



www.lexairinc.com

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Lexair is a privately held, American owned corporation committed to the design and manufacturing of industrial products. We are a World Class Manufacturer of Fluid Power Products, Valves, and Machine Tool Accessories, delivering the best products possible for today's global market needs.



The History of Lexair

Lexair was founded in April of 1977 as a manufacturer of high pressure compressors and stainless steel valves for the United States Navy. Mid-year 1985 we acquired all rights to the hydraulic and pneumatic valve lines from Airmatic Allied (a division of Snaptite, Inc) which included the Hi-Cyclic® product line from Beckett-Harcum. These products are now manufactured and distributed under the Lexair name. In addition to previously existing products and these acquisitions, we have continually expanded our Fluid Power Product offerings as we design and manufacture new or modified items to meet the special requirements of our customers. As a world leader in this market segment, we stand ready to meet any challenge.

In 1994 we introduced our first barfeed product, the Rhinobar®. This heavy-duty hydrodynamic bar feeder for CNC lathes launched Lexair firmly into the Machine Tool Accessory marketplace. That same year, we also became the exclusive North American agent for the “Multifeed”, a “magazine style” short bar loader manufactured by Hydrafeed LTD., a major European barfeed manufacturer. In 1996, our patented Mini-Rhinobar® hydrodynamic bar feeder was designed and released specifically for the CNC swiss-type screw machine market. Mid-year 1996 we acquired the complete collet chuck line from Buck Tool Company (formerly part of the Buck Chuck line). Following this acquisition, we developed many new collet workholding devices for the machine tool industry. In August 2002, we acquired the Production Dynamics® line of collet style chucks which includes our popular Full Bore® and Prodyne® models. With the acquisition of these two companies and our continued new product development, Lexair has become a world leader in the Machine Tool Accessory market. In 2012, we were appointed to be the North American importer and master distributor for SYSTEC which is the leading manufacturer of chucks in Brazil. In the spring of 2014 Lexair became the exclusive importer and distributor of Breuning IRCO in North and South America. Breuning IRCO is the premier German manufacturer of lathe automation , offering custom solutions for loaders and unloaders. Our products are distributed by over 100 independent distributors and agents in the United States, Canada and Mexico with exports to the United Kingdom, Europe, and Australia.



Machine Tool Accessories

Hydrodynamic Style Barfeed Systems

Both models of the Rhinobar® series bar feeders are single tube, hydrodynamic bar stock feeders designed for use with Swiss-style CNC screw machines and fixed head stock lathes. With a diameter capacity from wire gage to 3 inches and up to 12 foot lengths, these units are compatible with a wide range of lathe applications.

Rhinobar®



Mini Rhinobar®



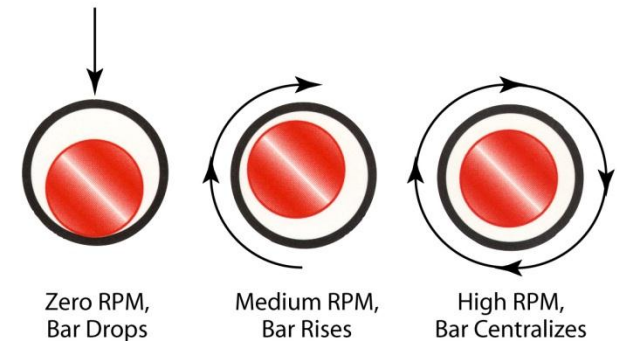
Machine Tool Accessories

Hydrodynamic Style Barfeed Systems

Rhinobar[®] Hydrodynamic Bar Feeder



- Designed for use with all types of CNC lathes
- Operates on the hydrodynamic principal to support the bar stock



Oil fills the gap between the bar stock and feed tube. As the bar begins to turn, hydrodynamic forces move it toward the center of the feed tube. Centering forces are amplified as bar speed increases. Feed tubes are available in graduated sizes to minimize the bar to-feed-tube clearance so maximum operating speeds can be achieved.

Machine Tool Accessories

Hydrodynamic Style Barfeed Systems

Rhinobar® Hydrodynamic Bar Feeder



- Designed for use with all types of CNC lathes
- Operates on the hydrodynamic principal to support the bar stock
- Oil recuperator features a support bushing that helps stabilize the bar stock and eliminate vibration
- This support bushing works in conjunction with a dynamic bearing mounted pusher cone that maintains contact with the bar chamfer which allows much higher turning speeds than with other bar feed systems
- The front swing out mechanism includes a large barrel clamp that helps to further reduce barrel vibration and facilitate quick and easy feed tube changeouts
- An end-of-bar signal plus an auto pusher retraction feature permit the Rhinobar® system to operate unattended – helps to minimize your labor costs and maximize production time by allowing multi-tasking

Machine Tool Accessories

Hydrodynamic Style Barfeed Systems

Rhinobar® Hydrodynamic Bar Feeder



- Ergonomically placed controls and a safety interlock assure safe system operation
- Setup time is reduced with our hand-held mobile pendant that lets you take the controls of the Rhinobar® with you



Machine Tool Accessories

Hydrodynamic Style Barfeed Systems

Rhinobar® Hydrodynamic Bar Feeder



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- Setup time is reduced with our hand-held mobile pendant that lets you take the controls of the Rhinobar® with you
- Standard feed tube sizes range from 1/4" to 1-3/4" diameters in 1/8 inch increments and from 1-3/4" to 3" in 1/4 inch increments – allowing the unit to accommodate bar stock from 1/4" to 3" inches in diameter and up to 12 feet in length
- Rhinobar® units are supplied with your choice of 3 feed tubes
- Custom feed tube sizes are available to fit any application needs that you may have

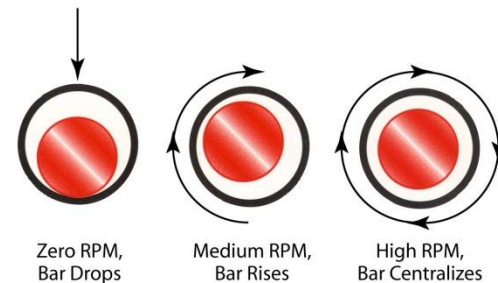
Machine Tool Accessories

Hydrodynamic Style Barfeed Systems

Mini Rhinobar® Hydrodynamic Bar Feeder



- Precision engineered single tube hydrodynamic barfeeder for small diameter, high speed applications
- Designed for use with Swiss-style CNC screw machines and small fixed head CNC lathes
- Operates on the hydrodynamic principle of supporting the bar stock in an oil bath



Oil fills the gap between the bar stock and feed tube. As the bar begins to turn, hydrodynamic forces move it toward the center of the feed tube. Centering forces are amplified as bar speed increases. Feed tubes are available in graduated sizes to minimize the bar to feed tube clearance so maximum operating speeds can be achieved.

Machine Tool Accessories

Hydrodynamic Style Barfeed Systems

Mini Rhinobar® Hydrodynamic Bar Feeder



The 6 foot bar model has an overall length of only 11 feet while the 12 foot bar model spans only 17 feet

- Precision engineered single tube hydrodynamic barfeeder for small diameter, high speed applications
- Designed for use with Swiss-style CNC screw machines and small fixed head CNC lathes
- Operates on the hydrodynamic principle of supporting the bar stock in an oil bath
- The unique front swing out mechanism provides for ease of reloading bar stock and helps facilitate feed tube changeout in less than three minutes
- Features include Z axis capability, a positive pusher retention system, and a removable pendant for convenient operator control and ease of setup
- The compact size of the Mini Rhinobar® makes it suitable for small or large shops

Machine Tool Accessories

Hydrodynamic Style Barfeed Systems

Mini Rhinobar[®] Hydrodynamic Bar Feeder



- Our units can be equipped with as many as 16 feed tubes in 1/8" increments to handle bar stock from 1/8" to 1-5/8" diameters and are available to accommodate 6 or 12 foot bar lengths
- Mini Rhinobar[®] units are supplied with your choice of any three size feed tubes

Machine Tool Accessories

Collet Chucks

Lexair offers precision collet chucks ranging from self-contained mechanical grip/air released fixed-length versions to pull-back drawtube actuated models and wrench operated units for applications where no drawtube is available. Our chucks can accommodate parts up to 5-1/2 inches in diameter.

Prodyne® Fixed Length



Full Bore®



Wrench Operated



Direct Mount



Machine Tool Accessories

Collet Chucks

Full Bore[®]



- Requires no drawtube for actuation – frees up the full spindle bore allowing material in diameters of up to 5 ½” to be used
- Fixed-length operation gives the machinist more precise parts locating ability
- Safety oriented mechanical grip/air released operation
- Strong, dependable die springs located in the axial, not the radial plane provide consistent grip force regardless of turning speeds
- Clamp force is adjustable via a spanner wrench or can be reduced by removing pairs of the die springs mentioned above when turning softer materials



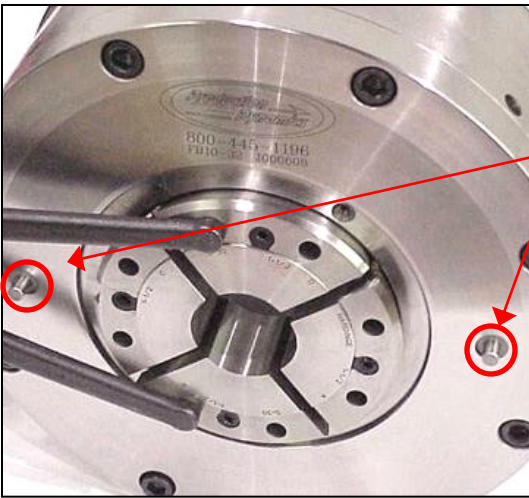
Machine Tool Accessories

Collet Chucks

Full Bore®



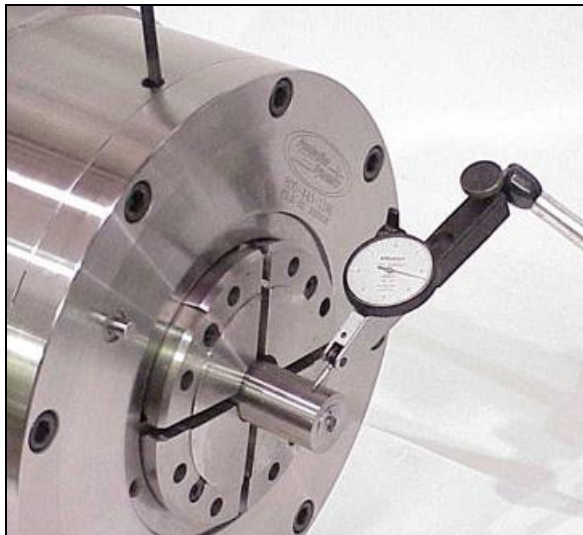
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- Visual force indicators help to monitor force settings



Machine Tool Accessories

Collet Chucks

Full Bore[®]



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- Visual force indicators help to monitor force settings
- Higher turning speeds are possible since there are no heavy jaws to loose their grip due to centrifugal force as found on hydraulic drawtube actuated models
- Concentricity adjustment capability is standard
- Our body is shorter than an equal diameter three jaw chuck which helps reduce tool clearance issues
- Models available accept master collet pad styles S-20, S-26, S-30, S-35 and S-50

Machine Tool Accessories

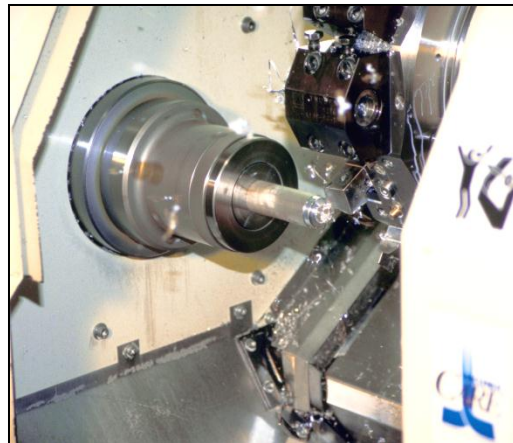
Collet Chucks

Prodyne® Fixed Length Collet Chucks



- Both models set Industry standards for accuracy and speeds
- Typical accuracy of .0005 inches TIR and a repeatability of .0002 inches means there is no need for concentricity adjustments to get precision results
- Mass is kept to a minimum allowing for faster acceleration and deceleration times – maximizing your production time
- The quick and easy quarter turn collar system allows fast collet changeover on the “B” series models which were designed to be used with B42, B60 and B90 style collets

Fixed Length Chuck in action – note compact mass aids in speed and with tool clearance issues



Machine Tool Accessories

Collet Chucks

Prodyne® Fixed Length Collet Chucks



- The “C” and “J” series models are compatible with most CNC lathe applications
- They feature a lower profile design that further reduces tool interference issues
- They are ideal for sub-spindle applications where Z-axis positioning is required
- They can be used with 5C, 16C and 3J style collets
- Both models feature effortless installation and employ the machines standard drawtube plus one of our unique adapter nuts

Machine Tool Accessories

Collet Chucks

Direct Mount Collet Chuck

- Simple and economical way of holding material for turning when using C or J style collets
- Pull-back design features effortless installation and employs the machines standard drawtube plus one of our unique adapter nuts
- Small body helps increase tool clearance and lower the weight of the rotating mass – this feature both relieves stress on the spindle bearings and lowers the time needed for acceleration and deceleration which means more time for production
- Rigid 360 degree clamping action allows for increases in spindle RPM over 3-jaw hydraulic chucks
- Excellent choice for clamping small diameter parts, for bar feed applications and for heavy “roughing” or drilling operations
- Models are available that accept 5C, 16C, 3J, 20C and 25C collets
- The 5C chucks feature a standard threaded nose providing step chuck capability



Machine Tool Accessories

Collet Chucks

Wrench Operated Collet Chuck

- Features manual actuation via a standard chuck key – no drawtube or closer is required
- Incorporates a flat back design which can easily be used in any application on lathes, mills, grinders, etc for all your machining needs
- Can be directly bolted to the table for applications involving mills, machining centers or drill presses
- Lathes, indexers and other rotating spindle equipment will require an adapter plate which we can provide from an extensive line covering a broad range of brands and types
- Concentricity adjustment is standard – allows the operator to obtain the best possible part accuracy
- Ideal for use on the new hybrid CNC/manual lathes
- Accepts 5C, 16C, 3J and 22J collets



Machine Tool Accessories

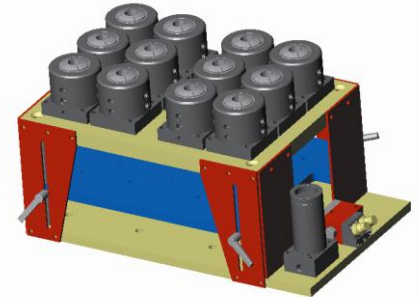
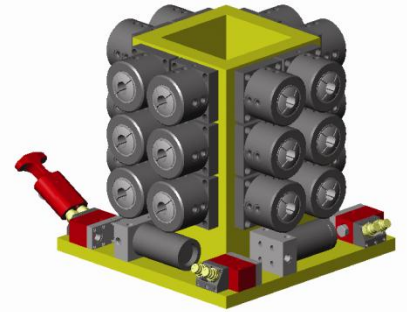
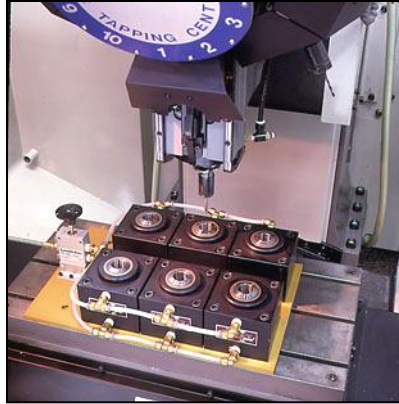
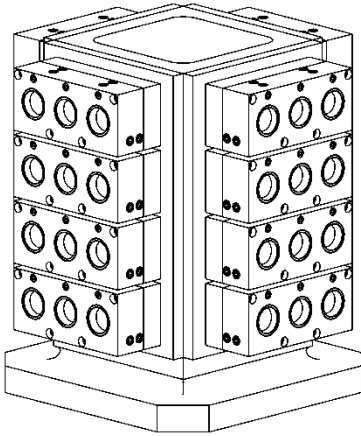
Collet Closers



- Complete family of stationary collet workholding components that can be utilized individually or grouped together form a system
- Double acting pneumatic or hydraulic models are available in fixed-length and pull-back versions

Machine Tool Accessories

Collet Closers



- Complete family of stationary collet workholding components that can be utilized individually or grouped together form a system
- Double acting pneumatic or hydraulic models are available in fixed-length and pull-back versions
- Lexair can custom design and build turnkey solutions for any workholding application

Machine Tool Accessories

Low Pressure Pneumatic Collet Closers



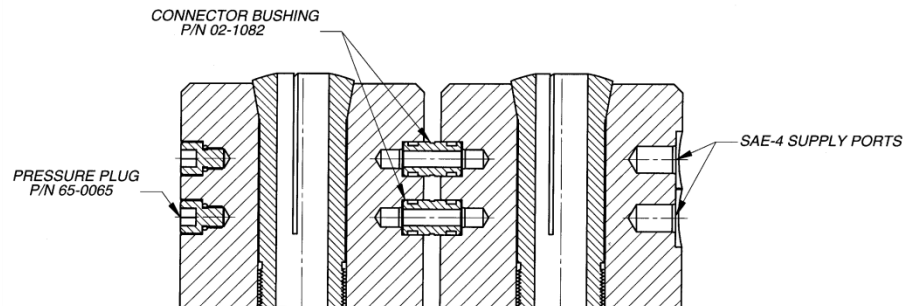
- Double acting, pull-back operation
- Designed for use with 5C collets
- Drawtube force generated is 7.5 times the inlet pressure applied
- Maximum working pressure is 150 PSI
- Made from aircraft quality aluminum
- Supplied with a 5C collet wrench



Machine Tool Accessories

Pneumatic/Low Pressure Hydraulic Collet Closers

- Double acting, fixed-length operation
- Designed for use with 1C, 3C, 5C or 16C collets
- Reamed orientation holes in the base for mounting
- Patented “accessible-from-the-top” collet locking screw – allows quick and easy collet or part orientation in infinite positions
- All models feature the ability to be combined into multiple configurations by use of connector bushings – eliminates the external plumbing between units
- Constructed from aircraft quality aluminum
- Drawtube force generated ranges from .73 (1C) to 7.5 (5C) times the inlet pressure applied
- Maximum pneumatic pressure rating of 150 PSI or 250 PSI depending upon the model
- Maximum hydraulic pressure rating of 750 PSI or 2000 PSI depending upon the model



Machine Tool Accessories

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- Maximum pneumatic pressure rating of 150 PSI or 250 PSI depending upon the model
- Maximum hydraulic pressure rating of 750 PSI or 2000 PSI depending upon the model
- All units are supplied with a matching collet

Lexair, Inc. wrench

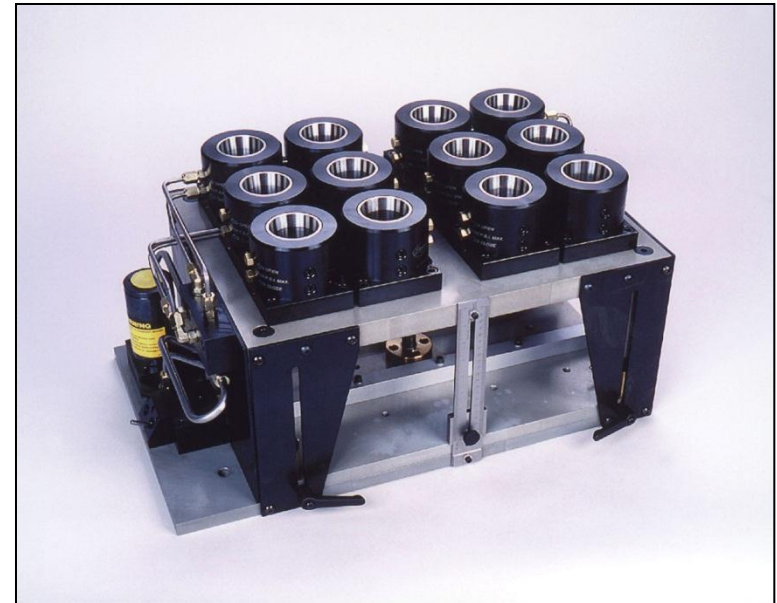


Machine Tool Accessories

High Pressure Hydraulic Collet Closers



- Double acting, fixed-length operation
- Designed for use with 5C, 16C, 3J, 22J or 35J collets
- Reamed orientation holes in the base for mounting
- Ability to be combined into multiple configurations by use of connector bushings – eliminates the external plumbing between units



Machine Tool Accessories

High Pressure Hydraulic Collet Closers



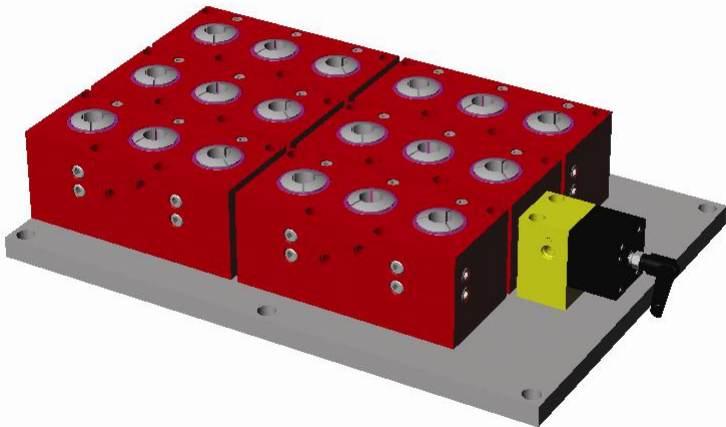
- Double acting, fixed-length operation
- Designed for use with 5C, 16C, 3J, 22J or 35J collets
- Reamed orientation holes in the base for mounting
- Ability to be combined into multiple configurations by use of connector bushings – eliminates the external plumbing between units
- Heavy duty all steel construction
- Drawtube force generated is 1.9 times the inlet pressure applied
- Hydraulic working pressure to 5000 PSI
- All units are supplied with a matching collet wrench



Machine Tool Accessories

High Pressure Hydraulic Tri-Grip Collet Closers

- Double acting, fixed-length operation
- Compact design features three 5C collet closers in one body
- Ability to be combined into multiple configurations by use of connector bushings – eliminates the external plumbing between units



Machine Tool Accessories

High Pressure Hydraulic Tri-Grip Collet Closers

- Double acting, fixed-length operation
- Compact design features three 5C collet closers in one body
- Ability to be combined into multiple configurations by use of connector bushings – eliminates the external plumbing between units
- Patented “accessible-from-the-top” collet locking screw – allows quick and easy collet or part orientation in infinite positions
- Drawtube force generated is 1.1 times the inlet pressure applied
- Hydraulic working pressure to 5000 PSI
- All units are supplied with a matching 5C collet wrench



Machine Tool Accessories

Pneumatic/Hydraulic Step Chuck Collet Closers

Models 5C and 16C

5C Details



- Double acting, pull-back operation
- All steel construction
- Holds standard collets, step chucks and closers, plus expanding collets for I.D. holding of parts up to 6" in diameter



Machine Tool Accessories

Pneumatic/Hydraulic Step Chuck Collet Closers

Models 5C and 16C

5C Details



- Double acting, pull-back operation
- All steel construction
- Holds standard collets, step chucks and closers, plus expanding collets for I.D. holding of parts up to 6" in diameter
- Drawtube force generated is 7.5 times the inlet pressure applied
- Pneumatic pressures to 250 PSI, hydraulic pressures to 750 PSI
- Ability to be combined into multiple configurations by use of connector bushings – eliminates external plumbing
- Supplied with a 5C collet wrench



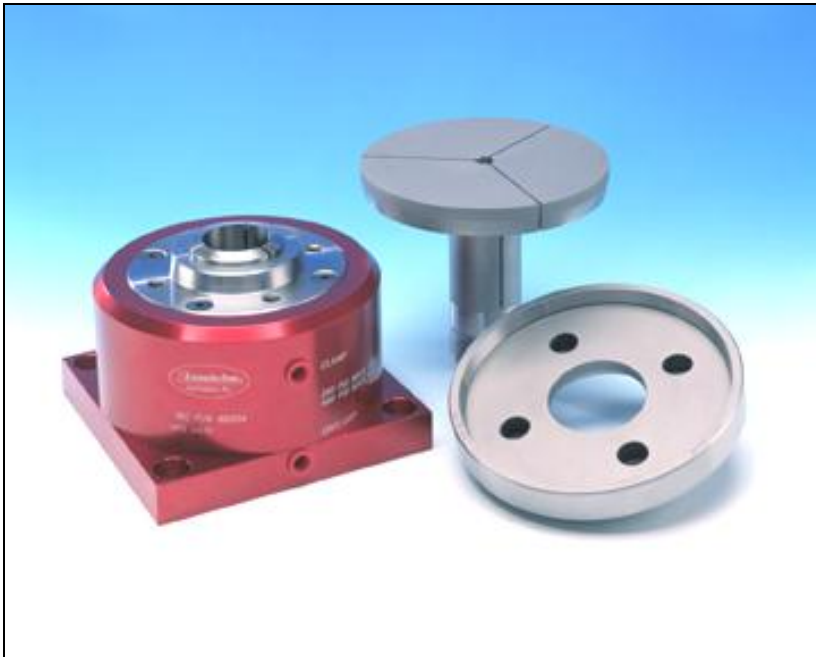
Machine Tool Accessories

Pneumatic/Hydraulic Step Chuck Collet Closers

Models 5C and 16C - continued

16C Details

- Double acting, pull-back operation
- Aircraft aluminum body with hardened steel bushings for long, trouble free life
- A2-5 spindle nose accepts 16C collets to 1-5/8" or 16C step chucks up to 6" in diameter plus expanding nose collets for I.D. holding of parts



Machine Tool Accessories

Pneumatic/Hydraulic Step Chuck Collet Closers

Models 5C and 16C - continued

16C Details

- Double acting, pull-back operation
- Aircraft aluminum body with hardened steel bushings for long, trouble free life
- A2-5 spindle nose accepts 16C collets to 1-5/8" or 16C step chucks up to 6" in diameter plus expanding nose collets for I.D. holding of parts
- Drawtube force generated is 22.5 times the inlet pressure applied
- Pneumatic working pressures to 250 PSI, hydraulic pressures to 400 PSI
- Supplied with a 16C collet wrench



Machine Tool Accessories

Applications and Industries Serviced by Our Collet Closers

- Part holding for assembly applications
- Part holding for machining or grinding applications
- Part holding for inspection and test procedures
- High force units can be used for crimping operations
- Models available are excellent for tool room and production environments
- Modular units are easily combined into fixtures - We can design and manufacture custom turnkey solutions to meet the demands of all your workholding requirements

Industries served include:

- Electronics
- Dental
- Heavy Equipment
- Automotive
- Aerospace
- Power and Hand Tools
- Medical
- Machine Tool
- General Industrial

Machine Tool Accessories

Disconnect Handles

- Patented disconnect handle quickly and conveniently allows for connection/disconnection of hydraulic lines to/from machine tool pallets or in other hydraulic applications
- Designed for use in double acting applications
- The unit automatically latches when pressure above 2500 PSI is present on either hose preventing accidental disconnects
- Ergonomic design helps minimize operator hand fatigue
- Can be integrated with all Lexair, Inc. hydraulic collet closers
- To be used in conjunction with a matching Lexair manifold. If used with the manifold that features the integrated check valve, a momentary hydraulic pump or a 4-way, 3-position, exhaust open center valve must be used – please contact the factory to get the correct plumbing arrangement for your application



Machine Tool Accessories

Collets

Lexair offers a complete line of collets available in all sizes and types to fit our entire line of collet closers and chucks. Please consult the factory for assistance and further information for all your collet applications.



Machine Tool Accessories

Collet Wrenches

- Complete line of high quality, light-weight, aluminum collet wrenches
- Anodized red with our logo and collet size laser engraved – assures that markings will not wear off
- Available in sizes that fit our wide range of collet closers – including 1C, 3C, 5C, 16C, 3J, 22J and 35J sizes
- One of our durable units is supplied in the correct size with any collet closer that we manufacture



Machine Tool Accessories

SYSTEC Self Contained Pneumatic Power Chucks

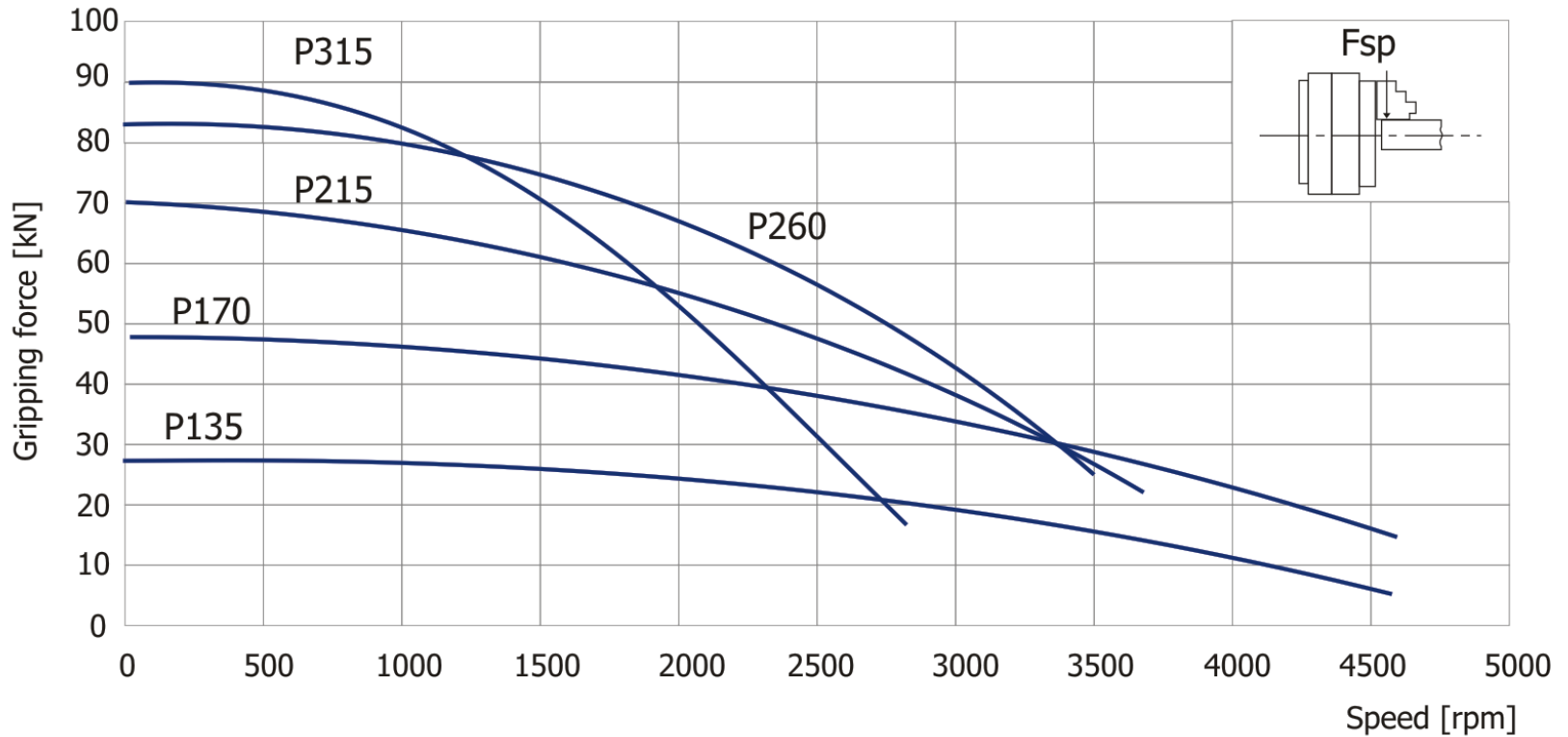


- Greater rigidity and durability
- No adjustment of Teflon elements is necessary
- 15 % Higher RPM capability than previous models
- 45 % More gripping force than previous models
- Fast clamp and unclamp times
- Environmentally friendly
- Available in 2, 3, and 4 jaw versions
- All sizes available in inch or metric serrations
- Bodies are hardened to 62 Hrc and precision ground
- Internal safety valves prevent loss of air pressure and gripping force
- Five sizes are available up to 12" diameter to meet your application requirements

Machine Tool Accessories

SYSTEC Self Contained Pneumatic Power Chucks

Gripping force while actuated at 87 PSI (6 bar)



Machine Tool Accessories

SYSTEC Self Contained Pneumatic Power Chucks

Gripping force comparison with other typical manufacturers

