



3 MICRON ULTRA-PRECISION

3 Micron Precision | High RPM | Coolant Thru

Best Holders for Ultra Precision Machining

- ♦ **Run-Out Accuracy: Within $3\mu\text{m}$**

- ♦ SX-P $3\mu\text{m}$ @ 4X Dia.
(Hand Inspected 3 Times)
- ♦ MX $3\mu\text{m}$ @ 4X Dia.

- ♦ **High Speed: Dynamically Balanced**

Balanced G2.5 @ 25,000 RPM
(Optional Balance up to G2.5 @ 35,000 RPM)

- ♦ **Wide Range: 3/32 - 1" Options**

- ♦ SX-P Available 3/32 - 1"
- ♦ MX Available 3/32 - 1/2"

- ♦ **High Pressure Coolant Seal**

- ♦ **Jet-Blast**

- ♦ **Compact Design:**

- ♦ MX06 @ 1/2" Nose Dia.
- ♦ SX25M 1" ID, 1.97" OD



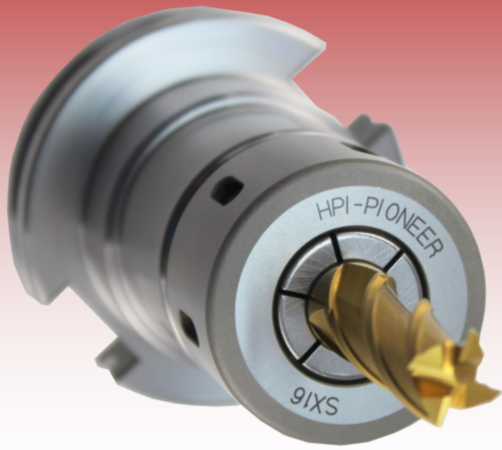
Pioneer 3 Micron Systems are a cost effective solution to performance machining at any RPM.

We guarantee the performance of our holders, please contact our customer service to schedule your demonstration.

New 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"

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.



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.

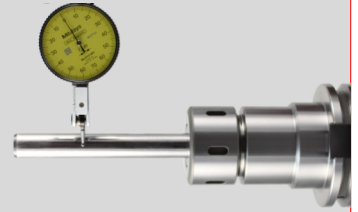
T.I.R. - 3µm @ 4D, Second to None!

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



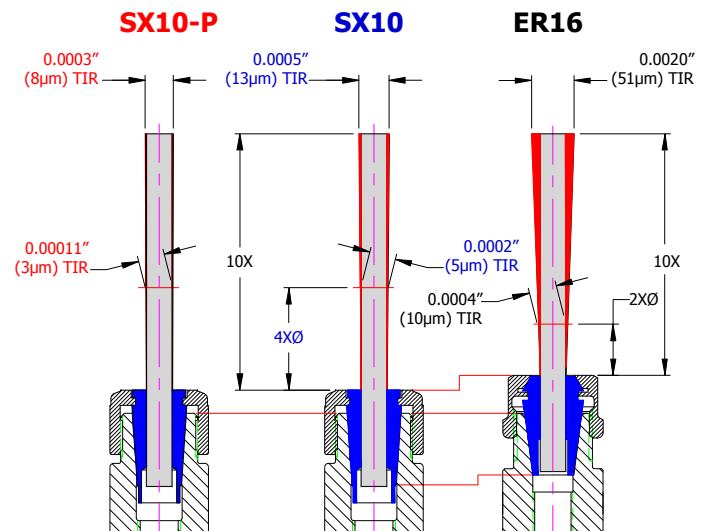
Collet TIR

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



3 Micron Provides Results

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



MX / VX 3 Micron Chuck

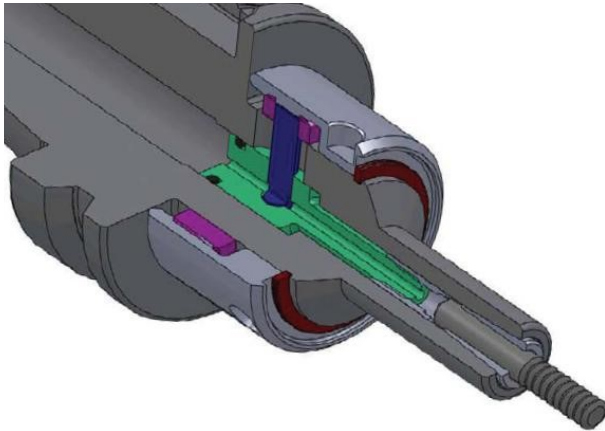
Clamping Range : 0.125" - 0.500"
ISO h6 Tool Shanks Required

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

Hands Down Winner in any 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

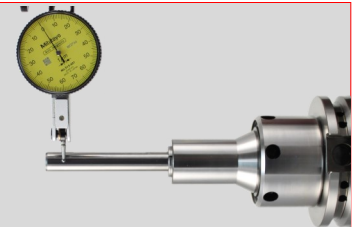
No one wants to use extensions but when you have to, use an extension that has the Best TIR in the industry.

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.



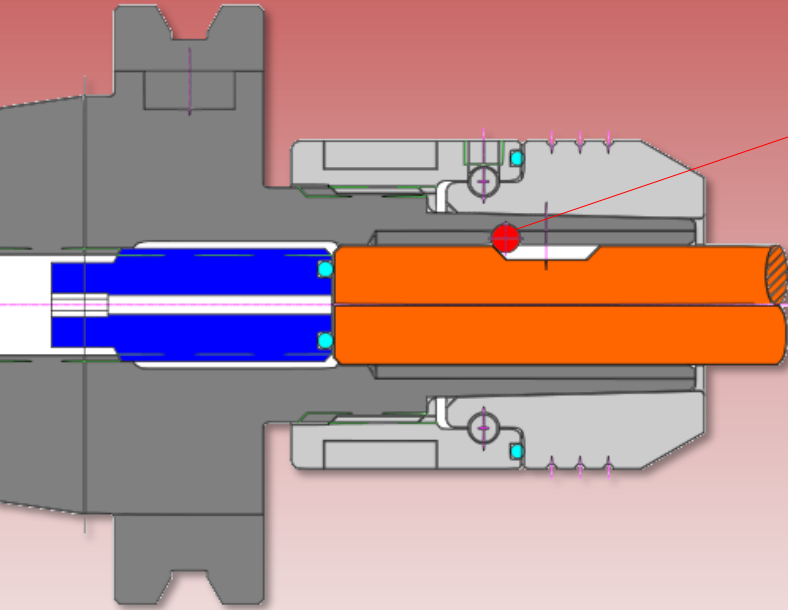
PIONEER Non-Pull Out BC Chuck

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...



Requirements:
BC-NP Mill Chuck with
Preset Screw, Wrench &
Dowel Pin,



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



Insert the
Hardened
Dowel Pin



Assemble the
Lock Nut
Hand Tight

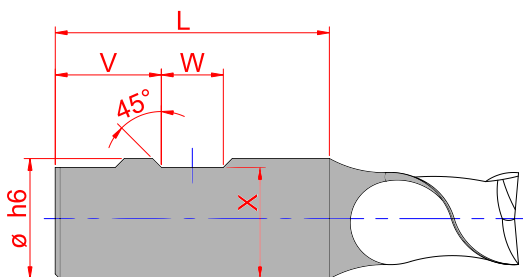


Adjust and Tighten
the Preset Screw
until tight against the
Dowel Pin



Tighten the
Lock Nut in a
Locking Fixture

Weldon Flat Information...



Shank		L	V	W		X	
Max Ø	Min Ø (ISO h6)			Min	Max	Max	Min
0.3750	0.3746	1.563	0.641	0.125	0.282	0.333	0.325
0.5000	0.4996	1.781	0.616	0.125	0.332	0.458	0.440
0.6250	0.6246	1.906	0.581	0.125	0.402	0.583	0.560
0.7500	0.7495	2.031	0.554	0.125	0.457	0.695	0.675
0.8750	0.8745	2.031	0.554	0.125	0.457	0.820	0.810
1.0000	0.9995	2.281	0.524	0.125	0.517	0.945	0.925
1.2500	1.2494	2.281	0.524	0.125	0.517	1.176	1.156
1.5000	1.4994	2.688	0.524	0.125	0.517	1.426	1.406
2.0000	1.9993	3.250	0.431	0.125	0.702	1.920	1.900



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