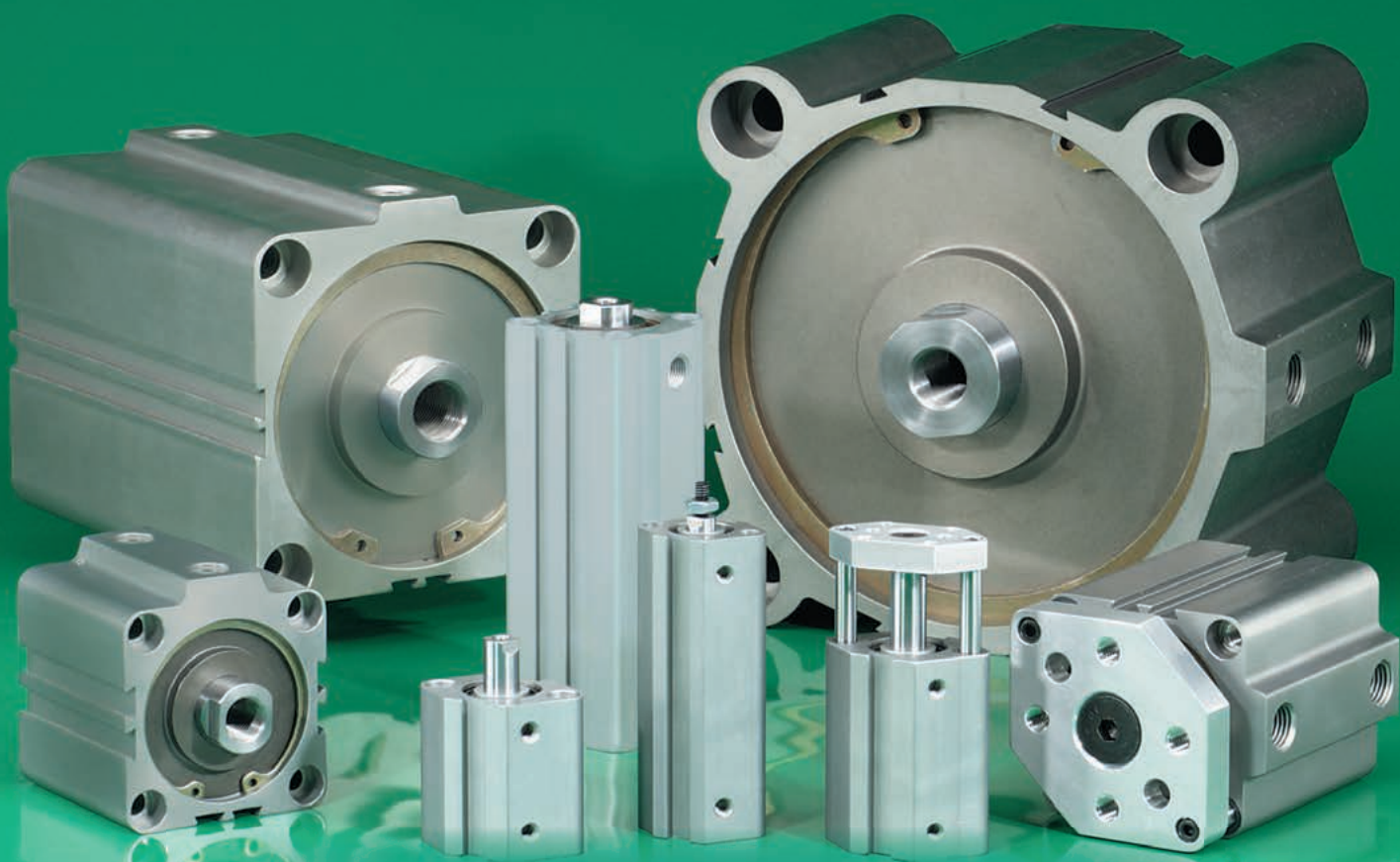
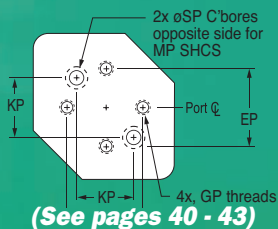


FABCO-AIR

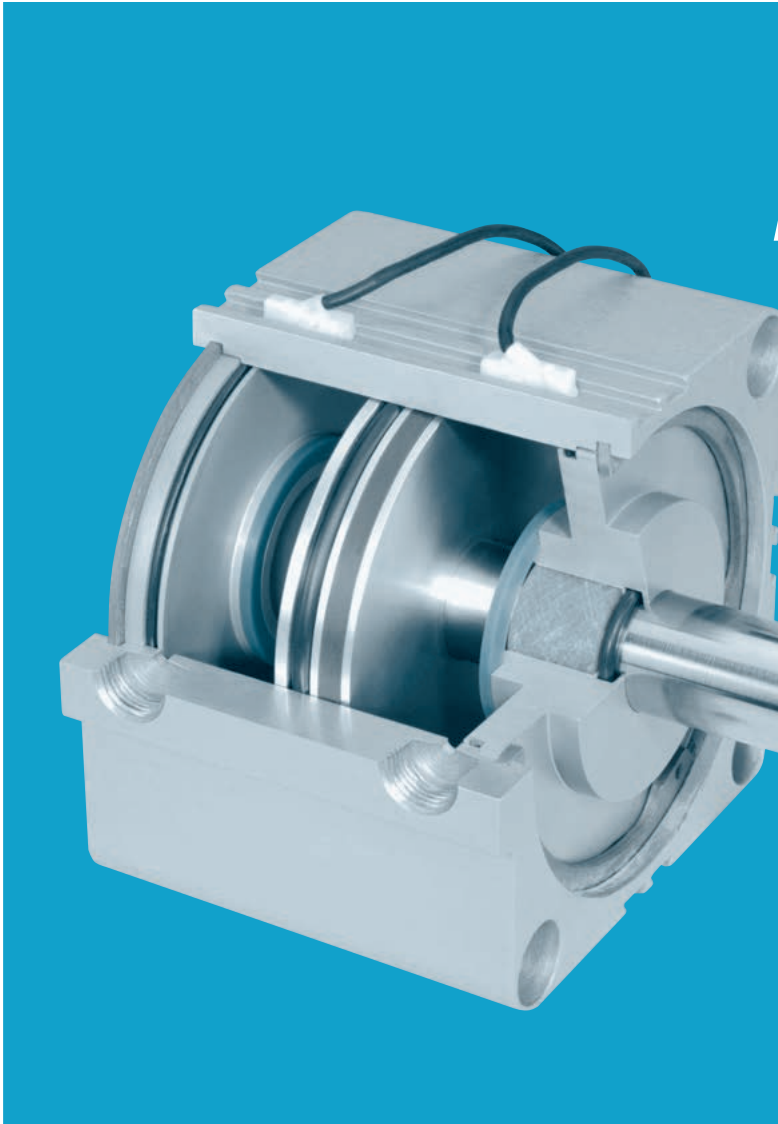
Global Series™ Air Cylinders



**Double Rod Options and Toolplates with
interchange hole patterns for GT Series**



Global Series™ Cylinders *Providing Unmatched*



NOW LOOK AT ALL YOU GET

Here is FABCO-AIR's Expanded Line of Space Saving Air Cylinders

Innovation – For 40 years our famous Pancakes® have dominated as the world's first compact air cylinder line. Today, backed by decades of engineering innovation, our new Global Series™ extruded body cylinders continue in the Pancake® tradition with exceptional performance and the widest available selection of models and options.

Packed with Value – Tough, rigid, hard anodized aluminum extrusions house oversized hard chrome stainless steel piston rods for service to 10 bar (150 psi). Magnetic piston position sensing enables mid-stroke signaling and exact end-of-stroke sensing. Multiple dovetails each accommodate multiple switches without the need for switch mounting brackets.

| Duralon® Rod Bearings Excel | | Friction Properties | |
|--|--------|----------------------------|--------------|
| Load Capacity (psi) | | Coefficient | Slip-stick |
| Machine Design 1972/73 Bearing Reference Issue | | | |
| Porous Bronze..... | 4,500 | Steel-on-steel..... | .50 Yes |
| Porous iron..... | 8,000 | Bronze-on-steel..... | .35 Yes |
| Phenolics..... | 6,000 | Sintered Bronze-on-steel | |
| Nylon®..... | 1,000 | with mineral oil..... | .13 No |
| TFE..... | 500 | Bronze-on-steel | |
| Reinforced Teflon® .. | 2,500 | with mineral oil..... | .16 No |
| *TFE fabric..... | 60,000 | Copper lead alloy-on-steel | .22 Yes |
| Polycarbonate..... | 1,000 | Acetal-on-steel..... | .20 No |
| Acetal..... | 1,000 | Nylon-on-steel..... | .32 Yes |
| Carbon-graphite..... | 600 | Duralon-on-steel..... | .05 - .16 No |

* Shows Duralon bearing classification. Not to be used for design purposes.

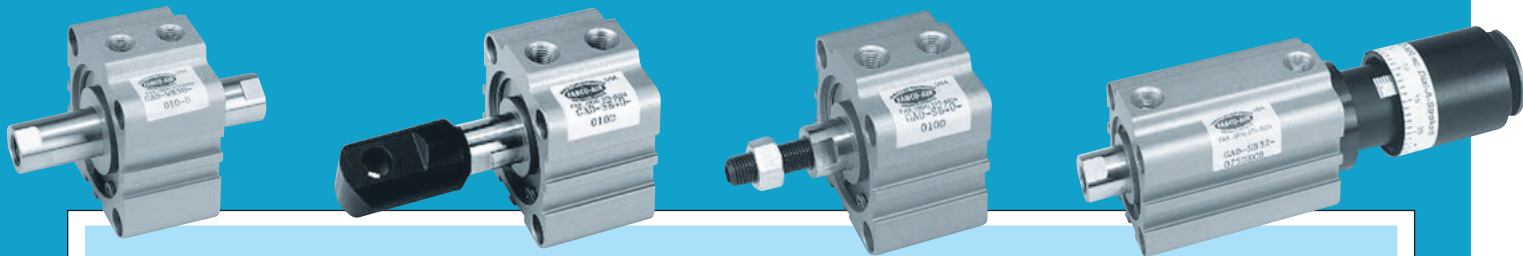
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Extra Long Piston Rod Bearing – The better the bearing is, the more cycle life you can expect from your cylinders. And Global Series™ Cylinders incorporate a truly superior rod bearing material – Duralon® with the same field-proven performance you have come to expect from the five other Fabco-Air cylinder families.

Duralon® is a composite of a Teflon®/Dacron fabric liner bonded to a supporting filament-wound, high strength, fiberglass and epoxy resin shell. Resistant to corrosion, moisture and temperature to 325°, Duralon is reliable in any environment. It has an extremely high load bearing capacity, very low friction, and will not gall or score the piston rod (See physical properties in the above table).

Teflon® is a registered trademark of DuPont Corp.

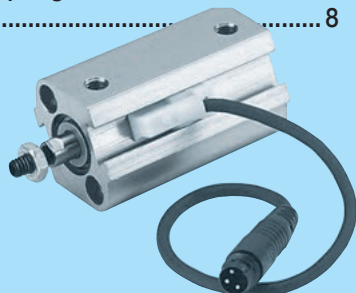
Performance and the Widest Selection of Models & Options



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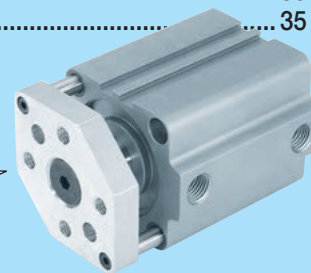


Global Series™ with Magnetic Piston Position Sensing

| | |
|------------------------------|---------|
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Global Series™ Guided Toolplate

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Supported by engineering and inventory –

Cylinder components are on the shelf. CAD libraries of drawings for each model and option are available on disk and at our web site ready for downloading. We're ready to work with you.

Phone: (352) 373-3578; Web site <http://www.fabco-air.com>;
E-Mail: service@fabco-air.com.

Plenty to Choose From –

- 10 bore sizes – 12 through 100 mm (1/2" – 4").
- Strokes – 5 through 150 mm (.2" – 6").
- 3 Choices of ports – NPT, BSP Parallel, BSP Tapered.
- Choice of rod ends – female with wrench flats or male rod with wrench flats and jam nut.

- Metric or Inch rod thread and mounting.
- Actuation – double acting, single rod; double acting, double rod; non-rotating double acting, single rod or double rod; single acting, single rod – spring retract or spring extend.
- Magnetic piston models for position sensors including electronic sensors and reed switches.
- 10 mounting accessories – including flange mounts (rod or cap end with ISO or Non-ISO pattern), rear clevis mount (rear clevis, rod clevis, rod eye), boss mount (rod or cap), and foot mounts.
- Unique, adjustable stroke models.
- 3-position and 4-position models.
- Bumpers and choice of seal materials. . .

all backed by a 32 month, 11 million cycle warranty!

Global Series™ Cylinders

Standard Strokes

Note: Use internal stroke collar to obtain intermediate stroke from longer stroke cylinders.
Stroke tolerances ■12 thru 100 Bore + 1.0 mm / - 0

Stroke (mm) 5 10 15 20 25 30 35 40 45 50 75 100 125 150

| Actuation | Standard Mounting | Stroke (mm) | 12 | 16 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 75 | 100 | 125 | 150 | Image | | |
|-----------|-------------------|-------------|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-------|--|---|
| | | | 12 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| | | | 16 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 20 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 25 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 32 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 40 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| | | | 50 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 63 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 80 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 100 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 12 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| | | | 16 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 20 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 25 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 32 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 40 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| | | | 50 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 63 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 80 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 100 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 12 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| | | | 16 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 20 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 25 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 32 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 40 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| | | | 50 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 63 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 80 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | | | 100 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ |

Standard Strokes, Features & Options Availability

Features and Options

| Standard Series | Magnetic Piston Series | Mounting Options | | | | | | Cylinder Options | | | |
|-----------------|------------------------|------------------|---------------|------------|-------------------|------------------|-----------------|------------------|-------------------|-----------------|---------|
| | | Tapped Hole | Flange Mounts | Foot Mount | Rear Clevis Mount | Front Boss Mount | Rear Boss Mount | Male Rod End | Adjustable Stroke | High Temp Seals | Bumpers |

Double Acting Single Rod

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
|---|---|---|---|---|---|---|---|---|---|---|---|

Double Acting Double Rod

| | | | | | | | | | | | |
|---|---|---|---|---|--|---|---|---|--|---|---|
| ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ |
|---|---|---|---|---|--|---|---|---|--|---|---|

Double Acting, Single Rod Non-Rotating

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
|---|---|---|---|---|---|---|---|---|---|---|---|

Double Acting, Double Rod Non-Rotating

| | | | | | | | | | | | |
|---|---|---|---|---|--|---|---|---|--|---|---|
| ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ |
|---|---|---|---|---|--|---|---|---|--|---|---|

Single Acting Spring Retract

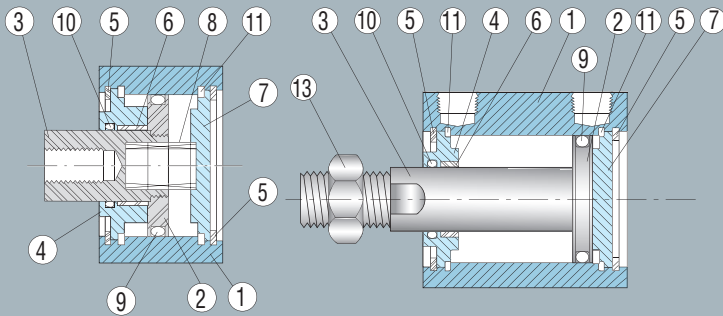
| | | | | | | | | | | | |
|---|--|---|---|---|---|--|--|---|--|---|--|
| ✓ | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ | |
|---|--|---|---|---|---|--|--|---|--|---|--|

Single Acting Spring Extend

| | | | | | | | | | | | |
|---|--|---|---|---|---|--|--|---|--|---|--|
| ✓ | | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ | |
|---|--|---|---|---|---|--|--|---|--|---|--|

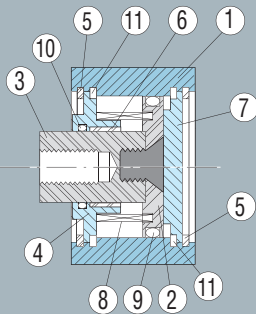
Global Series™ Cylinders – Construction

Standard Cylinder Models



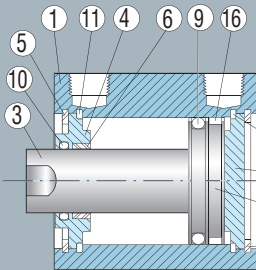
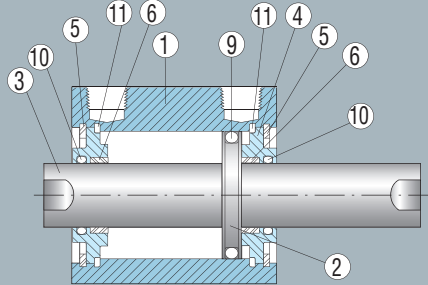
Single Acting/Spring Extend

Single Rod/Double Acting
Male Rod Thread Optional

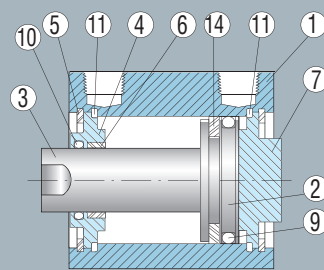


Single Acting/Spring Retract

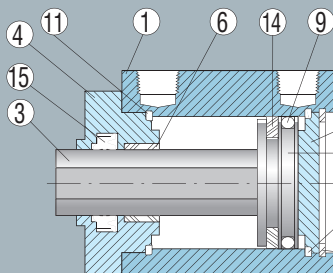
Double Rod/Double Acting



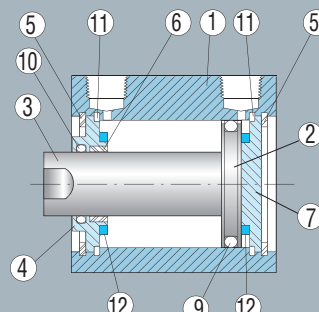
Extended Strokes



Single Rod/Boss Mount



Single Rod/Nonrotating



Single Rod/Bumpers
Front & Rear

Basic Construction

Quick Reference to Components

| No. | Description | Material | Note |
|-----|----------------|------------------------|-------------------------|
| 1 | Cylinder body | Hard Anodized Aluminum | Extruded with dovetails |
| 2 | Piston | Aluminum alloy | |
| 3 | Piston rod | Stainless steel | Hard chrome plated |
| 4 | Bushing cap | Aluminum alloy | Black anodized |
| 5 | Lock ring | Carbon steel | Zinc chromate |
| 6 | Rod bearing | Duralon® | See note 1 below |
| 7 | End cap | Aluminum alloy | Black anodized |
| 8 | Spring | Music wire | |
| 9 | Piston seal | Internal lube O-ring | Viton optional |
| 10 | Rod seal | Internal lube O-ring | Viton optional |
| 11 | Gasket | Buna N | Viton optional |
| 12 | Bumper | Rubber | |
| 13 | Rod end nut | Carbon steel | Plated |
| 14 | Annular magnet | Rubber bonded | See notes 2 & 3 below |
| 15 | Rod seal | Buna N | Molded shape – U cup |
| 16 | Bearing strip | TFE compound | See page 7 |

Note 1: Bearing material for 12, 16 & 20 mm bores is hard anodized aluminum

Note 2: Magnetic material 12, 16 & 20mm bores: rare earth neodymium

Note 3: Magnetic material 25mm bore and up: barium ferrite

Cylinder Body Material – is a custom aluminum extrusion with integral dovetail slots to provide mounting for piston position sensors. Its heavy wall prohibits damage to the bore from external influences.

The Bore is Polished – to produce a fine crosshatch finish. This finish, unlike an ultra-smooth finish, provides minute oil rings in which the lubrication can lie and support the seal as it moves along the surface. This surface finish and lubrication lowers friction and prolongs seal life.

The Cylinder is Hard Anodized – inside and out. Hard anodizing is an electrochemical process which provides a very dense surface of aluminum oxide that actually impregnates the base aluminum. It forms an extremely hard (60 Rc) surface with a low coefficient of friction. Hardness, corrosion resistance and wear resistance exceeds that of chrome plated steel.

An Extra Long Rod Bearing – provides long and rigid support for the piston rod. The bearing material is Hard Anodized Aluminum on the small 12, 16 & 20 mm bores, and Duralon® on all larger bore sizes. See the chart comparing physical properties on page 2. The bushing cap and end cap are held in place by a locking ring.

The Piston Rod – is Hard Chrome Plated Stainless Steel. The standard rod end is fine thread tapped and has long wrench flats.

Piston Construction – The piston is aluminum for light weight. A counterbore locates the piston rod with precise concentricity for smooth cylinder performance.

For single rod cylinders – the piston is attached to the piston rod with a socket flat head screw which is torqued for both proper preload on the screw and secure clamping of the piston. Loctite® on the threads and faces assures sealing and locks the assembly against pounding and vibration.

Air Cylinders with 35 Years Manufacturing Experience Built-in

For double rod cylinders – the piston rods are connected by a high strength stud, sandwiching the piston between the rod end faces. Counterbores locate the rods for alignment and precise concentricity. The assembly is torqued and Loctited®.

Standard & Long Stroke Cylinder Pistons– are thin with a single O-ring for space savings.

Extended Stroke Cylinder Pistons – are thicker and incorporate a bearing in addition to the O-ring seal. The bearing is a close tolerance, rectangular cross section strip of a tough, stable, wear-resistant TFE compound located at the rear of the piston head, the furthest point from the rod bearing. The bearing material and its location provide maximum load support and maintain the long life of the cylinder bore and piston seal.

Standard Seals are Internally Lubricated, Modified Buna N O-rings – Benefits include low profile cylinder construction, low friction, and long life sealing over an operating temperature range of -32°C to +121°C (-25°F to +250°F). Additionally, all units are factory lubricated with Magnalube®-G, a grease loaded with microscopic size particles of TFE in suspension. This combination has been found suitable for long life in most non-lube service applications.

Viton seals are optional for high temperature resistance (204°C and 400°F) and resistance to many hostile fluids.

Magnetic Piston Cylinders

Magnetic Piston Position Sensing – enables mid-stroke signaling and exact end-of-stroke sensing.

When the magnetic piston moves under a sensor the magnetic field activates the sensor without physical contact. A sensor can be positioned anywhere in one of the dovetail slots and locked in position by an integral screw. Multiple sensors can be installed in one or more of the dovetails.

The sensor(s) provides precise piston position indication for controllers, computers, relays, valves, or other devices. (See page 37 for sensor models)

For 25mm bore cylinders and up, a polarized permanent magnet of rubber bonded barium ferrite is used. It is very stable and unaffected by vibration and shock. Under normal usage it will remain magnetized indefinitely.

For 12mm, 16mm and 20mm bores (which have higher ratios of cylinder wall thickness to piston diameter) a rare earth neodymium magnetic material is used to assure consistently reliable sensor performance.

External magnetic fields and/or magnetic conductive materials may affect the strength of the piston magnets, therefore affecting sensor actuation and piston position indication.

When a sensor is mounted to indicate a mid-stroke position, the moving piston causes the sensor to provide a momentary signal. If signal duration is less than, or marginally close to what is required for the driven device a user-supplied latching circuit (or similar) may be needed.

Duralon® is a registered trademark of Rexnord Corp.

Loctite® is a registered trademark of Loctite Corp.

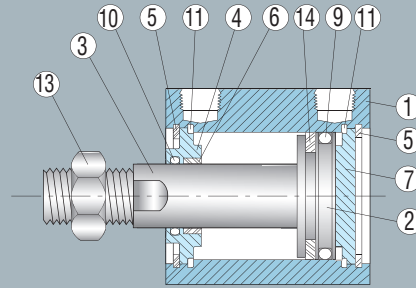
Magnalube®-G is a registered trademark of Carlton Stuart Corp.

Teflon® and Viton® are registered trademarks of DuPont Corp.

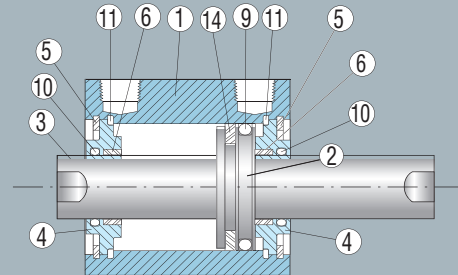
10-22-04

Please visit <http://portal.fabco-air.com/configure.php> for current pricing. Specifications subject to change without notice or incurring obligation.

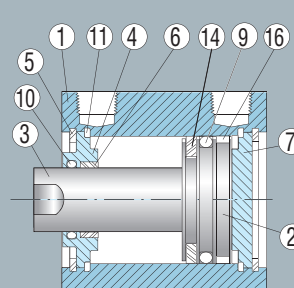
Magnetic Piston Models



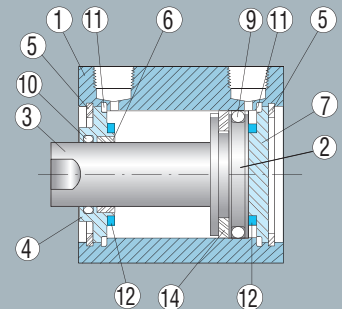
Single Rod/Double Acting
Male Rod Thread Optional



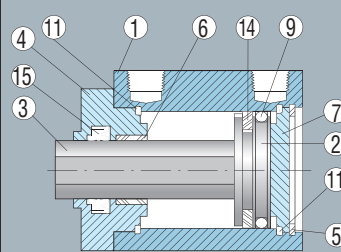
Double Rod/Double Acting



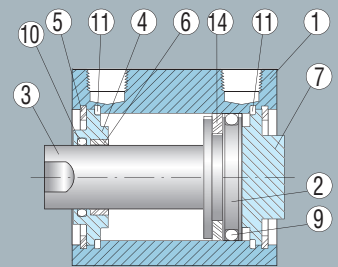
Extended Strokes



Single Rod/Double Acting
Bumpers Front and Rear



Single Rod/Nonrotating



Single Rod/Double Acting
Rear Boss Mount

Global Series™ Cylinders – Specifications

| Effective Piston Areas | | | | |
|-------------------------------|-----------------|-----------------|-----------------|-----------------|
| Bore – mm | cm ² | | Pull | |
| | cm ² | in ² | cm ² | in ² |
| 12 | 1.1 | .17 | .8 | .13 |
| 16 | 2.0 | .31 | 1.5 | .23 |
| 20 | 3.1 | .49 | 2.4 | .37 |
| 25 | 4.9 | .76 | 3.8 | .59 |
| 32 | 8.0 | 1.25 | 6.0 | .94 |
| 40 | 12.6 | 1.95 | 10.6 | 1.64 |
| 50 | 19.6 | 3.04 | 16.4 | 2.56 |
| 63 | 31.2 | 4.83 | 28.0 | 4.35 |
| 80 | 50.3 | 7.79 | 45.4 | 7.03 |
| 100 | 78.5 | 12.17 | 71.4 | 11.08 |

Minimum operating pressure recommended
All bores: 20 psi

| Spring Retract Forces | | | | |
|------------------------------|----------|-----|---------------|------|
| Bore – mm | Pre-load | | End of Stroke | |
| | kg | lbs | kg | lbs |
| 12 | 0.4 | 0.9 | 1.4 | 3.1 |
| 16 | 0.6 | 1.3 | 1.5 | 3.3 |
| 20 | 0.6 | 1.3 | 1.6 | 3.5 |
| 25 | 1.1 | 2.4 | 2.1 | 4.6 |
| 32 | 1.5 | 3.3 | 2.4 | 5.3 |
| 40 | 1.3 | 2.9 | 3.1 | 6.8 |
| 50 | 2.5 | 5.5 | 5.5 | 12.1 |

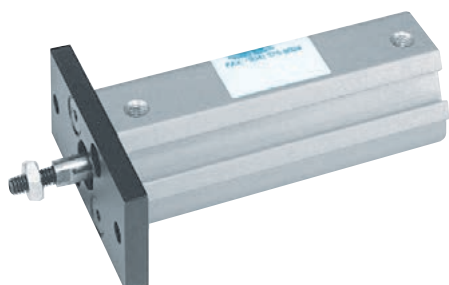
| Spring Extend Forces | | | | |
|-----------------------------|----------|-----|---------------|------|
| Bore – mm | Pre-load | | End of Stroke | |
| | kg | lbs | kg | lbs |
| 12 | 0.3 | 0.7 | 1.1 | 2.4 |
| 16 | 0.4 | 0.9 | 2.1 | 4.6 |
| 20 | 0.5 | 1.1 | 3.0 | 6.2 |
| 25 | 1.0 | 2.2 | 3.0 | 6.6 |
| 32 | 2.0 | 4.4 | 3.0 | 6.6 |
| 40 | 2.0 | 4.4 | 3.0 | 6.6 |
| 50 | 2.5 | 5.5 | 8.5 | 18.7 |



| Conversions | |
|--------------------|-------------------------------------|
| <i>Multiply by</i> | |
| Newton | 0.102..... Kg (force) |
| lb (force) | 4.448..... Newton |
| lb (force) | 0.454..... Kg (force) |
| psi | 0.069.....bar |
| <hr/> | |
| Force (lb) = | P (psi) x A (in ²) |
| Force (Newton) = | P (bar) x A (cm ²) x 10 |

| Estimated Cylinder Weights - Double Acting, Single Rod Models | | | | | | | | | | |
|--|------------------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|-----------------------------------|---------------------------------------|
| Note: Weights in Grams (Pounds) | | | | | | | | | | |
| Bore mm | Strokes in millimeters | | | | | | | | Additional weight for male thread | Additional weight for magnetic piston |
| | 5 | 10 | 30 | 50 | 75 | 100 | 125 | 150 | | |
| 12 | 40 (.088) | 47 (.104) | 75 (.165) | 109 (.240) | 140 (.309) | 172 (.378) | - | - | 2 (.004) | 12 (.03) |
| 16 | 61 (.135) | 72 (.159) | 116 (.256) | 160 (.353) | 204 (.450) | 248 (.546) | - | - | 3 (.007) | 17 (.04) |
| 20 | 91 (.201) | 112 (.247) | 193 (.426) | 254 (.559) | 311 (.684) | 375 (.826) | - | - | 7 (.015) | 25 (.05) |
| 25 | 118 (.260) | 139 (.306) | 224 (.494) | 287 (.631) | 408 (.899) | 484 (1.067) | - | - | 17 (.04) | 29 (.06) |
| 32 | 157 (.346) | 180 (.397) | 270 (.595) | 339 (.746) | 522 (1.15) | 636 (1.40) | 824 (1.81) | 936 (2.06) | 40 (.09) | 39 (.09) |
| 40 | 272 (0.600) | 294 (.648) | 382 (.842) | 448 (.986) | 623 (1.37) | 733 (1.62) | 1077 (2.37) | 1211 (2.67) | 40 (.09) | 54 (.12) |
| 50 | - | 401 (.884) | 551 (1.21) | 663 (1.46) | 958 (2.11) | 1102 (2.43) | 1848 (4.07) | 2066 (4.55) | 80 (.18) | 80 (.18) |
| 63 | - | 647 (1.43) | 807 (1.78) | 927 (2.04) | 1257 (2.77) | 1464 (3.23) | 2243 (4.94) | 2499 (5.51) | 80 (.18) | 102 (.24) |
| 80 | - | 1443 (3.18) | 1804 (3.98) | 2076 (4.57) | 2830 (6.24) | 3296 (7.27) | 3494 (7.70) | 3870 (8.52) | 160 (.35) | 143 (.31) |
| 100 | - | 2208 (4.87) | 2632 (5.80) | 2950 (6.49) | 3801 (8.38) | 4318 (9.52) | 5036 (11.10) | 5531 (12.18) | 270 (.60) | 282 (.62) |

| Model Number | Series | Port | Body | Model | Mounting | Bore | Stroke | Action | Options |
|--------------|---|------|---|---|--|--|---|---|---|
| | G- Global Series™ | | | | | | | | |
| | | | N- without magnetic piston D- with magnetic piston | | | | | D- double acting S- single acting, spring retract - 012 thru 050 bore only T- single acting, spring extend - 012 thru 050 bore only | |
| | N- NPT ports, inch rod thread G- BSP Parallel ports, metric rod thread P- BSPT taper ports, metric rod thread | | S- single rod W- double rod T- double rod hole thru K- non-rotating single rod L- non-rotating double rod M- non-rotating double rod hole thru A- adjustable stroke extend AK- adjustable stroke extend nonrotating rod (Note 1) | B- thru hole L- foot mount E- flange rod end F- flange cap end G- ISO flange rod end H- ISO flange cap end C- rear clevis A- tapped both ends (Note 2) | | 012 016 020 <u>025</u> 032 <u>040</u> 050 063 080 100 | 005 100 005 <u>150</u> 010 150 | | B- bumpers, both ends M- male rod, rod end N- male rod, cap end P- male rod, both ends E- boss, rod end F- boss, cap end *RS- adjustable stroke, retract *Available only for S & K models V- high temperature seals XC10- back-to-back XC11- tandem (mtg at rod end) XC12- tandem (mtg at cap end) |
| | <i>Note 1: See page 28 for specific 'AK' information and ordering examples</i> | | | | <i>Note 2: On bores 12 – 100mm, tapped holes will be inch threads for port code 'N' and metric threads for port codes 'G' & 'P'. Tapped holes will be metric when ordering any foot, flange, or clevis mounting.</i> | | <i>Note 3: Stroke tolerances 12 thru 100 bores: +1.0 mm / – 0</i> | | |



Ordering Example 1 – Global Series™, NPT Ports, without Magnetic Piston, Single Rod, ISO Flange on Rod End, 25mm Bore, 60mm Stroke, Double Acting, and Male Rod. *Note: The standard stroke chart on page 4 shows available strokes of 50mm and 75 mm. A 60mm stroke is obtained using an internal stroke collar with the longer 75mm stroke cylinder. (See extended stroke chart on page 10 for A and B dimensions which apply to the 75mm cylinder body).*

The Model Number is:
GNN – SG025 – 060D – M

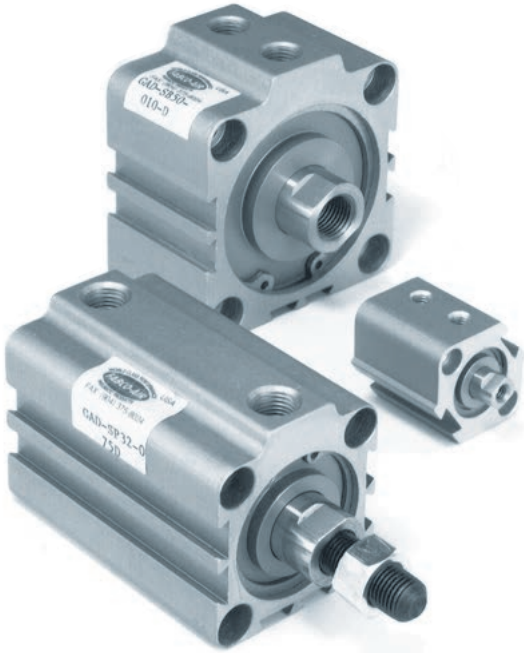


Ordering Example 2 – Global Series™, NPT Ports, with Magnetic Piston, Single Rod, Through Hole Standard Mount, 50mm Bore, 75mm Stroke, Double Acting, Male Rod, and High Temperature Seals. *Note: The standard stroke chart on page 4 shows 75mm stroke is available. No stroke collar is required.*

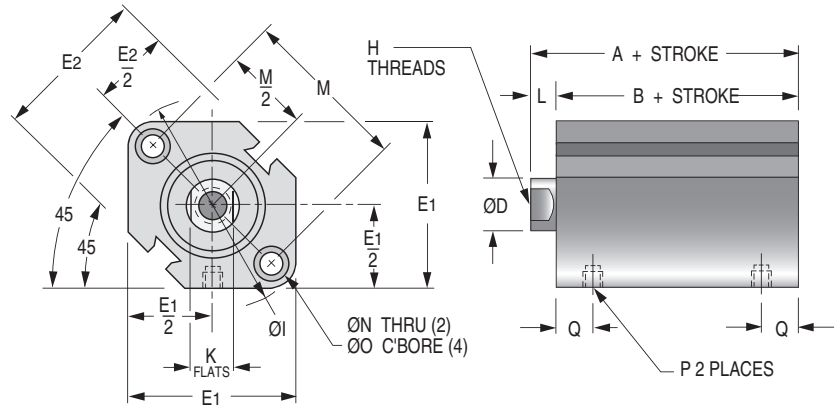
The Model Number is:
GND – SB050 – 075D – M – V

Note: Sensors must be ordered separately. See page 37.

Global Series™ Cylinders



Ø12 - Ø25 mm Bores



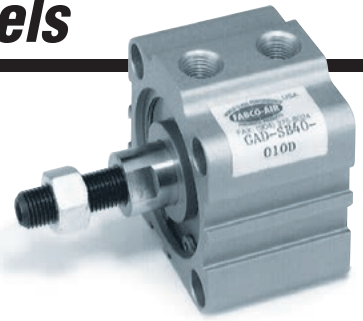
Dimensional Data

Note 1- See page 4 for complete stroke availability
 Note 2- Chart dimensions are shown as mm (inches)

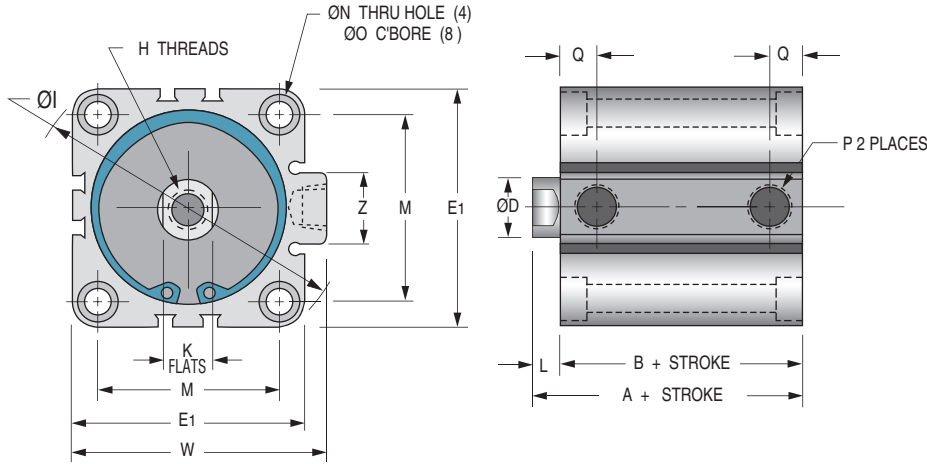
| Bore mm | Long Stroke | | | | Extended Stroke | | | |
|---------|-------------|-------------|-------------|------------|-----------------|-------------|-------------|------------|
| | Stroke mm | A | B | Q | Stroke mm | A | B | Q |
| 12 | - | - | - | - | 50, 75, 100 | 37.3 (1.47) | 33.8 (1.33) | 8.9 (.35) |
| 16 | - | - | - | - | 50, 75, 100 | 39.7 (1.56) | 36.2 (1.42) | 10.2 (.40) |
| 20 | - | - | - | - | 75, 100 | 46.1 (1.82) | 41.6 (1.64) | 12.1 (.48) |
| 25 | - | - | - | - | 75, 100 | 52.5 (2.07) | 47.5 (1.87) | 12.7 (.50) |
| 32 | 75, 100 | 40.0 (1.57) | 33.0 (1.30) | 8.7 (.34) | 125, 150 | 54.8 (2.16) | 47.8 (1.88) | 12.7 (.50) |
| 40 | 75, 100 | 46.5 (1.83) | 39.5 (1.56) | 9.2 (.36) | 125, 150 | 62.5 (2.46) | 55.5 (2.19) | 12.7 (.50) |
| 50 | 75, 100 | 48.5 (1.91) | 40.5 (1.59) | 10.5 (.41) | 125, 150 | 67.3 (2.65) | 59.3 (2.33) | 13.2 (.52) |
| 63 | 75, 100 | 54.0 (2.13) | 46.0 (1.81) | 11.5 (.45) | 125, 150 | 72.6 (2.86) | 64.6 (2.54) | 18.5 (.73) |
| 80 | 75, 100 | 63.5 (2.50) | 53.5 (2.11) | 14.0 (.55) | 125, 150 | 79.5 (3.13) | 69.5 (2.74) | 14.0 (.55) |
| 100 | 75, 100 | 75.0 (2.95) | 63.0 (2.48) | 18.0 (.71) | 125, 150 | 88.7 (3.49) | 76.7 (3.02) | 18.0 (.71) |

| Bore mm (Nom. Inch) | Stroke Range | A | B | ØD | E1 | E2 | H (Threads) x dp minimum inch or metric | ØI |
|---------------------|------------------|-------------|-------------|------------|--------------|-------------|---|--------------|
| 12 (1/2) | 5~30 (0.20~1.18) | 20.5 (0.81) | 17.0 (0.67) | 6 (0.236) | 25 (0.98) | 23 (0.90) | #8-32 x .21dp M3 x 0.5 - 5 dp | 31.5 (1.24) |
| 16 (5/8) | 5~30 (0.20~1.18) | 22.0 (0.87) | 18.5 (0.73) | 8 (0.315) | 29 (1.14) | 27.2 (1.07) | #8-32 x .21dp M4 x 0.7 - 5 dp | 37.1 (1.46) |
| 20 (3/4) | 5~50 (0.20~2.0) | 24.0 (0.94) | 19.5 (0.77) | 10 (0.394) | 36 (1.42) | 31.2 (1.23) | #10-32 x .28 dp M5 x 0.8 - 7 dp | 47 (1.85) |
| 25 (1) | 5~50 (0.20~2.0) | 27.5 (1.08) | 22.5 (0.89) | 12 (0.472) | 40 (1.57) | 36.9 (1.45) | 1/4-28 x .39 dp M6 x 1.0 - 10 dp | 51.3 (2.02) |
| 32 (1-1/4) | 5 only (0.20) | 30.0 (1.18) | 23.0 (0.91) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| | 10~50 (0.39~2.0) | 30.0 (1.18) | 23.0 (0.91) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| 40 (1-1/2) | 5~50 (0.20~2.0) | 36.5 (1.44) | 29.5 (1.16) | 16 (0.630) | 52 (2.05) | - | 3/8-24 x .50 dp M8 x 1.25 - 12 dp | 69 (2.72) |
| 50 (2) | 10~50 (0.39~2.0) | 38.5 (1.52) | 30.5 (1.20) | 20 (0.787) | 63.7 (2.51) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 84.9 (3.34) |
| 63 (2-1/2) | 10~50 (0.39~2.0) | 44.0 (1.73) | 36.0 (1.42) | 20 (0.787) | 76.7 (3.02) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 101.8 (4.01) |
| 80 (3-1/4) | 10~50 (0.39~2.0) | 53.5 (2.11) | 43.5 (1.71) | 25 (0.984) | 97.8 (3.85) | - | 5/8-18 x .88 dp M16 x 2.0 - 22 dp | 129.8 (5.11) |
| 100 (4) | 10~50 (0.39~2.0) | 65.0 (2.56) | 53.0 (2.09) | 30 (1.181) | 115.3 (4.54) | - | 3/4-16 x .88 dp M20 x 2.5 - 22 dp | 153.9 (6.06) |

Double Acting, Single Rod Models



Ø32 - Ø100 mm Bores



* Port Size Offerings

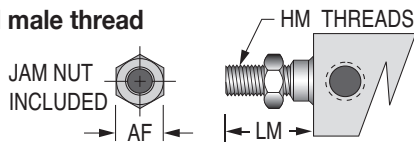
See dim. column "P" below

- N- NPT ports, inch rod thread
- G- BSP parallel ports, metric rod thread
- P- BSPT taper ports, metric rod thread

Note: M5 x 0.8 port will accept #10-32 male thread fittings.

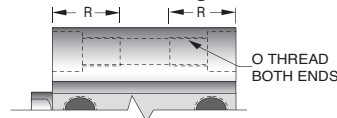
Note: Inch threads for 'N' port code.
Metric threads for 'G' & 'P' port codes.
Metric for foot, flange, or clevis mount.

Rod end male thread



| Bore mm | AF (HEX) inch or mm | HM (THREADS) inch or metric | LM inch or mm |
|---------|---------------------|---|---------------|
| 12 | .34 or 8 | #8-32 x .31 lg or M5 x 0.8 - 9 lg | 0.45 or 14.0 |
| 16 | .34 or 10 | #8-32 x .31 lg or M6 x 1.0 - 10 lg | 0.45 or 15.5 |
| 20 | .38 or 13 | #10-32 x .31 lg or M8 x 1.25 - 12 lg | 0.49 or 18.5 |
| 25 | .43 or 17 | 1/4-28 x .37 lg or M10 x 1.25 - 15 lg | 0.57 or 22.5 |
| 32 | .50 or 22 | 5/16-24 x .50 lg or M14 x 1.5 - 20.5 lg | 0.78 or 28.5 |
| 40 | .56 or 22 | 3/8-24 x .63 lg or M14 x 1.5 - 20.5 lg | 0.91 or 28.5 |
| 50 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 63 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 80 | .93 or 32 | 5/8-18 x 1.00 lg or M22 x 1.5 - 32.5 lg | 1.40 or 43.5 |
| 100 | 1.13 or 46 | 3/4-16 x 1.12 lg or M26 x 1.5 - 32.5 lg | 1.59 or 43.5 |

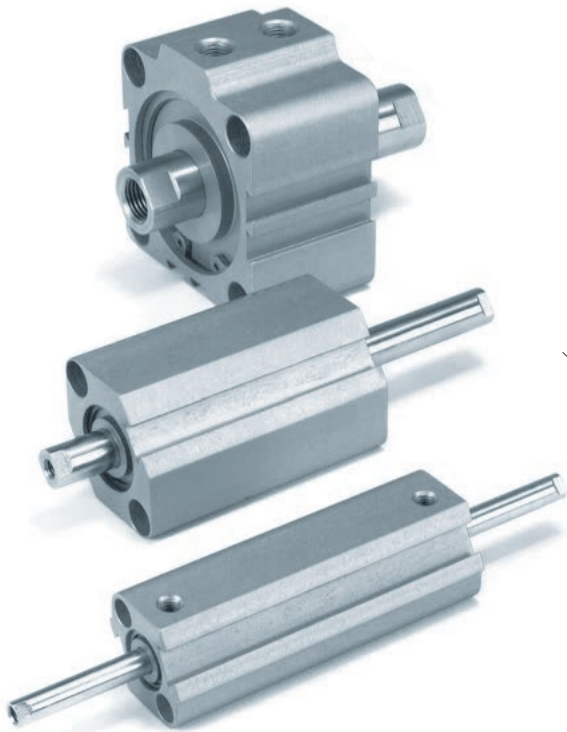
Tapped hole mounting



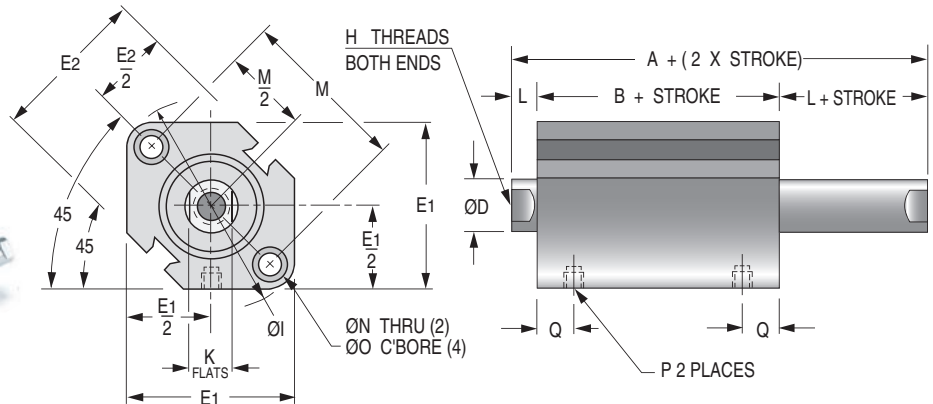
| Bore mm | O (THREADS) inch or metric | R inch or mm |
|---------|----------------------------|--------------|
| 12 | #8-32 or M4 x 0.7 | 0.43 or 11 |
| 16 | #8-32 or M4 x 0.7 | 0.43 or 11 |
| 20 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 25 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 32 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 40 | 1/4-20 or M6 x 1.0 | 0.75 or 19 |
| 50 | 5/16-18 or M8 x 1.25 | 0.75 or 19 |
| 63 | 7/16-14 or M10 x 1.5 | 0.87 or 22 |
| 80 | 1/2-13 or M12 x 1.75 | 1.13 or 29 |
| 100 | 1/2-13 or M12 x 1.75 | 1.13 or 29 |

| K | L | M | ØN | ØO | *P | Q | W | Z | Bore mm (Nom. Inch) |
|-----------|------------|-----------|------------|---------------------------------|--------|-------------|--------------|-------------|---------------------|
| 5 (0.20) | 3.5 (0.14) | 22 (0.87) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.0 (0.28) | - | - | 12 (1/2) |
| 6 (0.24) | 3.5 (0.14) | 28 (1.10) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.8 (0.31) | - | - | 16 (5/8) |
| 8 (0.31) | 4.5 (0.18) | 36 (1.42) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.1 (0.32) | - | - | 20 (3/4) |
| 10 (0.39) | 5 (0.20) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.4 (0.33) | - | - | 25 (1) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | 32 (1-1/4) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | |
| 14 (0.55) | 7 (0.28) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 9.2 (0.36) | 57.0 (2.24) | 17.8 (0.70) | 40 (1-1/2) |
| 17 (0.67) | 8 (0.31) | 50 (1.97) | 6.6 (0.26) | 11.0 x 8.0 dp (0.43 x 0.31 dp) | 1/4* | 10.5 (0.41) | 70.6 (2.78) | 22.2 (0.88) | 50 (2) |
| 17 (0.67) | 8 (0.31) | 60 (2.36) | 9 (0.35) | 13.7 x 10.5 dp (0.54 x 0.41 dp) | 1/4* | 11.5 (0.45) | 83.6 (3.29) | 22.2 (0.88) | 63 (2-1/2) |
| 22 (0.87) | 10 (0.39) | 77 (3.03) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 14.0 (0.55) | 104 (4.09) | 27.0 (1.06) | 80 (3-1/4) |
| 27 (1.06) | 12 (0.47) | 94 (3.70) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 18.0 (0.71) | 121.9 (4.80) | 27.0 (1.06) | 100 (4) |

Global Series™ Cylinders



Ø12 - Ø25 mm Bores



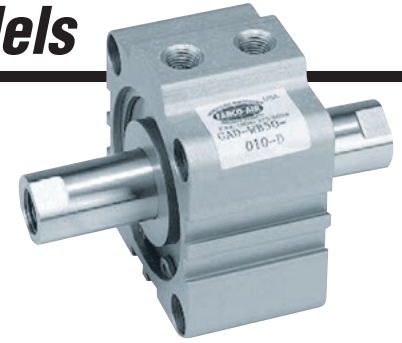
Dimensional Data

Note 1- See page 4 for complete stroke availability
 Note 2- Chart dimensions are shown as mm (inches)

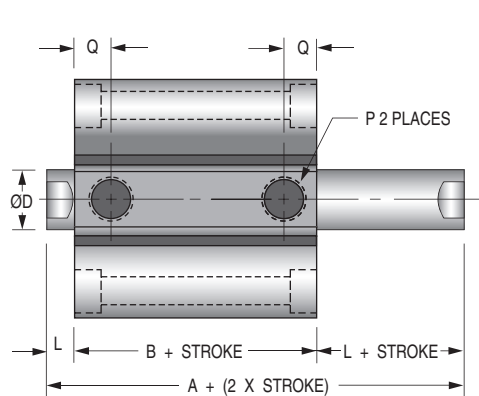
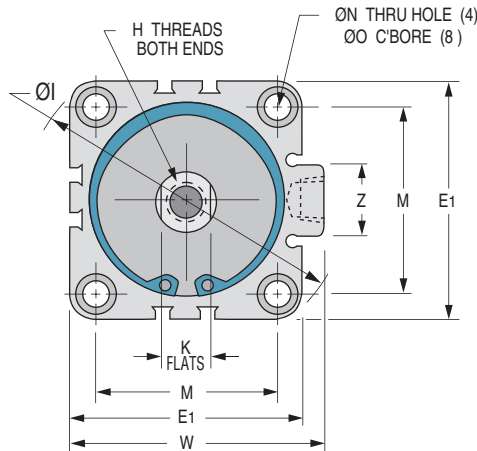
| Bore mm | Stroke mm | A | B | Q | Extended Stroke | | | Model Code 'T' Bore | Code 'T' Hole Size |
|---------|-----------|--------------|-------------|------------|-----------------|--------------|-------------|------------------------|-----------------------|
| | | | | | Stroke mm | A | B | | |
| 12 | - | - | - | - | 50, 75, 100 | 40.8 (1.61) | 33.8 (1.33) | 8.9 (.35) | 12 NA (NA) |
| 16 | - | - | - | - | 50, 75, 100 | 43.2 (1.70) | 36.2 (1.42) | 10.2 (.40) | 16 1.5 (.06) |
| 20 | - | - | - | - | 75, 100 | 50.6 (1.99) | 41.6 (1.64) | 12.1 (.48) | 20 1.5 (.06) |
| 25 | - | - | - | - | 75, 100 | 57.5 (2.26) | 47.5 (1.87) | 12.7 (.50) | 25 3.1 (.13) |
| 32 | 75, 100 | 61.8 (2.43) | 47.8 (1.88) | 12.7 (.50) | 125, 150 | 61.8 (2.43) | 47.8 (1.88) | 12.7 (.50) | 32 3.1 (.13) |
| 40 | 75, 100 | 69.5 (2.74) | 55.5 (2.19) | 12.7 (.50) | 125, 150 | 69.5 (2.74) | 55.5 (2.19) | 12.7 (.50) | 40 3.1 (.13) |
| 50 | 75, 100 | 75.3 (2.96) | 59.3 (2.33) | 13.2 (.52) | 125, 150 | 75.3 (2.96) | 59.3 (2.33) | 13.2 (.52) | 50 4.0 (.16) |
| 63 | 75, 100 | 80.6 (3.17) | 64.6 (2.54) | 18.5 (.73) | 125, 150 | 80.6 (3.17) | 64.6 (2.54) | 18.5 (.73) | 63 4.0 (.16) |
| 80 | 75, 100 | 89.5 (3.52) | 69.5 (2.74) | 14.0 (.55) | 125, 150 | 89.5 (3.52) | 69.5 (2.74) | 14.0 (.55) | 80 6.3 (.25) |
| 100 | 75, 100 | 100.7 (3.96) | 76.7 (3.02) | 18.0 (.71) | 125, 150 | 100.7 (3.96) | 76.7 (3.02) | 18.0 (.71) | 100 6.3 (.25) |

| Bore mm (Nom. Inch) | Stroke Range | A | B | ØD | E1 | E2 | H (Threads) x dp minimum inch or metric | ØI |
|---------------------|------------------|-------------|-------------|------------|--------------|-------------|---|--------------|
| 12 (1/2) | 5~30 (0.20~1.18) | 32.2 (1.27) | 25.2 (0.99) | 6 (0.236) | 25 (0.98) | 23 (0.90) | #8-32 x .21dp M3 x 0.5 - 5 dp | 31.5 (1.24) |
| 16 (5/8) | 5~30 (0.20~1.18) | 33.0 (1.30) | 26.0 (1.02) | 8 (0.315) | 29 (1.14) | 27.2 (1.07) | #8-32 x .21dp M4 x 0.7 - 5 dp | 37.1 (1.46) |
| 20 (3/4) | 5~50 (0.20~2.0) | 35.0 (1.38) | 26.0 (1.02) | 10 (0.394) | 36 (1.42) | 31.2 (1.23) | #10-32 x .28 dp M5 x 0.8 - 7 dp | 47 (1.85) |
| 25 (1) | 5~50 (0.20~2.0) | 39.0 (1.54) | 29.0 (1.14) | 12 (0.472) | 40 (1.57) | 36.9 (1.45) | 1/4-28 x .39 dp M6 x 1.0 - 10 dp | 51.3 (2.02) |
| 32 (1-1/4) | 5 only (0.20) | 44.5 (1.75) | 30.5 (1.20) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| | 10~50 (0.39~2.0) | 44.5 (1.75) | 30.5 (1.20) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| 40 (1-1/2) | 5~50 (0.20~2.0) | 54.0 (2.13) | 40.0 (1.57) | 16 (0.630) | 52 (2.05) | - | 3/8-24 x .50 dp M8 x 1.25 - 12 dp | 69 (2.72) |
| 50 (2) | 10~50 (0.39~2.0) | 56.5 (2.22) | 40.5 (1.59) | 20 (0.787) | 63.7 (2.51) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 84.9 (3.34) |
| 63 (2-1/2) | 10~50 (0.39~2.0) | 58.0 (2.28) | 42.0 (1.65) | 20 (0.787) | 76.7 (3.02) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 101.8 (4.01) |
| 80 (3-1/4) | 10~50 (0.39~2.0) | 71.0 (2.80) | 51.0 (2.01) | 25 (0.984) | 97.8 (3.85) | - | 5/8-18 x .88 dp M16 x 2.0 - 22 dp | 129.8 (5.11) |
| 100 (4) | 10~50 (0.39~2.0) | 84.5 (3.33) | 60.5 (2.38) | 30 (1.181) | 115.3 (4.54) | - | 3/4-16 x .88 dp M20 x 2.5 - 22 dp | 153.9 (6.06) |

Double Acting, Double Rod Models



Ø32 - Ø100 mm Bores

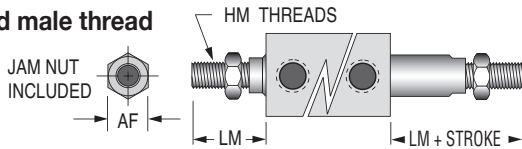


* Port Size Offerings See dim. column "P" below

- N- NPT ports, inch rod thread
 - G- BSP parallel ports, metric rod thread
 - P- BSPT taper ports, metric rod thread
- Note: M5 x 0.8 port will accept #10-32 male thread fittings.

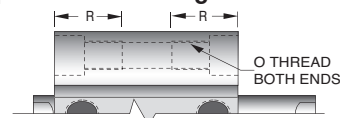
Note: Inch threads for 'N' port code.
Metric threads for 'G' & 'P' port codes.
Metric for foot, flange, or clevis mount.

Rod end male thread



| Bore mm | AF (HEX) inch or mm | HM (THREADS) inch or metric | LM inch or mm |
|---------|---------------------|---|---------------|
| 12 | .34 or 8 | #8-32 x .31 lg or M5 x 0.8 - 9 lg | 0.45 or 14.0 |
| 16 | .34 or 10 | #8-32 x .31 lg or M6 x 1.0 - 10 lg | 0.45 or 15.5 |
| 20 | .38 or 13 | #10-32 x .31 lg or M8 x 1.25 - 12 lg | 0.49 or 18.5 |
| 25 | .43 or 17 | 1/4-28 x .37 lg or M10 x 1.25 - 15 lg | 0.57 or 22.5 |
| 32 | .50 or 22 | 5/16-24 x .50 lg or M14 x 1.5 - 20.5 lg | 0.78 or 28.5 |
| 40 | .56 or 22 | 3/8-24 x .63 lg or M14 x 1.5 - 20.5 lg | 0.91 or 28.5 |
| 50 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 63 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 80 | .93 or 32 | 5/8-18 x 1.00 lg or M22 x 1.5 - 32.5 lg | 1.40 or 43.5 |
| 100 | 1.13 or 46 | 3/4-16 x 1.12 lg or M26 x 1.5 - 32.5 lg | 1.59 or 43.5 |

Tapped hole mounting



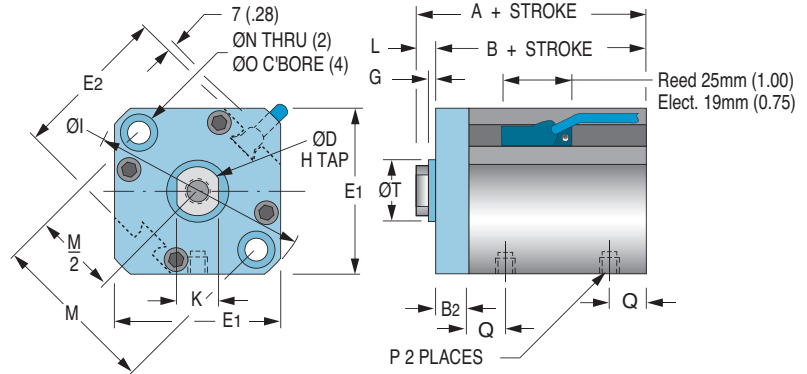
| Bore mm | O (THREADS) inch or metric | R inch or mm |
|---------|----------------------------|--------------|
| 12 | #8-32 or M4 x 0.7 | 0.43 or 11 |
| 16 | #8-32 or M4 x 0.7 | 0.43 or 11 |
| 20 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 25 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 32 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 40 | 1/4-20 or M6 x 1.0 | 0.75 or 19 |
| 50 | 5/16-18 or M8 x 1.25 | 0.75 or 19 |
| 63 | 7/16-14 or M10 x 1.5 | 0.87 or 22 |
| 80 | 1/2-13 or M12 x 1.75 | 1.13 or 29 |
| 100 | 1/2-13 or M12 x 1.75 | 1.13 or 29 |

| K | L | M | ØN | ØO | *P | Q | W | Z | Bore mm (Nom. Inch) |
|-----------|------------|-----------|------------|---------------------------------|--------|-------------|--------------|-------------|---------------------|
| 5 (0.20) | 3.5 (0.14) | 22 (0.87) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.0 (0.28) | - | - | 12 (1/2) |
| 6 (0.24) | 3.5 (0.14) | 28 (1.10) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.8 (0.31) | - | - | 16 (5/8) |
| 8 (0.31) | 4.5 (0.18) | 36 (1.42) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.1 (0.32) | - | - | 20 (3/4) |
| 10 (0.39) | 5 (0.20) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.4 (0.33) | - | - | 25 (1) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | 32 (1-1/4) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | |
| 14 (0.55) | 7 (0.28) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 9.2 (0.36) | 57.0 (2.24) | 17.8 (0.70) | 40 (1-1/2) |
| 17 (0.67) | 8 (0.31) | 50 (1.97) | 6.6 (0.26) | 11.0 x 8.0 dp (0.43 x 0.31 dp) | 1/4* | 10.5 (0.41) | 70.6 (2.78) | 22.2 (0.88) | 50 (2) |
| 17 (0.67) | 8 (0.31) | 60 (2.36) | 9 (0.35) | 13.7 x 10.5 dp (0.54 x 0.41 dp) | 1/4* | 11.5 (0.45) | 83.6 (3.29) | 22.2 (0.88) | 63 (2-1/2) |
| 22 (0.87) | 10 (0.39) | 77 (3.03) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 14.0 (0.55) | 104 (4.09) | 27.0 (1.06) | 80 (3-1/4) |
| 27 (1.06) | 12 (0.47) | 94 (3.70) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 18.0 (0.71) | 121.9 (4.80) | 27.0 (1.06) | 100 (4) |

Global Series™ Cylinders



Ø12 - Ø25 mm Bores



Warning

THIS CYLINDER HAS A NON-ROTATING ROD. TO PREVENT INTERNAL DAMAGE HOLD ROD BY FLATS ONLY WHEN FULLY RETRACTED WHILE INSTALLING OR REMOVING ATTACHMENTS. DO NOT SCRATCH OR DENT SHAFT.

Rod flats (Dim. K) nominally in-line with ports

| Bore mm | B2 |
|---------|---------|
| 12 | 5 (.20) |
| 16 | 5 (.20) |
| 20 | 8 (.32) |
| 25 | 8 (.32) |

Dimensional Data

Note 1- See page 4 for complete stroke availability
 Note 2- Chart dimensions are shown as mm (inches)

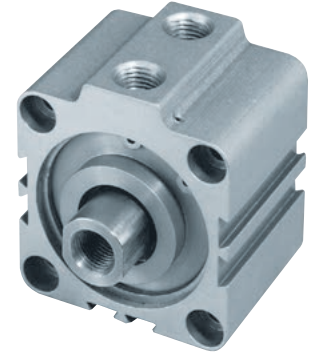
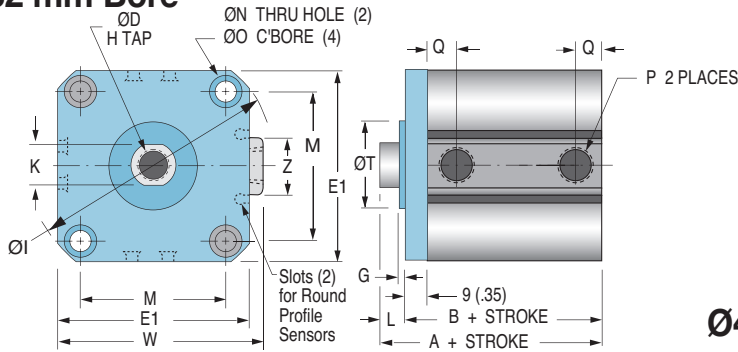
| Bore size | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
|--------------------------|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|
| Nonrotating rod accuracy | ±2° | ±1° | ±1° | ±1° | ±0.8° | ±0.8° | ±0.8° | ±0.8° | ±0.8° | ±0.8° |

| Bore mm | Stroke mm | Long Stroke | | | Extended Stroke | | | * Port Size Offerings See dim. column "P" below |
|---------|-----------|-------------|-------------|------------|-----------------|-------------|-------------|--|
| | | A | B | Q | Stroke mm | A | B | |
| 12 | - | - | - | - | 50, 75, 100 | 42.3 (1.67) | 38.8 (1.53) | 8.9 (.35) |
| 16 | - | - | - | - | 50, 75, 100 | 44.7 (1.76) | 41.2 (1.62) | 10.2 (.40) |
| 20 | - | - | - | - | 75, 100 | 54.1 (2.13) | 49.6 (1.95) | 12.1 (.48) |
| 25 | - | - | - | - | 75, 100 | 60.5 (2.38) | 55.5 (2.19) | 12.7 (.50) |
| 32 | 75, 100 | 49.0 (1.93) | 42.0 (1.65) | 8.7 (.34) | 125, 150 | 63.8 (2.51) | 56.8 (2.24) | 12.7 (.50) |
| 40 | 75, 100 | 46.5 (1.83) | 39.5 (1.56) | 9.2 (.36) | 125, 150 | 62.5 (2.46) | 55.5 (2.19) | 12.7 (.50) |
| 50 | 75, 100 | 48.5 (1.91) | 40.5 (1.59) | 10.5 (.41) | 125, 150 | 67.3 (2.65) | 59.3 (2.33) | 13.2 (.52) |
| 63 | 75, 100 | 54.0 (2.13) | 46.0 (1.81) | 11.5 (.45) | 125, 150 | 72.6 (2.86) | 64.6 (2.54) | 18.5 (.73) |
| 80 | 75, 100 | 63.5 (2.50) | 53.5 (2.11) | 14.0 (.55) | 125, 150 | 79.5 (3.13) | 69.5 (2.74) | 14.0 (.55) |
| 100 | 75, 100 | 75.0 (2.95) | 63.0 (2.48) | 18.0 (.71) | 125, 150 | 88.7 (3.49) | 76.7 (3.02) | 18.0 (.71) |

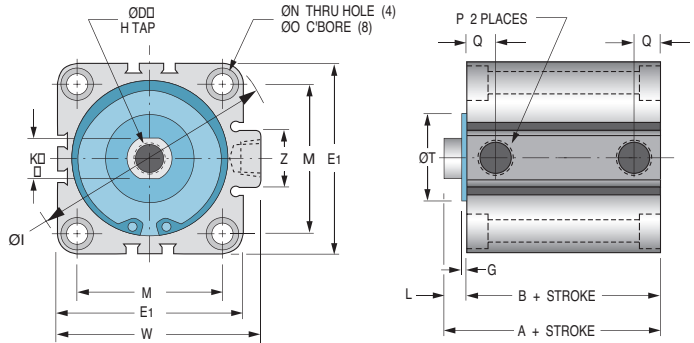
| Bore mm (Nom. Inch) | Stroke Range | A | B | ØD | E1 | E2 | H (Threads) x dp minimum inch or metric | ØI |
|---------------------|------------------|-------------|-------------|------------|--------------|-------------|---|--------------|
| 12 (1/2) | 5~30 (0.20~1.18) | 25.5 (1.00) | 22.0 (0.87) | 6 (0.236) | 25 (0.98) | 23 (0.90) | #8-32 x .21dp M3 x 0.5 - 5 dp | 31.5 (1.24) |
| 16 (5/8) | 5~30 (0.20~1.18) | 27.0 (1.06) | 23.5 (0.93) | 8 (0.315) | 29 (1.14) | 27.2 (1.07) | #8-32 x .21dp M4 x 0.7 - 5 dp | 37.1 (1.46) |
| 20 (3/4) | 5~50 (0.20~2.0) | 32.0 (1.26) | 27.5 (1.08) | 10 (0.394) | 36 (1.42) | 31.2 (1.23) | #10-32 x .28 dp M5 x 0.8 - 7 dp | 47 (1.85) |
| 25 (1) | 5~50 (0.20~2.0) | 35.5 (1.40) | 30.5 (1.20) | 12 (0.472) | 40 (1.57) | 36.9 (1.45) | 1/4-28 x .39 dp M6 x 1.0 - 10 dp | 51.3 (2.02) |
| 32 (1-1/4) | 5 only (0.20) | 39.0 (1.54) | 32.0 (1.26) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| | 10~50 (0.39~2.0) | 39.0 (1.54) | 32.0 (1.26) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| 40 (1-1/2) | 5~50 (0.20~2.0) | 36.5 (1.44) | 29.5 (1.16) | 16 (0.630) | 52 (2.05) | - | 3/8-24 x .50 dp M8 x 1.25 - 12 dp | 69 (2.72) |
| 50 (2) | 10~50 (0.39~2.0) | 38.5 (1.52) | 30.5 (1.20) | 20 (0.787) | 63.7 (2.51) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 84.9 (3.34) |
| 63 (2-1/2) | 10~50 (0.39~2.0) | 44.0 (1.73) | 36.0 (1.42) | 20 (0.787) | 76.7 (3.02) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 101.8 (4.01) |
| 80 (3-1/4) | 10~50 (0.39~2.0) | 53.5 (2.11) | 43.5 (1.71) | 25 (0.984) | 97.8 (3.85) | - | 5/8-18 x .88 dp M16 x 2.0 - 22 dp | 129.8 (5.11) |
| 100 (4) | 10~50 (0.39~2.0) | 65.0 (2.56) | 53.0 (2.09) | 30 (1.181) | 115.3 (4.54) | - | 3/4-16 x .88 dp M20 x 2.5 - 22 dp | 153.9 (6.06) |

Double Acting, Nonrotating Piston Rod Models

Ø32 mm Bore



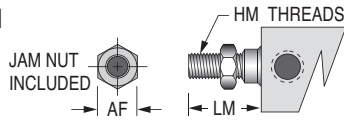
Ø40 - Ø100 mm Bores



Rod flats (Dim. K) nominally in-line with ports

| Bore mm (Nom. Inch) | ØT | G |
|---------------------|---------------------------------|-------------|
| 12 (1/2) | 15 +0/- 0.043 (0.591 +0/-0.002) | 1.5 (0.059) |
| 16 (5/8) | 20 +0/- 0.052 (0.787 +0/-0.002) | 1.5 (0.059) |
| 20 (3/4) | 13 +0/- 0.043 (0.512 +0/-0.002) | 2.0 (0.079) |
| 25 (1) | 15 +0/- 0.043 (0.591 +0/-0.002) | 2.0 (0.079) |
| 32 (1-1/4) | 21 +0/- 0.062 (0.827 +0/-0.002) | 2.0 (0.079) |
| 40 (1-1/2) | 28 +0/- 0.062 (1.102 +0/-0.002) | 2.0 (0.079) |
| 50 (2) | 35 +0/- 0.062 (1.378 +0/-0.002) | 2.0 (0.079) |
| 63 (2-1/2) | 35 +0/- 0.062 (1.378 +0/-0.002) | 2.0 (0.079) |
| 80 (3-1/4) | 43 +0/- 0.062 (1.693 +0/-0.002) | 2.0 (0.079) |
| 100 (4) | 59 +0/- 0.074 (2.323 +0/-0.003) | 2.0 (0.079) |

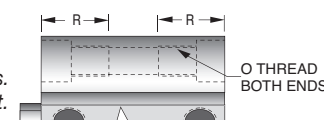
Rod end male thread



| Bore mm | AF (HEX) inch or mm | HM (THREADS) inch or metric | LM inch or mm |
|---------|---------------------|---|---------------|
| 12 | .34 or 8 | #8-32 x .31 lg or M5 x 0.8 - 9 lg | 0.45 or 14.0 |
| 16 | .34 or 10 | #8-32 x .31 lg or M6 x 1.0 - 10 lg | 0.45 or 15.5 |
| 20 | .38 or 13 | #10-32 x .31 lg or M8 x 1.25 - 12 lg | 0.49 or 18.5 |
| 25 | .43 or 17 | 1/4-28 x .37 lg or M10 x 1.25 - 15 lg | 0.57 or 22.5 |
| 32 | .50 or 22 | 5/16-24 x .50 lg or M14 x 1.5 - 20.5 lg | 0.78 or 28.5 |
| 40 | .56 or 22 | 3/8-24 x .63 lg or M14 x 1.5 - 20.5 lg | 0.91 or 28.5 |
| 50 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 63 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 80 | .93 or 32 | 5/8-18 x 1.00 lg or M22 x 1.5 - 32.5 lg | 1.40 or 43.5 |
| 100 | 1.13 or 46 | 3/4-16 x 1.12 lg or M26 x 1.5 - 32.5 lg | 1.59 or 43.5 |

Tapped hole mounting

Note: Inch threads for 'N' port code.
Metric threads for 'G' & 'P' port codes.
Metric for foot, flange, or clevis mount.



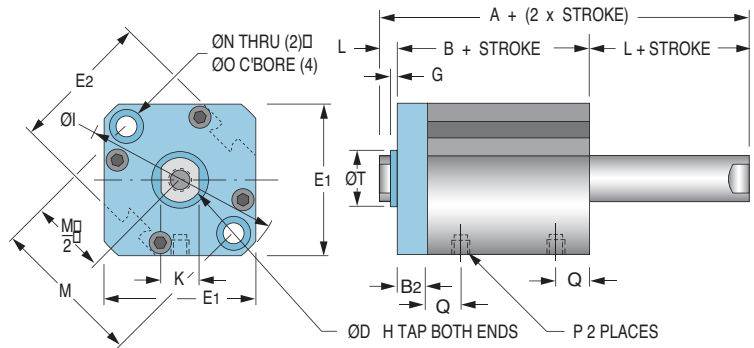
| Bore mm | O (THREADS) inch or metric | Places | | RF inch or mm | Places | | RR inch or mm |
|---------|----------------------------|--------|------|---------------|--------|------------|---------------|
| | | Front | Rear | | Front | Rear | |
| 12 | #8-32 or M4 x 0.7 | 2 | 2 | 0.63 or 16 | 2 | 0.43 or 11 | |
| 16 | #8-32 or M4 x 0.7 | 2 | 2 | 0.63 or 16 | 2 | 0.43 or 11 | |
| 20 | 1/4-20 or M6 x 1.0 | 2 | 2 | 0.98 or 25 | 2 | 0.67 or 17 | |
| 25 | 1/4-20 or M6 x 1.0 | 2 | 2 | 0.98 or 25 | 2 | 0.67 or 17 | |
| 32 | 1/4-20 or M6 x 1.0 | 2 | 4 | 1.02 or 26 | 4 | 0.67 or 17 | |
| 40 | 1/4-20 or M6 x 1.0 | 4 | 4 | 0.75 or 19 | 4 | 0.75 or 19 | |
| 50 | 5/16-18 or M8 x 1.25 | 4 | 4 | 0.75 or 19 | 4 | 0.75 or 19 | |
| 63 | 7/16-14 or M10 x 1.5 | 4 | 4 | 0.87 or 22 | 4 | 0.87 or 22 | |
| 80 | 1/2-13 or M12 x 1.75 | 4 | 4 | 1.13 or 29 | 4 | 1.13 or 29 | |
| 100 | 1/2-13 or M12 x 1.75 | 4 | 4 | 1.13 or 29 | 4 | 1.13 or 29 | |

| K | L | M | ØN | ØO | *P | Q | W | Z | Bore mm (Nom. Inch) |
|------------|------------|-----------|------------|---------------------------------|--------|-------------|--------------|-------------|---------------------|
| 5.2 (0.20) | 3.5 (0.14) | 22 (0.87) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.0 (0.28) | - | - | 12 (1/2) |
| 6 (0.24) | 3.5 (0.14) | 28 (1.10) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.8 (0.31) | - | - | 16 (5/8) |
| 8 (0.31) | 4.5 (0.18) | 36 (1.42) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.1 (0.32) | - | - | 20 (3/4) |
| 10 (0.39) | 5 (0.20) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.4 (0.33) | - | - | 25 (1) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | 32 (1-1/4) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | 32 (1-1/4) |
| 14 (0.55) | 7 (0.28) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 9.2 (0.36) | 57.0 (2.24) | 17.8 (0.70) | 40 (1-1/2) |
| 18 (0.71) | 8 (0.31) | 50 (1.97) | 6.6 (0.26) | 11.0 x 8.0 dp (0.43 x 0.31 dp) | 1/4* | 10.5 (0.41) | 70.6 (2.78) | 22.2 (0.88) | 50 (2) |
| 18 (0.71) | 8 (0.31) | 60 (2.36) | 9 (0.35) | 13.7 x 10.5 dp (0.54 x 0.41 dp) | 1/4* | 11.5 (0.45) | 83.6 (3.29) | 22.2 (0.88) | 63 (2-1/2) |
| 22 (0.87) | 10 (0.39) | 77 (3.03) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 14.0 (0.55) | 104 (4.09) | 27.0 (1.06) | 80 (3-1/4) |
| 27 (1.06) | 12 (0.47) | 94 (3.70) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 18.0 (0.71) | 121.9 (4.80) | 27.0 (1.06) | 100 (4) |

Global Series™ Cylinders



Ø12 - Ø25 mm Bores



Warning

THIS CYLINDER HAS A NON-ROTATING ROD. TO PREVENT INTERNAL DAMAGE HOLD ROD BY FLATS ONLY WHEN FULLY RETRACTED WHILE INSTALLING OR REMOVING ATTACHMENTS. DO NOT SCRATCH OR DENT SHAFT.

Rod flats (Dim. K) nominally in-line with ports

| Bore mm | B2 |
|---------|---------|
| 12 | 5 (.20) |
| 16 | 5 (.20) |
| 20 | 8 (.32) |
| 25 | 8 (.32) |

Dimensional Data

Note 1- See page 4 for complete stroke availability
 Note 2- Chart dimensions are shown as mm (inches)

| Bore size | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
|--------------------------|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|
| Nonrotating rod accuracy | ±2° | ±1° | ±1° | ±1° | ±0.8° | ±0.8° | ±0.8° | ±0.8° | ±0.8° | ±0.8° |

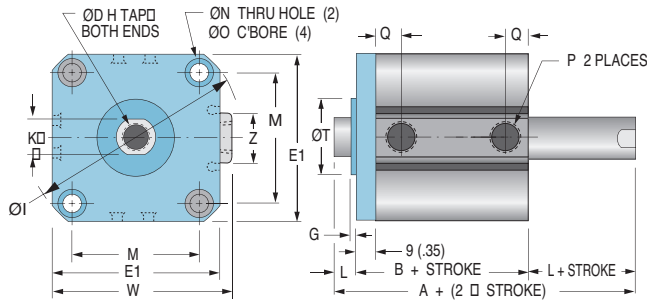
| Bore mm | Long Stroke | | | | Extended Stroke | | | |
|---------|-------------|--------------|-------------|------------|-----------------|--------------|-------------|------------|
| | Stroke mm | A | B | Q | Stroke mm | A | B | Q |
| 12 | - | - | - | - | 50, 75, 100 | 45.8 (1.80) | 38.8 (1.53) | 8.9 (.35) |
| 16 | - | - | - | - | 50, 75, 100 | 48.2 (1.90) | 41.2 (1.62) | 10.2 (.40) |
| 20 | - | - | - | - | 75, 100 | 58.6 (2.31) | 49.6 (1.95) | 12.1 (.48) |
| 25 | - | - | - | - | 75, 100 | 65.5 (2.58) | 55.5 (2.19) | 12.7 (.50) |
| 32 | 75, 100 | 70.8 (2.79) | 56.8 (2.24) | 12.7 (.50) | 125, 150 | 70.8 (2.79) | 56.8 (2.24) | 12.7 (.50) |
| 40 | 75, 100 | 69.5 (2.74) | 55.5 (2.19) | 12.7 (.50) | 125, 150 | 69.5 (2.74) | 55.5 (2.19) | 12.7 (.50) |
| 50 | 75, 100 | 75.3 (2.96) | 59.3 (2.33) | 13.2 (.52) | 125, 150 | 75.3 (2.96) | 59.3 (2.33) | 13.2 (.52) |
| 63 | 75, 100 | 80.6 (3.17) | 64.6 (2.54) | 18.5 (.73) | 125, 150 | 80.6 (3.17) | 64.6 (2.54) | 18.5 (.73) |
| 80 | 75, 100 | 89.5 (3.52) | 69.5 (2.74) | 14.0 (.55) | 125, 150 | 89.5 (3.52) | 69.5 (2.74) | 14.0 (.55) |
| 100 | 75, 100 | 100.7 (3.96) | 76.7 (3.02) | 18.0 (.71) | 125, 150 | 100.7 (3.96) | 76.7 (3.02) | 18.0 (.71) |

| Model Code 'M' | |
|----------------|-----------|
| Bore | Hole Size |
| 12 | NA (NA) |
| 16 | 1.5 (.06) |
| 20 | 1.5 (.06) |
| 25 | 3.1 (.13) |
| 32 | 3.1 (.13) |
| 40 | 3.1 (.13) |
| 50 | 4.0 (.16) |
| 63 | 4.0 (.16) |
| 80 | 6.3 (.25) |
| 100 | 6.3 (.25) |

| Bore mm (Nom. Inch) | Stroke Range | A | B | ØD | E1 | E2 | H (Threads) x dp minimum inch or metric | ØI |
|---------------------|------------------|-------------|-------------|------------|--------------|-------------|---|--------------|
| 12 (1/2) | 5-30 (0.20~1.18) | 37.2 (1.46) | 30.2 (1.19) | 6 (0.236) | 25 (0.98) | 23 (0.90) | #8-32 x .21dp M3 x 0.5 - 5 dp | 31.5 (1.24) |
| 16 (5/8) | 5-30 (0.20~1.18) | 38.0 (1.50) | 31.0 (1.22) | 8 (0.315) | 29 (1.14) | 27.2 (1.07) | #8-32 x .21dp M4 x 0.7 - 5 dp | 37.1 (1.46) |
| 20 (3/4) | 5-50 (0.20~2.0) | 43.0 (1.69) | 34.0 (1.34) | 10 (0.394) | 36 (1.42) | 31.2 (1.23) | #10-32 x .28 dp M5 x 0.8 - 7 dp | 47 (1.85) |
| 25 (1) | 5-50 (0.20~2.0) | 47.0 (1.85) | 37.0 (1.46) | 12 (0.472) | 40 (1.57) | 36.9 (1.45) | 1/4-28 x .39 dp M6 x 1.0 - 10 dp | 51.3 (2.02) |
| 32 (1-1/4) | 5 only (0.20) | 53.5 (2.11) | 39.5 (1.56) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| | 10-50 (0.39~2.0) | 53.5 (2.11) | 39.5 (1.56) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| 40 (1-1/2) | 5-50 (0.20~2.0) | 54.0 (2.13) | 40.0 (1.57) | 16 (0.630) | 52 (2.05) | - | 3/8-24 x .50 dp M8 x 1.25 - 12 dp | 69 (2.72) |
| | 10-50 (0.39~2.0) | 56.5 (2.22) | 40.5 (1.59) | 20 (0.787) | 63.7 (2.51) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 84.9 (3.34) |
| 63 (2-1/2) | 10-50 (0.39~2.0) | 58.0 (2.28) | 42.0 (1.65) | 20 (0.787) | 76.7 (3.02) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 101.8 (4.01) |
| 80 (3-1/4) | 10-50 (0.39~2.0) | 71.0 (2.80) | 51.0 (2.01) | 25 (0.984) | 97.8 (3.85) | - | 5/8-18 x .88 dp M16 x 2.0 - 22 dp | 129.8 (5.11) |
| 100 (4) | 10-50 (0.39~2.0) | 84.5 (3.33) | 60.5 (2.38) | 30 (1.181) | 115.3 (4.54) | - | 3/4-16 x .88 dp M20 x 2.5 - 22 dp | 153.9 (6.06) |

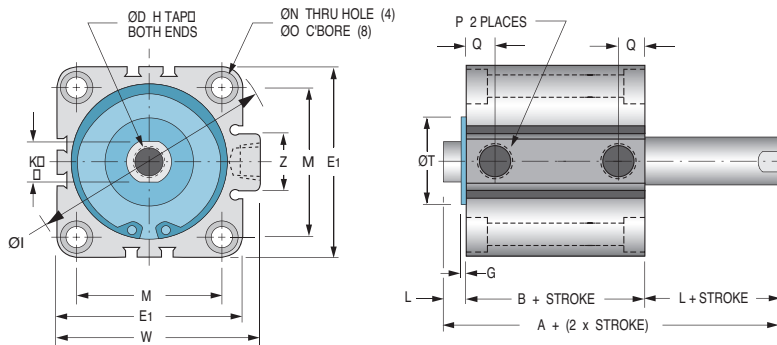
Double Acting, Double Rod, Nonrotating Piston Rod Models

Ø32 mm Bore



| Bore mm (Nom. Inch) | ØT | | G |
|---------------------|---------------|-------------------|-------------|
| 12 (1/2) | 15 +0/- 0.043 | (0.591 +0/-0.002) | 1.5 (0.059) |
| 16 (5/8) | 20 +0/- 0.052 | (0.787 +0/-0.002) | 1.5 (0.059) |
| 20 (3/4) | 13 +0/- 0.043 | (0.512 +0/-0.002) | 2.0 (0.079) |
| 25 (1) | 15 +0/- 0.043 | (0.591 +0/-0.002) | 2.0 (0.079) |
| 32 (1-1/4) | 21 +0/- 0.062 | (0.827 +0/-0.002) | 2.0 (0.079) |
| 40 (1-1/2) | 28 +0/- 0.062 | (1.102 +0/-0.002) | 2.0 (0.079) |
| 50 (2) | 35 +0/- 0.062 | (1.378 +0/-0.002) | 2.0 (0.079) |
| 63 (2-1/2) | 35 +0/- 0.062 | (1.378 +0/-0.002) | 2.0 (0.079) |
| 80 (3-1/4) | 43 +0/- 0.062 | (1.693 +0/-0.002) | 2.0 (0.079) |
| 100 (4) | 59 +0/- 0.074 | (2.323 +0/-0.003) | 2.0 (0.079) |

Ø40 - Ø100 mm Bores

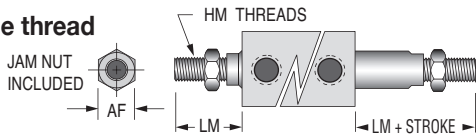


Rod flats (Dim. K) nominally in-line with ports

*** Port Size Offerings**
See dim. column "P" below

- N- NPT ports, inch rod thread
 - G- BSP parallel ports, metric rod thread
 - P- BSPT taper ports, metric rod thread
- Note: M5 x 0.8 port will accept #10-32 male thread fittings.

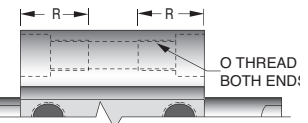
Rod end male thread



| Bore mm | AF (HEX) inch or mm | HM (THREADS) inch or metric | LM inch or mm |
|---------|---------------------|---|---------------|
| 12 | .34 or 8 | #8-32 x .31 lg or M5 x 0.8 - 9 lg | 0.45 or 14.0 |
| 16 | .34 or 10 | #8-32 x .31 lg or M6 x 1.0 - 10 lg | 0.45 or 15.5 |
| 20 | .38 or 13 | #10-32 x .31 lg or M8 x 1.25 - 12 lg | 0.49 or 18.5 |
| 25 | .43 or 17 | 1/4-28 x .37 lg or M10 x 1.25 - 15 lg | 0.57 or 22.5 |
| 32 | .50 or 22 | 5/16-24 x .50 lg or M14 x 1.5 - 20.5 lg | 0.78 or 28.5 |
| 40 | .56 or 22 | 3/8-24 x .63 lg or M14 x 1.5 - 20.5 lg | 0.91 or 28.5 |
| 50 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 63 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 80 | .93 or 32 | 5/8-18 x 1.00 lg or M22 x 1.5 - 32.5 lg | 1.40 or 43.5 |
| 100 | 1.13 or 46 | 3/4-16 x 1.12 lg or M26 x 1.5 - 32.5 lg | 1.59 or 43.5 |

Tapped hole mounting

Note: Inch threads for 'N' port code.
Metric threads for 'G' & 'P' port codes.
Metric for foot, flange, or clevis mount.

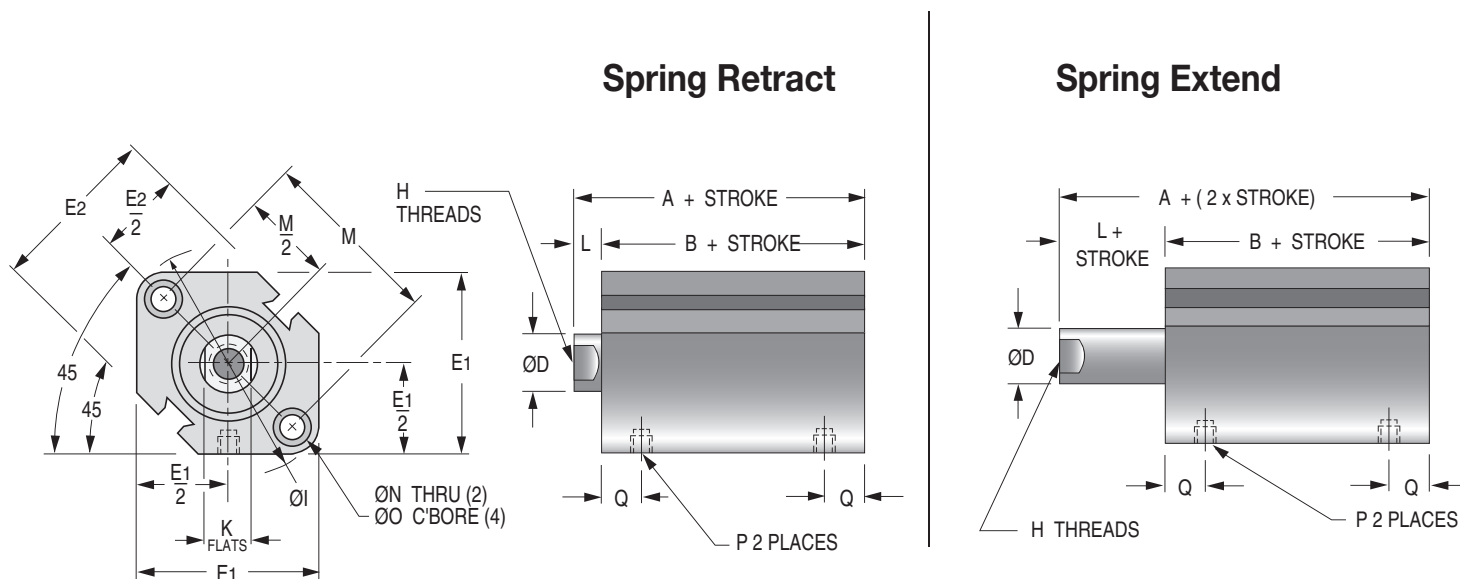


| Bore mm | O (THREADS) inch or metric | Places RF | | Places RR | |
|---------|----------------------------|-----------|------------|-----------|------------|
| | | Front | inch or mm | Rear | inch or mm |
| 12 | #8-32 or M4 x 0.7 | 2 | 0.63 or 16 | 2 | 0.43 or 11 |
| 16 | #8-32 or M4 x 0.7 | 2 | 0.63 or 16 | 2 | 0.43 or 11 |
| 20 | 1/4-20 or M6 x 1.0 | 2 | 0.98 or 25 | 2 | 0.67 or 17 |
| 25 | 1/4-20 or M6 x 1.0 | 2 | 0.98 or 25 | 2 | 0.67 or 17 |
| 32 | 1/4-20 or M6 x 1.0 | 2 | 1.02 or 26 | 4 | 0.67 or 17 |
| 40 | 1/4-20 or M6 x 1.0 | 4 | 0.75 or 19 | 4 | 0.75 or 19 |
| 50 | 5/16-18 or M8 x 1.25 | 4 | 0.75 or 19 | 4 | 0.75 or 19 |
| 63 | 7/16-14 or M10 x 1.5 | 4 | 0.87 or 22 | 4 | 0.87 or 22 |
| 80 | 1/2-13 or M12 x 1.75 | 4 | 1.13 or 29 | 4 | 1.13 or 29 |
| 100 | 1/2-13 or M12 x 1.75 | 4 | 1.13 or 29 | 4 | 1.13 or 29 |

| K | L | M | ØN | ØO | *P | Q | W | Z | Bore mm (Nom. Inch) |
|------------|------------|-----------|------------|---------------------------------|--------|-------------|--------------|-------------|---------------------|
| 5.2 (0.20) | 3.5 (0.14) | 22 (0.87) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.0 (0.28) | - | - | 12 (1/2) |
| 6 (0.24) | 3.5 (0.14) | 28 (1.10) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.8 (0.31) | - | - | 16 (5/8) |
| 8 (0.31) | 4.5 (0.18) | 36 (1.42) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.1 (0.32) | - | - | 20 (3/4) |
| 10 (0.39) | 5 (0.20) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.4 (0.33) | - | - | 25 (1) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | 32 (1-1/4) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | |
| 14 (0.55) | 7 (0.28) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 9.2 (0.36) | 57.0 (2.24) | 17.8 (0.70) | 40 (1-1/2) |
| 18 (0.71) | 8 (0.31) | 50 (1.97) | 6.6 (0.26) | 11.0 x 8.0 dp (0.43 x 0.31 dp) | 1/4* | 10.5 (0.41) | 70.6 (2.78) | 22.2 (0.88) | 50 (2) |
| 18 (0.71) | 8 (0.31) | 60 (2.36) | 9 (0.35) | 13.7 x 10.5 dp (0.54 x 0.41 dp) | 1/4* | 11.5 (0.45) | 83.6 (3.29) | 22.2 (0.88) | 63 (2-1/2) |
| 22 (0.87) | 10 (0.39) | 77 (3.03) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 14.0 (0.55) | 104 (4.09) | 27.0 (1.06) | 80 (3-1/4) |
| 27 (1.06) | 12 (0.47) | 94 (3.70) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 18.0 (0.71) | 121.9 (4.80) | 27.0 (1.06) | 100 (4) |

Global Series™ Cylinders

Ø12 - Ø25 mm Bores



Note 1- See page 4 for complete stroke availability

Note 2- Chart dimensions are shown as mm (inches)

* Port Size Offerings
See dim. column "P" below

- N- NPT ports, inch rod thread
- G- BSP parallel ports, metric rod thread
- P- BSPT taper ports, metric rod thread

Note: M5 x 0.8 port will accept #10-32 male thread fittings.

Dimensional Data

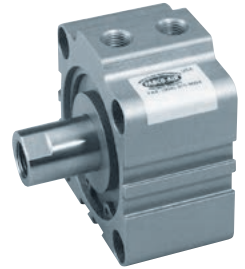
| Bore mm (Nom. Inch) | Stroke Range | A | B | ØD | E1 | E2 | H (Threads) x dp minimum inch or metric | ØI |
|---------------------|-------------------|-------------|-------------|------------|-------------|-------------|---|-------------|
| 12 (1/2) | 5~10 (0.20~0.39) | 20.5 (0.81) | 17.0 (0.67) | 6 (0.236) | 25 (0.98) | 23 (0.90) | #8-32 x .21dp M3 x 0.5 - 5 dp | 31.5 (1.24) |
| 16 (5/8) | 5~10 (0.20~0.39) | 22.0 (0.87) | 18.5 (0.73) | 8 (0.315) | 29 (1.14) | 27.2 (1.07) | #8-32 x .21dp M4 x 0.7 - 5 dp | 37.1 (1.46) |
| 20 (3/4) | 5~10 (0.20~0.39) | 24.0 (0.94) | 19.5 (0.77) | 10 (0.394) | 36 (1.42) | 31.2 (1.23) | #10-32 x .28 dp M5 x 0.8 - 7 dp | 47 (1.85) |
| 25 (1) | 5~10 (0.20~0.39) | 27.5 (1.08) | 22.5 (0.86) | 12 (0.472) | 40 (1.57) | 36.9 (1.45) | 1/4-28 x .39 dp M6 x 1.0 - 10 dp | 51.3 (2.02) |
| 32 (1-1/4) | 5 (0.20) | 30.0 (1.18) | 23.0 (0.91) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| | 10 (0.39) | 30.0 (1.18) | 23.0 (0.91) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| 40 (1-1/2) | 5~10 (0.20~0.39) | 36.5 (1.44) | 29.5 (1.16) | 16 (0.630) | 52 (2.05) | - | 3/8-24 x .50 dp M8 x 1.25 - 12 dp | 69 (2.72) |
| 50 (2) | 10~20 (0.39~0.79) | 38.5 (1.52) | 30.5 (1.20) | 20 (0.787) | 63.7 (2.51) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 84.9 (3.34) |

Single Acting, Spring Retract/Spring Extend Models

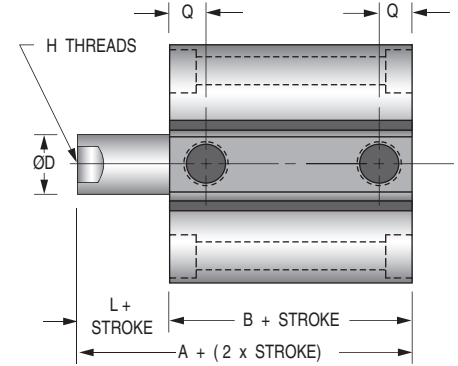
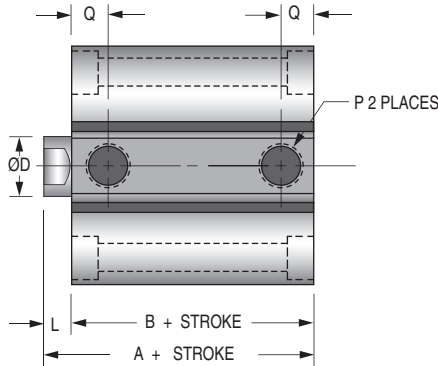
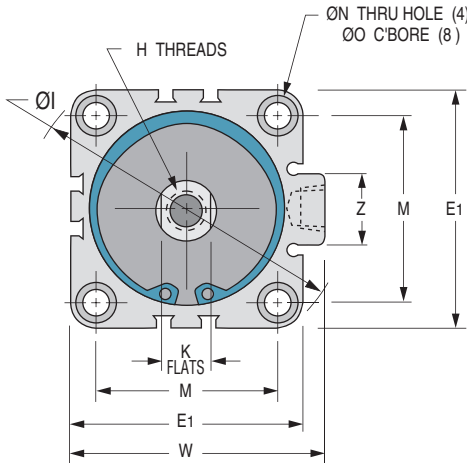
Ø32 - Ø50 mm Bores



Spring Retract

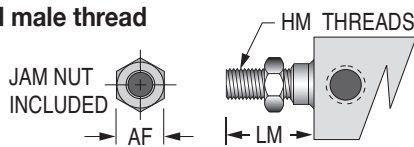


Spring Extend



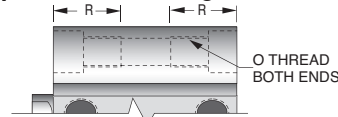
Note: Inch threads for 'N' port code.
Metric threads for 'G' & 'P' port codes.
Metric for foot, flange, or clevis mount.

Rod end male thread



| Bore mm | AF (HEX) inch or mm | H M (THREADS) inch or metric | L M Retracted inch or mm |
|---------|---------------------|---|--------------------------|
| 12 | .34 or 8 | #8-32 x .31 lg or M5 x 0.8 - 9 lg | 0.45 or 14.0 |
| 16 | .34 or 10 | #8-32 x .31 lg or M6 x 1.0 - 10 lg | 0.45 or 15.5 |
| 20 | .38 or 13 | #10-32 x .31 lg or M8 x 1.25 - 12 lg | 0.49 or 18.5 |
| 25 | .43 or 17 | 1/4-28 x .37 lg or M10 x 1.25 - 15 lg | 0.57 or 22.5 |
| 32 | .50 or 22 | 5/16-24 x .50 lg or M14 x 1.5 - 20.5 lg | 0.78 or 28.5 |
| 40 | .56 or 22 | 3/8-24 x .63 lg or M14 x 1.5 - 20.5 lg | 0.91 or 28.5 |
| 50 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |

Tapped hole mounting

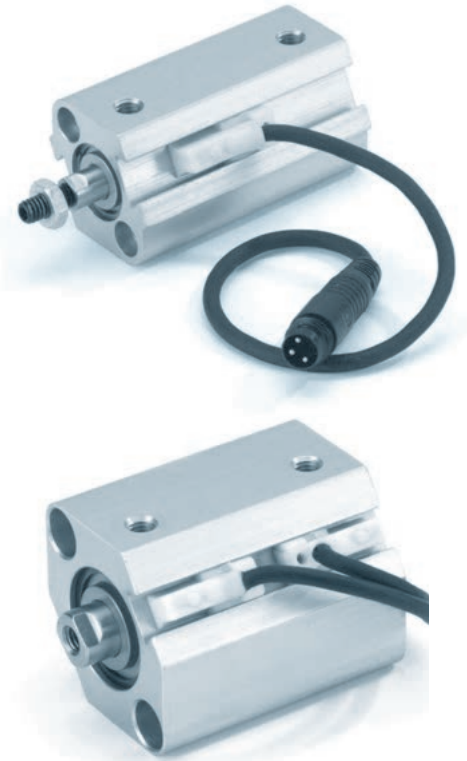
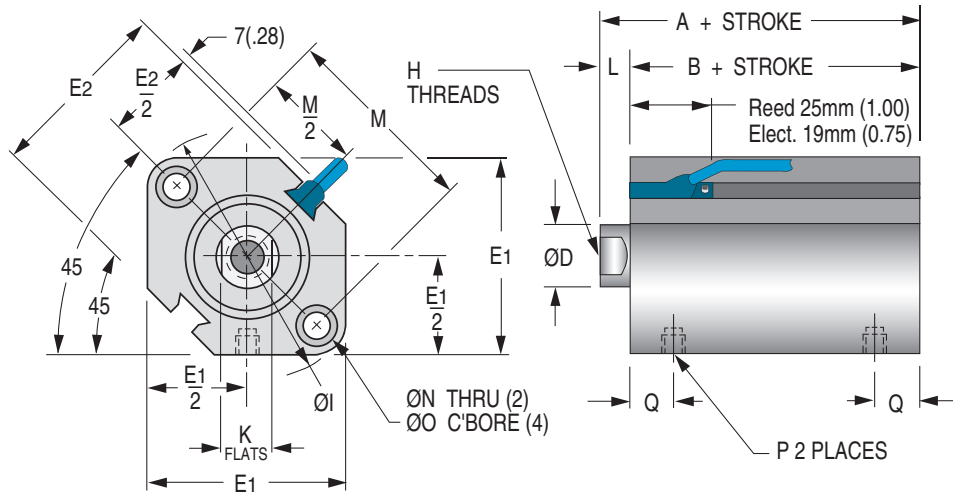


| Bore mm | O (THREADS) inch or metric | R inch or mm |
|---------|----------------------------|--------------|
| 12 | #8-32 or M4 x 0.7 | 0.43 or 11 |
| 16 | #8-32 or M4 x 0.7 | 0.43 or 11 |
| 20 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 25 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 32 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 40 | 1/4-20 or M6 x 1.0 | 0.75 or 19 |
| 50 | 5/16-18 or M8 x 1.25 | 0.75 or 19 |

| K | L | M | ØN | ØO | *P | Q | W | Z | Bore mm (Nom. Inch) |
|-----------|------------|-----------|------------|--------------------------------|--------|-------------|-------------|-------------|---------------------|
| 5 (0.20) | 3.5 (0.14) | 22 (0.87) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.0 (0.28) | - | - | 12 (1/2) |
| 6 (0.24) | 3.5 (0.14) | 28 (1.10) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.8 (0.31) | - | - | 16 (5/8) |
| 8 (0.31) | 4.5 (0.18) | 36 (1.42) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.1 (0.32) | - | - | 20 (3/4) |
| 10 (0.39) | 5 (0.20) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.4 (0.33) | - | - | 25 (1) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | 32 (1-1/4) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | 32 (1-1/4) |
| 14 (0.55) | 7 (0.28) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 9.2 (0.36) | 57.0 (2.24) | 17.8 (0.70) | 40 (1-1/2) |
| 17 (0.67) | 8 (0.31) | 50 (1.97) | 6.6 (0.26) | 11.0 x 8.0 dp (0.43 x 0.31 dp) | 1/4* | 10.5 (0.41) | 70.6 (2.78) | 22.2 (0.88) | 50 (2) |

Global Series™ Cylinders – Magnetic Piston

Ø12 - Ø25 mm Bores



Dimensional Data

Note 1- See page 4 for complete stroke availability
 Note 2- Chart dimensions are shown as mm (inches)

Sensors must be ordered separately. See page 37.

| Bore mm | Stroke mm | Long Stroke | | | Extended Stroke | | | |
|---------|-----------|-------------|-------------|------------|-----------------|-------------|-------------|------------|
| | | A | B | Q | Stroke mm | A | B | Q |
| 12 | - | - | - | - | 50, 75, 100 | 37.3 (1.47) | 33.8 (1.33) | 8.9 (.35) |
| 16 | - | - | - | - | 50, 75, 100 | 39.7 (1.56) | 36.2 (1.42) | 10.2 (.40) |
| 20 | - | - | - | - | 75, 100 | 46.1 (1.82) | 41.6 (1.64) | 12.1 (.48) |
| 25 | - | - | - | - | 75, 100 | 52.5 (2.07) | 47.5 (1.87) | 12.7 (.50) |
| 32 | 75, 100 | 40.0 (1.57) | 33.0 (1.30) | 8.7 (.34) | 125, 150 | 54.8 (2.16) | 47.8 (1.88) | 12.7 (.50) |
| 40 | 75, 100 | 46.5 (1.83) | 39.5 (1.56) | 9.2 (.36) | 125, 150 | 62.5 (2.46) | 55.5 (2.19) | 12.7 (.50) |
| 50 | 75, 100 | 48.5 (1.91) | 40.5 (1.59) | 10.5 (.41) | 125, 150 | 67.3 (2.65) | 59.3 (2.33) | 13.2 (.52) |
| 63 | 75, 100 | 54.0 (2.13) | 46.0 (1.81) | 11.5 (.45) | 125, 150 | 72.6 (2.86) | 64.6 (2.54) | 18.5 (.73) |
| 80 | 75, 100 | 63.5 (2.50) | 53.5 (2.11) | 14.0 (.55) | 125, 150 | 79.5 (3.13) | 69.5 (2.74) | 14.0 (.55) |
| 100 | 75, 100 | 75.0 (2.95) | 63.0 (2.48) | 18.0 (.71) | 125, 150 | 88.7 (3.49) | 76.7 (3.02) | 18.0 (.71) |

*** Port Size Offerings**
 See dim. column "P" below

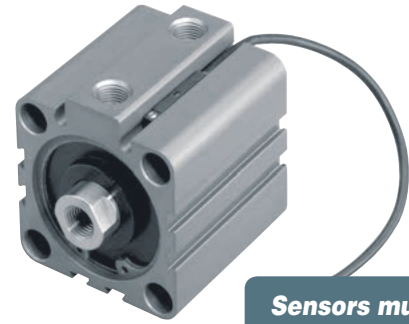
N- NPT ports, inch rod thread
 G- BSP parallel ports, metric rod thread
 P- BSPT taper ports, metric rod thread

Note: M5 x 0.8 port will accept #10-32 male thread fittings.

| Bore mm (Nom. Inch) | Stroke Range | A | B | ØD | E1 | E2 | H (Threads) x dp minimum inch or metric | ØI |
|---------------------|------------------|-------------|-------------|------------|--------------|-------------|---|--------------|
| 12 (1/2) | 5~30 (0.20~1.18) | 31.5 (1.24) | 28.0 (1.10) | 6 (0.236) | 25 (0.98) | 23 (0.90) | #8-32 x .21dp M3 x 0.5 - 5 dp | 31.5 (1.24) |
| 16 (5/8) | 5~30 (0.20~1.18) | 34.0 (1.34) | 30.5 (1.20) | 8 (0.315) | 29 (1.14) | 27.2 (1.07) | #8-32 x .21dp M4 x 0.7 - 5 dp | 37.1 (1.46) |
| 20 (3/4) | 5~50 (0.20~2.0) | 36.0 (1.42) | 31.5 (1.24) | 10 (0.394) | 36 (1.42) | 31.2 (1.23) | #10-32 x .28 dp M5 x 0.8 - 7 dp | 47 (1.85) |
| 25 (1) | 5~50 (0.20~2.0) | 37.5 (1.48) | 32.5 (1.28) | 12 (0.472) | 40 (1.57) | 36.9 (1.45) | 1/4-28 x .39 dp M6 x 1.0 - 10 dp | 51.3 (2.02) |
| 32 (1-1/4) | 5~50 (0.20~2.0) | 40.0 (1.57) | 33.0 (1.30) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| 40 (1-1/2) | 5~50 (0.20~2.0) | 46.5 (1.83) | 39.5 (1.56) | 16 (0.630) | 52 (2.05) | - | 3/8-24 x .50 dp M8 x 1.25 - 12 dp | 69 (2.72) |
| 50 (2) | 10~50 (0.39~2.0) | 48.5 (1.91) | 40.5 (1.59) | 20 (0.787) | 63.7 (2.51) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 84.9 (3.34) |
| 63 (2-1/2) | 10~50 (0.39~2.0) | 54.0 (2.13) | 46.0 (1.81) | 20 (0.787) | 76.7 (3.02) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 101.8 (4.01) |
| 80 (3-1/4) | 10~50 (0.39~2.0) | 63.5 (2.50) | 53.5 (2.11) | 25 (0.984) | 97.8 (3.85) | - | 5/8-18 x .88 dp M16 x 2.0 - 22 dp | 129.8 (5.11) |
| 100 (4) | 10~50 (0.39~2.0) | 75.0 (2.95) | 63.0 (2.48) | 30 (1.181) | 115.3 (4.54) | - | 3/4-16 x .88 dp M20 x 2.5 - 22 dp | 153.9 (6.06) |

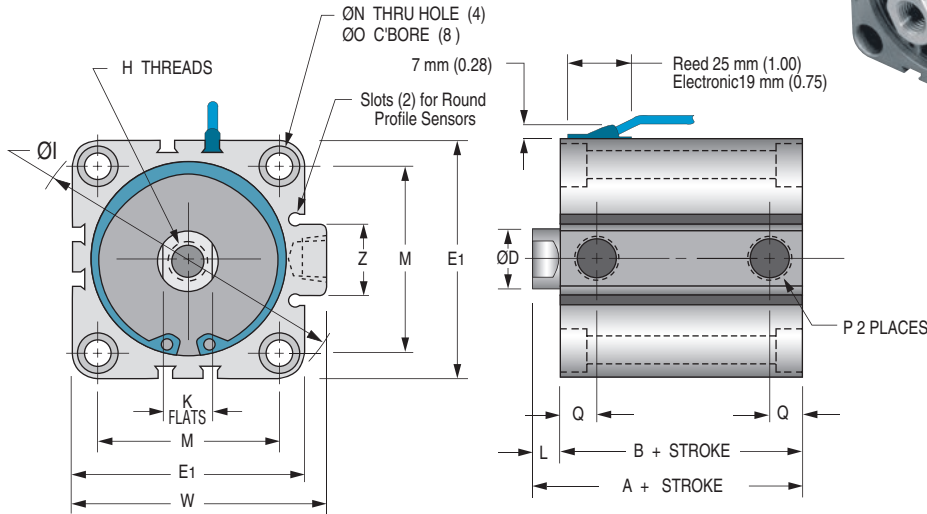
Double Acting, Single Rod Models

Ø32 - Ø100 mm Bores



Sensors must be ordered separately. See page 37.

Round Profile Sensor Shown



See page 37 for round profile sensors featuring surge suppression, polarity protection and LED indicator.

| Rod end male thread | | | |
|---------------------|---------------------|---|---------------|
| Bore mm | AF (HEX) inch or mm | HM (THREADS) inch or metric | LM inch or mm |
| 12 | .34 or 8 | #8-32 x .31 lg or M5 x 0.8 - 9 lg | 0.45 or 14.0 |
| 16 | .34 or 10 | #8-32 x .31 lg or M6 x 1.0 - 10 lg | 0.45 or 15.5 |
| 20 | .38 or 13 | #10-32 x .31 lg or M8 x 1.25 - 12 lg | 0.49 or 18.5 |
| 25 | .43 or 17 | 1/4-28 x .37 lg or M10 x 1.25 - 15 lg | 0.57 or 22.5 |
| 32 | .50 or 22 | 5/16-24 x .50 lg or M14 x 1.5 - 20.5 lg | 0.78 or 28.5 |
| 40 | .56 or 22 | 3/8-24 x .63 lg or M14 x 1.5 - 20.5 lg | 0.91 or 28.5 |
| 50 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 63 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 80 | .93 or 32 | 5/8-18 x 1.00 lg or M22 x 1.5 - 32.5 lg | 1.40 or 43.5 |
| 100 | 1.13 or 46 | 3/4-16 x 1.12 lg or M26 x 1.5 - 32.5 lg | 1.59 or 43.5 |

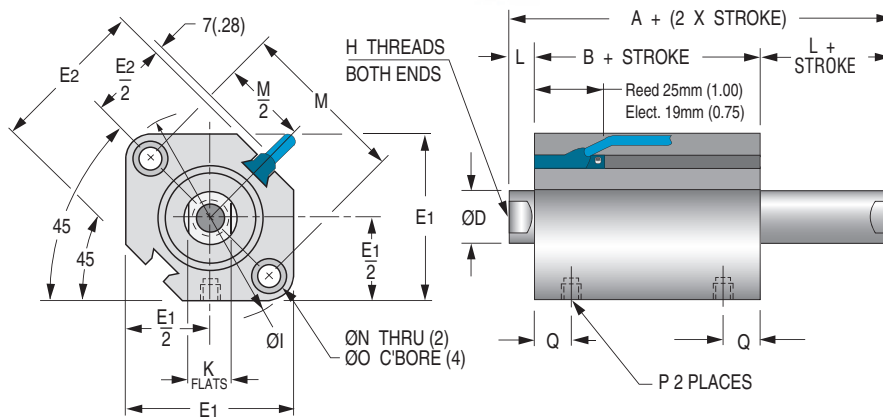
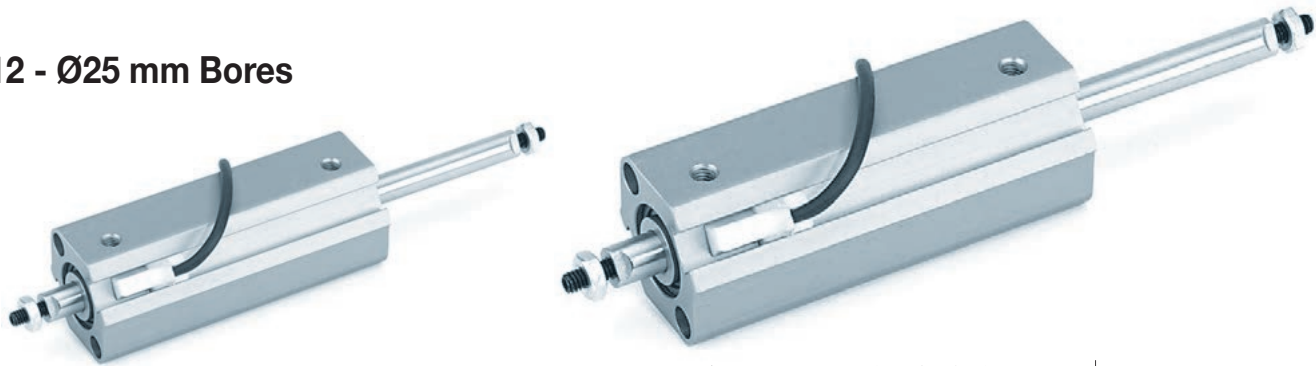
| Tapped hole mounting | | |
|----------------------|----------------------------|--------------|
| Bore mm | O (THREADS) inch or metric | R inch or mm |
| 12 | #8-32 or M4 x 0.7 | 0.43 or 11 |
| 16 | #8-32 or M4 x 0.7 | 0.43 or 11 |
| 20 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 25 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 32 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 40 | 1/4-20 or M6 x 1.0 | 0.75 or 19 |
| 50 | 5/16-18 or M8 x 1.25 | 0.75 or 19 |
| 63 | 7/16-14 or M10 x 1.5 | 0.87 or 22 |
| 80 | 1/2-13 or M12 x 1.75 | 1.13 or 29 |
| 100 | 1/2-13 or M12 x 1.75 | 1.13 or 29 |

Note: Inch threads for 'N' port code. Metric threads for 'G' & 'P' port codes. Metric for foot, flange, or clevis mount.

| K | L | M | ØN | ØO | *P | Q | W | Z | Bore mm (Nom. Inch) |
|-----------|------------|-----------|------------|---------------------------------|--------|-------------|--------------|-------------|---------------------|
| 5 (0.20) | 3.5 (0.14) | 22 (0.87) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.0 (0.28) | - | - | 12 (1/2) |
| 6 (0.24) | 3.5 (0.14) | 28 (1.10) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.8 (0.31) | - | - | 16 (5/8) |
| 8 (0.31) | 4.5 (0.18) | 36 (1.42) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.1 (0.32) | - | - | 20 (3/4) |
| 10 (0.39) | 5 (0.20) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.4 (0.33) | - | - | 25 (1) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | 32 (1-1/4) |
| 14 (0.55) | 7 (0.28) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 9.2 (0.36) | 57.0 (2.24) | 17.8 (0.70) | 40 (1-1/2) |
| 17 (0.67) | 8 (0.31) | 50 (1.97) | 6.6 (0.26) | 11.0 x 8.0 dp (0.43 x 0.31 dp) | 1/4* | 10.5 (0.41) | 70.6 (2.78) | 22.2 (0.88) | 50 (2) |
| 17 (0.67) | 8 (0.31) | 60 (2.36) | 9 (0.35) | 13.7 x 10.5 dp (0.54 x 0.41 dp) | 1/4* | 11.5 (0.45) | 83.6 (3.29) | 22.2 (0.88) | 63 (2-1/2) |
| 22 (0.87) | 10 (0.39) | 77 (3.03) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 14.0 (0.55) | 104 (4.09) | 27.0 (1.06) | 80 (3-1/4) |
| 27 (1.06) | 12 (0.47) | 94 (3.70) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 18.0 (0.71) | 121.9 (4.80) | 27.0 (1.06) | 100 (4) |

Global Series™ Cylinders – Magnetic Piston

Ø12 - Ø25 mm Bores



Dimensional Data

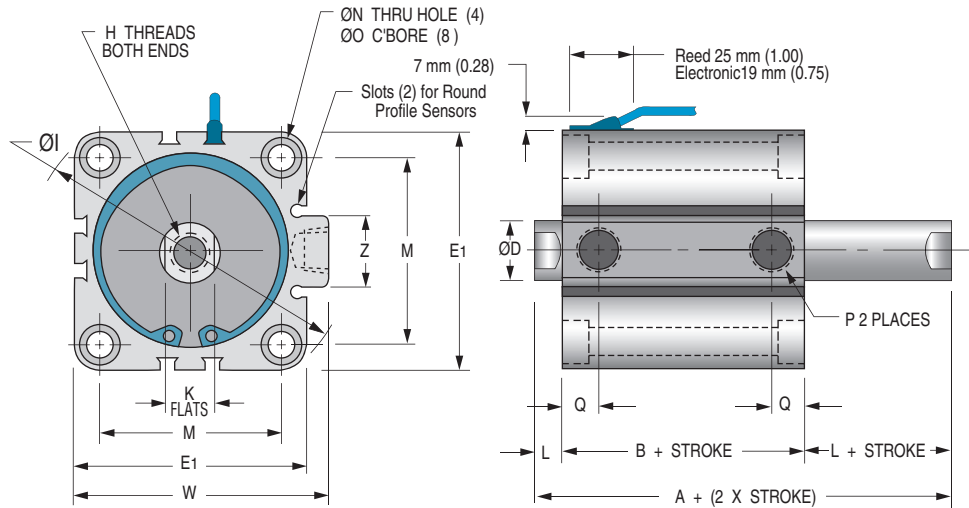
Note 1- See page 4 for complete stroke availability
 Note 2- Chart dimensions are shown as mm (inches)

| Bore mm | Long Stroke | | | | Extended Stroke | | | | Model Code 'T' | |
|---------|-------------|--------------|-------------|------------|-----------------|--------------|-------------|------------|----------------|-----------|
| | Stroke mm | A | B | Q | Stroke mm | A | B | Q | Bore | Hole Size |
| 12 | - | - | - | - | 50, 75, 100 | 40.8 (1.61) | 33.8 (1.33) | 8.9 (.35) | 12 | NA (NA) |
| 16 | - | - | - | - | 50, 75, 100 | 43.2 (1.70) | 36.2 (1.42) | 10.2 (.40) | 16 | 1.5 (.06) |
| 20 | - | - | - | - | 75, 100 | 50.6 (1.99) | 41.6 (1.64) | 12.1 (.48) | 20 | 1.5 (.06) |
| 25 | - | - | - | - | 75, 100 | 57.5 (2.26) | 47.5 (1.87) | 12.7 (.50) | 25 | 3.1 (.13) |
| 32 | 75, 100 | 61.8 (2.43) | 47.8 (1.88) | 12.7 (.50) | 125, 150 | 61.8 (2.43) | 47.8 (1.88) | 12.7 (.50) | 32 | 3.1 (.13) |
| 40 | 75, 100 | 69.5 (2.74) | 55.5 (2.19) | 12.7 (.50) | 125, 150 | 69.5 (2.74) | 55.5 (2.19) | 12.7 (.50) | 40 | 3.1 (.13) |
| 50 | 75, 100 | 75.3 (2.96) | 59.3 (2.33) | 13.2 (.52) | 125, 150 | 75.3 (2.96) | 59.3 (2.33) | 13.2 (.52) | 50 | 4.0 (.16) |
| 63 | 75, 100 | 80.6 (3.17) | 64.6 (2.54) | 18.5 (.73) | 125, 150 | 80.6 (3.17) | 64.6 (2.54) | 18.5 (.73) | 63 | 4.0 (.16) |
| 80 | 75, 100 | 89.5 (3.52) | 69.5 (2.74) | 14.0 (.55) | 125, 150 | 89.5 (3.52) | 69.5 (2.74) | 14.0 (.55) | 80 | 6.3 (.25) |
| 100 | 75, 100 | 100.7 (3.96) | 76.7 (3.02) | 18.0 (.71) | 125, 150 | 100.7 (3.96) | 76.7 (3.02) | 18.0 (.71) | 100 | 6.3 (.25) |

| Bore mm (Nom. Inch) | Stroke Range | A | B | ØD | E1 | E2 | H (Threads) x dp minimum inch or metric | ØI |
|---------------------|------------------|-------------|-------------|------------|--------------|-------------|---|--------------|
| 12 (1/2) | 5~30 (0.20~1.18) | 39.4 (1.55) | 32.4 (1.28) | 6 (0.236) | 25 (0.98) | 23 (0.90) | #8-32 x .21dp M3 x 0.5 - 5 dp | 31.5 (1.24) |
| 16 (5/8) | 5~30 (0.20~1.18) | 43.0 (1.69) | 36.0 (1.42) | 8 (0.315) | 29 (1.14) | 27.2 (1.07) | #8-32 x .21dp M4 x 0.7 - 5 dp | 37.1 (1.46) |
| 20 (3/4) | 5~50 (0.20~2.0) | 47.0 (1.85) | 38.0 (1.50) | 10 (0.394) | 36 (1.42) | 31.2 (1.23) | #10-32 x .28 dp M5 x 0.8 - 7 dp | 47 (1.85) |
| 25 (1) | 5~50 (0.20~2.0) | 49.0 (1.93) | 39 (1.54) | 12 (0.472) | 40 (1.57) | 36.9 (1.45) | 1/4-28 x .39 dp M6 x 1.0 - 10 dp | 51.3 (2.02) |
| 32 (1-1/4) | 5~50 (0.20~2.0) | 54.5 (2.15) | 40.5 (1.59) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| 40 (1-1/2) | 5~50 (0.20~2.0) | 64.0 (2.52) | 50.0 (1.97) | 16 (0.630) | 52 (2.05) | - | 3/8-24 x .50 dp M8 x 1.25 - 12 dp | 69 (2.72) |
| 50 (2) | 10~50 (0.39~2.0) | 66.5 (2.62) | 50.5 (1.99) | 20 (0.787) | 63.7 (2.51) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 84.9 (3.34) |
| 63 (2-1/2) | 10~50 (0.39~2.0) | 68.0 (2.68) | 52.0 (2.05) | 20 (0.787) | 76.7 (3.02) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 101.8 (4.01) |
| 80 (3-1/4) | 10~50 (0.39~2.0) | 81.0 (3.19) | 61.0 (2.40) | 25 (0.984) | 97.8 (3.85) | - | 5/8-18 x .88 dp M16 x 2.0 - 22 dp | 129.8 (5.11) |
| 100 (4) | 10~50 (0.39~2.0) | 94.5 (3.72) | 70.5 (2.78) | 30 (1.181) | 115.3 (4.54) | - | 3/4-16 x .88 dp M20 x 2.5 - 22 dp | 153.9 (6.06) |

Double Acting, Double Rod Models

Ø32 - Ø100 mm Bores



See page 37 for round profile sensors featuring surge suppression, polarity protection and LED indicator.

Sensors must be ordered separately. See page 37.

* Port Size Offerings

See dim. column "P" below

- N- NPT ports, inch rod thread
 - G- BSP parallel ports, metric rod thread
 - P- BSPT taper ports, metric rod thread
- Note: M5 x 0.8 port will accept #10-32 male thread fittings.

| Rod end male thread | | | |
|---------------------|---------------------|---|---------------|
| Bore mm | AF (HEX) inch or mm | HM (THREADS) inch or metric | LM inch or mm |
| 12 | .34 or 8 | #8-32 x .31 lg or M5 x 0.8 - 9 lg | 0.45 or 14.0 |
| 16 | .34 or 10 | #8-32 x .31 lg or M6 x 1.0 - 10 lg | 0.45 or 15.5 |
| 20 | .38 or 13 | #10-32 x .31 lg or M8 x 1.25 - 12 lg | 0.49 or 18.5 |
| 25 | .43 or 17 | 1/4-28 x .37 lg or M10 x 1.25 - 15 lg | 0.57 or 22.5 |
| 32 | .50 or 22 | 5/16-24 x .50 lg or M14 x 1.5 - 20.5 lg | 0.78 or 28.5 |
| 40 | .56 or 22 | 3/8-24 x .63 lg or M14 x 1.5 - 20.5 lg | 0.91 or 28.5 |
| 50 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 63 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 80 | .93 or 32 | 5/8-18 x 1.00 lg or M22 x 1.5 - 32.5 lg | 1.40 or 43.5 |
| 100 | 1.13 or 46 | 3/4-16 x 1.12 lg or M26 x 1.5 - 32.5 lg | 1.59 or 43.5 |

| Tapped hole mounting | | |
|----------------------|----------------------------|--------------|
| Bore mm | O (THREADS) inch or metric | R inch or mm |
| 12 | #8-32 or M4 x 0.7 | 0.43 or 11 |
| 16 | #8-32 or M4 x 0.7 | 0.43 or 11 |
| 20 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 25 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 32 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 40 | 1/4-20 or M6 x 1.0 | 0.75 or 19 |
| 50 | 5/16-18 or M8 x 1.25 | 0.75 or 19 |
| 63 | 7/16-14 or M10 x 1.5 | 0.87 or 22 |
| 80 | 1/2-13 or M12 x 1.75 | 1.13 or 29 |
| 100 | 1/2-13 or M12 x 1.75 | 1.13 or 29 |

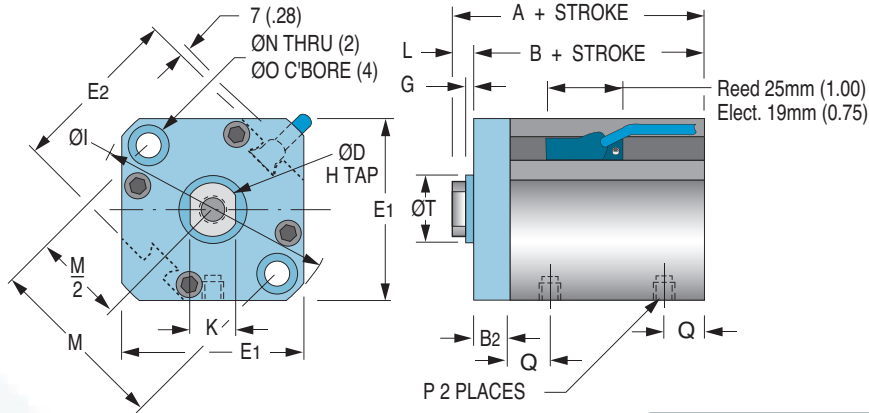
Note: Inch threads for 'N' port code. Metric threads for 'G' & 'P' port codes. Metric for foot or flange mount.

| K | L | M | ØN | ØO | *P | Q | W | Z | Bore mm (Nom. Inch) |
|-----------|------------|-----------|------------|---------------------------------|--------|-------------|--------------|-------------|---------------------|
| 5 (0.20) | 3.5 (0.14) | 22 (0.87) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.0 (0.28) | - | - | 12 (1/2) |
| 6 (0.24) | 3.5 (0.14) | 28 (1.10) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.8 (0.31) | - | - | 16 (5/8) |
| 8 (0.31) | 4.5 (0.18) | 36 (1.42) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.1 (0.32) | - | - | 20 (3/4) |
| 10 (0.39) | 5 (0.20) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.4 (0.33) | - | - | 25 (1) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | 32 (1-1/4) |
| 14 (0.55) | 7 (0.28) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 9.2 (0.36) | 57.0 (2.24) | 17.8 (0.70) | 40 (1-1/2) |
| 17 (0.67) | 8 (0.31) | 50 (1.97) | 6.6 (0.26) | 11.0 x 8.0 dp (0.43 x 0.31 dp) | 1/4* | 10.5 (0.41) | 70.6 (2.78) | 22.2 (0.88) | 50 (2) |
| 17 (0.67) | 8 (0.31) | 60 (2.36) | 9 (0.35) | 13.7 x 10.5 dp (0.54 x 0.41 dp) | 1/4* | 11.5 (0.45) | 83.6 (3.29) | 22.2 (0.88) | 63 (2-1/2) |
| 22 (0.87) | 10 (0.39) | 77 (3.03) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 14.0 (0.55) | 104 (4.09) | 27.0 (1.06) | 80 (3-1/4) |
| 27 (1.06) | 12 (0.47) | 94 (3.70) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 18.0 (0.71) | 121.9 (4.80) | 27.0 (1.06) | 100 (4) |

Global Series™ Cylinders – Magnetic Piston

Ø12 - Ø25 mm Bores

Sensors must be ordered separately. See page 37.



Rod flats (Dim. K) nominally in-line with ports

| Bore mm | B2 |
|---------|---------|
| 12 | 5 (.20) |
| 16 | 5 (.20) |
| 20 | 8 (.32) |
| 25 | 8 (.32) |

Warning
THIS CYLINDER HAS A NON-ROTATING ROD. TO PREVENT INTERNAL DAMAGE HOLD ROD BY FLATS ONLY WHEN FULLY RETRACTED WHILE INSTALLING OR REMOVING ATTACHMENTS. DO NOT SCRATCH OR DENT SHAFT.

Dimensional Data

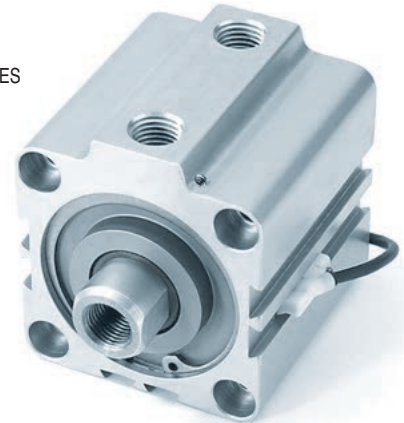
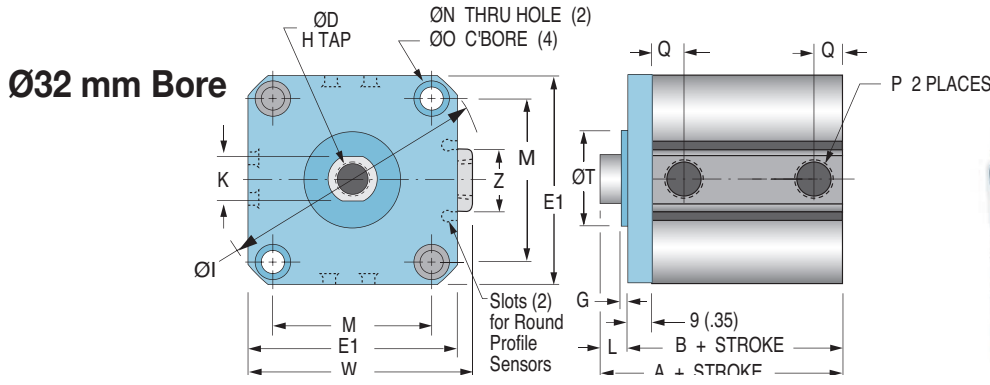
Note 1- See page 4 for complete stroke availability
Note 2- Chart dimensions are shown as mm (inches)

| Bore size | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
|--------------------------|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|
| Nonrotating rod accuracy | ±2° | ±1° | ±1° | ±1° | ±0.8° | ±0.8° | ±0.8° | ±0.8° | ±0.8° | ±0.8° |

| Bore mm | Long Stroke | | | | Stroke mm | | | | * Port Size Offerings See dim. column "P" below |
|---------|-------------|-------------|-------------|------------|-------------|-------------|-------------|------------|---|
| | Stroke mm | A | B | Q | Stroke mm | A | B | Q | |
| 12 | - | - | - | - | 50, 75, 100 | 42.3 (1.67) | 38.8 (1.53) | 8.9 (.35) | N- NPT ports, inch rod thread G- BSP parallel ports, metric rod thread P- BSPT taper ports, metric rod thread Note: M5 x 0.8 port will accept #10-32 male thread fittings. |
| 16 | - | - | - | - | 50, 75, 100 | 44.7 (1.76) | 41.2 (1.62) | 10.2 (.40) | |
| 20 | - | - | - | - | 75, 100 | 54.1 (2.13) | 49.6 (1.95) | 12.1 (.48) | |
| 25 | - | - | - | - | 75, 100 | 60.5 (2.38) | 55.5 (2.19) | 12.7 (.50) | |
| 32 | 75, 100 | 49.0 (1.93) | 42.0 (1.65) | 8.7 (.34) | 125, 150 | 63.8 (2.51) | 56.8 (2.24) | 12.7 (.50) | |
| 40 | 75, 100 | 46.5 (1.83) | 39.5 (1.56) | 9.2 (.36) | 125, 150 | 62.5 (2.46) | 55.5 (2.19) | 12.7 (.50) | |
| 50 | 75, 100 | 48.5 (1.91) | 40.5 (1.59) | 10.5 (.41) | 125, 150 | 67.3 (2.65) | 59.3 (2.33) | 13.2 (.52) | |
| 63 | 75, 100 | 54.0 (2.13) | 46.0 (1.81) | 11.5 (.45) | 125, 150 | 72.6 (2.86) | 64.6 (2.54) | 18.5 (.73) | |
| 80 | 75, 100 | 63.5 (2.50) | 53.5 (2.11) | 14.0 (.55) | 125, 150 | 79.5 (3.13) | 69.5 (2.74) | 14.0 (.55) | |
| 100 | 75, 100 | 75.0 (2.95) | 63.0 (2.48) | 18.0 (.71) | 125, 150 | 88.7 (3.49) | 76.7 (3.02) | 18.0 (.71) | |

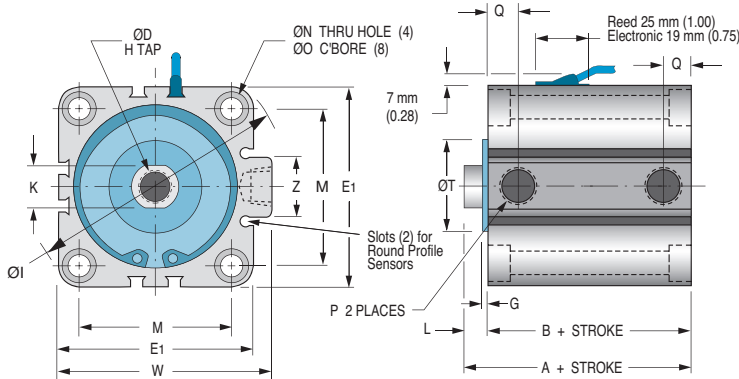
| Bore mm (Nom. Inch) | Stroke Range | A | B | ØD | E1 | E2 | H (Threads) x dp minimum inch or metric | ØI |
|---------------------|------------------|-------------|-------------|------------|--------------|-------------|---|--------------|
| 12 (1/2) | 5~30 (0.20~1.18) | 36.5 (1.44) | 33.0 (1.30) | 6 (0.236) | 25 (0.98) | 23 (0.90) | #8-32 x .21dp M3 x 0.5 - 5 dp | 31.5 (1.24) |
| 16 (5/8) | 5~30 (0.20~1.18) | 39.0 (1.54) | 35.5 (1.40) | 8 (0.315) | 29 (1.14) | 27.2 (1.07) | #8-32 x .21dp M4 x 0.7 - 5 dp | 37.1 (1.46) |
| 20 (3/4) | 5~50 (0.20~2.0) | 44.0 (1.73) | 39.5 (1.56) | 10 (0.394) | 36 (1.42) | 31.2 (1.23) | #10-32 x .28 dp M5 x 0.8 - 7 dp | 47 (1.85) |
| 25 (1) | 5~50 (0.20~2.0) | 45.5 (1.79) | 40.5 (1.59) | 12 (0.472) | 40 (1.57) | 36.9 (1.45) | 1/4-28 x .39 dp M6 x 1.0 - 10 dp | 51.3 (2.02) |
| 32 (1-1/4) | 5~50 (0.20~2.0) | 49.0 (1.93) | 42.0 (1.65) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| 40 (1-1/2) | 5~50 (0.20~2.0) | 46.5 (1.83) | 39.5 (1.56) | 16 (0.630) | 52 (2.05) | - | 3/8-24 x .50 dp M8 x 1.25 - 12 dp | 69 (2.72) |
| 50 (2) | 10~50 (0.39~2.0) | 48.5 (1.91) | 40.5 (1.59) | 20 (0.787) | 63.7 (2.51) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 84.9 (3.34) |
| 63 (2-1/2) | 10~50 (0.39~2.0) | 54.0 (2.13) | 46.0 (1.81) | 20 (0.787) | 76.7 (3.02) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 101.8 (4.01) |
| 80 (3-1/4) | 10~50 (0.39~2.0) | 63.5 (2.50) | 53.5 (2.11) | 25 (0.984) | 97.8 (3.85) | - | 5/8-18 x .88 dp M16 x 2.0 - 22 dp | 129.8 (5.11) |
| 100 (4) | 10~50 (0.39~2.0) | 75.0 (2.95) | 63.0 (2.48) | 30 (1.181) | 115.3 (4.54) | - | 3/4-16 x .88 dp M20 x 2.5 - 22 dp | 153.9 (6.06) |

Double Acting, Non-Rotating Piston Rod Models



Ø40- Ø100 mm Bores

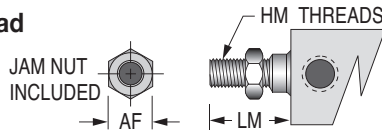
See page 37 for round profile sensors featuring surge suppression, polarity protection and LED indicator.



Rod flats (Dim. K) nominally in-line with ports

| Bore mm (Nom. Inch) | ØT | | G |
|---------------------|---------------|-------------------|-------------|
| 12 (1/2) | 15 +0/- 0.043 | (0.591 +0/-0.002) | 1.5 (0.059) |
| 16 (5/8) | 20 +0/- 0.052 | (0.787 +0/-0.002) | 1.5 (0.059) |
| 20 (3/4) | 13 +0/- 0.043 | (0.512 +0/-0.002) | 2.0 (0.079) |
| 25 (1) | 15 +0/- 0.043 | (0.591 +0/-0.002) | 2.0 (0.079) |
| 32 (1-1/4) | 21 +0/- 0.062 | (0.827 +0/-0.002) | 2.0 (0.079) |
| 40 (1-1/2) | 28 +0/- 0.062 | (1.102 +0/-0.002) | 2.0 (0.079) |
| 50 (2) | 35 +0/- 0.062 | (1.378 +0/-0.002) | 2.0 (0.079) |
| 63 (2-1/2) | 35 +0/- 0.062 | (1.378 +0/-0.002) | 2.0 (0.079) |
| 80 (3-1/4) | 43 +0/- 0.062 | (1.693 +0/-0.002) | 2.0 (0.079) |
| 100 (4) | 59 +0/- 0.074 | (2.323 +0/-0.003) | 2.0 (0.079) |

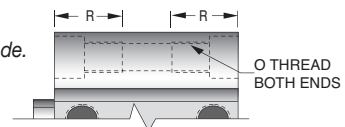
Rod end male thread



| Bore mm | AF (HEX) inch or mm | HM (THREADS) inch or metric | LM inch or mm |
|---------|---------------------|---|---------------|
| 12 | .34 or 8 | #8-32 x .31 lg or M5 x 0.8 - 9 lg | 0.45 or 14.0 |
| 16 | .34 or 10 | #8-32 x .31 lg or M6 x 1.0 - 10 lg | 0.45 or 15.5 |
| 20 | .38 or 13 | #10-32 x .31 lg or M8 x 1.25 - 12 lg | 0.49 or 18.5 |
| 25 | .43 or 17 | 1/4-28 x .37 lg or M10 x 1.25 - 15 lg | 0.57 or 22.5 |
| 32 | .50 or 22 | 5/16-24 x .50 lg or M14 x 1.5 - 20.5 lg | 0.78 or 28.5 |
| 40 | .56 or 22 | 3/8-24 x .63 lg or M14 x 1.5 - 20.5 lg | 0.91 or 28.5 |
| 50 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 63 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 80 | .93 or 32 | 5/8-18 x 1.00 lg or M22 x 1.5 - 32.5 lg | 1.40 or 43.5 |
| 100 | 1.13 or 46 | 3/4-16 x 1.12 lg or M26 x 1.5 - 32.5 lg | 1.59 or 43.5 |

Tapped hole mounting

Note: Inch threads for 'N' port code. Metric threads for 'G' & 'P' port codes. Metric for foot, flange, or clevis mount.



| Bore mm | O (THREADS) inch or metric | Places Front | RF inch or mm | Places Rear | RR inch or mm |
|---------|----------------------------|--------------|---------------|-------------|---------------|
| 12 | #8-32 or M4 x 0.7 | 2 | 0.63 or 16 | 2 | 0.43 or 11 |
| 16 | #8-32 or M4 x 0.7 | 2 | 0.63 or 16 | 2 | 0.43 or 11 |
| 20 | 1/4-20 or M6 x 1.0 | 2 | 0.98 or 25 | 2 | 0.67 or 17 |
| 25 | 1/4-20 or M6 x 1.0 | 2 | 0.98 or 25 | 2 | 0.67 or 17 |
| 32 | 1/4-20 or M6 x 1.0 | 2 | 1.02 or 26 | 4 | 0.67 or 17 |
| 40 | 1/4-20 or M6 x 1.0 | 4 | 0.75 or 19 | 4 | 0.75 or 19 |
| 50 | 5/16-18 or M8 x 1.25 | 4 | 0.75 or 19 | 4 | 0.75 or 19 |
| 63 | 7/16-14 or M10 x 1.5 | 4 | 0.87 or 22 | 4 | 0.87 or 22 |
| 80 | 1/2-13 or M12 x 1.75 | 4 | 1.13 or 29 | 4 | 1.13 or 29 |
| 100 | 1/2-13 or M12 x 1.75 | 4 | 1.13 or 29 | 4 | 1.13 or 29 |

| K | L | M | ØN | ØO | *P | Q | W | Z | Bore mm (Nom. Inch) |
|------------|------------|-----------|------------|---------------------------------|--------|-------------|--------------|-------------|---------------------|
| 5.2 (0.20) | 3.5 (0.14) | 22 (0.87) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.0 (0.28) | - | - | 12 (1/2) |
| 6 (0.24) | 3.5 (0.14) | 28 (1.10) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.8 (0.31) | - | - | 16 (5/8) |
| 8 (0.31) | 4.5 (0.18) | 36 (1.42) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.1 (0.32) | - | - | 20 (3/4) |
| 10 (0.39) | 5 (0.20) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.4 (0.33) | - | - | 25 (1) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | 32 (1-1/4) |
| 14 (0.55) | 7 (0.28) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 9.2 (0.36) | 57.0 (2.24) | 17.8 (0.70) | 40 (1-1/2) |
| 18 (0.71) | 8 (0.31) | 50 (1.97) | 6.6 (0.26) | 11.0 x 8.0 dp (0.43 x 0.31 dp) | 1/4* | 10.5 (0.41) | 70.6 (2.78) | 22.2 (0.88) | 50 (2) |
| 18 (0.71) | 8 (0.31) | 60 (2.36) | 9 (0.35) | 13.7 x 10.5 dp (0.54 x 0.41 dp) | 1/4* | 11.5 (0.45) | 83.6 (3.29) | 22.2 (0.88) | 63 (2-1/2) |
| 22 (0.87) | 10 (0.39) | 77 (3.03) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 14.0 (0.55) | 104 (4.09) | 27.0 (1.06) | 80 (3-1/4) |
| 27 (1.06) | 12 (0.47) | 94 (3.70) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 18.0 (0.71) | 121.9 (4.80) | 27.0 (1.06) | 100 (4) |

Global Series™ Cylinders – Magnetic Piston

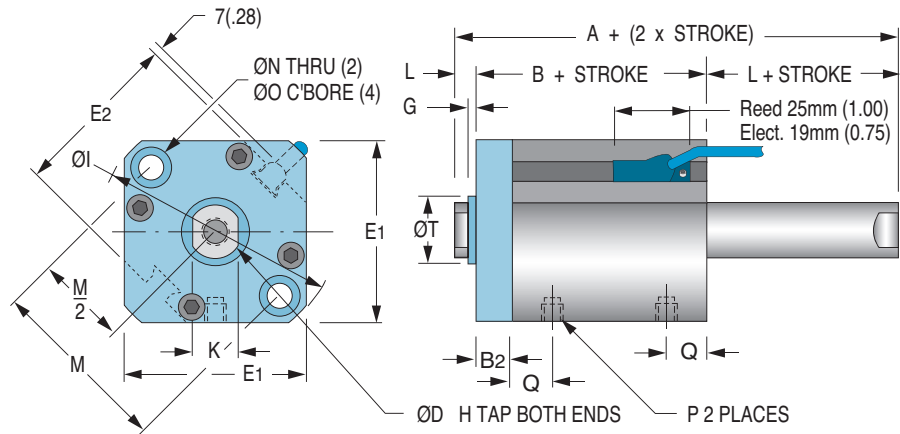
Warning

THIS CYLINDER HAS A NON-ROTATING ROD. TO PREVENT INTERNAL DAMAGE HOLD ROD BY FLATS ONLY WHEN FULLY RETRACTED WHILE INSTALLING OR REMOVING ATTACHMENTS. DO NOT SCRATCH OR DENT SHAFT.

Sensors must be ordered separately. See page 37.



Ø12 - Ø25 mm Bores



Rod flats (Dim. K) nominally in-line with ports

| Bore mm | B2 |
|---------|---------|
| 12 | 5 (.20) |
| 16 | 5 (.20) |
| 20 | 8 (.32) |
| 25 | 8 (.32) |

Dimensional Data

Note 1- See page 4 for complete stroke availability
 Note 2- Chart dimensions are shown as mm (inches)

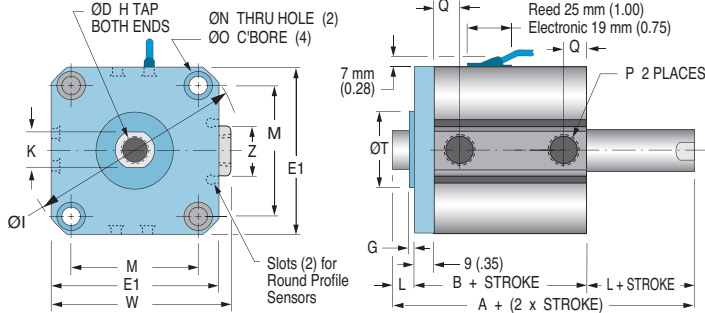
| Bore size | 12 | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
|--------------------------|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|
| Nonrotating rod accuracy | ±2° | ±1° | ±1° | ±1° | ±0.8° | ±0.8° | ±0.8° | ±0.8° | ±0.8° | ±0.8° |

| Bore mm | Stroke mm | Long Stroke | | | Extended Stroke | | | Model Code 'M' | | |
|---------|-----------|--------------|-------------|------------|-----------------|--------------|-------------|----------------|------|-----------|
| | | A | B | Q | Stroke mm | A | B | Q | Bore | Hole Size |
| 12 | - | - | - | - | 50, 75, 100 | 45.8 (1.80) | 38.8 (1.53) | 8.9 (.35) | 12 | NA (NA) |
| 16 | - | - | - | - | 50, 75, 100 | 48.2 (1.90) | 41.2 (1.62) | 10.2 (.40) | 16 | 1.5 (.06) |
| 20 | - | - | - | - | 75, 100 | 58.6 (2.31) | 49.6 (1.95) | 12.1 (.48) | 20 | 1.5 (.06) |
| 25 | - | - | - | - | 75, 100 | 65.5 (2.58) | 55.5 (2.19) | 12.7 (.50) | 25 | 3.1 (.13) |
| 32 | 75, 100 | 70.8 (2.79) | 56.8 (2.24) | 12.7 (.50) | 125, 150 | 70.8 (2.79) | 56.8 (2.24) | 12.7 (.50) | 32 | 3.1 (.13) |
| 40 | 75, 100 | 69.5 (2.74) | 55.5 (2.19) | 12.7 (.50) | 125, 150 | 69.5 (2.74) | 55.5 (2.19) | 12.7 (.50) | 40 | 3.1 (.13) |
| 50 | 75, 100 | 75.3 (2.96) | 59.3 (2.33) | 13.2 (.52) | 125, 150 | 75.3 (2.96) | 59.3 (2.33) | 13.2 (.52) | 50 | 4.0 (.16) |
| 63 | 75, 100 | 80.6 (3.17) | 64.6 (2.54) | 18.5 (.73) | 125, 150 | 80.6 (3.17) | 64.6 (2.54) | 18.5 (.73) | 63 | 4.0 (.16) |
| 80 | 75, 100 | 89.5 (3.52) | 69.5 (2.74) | 14.0 (.55) | 125, 150 | 89.5 (3.52) | 69.5 (2.74) | 14.0 (.55) | 80 | 6.3 (.25) |
| 100 | 75, 100 | 100.7 (3.96) | 76.7 (3.02) | 18.0 (.71) | 125, 150 | 100.7 (3.96) | 76.7 (3.02) | 18.0 (.71) | 100 | 6.3 (.25) |

| Bore mm (Nom. Inch) | Stroke Range | A | B | ØD | E1 | E2 | H (Threads) x dp minimum inch or metric | ØI |
|---------------------|------------------|-------------|-------------|------------|--------------|-------------|---|--------------|
| 12 (1/2) | 5~30 (0.20~1.18) | 44.4 (1.75) | 37.4 (1.47) | 6 (0.236) | 25 (0.98) | 23 (0.90) | #8-32 x .21dp M3 x 0.5 - 5 dp | 31.5 (1.24) |
| 16 (5/8) | 5~30 (0.20~1.18) | 48.0 (1.89) | 41.0 (1.61) | 8 (0.315) | 29 (1.14) | 27.2 (1.07) | #8-32 x .21dp M4 x 0.7 - 5 dp | 37.1 (1.46) |
| 20 (3/4) | 5~50 (0.20~2.0) | 55.0 (2.17) | 46.0 (1.81) | 10 (0.394) | 36 (1.42) | 31.2 (1.23) | #10-32 x .28 dp M5 x 0.8 - 7 dp | 47 (1.85) |
| 25 (1) | 5~50 (0.20~2.0) | 57.0 (2.24) | 47.0 (1.85) | 12 (0.472) | 40 (1.57) | 36.9 (1.45) | 1/4-28 x .39 dp M6 x 1.0 - 10 dp | 51.3 (2.02) |
| 32 (1-1/4) | 5~50 (0.20~2.0) | 63.5 (2.50) | 49.5 (1.95) | 16 (0.630) | 44.5 (1.75) | - | 5/16-24 x .50 dp M8 x 1.25 - 12 dp | 58.9 (2.32) |
| 40 (1-1/2) | 5~50 (0.20~2.0) | 64.0 (2.52) | 50.0 (1.97) | 16 (0.630) | 52 (2.05) | - | 3/8-24 x .50 dp M8 x 1.25 - 12 dp | 69 (2.72) |
| 50 (2) | 10~50 (0.39~2.0) | 66.5 (2.62) | 50.5 (1.99) | 20 (0.787) | 63.7 (2.51) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 84.9 (3.34) |
| 63 (2-1/2) | 10~50 (0.39~2.0) | 68.0 (2.68) | 52.0 (2.05) | 20 (0.787) | 76.7 (3.02) | - | 1/2-20 x .50 dp M10 x 1.5 - 12 dp | 101.8 (4.01) |
| 80 (3-1/4) | 10~50 (0.39~2.0) | 81.0 (3.19) | 61.0 (2.40) | 25 (0.984) | 97.8 (3.85) | - | 5/8-18 x .88 dp M16 x 2.0 - 22 dp | 129.8 (5.11) |
| 100 (4) | 10~50 (0.39~2.0) | 94.5 (3.72) | 70.5 (2.78) | 30 (1.181) | 115.3 (4.54) | - | 3/4-16 x .88 dp M20 x 2.5 - 22 dp | 153.9 (6.06) |

Double Acting, Double Rod, Nonrotating Piston Rod Models

Ø32 mm Bore



Rod flats (Dim. K) nominally in-line with ports

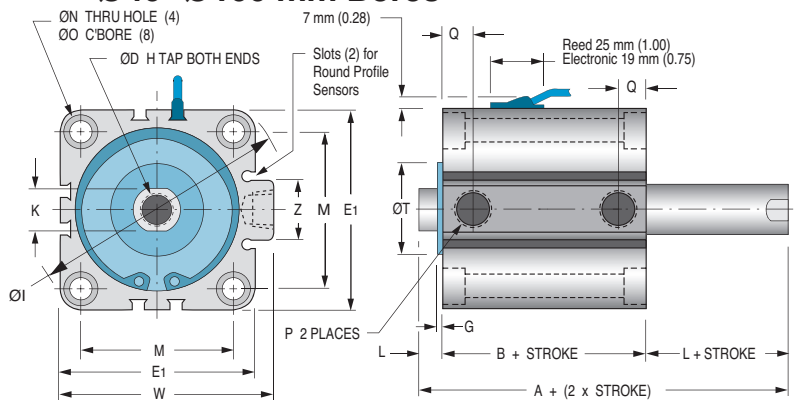
* Port Size Offerings

See dim. column "P" below

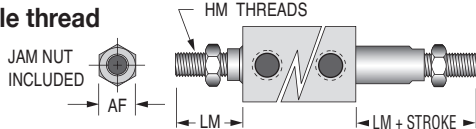
- N- NPT ports, inch rod thread
 - G- BSP parallel ports, metric rod thread
 - P- BSPT taper ports, metric rod thread
- Note: M5 x 0.8 port will accept #10-32 male thread fittings.

See page 37 for round profile sensors featuring surge suppression, polarity protection and LED indicator.

Ø40- Ø100 mm Bores

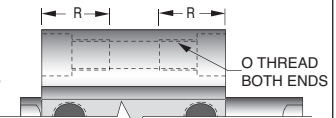


Rod end male thread



Tapped hole mounting

Note: Inch threads for 'N' port code.
Metric threads for 'G' & 'P' port codes.
Metric for foot, flange, or clevis mount.



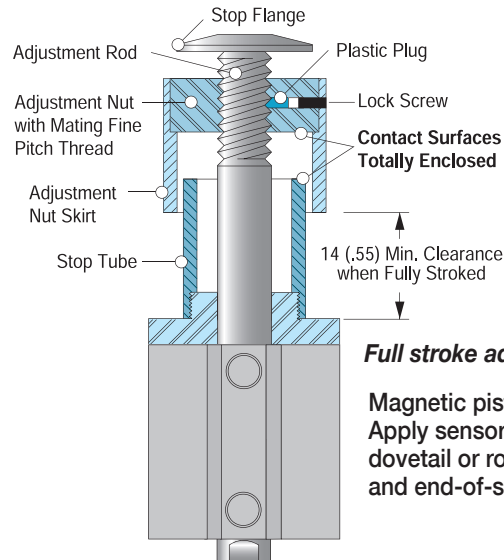
| Bore mm | AF (HEX) inch or mm | HM (THREADS) inch or metric | LM inch or mm |
|---------|------------------------|---|------------------|
| 12 | .34 or 8 | #8-32 x .31 lg or M5 x 0.8 - 9 lg | 0.45 or 14.0 |
| 16 | .34 or 10 | #8-32 x .31 lg or M6 x 1.0 - 10 lg | 0.45 or 15.5 |
| 20 | .38 or 13 | #10-32 x .31 lg or M8 x 1.25 - 12 lg | 0.49 or 18.5 |
| 25 | .43 or 17 | 1/4-28 x .37 lg or M10 x 1.25 - 15 lg | 0.57 or 22.5 |
| 32 | .50 or 22 | 5/16-24 x .50 lg or M14 x 1.5 - 20.5 lg | 0.78 or 28.5 |
| 40 | .56 or 22 | 3/8-24 x .63 lg or M14 x 1.5 - 20.5 lg | 0.91 or 28.5 |
| 50 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 63 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 80 | .93 or 32 | 5/8-18 x 1.00 lg or M22 x 1.5 - 32.5 lg | 1.40 or 43.5 |
| 100 | 1.13 or 46 | 3/4-16 x 1.12 lg or M26 x 1.5 - 32.5 lg | 1.59 or 43.5 |

| Bore mm | O (THREADS) inch or metric | Places | | Places | |
|---------|-------------------------------|--------|------------|--------|------------|
| | | Front | inch or mm | Rear | inch or mm |
| 12 | #8-32 or M4 x 0.7 | 2 | 0.63 or 16 | 2 | 0.43 or 11 |
| 16 | #8-32 or M4 x 0.7 | 2 | 0.63 or 16 | 2 | 0.43 or 11 |
| 20 | 1/4-20 or M6 x 1.0 | 2 | 0.98 or 25 | 2 | 0.67 or 17 |
| 25 | 1/4-20 or M6 x 1.0 | 2 | 0.98 or 25 | 2 | 0.67 or 17 |
| 32 | 1/4-20 or M6 x 1.0 | 2 | 1.02 or 26 | 4 | 0.67 or 17 |
| 40 | 1/4-20 or M6 x 1.0 | 4 | 0.75 or 19 | 4 | 0.75 or 19 |
| 50 | 5/16-18 or M8 x 1.25 | 4 | 0.75 or 19 | 4 | 0.75 or 19 |
| 63 | 7/16-14 or M10 x 1.5 | 4 | 0.87 or 22 | 4 | 0.87 or 22 |
| 80 | 1/2-13 or M12 x 1.75 | 4 | 1.13 or 29 | 4 | 1.13 or 29 |
| 100 | 1/2-13 or M12 x 1.75 | 4 | 1.13 or 29 | 4 | 1.13 or 29 |

| K | L | M | ØN | ØO | *P | Q | W | Z | Bore mm (Nom. Inch) |
|------------|------------|-----------|------------|---------------------------------|--------|-------------|--------------|-------------|---------------------|
| 5.2 (0.20) | 3.5 (0.14) | 22 (0.87) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.0 (0.28) | - | - | 12 (1/2) |
| 6 (0.24) | 3.5 (0.14) | 28 (1.10) | 3.5 (0.14) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 7.8 (0.31) | - | - | 16 (5/8) |
| 8 (0.31) | 4.5 (0.18) | 36 (1.42) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.1 (0.32) | - | - | 20 (3/4) |
| 10 (0.39) | 5 (0.20) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.4 (0.33) | - | - | 25 (1) |
| 14 (0.55) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 8.7 (0.34) | 49.3 (1.94) | 16.5 (0.65) | 32 (1-1/4) |
| 14 (0.55) | 7 (0.28) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 9.2 (0.36) | 57.0 (2.24) | 17.8 (0.70) | 40 (1-1/2) |
| 18 (0.71) | 8 (0.31) | 50 (1.97) | 6.6 (0.26) | 11.0 x 8.0 dp (0.43 x 0.31 dp) | 1/4* | 10.5 (0.41) | 70.6 (2.78) | 22.2 (0.88) | 50 (2) |
| 18 (0.71) | 8 (0.31) | 60 (2.36) | 9 (0.35) | 13.7 x 10.5 dp (0.54 x 0.41 dp) | 1/4* | 11.5 (0.45) | 83.6 (3.29) | 22.2 (0.88) | 63 (2-1/2) |
| 22 (0.87) | 10 (0.39) | 77 (3.03) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 14.0 (0.55) | 104 (4.09) | 27.0 (1.06) | 80 (3-1/4) |
| 27 (1.06) | 12 (0.47) | 94 (3.70) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 18.0 (0.71) | 121.9 (4.80) | 27.0 (1.06) | 100 (4) |

Global Series™ Cylinders – Magnetic Piston

Precision Stroke Adjustment Emphasizing Operator Safety



Full stroke adjustment on all strokes.

Magnetic piston is a standard feature. Apply sensors (ordered separately) to dovetail or round slots for mid-stroke and end-of-stroke sensing.

Adjustable Extend Stroke Cylinders – Fabco-Air's popular Dial-A-Stroke® adjustment assembly is now available on Global Series™ Cylinders to provide a rugged, precision adjustment of the cylinder extend stroke.

Cylinders are offered in double acting models in bore sizes of 32mm through 100mm with full stroke adjustment.

Magnetic pistons are included for use with any of the electronic or reed sensors. Sensors must be ordered separately. See page 37.

Operator Safety –

The stop tube, adjustment nut with skirt, and minimum clearances combine to eliminate pinch points.

Construction –

The stop tube is black anodized aluminum – the adjustment nut is blackened steel with a black anodized aluminum skirt – the stop flange is red anodized aluminum: all for corrosion resistance and appearance.

The adjustment nut, steel for long life, includes a lock screw with a plastic plug so the adjustment nut can be locked in place without damaging the threads. Precision adjustment is achieved with fine pitch threads on the adjustment rod.

The stop flange is mounted on the end of the adjustment rod so the nut will not come off.

Adjustment –

Adjustment settings are simplified by the convenient scale markings. Bores 32 and 40 have a 1/2-20 thread giving .050" (1.3mm) adjustment per nut revolution. Bores 50 and larger have a 3/4-16 thread giving .063" (1.6mm) adjustment per revolution.

Note - Chart dimensions are shown as mm (inches)

How to Order

(See page 9 - model codes A & AK; see page 29 - mounting codes.)

Example 1: To order a 63mm bore, 75mm stroke unit with Dial-a-Stroke®, NPT ports, and rod end tap mount, specify

Model No. GND-AA063-075D

Example 2: Also available with non-rotating rod; use body length 'B' dimension from page 26, tapped hole mounting information from page 27 and insert the non-rotating rod Code 'K' in model number. To order 63mm bore, 75mm stroke, nonrotating rod, with Dial-a-Stroke®, NPT ports, and ISO flange specify

Model No. GND-AKG063-075D

Note – When ordering units with flange or foot mounts, the rod stickout (Dim. "L") increases per dimension on pages 31 or 32.

Dimensional Data

| BORE mm (Nom. Inch) | STROKE mm | | ØD | E1 | H (THREADS) inch or metric | ØI | K | L | M |
|------------------------|-----------------|------------------------|------------|--------------|------------------------------------|--------------|-----------|-----------|-----------|
| | 15, 25, 50 B | 75, 100, 125, 150 B | | | | | | | |
| 32 (1-1/4) | 40.5 (1.59) | 47.8 (1.88) | 16 (0.630) | 44.5 (1.75) | 5/16-24 x .52 dp M8 x 1.25 – 13 dp | 58.9 (2.32) | 14 (0.55) | 7 (0.28) | 34 (1.34) |
| 40 (1-1/2) | 50.0 (1.97) | 55.5 (2.19) | 16 (0.630) | 52 (2.05) | 3/8-24 x .72 dp M8 x 1.25 – 13 dp | 69.0 (2.72) | 14 (0.55) | 7 (0.28) | 40 (1.57) |
| 50 (2) | 50.5 (1.99) | 59.3 (2.33) | 20 (0.787) | 63.7 (2.51) | 1/2-20 x .69 dp M10 x 1.5 – 12 dp | 84.9 (3.34) | 17 (0.67) | 8 (0.31) | 50 (1.97) |
| 63 (2-1/2) | 52.0 (2.05) | 64.6 (2.54) | 20 (0.787) | 76.7 (3.02) | 1/2-20 x .69 dp M10 x 1.5 – 12 dp | 101.8 (4.01) | 17 (0.67) | 8 (0.31) | 60 (2.36) |
| 80 (3-1/4) | 61.0 (2.40) | 69.5 (2.74) | 25 (0.984) | 97.8 (3.85) | 5/8-18 x .96 dp M16 x 2.0 – 21 dp | 129.8 (5.11) | 22 (0.87) | 10 (0.39) | 77 (3.03) |
| 100 (4) | 70.5 (2.78) | 76.7 (3.02) | 30 (1.181) | 115.3 (4.54) | 3/4-16 x 1.06 dp M20 x 2.5 – 30 dp | 153.9 (6.06) | 27 (1.06) | 12 (0.47) | 94 (3.70) |

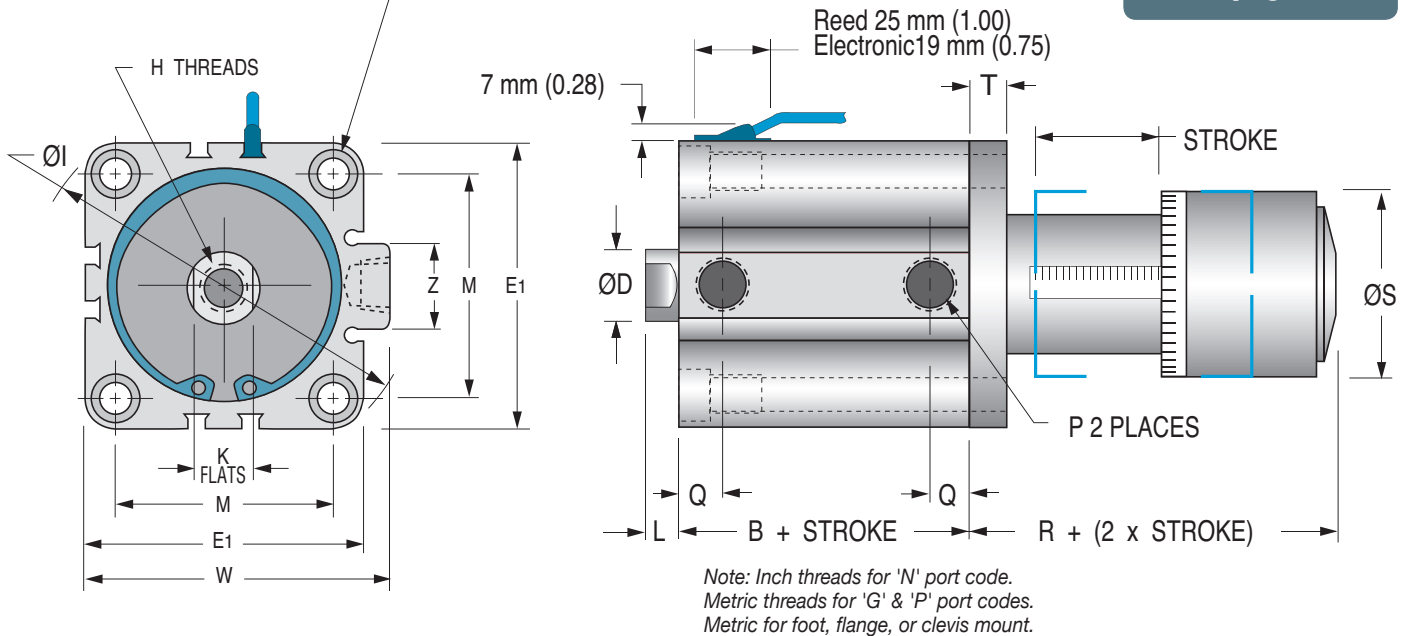
Dial-A-Stroke® Adjustable Extend Stroke Models

Ø32 - Ø100 mm Bores

Standard mounting – Code "A" Tapped Holes
 4 places useable at rod end only.
 Also includes 2 thru holes ØN w/c'bore ØO
 Optional mounting – See "How to Order" note page 28.
 Code "E" Front Flange
 Code "G" ISO Front Flange
 Code "L" Foot Mount
Note! ! Use caution when mounting to avoid creating pinch points with other parts of your machinery

Also available with Nonrotating rod. See page 28 example 2.

Sensors must be ordered separately. See page 37.



| Rod end male thread | | | |
|---------------------|---------------------|---|---------------|
| BORE mm | AF (HEX) inch or mm | HM (THREADS) inch or metric | LM inch or mm |
| 32 | .50 or 22 | 5/16-24 x .50 lg or M14 x 1.5 - 20.5 lg | 0.78 or 28.5 |
| 40 | .56 or 22 | 3/8-24 x .63 lg or M14 x 1.5 - 20.5 lg | 0.91 or 28.5 |
| 50 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 63 | .75 or 27 | 1/2-20 x .77 lg or M18 x 1.5 - 26 lg | 1.08 or 33.5 |
| 80 | .93 or 32 | 5/8-18 x 1.00 lg or M22 x 1.5 - 32.5 lg | 1.40 or 43.5 |
| 100 | 1.13 or 46 | 3/4-16 x 1.12 lg or M26 x 1.5 - 32.5 lg | 1.59 or 43.5 |

| Tapped hole mounting | | |
|----------------------|----------------------------|---------------|
| Bore mm | O (THREADS) inch or metric | RF inch or mm |
| 32 | 1/4-20 or M6 x 1.0 | 0.67 or 17 |
| 40 | 1/4-20 or M6 x 1.0 | 0.75 or 19 |
| 50 | 5/16-18 or M8 x 1.25 | 0.75 or 19 |
| 63 | 7/16-14 or M10 x 1.5 | 0.87 or 22 |
| 80 | 1/2-13 or M12 x 1.75 | 1.13 or 29 |
| 100 | 1/2-13 or M12 x 1.75 | 1.13 or 29 |

*** Port Size Offerings**
 See dim. column "P" below

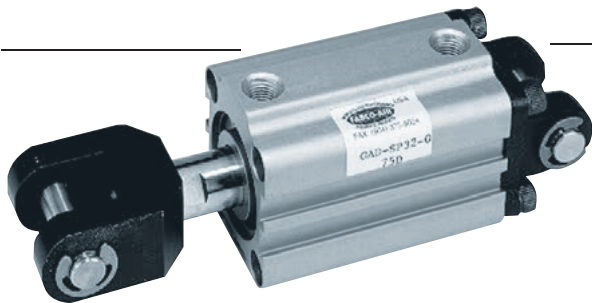
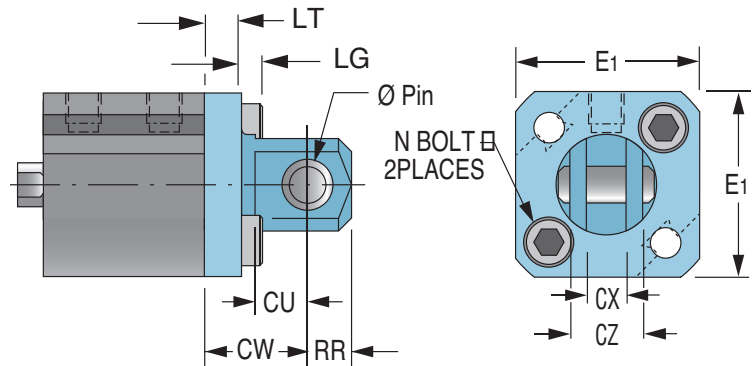
N- NPT ports, inch rod thread
 G- BSP parallel ports, metric rod thread
 P- BSPT taper ports, metric rod thread

| ØN | ØO | *P | STROKE mm | | R | ØS | T | W | Z | Bore mm (Nom. Inch) |
|------------|---------------------------------|------|--------------|---------------------|-------------|------------|------------|-------------|-------------|---------------------|
| | | | 15, 25, 50 Q | 75, 100, 125, 150 Q | | | | | | |
| 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 8.7 (0.34) | 12.7 (0.50) | 41.1 (1.62) | 38 (1.5) | 7.6 (.30) | 49.3 (1.94) | 16.5 (0.65) | 32 (1-1/4) |
| 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 9.2 (0.36) | 12.7 (0.50) | 41.1 (1.62) | 38 (1.5) | 7.6 (.30) | 57.0 (2.24) | 17.8 (0.70) | 40 (1-1/2) |
| 6.6 (0.26) | 11.0 x 8.0 dp (0.43 x 0.31 dp) | 1/4* | 10.5 (0.41) | 13.2 (0.52) | 53.6 (2.11) | 50.8 (2.0) | 12.0 (.47) | 70.6 (2.78) | 22.2 (0.88) | 50 (2) |
| 9 (0.35) | 13.7 x 10.5 dp (0.54 x 0.41 dp) | 1/4* | 11.5 (0.45) | 18.5 (0.73) | 52.6 (2.07) | 50.8 (2.0) | 11.0 (.43) | 83.6 (3.29) | 22.2 (0.88) | 63 (2-1/2) |
| 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 14.0 (0.55) | 14.0 (0.55) | 56.6 (2.23) | 50.8 (2.0) | 15.0 (.59) | 104 (4.09) | 27.0 (1.06) | 80 (3-1/4) |
| 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 18.0 (0.71) | 18.0 (0.71) | 65.1 (2.56) | 50.8 (2.0) | 15.0 (.59) | 121.9(4.80) | 27.0 (1.06) | 100 (4) |

Global Series™ Cylinders – Rear Clevis Mount

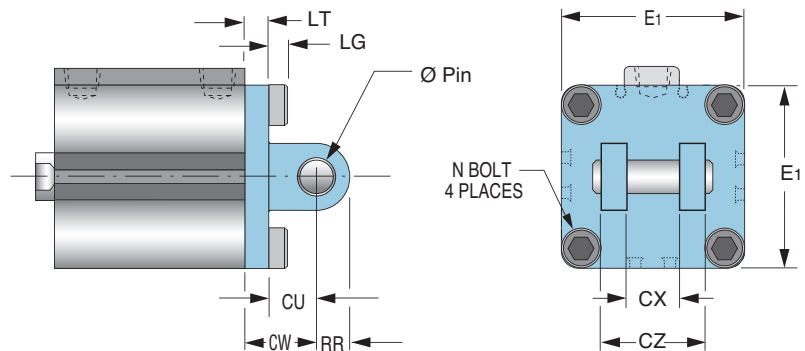


Ø12 - Ø25 mm Bores



Ø32 - Ø100 mm Bores

Note: All clevis mounts attach to cylinder body with metric size socket cap screws

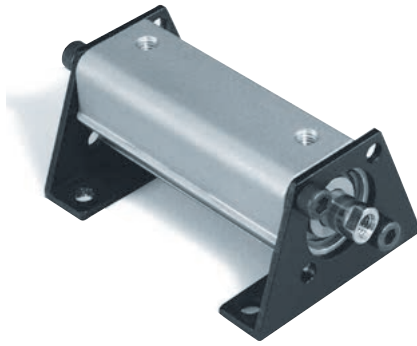


Note:
Pin diameter will be inch size for cylinders with port code 'N' and mm size for cylinders with port code 'G' or 'P'.

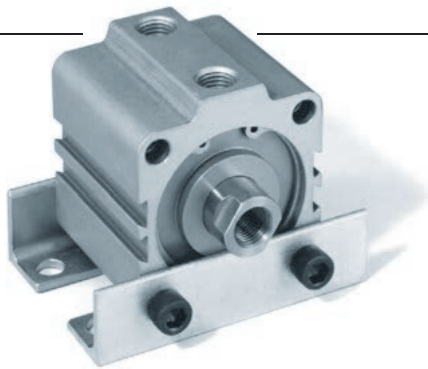
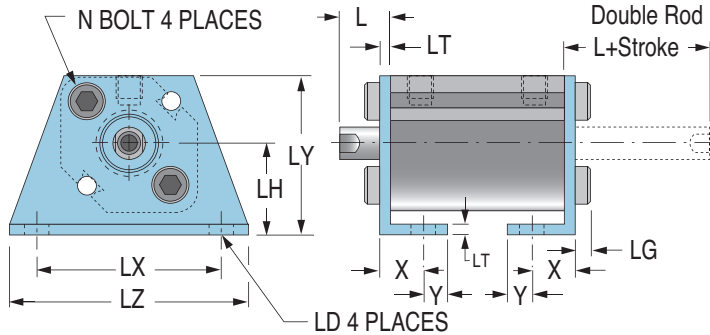
| Bore mm | N BOLT |
|---------|----------|
| 12 | M4x0.7 |
| 16 | M4x0.7 |
| 20 | M6x1.0 |
| 25 | M6x1.0 |
| 32 | M6x1.0 |
| 40 | M6x1.0 |
| 50 | M8x1.25 |
| 63 | M10x1.5 |
| 80 | M12x1.75 |
| 100 | M12x1.75 |

Rear Clevis Mount Dimensions

| Bore mm (Nom. Inch) | Ø Pin Nominal mm or inch | CW | CU | CX | CZ | LT | LG | RR | E1 |
|---------------------|--------------------------|-----------|------------|-------------|-----------|-----------|------------|------------|--------------|
| 12 (1/2) | 5 or .187 | 14 (0.55) | 7.0 (0.28) | 5.3 (0.21) | 10 (0.39) | 5 (0.20) | 2.8 (0.11) | 6.0 (0.24) | 25 (0.98) |
| 16 (5/8) | 5 or .187 | 15 (0.59) | 10 (0.39) | 6.8 (0.27) | 12 (0.47) | 5 (0.20) | 2.8 (0.11) | 6.0 (0.24) | 29 (1.14) |
| 20 (3/4) | 8 or .312 | 18 (0.71) | 12 (0.47) | 8.3 (0.33) | 16 (0.63) | 5 (0.20) | 4.0 (0.16) | 9.0 (0.35) | 36 (1.42) |
| 25 (1) | 10 or .375 | 20 (0.79) | 14 (0.55) | 10.3 (0.41) | 20 (0.79) | 5 (0.20) | 4.0 (0.16) | 10 (0.39) | 40 (1.57) |
| 32 (1-1/4) | 10 or .375 | 20 (0.79) | 14 (0.55) | 18.3 (0.72) | 36 (1.42) | 6 (0.24) | 4.0 (0.16) | 10 (0.39) | 44.5 (1.75) |
| 40 (1-1/2) | 10 or .375 | 22 (0.87) | 14 (0.55) | 18.3 (0.72) | 36 (1.42) | 8 (0.31) | 4.0 (0.16) | 10 (0.39) | 52 (2.05) |
| 50 (2) | 14 or .500 | 28 (1.10) | 20 (0.79) | 22.3 (0.88) | 44 (1.73) | 8 (0.31) | 5.0 (0.20) | 14 (0.55) | 63.7 (2.51) |
| 63 (2-1/2) | 14 or .500 | 30 (1.18) | 20 (0.79) | 22.3 (0.88) | 44 (1.73) | 10 (0.39) | 6.0 (0.24) | 14 (0.55) | 76.7 (3.02) |
| 80 (3-1/4) | 18 or .750 | 38 (1.50) | 27 (1.07) | 28.3 (1.11) | 56 (2.20) | 11 (0.43) | 7.0 (0.28) | 18 (0.71) | 97.8 (3.85) |
| 100 (4) | 22 or .875 | 45 (1.77) | 31 (1.22) | 32.3 (1.27) | 64 (2.52) | 14 (0.55) | 7.0 (0.28) | 22 (0.87) | 115.3 (4.54) |

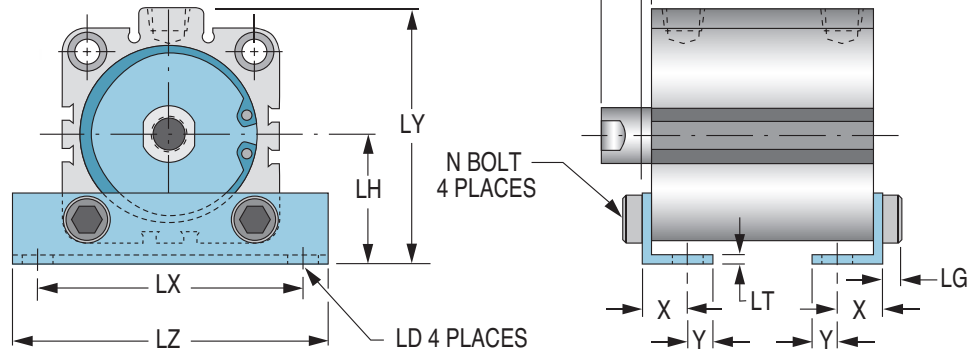


Ø12 - Ø25 mm Bores



Ø32 - Ø100 mm Bores

Note: All feet attach to cylinder body with metric size socket cap screws



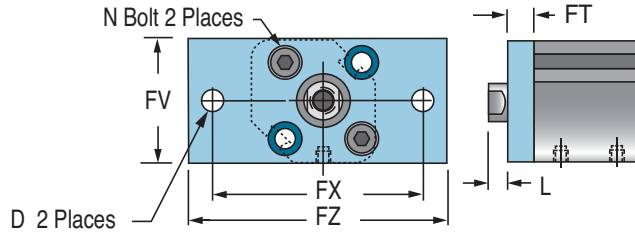
| Bore mm | N BOLT |
|---------|----------|
| 12 | M4x0.7 |
| 16 | M4x0.7 |
| 20 | M6x1.0 |
| 25 | M6x1.0 |
| 32 | M6x1.0 |
| 40 | M6x1.0 |
| 50 | M8x1.25 |
| 63 | M10x1.5 |
| 80 | M12x1.75 |
| 100 | M12x1.75 |

Foot Mount Dimensions

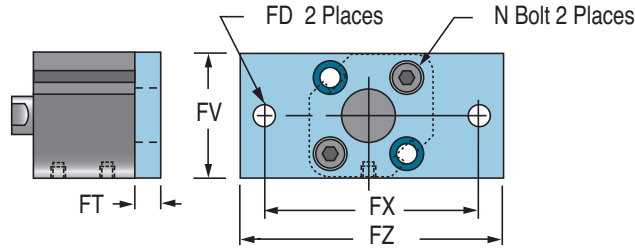
| Bore mm (Nom. Inch) | LD | LH | LX | LY | LZ | L | LT | X | Y | LG |
|---------------------|------------|-----------|------------|-------------|------------|-------------|------------|-------------|-------------|------------|
| 12 (1/2) | 4.5 (0.18) | 17 (0.67) | 34 (1.34) | 29.5 (1.16) | 44 (1.73) | 13.5 (0.53) | 2 (0.08) | 8 (0.31) | 4.5 (0.18) | 2.8 (0.11) |
| 16 (5/8) | 4.5 (0.18) | 19 (0.75) | 38 (1.50) | 33.5 (1.32) | 48 (1.89) | 13.5 (0.53) | 2 (0.08) | 8 (0.31) | 5.0 (0.20) | 2.8 (0.11) |
| 20 (3/4) | 6.6 (0.26) | 24 (0.94) | 48 (1.89) | 42.0 (1.65) | 62 (2.44) | 14.5 (0.57) | 3.2 (0.13) | 9.2 (0.36) | 5.8 (0.23) | 4.0 (0.16) |
| 25 (1) | 6.6 (0.26) | 26 (1.02) | 52 (2.05) | 46.0 (1.81) | 66 (2.60) | 15 (0.59) | 3.2 (0.13) | 10.7 (0.42) | 5.8 (0.23) | 4.0 (0.16) |
| 32 (1-1/4) | 6.6 (0.26) | 30 (1.18) | 57 (2.24) | 57.0 (2.24) | 71 (2.80) | 17 (0.67) | 3.2 (0.13) | 11.2 (0.44) | 5.8 (0.23) | 4.0 (0.16) |
| 40 (1-1/2) | 6.6 (0.26) | 33 (1.30) | 64 (2.52) | 64.0 (2.52) | 78 (3.07) | 17 (0.67) | 3.2 (0.13) | 11.2 (0.44) | 7.0 (0.28) | 4.0 (0.16) |
| 50 (2) | 9.0 (0.35) | 39 (1.54) | 79 (3.11) | 78.0 (3.07) | 95 (3.74) | 18 (0.71) | 3.2 (0.13) | 14.7 (0.58) | 8.0 (0.31) | 5.0 (0.20) |
| 63 (2-1/2) | 11 (0.43) | 46 (1.81) | 95 (3.74) | 91.5 (3.60) | 113 (4.45) | 18 (0.71) | 3.2 (0.13) | 16.2 (0.64) | 9.0 (0.35) | 6.0 (0.24) |
| 80 (3-1/4) | 13 (0.51) | 59 (2.32) | 118 (4.65) | 114 (4.49) | 140 (5.51) | 20 (0.79) | 4.5 (0.18) | 19.5 (0.77) | 11.0 (0.43) | 7.0 (0.28) |
| 100 (4) | 13 (0.51) | 71 (2.80) | 137 (5.39) | 136 (5.35) | 162 (6.38) | 22 (0.87) | 6.0 (0.24) | 23 (0.91) | 12.5 (0.49) | 7.0 (0.28) |

Global Series™ Cylinders – Flange Mounts

Front Flange Ø12 - Ø25 mm Bores

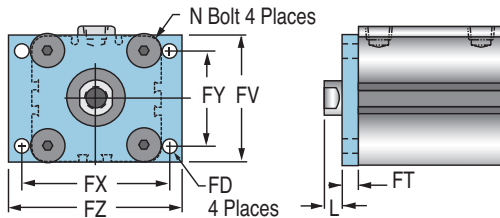


Rear Flange Ø12 - Ø25 mm Bores

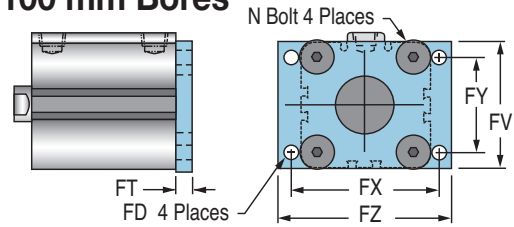


Note: All flanges attach to cylinder body with metric size flat head socket screws

Front Flange Ø32 - Ø100 mm Bores



Rear Flange Ø32 - Ø100 mm Bores



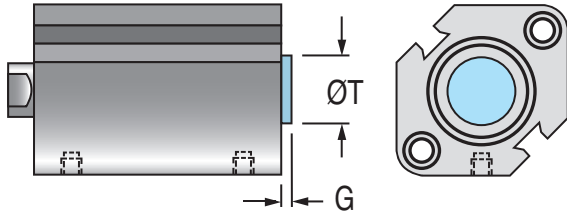
Flange Mount Dimensions

| Bore mm | ISO Rectangular Flange Dimensions | | | | |
|---------|-----------------------------------|-----------|------------|------------|------------|
| | FD | FY | FX | FV | FZ |
| 12 | 5.5 (0.22) | - | 40 (1.57) | 25 (0.98) | 50 (1.97) |
| 16 | 5.5 (0.22) | - | 40 (1.57) | 30 (1.18) | 50 (1.97) |
| 20 | 6.6 (0.26) | - | 50 (1.97) | 39 (1.54) | 62 (2.44) |
| 25 | 6.6 (0.26) | - | 50 (1.97) | 42 (1.65) | 62 (2.44) |
| 32 | 7 (0.28) | 32 (1.26) | 64 (2.52) | 48 (1.89) | 76 (2.99) |
| 40 | 9 (0.35) | 36 (1.42) | 72 (2.83) | 54 (2.13) | 88 (3.47) |
| 50 | 9 (0.35) | 45 (1.77) | 90 (3.54) | 67 (2.64) | 106 (4.17) |
| 63 | 9 (0.35) | 50 (1.97) | 100 (3.94) | 80 (3.15) | 116 (4.57) |
| 80 | 12 (0.47) | 63 (2.48) | 126 (4.96) | 99 (3.90) | 150 (5.91) |
| 100 | 14 (0.55) | 75 (2.95) | 150 (5.91) | 117 (4.61) | 178 (7.01) |

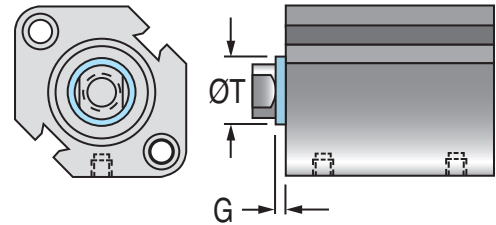
| Bore mm (Nom. Inch) | Interchange (Non-ISO) Flange Dimensions | | | | | | | |
|------------------------|---|------------|------------|------------|-----------|------------|------------|------------|
| | FT | L | N Bolt | FD | FY | FX | FV | FZ |
| 12 (1/2) | 5.5 (0.22) | 8.0 (0.31) | M4 x 0.7 | 4.5 (0.18) | - | 45 (1.77) | 25 (0.98) | 55 (2.17) |
| 16 (5/8) | 5.5 (0.22) | 8.0 (0.31) | M4 x 0.7 | 4.5 (0.18) | - | 45 (1.77) | 30 (1.18) | 55 (2.17) |
| 20 (3/4) | 8 (0.31) | 6.5 (0.26) | M6 x 1.0 | 6.6 (0.26) | - | 48 (1.89) | 39 (1.54) | 60 (2.36) |
| 25 (1) | 8 (0.31) | 7.0 (0.28) | M6 x 1.0 | 6.6 (0.26) | - | 52 (2.05) | 42 (1.65) | 64 (2.52) |
| 32 (1-1/4) | 8 (0.31) | 9.0 (0.35) | M6 x 1.0 | 5.5 (0.22) | 34 (1.34) | 56 (2.20) | 48 (1.89) | 65 (2.56) |
| 40 (1-1/2) | 8 (0.31) | 9.0 (0.35) | M6 x 1.0 | 5.5 (0.22) | 40 (1.57) | 62 (2.44) | 54 (2.13) | 72 (2.83) |
| 50 (2) | 9 (0.35) | 9.0 (0.35) | M8 x 1.25 | 6.6 (0.26) | 50 (1.97) | 76 (2.99) | 67 (2.64) | 89 (3.50) |
| 63 (2-1/2) | 9 (0.35) | 9.0 (0.35) | M10 x 1.5 | 9 (0.35) | 60 (2.36) | 92 (3.62) | 80 (3.15) | 108 (4.25) |
| 80 (3-1/4) | 11 (0.43) | 9.0 (0.35) | M12 x 1.75 | 11 (0.43) | 77 (3.03) | 116 (4.57) | 99 (3.90) | 134 (5.28) |
| 100 (4) | 11 (0.43) | 11 (0.43) | M12 x 1.75 | 11 (0.43) | 94 (3.70) | 136 (5.35) | 117 (4.61) | 154 (6.06) |

- Front & Rear Boss Mounts

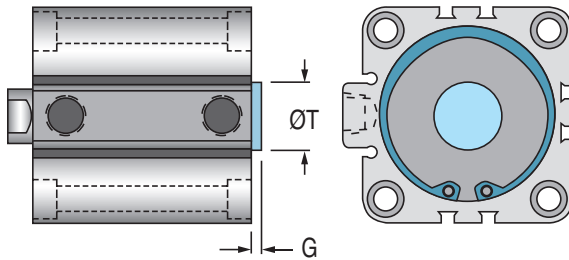
Rear Boss Ø12 - Ø25 mm Bores



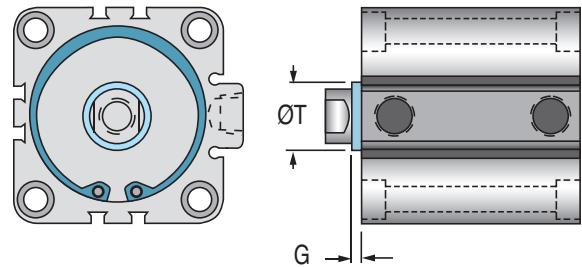
Front Boss Ø12 - Ø25 mm Bores



Rear Boss Ø32 - Ø100 mm Bores



Front Boss Ø32 - Ø100 mm Bores



Boss Mount Dimensions

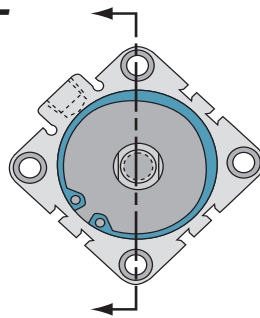
| Bore mm (Nom. Inch) | ØT | G |
|------------------------|---------------------------------|-------------|
| 12 (1/2) | 15 +0/- 0.043 (0.591 +0/-0.002) | 1.5 (0.059) |
| 16 (5/8) | 20 +0/- 0.052 (0.787 +0/-0.002) | 1.5 (0.059) |
| 20 (3/4) | 13 +0/- 0.043 (0.512 +0/-0.002) | 2.0 (0.079) |
| 25 (1) | 15 +0/- 0.043 (0.591 +0/-0.002) | 2.0 (0.079) |
| 32 (1-1/4) | 21 +0/- 0.062 (0.827 +0/-0.002) | 2.0 (0.079) |
| 40 (1-1/2) | 28 +0/- 0.062 (1.102 +0/-0.002) | 2.0 (0.079) |
| 50 (2) | 35 +0/- 0.062 (1.378 +0/-0.002) | 2.0 (0.079) |
| 63 (2-1/2) | 35 +0/- 0.062 (1.378 +0/-0.002) | 2.0 (0.079) |
| 80 (3-1/4) | 43 +0/- 0.062 (1.693 +0/-0.002) | 2.0 (0.079) |
| 100 (4) | 59 +0/- 0.074 (2.323 +0/-0.003) | 2.0 (0.079) |

Global Series™ Cylinders

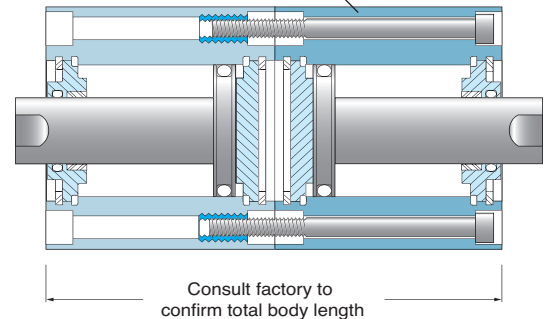
Back-to-Back Cylinders – Option XC10

Note 1: Available double acting only
Note 2: Magnetic piston body style "D" includes magnet in both cylinder sections

To order specify the desired strokes with a slash between the 3-digit stroke codes, then follow model number with option suffix -XC10



Tie bolts are used in all holes



Consult factory to confirm total body length

1. **Ordering Example** – Global Series, NPT ports, magnetic piston, 40mm bore, dual strokes of 30 and 50mm, bumpers both ends and male rod ends.
The Model Number is: GND – SB040 – 030 – B – M / – 050D – B – M – XC10
2. A non-rotating rod can be fitted to one section. The position of "K" model code determines the stroke of the non-rotating rod cylinder section.

Example: GNN – SKB040 – 030/050D – XC10

"S" Indicates 30 stroke single rod

"K" indicates 50 stroke non-rotating rod

Tandem Cylinders – Option XC11 & XC12

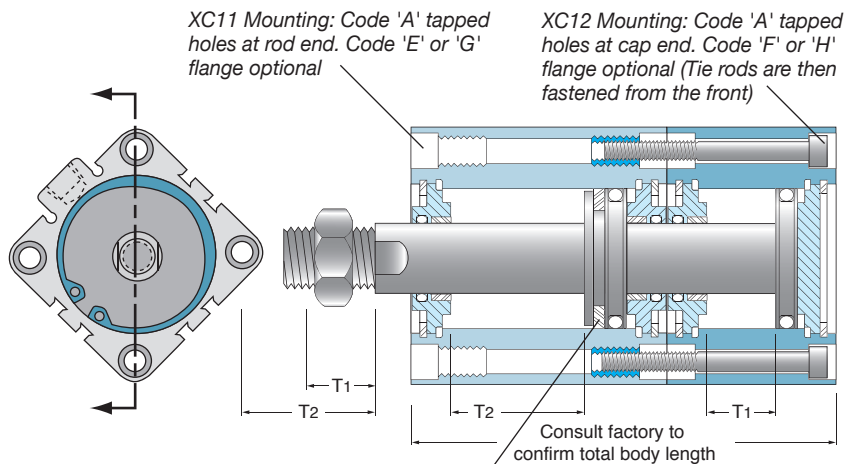
Note: Available double acting only

Tandem cylinders are generally used when three distinct rod positions are required. Two cylinders are assembled tip-to-tail with bolts threaded into the rear tapped mounting holes of the forward cylinder.

Using cylinders with two different strokes (the shorter located on the rear cylinder), enables a single rod to be extended to a positive mid-position or to full extension.

To order specify the desired strokes with a slash between the 3-digit stroke codes, then follow model number with option suffix -XC11 or -XC12

Note: More than three positions can be obtained by assembling multiple cylinders together. Please consult the factory for these special requirements.



XC11 Mounting: Code 'A' tapped holes at rod end. Code 'E' or 'G' flange optional

XC12 Mounting: Code 'A' tapped holes at cap end. Code 'F' or 'H' flange optional (Tie rods are then fastened from the front)

Consult factory to confirm total body length

When a single magnetic piston is ordered, it is applied in the forward cylinder

Ordering Example – Global Series, BSPT ports, with single magnetic piston, 63mm bore, dual strokes of 75 and 100mm, and male rod thread.

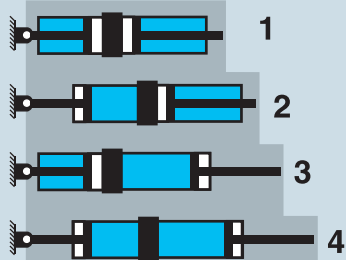
The Model Number is: GPD – SA063 – 075/100D – M – XC11

When magnets and bumpers are required in both forward and rear cylinders, and tapped holes are required at cap end, order as

GPDD – SA063 – 075 – B/100D – B – M – XC12

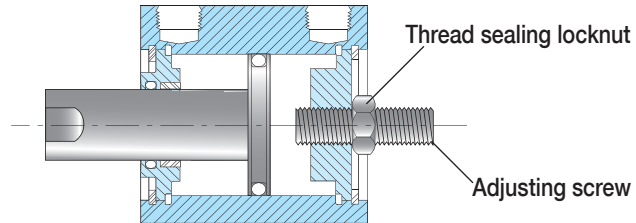
- Cylinder Options and Universal Seal Kits

4 Position Application



- Pressure applied to piston
- Open to atmosphere

Adjustable Retract Stroke – Option RS Available on Bores 20mm and Larger



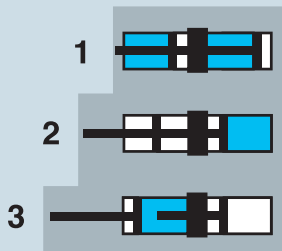
An adjusting screw with a thread sealing locknut mounted in a thick rear cover provides a simple, yet rugged adjustment of the cylinder stroke in the retract direction. The fine thread of the adjusting screw provides precision adjustment. Bores 20, 25 and 32mm have a 5/16-24 thread giving .042" (1.1mm) adjustment per revolution. Bores 40 thru 100mm have a 1/2-20 thread giving .050" (1.3mm) adjustment.

The adjustable retract stroke option is available on 20mm bores and larger for any stroke. Standard adjustment is up to and including 25mm.

For over 25mm adjustment specify adjustment length after the option designation RS.

Example:
for 50mm adjustment the option designation becomes RS-50

3 Position Application



- Pressure applied to piston
- Open to atmosphere

Viton Seals – Option V

For elevated temperatures from -26C° to 204C° (-15F° to +400° F) or for compatibility with hostile media. Consult engineering for compatibility information.

Universal Seal Kits – For single and double rod cylinders and adjustable stroke models. Nonrotating rod seals are available separately. Seals for options are available on request.

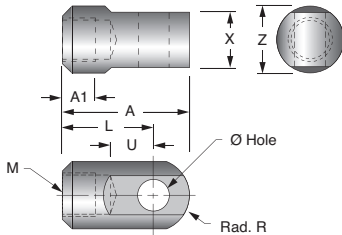
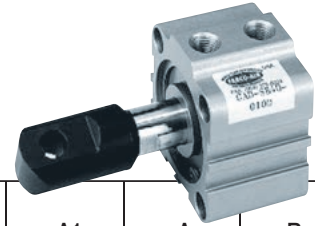
| Bore | Seal Kit | | Non-Rotating Rod Seal |
|------|-----------|------------|-----------------------|
| | Buna N | Viton | Buna or Viton |
| 12 | G12 - SK | G12 - SKV | G12 - DDS - 6V |
| 16 | G16 - SK | G16 - SKV | G16 - DDS - 8V |
| 20 | G20 - SK | G20 - SKV | G20 - DDS - 10V |
| 25 | G25 - SK | G25 - SKV | G25 - DDS - 12V |
| 32 | G32 - SK | G32 - SKV | G32 - DDS - 16V |
| 40 | G40 - SK | G40 - SKV | G32 - DDS - 16V |
| 50 | G50 - SK | G50 - SKV | G50 - DDS - 20V |
| 63 | G63 - SK | G63 - SKV | G50 - DDS - 20V |
| 80 | G80 - SK | G80 - SKV | G80 - DDS - 25V |
| 100 | G100 - SK | G100 - SKV | G100 - DDS - 30V |

Global Series™ Cylinders – Accessories

Rod Eye – To order a Rod Eye use the Prefix **RE-** followed by the thread size.

Example: For a 25mm bore cylinder the inch rod threads are 1/4-28.
The Rod Eye Part Number is **RE-1/4-28**

For #8-32 size, follow with -12 or -16 for bore. **Example: RE-8-32-16**



Note:
Hole diameter will be inch size for items with inch thread and mm size for items with metric thread.

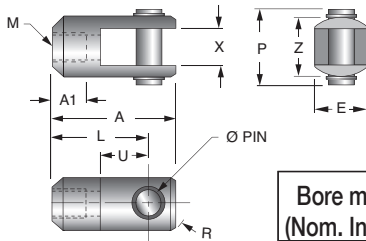
| Bore mm (Nom. Inch) | L | U | X | Z | A1 | A | R |
|---------------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|
| 12 (1/2) | 16 (0.63) | 7.0 (0.27) | 4.7 (0.18) | 9.7 (0.38) | 6.0 (0.24) | 21.5 (0.85) | 6.3 (0.25) |
| 16 (5/8) | 25 (0.98) | 14.0 (0.55) | 6.2 (0.24) | 11.2 (0.44) | 6.0 (0.24) | 32.0 (1.26) | 12.0 (0.47) |
| 20 (3/4) | 25 (0.98) | 11.5 (0.45) | 7.7 (0.30) | 16 (0.63) | 6.0 (0.24) | 34.0 (1.34) | 10.3 (0.41) |
| 25 (1) | 30 (1.18) | 14.0 (0.55) | 9.7 (0.38) | 19 (0.75) | 8.0 (0.31) | 41.0 (1.61) | 12.8 (0.50) |
| 32 (1-1/4) | 30 (1.18) | 14.0 (0.55) | 17.6 (0.69) | 22 (0.87) | 14.0 (0.55) | 42.0 (1.65) | 12.0 (0.47) |
| 40 (1-1/2) | 30 (1.18) | 14.0 (0.55) | 17.6 (0.69) | 22 (0.87) | 14.0 (0.55) | 42.0 (1.65) | 12.0 (0.47) |
| 50 (2) | 40 (1.57) | 20.0 (0.79) | 21.6 (0.85) | 27 (1.06) | 18.0 (0.71) | 56.0 (2.20) | 16.0 (0.63) |
| 63 (2-1/2) | 40 (1.57) | 20.0 (0.79) | 21.6 (0.85) | 27 (1.06) | 18.0 (0.71) | 56.0 (2.20) | 16.0 (0.63) |
| 80 (3-1/4) | 50 (1.97) | 27.0 (1.06) | 27.6 (1.08) | 38 (1.50) | 21.0 (0.83) | 71.0 (2.80) | 21.0 (0.83) |
| 100 (4) | 55 (2.17) | 31.0 (1.22) | 31.6 (1.24) | 44.5 (1.75) | 21.0 (0.83) | 79.0 (3.11) | 24.0 (0.95) |

Rod Clevis –

To order a Rod Clevis use the Prefix **RC-** followed by the thread size.

Example: For a 63mm bore cylinder the metric threads are M18 x 1.5. The Rod Clevis Part Number is **RC-M18x1.5**

For #8-32 size, follow with -12 or -16 for bore. **Example: RC-8-32-12**



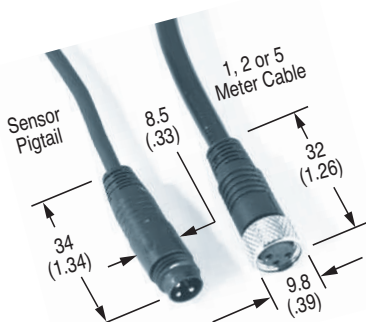
Note:
Pin diameter will be inch size for items with inch thread and mm size for items with metric thread.

| Bore mm (Nom. Inch) | L | U | X | Z | P | E | A1 | A | R |
|---------------------|-----------|-------------|-------------|-------------|-------------|-----------|-------------|-------------|-------------|
| 12 (1/2) | 16 (0.63) | 7.0 (0.27) | 5.3 (0.21) | 10 (0.39) | 14 (0.55) | 10 (0.39) | 6.0 (0.24) | 21.5 (0.85) | 6.3 (0.25) |
| 16 (5/8) | 21 (0.83) | 10.0 (0.39) | 6.6 (0.26) | 12 (0.47) | 16 (0.63) | 12 (0.47) | 6.0 (0.24) | 28.0 (1.10) | 12.0 (0.47) |
| 20 (3/4) | 25 (0.98) | 11.5 (0.45) | 8.3 (0.33) | 16 (0.63) | 21 (0.83) | 16 (0.63) | 6.0 (0.24) | 34.0 (1.34) | 10.3 (0.41) |
| 25 (1) | 30 (1.18) | 14.0 (0.55) | 10.3 (0.41) | 20 (0.78) | 25 (0.98) | 20 (0.78) | 8.0 (0.31) | 41.0 (1.61) | 12.8 (0.50) |
| 32 (1-1/4) | 30 (1.18) | 14.0 (0.55) | 18.4 (0.72) | 36.6 (1.44) | 41 (1.61) | 22 (0.87) | 16.0 (0.63) | 42.0 (1.65) | 12.0 (0.47) |
| 40 (1-1/2) | 30 (1.18) | 14.0 (0.55) | 18.4 (0.72) | 36.6 (1.44) | 41 (1.61) | 22 (0.87) | 16.0 (0.63) | 42.0 (1.65) | 12.0 (0.47) |
| 50 (2) | 40 (1.57) | 20.0 (0.79) | 22.4 (0.88) | 44.5 (1.75) | 50 (1.97) | 28 (1.10) | 20.0 (0.79) | 56.0 (2.20) | 16.0 (0.63) |
| 63 (2-1/2) | 40 (1.57) | 20.0 (0.79) | 22.4 (0.88) | 44.5 (1.75) | 50 (1.97) | 28 (1.10) | 20.0 (0.79) | 56.0 (2.20) | 16.0 (0.63) |
| 80 (3-1/4) | 50 (1.97) | 27.0 (1.06) | 28.4 (1.12) | 55.6 (2.19) | 62.5 (2.46) | 38 (1.50) | 23.0 (0.91) | 71.0 (2.80) | 21.0 (0.83) |
| 100 (4) | 55 (2.17) | 31.0 (1.22) | 32.4 (1.28) | 63.5 (2.50) | 70.6 (2.78) | 44 (1.73) | 24.0 (0.95) | 79.0 (3.11) | 24.0 (0.95) |

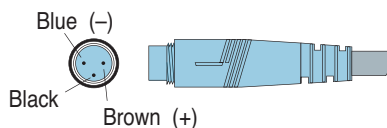
| Bore | Ø Hole, Ø Pin Nominal inch or mm | M Threads inch or metric |
|------|--|-----------------------------|
| 12 | .187 or 5 | #8-32 or M5 x 0.8 |
| 16 | .187 or 5 | #8-32 or M6 x 1.0 |
| 20 | .312 or 8 | #10-32 or M8 x 1.25 |
| 25 | .375 or 10 | 1/4-28 or M10 x 1.25 |
| 32 | .375 or 10 | 5/16-24 or M14 x 1.5 |
| 40 | .375 or 10 | 3/8-24 or M14 x 1.5 |
| 50 | .500 or 14 | 1/2-20 or M18 x 1.5 |
| 63 | .500 or 14 | 1/2-20 or M18 x 1.5 |
| 80 | .750 or 18 | 5/8-18 or M22 x 1.5 |
| 100 | .875 or 22 | 3/4-16 or M26 x 1.5 |

8 mm Female Cordsets for Quick Disconnect Sensors

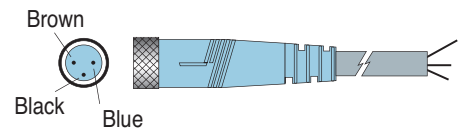
| Cordset Description | Part No. |
|---------------------|----------|
| 1 Meter, 3 Pin | CFC-1M |
| 2 Meters, 3- Pin | CFC-2M |
| 5 Meters, 3- Pin | CFC-5M |



Male Connector on Sensor

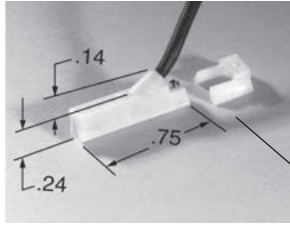


Female Connector on Cordset



NEW – Low Profile Sensors for Magnetic Piston Cylinders

3/8" & 1/4" Dovetail Sensors



- Encased in a plastic housing, dovetail style sensors are corrosion resistant.
- 60° wire outlet allows close mounting.
- Sensors are mounted in dovetail slots in the wall of the cylinder and are actuated by a magnetic piston. Magnetic pistons are specified with Body Code "D" in the Global Series™ Cylinder model number.
- Two types of sensors are offered: Reed Switches and Electronic Sensors. **Sensors must be ordered separately from the tables below.**
- Each sensor is furnished complete with a set screw for secure installation.
- Mounting clamp included with 949-200-xxx models for 3/8" dovetail.

Installation for 3/8" Dovetail Sensors



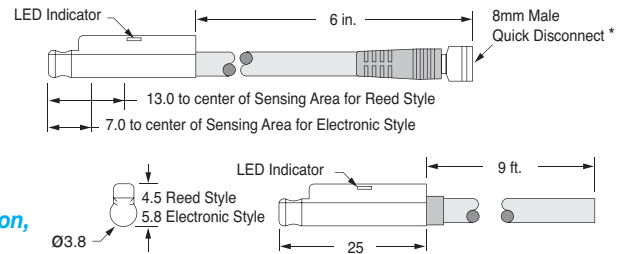
- 1 Insert the mounting clamp into one of the dovetail slots and slide it to the approximate location desired. Position the sensor with its set screw facing the mounting clamp.
- 2 Set screw should be flush with the top surface of sensor. Push the sensor into its mounting clamp. Slide this assembly to the point of desired actuation.
- 3 Tighten the set screw to lock sensor in place.

Ordering Guide

| | Sensor Type | These models are NOT polarity protected. Be sure to follow hook up instructions | Wire Leads | Prewired 9 ft. Part No. | Quick Disconnect Part No.* |
|---------------|------------------|---|------------|-------------------------|----------------------------|
| | | | | | |
| 3/8" Dovetail | Reed (No LED) | 0-120 VDC/VAC, 0.5 Amp Max current, 10 Watt Max, 0 Voltage Drop | 2 | 949-200-001 | 949-200-301 |
| | Reed (LED) | 5-120 VDC/VAC, 0.03 Amp Max current, 4 Watt Max, 2.0 Voltage Drop | 2 | 949-200-002 | 949-200-302 |
| | Electronic (LED) | Sourcing PNP 5-28 VDC, 0.20 Amp Max current, 1.0 Voltage Drop | 3 | 949-200-031 | 949-200-331 |
| | Electronic (LED) | Sinking NPN 5-28 VDC, 0.20 Amp Max current, 1.0 Voltage Drop | 3 | 949-200-032 | 949-200-332 |
| 1/4" Dovetail | Reed (No LED) | 0-120 VDC/VAC, 0.5 Amp Max current, 10 Watt Max, 0 Voltage Drop | 2 | 949-000-001 | 949-000-301 |
| | Reed (LED) | 5-120 VDC/VAC, 0.03 Amp Max current, 4 Watt Max, 2.0 Voltage Drop | 2 | 949-000-002 | 949-000-302 |
| | Electronic (LED) | Sourcing PNP 5-28 VDC, 0.20 Amp Max current, 1.0 Voltage Drop | 3 | 949-000-031 | 949-000-331 |
| | Electronic (LED) | Sinking NPN 5-28 VDC, 0.20 Amp Max current, 1.0 Voltage Drop | 3 | 949-000-032 | 949-000-332 |

Round Profile Sensors

Round Profile Sensors feature surge suppression, polarity protection, LED indicator, and extremely fast switching speeds. These slide into mating 4mm key-hole slots adjacent to the cylinder port, and are easily positioned and locked in place with a set screw.



All round profile sensors feature surge suppression, polarity protection, LED indicator, and extremely fast switching speeds.

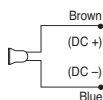
Ordering Guide

| Round Profile Sensors – Electrical Characteristics | | | | | | | Part Numbers | |
|--|--------------------|-----------------------|--------------------------------|-----------------|----------------------------------|--------------|-------------------------|--|
| Sensor Type | Function | Switching Voltage | Switching Current | Switching Power | Switching Speed | Voltage Drop | Prewired 9 ft. Part No. | Quick Disconnect Part No.* |
| Reed Switch for PLC's w/LED (current limiting) | SPST Normally Open | 5-120V AC/DC 50/60 Hz | 0.04 Amp max 0.005 Amp min. | 4 Watts max. | 0.5 ms operate 0.1 ms release | 2.5 Volts | 9C49-000-002 | 9C49-000-302 Requires 3 pin cordset |
| Electronic LED and Sourcing | PNP Normally Open | 6-30 VDC | 0.2 Amp max. | 6 Watts max. | 1.5µs operate 0.5µs release | 1.5 Volts | 9C49-000-031 | 9C49-000-331 Requires 3 pin cordset |
| Electronic LED and Sinking | NPN Normally Open | 6-30 VDC | 0.2 Amp max. | 6 Watts max. | 1.5µs operate 0.5µs release | 1.5 Volts | 9C49-000-032 | 9C49-000-332 Requires 3 pin cordset |

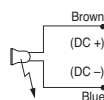
Note*: Quick Disconnect styles are supplied with 6 inch pigtail with male connector. Order female cordsets separately. See page 36.

Temperature Range for Sensors

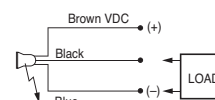
-20° to +80° C (-4° to +176° F)



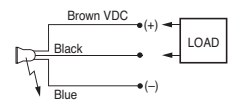
Reed Switch with LED



Electronic Sensor Sourcing



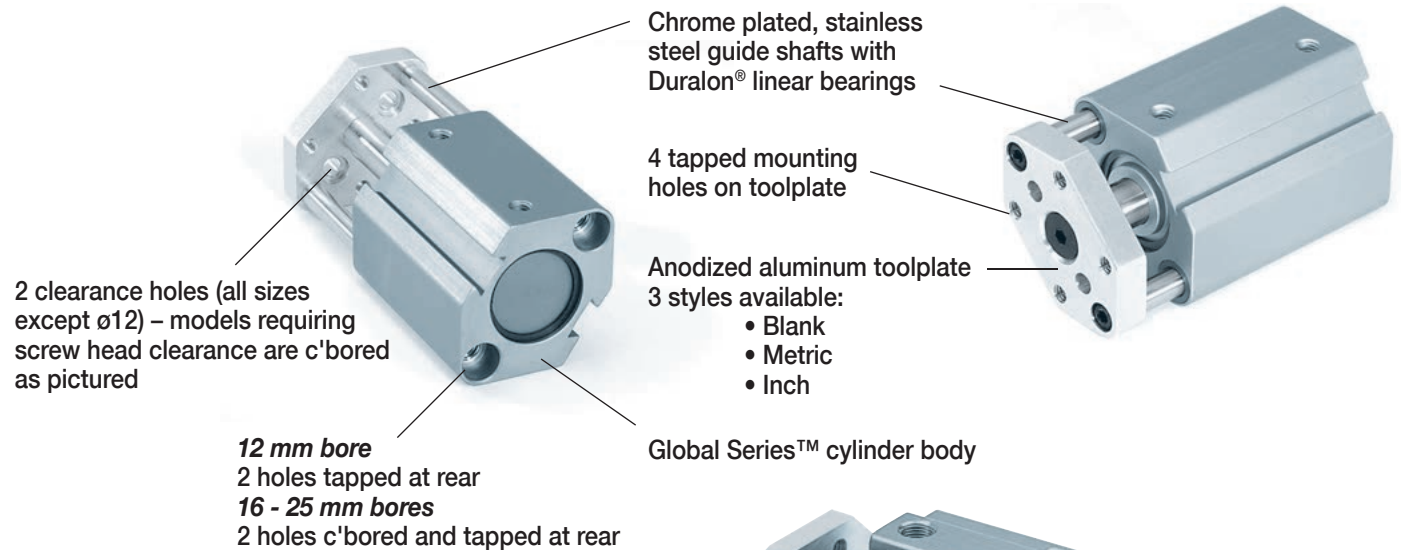
Electronic Sensor Sinking



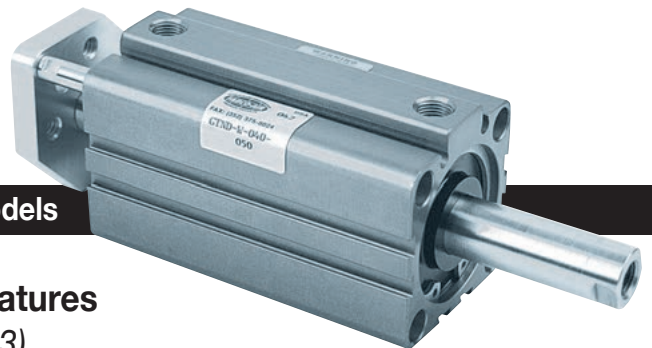
Global Series™ Cylinders

Ø12 - Ø25 mm Bores – Standard Toolplate Features

(See competitor interchange toolplates on page 41)

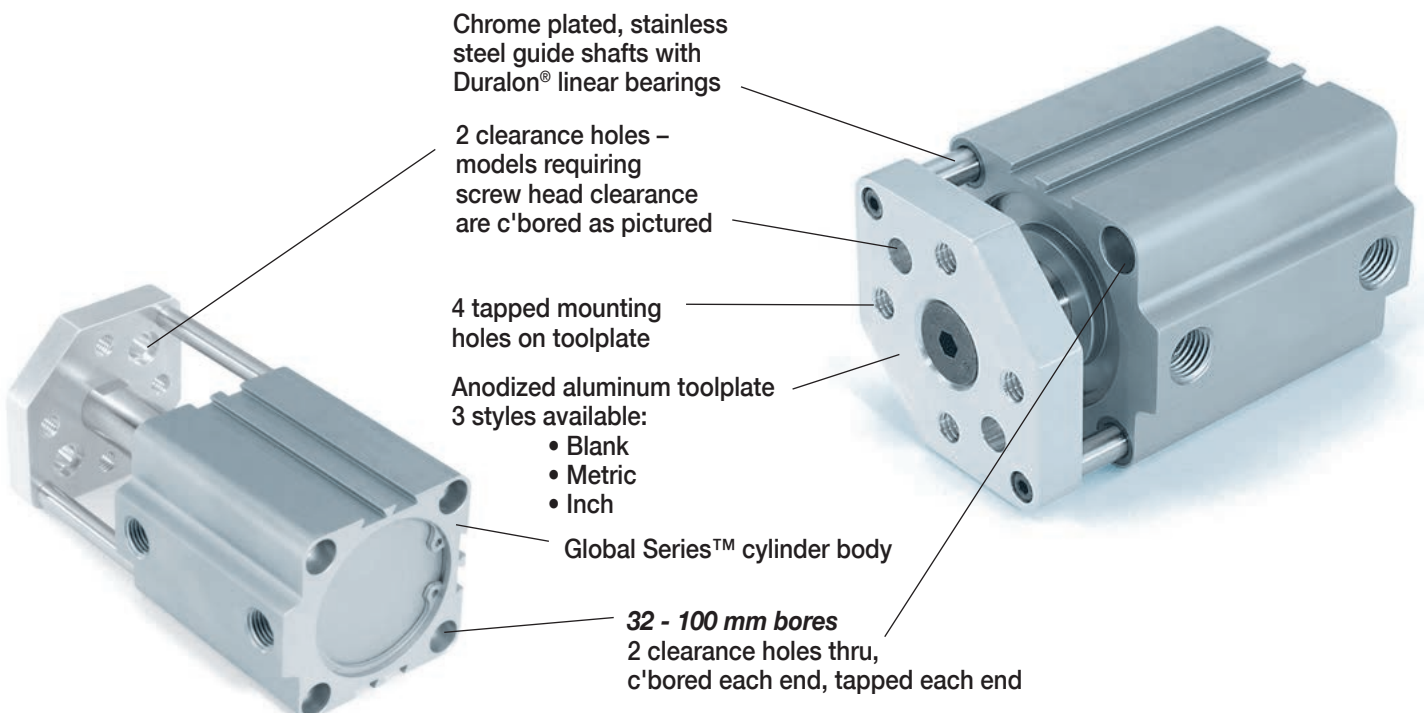


Double Rod Option now available with GT Series Models



Ø32 - Ø100 mm Bores – Standard Toolplate Features

(See competitor interchange toolplates on page 43)



"GT" Series – Double Acting, Guided Toolplate Models

How to Order

GT – Global Series™
Guided Toolplate

N – without magnetic piston
D – with magnetic piston
Sensors & cables must be ordered separately. Please see page 37.

005 thru 150 – See data chart below for available standard strokes

"GT" Model Number

Series Port Body – Bore – Stroke – Options

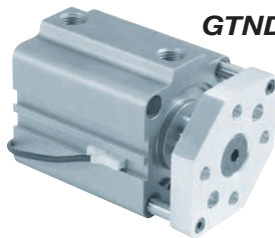
N – NPT ports and inch mounting holes in toolplate & cylinder
G – BSP Parallel ports and metric mounting holes in toolplate & cylinder
P – BSPT taper ports and metric mounting holes in toolplate & cylinder

– Leave blank for standard GT models
W Double rod option

10 bore sizes:
012 thru 100

B – Bumpers
V – Viton Seals
– Toolplates –
T1 – Blank toolplate
TB – Bimba interchange
TP – PHD interchange
TS – SMC interchange
(Hole patterns are inch per Port Code 'N' or Metric per Port Code 'G' or 'P').

ORDERING EXAMPLES



GTND – 050 – 025 – V

Guided toolplate, NPT ports, inch mounting holes in toolplate and cylinder, magnetic piston, 50 mm bore, 25 mm stroke, Viton seals. (Sensors must be ordered separately. See page 37.)



GTGN – 025 – 020

Guided toolplate, BSP Parallel ports, metric mounting holes in toolplate and cylinder, 25 mm bore, 20 mm stroke, no options.

Engineering Data – See page 8 for additional specifications

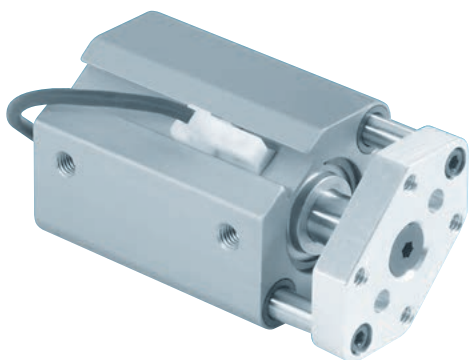
| Maximum Allowable Load at Toolplate – Kg. (Lbs) | | | | | | | |
|---|---|--------------|--------------|--------------|-------------|-------------|------------|
| Bore mm (Nom. Inch) | Standard Available Cylinder Strokes mm (inch) | | | | | | |
| | 5 (.20) | 10 (.39) | 15 (.59) | 20 (.79) | 25 (.98) | 30 (1.18) | 35 (1.38) |
| 12 (1/2) | 3.54 (7.8) | 2.72 (6) | 1.36 (3) | 1.14 (2.5) | 0.95 (2.1) | 0.86 (1.9) | – |
| 16 (5/8) | 4.99 (11) | 4.09 (9) | 2.13 (4.7) | 1.86 (4.1) | 1.54 (3.4) | 1.32 (2.9) | – |
| 20 (3/4) | 7.72 (17) | 7.26 (16) | 4.99 (11) | 4.09 (9) | 3.18 (7) | 2.81 (6.2) | 2.59 (5.7) |
| 25 (1) | 8.17 (18) | 7.49 (16.5) | 5.45 (12) | 4.77 (10.5) | 4.09 (9) | 3.41 (7.5) | 2.72 (6) |
| 32 (1-1/4) | 10.90 (24) | 9.08 (20) | 7.04 (15.5) | 6.13 (13.5) | 4.99 (11) | 4.54 (10) | 3.63 (8) |
| 40 (1-1/2) | 11.80 (26) | 9.99 (22) | 7.72 (17) | 6.45 (14.2) | 5.31 (11.7) | 4.81 (10.6) | 3.90 (8.6) |
| 50 (2) | – | 15.66 (34.5) | 14.07 (31) | 12.71 (28) | 11.35 (25) | 10.44 (23) | 9.99 (22) |
| 63 (2-1/2) | – | 25.42 (56) | 22.70 (50) | 21.11 (46.5) | 17.25 (38) | 14.98 (33) | 13.17 (29) |
| 80 (3-1/4) | – | 38.59 (85) | 35.82 (78.9) | 33.14 (73) | 30.87 (68) | 28.60 (63) | 26.79 (59) |
| 100 (4) | – | 42.00 (92.5) | 38.59 (85) | 35.87 (79) | 33.60 (74) | 31.33 (69) | 29.51 (65) |

| Maximum Allowable Load at Toolplate – Kg. (Lbs) | | | | | | | |
|---|---|-------------|-------------|--------------|--------------|------------|------------|
| Bore mm (Nom. Inch) | Standard Available Cylinder Strokes mm (inch) | | | | | | |
| | 40 (1.57) | 45 (1.77) | 50 (1.97) | 75 (2.95) | 100 (3.94) | 125 (4.92) | 150 (5.91) |
| 12 (1/2) | – | – | 0.50 (1.1) | 0.41 (0.9) | 0.32 (0.7) | – | – |
| 16 (5/8) | – | – | 0.77 (1.7) | 0.64 (1.4) | 0.41 (0.9) | – | – |
| 20 (3/4) | 2.36 (5.2) | 2.27 (5) | 2.09 (4.6) | 1.23 (2.7) | 0.77 (1.7) | – | – |
| 25 (1) | 2.50 (5.5) | 2.36 (5.2) | 2.18 (4.8) | 1.32 (2.9) | 0.86 (1.9) | – | – |
| 32 (1-1/4) | 3.41 (7.5) | 3.27 (7.2) | 3.04 (6.7) | 2.45 (5.4) | 1.91 (4.2) | 0.73 (1.6) | 0.41 (0.9) |
| 40 (1-1/2) | 3.68 (8.1) | 3.54 (7.8) | 3.22 (7.1) | 2.63 (5.8) | 2.09 (4.6) | 0.86 (1.9) | 0.54 (1.2) |
| 50 (2) | 8.63 (19) | 7.26 (16) | 5.90 (13) | 4.81 (10.6) | 4.13 (9.1) | 1.36 (3) | 1.04 (2.3) |
| 63 (2-1/2) | 10.44 (23) | 8.85 (19.5) | 8.40 (18.5) | 6.63 (14.6) | 5.49 (12.1) | 2.04 (4.5) | 1.41 (3.1) |
| 80 (3-1/4) | 20.43 (45) | 16.80 (37) | 14.98 (33) | 12.08 (26.6) | 10.26 (22.6) | 3.81 (8.4) | 2.63 (5.8) |
| 100 (4) | 22.25 (49) | 17.71 (39) | 15.89 (35) | 13.17 (29) | 11.17 (24.6) | 4.13 (9.1) | 2.86 (6.3) |

Global Series™ Cylinders

“GT” Series

Ø12 – Ø25 mm Bores



*** Port Size Offerings**

Note: M5 x 0.8 port will accept #10-32 male thread fittings

| Bore mm | Stroke mm | | | |
|---------|------------|-------------|-------------|-------------|
| | 5-45 | 50 | 75 | 100 |
| 12 | 7.0 (0.28) | 8.9 (0.35) | 8.9 (0.35) | 8.9 (0.35) |
| 16 | 7.8 (0.31) | 10.2 (0.40) | 10.2 (0.40) | 10.2 (0.40) |
| 20 | 8.1 (0.32) | 8.1 (0.32) | 12.1 (0.48) | 12.1 (0.48) |
| 25 | 8.4 (0.33) | 8.4 (0.33) | 12.7 (0.50) | 12.7 (0.50) |

Sensors for magnetic piston position indication must be ordered separately. See page 37.

Standard Toolplate shown. See page 41 for dimensions.

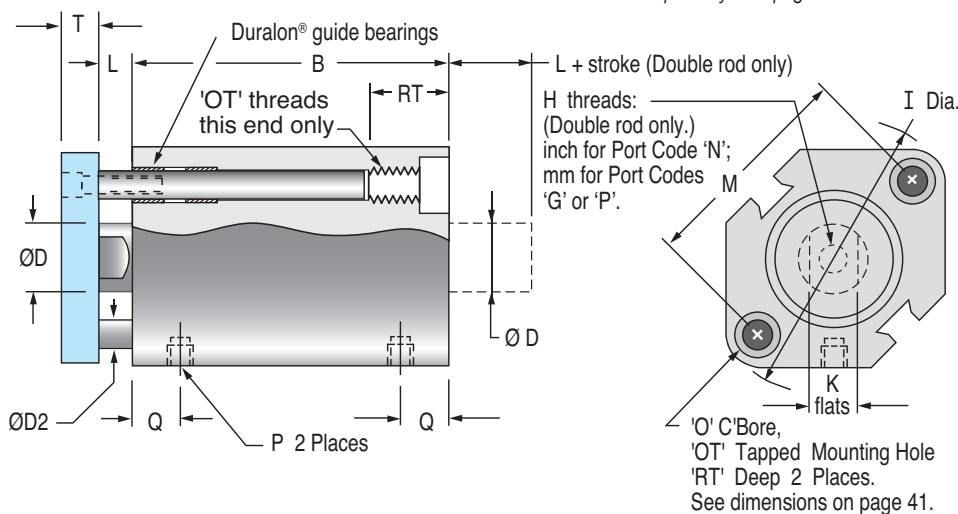
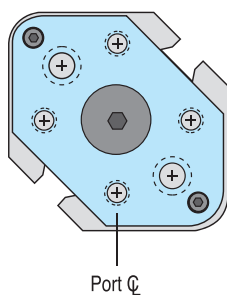


Chart Dimensions shown as “mm (inches)”

| Bore mm | ØD | ØD2 | E1 | E2 | H rod thread (double rod only) inch or metric | I | K flats | L | M | O | *P | T |
|---------|------------|-------------|-----------|-------------|---|-------------|-----------|------------|-----------|-------------------------------|--------|-----------|
| 12 | 6 (0.236) | 4.8 (0.188) | 25 (0.98) | 23 (0.90) | #8-32 x .21dp M3 x 0.5 – 5 dp | 31.5 (1.24) | 5 (0.20) | 3.5 (0.14) | 22 (0.87) | - | M5x0.8 | 6.1 (.24) |
| 16 | 8 (0.315) | 5 (0.197) | 29 (1.14) | 27.2 (1.07) | #8-32 x .21dp M4 x 0.7 – 5 dp | 37.1 (1.46) | 6 (0.24) | 3.5 (0.14) | 28 (1.10) | 6.5 x 3.5 dp (0.26 x 0.14 dp) | M5x0.8 | 6.1 (.24) |
| 20 | 10 (0.394) | 6 (0.236) | 36 (1.42) | 31.2 (1.23) | #10-32 x .28 dp M5 x 0.8 – 7 dp | 47 (1.85) | 8 (0.31) | 4.5 (0.18) | 36 (1.42) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 6.9 (.27) |
| 25 | 12 (0.472) | 6 (0.236) | 40 (1.57) | 36.9 (1.45) | 1/4-28 x .39 dp M6 x 1.0 – 10 dp | 51.3 (2.02) | 10 (0.39) | 5 (0.20) | 40 (1.57) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | M5x0.8 | 8.3 (.33) |

* Note: See page 20 for additional cylinder body angle and profile dimensions.

GT Standard Models – ‘B’ Dimensions by Bore & Stroke for both Standard & Magnetic Piston shown as “mm (inches)”

| Bore mm | Stroke mm | | | | | | | | | | | | Bore mm |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|---------|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 75 | 100 | |
| 12 | 33.0 (1.30) | 38.0 (1.50) | 43.0 (1.69) | 48.0 (1.89) | 53.0 (2.09) | 58.0 (2.28) | - | - | - | 83.8 (3.30) | 108.8 (4.28) | 133.8 (5.27) | 12 |
| 16 | 35.5 (1.40) | 40.5 (1.59) | 45.5 (1.79) | 50.5 (1.99) | 55.5 (2.19) | 60.5 (2.38) | - | - | - | 86.2 (3.39) | 111.2 (4.38) | 136.2 (5.36) | 16 |
| 20 | 36.5 (1.44) | 41.5 (1.63) | 46.5 (1.83) | 51.5 (2.03) | 56.5 (2.22) | 61.5 (2.42) | 66.5 (2.62) | 71.5 (2.81) | 76.5 (3.01) | 81.5 (3.21) | 116.6 (4.59) | 141.6 (5.57) | 20 |
| 25 | 37.5 (1.48) | 42.5 (1.67) | 47.5 (1.87) | 52.5 (2.07) | 57.5 (2.26) | 62.5 (2.46) | 67.5 (2.66) | 72.5 (2.85) | 77.5 (3.05) | 82.5 (3.25) | 122.5 (4.82) | 147.5 (5.81) | 25 |

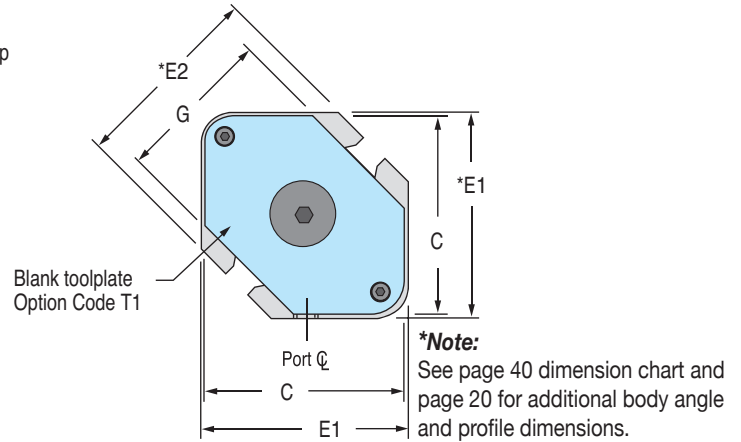
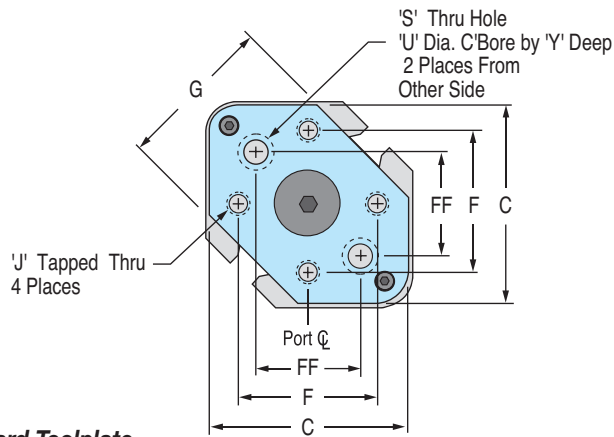
GT Double Rod Models – ‘B’ Dimensions by Bore & Stroke for both Standard & Magnetic Piston shown as “mm (inches)”

| Bore mm | Stroke mm | | | | | | | | | | | | Bore mm |
|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|---------|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 75 | 100 | |
| 12 | 33.0 (1.30) | 38.0 (1.50) | 43.0 (1.69) | 48.0 (1.89) | 53.0 (2.09) | 58.0 (2.28) | - | - | - | 83.8 (3.30) | 108.8 (4.28) | 133.8 (5.27) | 12 |
| 16 | 41.0 (1.62) | 46.0 (1.81) | 51.0 (2.01) | 56.0 (2.21) | 61.0 (2.40) | 66.0 (2.60) | - | - | - | 86.2 (3.39) | 111.2 (4.38) | 136.2 (5.36) | 16 |
| 20 | 43.0 (1.69) | 48.0 (1.89) | 53.0 (2.09) | 58.0 (2.28) | 63.0 (2.48) | 68.0 (2.68) | 73.0 (2.88) | 78.0 (3.07) | 83.0 (3.27) | 88.0 (3.47) | 116.6 (4.59) | 141.6 (5.58) | 20 |
| 25 | 44.0 (1.73) | 49.0 (1.93) | 54.0 (2.13) | 59.0 (2.32) | 64.0 (2.52) | 69.0 (2.72) | 74.0 (2.92) | 79.0 (3.11) | 84.0 (3.31) | 89.0 (3.51) | 122.5 (4.82) | 147.7 (5.81) | 25 |

"GT" Series – Toolplates & Interchanges

Standard Toolplates

Ø12 – Ø25 mm Bores



Standard Toolplate

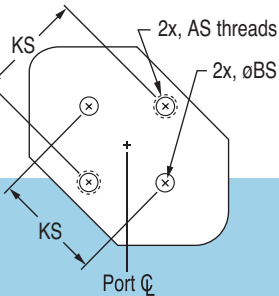
Inch or metric indicated by port code in model number

| FABCO-AIR Toolplate & Mounting – Inch Dimensions | | | | | | | | | | |
|--|------|------|-----|------|------|--------|-----|-----|-----|-----|
| Specify by Port Code 'N' | | | | | | | | | | |
| Bore mm | C | F | FF | G | J | OT | RT | S | U | Y |
| 12 | .94 | .63 | – | .82 | 6-32 | 8-32 | .38 | – | – | – |
| 16 | 1.10 | .81 | .44 | .98 | 6-32 | 8-32 | .51 | .14 | – | – |
| 20 | 1.38 | 1.06 | .57 | 1.00 | 8-32 | 1/4-20 | .53 | .17 | .28 | .06 |
| 25 | 1.54 | 1.13 | .66 | 1.18 | 8-32 | 1/4-20 | .59 | .17 | – | – |

| Toolplate & Mounting – Metric Dimensions (mm) | | | | | | | | | | |
|---|----|------|------|------|----------|----------|------|-----|---|---|
| Specify by Port Code 'G' or 'P' | | | | | | | | | | |
| Bore mm | C | F | FF | G | J | OT | RT | S | U | Y |
| 12 | 24 | 16.0 | – | 20.8 | M3 x 0.5 | M4 x 0.7 | 9.7 | – | – | – |
| 16 | 28 | 20.0 | 11.0 | 25.0 | M4 x 0.7 | M4 x 0.7 | 13.0 | 3.3 | – | – |
| 20 | 35 | 24.0 | 14.5 | 25.4 | M4 x 0.7 | M6 x 1.0 | 13.5 | 4.2 | – | – |
| 25 | 40 | 28.5 | 16.6 | 30.0 | M4 x 0.7 | M6 x 1.0 | 15.0 | 4.2 | – | – |

Interchange Toolplates

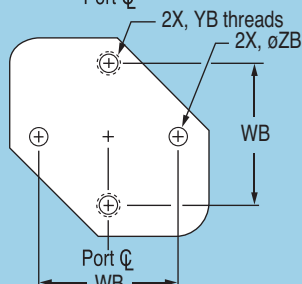
Interchange for SMC
Option Code TS



| SMC Toolplate Interchange | | | |
|-----------------------------------|-------|-------|-------|
| Port Code 'N' Dimensions – inches | | | |
| Bore mm | AS | BS | KS |
| 12 | 4-40 | 0.118 | 0.394 |
| 16 | 4-40 | 0.118 | 0.551 |
| 20 | 6-32 | 0.157 | 0.669 |
| 25 | 10-32 | 0.197 | 0.866 |

| SMC Toolplate Interchange | | | |
|--------------------------------------|----------|----|----|
| Port Code 'G' or 'P' Dimensions – mm | | | |
| | AS | BS | KS |
| 12 | M3 x 0.5 | 3 | 10 |
| 16 | M3 x 0.5 | 3 | 14 |
| 20 | M4 x 0.7 | 4 | 17 |
| 25 | M5 x 0.8 | 5 | 22 |

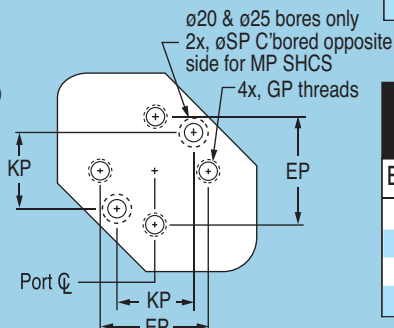
Interchange for Bimba
Option Code TB



| Bimba Toolplate Interchange | | | |
|-----------------------------------|------|------|------|
| Port Code 'N' Dimensions – inches | | | |
| Bore mm | WB | YB | ZB |
| 12 | 0.55 | 4-40 | 0.14 |
| 16 | 0.79 | 4-40 | 0.14 |
| 20 | 1.06 | 6-32 | 0.17 |
| 25 | 1.06 | 6-32 | 0.17 |

| Bimba Toolplate Interchange | | | |
|--------------------------------------|------|----------|-----|
| Port Code 'G' or 'P' Dimensions – mm | | | |
| | WB | YB | ZB |
| 12 | 14.0 | M3 x 0.5 | 4.1 |
| 16 | 20.0 | M3 x 0.5 | 4.1 |
| 20 | 27.0 | M4 x 0.7 | 5.2 |
| 25 | 27.0 | M4 x 0.7 | 5.2 |

Interchange for PHD
Option Code TP



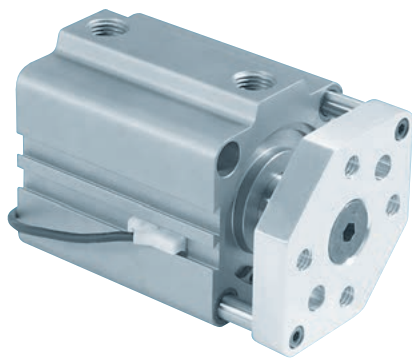
| PHD Toolplate Interchange | | | | | |
|-----------------------------------|-------|------|-------|----|------|
| Port Code 'N' Dimensions – inches | | | | | |
| Bore mm | EP | GP | KP | MP | SP |
| 12 | 0.550 | 4-40 | – | – | – |
| 16 | 0.550 | 4-40 | – | – | – |
| 20 | 0.710 | 6-32 | 0.550 | #4 | 0.12 |
| 25 | 0.710 | 6-32 | 0.550 | #4 | 0.12 |

| PHD Toolplate Interchange | | | | | |
|--------------------------------------|------|----------|------|----|-----|
| Port Code 'G' or 'P' Dimensions – mm | | | | | |
| | EP | GP | KP | MP | SP |
| 12 | 14.0 | M3 x 0.5 | – | – | – |
| 16 | 14.0 | M3 x 0.5 | – | – | – |
| 20 | 18.0 | M3 x 0.5 | 14.0 | M3 | 3.1 |
| 25 | 18.0 | M3 x 0.5 | 14.0 | M3 | 3.1 |

Global Series™ Cylinders

“GT” Series

Ø32 – Ø100 mm Bores



Sensors for magnetic piston position indication must be ordered separately. See page 37.

‡ Note: On 32 bore, 5mm stroke, non-magnetic model only, port thread is M5x0.8 which will accept #10-32 male thread fittings.

| *Port Size Offerings | N- NPT ports, inch threads, toolplate & mounting G- BSP parallel ports, metric threads, toolplate & mtg. P- BSPT taper ports, metric threads, toolplate & mtg. | | | | |
|----------------------|--|-------------|--------------------|--|------------|
| “Q” Port Location | Stroke mm | | Rod Thread Details | | |
| | Bore mm | 5 – 100 | 125, 150 | H Thread (double rod only) inch or metric | K flats |
| 32 | 8.7 (0.34) | 12.7 (0.50) | 5/16-24 x .50 dp | M8 x 1.25 – 12 dp | 14 (0.55) |
| 40 | 9.2 (0.36) | 12.7 (0.50) | 3/8-24 x .50 dp | M8 x 1.25 – 12 dp | 14 (0.55) |
| 50 | 10.5 (0.41) | 13.2 (0.52) | 1/2-20 x .50 dp | M10 x 1.5 – 12 dp | 17 (0.67) |
| 63 | 11.5 (0.45) | 18.5 (0.73) | 1/2-20 x .50 dp | M10 x 1.5 – 12 dp | 17 (0.67) |
| 80 | 14.0 (0.55) | 14.0 (0.55) | 5/8-18 x .88 dp | M16 x 2.0 – 22 dp | 22 (0.87) |
| 100 | 18.0 (0.71) | 18.0 (0.71) | 3/4-16 x .88 dp | M20 x 2.5 – 22 dp | 27 (1.06) |

Standard Toolplate shown. See page 43 for dimensions.

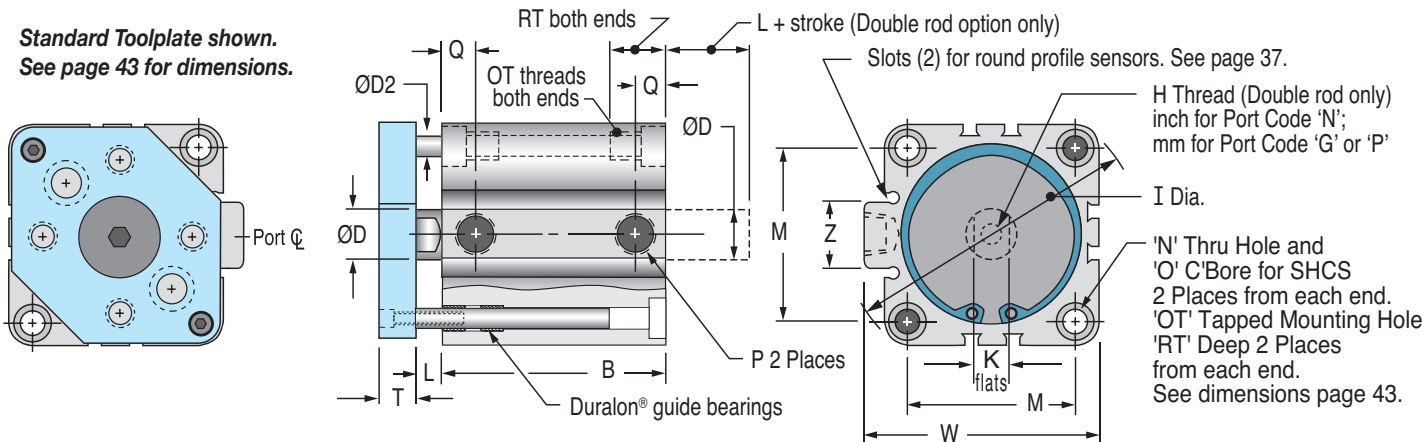


Chart Dimensions shown as “mm (inches)”

| Bore mm | ØD | ØD2 | E1 | I | L | M | N | O | *P | T | W | Z |
|---------|------------|--------------|--------------|--------------|-----------|-----------|------------|---------------------------------|-------|-------------|--------------|-------------|
| 32 | 16 (0.630) | 7 (0.276) | 44.5 (1.75) | 58.9 (2.32) | 7 (0.28) | 34 (1.34) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8*‡ | 8.3 (0.33) | 49.3 (1.94) | 16.5 (0.65) |
| 40 | 16 (0.630) | 7 (0.276) | 52 (2.05) | 69 (2.72) | 7 (0.28) | 40 (1.57) | 5.5 (0.22) | 9.0 x 7.0 dp (0.35 x 0.28 dp) | 1/8* | 8.3 (0.33) | 57.0 (2.24) | 17.8 (0.70) |
| 50 | 20 (0.787) | 8 (0.315) | 63.7 (2.51) | 84.9 (3.34) | 8 (0.31) | 50 (1.97) | 6.6 (0.26) | 11.0 x 8.0 dp (0.43 x 0.31 dp) | 1/4* | 12.1 (0.48) | 70.6 (2.78) | 22.2 (0.88) |
| 63 | 20 (0.787) | 11.1 (0.438) | 76.7 (3.02) | 101.8 (4.01) | 8 (0.31) | 60 (2.36) | 9 (0.35) | 13.7 x 10.5 dp (0.54 x 0.41 dp) | 1/4* | 12.5 (0.49) | 83.6 (3.29) | 22.2 (0.88) |
| 80 | 25 (0.984) | 16 (0.630) | 97.8 (3.85) | 129.8 (5.11) | 10(0.39) | 77 (3.03) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 14.0 (0.55) | 104 (4.09) | 27.0 (1.06) |
| 100 | 30 (1.181) | 16 (0.630) | 115.3 (4.54) | 153.9 (6.06) | 12 (0.47) | 94 (3.70) | 11 (0.43) | 16.8 x 13.5 dp (0.66 x 0.53 dp) | 3/8* | 14.0 (0.55) | 121.9 (4.80) | 27.0 (1.06) |

GT Standard Models – ‘B’ Dimension by Bore & Stroke shown as “mm (inches)”

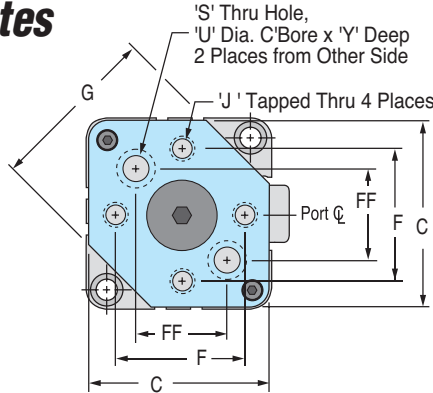
| Bore mm | Stroke mm | | | | | | | | | | | | | |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 75 | 100 | 125 | 150 |
| 32 St'd Piston | 28.0 (1.10) | 33.0 (1.30) | 38.0 (1.50) | 43.0 (1.69) | 48.0 (1.89) | 53.0 (2.09) | 58.0 (2.28) | 63.0 (2.48) | 68.0 (2.68) | 73.0 (2.87) | 108.0 (4.25) | 133.0 (5.24) | 172.8 (6.80) | 197.8 (7.79) |
| Mag. Piston | 38.0 (1.50) | 43.0 (1.69) | 48.0 (1.89) | 53.0 (2.09) | 58.0 (2.28) | 63.0 (2.48) | 68.0 (2.68) | 73.0 (2.87) | 78.0 (3.07) | 83.0 (3.27) | 108.0 (4.25) | 133.0 (5.24) | 172.8 (6.80) | 197.8 (7.79) |
| 40 St'd Piston | 34.5 (1.36) | 39.5 (1.56) | 44.5 (1.75) | 49.5 (1.95) | 54.5 (2.15) | 59.5 (2.34) | 64.5 (2.54) | 69.5 (2.74) | 74.5 (2.93) | 79.5 (3.13) | 114.5 (4.51) | 139.5 (5.49) | 180.5 (7.11) | 205.5 (8.09) |
| Mag. Piston | 44.5 (2.75) | 49.5 (1.95) | 54.5 (2.15) | 59.5 (2.34) | 64.5 (2.54) | 69.5 (2.74) | 74.5 (2.93) | 79.5 (3.13) | 84.5 (3.33) | 89.5 (3.52) | 114.5 (4.51) | 139.5 (5.49) | 180.5 (7.11) | 205.5 (8.09) |
| 50 St'd Piston | - | 40.5 (1.59) | 45.5 (1.79) | 50.5 (1.99) | 55.5 (2.19) | 60.5 (2.38) | 65.5 (2.58) | 70.5 (2.78) | 75.5 (2.97) | 80.5 (3.17) | 115.5 (4.55) | 140.5 (5.53) | 184.3 (7.26) | 209.3 (8.24) |
| Mag. Piston | - | 50.5 (1.99) | 55.5 (2.19) | 60.5 (2.38) | 65.5 (2.58) | 70.5 (2.78) | 75.5 (2.97) | 80.5 (3.17) | 85.5 (3.37) | 90.5 (3.56) | 115.5 (4.55) | 140.5 (5.53) | 184.3 (7.26) | 209.3 (8.24) |
| 63 St'd Piston | - | 46.0 (1.81) | 51.0 (2.01) | 56.0 (2.20) | 61.0 (2.40) | 66.0 (2.60) | 71.0 (2.80) | 76.0 (2.99) | 81.0 (3.19) | 86.0 (3.39) | 121.0 (4.76) | 146.0 (5.75) | 189.6 (7.46) | 214.6 (8.49) |
| Mag. Piston | - | 56.0 (2.20) | 61.0 (2.40) | 66.0 (2.60) | 71.0 (2.80) | 76.0 (2.99) | 81.0 (3.19) | 86.0 (3.39) | 91.0 (3.58) | 96.0 (3.78) | 121.0 (4.76) | 146.0 (5.75) | 189.6 (7.46) | 214.6 (8.49) |
| 80 St'd Piston | - | 53.5 (2.11) | 58.5 (2.30) | 63.5 (2.50) | 68.5 (2.70) | 73.5 (2.89) | 78.5 (3.09) | 83.5 (3.29) | 88.5 (3.48) | 93.5 (3.68) | 128.5 (5.06) | 153.5 (6.04) | 194.5 (7.66) | 219.5 (8.64) |
| Mag. Piston | - | 63.5 (2.50) | 68.5 (2.70) | 73.5 (2.89) | 78.5 (3.09) | 83.5 (3.29) | 88.5 (3.48) | 93.5 (3.68) | 98.5 (3.88) | 103.5 (4.07) | 128.5 (5.06) | 153.5 (6.04) | 194.5 (7.66) | 219.5 (8.64) |
| 100 St'd Piston | - | 63.0 (2.48) | 68.0 (2.68) | 73.0 (2.87) | 78.0 (3.07) | 83.0 (3.27) | 88.0 (3.46) | 93.0 (3.66) | 98.0 (3.86) | 103.0 (4.06) | 138.0 (5.43) | 163.0 (6.42) | 201.7 (7.94) | 226.7 (8.93) |
| Mag. Piston | - | 73.0 (2.87) | 78.0 (3.07) | 83.0 (3.27) | 88.0 (3.46) | 93.0 (3.66) | 98.0 (3.86) | 103.0 (4.06) | 108.0 (4.25) | 113.0 (4.45) | 138.0 (5.43) | 163.0 (6.42) | 201.7 (7.94) | 226.7 (8.93) |

GT Double Rod Models – ‘B’ Dimension by Bore & Stroke shown as “mm (inches)”

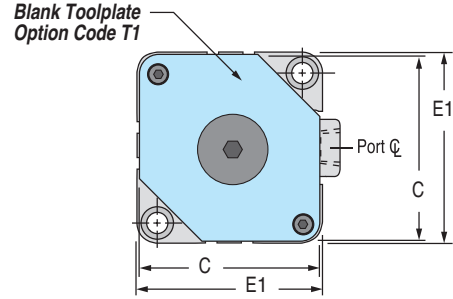
| Bore mm | Stroke mm | | | | | | | | | | | | | | | |
|-----------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 75 | 100 | 125 | 150 | | |
| 32 St'd Piston | 35.5 (1.40) | 40.5 (1.59) | 45.5 (1.79) | 50.5 (1.99) | 55.5 (2.19) | 60.5 (2.38) | 65.5 (2.58) | 70.5 (2.78) | 75.5 (2.97) | 80.5 (3.17) | 85.5 (3.37) | 90.5 (3.56) | 122.8 (4.83) | 147.8 (5.82) | 172.8 (6.80) | 197.8 (7.88) |
| Mag. Piston | 45.5 (1.79) | 50.5 (1.99) | 55.5 (2.19) | 60.5 (2.38) | 65.5 (2.58) | 70.5 (2.78) | 75.5 (2.97) | 80.5 (3.17) | 85.5 (3.37) | 90.5 (3.56) | 122.8 (4.83) | 147.8 (5.82) | 172.8 (6.80) | 197.8 (7.88) | | |
| 40 St'd Piston | 45.0 (1.77) | 50.0 (1.97) | 55.0 (2.17) | 60.0 (1.95) | 65.0 (2.56) | 70.0 (2.76) | 75.0 (2.95) | 80.0 (3.15) | 85.0 (3.35) | 90.0 (3.54) | 95.0 (3.74) | 100.0 (3.94) | 122.8 (5.14) | 155.5 (6.12) | 180.5 (7.11) | 205.0 (8.09) |
| Mag. Piston | 55.0 (2.17) | 60.0 (2.36) | 65.0 (2.56) | 70.0 (2.34) | 75.0 (2.95) | 80.0 (3.15) | 85.0 (3.35) | 90.0 (3.54) | 95.0 (3.74) | 100.0 (3.94) | 122.8 (5.14) | 155.5 (6.12) | 180.5 (7.11) | 205.0 (8.09) | | |
| 50 St'd Piston | - | 50.5 (1.99) | 55.5 (2.19) | 60.5 (2.38) | 65.5 (2.58) | 70.5 (2.78) | 75.5 (2.97) | 80.5 (3.17) | 85.5 (3.37) | 90.5 (3.56) | 95.5 (3.76) | 100.5 (3.56) | 134.3 (5.29) | 159.3 (6.27) | 184.3 (7.25) | 209.3 (8.24) |
| Mag. Piston | - | 60.5 (2.38) | 65.5 (2.58) | 70.5 (2.78) | 75.5 (2.97) | 80.5 (3.17) | 85.5 (3.37) | 90.5 (3.56) | 95.5 (3.76) | 100.5 (3.56) | 134.3 (5.29) | 159.3 (6.27) | 184.3 (7.25) | 209.3 (8.24) | | |
| 63 St'd Piston | - | 52.0 (2.05) | 57.0 (2.25) | 62.0 (2.44) | 67.0 (2.64) | 72.0 (2.83) | 77.0 (3.03) | 82.0 (3.23) | 87.0 (3.43) | 92.0 (3.62) | 97.0 (3.82) | 102.0 (4.02) | 139.6 (5.50) | 164.6 (6.48) | 189.6 (7.46) | 214.6 (8.45) |
| Mag. Piston | - | 62.0 (2.44) | 67.0 (2.64) | 72.0 (2.83) | 77.0 (3.03) | 82.0 (3.23) | 87.0 (3.43) | 92.0 (3.62) | 97.0 (3.82) | 102.0 (4.02) | 139.6 (5.50) | 164.6 (6.48) | 189.6 (7.46) | 214.6 (8.45) | | |
| 80 St'd Piston | - | 61.0 (2.50) | 66.0 (2.60) | 71.0 (2.80) | 76.0 (2.99) | 81.0 (3.19) | 86.0 (3.39) | 91.0 (3.58) | 96.0 (3.78) | 101.0 (3.98) | 106.0 (4.17) | 111.0 (4.37) | 144.5 (5.69) | 169.5 (6.68) | 194.5 (7.66) | 219.5 (8.64) |
| Mag. Piston | - | 71.0 (2.80) | 76.0 (2.99) | 81.0 (3.19) | 86.0 (3.39) | 91.0 (3.58) | 96.0 (3.78) | 101.0 (3.98) | 106.0 (4.17) | 111.0 (4.37) | 144.5 (5.69) | 169.5 (6.68) | 194.5 (7.66) | 219.5 (8.64) | | |
| 100 St'd Piston | - | 70.5 (2.78) | 75.5 (2.97) | 80.5 (3.17) | 85.5 (3.37) | 90.5 (3.56) | 95.5 (3.76) | 100.5 (3.96) | 105.5 (4.15) | 110.5 (4.35) | 115.5 (4.55) | 144.5 (5.69) | 169.5 (6.68) | 194.5 (7.66) | 219.5 (8.64) | |
| Mag. Piston | - | 80.5 (3.17) | 85.5 (3.37) | 90.5 (3.56) | 95.5 (3.76) | 100.5 (3.96) | 105.5 (4.15) | 110.5 (4.35) | 115.5 (4.55) | 120.5 (4.74) | 151.7 (5.97) | 176.7 (6.96) | 201.7 (7.94) | 226.7 (8.93) | | |

"GT" Series – Toolplates & Interchanges

Standard Toolplates



Ø32 – Ø100 mm Bores



Standard Toolplate

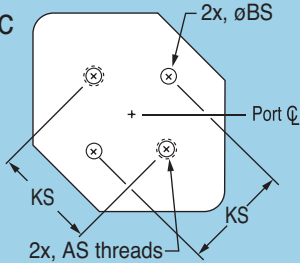
Inch or metric indicated by port code in model number

| Fabco-Air – Toolplate & Mounting Inch Dimensions – Specify by Port Code 'N' | | | | | | | | | | |
|--|------|------|------|------|---------|---------|------|-----|-----|-----|
| Bore mm | C | F | FF | G | J | OT | RT | S | U | Y |
| 32 | 1.71 | 1.19 | .84 | 1.44 | 10-24 | 1/4-20 | .67 | .20 | - | - |
| 40 | 2.00 | 1.38 | .97 | 1.78 | 1/4-20 | 1/4-20 | .75 | .26 | - | - |
| 50 | 2.47 | 1.75 | 1.24 | 2.25 | 5/16-18 | 5/16-18 | .75 | .33 | .49 | .10 |
| 63 | 2.98 | 2.00 | 1.41 | 2.69 | 7/16-14 | 7/16-14 | .87 | .45 | .68 | .18 |
| 80 | 3.81 | 2.75 | 1.95 | 3.50 | 1/2-13 | 1/2-13 | 1.13 | .52 | .77 | .18 |
| 100 | 4.50 | 3.25 | 2.30 | 4.45 | 1/2-13 | 1/2-13 | 1.13 | .52 | .77 | .13 |

| Fabco-Air – Toolplate & Mounting Metric Dim.s (mm) – Specify by Port Code 'G' or 'P' | | | | | | | | | | |
|---|-------|------|------|-------|----------|----------|------|------|------|-----|
| Bore mm | C | F | FF | G | J | OT | RT | S | U | Y |
| 32 | 43.4 | 30.0 | 21.2 | 36.7 | M5x 0.8 | M6x1.0 | 17.0 | 5.2 | - | - |
| 40 | 50.5 | 35.0 | 24.7 | 45.1 | M6x1.0 | M6x1.0 | 19.0 | 6.1 | - | - |
| 50 | 62.7 | 45.5 | 32.2 | 57.1 | M8x1.25 | M8x1.25 | 19.0 | 8.2 | 13.5 | 2.5 |
| 63 | 75.7 | 50.5 | 35.7 | 68.3 | M10x1.5 | M10x1.5 | 22.0 | 11.5 | 16.5 | 3.3 |
| 80 | 96.9 | 70.0 | 49.5 | 88.9 | M12x1.75 | M12x1.75 | 29.0 | 12.3 | 18.5 | 3.8 |
| 100 | 114.4 | 82.5 | 58.3 | 112.9 | M12x1.75 | M12x1.75 | 29.0 | 12.3 | 18.5 | 3.2 |

Interchange Toolplates

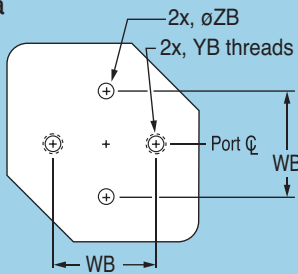
Interchange for SMC
Option Code TS



| SMC Toolplate Interchange Port Code 'N' Dimensions – inches | | | |
|--|--------|-------|-------|
| Bore mm | AS | BS | KS |
| 32 | 10-32 | 0.197 | 1.102 |
| 40 | 10-32 | 0.197 | 1.299 |
| 50 | 1/4-20 | 0.236 | 1.653 |
| 63 | - | - | - |
| 80 | - | - | - |
| 100 | - | - | - |

| SMC Toolplate Interchange Port Code 'G' or 'P' Dimensions – mm | | | |
|---|-----------|----|----|
| | AS | BS | KS |
| | M5 x 0.8 | 5 | 28 |
| | M5 x 0.8 | 5 | 33 |
| | M6 x 1.0 | 6 | 42 |
| | M6 x 1.0 | 6 | 50 |
| | M8 x 1.25 | 8 | 65 |
| | M10 x 1.5 | 10 | 80 |

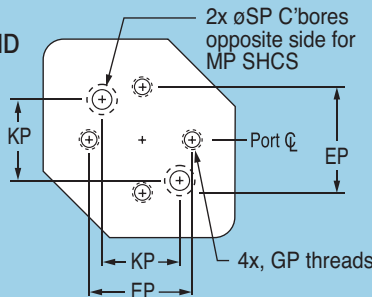
Interchange for Bimba
Option Code TB



| Bimba Toolplate Interchange Port Code 'N' Dimensions – inches | | | |
|--|------|--------|------|
| Bore mm | WB | YB | ZB |
| 32 | 1.18 | 8-32 | 0.18 |
| 40 | 1.18 | 8-32 | 0.18 |
| 50 | 1.69 | 10-32 | 0.22 |
| 63 | 1.69 | 10-32 | 0.22 |
| 80 | 2.00 | 1/4-20 | 0.29 |
| 100 | 2.00 | 1/4-20 | 0.29 |

| Bimba Toolplate Interchange Port Code 'G' or 'P' Dimensions – mm | | | |
|---|------|----------|-----|
| | WB | YB | ZB |
| | 30.0 | M4 x 0.7 | 5.2 |
| | 30.0 | M4 x 0.7 | 5.2 |
| | 42.8 | M5 x 0.8 | 6.4 |
| | 42.8 | M5 x 0.8 | 6.4 |
| | 50.8 | M6 x 1.0 | 7.1 |
| | 50.8 | M6 x 1.0 | 7.1 |

Interchange for PHD
Option Code TP



| PHD Toolplate Interchange Port Code 'N' Dimensions – inches | | | | | |
|--|-------|-------|-------|-----|------|
| Bore mm | EP | GP | KP | MP | SP |
| 32 | 1.100 | 8-32 | 0.710 | #6 | 0.14 |
| 40 | 1.100 | 8-32 | 0.710 | #6 | 0.14 |
| 50 | 1.535 | 10-24 | 1.100 | #8 | 0.17 |
| 63 | 1.535 | 10-24 | 1.535 | #10 | 0.20 |

| PHD Toolplate Interchange Port Code 'G' or 'P' Dimensions – mm | | | | | |
|---|------|----------|------|----|-----|
| | EP | GP | KP | MP | SP |
| | 28.0 | M4 x 0.7 | 18.0 | M3 | 3.1 |
| | 28.0 | M4 x 0.7 | 18.0 | M3 | 3.1 |
| | 39.0 | M5 x 0.8 | 28.0 | M4 | 4.2 |
| | 39.0 | M5 x 0.8 | 39.0 | M5 | 5.2 |

Mounting Codes, Accessories, & Sensors

Mounting Code Adders and Accessory Prices

| Mounting Code Price Adders | | | | |
|----------------------------|------|-----------------|---------|--------|
| Bore mm | B | L, E, F, G or H | C | A |
| 12 | Std. | \$8.40 | \$10.80 | \$1.95 |
| 16 | Std. | 10.05 | 10.80 | 1.95 |
| 20 | Std. | 10.30 | 12.00 | 1.95 |
| 25 | Std. | 10.95 | 12.00 | 1.95 |
| 32 | Std. | 12.20 | 13.60 | 3.90 |
| 40 | Std. | 15.40 | 16.30 | 3.90 |
| 50 | Std. | 18.45 | 19.60 | 3.90 |
| 63 | Std. | 22.05 | 25.75 | 3.90 |
| 80 | Std. | 26.00 | 34.65 | 3.90 |
| 100 | Std. | 29.30 | 47.85 | 3.90 |

| Accessory Prices | | | |
|------------------|--|---------|------------|
| Bore mm | Part No. [Use "RE" or "RC in box ()] | Rod Eye | Rod Clevis |
| 12 | <input type="checkbox"/> -8-32-12 or <input type="checkbox"/> -M5 x 0.8 | \$6.15 | \$8.15 |
| 16 | <input type="checkbox"/> -8-32-16 or <input type="checkbox"/> -M6 x 1 | 6.95 | 8.75 |
| 20 | <input type="checkbox"/> -10-32 or <input type="checkbox"/> -M8 x 1.25 | 7.50 | 9.15 |
| 25 | <input type="checkbox"/> -1/4-28 or <input type="checkbox"/> -M10 x 1.25 | 9.55 | 12.30 |
| 32 | <input type="checkbox"/> -5/16-24 or <input type="checkbox"/> -M14 x 1.5 | 15.55 | 17.45 |
| 40 | <input type="checkbox"/> -3/8-24 or <input type="checkbox"/> -M14 x 1.5 | 15.55 | 17.45 |
| 50 | <input type="checkbox"/> -1/2-20 or <input type="checkbox"/> -M18 x 1.5 | 17.45 | 18.80 |
| 63 | <input type="checkbox"/> -1/2-20 or <input type="checkbox"/> -M18 x 1.5 | 17.45 | 18.80 |
| 80 | <input type="checkbox"/> -5/8-18 or <input type="checkbox"/> -M22 x 1.5 | 22.45 | 25.05 |
| 100 | <input type="checkbox"/> -3/4-16 or <input type="checkbox"/> -M26 x 1.5 | 26.50 | 30.85 |

Dovetail Magnetic Sensors

| Sensor Type | | Electrical Characteristics | Wire Leads | Prewired 9 ft. Part No. | Quick Disconnect Part No. |
|---------------|------------------|---|------------|-------------------------|---------------------------|
| 1/4" Dovetail | Reed (No LED) | 0-120 VDC/VAC, 0.5 Amp Max, 5 Watt Max, 0 Voltage Drop | 2 | 949-000-001 | 949-000-301 |
| | Reed (LED) | 5-120 VDC/VAC, 0.03 Amp Max, 4 Watt Max, 2.0 Voltage Drop | 2 | 949-000-002 | 949-000-302 |
| | Electronic (LED) | Sourcing PNP 6-24 VDC, 0.20 Amp Max, 0.5 Voltage Drop | 3 | 949-000-031 | 949-000-331 |
| | Electronic (LED) | Sinking NPN 6-24 VDC, 0.20 Amp Max, 0.5 Voltage Drop | 3 | 949-000-032 | 949-000-332 |
| 3/8" Dovetail | Reed (No LED) | 0-120 VDC/VAC, 0.5 Amp Max, 5 Watt Max, 0 Voltage Drop | 2 | 949-200-001 | 949-200-301 |
| | Reed (LED) | 5-120 VDC/VAC, 0.03 Amp Max, 4 Watt Max, 2.0 Voltage Drop | 2 | 949-200-002 | 949-200-302 |
| | Electronic (LED) | Sourcing PNP 6-24 VDC, 0.20 Amp Max, 0.5 Voltage Drop | 3 | 949-200-031 | 949-200-331 |
| | Electronic (LED) | Sinking NPN 6-24 VDC, 0.20 Amp Max, 0.5 Voltage Drop | 3 | 949-200-032 | 949-200-332 |

Round Profile Magnetic Sensors

These fit into the 4mm keyhole slots adjacent to the cylinder ports of the new extrusion shown on pages 21, 23, 25, 27, 29, 42 & 43.

The sensors feature surge suppression, polarity protection, LED indicator and extremely fast switching speeds.

| Magnetic Sensors - Electrical Characteristics | | | | | | | Part Numbers | |
|--|--------------------|-----------------------|--------------------------------|-----------------|----------------------------------|--------------|-------------------------|--|
| Sensor Type | Function | Switching Voltage | Switching Current | Switching Power | Switching Speed | Voltage Drop | Prewired 9 ft. Part No. | Quick Disconnect |
| Reed Switch for PLC's w/LED (current limiting) | SPST Normally Open | 5-120V AC/DC 50/60 Hz | 0.04 Amp max 0.005 Amp min. | 4 Watts max. | 0.5 ms operate 0.1 ms release | 2.5 Volts | 9C49-000-002 | 9C49-000-302 Requires 3 pin cordset |
| Electronic LED and Sourcing | PNP Normally Open | 6-30 VDC | 0.2 Amp max. | 6 Watts max. | 1.5µs operate 0.5µs release | 1.5 Volts | 9C49-000-031 | 9C49-000-331 Requires 3 pin cordset |
| Electronic LED and Sinking | NPN Normally Open | 6-30 VDC | 0.2 Amp max. | 6 Watts max. | 1.5µs operate 0.5µs release | 1.5 Volts | 9C49-000-032 | 9C49-000-332 Requires 3 pin cordset |

8mm Female Cordsets

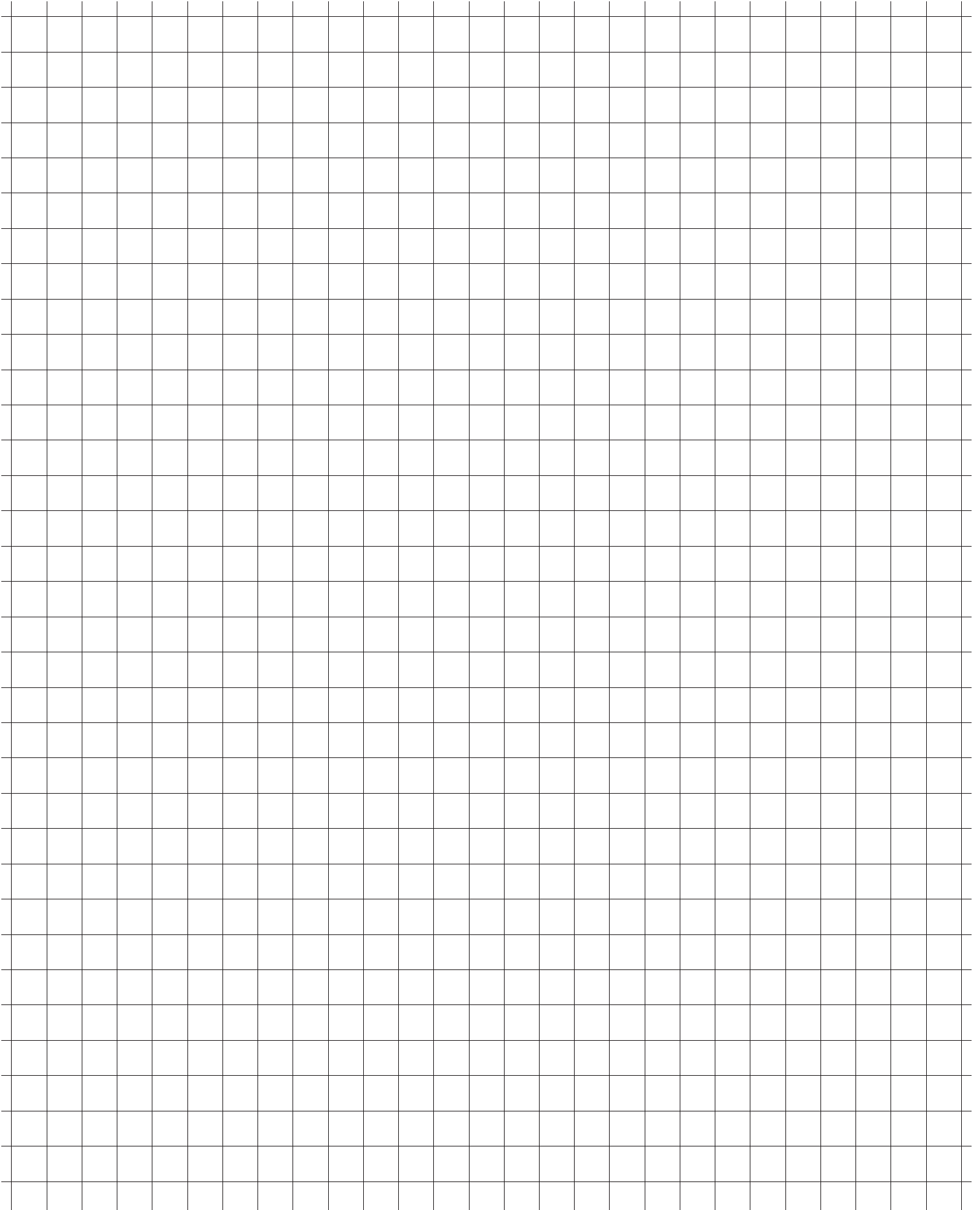
| Cordset Description | Part No. |
|------------------------|----------|
| 1 meter length, 3 Pin | CFC-1M |
| 2 meters length, 3 Pin | CFC-2M |
| 5 meters length, 3 Pin | CFC-5M |

Seal Kits

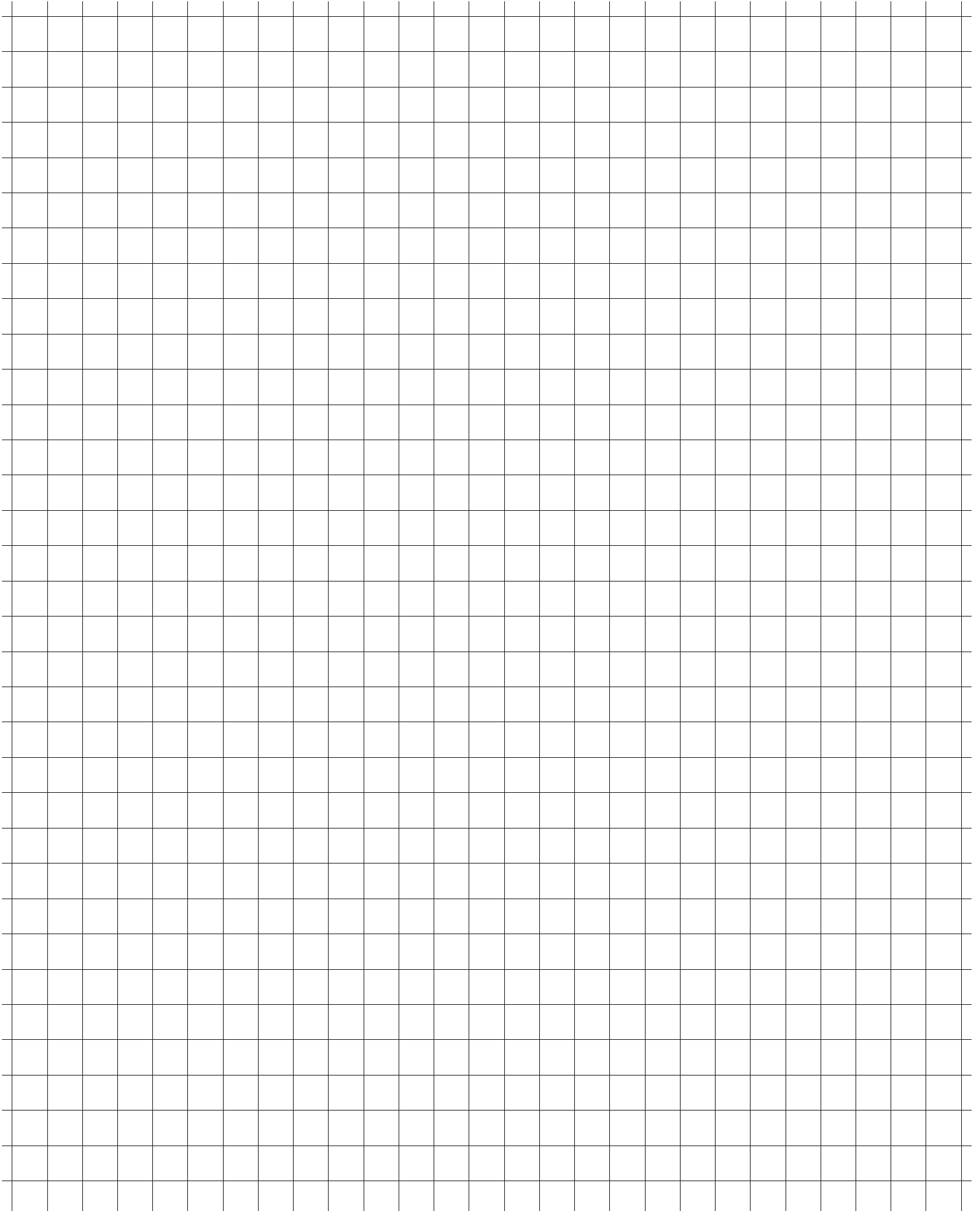
| Bore | Seal Kit | Non-rotating |
|------|----------|--------------|
| 12 | G12-SK | G12-DDS6V |
| | G12-SKV | |
| 16 | G16-SK | G16-DDS8V |
| | G16-SKV | |
| 20 | G20-SK | G20-DDS10V |
| | G20-SKV | |
| 25 | G25-SK | G25-DDS12V |
| | G25-SKV | |
| 32 | G32-SK | G32-DDS16V |
| | G32-SKV | |

| Bore | Seal Kit | Non-rotating |
|------|----------|--------------|
| 40 | G40-SK | G32-DDS16V |
| | G40-SKV | |
| 50 | G50-SK | G50-DDS20V |
| | G50-SKV | |
| 63 | G63-SK | G50-DDS20V |
| | G63-SKV | |
| 80 | G80-SK | G80-DDS25V |
| | G80-SKV | |
| 100 | G100-SK | G100-DDS30 |
| | G100-SKV | |

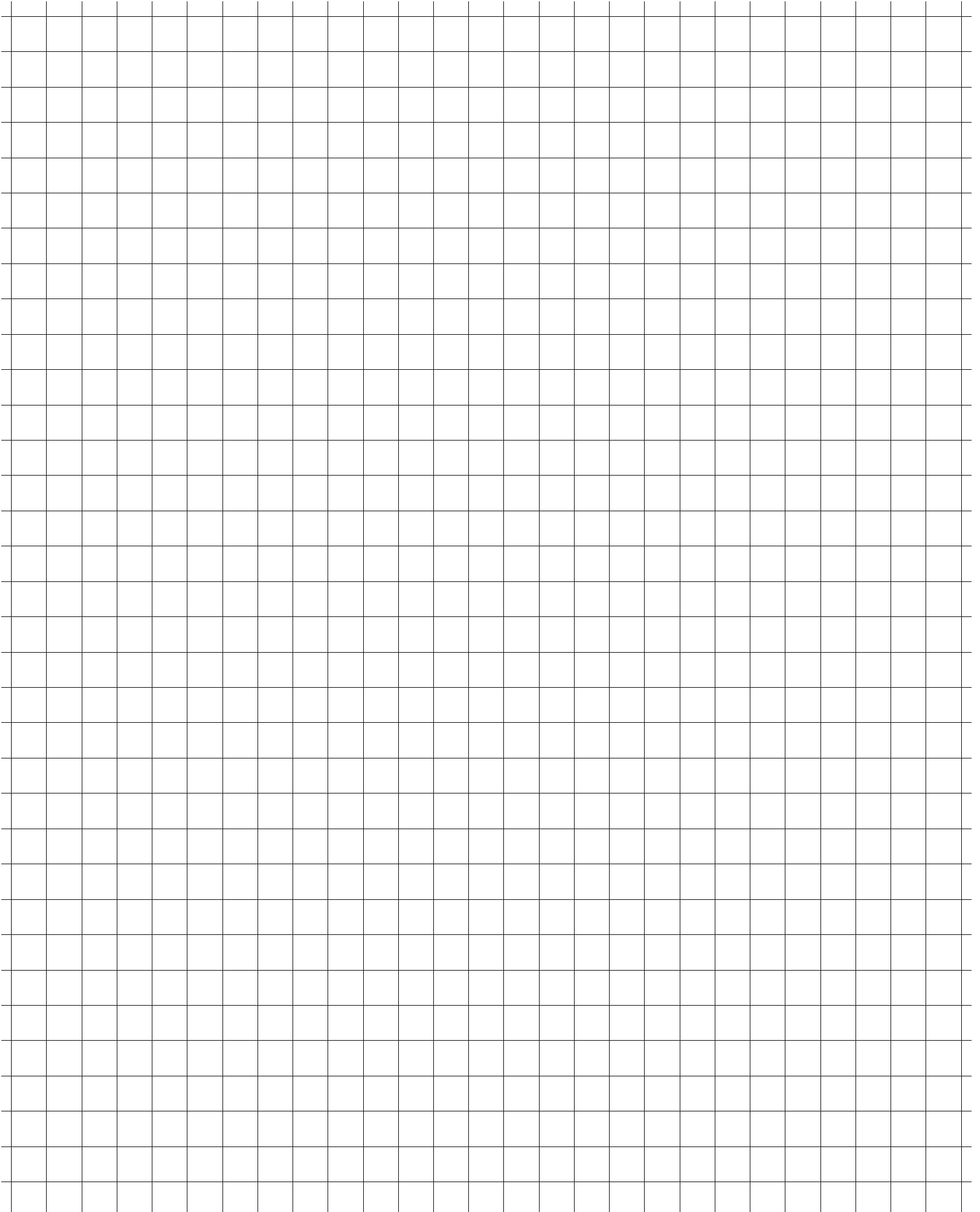
Notes



Notes

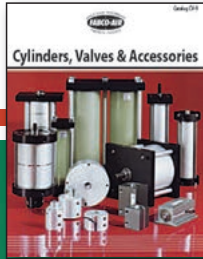


Notes





Fabco-Air Product Catalog Library



Cylinders, Valves and Accessories
Catalog #CV9



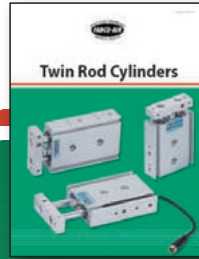
Pancake® II Air Cylinders
Catalog #Pan2-2



Square Pancake® II Air Cylinders
Catalog #SqPan2



ISO 6431 Cylinders
Catalog #FAQR-09



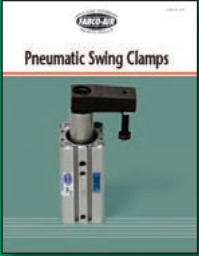
Twin Rod, Non-Rotating Air Cylinders - Catalogs #FDf-09 & #FDXS-09



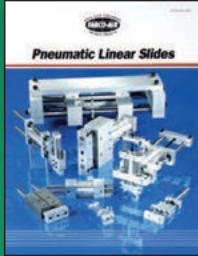
High Closing Force Angular Grippers
Catalog #FKHC-10



Multi-Power® Air Presses
Catalog #FP16



Swing Clamps
Catalog #SC-DB04



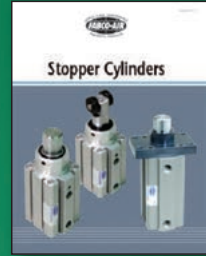
Linear Slides - 6 Families
Catalog #LS-03



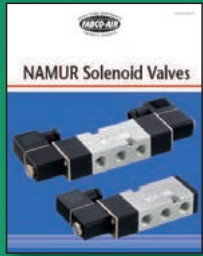
Compact Finger Slides
Catalog #FDH-10



ISO 6432 Cylinders
Catalog #FAE-09



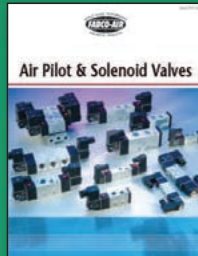
Stopper Cylinders
Catalog #ST-SC



NAMUR Solenoid Valves
Catalog #FVEN-10



NFPA Interchangeable Air Cylinders
Catalog #NF-6



Air Pilot and Solenoid Valves
Catalog #FVA-E-09



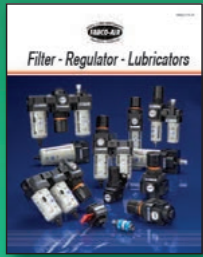
Air Table Slides
Catalog #FGXS-10



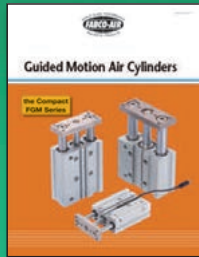
Wide & Narrow Parallel Grippers - Catalogs #FKHZ-10 & #FKHQ-10



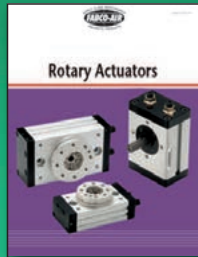
Toggle Type Angular Grippers
Catalog #FKHT-10



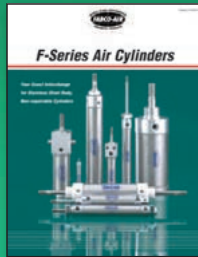
Modular Air Preparation System - FRLs
Catalog #FRL-06



Guided Motion Air Cylinders
Catalog #FGM-10



Pneumatic Rotary Actuators
Catalog #FRA-C-09



Stainless Steel Body Air Cylinders
Catalog #SSB-03



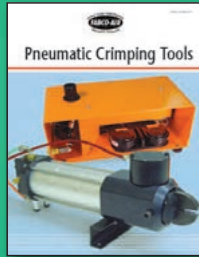
Pneumatic & Hydraulic Swing Clamps
Catalog #FML-H



Wide Opening Parallel Grippers
Catalog #FKHL-10



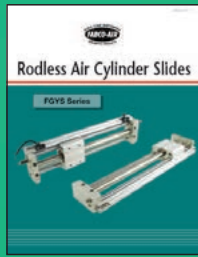
Original Pancake® Air Cylinders
Catalog #CV9



Pneumatic Crimping Tools
Catalog #FCT-JY07



Magnetically Coupled Rodless Air Cylinders
Catalog #FGYBR-11



Magnetically Coupled Rodless Slides
Catalog #FGYS-11



Angular Grippers
Catalog #FKA-09



3 Series of Angular & Parallel Motion Grippers
Catalog #GR8

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• Fax (352) 375-8024 • E-Mail: service@fabco-air.com • Web Site: www.fabco-air.com