

*Precision Chucks for Improved
Accuracy and Increased Productivity*



Precision Air Chucks (Self Contained Design)

MicroCentric Precision Air Chucks feature a patented open center design. Repeating accuracy to .000050" (0.001mm) TIR. Self-contained design with built-in cylinder. MicroCentric Air Chucks are double acting for both OD and ID clamping. Adjustable air pressure allows fragile parts to be clamped with minimal distortion. Available with QC jaw locating system for increased productivity.

Accuracy to .000050" (0.001mm) TIR



Air Chuck Models

Standard Rotating

Actuated by an air tube assembly with rotary union through machine spindle. Sizes from 3" to 20" dia.



Stationary

Air supplied through ports on OD of chuck body or back cover. Models with through holes available.



Long Stroke

Rotating and stationary models with jaw stroke from .360" (9mm) up to 1.00" (25.4mm) on diameter.



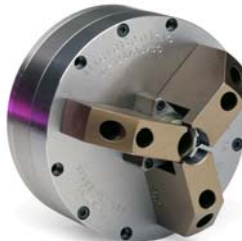
High Speed

Titanium chuck body for low mass. Patented external wedge design for speeds up to 10,000 rpm.



Sealed

Stainless steel cover completely seals master jaws and internal components from contaminants.



Front Actuated Thru Hole

Actuated through a stationary distributor ring assembly with profile seals and locking check valves.



Precision Power Chucks (Draw Tube Actuated)

PPC Series Chucks feature a dual actuator design for unmatched rigidity and repeating accuracy in a draw tube actuated design. PPC chucks are the only choice for precision finishing operations, such as hard turning, sub spindles, and grinding. A patented precision change jaw system increases productivity by maintaining .0002" (0.005mm) TIR after jaw change without indicating or remachining top jaws.

Accuracy to .0001" (0.002mm) TIR



QC Precision Change Jaw Locating System

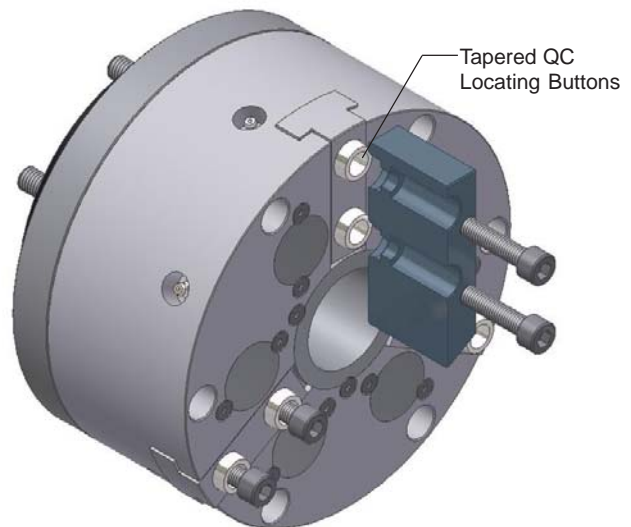
Patented precision change jaw locating system reduces setup time by maintaining .0002" (0.005mm) runout after changing top jaws. MicroCentric's QC system saves valuable setup time by eliminating the remachining of top jaws or indicating in the chuck in order to maintain close workpiece concentricity. PPC chucks are qualified so jaws can be changed between chucks and maintain .0008" (0.02mm) TIR runout.

QC System Accuracies

- .0002" (0.005mm) TIR max runout when top jaws finished and replaced on same chuck
- .0008" (.02mm) TIR max runout when top jaws finished on another QC chuck (same model)

QC System Design

QC top jaws are located by two tapered buttons mounted in the master jaw. QC top jaws feature precision finished taper seats that are located by the tapered buttons. QC top jaws seat on the OD of the tapered buttons and the face of the master jaw, assuring high accuracy and rigidity.



Quick Change Collet Chucks

MicroCentric Quick Change Collet Chucks feature a segmented vulcanized collet. Quick Change Collets are changed in seconds by collapsing the collet with a changing fixture and removing it from the chuck.



Collet Chuck Features

- Change collets in 15 seconds
- .0004" (0.01mm) TIR maximum part runout
- Parallel clamping design
- Large clamping range - up to +/- .040" (1mm)
- All chuck components made from hardened alloy steel, precision ground for accuracy and long term performance
- Modular design is adapted to machine's existing hydraulic actuator and draw tube

Collets Available From Stock

- MicroCentric stocks an extensive range of inch and metric collets in round and hex sizes
- Quick Ship Collets, delivered within 5 working days, are available for special bore sizes and configurations

Quick Change Collet Models

Collet Model	Capacity	Range
SK42BZI	1.650"	+/- .020"
	42mm	+/- 0.5mm
SK65BZI	2.560"	+/- .020"
	65mm	+/- 0.5mm
SK80BZI	3.250"	+/- .020"
	82.5mm	+/- 0.5mm
SK100BZI	3.937"	+/- .040"
	100mm	+/- 1.0mm
SK120BZI	4.724"	+/- .040"
	120mm	+/- 1.0mm
SK140BZI	5.512"	+/- .040"
	140mm	+/- 1.0mm

Vulcanized Collet

- One piece vulcanized design for easy handling and reduced chip build up in ID of chuck
- Vulcanized rubber is formulated to be resistant to oil and metal cutting fluids
- The bond between rubber and metal is guaranteed for the life of the collet



S Pad Collet Chucks

MicroCentric S Pad Collet Chucks feature a segmented vulcanized master collet. This low profile master collet results in a shorter OAL compared to conventional S Pad chucks. A shorter chuck length provides greater rigidity and maximizes the machine's Z axis travel. MicroCentric S Pad Collet Chucks also accept MicroCentric Quick Change Collets for increased flexibility and accuracy.



Vulcanized Master Collet

- MicroCentric S Pad Master Collets are shorter than conventional spring type master collets
- MicroCentric's segmented vulcanized design produces parallel clamping
- Vulcanized rubber is formulated to be resistant to oil and metal cutting fluids
- The bond between rubber and metal is guaranteed for the life of the collet



S Pad Chuck Features

- All chuck components made from hardened alloy steel, precision ground for accuracy and long term performance
- Modular design can be adapted to all machine spindle configurations
- S Pad Chucks include a spindle mounting plate and draw tube adapter

Master Collet Models

Collet Pad	Master Collet	Capacity	Range
S-16	SK65BZI/S16	1.625"	+/- .020"
		41mm	+/- 0.5mm
S-20	SK65BZI/S20	2.000"	+/- .020"
		20mm	+/- 0.5mm
S-22	SK65BZI/S22	2.250"	+/- .020"
		57mm	+/- 0.5mm
S-26	SK80BZI/S26	2.625"	+/- .020"
		65mm	+/- 0.5mm
S-30	SK80BZI/S30	3.000"	+/- .020"
		76mm	+/- 0.5mm

Quick Change & S Pad Collet Chuck Models

ND - Dead Length

The collet is coupled in the chuck body and remains fixed as the tapered sleeve moves forward when the chuck is actuated.



NS - Sub Spindle

Low profile dead length design for maximum tool clearance on sub spindle. Internal mounting for part stops and ejectors.



NB - Pull Back

The collet is coupled in the draw tube adapter and is drawn into the tapered seat as the chuck is actuated.



NDR - Pull to Close DL

Patented dead length design for use with servo bar loaders. The NDR chuck is actuated to clamp as the draw tube is pulled into the machine spindle.



NK - Chucking Design

Pull back design with a mounting in the ID of the chuck assembly for part stops or ejectors. Available with coolant through and/or air sensing to confirm part clamping.



AG - Compensating

Pull back design with a mounting for centers or other part locators in ID of chuck. Floating collet seat enables the collet to compensate and clamp an off center diameter.



FA - Front Actuated

Pneumatic self-contained design for rotating applications. Air is supplied through a stationary distributor ring assembly with profile seals and check valves.



NRB - Stationary PB

Self-contained pull back design for stationary applications. Pneumatic or hydraulic actuation. Spring clamping models also available.



NRD - Stationary DL

Self-contained dead length design for stationary applications. Pneumatic or hydraulic actuation. Spring clamping models also available.



Dead Length Collet Chucks (5C / 16C / 3J)

MicroCentric Conventional Collet Chucks are available in Dead Length and Pull Back models for 5C, 16C and 3J collets. All components are made from hardened and precision ground alloy steel for accuracy and long term performance. Modular design permits chucks to be adapted to any machine spindle configuration. Low profile nose design provides maximum tool clearance.



Collet Chuck Models

- Standard dead length design (5C / 16C / 3J)
- Low profile dead length design (5C)
- Pull back design (5C / 16C / 3J)

Collet Chuck Features

- All chuck components made from hardened alloy steel, precision ground for accuracy and long term performance
- Modular design can be adapted to all machine spindle configurations
- Collet Chucks include a spindle mounting plate and draw tube adapter

Wide Opening Collet Chucks (5W / 16W)

5W and 16W wide opening collets to grip over the shoulder of headed parts. Exclusively from MicroCentric, 5W and 16W collets will open up to .394" (10mm) larger than the clamping diameter. Dead length design collet chucks can be adapted to any machine spindle configuration.



Collet & Chuck Features

- Collets open up to .394" (10mm) above the nominal clamping diameter
- Six segmented double angle design collet with ID thread for mounting part stops or ejectors
- 5W chucking capacity up to 1.062" (27mm)
- 16W chucking capacity up to 1.625" (41.2mm)
- Dead length chuck design
- All chuck components made from hardened alloy steel, precision ground for accuracy and long term performance



Air Cylinders & 5C Air Collet Closers

MicroCentric LDZ Air Cylinders feature a high performance precision rotary air bearing assembly. The air bearing incorporates a hardened steel journal and a housing supported by high speed ball bearings. This advanced design is combined with MicroCentric's precision manufacturing capability to produce a line of air cylinders of unmatched performance and reliability.

Air cylinders offer fine adjustment of draw tube force to prevent distortion of workpieces during clamping as compared to hydraulic actuators.

LDZ Air Cylinders can be adapted to all machine spindle and rotary table configurations to actuate jaw and collet chucks. Spindle mounting plates and draw tubes are quoted on request.



Air Cylinder Models

Standard Thru Hole

- 6", 8" and 10" diameter models
- 1.062" (27mm) thru hole
- 6" model rated to 6,000 rpm
- Clamping force up to 5,200 lbs (2,360 kg)

42mm Thru Hole

- 8" and 10" diameter models
- 1.655" (42mm) thru hole
- 8" model rated to 5,000 rpm
- Clamping force up to 5,050 lbs (2,290 kg)

Adjustable Draw Tube

- Adjustable draw tube to install collet and set tension
- 6" model with 5C draw tube
- 1.062" thru hole
- Rated to 6,000 rpm



High Precision Diaphragm Chucks

MicroCentric MBS Chucks are ideal for production turning, grinding, and milling applications, as well as clamping delicate workpieces with minimum distortion. MBS chucks require no maintenance and are especially suited to abrasive and highly contaminated environments since there are no exposed moving parts. MBS chucks are available in self-contained and draw tube actuated models.



MBS Chuck Features

- Repeating Accuracy to .0001" (0.002mm) TIR
- Low maintenance, no lubrication required, and no exposed moving parts to wear out or become contaminated by chips and swarf
- Double acting for both OD and ID clamping
- Pull back clamping action
- Adjustable clamping force to minimize distortion of thin-walled workpieces
- High-Low clamping capability
- 6 jaw configuration standard; 2, 3 and 4 jaw models available
- sizes from 3" to 12" diameter

MBS Chuck Models

Rotating Self-Contained

Self-contained design with built-in air cylinder for rotating applications. Actuated by an air tube assembly with rotary union through machine spindle.



Stationary Self-Contained

Self-contained design with built-in air cylinder for stationary applications. Air is supplied through ports on OD of chuck body or back cover.



Draw Tube Actuated

Actuated by an external hydraulic or pneumatic cylinder mounted to the rear of the machine spindle. Modular design that includes a spindle mounting plate and draw tube adapter.



Special Turnkey Workholding Systems

In addition to offering a wide range of standard workholding products, MicroCentric also specializes in designing and building custom engineered workholding systems for specific workpiece and machine applications. Our technical salesmen and engineers work with you to design special top jaws, special configuration collets, part stops, ejectors, as well as other custom tooling. We can also modify standard chuck models or design completely special chucks and workholding fixtures to meet your specific application requirements.

The Process - Proposal, Design, Manufacture

Email MicroCentric your workpiece drawings and/or process sheets with machine specifications and a description of the machining operation. One of our application engineers will contact you to review your application and will then develop a detailed quotation of the proposed workholding system. Then upon receipt of an order, a project engineer will design the workholding system and submit detailed layout drawings for design approval prior to manufacture. After the design is approved, our skilled tool makers will manufacture and run off the complete workholding system. Installation is quoted upon request.

Performance Guarantee

MicroCentric fully guarantees each special turnkey workholding system to perform to agreed upon accuracy and specifications. MicroCentric's superior engineering, quality manufacturing and advanced workholding technology are your assurance that the system we supply will be the finest system available from any source for your application.



3 Jaw Air Chuck with special PD clamping top jaws and part stop



Face clamping chuck with hydraulically actuated locking part locators and supports



2 Jaw Air Chuck with special top jaws and part locator



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