER40-160	2	4°	3.48		3.78	6.30			

Mini-Nut ER Straight Shank

Features

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

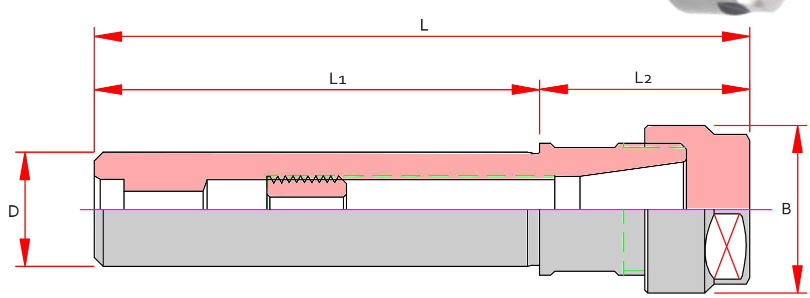


Part Number	Collet Type	B	D	L	L1	L2	Preset Screw	Max Tool Dia.	Wrench	Nut Type	Coolant Thru	Optional 1/8 Hole
S037-ER08M-0394	ER8	0.47	0.375	4.88	3.94	0.94	N/A	0.19	ERW-08M	Mini	N	-C
S050-ER11M-0552	ER11	0.63	0.500	6.56	5.51	1.04	N/A	0.29	ERW-11M	Mini	Y	
S050-ER16M-0552	ER16	0.87	0.500	6.97	5.51	1.46	N/A	0.26	ERW-16M	Mini	Y	
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

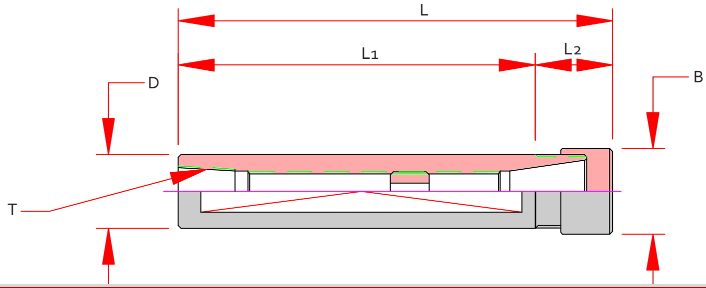


Part Number	Collet Type	B	D	L	L1	L2	Preset Screw	Max Tool Dia.	Wrench	Nut Type	Coolant Thru	Optional 1/8 Hole
S050-ER11H-0552	ER11	0.75	0.500	6.87	5.51	0.85	N/A	0.28	ERW-11H	Hex	N	-C
S062-ER11H-0552	ER11	0.75	0.625	6.87	5.51	0.85	N/A	0.28	ERW-11H	Hex	N	-C
S062-ER16H-0236	ER16	1.10	0.625	3.74	2.36	1.38	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

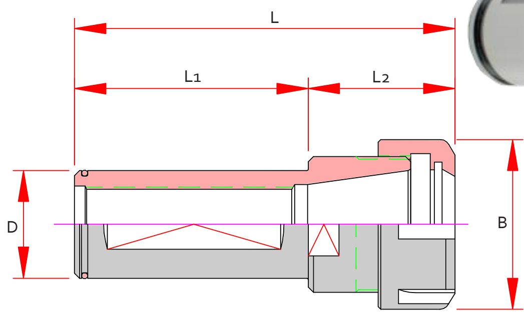


Part Number	Collet Type	B	D	L	L1	L2	T- Thread	Set Screw	Max Tool Dia.	Wrench	Nut Type
S075-ER16M-0342C	ER16	0.87	3/4"	4.34	3.42	0.92		ASC-ER16	0.38	ERW-16M	Mini
S100-ER20M-0331C	ER20	1.10	1"	4.38	3.31	1.07	1/4" NPT	ASC-ER20	0.50	ERW-20M	Mini
S125-ER32-0236C	ER32	1.97	1 1/4"	4.52	2.36	2.16		ASC-ER32	0.75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

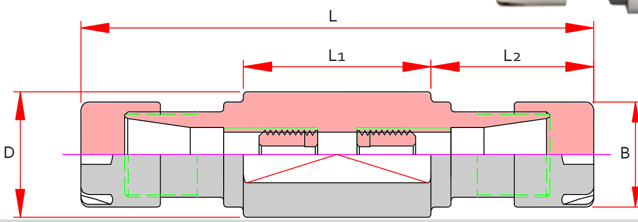


Part Number	Collet Type	B	D	L	L1	L2	ID Thread	Wrench	Nut Type	O-Ring Shank Seal
S125-ER25-0236NC	ER25	1.65	1-1/4"	3.82	2.36	1.46	11/16-16	ERW-25E	E -Spanner	AS-024
S125-ER32-0236NC	ER32	1.97	1-1/4"	4.06	2.36	1.69	15/16-16	ERW-32E	E -Spanner	AS-024
S125-ER40-0236NC	ER40	2.48	1-1/4"	4.72	2.36	2.36	15/16-16	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

Optimize your work in many ways:

Coated collets are corrosion protection, quality protection, investment protection and environmental protection all in one:

The nominal geometry between the collet and the taper seat in the chuck is maintained for a long lasting permanent surface contact without corrosion-related irregularities. The parts in manufacturing stay longer in the specified tolerances. The number of faulty parts decreases. You can keep production processes longer on a high level, you can save time and you can also guarantee short terms of delivery.

A higher concentricity extends the tool lives. Thus, you save time and money by reducing set up times. Collets have to be replaced less frequently or can be used longer for precision applications. Less imbalance on the tools relieves the machine spindle permanently – your maintenance costs will be reduced.

Longer service life saves valuable resources.

This means: no matter in which field you can benefit from the new technology in any case.

Rust on collets reduces the lifetime of your tools and leads to significant loss of precision. A pioneering new technology which protects collets from corrosion in the long term.

HER Premium 2µm ER Collets

Features

- Premium 0.002mm TIR (.000079") @ 3D + Chuck TIR
    - Average runout in a Premium ER chuck is 0.003mm @ 3D
    - HER08 collets guaranteed 0.005mm (0.0002") @ 3D + Chuck TIR
- On-Size Collets, designed for tools with ISO h6 Shank Tolerance
- Part Numbers are HER (Size of Collet)-(Size of Bore)P (P=2µm)
    - Ordering Example:
        - HER16 5.5mm = HER16-M055P
        - HER32 1/4 = HER32-0250P

For the best fit and overall performance, Pioneer recommend using HER collets in Pioneer ER Bearing Nuts.

HER collets can withstand higher torque values and provide exceptional performance. This is not always achieved in some standard 1 piece locking nuts. The blue ring designating HER also does not fit properly in many competitor nuts.

See Page 71 for available sizes.

Series	Accuracy	D	L	Available Sizes	Increments - Steps in ID
HER08 P	5µm	8.5	13.6	1.0 - 5.0	0.5
				1/16, 1/8, 3/16	
HER11 P	2µm	11.3	18	1.0 - 7.0	0.5
				1/16 - 1/4	1/32
HER16 P	2µm	17	27.5	1.0 - 10.0	0.5
				1.1 - 1.4, 1.6 - 1.9, 2.1 - 2.4	0.1
				2.6 - 2.9, 3.1 - 3.4, 3.6 - 3.8	0.1
				5.6, 6.3, 7.1	
				1/16 - 3/8	1/32
HER20 P	2µm	21	31.5	1.0 - 13.0	0.5
				1/8 - 1/2	1/16
HER25 P	2µm	26	34	1.0 - 16.0	0.5
				1/8 - 5/8	1/16
HER32 P	2µm	33	40	2.0 - 20.0	0.5
				1/8 - 3/4	1/16
HER40 P	2µm	41	46	3.0 - 26.0	0.5
				1/8 - 7/8	1/16
				& 1"	

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

Collet Sets

Part Number	Collet Size	Pieces	Includes
ER11-ISET07	ER11	7	1/16 - 1/4" by 1/32"
ER16-ISET10	ER16	10	3/32 - 3/8" by 1/32"
ER20-ISET12	ER20	12	5/32 - 1/2" by 1/32"
ER25-ISET15	ER25	15	3/16 - 5/8" by 1/32"
ER32-ISET18	ER32	18	7/32 - 3/4" by 1/32"
ER40-ISET13	ER40	13	1/8 - 3/4 by 1/16" + 7/8 & 1"
ER40-ISET15	ER40	15	1/8 - 1" by 1/16"
ER40-ISET29	ER40	29	1/8 - 1" by 1/32"

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

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	Tool	Tool	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	Tool	Tool	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 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 Inch	Tool Min Inch	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 Inch	Tool Min Inch	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

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

ER16 Metric Collets

Tool Max	Tool Min	Tool Max Inch	Tool Min Inch	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

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 Inch	Tool Min Inch	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 Inch	Tool Min Inch	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 Inch	Tool Min Inch	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 Inch	Tool Min Inch	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

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	SSER20-0125		SSER32-0125	
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
3.0	0.1181	SSER16-M030	SSER20-M030	SSER25-M030	SSER32-M030	
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 –J 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.

BC
SX
MX
VX
MC
SD
ER
TG
DA
EM
SM
MISC.
QC TAP
ACC.

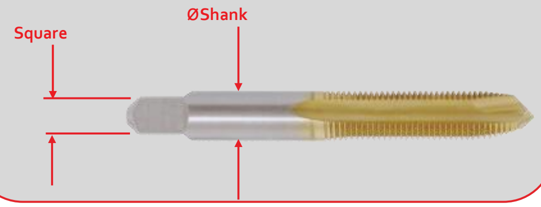
ER Rigid Tap Collets - ANSI

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	TER16U	TER20U	TER25U	TER32U	TER40U
0.141	3.58	0.110	2.79	#6	TER16U-141	TER20U-141	TER25U-141	TER32U-141	TER40U-141
0.168	4.27	0.131	3.33	#8	TER16U-168	TER20U-168	TER25U-168	TER32U-168	TER40U-168
0.194	4.93	0.152	3.86	#10	TER16U-194	TER20U-194	TER25U-194	TER32U-194	TER40U-194
0.220	5.59	0.165	4.19	#12	TER16U-220	TER20U-220	TER25U-220	TER32U-220	TER40U-220
0.255	6.48	0.191	4.85	1/4"	TER16U-255	TER20U-255	TER25U-255	TER32U-255	TER40U-255
0.318	8.08	0.238	6.05	5/16"	TER16U-318	TER20U-318	TER25U-318	TER32U-318	TER40U-318
0.323	8.20	0.242	6.15	7/16"	TER16U-323	TER20U-323	TER25U-323	TER32U-323	TER40U-323
0.367	9.32	0.275	6.99	1/2"	TER16U-367	TER20U-367	TER25U-367	TER32U-367	TER40U-367
0.381	9.68	0.286	7.26	3/8"	TER16U-381	TER20U-381	TER25U-381	TER32U-381	TER40U-381
0.429	10.90	0.322	8.18	9/16"			TER25U-429	TER32U-429	TER40U-429
0.437	11.10	0.328	8.33	1/8" NPT			TER25U-437	TER32U-437	TER40U-437
0.480	12.19	0.360	9.14	5/8"			TER25U-480	TER32U-480	TER40U-480
0.542	13.77	0.406	10.31	11/16"				TER32U-542	TER40U-542
0.562	14.27	0.421	10.69	1/4" NPT				TER32U-562	TER40U-562
0.590	14.99	0.442	11.23	3/4"				TER32U-590	TER40U-590
0.652	16.56	0.489	12.42	13/16"				TER32U-652	TER40U-652
0.687	17.45	0.515	13.08	1/2" NPT					TER40U-687
0.697	17.70	0.523	13.28	7/8"					TER40U-697
0.700	17.78	0.531	13.49	3/8" NPT					TER40U-700
0.760	19.30	0.570	14.48	15/16"					TER40U-760
0.800	20.32	0.600	15.24	1"					TER40U-800

PIONEER

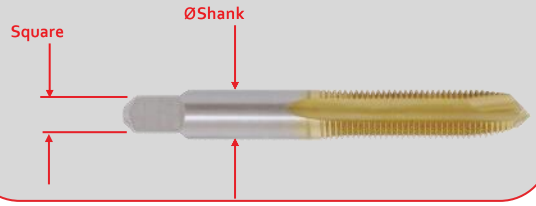
ER Rigid Tap Collets - DIN

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	TER16D	TER20D	TER25D	TER32D	TER40D
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.
- Designed for use with standard ER collets

Nut Part Number	Description	Nut Diameter	Coolant Cap	Wrench Part Number	Thread	Max. Torque
ERN11-CC	ER 11 Nut - Hex	0.787 / 20mm	SXC06	ERW-11H	M14 x 0.75	18 ft/lbs Max
ERN16-CC	ER 16 Nut - Hex	1.102 / 28mm	SXC10	ERW-16H	M22 x 1.50	40 ft/lbs Max
ERN20-CC	ER 20 Nut - Hex	1.338 / 34mm	SXC16	ERW-20H	M25 x 1.50	60 ft/lbs Max
ERN25-CC	ER 25 Nut - E Type	1.654 / 42mm	SXC16	ERW-25	M32 x 1.50	75 ft/lbs Max
ERN32-CC	ER 32 Nut - E Type	1.969 / 50mm	SXC25	ERW-32	M40 x 1.50	100 ft/lbs Max
ERN40-CC	ER 40 Nut - E Type	2.480 / 63mm	SXC25	ERW-40	M50 x 1.50	125 ft/lbs Max

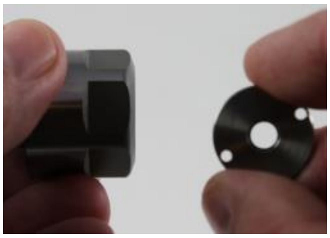
ER Coolant Caps - Inch

w/ Jet-Blast Option

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 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 Available, Order by adding a "J" to the end of the Cap part number

Range	Inch Shank	ER11	ER 16	ER 20	ER 25	ER 32	ER 40
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

Drilling | Reaming | Threading | Lite Milling

Premium Performance

Premium Precision

0.0001" TIR OD Taper to ID Taper Guaranteed

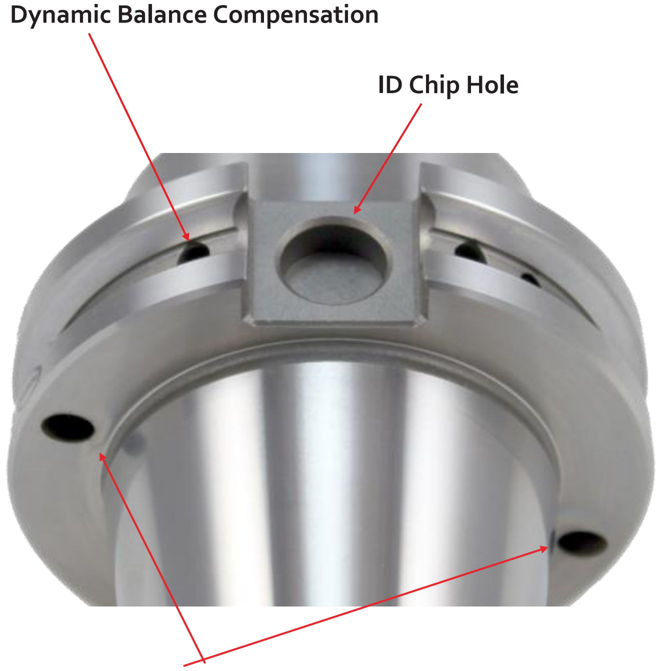
Dynamic Balance

Dynamically Balanced Body for use @ 20,000 RPM's (CAT50 @ 15,000)

Best in Class Performance

Pioneer TG exceeds industry standards to provide optimum performance and interchangeability

Standard Features



Coolant Options

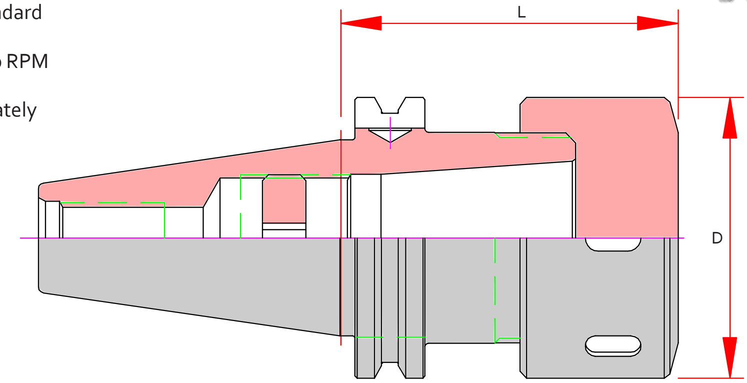
Optional Coolant Cap System for TG075 & TG100 Collet Chucks sealed up to 1,500 PSI. **Jet-Blast** Caps available for directional Coolant flow to the cutter flutes.

PIONEER

TG - Collet Chuck

Features

- **3 µm - 0.0001” Runout Taper to Taper**
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 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	50-55 HOOK
		CAT40-TG075-0500			5.00				
	1"	CAT40-TG100-0300	.094 - 1.00	2.48	3.00	TG100	ASC-ER40	TGN100	58-65 HOOK
		CAT40-TG100-0550			5.50				
CAT50	1"	CAT50-TG100-0350	.094 - 1.00	2.48	3.50	TG100	ASC-ER40	TGN100	58-65 HOOK
		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	80-85 HOOK
		CAT50-TG150-0550			5.50				
BT40	1"	BT40-TG100-0300	.094 - 1.00	2.48	3.00	TG100	ASC-ER40	TGN100	58-65 HOOK
		BT40-TG100-0550			5.50				

Collet Nuts

Nut Part Number	Description	Nut Diameter	Wrench Part Number	Coolant Cap	Thread	Max. Torque
TGN-075	TG75 Spanner Nut	1.97 / 50mm	50-55 HOOK	-	1 1/2-12 Acme	55 ft/lbs Max
TGN-100	TG100 Spanner Nut	2.48 / 63mm	58-65 HOOK	-	1 7/8-12 Acme	75 ft/lbs Max
TGN-150	TG150 Spanner Nut	3.23 / 82mm	80-85 HOOK	-	2 5/8-12 Acme	100 ft/lbs Max
TGN-075-CC	TG75 Coolant Cap Nut	1.97 / 50mm	50-55 HOOK	SXC25	1 1/2-12 Acme	55 ft/lbs Max
TGN-100-CC	TG100 Coolant Cap Nut	2.48 / 63mm	58-65 HOOK	SXC25	1 7/8-12 Acme	75 ft/lbs Max

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	Nominal Tool	Tool Max	Tool Min	TG075	Nominal Tool	Tool Max	Tool Min	TG075
3/32	0.0938	0.0781	TG075-0094	21/64	0.3281	0.3125	TG075-0328	9/16	0.5625	0.5469	TG075-0563
7/64	0.1094	0.0938	TG075-0109	11/32	0.3438	0.3281	TG075-0344	37/64	0.5781	0.5625	TG075-0578
1/8	0.1250	0.1094	TG075-0125	23/64	0.3594	0.3438	TG075-0359	19/32	0.5938	0.5781	TG075-0594
9/64	0.1406	0.1250	TG075-0141	3/8	0.3750	0.3594	TG075-0375	39/64	0.6094	0.5938	TG075-0609
5/32	0.1563	0.1406	TG075-0156	25/64	0.3906	0.3750	TG075-0391	5/8	0.6250	0.6094	TG075-0625
11/64	0.1719	0.1563	TG075-0172	13/32	0.4063	0.3906	TG075-0406	41/64	0.6406	0.6250	TG075-0641
3/16	0.1875	0.1719	TG075-0188	27/64	0.4219	0.4063	TG075-0422	21/32	0.6563	0.6406	TG075-0656
13/64	0.2031	0.1875	TG075-0203	7/16	0.4375	0.4219	TG075-0438	43/64	0.6719	0.6563	TG075-0672
7/32	0.2188	0.2031	TG075-0219	29/64	0.4531	0.4375	TG075-0453	11/16	0.6875	0.6719	TG075-0688
15/64	0.2344	0.2188	TG075-0234	15/32	0.4688	0.4531	TG075-0469	45/64	0.7031	0.6875	TG075-0703
1/4	0.2500	0.2344	TG075-0250	31/64	0.4844	0.4688	TG075-0484	23/32	0.7188	0.7031	TG075-0719
17/64	0.2656	0.2500	TG075-0266	1/2	0.5000	0.4844	TG075-0500	47/64	0.7344	0.7188	TG075-0734
9/32	0.2813	0.2656	TG075-0281	33/64	0.5156	0.5000	TG075-0516	3/4	0.7500	0.7344	TG075-0750
19/64	0.2969	0.2813	TG075-0297	17/32	0.5313	0.5156	TG075-0531				
5/16	0.3125	0.2969	TG075-0313	35/64	0.5469	0.5313	TG075-0547				

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
3/32	0.0938	0.0781	TG100-0094	13/32	0.4063	0.3906	TG100-0406	23/32	0.7188	0.7031	TG100-0719
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
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
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
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
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
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

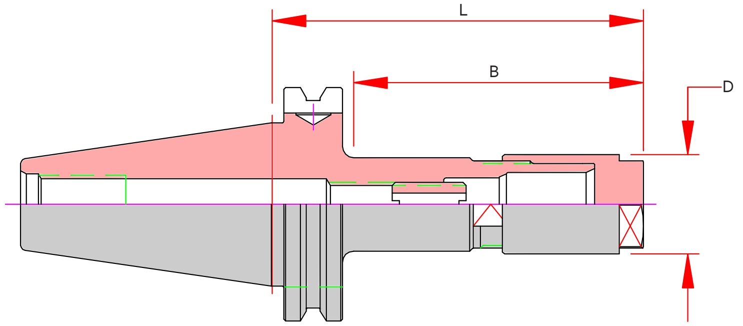
Nominal Tool	Tool Max	Tool Min	TG150	Nominal Tool	Tool Max	Tool Min	TG150	Nominal Tool	Tool Max	Tool Min	TG150
1/2	0.5000	0.4844	TG150-0500	27/32	0.8438	0.8281	TG150-0844	1 3/16	1.1875	1.1719	TG150-1188
33/64	0.5156	0.5000	TG150-0516	55/64	0.8594	0.8438	TG150-0859	1 13/64	1.2031	1.1875	TG150-1203
17/32	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
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
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
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
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
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				

PIONEER

DA - Collet Chuck

Features

- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 20,000 RPM
- Order Collets & Wrench Separately

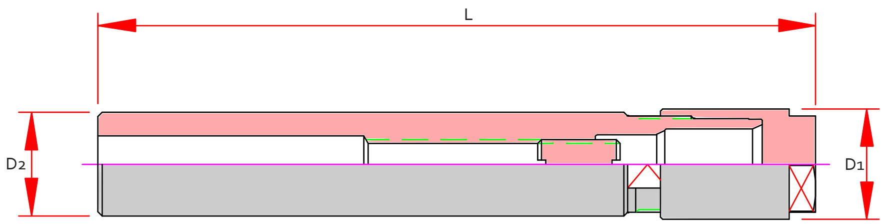


	Capacity	Part Number	Range	B	D	L Projection	Collet	Screw	Nut	Wrench
CAT40	1/4	CAT40-DA300-0338	3/64 - 1/4	1.88	0.57	3.38	DA300	ASC-DA300	DAN300	DAW300
	3/8	CAT40-DA200-0300	1/16 - 3/8	1.58	0.83	3.00	DA200	ASC-DA200	DAN200	DAW200
		CAT40-DA200-0500		1.93		5.00				
	9/16	CAT40-DA100-0350	1/16 - 9/16	2.00	1.06	3.50	DA100	ASC-DA100	DAN100	DAW100
		CAT40-DA100-0600		4.50		6.00				
	3/4	CAT40-DA180-0295	1/16 - 3/4	2.15	1.48	2.95	DA180	ASC-DA180	DAN180	DAW180
		CAT40-DA180-0515		3.73		5.15				
CAT50		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	Nut Diameter	Wrench Part Number	Thread	Max. Torque
DAN-300	DA300 Close Center Nut	0.57	DAW-300	7/16 - 32	20 ft/lbs
DAN-200	DA200 Close Center Nut	0.83	DAW-200	3/4 - 16	25 ft/lbs
DAN-100	DA100 Close Center Nut	1.06	DAW-100	15/16—20	30 ft/lbs
DAN-180	DA180 Close Center Nut	1.48	DAW-180	1 1/4 - 12	40 ft/lbs

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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			

Premium Performance

Premium Precision

0.0001" TIR OD Taper to ID Bore Guaranteed

Dynamic Balance

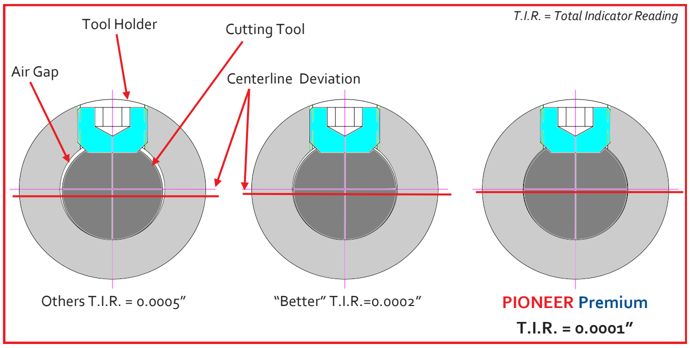
Dynamically Balanced Body for use @ 20,000 RPM's (CAT50 @ 15,000)

Best in Class Performance

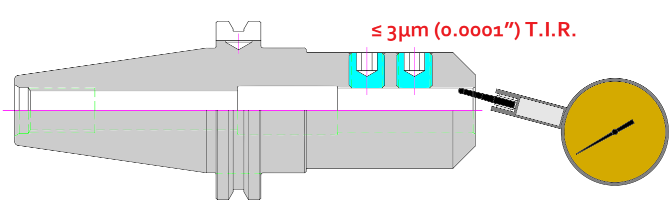
Pioneer EM exceeds industry standards to provide optimum performance and interchangeability

Building the Best in the Industry!

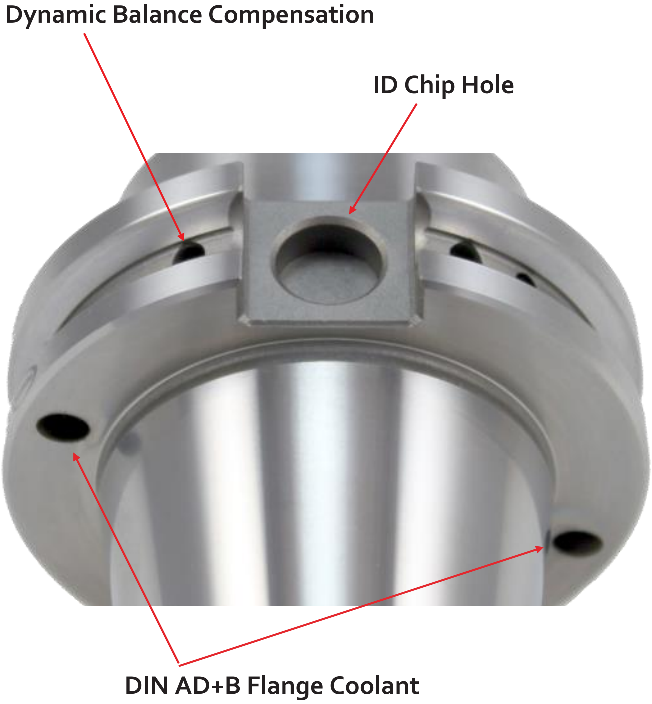
- 3 µm - 0.0001" Bore Runout Standard
- H5 Bore Tolerance Standard
- Coolant Thru Center Standard
- DIN AD+B Flange Coolant Standard
- Dynamic Balance Standard
- ID Chip Hole Standard
- Jet-Blast available on all projections



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



Standard Features



Jet-Blast Coolant Option

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

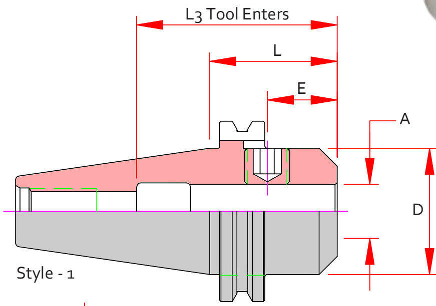
The coolant ports are EDM beside the bore of the end mill holder intersecting the relief behind the ground bore. Coolant is fed from the center or from DIN-B Flange Coolant into the relief and around the cutting tool.

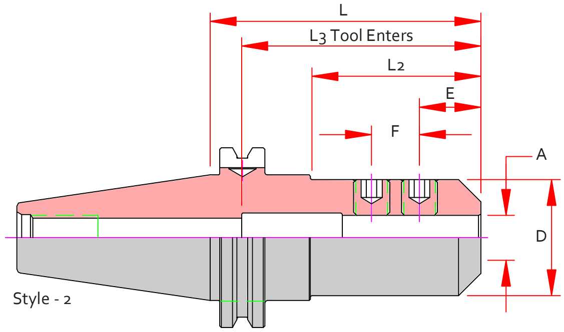
Jet-Blast is available in all holders with a 10" projection or shorter. Longer projections are a factory build and available upon request.

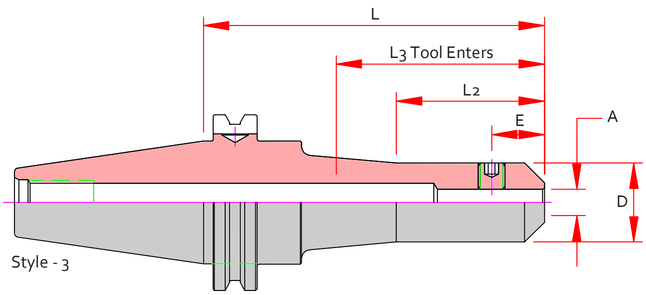
CAT40 End Mill Adapters

Features

- **3 µm - 0.0001" Bore Runout**
- H5 Bore Tolerance
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 20,000 RPM
- Add "-J" for Jet-Blast Coolant Ports





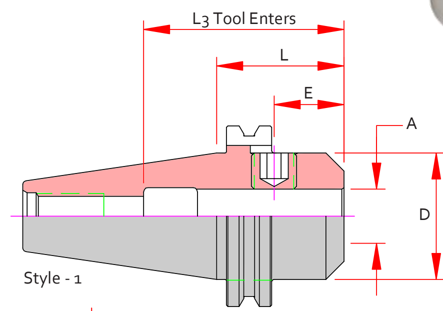


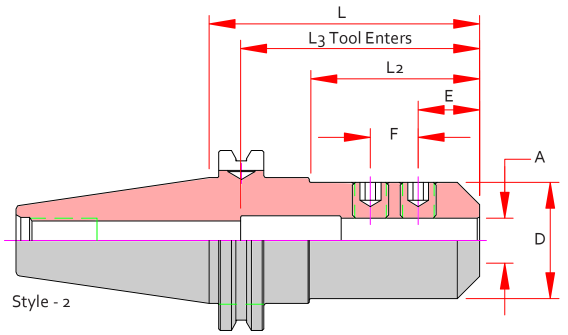
	Part Number	A Bore	D	E	L Projection	L2	L3 Max. Tool	Screw Number	Style
	CAT40-EM012-0175				1.75	0.80	3.32		1
	CAT40-EM012-0250				2.50	0.92	4.07		2
1/8	CAT40-EM012-0400	0.1250	0.69	0.19	4.00	2.42	5.57	3	2
	CAT40-EM012-0500				5.00	1.57	6.57		3
	CAT40-EM012-0600				6.00	1.57	7.57		3
	CAT40-EM018-0175				1.75	0.88	3.32		1
3/16	CAT40-EM018-0250	0.1875	0.69	0.44	2.50	0.92	4.07	3	2
	CAT40-EM018-0400				4.00	2.42	5.57		2
	CAT40-EM018-0600				6.00	2.50	7.57		3
	CAT40-EM025-0175				1.75	0.80	3.32		1
	CAT40-EM025-0250				2.50	0.92	4.07		2
1/4	CAT40-EM025-0400	0.2500	0.78	0.44	4.00	2.42	5.57	4	2
	CAT40-EM025-0500				5.00	2.50	6.57		3
	CAT40-EM025-0600				6.00	2.50	7.57		3
	CAT40-EM031-0175				1.75	0.88	3.32		1
5/16	CAT40-EM031-0250	0.3125	0.88	0.44	2.50	0.92	4.07	4	2
	CAT40-EM031-0400				4.00	2.42	5.57		2
	CAT40-EM031-0600				6.00	3.00	7.57		3
	CAT40-EM037-0175				1.75	0.88	4.07		1
	CAT40-EM037-0250				2.50	1.00	4.07		2
3/8	CAT40-EM037-0400	0.3750	1.00	0.75	4.00	2.50	5.57	5	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
	CAT40-EM050-0175		1.75		1.75	0.96	3.32		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
1/2	CAT40-EM050-0400	0.5000	1.25	0.88	4.00	2.58	5.57	6	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

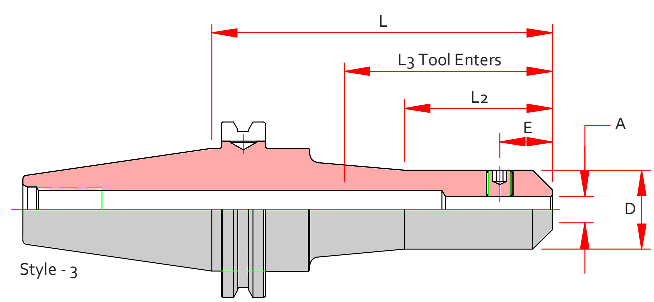
CAT40 End Mill Adapters

Features

- **3 µm - 0.0001" Bore Runout**
- H5 Bore Tolerance
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 20,000 RPM
- Add "-J" for Jet-Blast Coolant Ports







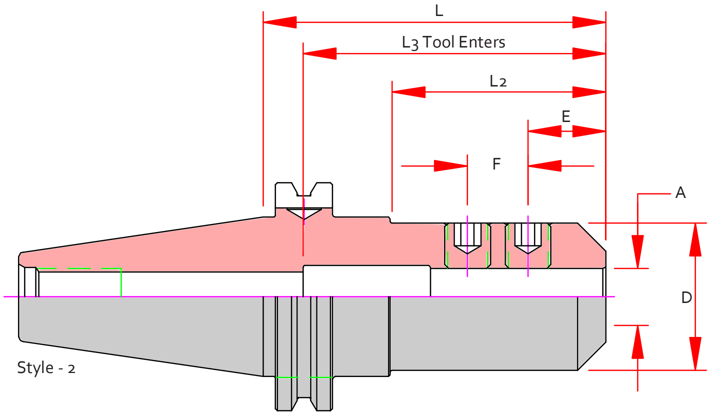
	Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool	Screw Number	Style
5/8	CAT40-EM062-0175	0.6250	1.75	0.94	-	1.75	0.95	3.25	7	1
	CAT40-EM062-0250		1.50			2.50	1.70	3.62		2
	CAT40-EM062-0300		1.50			3.00	1.50	3.50		2
	CAT40-EM062-0400		1.50			4.00	2.50	3.50		2
	CAT40-EM062-0500		1.50			5.00	3.50	3.50		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 Heavy Duty or Umbrella style tool changers & Alarm*

CAT40 Metric End Mill Adapters

Features

- **3 µm - 0.0001" Bore Runout**
- H5 Bore Tolerance
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 20,000 RPM
- Add "-J" for Jet-Blast Coolant Ports

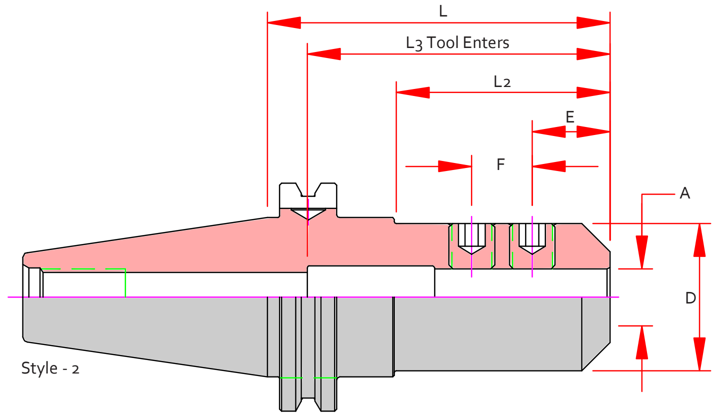


Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool Enters	Screw #	Style
CAT40-EMM06-0250	6mm	0.78	0.38	-	2.50	0.93	4.06	4	2
CAT40-EMM08-0250	8mm	0.88	0.44	-	2.50	1.00	4.06	4	2
CAT40-EMM10-0250	10mm	1.00	0.75	-	2.50	1.00	4.06	5	2
CAT40-EMM12-0250	12mm	1.25	0.87	-	2.50	1.00	4.06	6	2
CAT40-EMM14-0250	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	4.00	2.25	3.54	(2) 11	2

CAT50 Metric End Mill Adapters

Features

- **3 µm - 0.0001" Bore Runout**
- H5 Bore Tolerance
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 20,000 RPM
- Add "-J" for Jet-Blast Coolant Ports



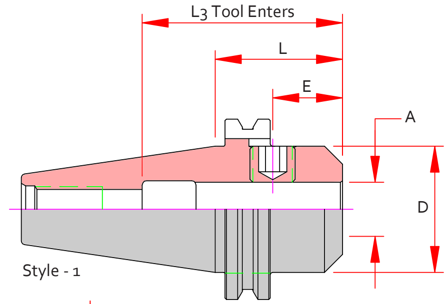
Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool Enters	Screw #	Style
CAT50-EMM06-0400	6mm	0.78	0.38	-	4.00	2.43	6.25	4	2
CAT50-EMM08-0400	8mm	0.88	0.44	-	4.00	2.43	6.25	4	2
CAT50-EMM10-0400	10mm	1.00	0.75	-	4.00	2.43	6.25	5	2
CAT50-EMM12-0400	12mm	1.25	0.87	-	4.00	2.43	6.25	6	2
CAT50-EMM14-0400	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

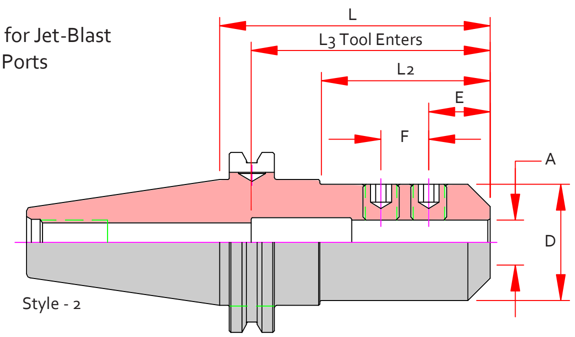
PIONEER

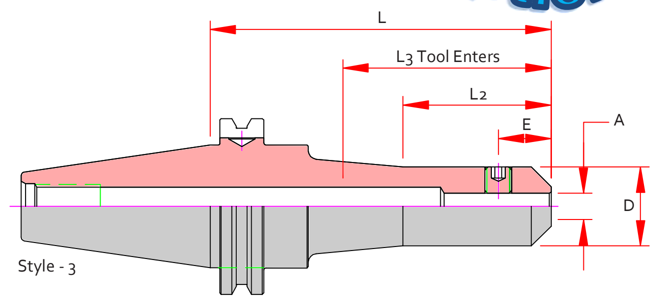
CAT50 End Mill Adapters

Features

- **3 µm - 0.0001" Bore Runout**
- H5 Bore Tolerance
- Coolant Thru Center & DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 15,000 RPM
- Add "-J" for Jet-Blast Coolant Ports



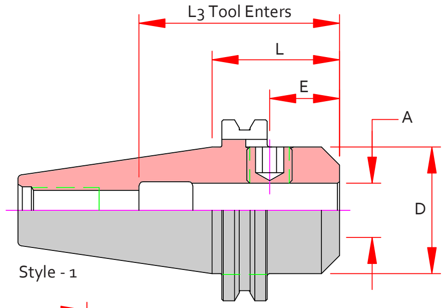


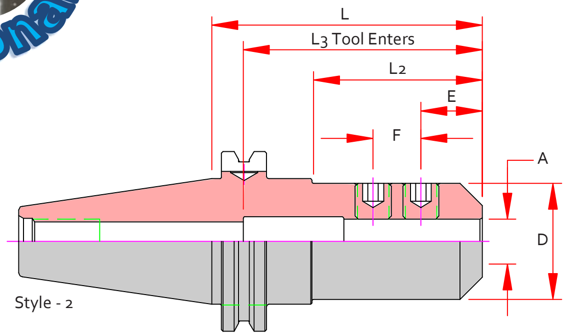


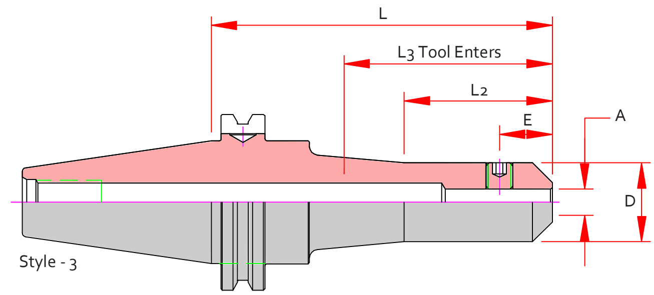
	Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool Enters	Screw Number	Style
1/8	CAT50-EM012-0250	0.1250	0.69	0.19	-	2.50	0.92	4.75	3	2
	CAT50-EM012-0531					5.31	1.57	7.56		3
3/16	CAT50-EM018-0250	0.1875	0.69	0.44	-	2.50	0.92	4.75	3	2
	CAT50-EM018-0531					5.31	1.57	7.56		3
1/4	CAT50-EM025-0250	0.2500	0.79	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	0.88	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
9/16	CAT50-EM056-0262	0.5625	1.50	0.88	-	2.62	1.12	4.87	6	2
5/8	CAT50-EM062-0300	0.6250	1.50	0.94	-	3.00	1.50	5.25	7	2
	CAT50-EM062-0375					3.75	2.25	6.00		2
	CAT50-EM062-0400					4.00	2.50	6.25		2

CAT50 End Mill Adapters

Continued ...







	Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool Enters	Screw Number	Style
5/8	CAT50-EM062-0600	0.6250	1.50	0.94	-	6.00	4.42	8.25	7	2
	CAT50-EM062-0775					7.75	4.25	10.00		3
	CAT50-EM062-1000					10.00				3
	CAT50-EM062-1200					12.00				3
3/4	CAT50-EM075-0175	0.7500	1.75	1.00	-	1.75	0.25	2.76	8	1
	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
	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
	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
	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
	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
2	CAT50-EM200-0362 **	2.0000	3.75	1.41	1.50	3.62	2.82	3.66	12 & 13	2
	CAT50-EM200-0562					5.62	4.86	4.13	(2) 13	2
	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

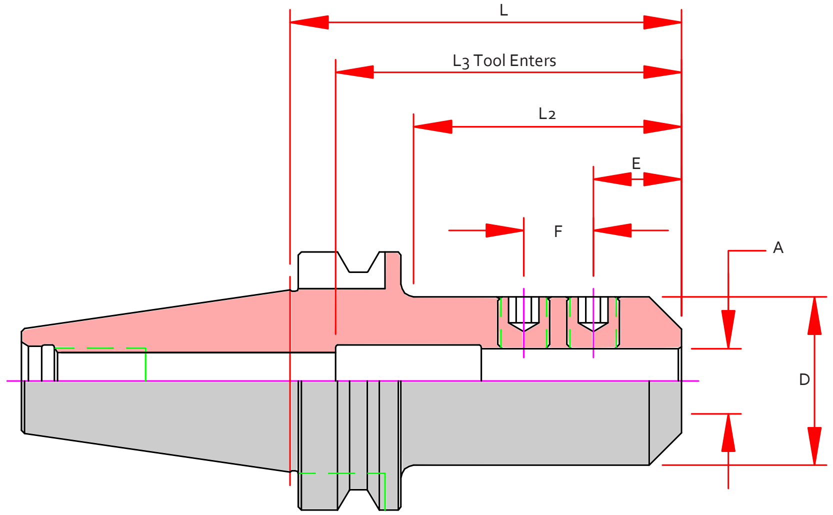
*** No DIN AD+B Option Available - No ANSI Safety Area due to bore size. Check Tool Change Clearance prior to ordering.*

BT30 End Mill Adapters

Features

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

P-142



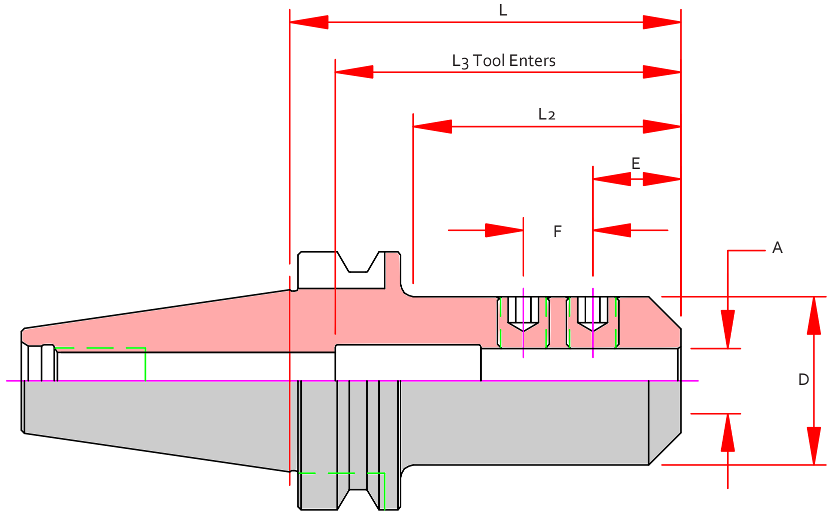
	Part Number	A Bore	D	E	F	L Projection	L2	L3 Max. Tool Enters	Screw Number
1/8	BT30-EM012-0236	0.1250	0.69	0.38	-	2.36	1.37	3.32	3
	BT30-EM012-0400					4.00	3.00	4.96	
3/16	BT30-EM018-0236	0.1875	0.69	0.50	-	2.36	1.37	3.32	4
	BT30-EM018-0400					4.00	3.00	4.96	
1/4	BT30-EM025-0236	0.2500	0.78	0.38	-	2.36	1.37	3.32	4
	BT30-EM025-0400					4.00	3.00	4.96	
5/16	BT30-EM031-0236	0.3125	0.88	0.60	-	2.36	1.37	3.32	4-BT30
	BT30-EM031-0400					4.00	3.00	2.96	
3/8	BT30-EM037-0236	0.3750	1.00	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	1.25	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	1.50	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	1.75	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	1.75	1.00	0.81	3.54	2.75	3.15	(2) 8
1	BT30-EM100-0275	1.0000	2.00	1.12	-	2.75	1.96	2.50	10

PIONEER

BT40 End Mill Adapters

Features

- **3 µm - 0.0001" Bore Runout**
- H5 Bore Tolerance
- Coolant Thru Center
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 20,000 RPM
- Add "-J" 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
	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
	BT40-EM018-0400					4.00	2.81	5.39		1
1/4	BT40-EM025-0250	0.2500	0.78	0.44	-	2.50	1.31	3.89	4	1
	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	0.88	0.44	-	2.50	1.31	3.89	4	1
	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
	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
	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
	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
	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	10	1
	BT40-EM100-0400				1.00	4.00	2.97	4.44	(2) 10	1
	BT40-EM100-0600				1.00	6.00	4.97	4.44	(2) 10	1
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	1
	BT40-EM125-0600				1.12	6.00	5.00	3.54	(2) 11	1
1 1/2	BT40-EM150-0433	1.5000	2.62	1.12	1.00	4.33	3.34	2.52	(2) 11	1

HSK63A End Mill Adapters

Features

- **3 µm - 0.0001" Bore Runout**
- H5 Bore Tolerance
- Coolant Thru Center
- Pre-Balanced for use @ 20,000 RPM
- Order Wrench Separately
- Add "-J" for Jet-Blast Coolant Ports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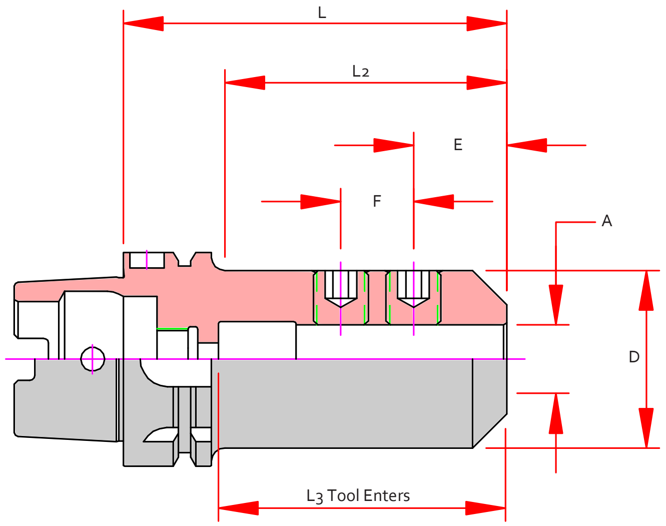
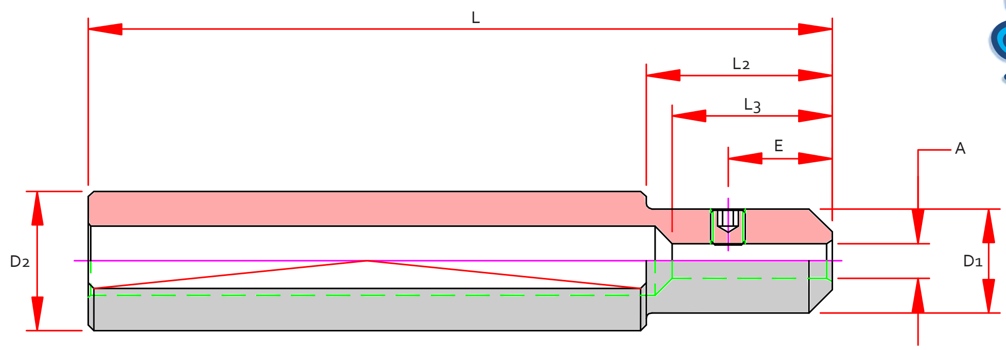


	Part Number	A Bore	L Projection	D	E	F	L2	L3 Max. Tool Enters	Screw Number
1/8	HSK63A-EM012-0250	0.1250	2.50	0.69	0.19	-	1.28	1.63	3
3/16	HSK63A-EM018-0250	0.1875	2.50	0.69	0.44	-	1.28	1.63	3
1/4	HSK63A-EM025-0250	0.2500	2.50	0.78	0.44	-	1.28	1.63	4
5/16	HSK63A-EM031-0250	0.3125	2.50	0.88	0.44	-	1.28	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 "-J" 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		0.19		2.00		1
3/16	S075-EM018-0600	0.1875	0.56	0.7500	0.44		2.00		2
1/4	S075-EM025-0600	0.2500	0.75		0.59	6.00	-	6.00	4
5/16	S075-EM031-0600	0.3125	0.75		0.44		-		4
3/8	S100-EM037-0600	0.3750	1.00	1.0000	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
4-BT30	SCW-EM04-BT30	BT30-EM031, 5/16	5/16-24	0.31	0.31	1/8	6
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

Shown body mounted with Shell Mill and Inserts not included.

Premium Performance

Dynamic Balance

Dynamically Balanced Body for use @ 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

PIONEER

FX - High Volume Coolant System

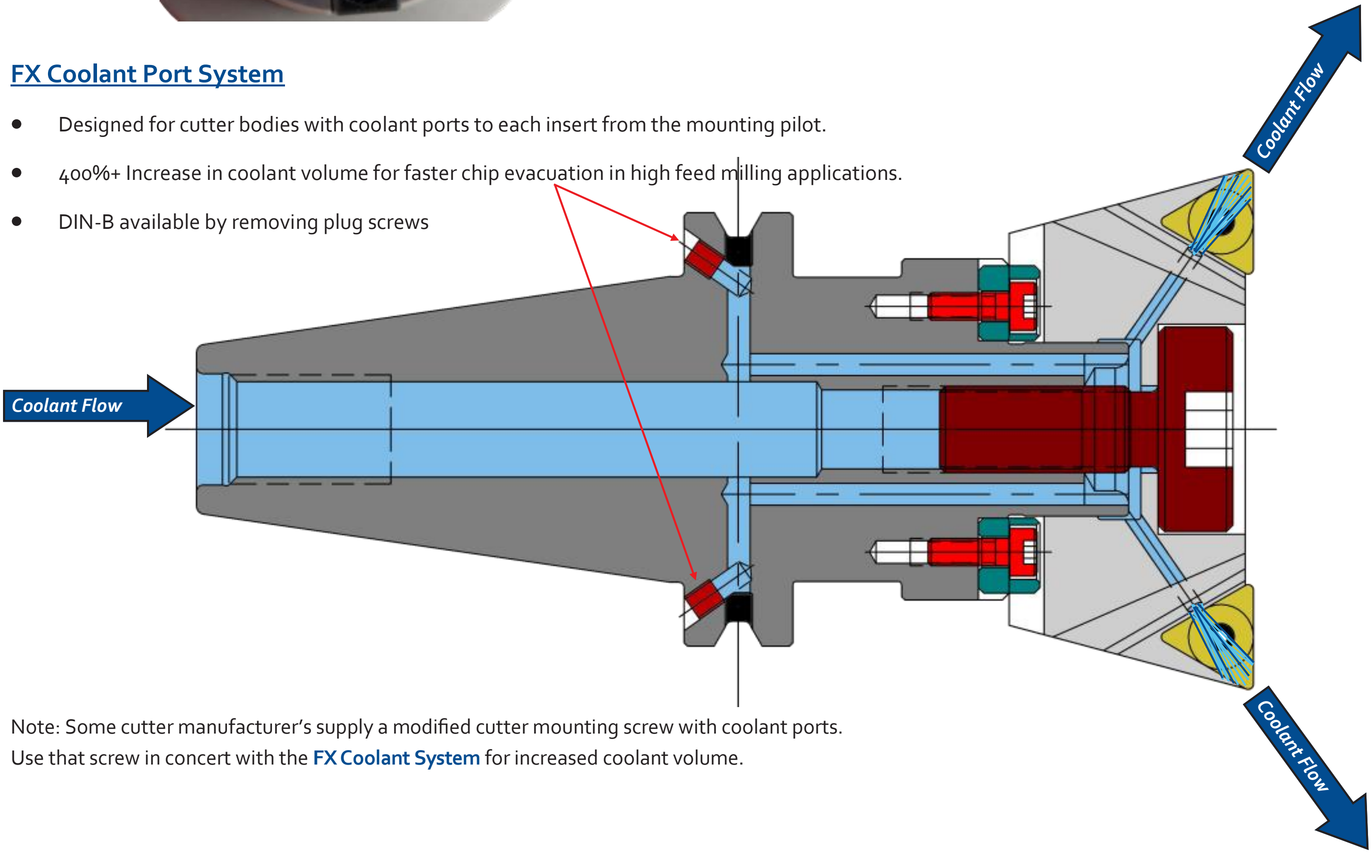
Shown body mounted with Shell Mill and Inserts not included.

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.

BT30 Shell Mill Adapters
Dual Contact

Features

- Body - Coolant Thru Center for modified screws
- DIN AD+B Flange Coolant Standard on BT40
- Pre-Balanced for use @ 20,000 RPM
- FX Coolant option available, see chart below
  add –F to the Part Number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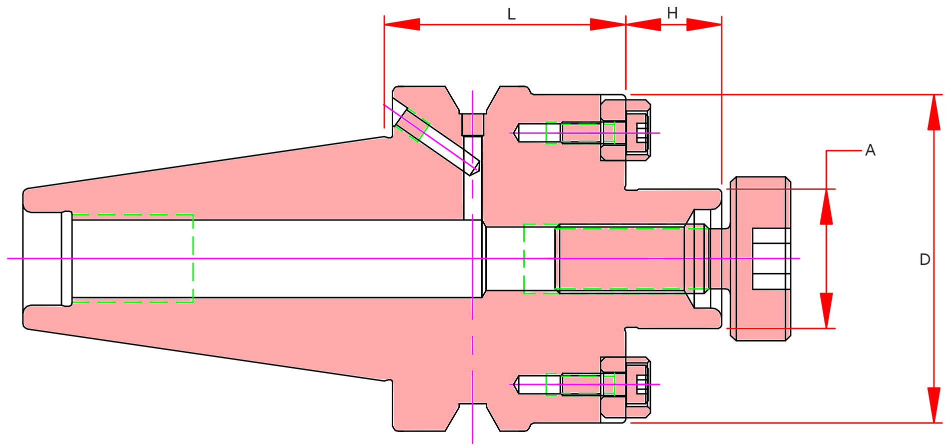

	Part Number	Spindle	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
	DBT30-SM050-0119					1.19				
	DBT30-SM050-0200		0.50	1.38	0.57	2.00	0.250	DK-SM050	1/4-28	SCW-SM050
	DBT30-SM050-0400					4.00				
BT30	DBT30-SM075-0119	Standard or Dual Contact				1.19				
	DBT30-SM075-0200		0.75	1.75	0.69	2.00	0.312	DK-SM075	3/8-24	SCW-SM075
	DBT30-SM075-0400					4.00				
	DBT30-SM100-0119		1.00	1.97	0.69	1.19	0.375	DK-SM100	1/2-20	SCW-SM100

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BT40 Shell Mill Adapters

Features

- Body - Coolant Thru Center for modified screws
- DIN AD+B Flange Coolant Standard on BT40
- Pre-Balanced for use @ 20,000 RPM
- FX Coolant option available, see chart below
  add –F to the Part Number

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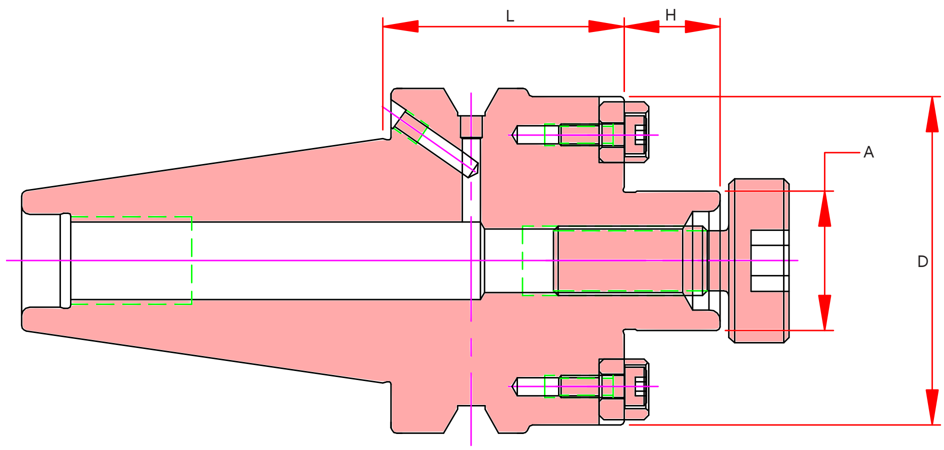

	Part Number		A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
BT40	BT40-SM075-0175	Standard Only	0.75	1.75	0.69	1.75	0.312	DK-SM075	3/8-24	SCW-SM075
	BT40-SM075-0400					4.00				
	BT40-SM100-0175		1.00	1.97	0.69	1.75	0.375	DK-SM100	1/2-20	SCW-SM100
	BT40-SM100-0400					4.00				
	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				
	BT40-SM150-0200		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
- Pre-Balanced for use @ 20,000 RPM
- FX Coolant option available, see chart below add –F to the Part Number

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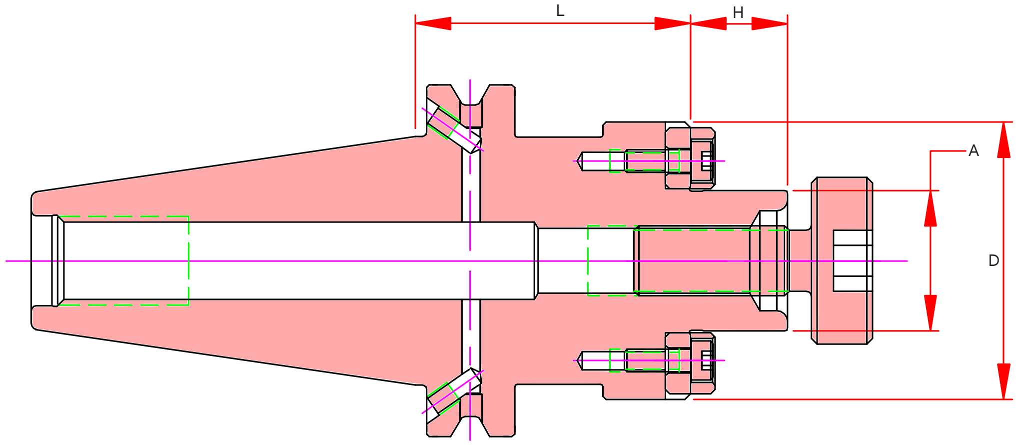


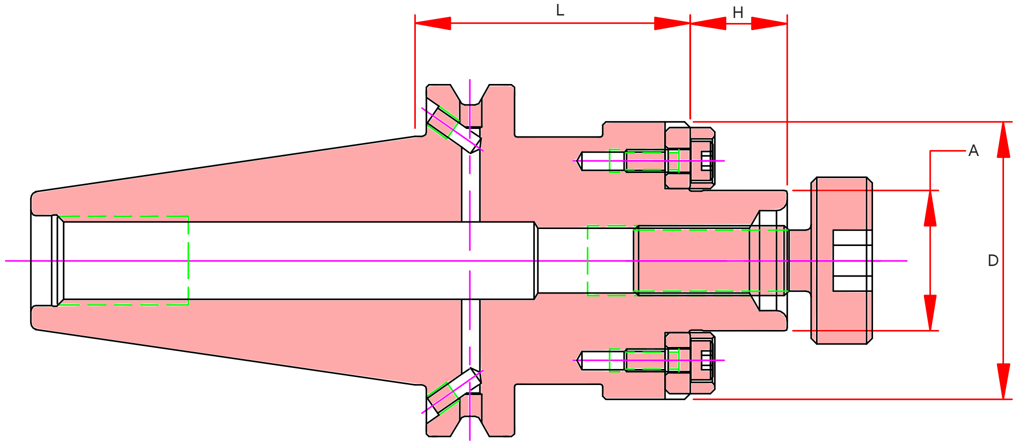
Part Number	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
CAT40-SM050-0175	0.500	1.38	0.57	1.75	0.250	DK-SM050	1/4-28	SCW-SM050
CAT40-SM050-0400				4.00				
CAT40-SM050-0600				6.00				
CAT40-SM050-0900				9.00				
CAT40-SM075-0175	0.750	1.75	0.69	1.75	0.312	DK-SM075	3/8-24	SCW-SM075
CAT40-SM075-0400				4.00				
CAT40-SM075-0600				6.00				
CAT40-SM075-0800				8.00				
CAT40-SM100-0200	1.000	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				
CAT40-SM125-0225	1.250	2.87	0.69	2.25	0.500	DK-SM125	5/8-18	SCW-SM125
CAT40-SM150-0240	1.500	3.82	0.94	2.40	0.625	DK-SM150	3/4-16	SCW-SM150
CAT40-SM200-0240	2.000	4.37	0.94	2.40	0.750	DK-SM200	1"-14	SCW-SM200

DCAT40 Shell Mill Adapters
Dual Contact

Features

- Body - Coolant Thru Center for modified screws
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 20,000 RPM
- FX Coolant option available, see chart below
  add –F to the Part Number


P-142

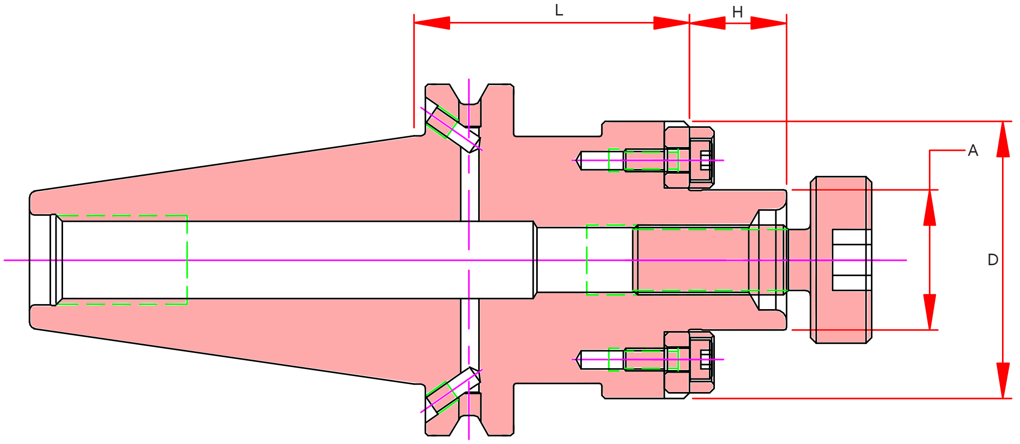


Part Number	Spindle	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
DCAT40-SM075-0175					1.75				
DCAT40-SM075-0400		0.750	1.75	0.69	4.00	0.312	DK-SM075	3/8-24	SCW-SM075
DCAT40-SM075-0600					6.00				
DCAT40-SM075-0800					8.00				
DCAT40-SM100-0200	Standard or Dual Contact				2.00				
DCAT40-SM100-0400		1.000	1.97	0.69	4.00	0.375	DK-SM100	1/2-20	SCW-SM100
DCAT40-SM100-0600					6.00				
DCAT40-SM125-0225		1.250	2.87	0.69	2.25	0.500	DK-SM125	5/8-18	SCW-SM125
DCAT40-SM150-0240		1.500	3.82	0.94	2.40	0.625	DK-SM150	3/4-16	SCW-SM150

CAT50 Shell Mill Adapters

Features

- Body - Coolant Thru Center for modified screws
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 15,000 RPM
- FX Coolant option available, see chart below
  add –F to the Part Number



Part Number	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
CAT50-SM075-0150				1.50				
CAT50-SM075-0350				3.50				
CAT50-SM075-0550				5.50				
CAT50-SM075-0800	0.75	1.75	0.69	8.00	0.312	DK-SM075	3/8-24	SCW-SM075
CAT50-SM075-1000-F**				10.00				
CAT50-SM075-1200-F**				12.00				
CAT50-SM075-1500-F**								
CAT50-SM100-0200				2.00				
CAT50-SM100-0400				4.00				
CAT50-SM100-0600				6.00				
CAT50-SM100-0800	1.00	1.97	0.69	8.00	0.375	DK-SM100	1/2-20	SCW-SM100
CAT50-SM100-1000-F**				10.00				
CAT50-SM100-1200-F**				12.00				
CAT50-SM100-1500-F**				15.00				
CAT50-SM125-0150				1.50				
CAT50-SM125-0350				3.50				
CAT50-SM125-0550	1.25	2.75	0.69	5.50	0.500	DK-SM125	5/8-18	SCW-SM125
CAT50-SM125-0800				8.00				
CAT50-SM125-1200-F**				12.00				
CAT50-SM125-1500-F**				15.00				
CAT50-SM150-0240				2.40		DK-SM150-C		
CAT50-SM150-0400	1.50	3.82	0.94	4.00	0.625	DK-SM150	3/4-16	SCW-SM150
CAT50-SM150-0600				6.00		DK-SM150		
CAT50-SM150-0800				8.00		DK-SM150		
CAT50-SM200-0240	2.00	4.37	0.94	2.40	0.750	DK-SM200	1"-14	SCW-SM200
CAT50-SM200-0400				4.00				

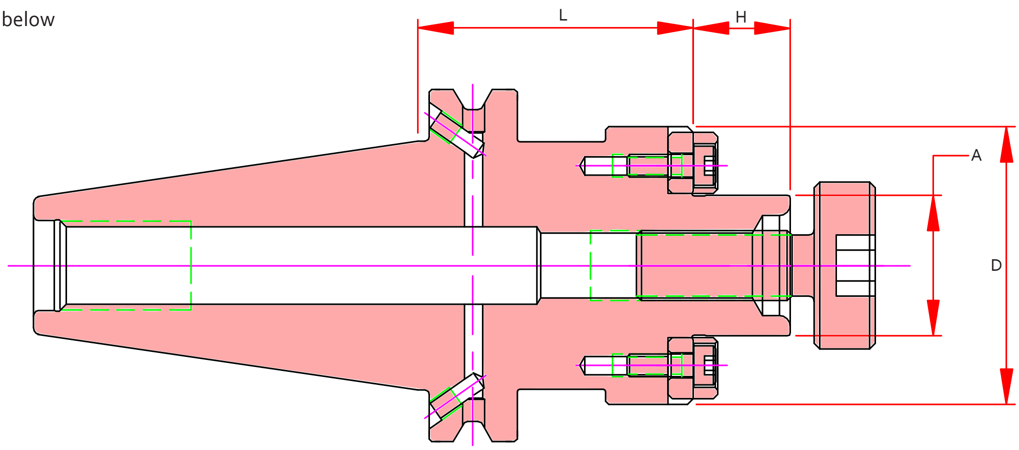
** Stocked in "FX" Coolant Style Only

DCAT50 Shell Mill Adapters
Dual Contact

Features

- Body - Coolant Thru Center for modified screws
- DIN AD+B Flange Coolant Standard
- Pre-Balanced for use @ 15,000 RPM
- FX Coolant option available, see chart below add –F to the Part Number

P-142



Part Number	Spindle	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
DCAT50-SM075-0150					1.50				
DCAT50-SM075-0350					3.50				
DCAT50-SM075-0550					5.50				
DCAT50-SM075-0800		0.75	1.75	0.69	8.00	0.312	DK-SM075	3/8-24	SCW-SM075
DCAT50-SM075-1000-F**					10.00				
DCAT50-SM075-1200-F**					12.00				
DCAT50-SM075-1500-F**									
DCAT50-SM100-0200					2.00				
DCAT50-SM100-0400					4.00				
DCAT50-SM100-0600					6.00				
DCAT50-SM100-0800		1.00	1.97	0.69	8.00	0.375	DK-SM100	1/2-20	SCW-SM100
DCAT50-SM100-1000-F**					10.00				
DCAT50-SM100-1200-F**	Standard or Dual Contact				12.00				
DCAT50-SM100-1500-F**					15.00				
DCAT50-SM125-0150					1.50				
DCAT50-SM125-0350					3.50				
DCAT50-SM125-0550		1.25	2.75	0.69	5.50	0.500	DK-SM125	5/8-18	SCW-SM125
DCAT50-SM125-0800					8.00				
DCAT50-SM125-1200-F**					12.00				
DCAT50-SM125-1500-F**					15.00				
DCAT50-SM150-0240					2.40		DK-SM150-C		
DCAT50-SM150-0400		1.50	3.82	0.94	4.00	0.625	DK-SM150	3/4-16	SCW-SM150
DCAT50-SM150-0600					6.00		DK-SM150		
DCAT50-SM150-0800					8.00		DK-SM150		
DCAT50-SM200-0240		2.00	4.37	0.94	2.40	0.750	DK-SM200	1"-14	SCW-SM200
DCAT50-SM200-0400					4.00				

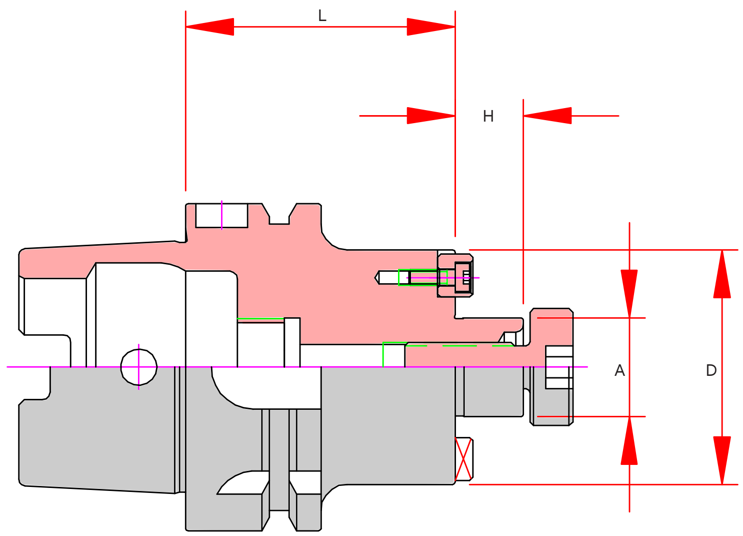
** Stocked in "FX" Coolant Style Only

PIONEER

HSK 63A Shell Mill Adapters

Features

- Body - Coolant Thru Center for modified screws
- Pre-Balanced for use @ 20,000 RPM
- FX Coolant option available, see chart below add –F to the Part Number



Part Number	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
HSK63A-SM050-0177	0.500	1.38	0.57	1.77	0.250	DK-SM050	1/4-28	SCW-SM050
HSK63A-SM050-0394				3.94				
HSK63A-SM050-0630				6.30				
HSK63A-SM050-0800				8.00				
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				
HSK63A-SM075-0800				8.00				
HSK63A-SM100-0197	1.00	1.97	0.69	1.97	0.375	DK-SM100	1/2-20	SCW-SM100
HSK63A-SM100-0394				3.94				
HSK63A-SM100-0630				6.30				
HSK63A-SM100-0800				8.00				
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				
HSK63A-SM150-0236	1.50	3.78	0.94	2.36	0.625	DK-SM150	3/4-16	SCW-SM150

HSK 100A Shell Mill Adapters

Features

- Body - Coolant Thru Center for modified screws
- Pre-Balanced for use @ 20,000 RPM
- FX Coolant option available, see chart below
  add –F to the Part Number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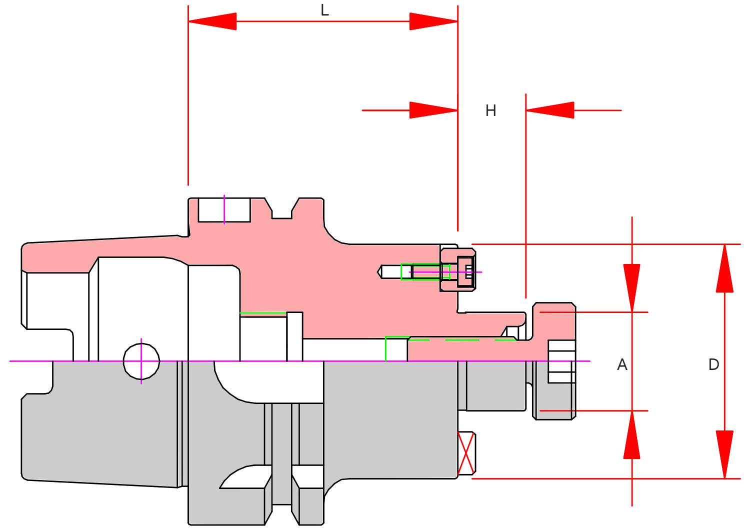


Part Number	A Pilot	D	H	L Projection	Drive Key Size	Drive Key Number	Mounting Screw Thread	Mounting Screw#
HSK100A-SM075-0350				3.50				
HSK100A-SM075-0550				5.50				
HSK100A-SM075-0800	0.75	1.71	0.69	8.00	0.312	DK-SM075	3/8-24	SCW-SM075
HSK100A-SM075-1000				10.00				
HSK100A-SM075-1200				12.00				
HSK100A-SM075-1500				15.00				
HSK100A-SM100-0400				4.00				
HSK100A-SM100-0600				6.00				
HSK100A-SM100-0800	1.00	1.97	0.69	8.00	0.375	DK-SM100	1/2-20	SCW-SM100
HSK100A-SM100-1000				10.00				
HSK100A-SM100-1200				12.00				
HSK100A-SM100-1500				15.00				
HSK100A-SM125-0350				3.50				
HSK100A-SM125-0550	1.25	2.75	0.69	5.50	0.500	DK-SM125	5/8-18	SCW-SM125
HSK100A-SM125-0800				8.00				
HSK100A-SM150-0400				4.00				
HSK100A-SM150-0600	1.50	3.78	0.94	6.00	0.625	DK-SM150	3/4-16	SCW-SM150
HSK100A-SM150-0800				8.00				
HSK100A-SM200-0400	2.00	4.37	0.94	4.00	0.750	DK-SM200	1"-14	SCW-SM200

Shell Mill Screws

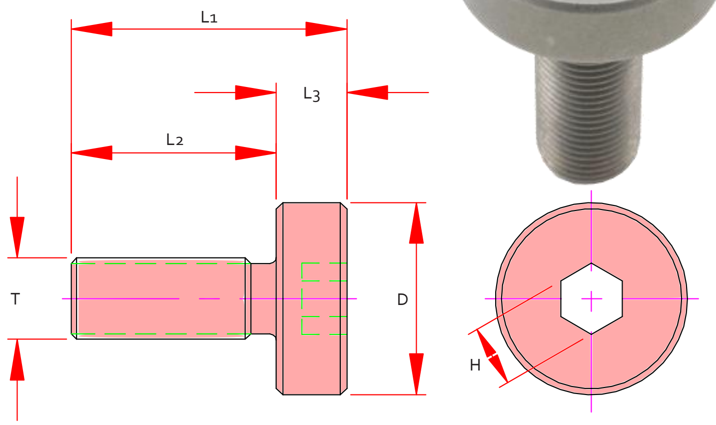
Replacement screw for catalog holders

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

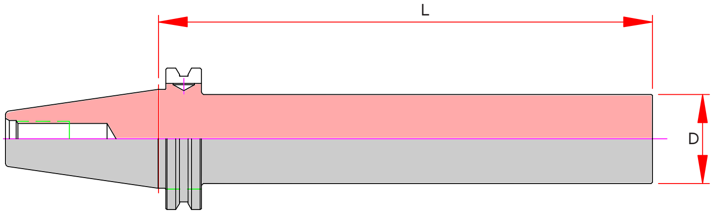
- (2) Drive Keys
- (2) Mounting Screws

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	

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

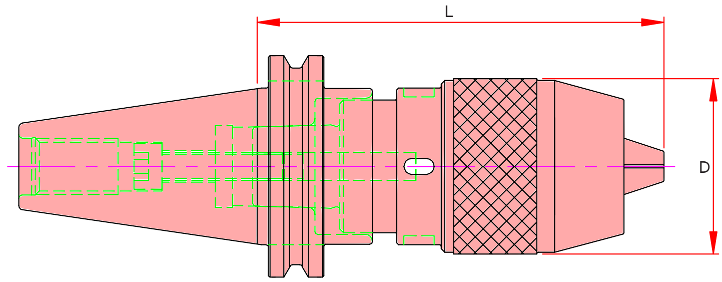


Part Number	Spindle	D	L Projection
DBT30-TB32-200	STD & Dual Contact BT30	32mm	200mm
DBT40-TB40-300	STD & Dual Contact BT40	40mm	300mm
DCAT40-TB150-1000	STD & Dual Contact CAT40	1.50	10.00
DCAT50-TB200-1200	STD & Dual Contact CAT50	2.00	12.00
HSK63A-TB40-300	HSK63A & C	40mm	300mm
HSK100A-TB50-320	HSK100A & C	50mm	320mm

DC - Drill Chuck

Features:

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

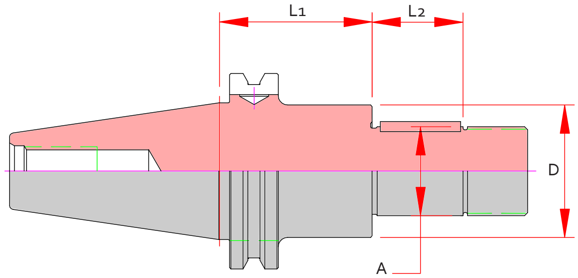


Part Number	Range	D	L Projection	Wrench
CAT40-DC050-0413			4.13	DCW13
CAT50-DC050-0394			3.94	DCW13
BT30-DC13-105	0.04 - 0.50	1.96	4.13	DCW13-BT30
BT40-DC13-110			4.33	DCW13
HSK 63A-DC13-155			6.10	DCW13

SB - Stub Arbor

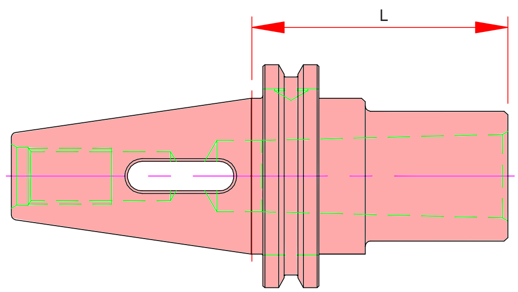
Features:

- Non Coolant
- Spacers & Locking Nut Included



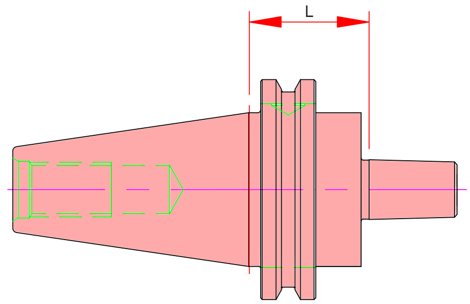
Shank	Part Number	A	D	L1	L2	Key Size
CAT40	CAT40-SB100-0300	1.0000	1.50	3.00		0.25
CAT50	CAT50-SB100-0300	1.0000	1.50	3.00		0.25
	CAT50-SB125-0300	1.2500	1.75	3.00	1.24	0.31
BT30	BT30-SB100-0300	1.0000	1.50	3.00		0.25
BT40	BT40-SB100-0300	1.0000	1.50	3.00		0.25

MA - Morse Taper Adapter



Part Number	Morse Taper Number	L Projection	Coolant Thru
CAT40-MA1-0177	1	1.77	Y
CAT40-MA1-0472		4.72	
CAT40-MA2-0236	2	2.36	Y
CAT40-MA2-0472		4.72	
CAT40-MA3-0295	3	2.95	Y
CAT40-MA3-0531		5.31	
CAT40-MA4-0374	4	3.74	Y
CAT40-MA4-0650		6.50	
CAT50-MA1-0177	1	1.77	Y
CAT50-MA1-0472		4.72	
CAT50-MA1-0709		7.09	
CAT50-MA2-0177	2	1.77	Y
CAT50-MA2-0531		5.31	
CAT50-MA2-0709		7.09	
CAT50-MA3-0177	3	1.77	Y
CAT50-MA3-0591		5.91	
CAT50-MA3-0709		7.09	
CAT50-MA4-0295	4	2.95	Y
CAT50-MA4-0709		7.09	
CAT50-MA5-0413	5	4.13	
CAT50-MA5-0709		7.09	

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-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

Pioneer Tapping Options

Pioneer offers Rigid, Length Compensating and Tap ER for fully Synchronized tapping applications. Our adapters are manufactured by the company who invented the system so there is never a compatibility problem.

What holder should I use?

In CNC applications where the hole is being drilled in the same setup, it comes down to the machine tool to determine which holder is best for you.

Rigid Tapping

When rigid tapping in a fully synchronized system ER Tap collets provide zero movement with no axial play. While Quick Change RT & RA are called "rigid" they still have some movement in the Quick Change connection which can cause some issues.

RT holders do have a hole thru the center for coolant, it is not sealed but works well with the appropriate adapter. Most RA adapters allow coolant to the back of the tap , the exception is some of the pipe adapters have a stop plug that needs to be modified. This is not a sealed system but fluid dynamics apply, if the outlet coolant hole is larger than the inlet coolant hole there is no issue. Leakage occurs when the outlet coolant hole is smaller than the inlet causing back pressure. This back pressure will leak out of the mechanism.

Roll Form

It is recommended to use ER Tap Collets for Roll Form Tapping. Quick change does not perform well with Roll Form applications.

Length Compensating

In applications where there is backlash in the machine or timing to pitch issues, Tension and Compression holders will compensate to allow the tap to cut freely without pressure from the machine tool.
Programming should be 95-98% of Pitch of in-feed, 100% of Pitch on reverse. This will allow the tap to pull out on the springs of the holder while tapping the hole and spring back when exiting the hole to prevent thread pulling and double cutting.

Rigid Adapters vs Torque Control

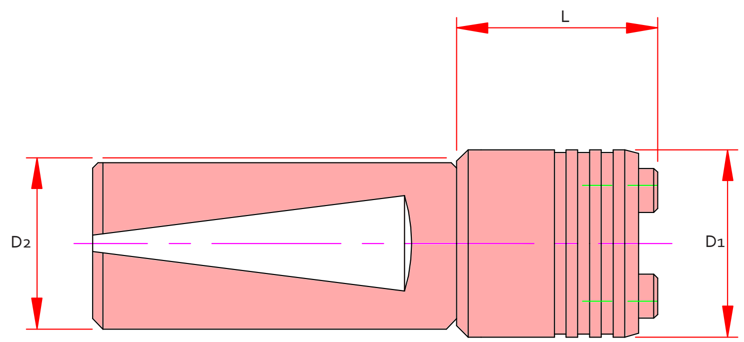
Torque control adapters have a user adjustable clutch. The clutch is set for mild steel from the factory. Torque control adapters will clutch if the there is hard spots in the material, the drilled hole is not deep enough or the tap has become dull and is not cutting properly. Due to the sensitivity of the clutch the adapter will clutch before the tap is fully dull.

In CNC machine tools we recommend RA Rigid Adapters with TC Tension and Compression holders due to the drilled hole being controlled by the same setup. However there is always a chance of tap breakage if the tap becomes to dull in a RA Adapter.

RT - Straight Shank

Features:

- Flats for Lathe Applications
- Compatible with industry standards

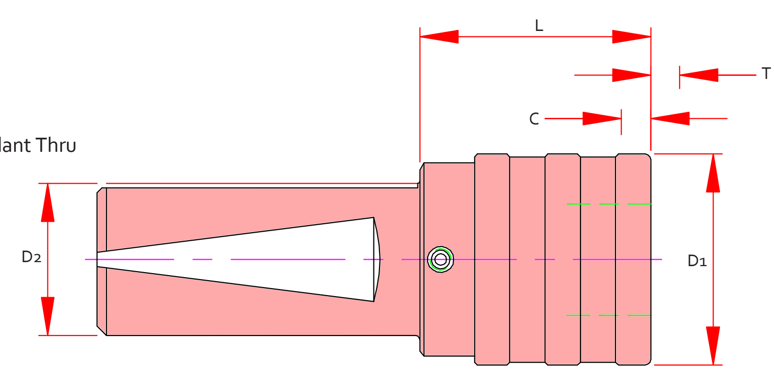


Adapter Size	Part Number	Capacity	D1	D2	L Projection
1	S100-RT1-0158	#6 - 9/16	1.34	1"	1.57
2	S100-RT2-0237	5/16 - 7/8	1.93	1"	2.36
3	S125-RT3-0375	9/16 - 1-3/8	2.89	1-1/4"	3.74

TC - Straight Shank

Features:

- Non Coolant
- Flats for Lathe Applications
- Compatible with industry standards
- TC Holders are not designed for Coolant Thru

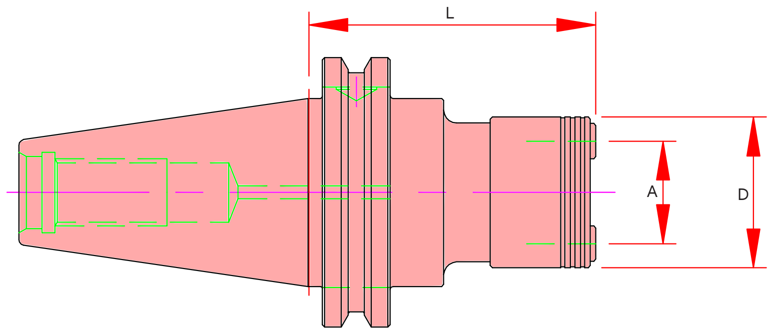


Adapter Size	Part Number	Capacity	D1	D2	L Projection	T - TENSION	C - COMP.
1	S100-TC1-0158	#6 - 9/16	1.42	1"	1.57	0.30	0.30
2	S100-TC2-0256	5/16 - 7/8	2.09	1"	2.36	0.49	0.49
3	S125-TC3-0504	9/16 - 1-3/8	3.07	1-1/4"	3.94	0.79	0.79

RT - Rigid QC Tap Holders

Features

- Body - Coolant Thru Center
- **For use with RA Adapters Only!**



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	BT30-RT1-0433**	#6-9/16	0.75	1.34	4.33
2	BT30-RT2-0511**	5/16-7/8	1.22	1.93	5.11
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-RT3-0575**	9/16-1-3/8	1.89	2.89	5.75
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

**** 2 Piece Assembly w/ Straight Shank Below**

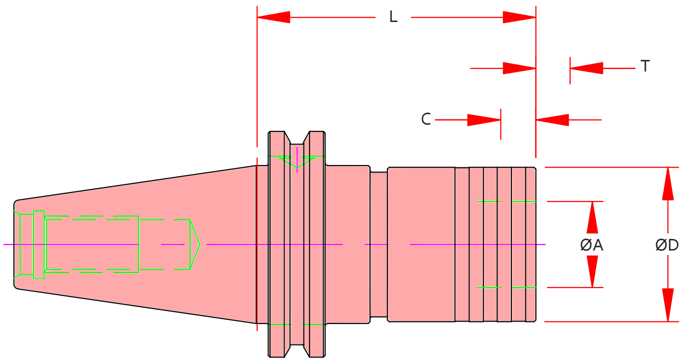
RT holders work best in rigid cut tap applications with synchronized speed and feed to match the tap's exact pitch. For roll form taps it is recommended to use TER collets and ER holders.

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
- Size 3 includes pull to release system to prevent damage from over stroke
- TC Holders are not designed for Coolant Thru
- For use with both RA and TC adapters
    - TC for machines with limited "Z" control


P-142



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	BT30-TC1-0433**	#6-9/16	0.75	1.42	4.33	0.30	0.30
2	BT30-TC2-0531**	5/16-7/8	1.22	2.09	5.31	0.49	0.49
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-TC3-0704**	9/16-1-3/8	1.89	3.07	7.04	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

**** 2 Piece Assembly w/ Straight Shank Below**

TC holders are length compensating holders, this allows the tap to start late without causing damage to the tap, holder or machine tool. TC holders are recommended for use with RA adapters unless it is a bottom tapping operation and Z length is not controlled, TC adapters provide a clutch so if the adapter hits bottom the unit will clutch allowing the spindle to continue without damage. Note: There is trial and testing to achieve the proper torque setting on a TC adapter. Adapters come set from the factory for mild steel. Adapter must be set for material hardness and quality of the tap, dull taps require additional pressure to start.

When running TC holders in a machining center it is recommended to set the feed rate 95-98% of the pitch of the tap on in stroke and 100% of pitch on out stroke. This allows the tap to pull out on the holder springs while cutting preventing spindle pressure pushing on the tap. On reverse the tap will "spring" back to help prevent pulled or damage to the first thread.

For roll form taps it is recommended to use TER collets and ER holders.

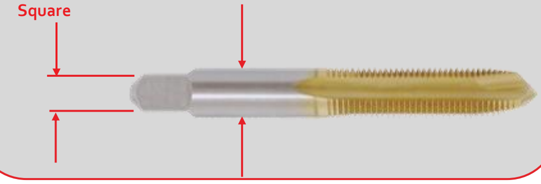
RA - Rigid QC Tap Adapters

Features:

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

Recommended for use in both RT & TC Tap Holders

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:

- Clutch for uncontrolled bottom 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

ANSI Tap Shank and Square Information

Information from ANSI/ASME B94.9-1987

- TER Collets found on Page #
- QC Adapters found on Page #

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

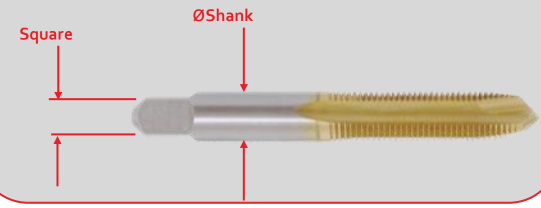
ER Tap Collets	QC Tap Adapters		Shank		Square		ANSI	
TER Collet	RA Rigid	TC Torque Control	MM	Inch	MM	Inch	ANSI Inch	ANSI Metric
TER (16, 20, 25, 32, 40)U -141	RA1U-0141	TC1U-0141	3.58	0.141	2.79	0.11	#0 - #6	M1.6 - M3.5
TER (16, 20, 25, 32, 40)U -168	RA1U-0168	TC1U-0168	4.27	0.168	3.33	0.131	#8	M4
TER (16, 20, 25, 32, 40)U -194	RA1U-0194	TC1U-0194	4.93	0.194	3.86	0.152	#10	M4.5 - M5
TER (16, 20, 25, 32, 40)U -220	RA1U-0220	TC1U-0220	5.59	0.22	4.19	0.165	#12	
TER (16, 20, 25, 32, 40)U -255	RA1U-0255	TC1U-0255	6.48	0.255	4.85	0.191	#14 & 1/4"	M6 - M6.3
	RA1U-0313	TC1U-0313	7.95	0.313	5.94	0.234	1/16"P & 1/8"P-SS	
TER (16, 20, 25, 32, 40)U -318	RA (1, 2) U-0318	TC (1, 2) U-0318	8.08	0.318	6.05	0.238	5/16"	M7 - M8
TER (16, 20, 25, 32, 40)U -323	RA (1, 2) U-0323	TC (1, 2) U-0323	8.2	0.323	6.15	0.242	7/16"	
TER (16, 20, 25, 32, 40)U -367	RA (1, 2) U-0367	TC (1, 2) U-0367	9.32	0.367	6.99	0.275	1/2"	M12 - M12.5
TER (16, 20, 25, 32, 40)U -381	RA (1, 2) U-0381	TC (1, 2) U-0381	9.68	0.381	7.26	0.286	3/8"	M10
TER (25, 32, 40)U -429	RA (1, 2, 3) U-0429	TC (1, 2, 3) U-0429	10.9	0.429	8.18	0.322	9/16"	M14
TER (25, 32, 40)U -437	RA (1, 2) U-0438	TC (1, 2) U-0438	11.13	0.438	8.33	0.328	1/8" P-LS	
TER (25, 32, 40)U -480	RA (2, 3) U-0480	TC (2, 3) U-0480	12.19	0.48	9.14	0.36	5/8"	M16
TER (32, 40)U -542	RA (2, 3) U-0542	TC (2, 3) U-0542	13.77	0.542	10.31	0.406	11/16"	M18
TER (32, 40)U -562	RA2U-0563	TC2U-0563	14.3	0.563	10.69	0.421	1/4" P	
TER (32, 40)U -590	RA (2, 3) U-0590	TC (2, 3) U-0590	14.99	0.59	11.23	0.442	3/4"	
TER (32, 40)U -652	RA (2, 3) U-0652	TC (2, 3) U-0652	16.56	0.652	12.42	0.489	13/16"	M20
TER40U -687	RA (2, 3) U-0688	TC (2, 3) U-0688	17.48	0.688	13.08	0.515	1/2" P	
TER40U -697	RA (2, 3) U-0697	TC (2, 3) U-0697	17.7	0.697	13.28	0.523	7/8"	M22
TER40U -700	RA (2, 3) U-0700	TC (2, 3) U-0700	17.78	0.7	13.49	0.531	3/8" P	
TER40U -760	RA3U-0760	TC3U-0760	19.3	0.76	14.48	0.57	15/16"	M24
TER40U -800	RA3U-0800	TC3U-0800	20.32	0.8	15.24	0.6	1"	M25
	RA3U-0896	TC3U-0896	22.76	0.896	17.07	0.672	1-1/16" & 1-1/8"	M27
	RA3U-0906	TC3U-0906	23.01	0.906	17.25	0.679	3/4" P	
	RA3U-1021	TC3U-1021	25.93	1.021	19.46	0.766	1-3/16" & 1-1/4"	M30
	RA3U-1108	TC3U-1108	28.14	1.108	21.11	0.831	1-5/16" & 1-3/8"	M33
	RA3U-1125	TC3U-1125	28.58	1.125	21.41	0.843	1" P	

DIN Tap Shank and Square Information

Information from DIN 352, 371, 374, 376

- TER Collets found on Page #
- QC Adapters found on Page #

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



ER Tap Collets	QC Tap Adapters	Shank		Square		DIN			
TER Collet	RA Rigid	MM	Inch	MM	Inch	DIN 352	DIN 371	DIN 374	DIN 376
TER (16, 25)D -035		3.50	0.138	2.70	0.106	M3	M3	M4.5 - 5	M4.5 - 5
TER (16, 20, 25)D -040		4.00	0.157	3.00	0.118	M3.5	M3.5		
TER (16, 20, 25, 32)D -045		4.50	0.177	3.40	0.134	M4	M4	M6	M6
TER (16, 20, 25, 32)D -055		5.50	0.217	4.30	0.169			M7	M7
TER (16, 20, 25, 32, 40)D -060	RA1D-M060X049	6.00	0.236	4.90	0.193	M4.5 - M6	M5 & M6	M8	M8
TER (16, 20, 25, 32, 40)D -070	RA1D-M070X055	7.00	0.276	5.50	0.217	M7		M9 - M10	M9 - M10
TER (16, 20, 25, 32, 40)D -080	RA1D-M080X062	8.00	0.315	6.20	0.244		M8	M11	M11
TER (16, 20, 25, 32, 40)D -090	RA1D-M090X070	9.00	0.354	7.00	0.276	M12	M9	M12	M12
TER (16, 20, 25, 32, 40)D -100	RA1D-M100X080	10.00	0.394	8.00	0.315		M10		
TER (25, 32, 40)D -110		11.00	0.433	9.00	0.354	M14		M14	M14
TER (25, 32, 40)D -120	RA2D-M120X090	12.00	0.472	9.00	0.354	M16		M16	M16
TER (25, 32, 40)D -140		14.00	0.551	11.00	0.433	M18		M18	M18
TER (25, 32, 40)D -160		16.00	0.630	12.00	0.472	M20		M20	M20
TER (32, 40)D -180		18.00	0.709	14.50	0.571	M22 & M24		M22 & M24	M22 & M24
TER (32, 40)D -200		20.00	0.787	16.00	0.630	M27		M27	M27
TER 40D -220		22.00	0.866	18.00	0.709	M30		M30	M30

Locking Fixtures

- Bolts to Workbench
- Easy Access to Retention Knob

Part Number	Shank
TLD-BT30	BT30 / DBT30
TLD-BT40	BT40 / DBT40
TLD-CAT40	CAT40 / DCAT40
TLD-CAT50	CAT50 / DCAT50

Tool Block 3.0

PIONEER's Flexible, Indexable Tool Block
with Interchangeable Heads!

The system is designed to prevent injury and allow the operator to move the holder into the best position for manipulation. 8 locking positions (45° 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.

Version 3 includes 1 piece body and 45° positions!

Order Tool Block Head and Base Separately!

Tool Block Head

Part	Shank
TB-BT30 HEAD	BT30 / DBT30 JMTBA MAS403
TB-BT40 HEAD	BT40 / DBT40 JMTBA MAS403
TB-CAT40 HEAD	CAT40, DCAT40, ISO7388-40, DIN69871-40
TB-CAT50 HEAD	CAT50, DCAT50, ISO7388-50, DIN69871-50
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

Tool Block Base

Part	
TB-BASE	(1) Base Required

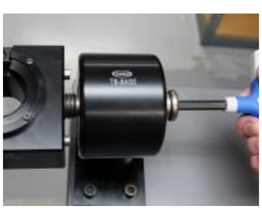
Base includes Mounting Bolts & Hex Wrench

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.

Wrench's

Hook Spanner

Nut Size	Metric	Type	For use with	Part Number	Drive	Torque Wrench Head #
1.26	32	Hook Spanner	ERN16, ERN16B	WRENCH 30-32 HOOK	0.500	TWSQ050-S32
1.38	35.1	Hook Spanner	BC050, ERN20B	WRENCH 34-38 HOOK	0.500	TWSQ050-S38
1.50	38.1	Hook Spanner	BC062	WRENCH 40-42 HOOK	0.500	TWSQ050-S38
1.58	40.1	Hook Spanner	SXN16	WRENCH 40-42 HOOK	0.500	TWSQ050-S40
1.73	43.9	Hook Spanner	BC075, BCM20	WRENCH 45-48 HOOK	0.500	TWSQ050-S45
1.75	44.5	Hook Spanner	VX	WRENCH 45-48 PIN	0.500	TWSQ050-S45
1.75	44.5	Hook Spanner	DC050-BT30	WRENCH 45-48 HOOK		
1.89	48.0	Hook Spanner	DC050	WRENCH 45-48 HOOK		
1.97	50.0	Hook Spanner	TG075, ER32B	WRENCH 50-55 HOOK	0.500	TWSQ050-S55
1.98	50.3	Hook Spanner	SXN25M	WRENCH 50-55 HOOK	0.500	TWSQ050-S55
2.09	53.1	Hook Spanner	MC075	WRENCH 50-55 HOOK	0.500	TWSQ050-S55
2.12	53.8	Hook Spanner	BC100, BCM25	WRENCH 50-55 HOOK	0.500	TWSQ050-S55
2.17	55.1	Hook Spanner	SXN25	WRENCH 50-55 HOOK	0.500	TWSQ050-S55
2.44	62.0	Hook Spanner	MC100	WRENCH 58-65 HOOK	0.500	TWSQ050-S65
2.48	63.0	Hook Spanner	TG100	WRENCH 58-65 HOOK	0.500	TWSQ050-S65
2.56	65.0	Hook Spanner	BC125, BCM32	WRENCH 58-65 HOOK	0.500	TWSQ050-S65
2.76	70.1	Hook Spanner	MC125	WRENCH 65-70 HOOK	0.500	TWSQ050-S70
3.19	81.0	Hook Spanner	BC150	WRENCH 80-85 HOOK		
3.23	82.0	Hook Spanner	TG150	WRENCH 80-85 HOOK		
3.78	96.0	Hook Spanner	BC200	WRENCH 92-100 HOOK		

Nut Size	Metric	Type	Works On	Part Number
0.07	1.9	PIN SPANNER	COOLANT CAP	WRENCH SXW-CC

Nut Size	Metric	Type	Works On	Part Number
0.20	5.0	Hex (Allen)	MX	WRENCH MXW05

Wrench's

Hex

Nut Size	Metric	Type	Works On	Part Number	Drive	Torque Wrench Head #
0.50	12.7	Hex (Open End)	DA300	WRENCH DAW300		
0.67	17.0	Hex (Open End)	ER11H	WRENCH ERW-11 HEX	0.375	TWSQ037-H17
0.71	18.0	Hex (Open End)	SXN06	WRENCH SXW-06 H	0.375	TWSQ037-H18
0.75	19.0	Hex (Open End)	DA200	WRENCH DAW200		
0.94	24.0	Hex (Open End)	DA100	WRENCH DAW100		
0.98	25.0	Hex (Open End)	ER16H	WRENCH ERW-16 HEX	0.500	TWSQ050-H254
1.00	25.4	Hex (Open End)	SXN10	WRENCH SXW-10 H	0.500	TWSQ050-H254
1.18	30.0	Hex (Open End)	ER20H	WRENCH ERW-20 HEX	0.500	TWSQ050-H30
1.26	32.0	Hex (Open End)	DA180	WRENCH DAW180		

E Type

Nut Size	Metric	Type	Works On	Part Number	Drive	Torque Wrench Head #
1.26	32.0	E Type	ERN16	WRENCH ERW-16 E	0.500	TWSQ050-S32
1.38	35.0	E Type	ERN20	WRENCH ERW-20 E	0.500	TWSQ050-S38
1.65	42.0	E Type	ERN25	WRENCH ERW-25 E	0.500	TWSQ050-ER25E
1.97	50.0	E Type	ERN32	WRENCH ERW-32 E	0.500	TWSQ050-ER32E
2.48	63.0	E Type	ERN40	WRENCH ERW-40 E	0.500	TWSQ050-ER40E

Mini E Type

Nut Size	Metric	Type	Works On	Part Number
0.47	12.0	Mini E	ER08	WRENCH ERW- 8M
0.63	16.0	Mini E	SX06M, ER11M	WRENCH ERW-11 M
0.87	22.1	Mini E	SX10M, ER16M	WRENCH ERW-16 M
1.10	28.0	Mini E	ER20M	WRENCH ERW-20 M

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Torque Wrench

Recommended settings to be 10% below maximum torque to prevent over tightening.

Note: It is recommended to calibrate the wrench to manufacturer's specifications and re-calibrate as recommended. Over torque will cause damage to the tool holder (and collet if applicable).

Part Number	Type	Drive Sq.	Torque Range
TWSQ037	Click & Reversible	3/8 (0.37)	5-80 ft/lbs (+/-4%)
TWSQ050	Click & Reversible	1/2 (0.50)	30-150 ft/lbs (+/-4%)

Collet Chuck Tightening Torque

Below values are Maximum, do not over torque or damage to the chuck or collet may occur. Calibrate your torque wrench on a regular bases, use wrench manufacturer's speciation.

If any distortion is observed in the collet slots, back off the torque until the collet is restored to normal.

Collet Nut	Description	Wrench Type	Wrench #	Torque Wrench Head	Max. Torque	Max. Nm
SXN-06M	SX06 Nut - Mini E Type Wrench	Mini E	WRENCH ERW-11 HEX		9 ft/lbs	12 Nm
SXN-10M	SX10 Nut - Mini E Type Wrench	Mini E	WRENCH ERW-16 HEX		13 ft/lbs	17 Nm
SXN-25M	SX25 Nut - Mini Spanner Wrench	Spanner	WRENCH 50-55 HOOK	WRENCH TWSQ050-S55	85 ft/lbs	115 Nm
SXN-25MB	SX25 Bearing Nut - Mini Spanner	Spanner	WRENCH 50-55 HOOK	WRENCH TWSQ050-S55	120 ft/lbs	162 Nm
SXN-06H	SX06 Nut -Hex Wrench	Hex	WRENCH SXW-06 H	WRENCH TWSQ037-H18	22 ft/lbs	29 Nm
SXN-10H	SX10 Nut -Hex Wrench	Hex	WRENCH SXW-10 H	WRENCH TWSQ050-H254	41 ft/lbs	55 Nm
SXN-16S	SX16 Nut - Spanner Wrench	Spanner	WRENCH SXW-16 S	WRENCH TWSQ050-S40	55 ft/lbs	74 Nm
SXN-25S	SX25 Nut - Spanner Wrench	Spanner	WRENCH 50-55 HOOK	WRENCH TWSQ050-S55	85 ft/lbs	115 Nm
VX - All	VX12 - Pin Spanner Wrench	Pin Spanner	WRENCH 45-48 PIN	WRENCH TWSQ050-S45	70 ft/lbs	94 Nm
ERN-08M	ER08 Nut - Mini E Type Wrench	Mini E	WRENCH ERW- 8M		4 ft/lbs	5 Nm
ERN-11M	ER11 Nut - Mini E Type Wrench	Mini E	WRENCH ERW-11 M		9 ft/lbs	12 Nm
ERN-16M	ER16 Nut - Mini E Type Wrench	Mini E	WRENCH ERW-16 M		13 ft/lbs	17 Nm
ERN-20M	ER20 Nut - Mini E Type Wrench	Mini E	WRENCH ERW-20 M		17 ft/lbs	23 Nm
ERN-11H	ER11 Nut -Hex Wrench	Hex	WRENCH ERW-11 HEX	WRENCH TWSQ037-H17	18 ft/lbs	24 Nm
ERN-16H	ER16 Nut -Hex Wrench	Hex	WRENCH ERW-16 HEX	WRENCH TWSQ050-H254	40 ft/lbs	54 Nm
ERN-20H	ER20 Nut -Hex Wrench	Hex	WRENCH ERW-20 HEX	WRENCH TWSQ050-H30	60 ft/lbs	81 Nm
ERN-16B	ER16 Nut - Spanner Wrench	Spanner	WRENCH 30-32 HOOK	WRENCH TWSQ050-S32	40 ft/lbs	54 Nm
ERN-20B	ER20 Nut - Spanner Wrench	Spanner	WRENCH 34-38 HOOK	WRENCH TWSQ050-S38	60 ft/lbs	81 Nm
ERN-25B	ER25 Nut - Spanner Wrench	Spanner	WRENCH 40-42 HOOK	WRENCH TWSQ050-S40	75 ft/lbs	101 Nm
ERN-32B	ER32 Nut - Spanner Wrench	Spanner	WRENCH 50-55 HOOK	WRENCH TWSQ050-S55	100 ft/lbs	135 Nm
ERN-40B	ER40 Nut - Spanner Wrench	Spanner	WRENCH 58-65 HOOK	WRENCH TWSQ050-S65	125 ft/lbs	169 Nm
ERN-16E	ER16 Nut - E Type Wrench	E Type	WRENCH ERW-16 E		40 ft/lbs	54 Nm
ERN-20E	ER20 Nut - E Type Wrench	E Type	WRENCH ERW-20 E		60 ft/lbs	81 Nm
ERN-25E	ER25 Nut - E Type Wrench	E Type	WRENCH ERW-25 E	WRENCH TWSQ050-ER25E	75 ft/lbs	101 Nm
ERN-32E	ER32 Nut - E Type Wrench	E Type	WRENCH ERW-32 E	WRENCH TWSQ050-ER32E	100 ft/lbs	135 Nm
ERN-40E	ER40 Nut - E Type Wrench	E Type	WRENCH ERW-40 E	WRENCH TWSQ050-ER40E	125 ft/lbs	169 Nm
TGN-075	TG075 Nut - Spanner Wrench	Spanner	WRENCH 50-55 HOOK	WRENCH TWSQ050-S55	55 ft/lbs	74 Nm
TGN-100	TG100 Nut - Spanner Wrench	Spanner	WRENCH 58-65 HOOK	WRENCH TWSQ050-S65	75 ft/lbs	101 Nm
TGN-150	TG150 Nut - Spanner Wrench	Spanner	WRENCH 80-85 HOOK		100 ft/lbs	135 Nm
DAN-300	DA300 Nut - Mini Hex	Mini Hex	WRENCH DAW300		20 ft/lbs	27 Nm
DAN-200	DA200 Nut - Mini Hex	Mini Hex	WRENCH DAW200		25 ft/lbs	33 Nm
DAN-100	DA100 Nut - Mini Hex	Mini Hex	WRENCH DAW100		35 ft/lbs	47 Nm
DAN-180	DA180 Nut - Mini Hex	Mini Hex	WRENCH DAW180		40 ft/lbs	54 Nm

PIONEER

TWS - Retention Knobs Sockets

Features

- Fits HPS Retention Knobs on the following page
- May not fit other manufacturer'1 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

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.

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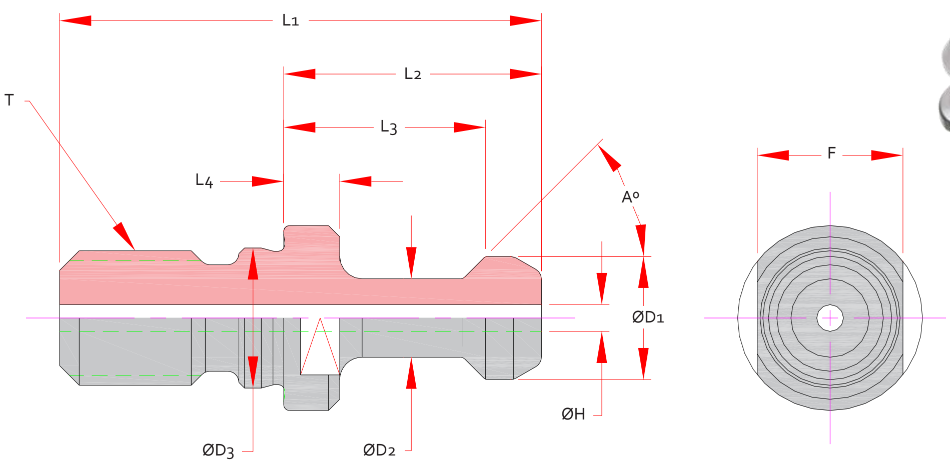
HPS - BT Retention Knobs

Features

- Manufactured to the Industry Standards or machine builders specifications.

Note: 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.	L4 Shoul-der	H Hole	F Flats	T Thread	Socket Wrench	Notes
BT30	HPS- 16	45	0.433	0.276	0.492	1.693	0.906	0.709	0.197	-	13mm	M12	TWS-M13	MAS P30T-1
	HPS- 16C-FA			0.315						0.098				FANUC Spec. w/ O-Ring D3
	HPS–16C			0.276						0.078				MAS P30T-1
	HPS- 17	60		0.276						-				MAS P30T-2
	HPS–17C-BR			0.296						0.098				Brother Spec. w/ O-Ring D3
	HPS–17C			0.276						0.078				MAS P30T-2
BT40	HPS- 1	45	0.591	0.394	0.669	2.362	1.378	1.102	0.236	-	19mm	M16	TWS-M19	MAS P40T-1
	HPS–1C								0.236	0.120				MAS P40T-1
	HPS-806 -1	75	0.748	0.551		2.126	1.142	0.906	0.276	0.236				JIS B6339
	HPS-G51	45	0.740	0.490		1.736	0.752	0.552	0.118	0.276				Coolant
	HPS-O8	90	0.591	0.394		2.362	1.378	1.102	0.236	-				MAS P40T-3

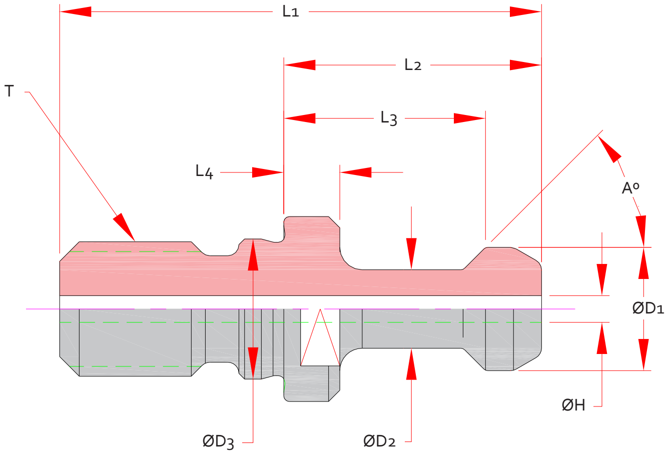
PIONEER

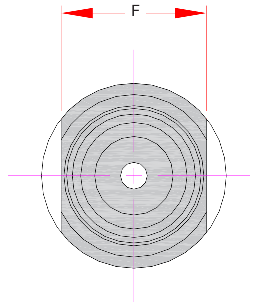
HPS - CAT Retention Knobs

Features

- Manufactured to the Industry Standards or machine builders specifications.

Note: 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	L4 Shoulder	H Hole	F Flats	T Thread	Socket Wrench	Notes
	HPS- 72	45	0.591	0.394	0.641	2.250	1.266	0.990	0.236	-	19mm		TWS-M19	MAS P40T-1
	HPS- 72C	45	0.591	0.394	0.641	2.250	1.266	0.990	0.118	0.098	19mm		TWS-M19	MAS P40T-1
	HPS- 26	60	0.591	0.394	0.630	2.252	1.268	0.992	0.236	-	19mm		TWS-M19	MAS P40T-2
	HPS- 26C	60	0.591	0.394	0.630	2.252	1.268	0.992	0.236	0.098	19mm		TWS-M19	MAS P40T-2
	HPS-806U-1	75	0.748	0.551	-	1.882	1.024	0.787	0.276	0.236	19mm		TWS-M19	JIS B6339
CAT40	HPS-B64-1	45	0.740	0.490	0.641	1.624	0.640	0.440	0.118	0.157	0.750	5/8-11	TWS-075	w/ O-Ring on OD D3
	HPS-D72	45	0.740	0.490	-	1.500	0.640	0.440	0.118	0.283	0.750		TWS-075	ANSI B5.50-1985
	HPS-G53	45	0.740	0.490	0.641	1.624	0.640	0.440	0.118	0.276	0.750		TWS-075	Mazak Spec.
	HPS-G60	45	0.740	0.490	0.641	1.624	0.640	0.440	0.118	-	0.750		TWS-075	Okuma Spec.
	HPS-O14	90	0.591	0.394	-	2.244	1.260	0.984	0.236	-	17mm		TWS-M17	Mori-Seiki Spec. MAS P40T-3
	HPS-O14C	90	0.591	0.394	-	2.244	1.260	0.984	0.236	0.098	17mm		TWS-M17	MAS P40T-3
	HPS- 54	45	0.906	0.669	1.031	3.354	1.780	1.386	0.402	0.236	30mm		TWS-M30	MAS P50T-1
	HPS- 63	60	0.906	0.669	1.024	3.248	1.772	1.378	0.394	-	30mm		TWS-M30	MAS P50T-2
	HPS-B61	60	0.906	0.669	1.024	3.248	1.772	1.378	0.394	0.236	30mm		TWS-M30	w/ O-Ring on OD D3
	HPS-D92	45	1.140	0.820	-	2.300	1.000	0.700	0.210	0.461	1.250		TWS-125	ANSI B5.50
CAT50	HPS-G43	45	1.140	0.820	1.031	2.303	1.000	0.700	0.197	0.394	1.187	1"-8	TWS-118	Mazak, O-Ring Groove in Face
	HPS-G43-R2	45	1.140	0.820	1.031	2.303	1.000	0.700	0.197	0.394	1.187		TWS-118	Mazak, Ground Face
	HPS-O19	90	0.906	0.669	-	3.346	1.780	1.386	0.394	-	30mm		TWS-M30	Mori-Seiki Spec. MAS P50T-3
	HPS-O19C	90	0.906	0.669	-	3.346	1.780	1.386	0.394	0.236	30mm		TWS-M30	MAS P50T-3
	HPS-711-45	75	1.101	0.845	-	2.640	1.338	0.984	0.468	0.468	30mm		TWS-M30	JIS B6339

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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
BRIDGEPORT	HPS-17	HPS-1	HPS-D72	
BROTHER	HPS-17 or HPS-17C-BR			
DOOSAN		HPS-806-1	HPS-806U-1	
ENSHU	HPS-16	HPS-1	HPS-72 / 72C	HPS- 54
FADAL			HPS-D72	
FANUC	HPS-16 or HPS-16C-FA			
HAAS	HPS-16 /16C	HPS-1	HPS-72 / 72C	HPS- 54
HOWA		HPS-1	HPS-72	
HURCO		HPS-1	HPS-D72 / D2 HPS–72C	HPS-D92
JOHNFORD		HPS-1		
KIA		HPS-1 / O8	HPS-72 / O14	
KITAMURA		HPS-1	HPS-72	HPS- 54
KIWA	HPS-17	HPS-1		
KURAKI		HPS-1	HPS-72	HPS- 54
LEADWELL		HPS-1	HPS-72	
MAKINO		HPS-806-1	HPS-806U-1 or HPS–72C	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
MORI SEIKI		HPS-O8	HPS-O14	HPS-O19
NIIGATA				HPS-63
NTC		HPS-1	HPS-72	
OKK	HPS-16	HPS-1 or HPS-O8	HPS-72 or HPS-O14	HPS-54 or HPS-O19
OKUMA	HPS-17	HPS-1	HPS-B64 or HPS-G60	HPS-B61 or HPS-63B
PARPAS		HPS-1		
ROKU-ROKU	HPS-16	HPS-1	HPS-72	
TOSHIBA	HPS-16	HPS-1	HPS-72	HPS- 54
TOYODA		HPS-1		
VIPER				HPS-D92
YASDA		HPS-806-1	HPS-72	HPS- 54
YCI		HPS-1	HPS-72	HPS- 54

PIONEER

ROTARY WIPER makes it possible to view the production/machining process clearly within the machine enclosure. The window will get dirty from 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 areas

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.

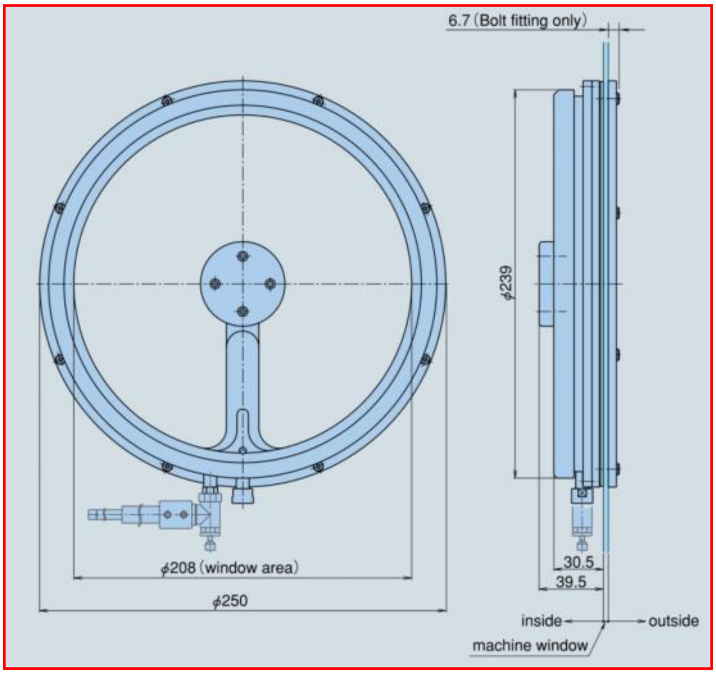
Rotary Wiper is available in 2 different mountings, Bolt & Tape.
Bolt mountings require 8 mounting screw holes in the windows. Tape on uses a high end adhesive with the only requirement is a clean window.


Tape Fitting


Bolt Fitting

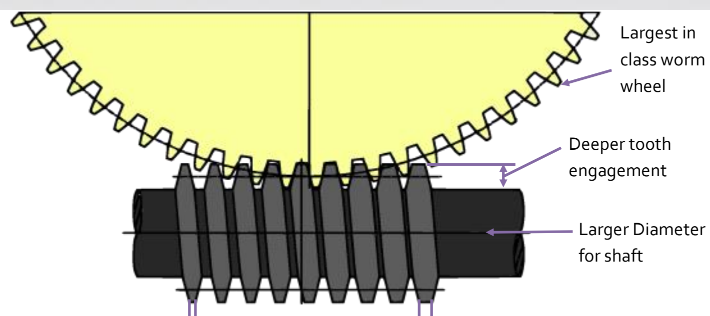

Air Cable

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)



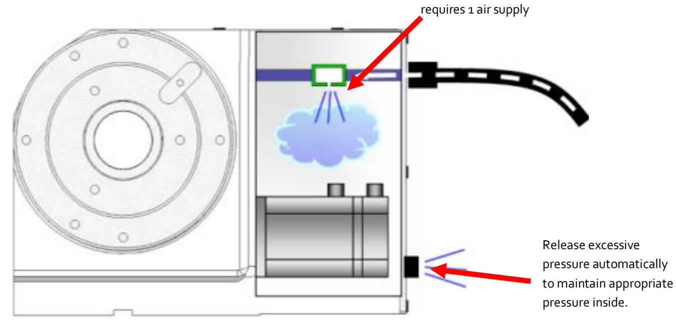
Since 1974, PIONEER has delivered world class tool and work holding products, earning a reputation built on unsurpassed service, custom solutions, and innovation.

YUKIWA and PIONEER put the highest level of technology and engineering together to build the CNC Rotary Tables that have the power to perform.

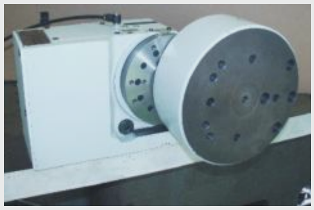


Adjustment of back lash is easy and quick!

Auto Air Purge Protects You From Water Hazards



1 million index test



Model JNC140

Weight 50 lbs

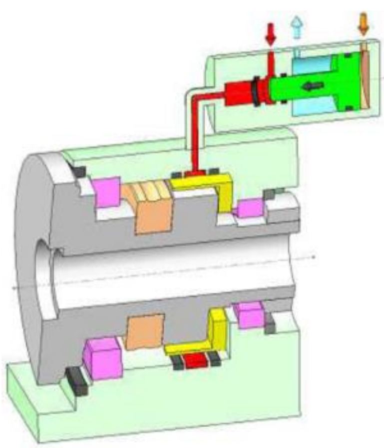
1 million Indexes = Equivalent to 1 Index / 1Minute cycle, 24/7, 1.9years worth

Backlash amount

Start 0.0005" (13 micron)

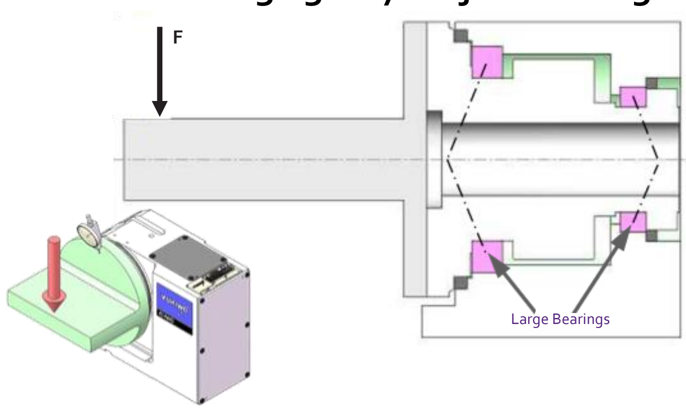
End 0.0009" (23 micron)

The Most Powerful Brake System



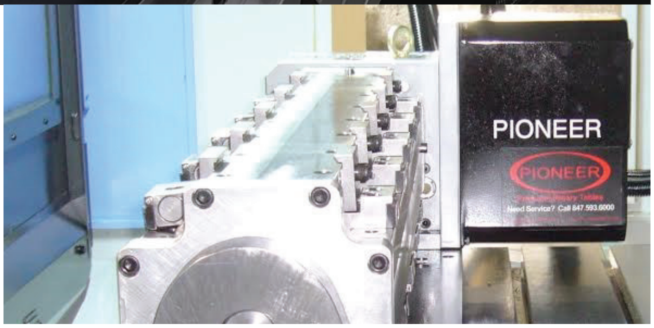
With Yukiwa's proprietary brake system, YNCP and TNT series deliver the most powerful brake torque, but you do not need an expensive and cumbersome hydraulic supply. Thanks to the Yukiwa's compact built -in air over hydraulic booster, simply supply standard shop air and it immediately generates strong brake torque equivalent to a hydraulic brake system. This feature makes the YUKIWA table the heaviest duty in its class.

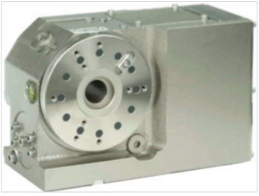
Rock Solid Design gets your job done right

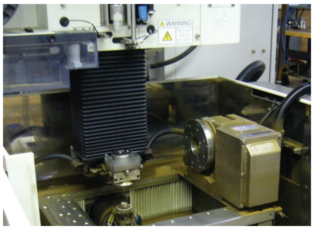


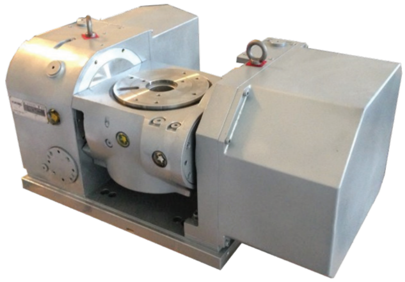
PIONEER brings an Installation and Service department second to none, with over 20 years experience in full rotary table 4th and 5th Axis installations as well as repair and service on many popular brands.

- Full Turnkey Installations on many Fanuc based controls including Fanuc oi, 16i, 18i, 21i series and more.
- Guaranteed Compatibility - We only install OEM Motors & Controllers to guarantee 100% compatibility with the machine control.









PIONEER EDM

Thanks to excellent water protection by patented auto air purging and optional corrosion protection plating or paint, JNC and TNT models are available as most affordable EDM rotary and indexing solution.

JNC Models **JNC140 / JNC170 / JNC200 / JNC250**

- Available in 5.5 / 6.7 / 7.9 / 9.8 inch table diameter
- Submersible with standard Auto Air Purging System (PAT)
- Optional stainless face plate with commutator block
- Optional nickel plating for better corrosion protection

TNT models **TNT100 / TNT170**

- Available in 3.9 / 6.7 inch table diameter
- Submersible with standard Auto Air Purging System (PAT)
- Optional stainless face plate with commutator block
- Optional rust preventative paint for better corrosion protection

The **Pioneer** Group