



VOLUME 7, NUMBER 1

INFORMATION FOR MAXIMIZING ACTUATOR PERFORMANCE

Pneus Actuation

PRECISION IN PNEUMATICS: *Pneumatic Control System accurately positions and holds actuator rod or shaft*

The new Bimba Pneumatic Control System is designed to control any pneumatic Bimba position feedback actuator, including the

Bimba Position Feedback Cylinder for linear motion and the

Bimba Position Feedback Pneu-Turn® for rotary motion. It's

a closed loop electronic controller with pneumatic valves that

can accurately position the actuator rod or shaft and hold it

in position with varying degrees of accuracy and force.

Return the enclosed reply card for more information.



New Bore Sizes for TRD Manufacturing Cylinders

New Triple Rod bore sizes of 5", 6", and 8" and a new TA bore size of 12" are now available for Bimba's pneumatic



and low-pressure hydraulic tie-rod cylinders. These TRD

Manufacturing NFPA-interchangeable cylinders are precision

machined from high alloy aluminum bars and have a pre-

lubed design that eliminates the need for additional lubrica-

tion. *Return the enclosed reply card for more information.*

Pneu-Turn Actuator with PFC Integration Introduced

The Bimba Pneu-Turn position feedback rotary actuator provides continuous shaft position sensing. Standard features include shaft

ball bearings and the elimination of mid-rotational backlash. It is ideal for

use with Bimba's Pneumatic Control System to achieve rotary shaft posi-

tioning accuracy within $\pm 0.5^\circ$. Two bore sizes are available: 1-1/2" and 2".

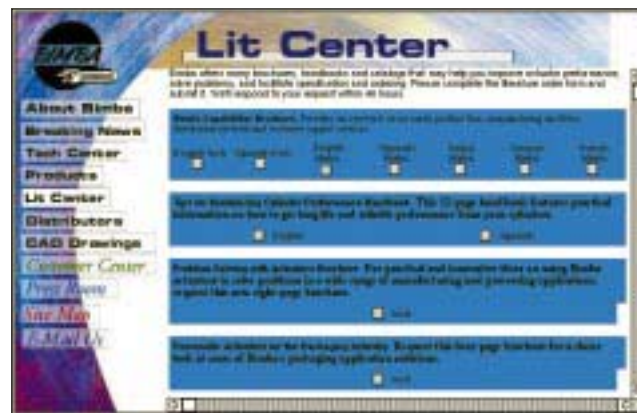
Return the enclosed reply card for more information.



Visit www.bimba.com for immediate access to Bimba's product literature library

With more than 500 pages of information, Bimba's Web site is filled with the latest product news, technical data and application solutions for our line of pneumatic and electro-pneumatic cylinders. You'll also find that a wealth of free product literature is just a mouse click away. By visiting our *Literature Center* at www.bimba.com you can immediately request copies of more than 30 pieces of literature. Or, if you have a specific product type in mind, check out the *Product* section where you can immediately download .pdf files of product catalogs and bulletins.

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EF1 CYLINDER WITH NEW REAR CLEVIS MOUNT OPTION

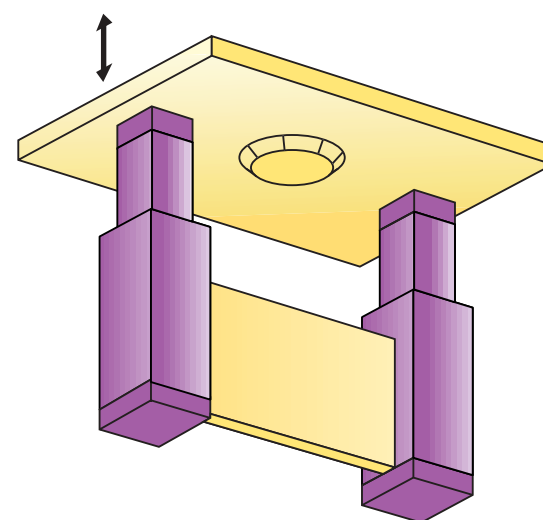
A rear clevis mount option is now available for Bimba's metric EF1 Cylinder. The cylinder features a compact, aluminum-extruded body that is anodized with a special PTFE impregnated process for superior wear resistance and excellent frictional characteristics. Offered in ten bore sizes, additional options include bumpers, magnetic position sensing and a high temperature model. *Return the enclosed reply card for more information.*



TIPS from

PNEUMOMENT™ ACTUATOR SAVES ON SPACE; SIMPLIFIES DESIGN IN GRINDING APPLICATION

A Midwest machine manufacturer is using two Bimba PneuMoment actuators to raise and lower a router table in a grinding application. The actuators are tied in tandem to support the router table, which is used to make beveled edges on decorative brick. Space savings and design simplification were just two of the reasons why the PneuMoment actuators were selected for this grinding application. Their built-in high side and moment load carrying capabilities and non-rotating load beam support the router table without the need for external support shafts. And since the grinding application creates a large amount of dust, the extruded, unitized body of the PneuMoment actuator provides a surface with few crevices to collect dust. The ability to adjust the foot mount hardware anywhere along the extruded base of the PneuMoment actuator was also a key selling feature. *Return the enclosed reply card for more information.*

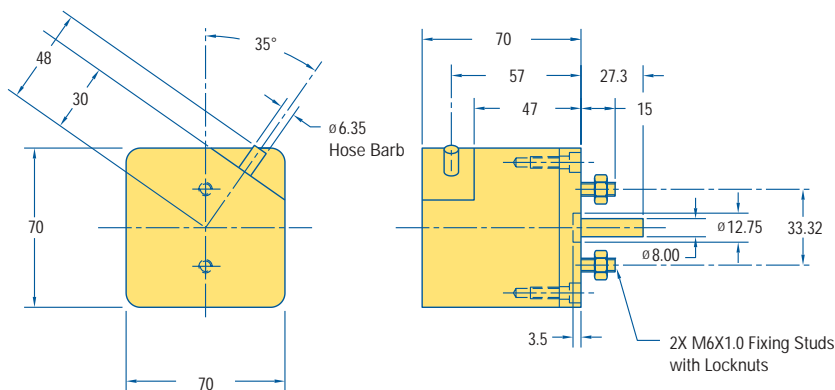


PneuMoment actuators are mounted upside down with the load beam fixed to the router table so the body can stroke back and forth.

Custom Spotlight: Actuator Design for Turbocharger

One of Bimba's customers in the automotive industry presented the company with what sounded to be a rather simple request...come up with an actuator design for a turbocharger. However, the automotive

manufacturer submitted 12 pages of detailed dimensional, material and performance specifications that needed to be met. Upon review of the project, Bimba determined that pressure versus stroke characteristics could only be obtained by a complex spring design and dimensional constraints required an extrusion to be cost competitive. To achieve the required results and in the designated timeframe, Bimba machined the prototype components out of solid blocks of metal. *Return the enclosed reply card for more information.*



Web Site FAQ

Q: *On Bimba's Flat-1® cylinders, what do the "M, M1, M3, M4" options designate?*

A: The "M" option designates a magnetic piston, which is required to operate our Hall Effect Switches. The standard position of the mounting post is position #2 as shown on page 11 of our Switch Catalog (SW-298). If you require the switch post to be located in a different position, i.e., positions 1, 3 or 4, you would utilize the corresponding M1, M3 or M4 option designation. *Return the enclosed reply card for more information.*

the Field

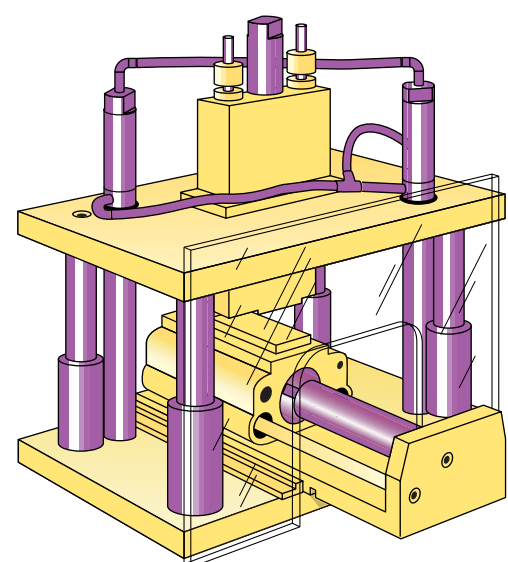
Bimba cylinders automate manual circuit board clip insertion application

A company that designs and machines prototypes using CNC and CAD/CAM technology for the computer, semiconductor, oil field, medical tooling and manufacturing industries recently selected several Bimba cylinders for use in a clip insertion machine design.

Previously, manual hand presses were being used to press binding clips onto circuit boards. A machine design was needed that would semi-automate this process and at the same time keep production levels high. It also needed to be an all-pneumatic system so that the units could be used in different electrical power environments.

The result was a system that incorporates several Bimba cylinders, the most unique being a Bimba High Load Ultram® Slide that was modified to have two carrier plates. One carrier is for the clips and one is for the circuit board. The High Load Ultram Slide positions the clip carrier under a die where two Bimba Original Line cylinders lower the die. Then a Bimba Linear Thruster lowers a tool head where two Bimba Flat-II® cylinders actuate a gripper to pick up the clips. The High Load Ultram Slide then positions the circuit board under the clips where the Linear Thruster positions and presses the clips in place. Clips are then inserted into the clip carrier and the process repeats.

With the manual hand presses, cycling through the process took, on average, 27 seconds. With the pneumatic design, 15-second cycle times are achieved with less operator fatigue and error. *Return the enclosed reply card for more information.*



Bimba cylinders reduce cycle times in clip insertion process.

TECHNICAL FOCUS:

Ultran Coupling and Breakaway Ratings

In an ongoing effort to provide performance testing

based upon the industrial environment, the charts at

right reflect the magnetic coupling strengths and break-

away pressure ratings for both the Bimba Ultran

Standard and Bimba Ultran Slide rodless cylinders.

Return the enclosed reply card for more information.

Ultran Rodless Cylinder Coupling Ratings

Bore Size	Gold Models Standard (UG) Slide (UGS)	Silver Models Standard (US) Slide (USS)
5/16" (007)	13 lbs.	8 lbs.
7/16" (001)	20 lbs.	10 lbs.
9/16" (001)	29 lbs.	16 lbs.
3/4" (004)	61 lbs.	33 lbs.
7/8" (006)	102 lbs.	55 lbs.
1-1/16" (009)	127 lbs.	74 lbs.
1-1/4" (012)	190 lbs.	110 lbs.
1-1/2" (017)	270 lbs.	150 lbs.
2" (031)	552 lbs.	332 lbs.

Ultran Rodless Cylinder Breakaway Ratings

Ultran Standard Models	
Ultran Gold	Less than 25 psi
Ultran Silver	Less than 20 psi
Ultran Slide Models	
Ultran Gold	Less than 30 psi
Ultran Silver	Less than 25 psi

DESIGNER'S CORNER:

Bimba's redesigned ISO 6432 Cylinder for dimensional interchangeability has several new fea-

tures, including a PCE series that incorporates acetal resin end caps for applications where cylinders are exposed to moisture or specific solvents; extruded end caps with a smaller cross section for space saving in applications; a self-

lubricating, thermoplastic rod bearing with a low coefficient of friction that results in smoother actuation; bumpers made of a thicker fluoroelastomer increasing life; and NBR (Nitrile rubber) piston seals for exceptional performance, including a speed rating of 2 m/sec. *Return the enclosed reply card for more information.*



Update Your Reference Files

REQUEST COPIES OF THE FOLLOWING ITEMS ON ENCLOSED REPLY CARD

CAD Drawing CD-ROM. Bimba's current version (3.1 at press time) of its Actuator CAD Drawings CD-ROM allows users to search for a drawing by a specific model number or by specific design criteria like bore sizes, stroke lengths, options, etc.

Original Line II Cylinder Catalog. Contained in this catalog is information on Bimba's cylinder/flow control/fitting combination. Our Original Line II is a stainless steel body air cylinder with built-in flow controls and fitting. It features unparalleled speed control with a special patented "flow gear" that allows fine speed control.

Flat-1® Cylinder Catalog. This catalog features Bimba's Flat series stainless steel body, space-saving air cylinders. Flat-1 air cylinders are available in bore sizes from 9/16" to 4", with mounting styles, options, and accessories.

Problem-Solving with Actuators Brochure. For practical and innovative ideas on using Bimba actuators to solve problems in a wide range of manufacturing and processing applications, request this new eight-page brochure.

For technical assistance,
call 1-800-44-BIMBA
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