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Introduction to Collet Workholding

Collet workholding has been around a long time. Collets are used worldwide in the metalworking industry for their high accuracy and high output gripping of tools and work pieces.

Compact Air Products has chosen 3 popular collet sizes: 1C, 3C, and 5C, to design our space efficient collet fixtures around. Two designs are offered: **SC** series and **PSC** series, powered by pneumatic or hydraulic

pressure up to 1000 psi. Output gripping forces range from several pounds through 4-1/2 tons.

Compact collet closers are offered in the space efficient, cost effective packages demanded by modern factory automation. They are ideal stationary fixtures for metalworking, bench top assembly, precision robotics and assembly machine applications. Other applications include crimping, forming and staking.

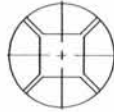
Collet Sizes / Capacities

1C, 3C, and 5C represent an international standard for collet sizes. 1C is miniature, 3C twice the capacity of 1C, and 5C more than twice the capacity of the 3C. See page 8 for details on collet capacities. (Larger collet closers are also available on special order.)

The collet closers detailed in this catalog do not include a collet. Collets are sold separately. Compact Air Products sells *only* American made collets.



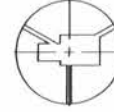
Round



Square



Hexagon



Special

Collet Closers - Stationary Fixture Types - SC and PSC Series



Precision heavy duty
5C model - PSC305C



Standard grade
5C model - SC305c



Miniature size
3C model - SC163C



Miniature size
1C model - SC111C

Our 4 models are available *off the shelf!*
Special mounting holes, port locations and mounting hardware can be quoted upon request.

- **Hardened wear surfaces**
- Many mounting options
- Pilots on 3 surfaces

- Optional position sensors
- **Air or hydraulic service up to 750 PSI**
- Low weight aluminum housing

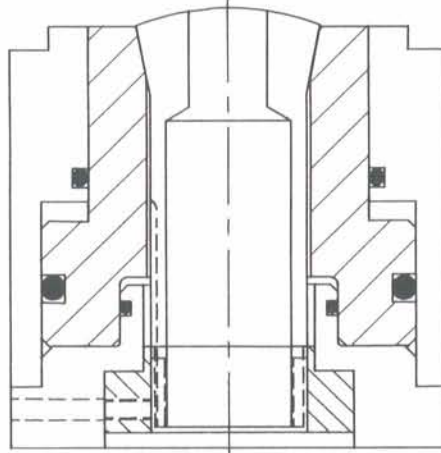
- Hollow rear surface
- Brass tip collet lock screw
- **Available from stock**



SC Series - Square Body Collet Closers

The SC series is offered in 3 collet sizes: 1C, 3C, and 5C. It is our most cost effective and versatile series. It is what we call a "constant height collet" design. The collet is threaded into a stationary base inside our closer. The piston is driven upward with pressure and closes the collet. Pressure in the opposite direction allows the collet to open.

The SC series closers are ideal for bench top workholding, light machining and grinding fixtures, crimping devices, wire feeding devices, precision robotic end effectors, tool holders, and many other stationary (non-spinning) workholding applications. Under no side load, repeatability is within .0005" TIR. Under maximum side load the repeatability is within .003" TIR.

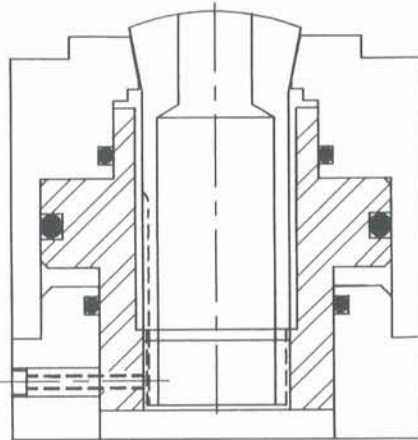


Options include collet position sensors: see page 10, also available: adjustable work piece stops. Complete closer, collet, pressure booster, and control packages, see page 11.

PSC Series - Precision Tolerance/Square Body Collet Closers

The PSC series closers are 5C collet size *only* and are designed specifically for high accuracy workholding under high loads found in typical metalworking fixtures. It is what we call a "collet puller" design. The 5C collet is threaded into the piston and is pulled against a rigid surface plate when the piston is retracted with pressure. Pressure in the opposite direction allows the collet to open.

The PSC series closers are rugged yet space and weight efficient for stationary fixtures for many metalworking and other heavy duty work-



holding applications; drilling and tapping machines, milling machines, surface grinding machines, etc . . . that require high accuracy of .001" TIR under maximum side load.

Options include a heavy duty collet position sensor: see page 10, also available: precision mounting flange and adjustable work piece stops. For complete closer, collet, pressure booster and control packages, see page 11.

APPLICATION EXAMPLES

