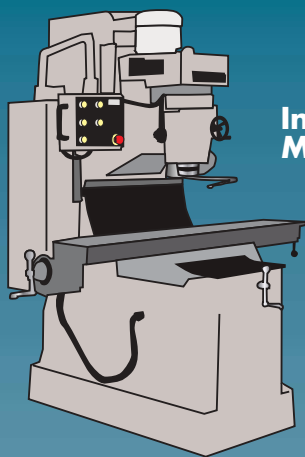
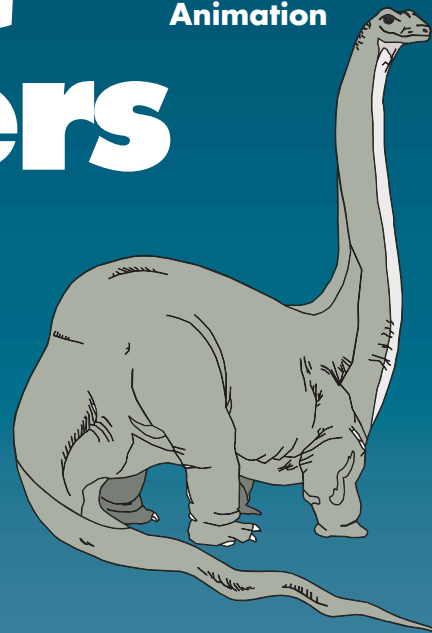


Compact Hydraulic Cylinders



Aviation

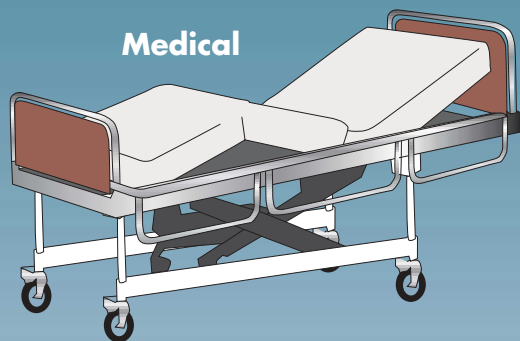
Animation



Industrial Machines



Aviation



Medical



Marine

For a Variety of Market Applications

- Hi Pressure - 5000 PSI
- Small Bore 1/2" and Larger
- Small Rod 1/4" and Larger
- Position Feedback Cylinders 1/2" and Larger
- 100% Tested

Custom Actuator Products, Inc.
Specialists in Compact Fluid Power

2500 Niagara Lane • Plymouth, MN 55447
Phone: (763) 525-0844 Fax: (763) 525-0845

CUSTOM ACTUATOR PRODUCTS, INC.

"Smart" Mini Cylinders With .001" Repeatability

BORE SIZES FROM 3/4 TO 4" UP TO 5000 PSI Hydraulic or Pneumatic types

CAP "Smart" cylinders are ideal for situations where space constraints would otherwise limit design flexibility. Because of their small size, our cylinders fit nearly anywhere, allowing unlimited potential for their application.

The big difference in the CAP cylinder is our innovative use of mini linear resistance transducers (MLRTs) and linear resistance transducers (LRTs). These linear feedback devices do not control the rod position. They sense the position of the cylinder and send an analog output of its position through a miniature resistance element to the associated electronics. These compact transducers enable us to build the smallest position feedback cylinders available today.

Our cylinders feature:

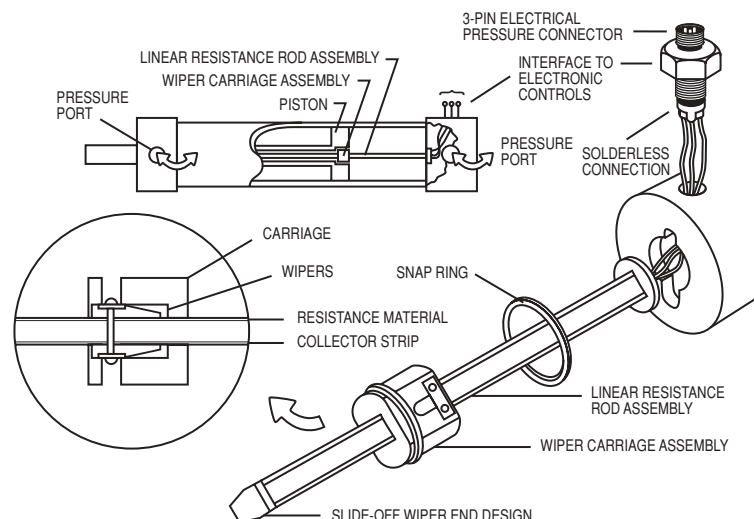
- 0.001" repeatability, depending on your system's electronic package.
- 500 million inches of travel life
- Pressures up to 5000 psi
- Temperature range to 185° F

We offer three basic types of control devices: a simple two-position controller which can sense the beginning and end of the stroke or any position in-between, a closed-loop signal tracking controller with a PID control loop, and a scaled analog output device to give a ratiometric output to a host controller. CAP is a leader in manufacturing small bore, high-pressure cylinders using the latest technologies to better serve companies like yours. Call today and find out how we can help with your design problems.



Typical Smart Cylinder Configuration

The CAP smart cylinder completely encloses the position sensing unit in the cylinder body. This provides a small profile and protects the sensor from external damage. Wire leads are sealed with a non-conducting material that withstands the internal fluid pressure. Several types of electronic interface connectors can be specified. The connector can be positioned at 90° or 180° from the fluid ports to fit your specific design requirements.



CUSTOM ACTUATOR PRODUCTS, INC.

LRT/MLRT – INTERNAL CYLINDER POSITION FEEDBACK DEVICES

7500 LRT/7316 MLRT Ordering Information

Specify the following for a complete internal position feedback package:

- LRT model and stroke
- EPC model
- Cable interface

The CAP “Smart” Cylinder can be ordered in 3 Models:

- Small Bore/Small Rod Industrial
- NFPA
- Special

7500 LRT MODEL CODES

| Order Number | Description |
|--|--|
| 7500-XXX-A | LRT with no cap-end flange – non-slide-off wiper |
| 7500-XXY-B1SW 7500-XXY-B2SW 7500-XXY-B3SW | Standard LRT – slide-off wiper – high pressure (See below for bore sizes) |
| 7500-XXY-B1SWT 7500-XXY-B2SWT 7500-XXY-B3SWT | High Temperature LRT – slide-off wiper – high pressure (300°F) |
| 7500-XXY-MSH | MSLRT unit that installs in identical cap-end cylinder envelope modification as the magnetostrictive model transducers. Includes slide-off wiper carriage. |

7500 LRT SPECS

| | | | |
|------------------------------|---|-------------------------------|----------------------------------|
| <i>Fluids</i> | Hydraulic or Pneumatic Note: Cannot be water-based fluid | <i>Temp</i> | Std. 160° F Hi-Temp 300° F |
| <i>Repeatability</i> | 001" Depending on Electronics | <i>Min. Rod Size</i> | 7/8" dia. |
| <i>Life</i> | 500 Million Inches of Wiper Travel | <i>Piston Rod Drill</i> | 1/2" dia. |
| <i>Non-linearity</i> | 0.1% (48" Max.) 1% (72" Max.) | <i>Velocity</i> | H=30" per sec. P=50" per sec. |
| <i>Max. Stroke</i> | 72" (call CAP for others) | <i>Signal Output</i> | Ratiometric Analog Output |
| <i>Pressure Rating</i> | 5000 psi | <i>Signal Input</i> | DC Voltage 5 Min. 50 Max. |

NOTE: MUST HAVE HI-IMPEDENCE INTERFACE OF >500K TO LIMIT SENSOR CURRENT.

| | |
|---------------------------|---|
| Bore Sizes for LRT Flange | B1: PH 1-1/2", 2", 2-1/2", HH 1-1/2" B2: PH 3-1/4", 4", 5", 6", HH 2", 2-1/2", 3-1/4", 4", 5" B3: HH 6" and greater |
|---------------------------|---|

7316 MLRT MODEL CODES

| | |
|--------------------------------|--|
| 7316-XXY-S1 | MLRT-Mini LRT non-slide-off for small bore/small rod cylinders. Bore sizes from 3/4" to 1-1/2" |
| 7316-XXY-S1SW 7316-XXY-S0SW | MLRT-Mini LRT with slide-off wiper carriage. MLRT-Mini LRT with slide-off wiper carriage for replacement in CAP Smart Cylinders |

7316 MLRT SPECS

| | | | |
|------------------------------|---|-------------------------------|----------------------------------|
| <i>Fluids</i> | Hydraulic or Pneumatic Note: Cannot be water-based fluid | <i>Temp</i> | Std. 160° F Hi-Temp 300° F |
| <i>Repeatability</i> | 001" Depending on Electronics | <i>Min. Rod Size</i> | 5/16" dia. |
| <i>Life</i> | 500 Million Inches of Wiper Travel | <i>Piston Rod Drill</i> | 3/16" dia. |
| <i>Non-linearity</i> | 0.1% (18" Max.) | <i>Velocity</i> | H=30" per sec. P=50" per sec. |
| <i>Max. Stroke</i> | 18" | <i>Signal Output</i> | Ratiometric Analog Output |
| <i>Pressure Rating</i> | 5000 psi | <i>Signal Input</i> | DC Voltage 5 Min. 50 Max. |

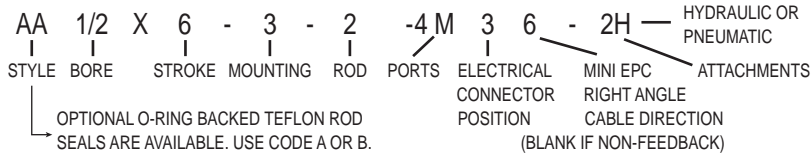
NOTE: MUST HAVE HI-IMPEDENCE INTERFACE OF 1 MEGAOHM TO LIMIT SENSOR CURRENT.

| | |
|-----|---|
| XXY | XX=Stroke in whole inches Y = Additional stroke in 1/8" increments |
|-----|---|

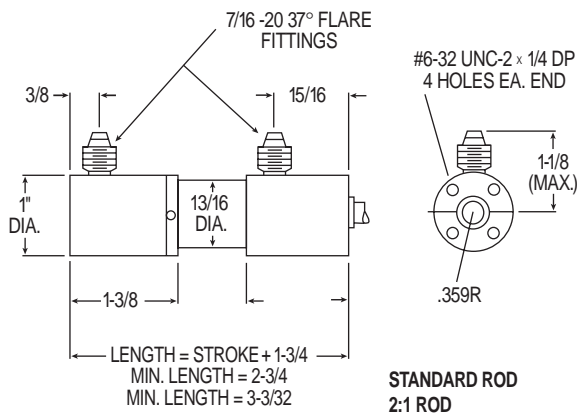
CUSTOM ACTUATOR PRODUCTS, INC.

1/2" BORE CYLINDER

The Cylinder Model Code Will Appear As Follows:



END MOUNT - STYLE 1



FOOT MOUNT (BOTH ENDS) - STYLE 3

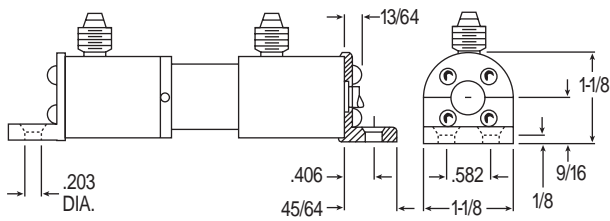
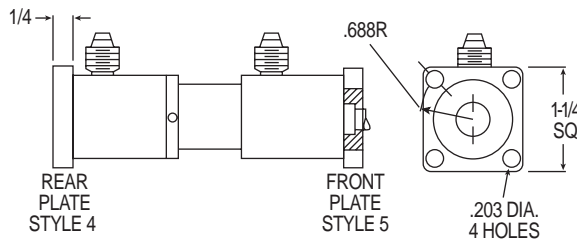
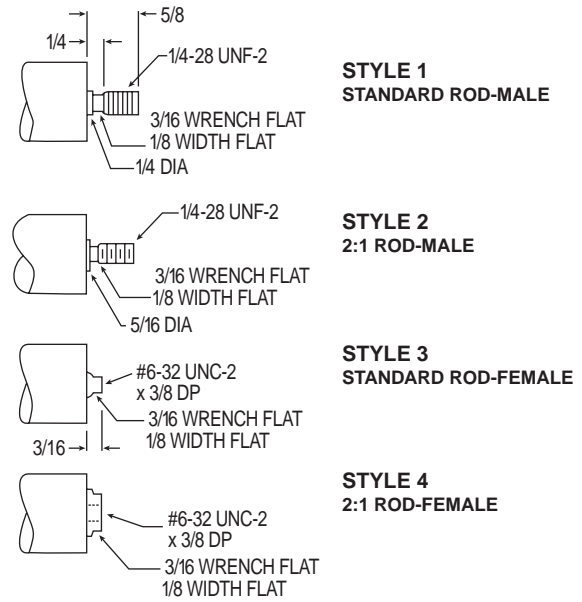


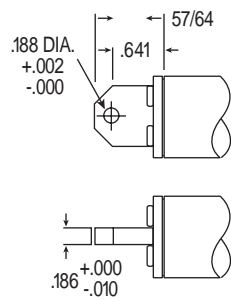
PLATE MOUNT (EITHER END) - STYLE 4 STYLE 5



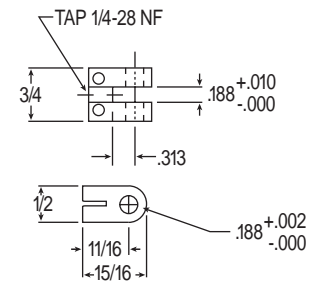
ROD ENDS



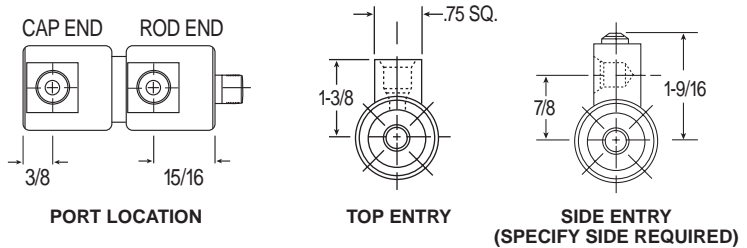
PIVOT MOUNT STYLE 2



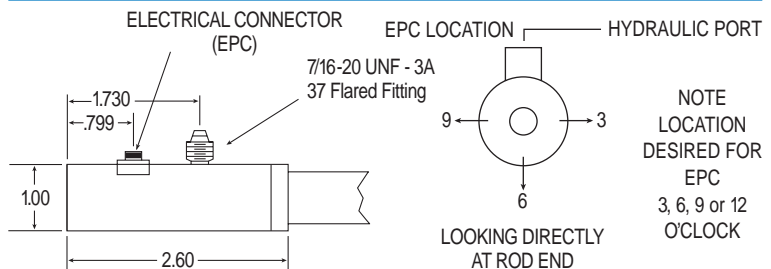
ROD CLEVIS (ATTACHMENT 2)



PORT STYLE BB



FOR POSITION FEEDBACK CYLINDERS
ADD 1.565 TO BODY LENGTH OF CYLINDER



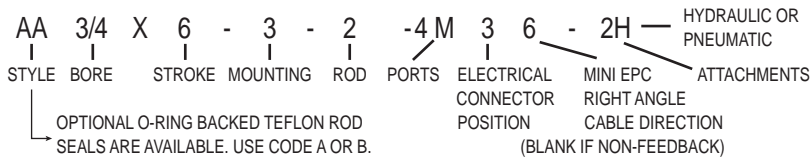
Specifications

| | STD. ROD | 2:1 ROD |
|---------------------------------------|----------|---------|
| Diameter of bore, inches | 0.500 | 0.500 |
| Diameter of piston rod, inches | 0.250 | 0.312 |
| Effective area, rod side, sq. ins. | 0.150 | 0.120 |
| Effective area, piston side, sq. ins. | 0.200 | 0.200 |

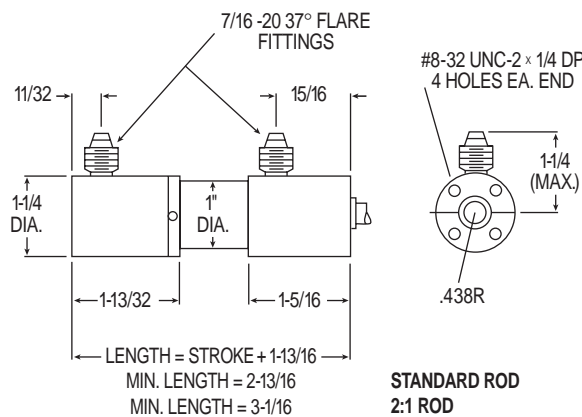
CUSTOM ACTUATOR PRODUCTS, INC.

3/4" BORE CYLINDER

The Cylinder Model Code Will Appear As Follows:



END MOUNT - STYLE 1



FOOT MOUNT (BOTH ENDS) - STYLE 3

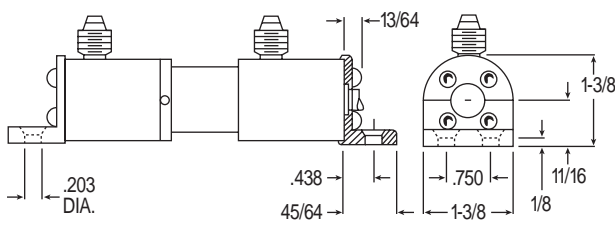
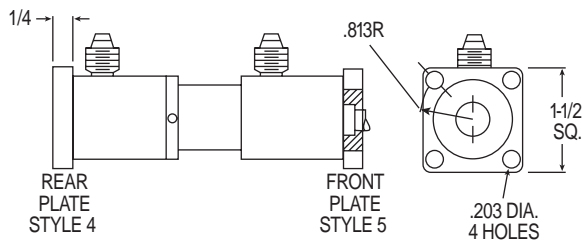
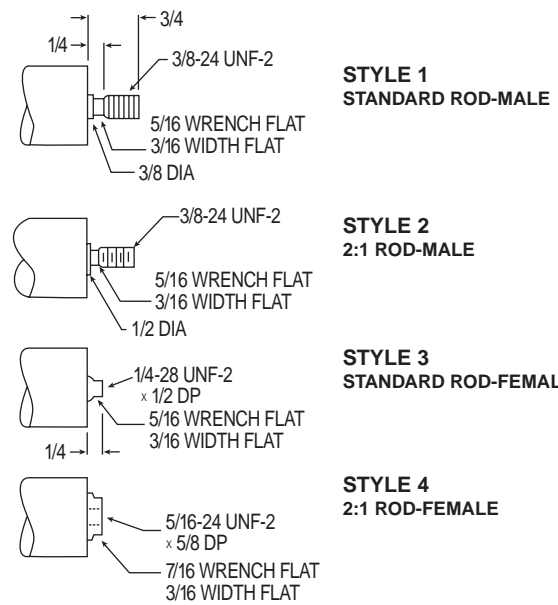


PLATE MOUNT (EITHER END) - STYLE 4

STYLE 5

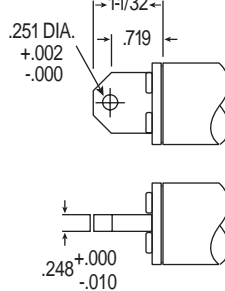


ROD ENDS

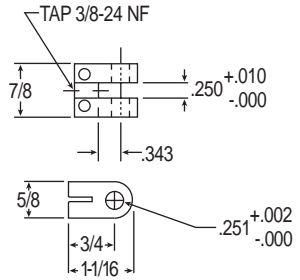


PIVOT MOUNT

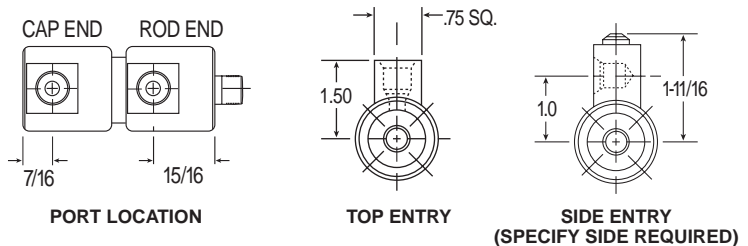
STYLE 2



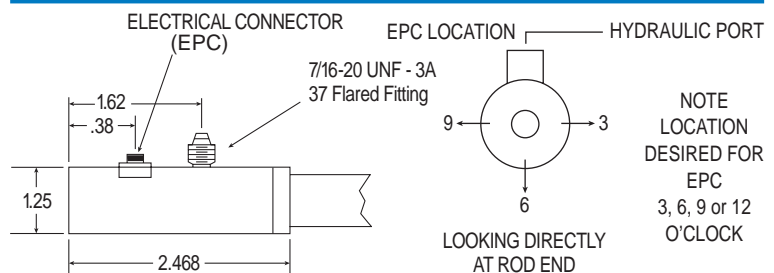
ROD CLEVIS (ATTACHMENT 2)



PORT STYLE BB



FOR POSITION FEEDBACK CYLINDERS
ADD 1.281 TO BODY LENGTH OF CYLINDER



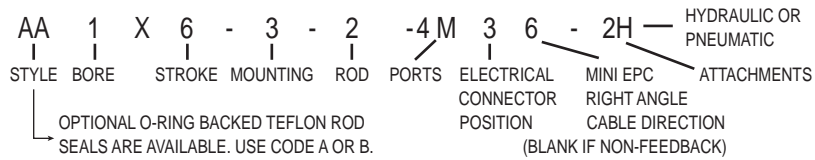
Specifications

| | STD. ROD | 2:1 ROD |
|---------------------------------------|----------|---------|
| Diameter of bore, inches | 0.750 | 0.750 |
| Diameter of piston rod, inches | 0.375 | 0.500 |
| Effective area, rod side, sq. ins. | 0.330 | 0.250 |
| Effective area, piston side, sq. ins. | 0.440 | 0.440 |

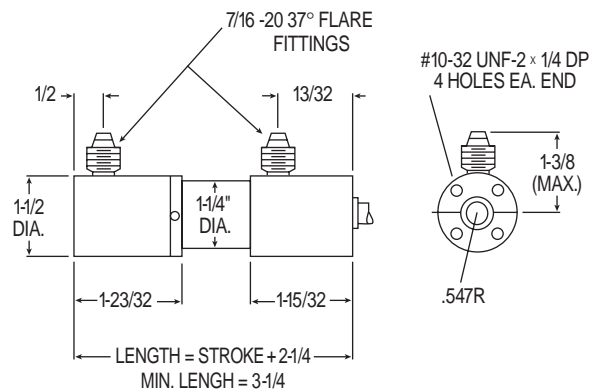
CUSTOM ACTUATOR PRODUCTS, INC.

1" BORE CYLINDER

The Cylinder Model Code Will Appear As Follows:



END MOUNT - STYLE 1



FOOT MOUNT (BOTH ENDS) - STYLE 3

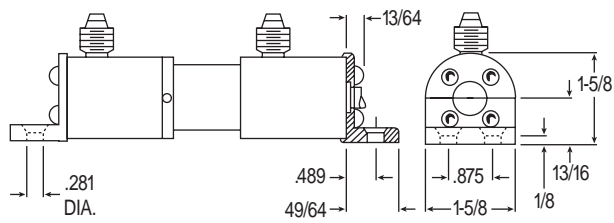
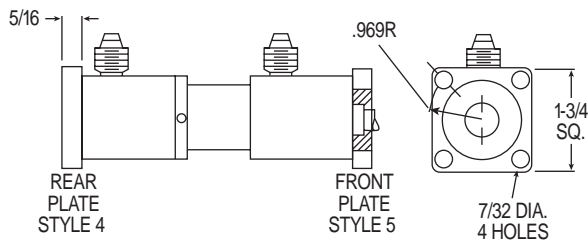
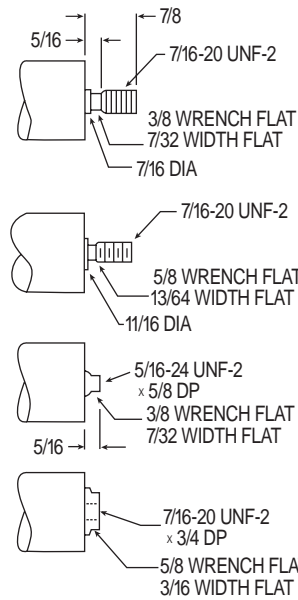


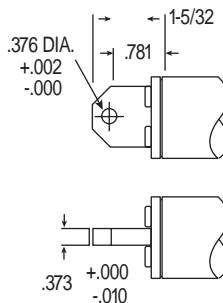
PLATE MOUNT (EITHER END) - STYLE 4 STYLE 5



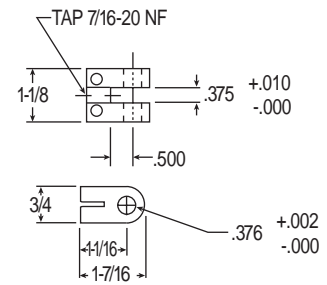
ROD ENDS



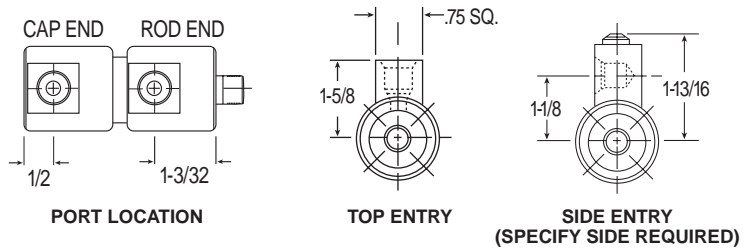
PIVOT MOUNT STYLE 2



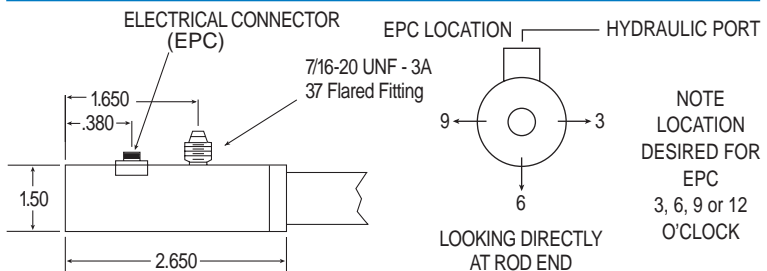
ROD CLEVIS (ATTACHMENT 2)



PORT STYLE BB



FOR POSITION FEEDBACK CYLINDERS
ADD 1.150 TO BODY LENGTH OF CYLINDER



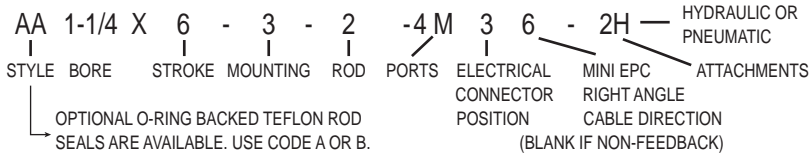
Specifications

| | STD. ROD | 2:1 ROD |
|---------------------------------------|----------|---------|
| Diameter of bore, inches | 1.250 | 1.250 |
| Diameter of piston rod, inches | 0.438 | 0.688 |
| Effective area, rod side, sq. ins. | 0.640 | 0.420 |
| Effective area, piston side, sq. ins. | 0.790 | 0.790 |

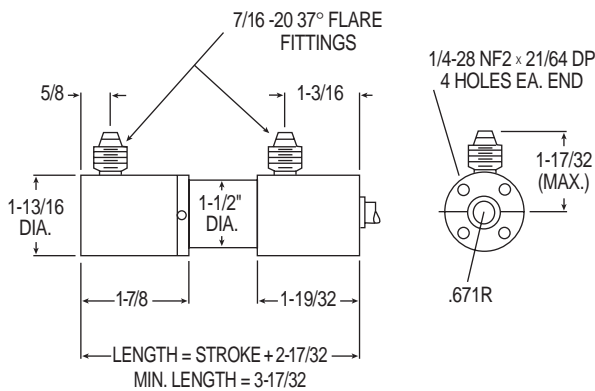
CUSTOM ACTUATOR PRODUCTS, INC.

1-1/4" BORE CYLINDER

The Cylinder Model Code Will Appear As Follows:



END MOUNT - STYLE 1



FOOT MOUNT (BOTH ENDS) - STYLE 3

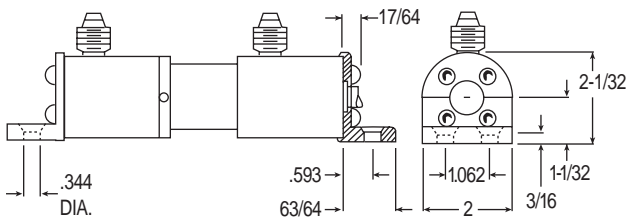
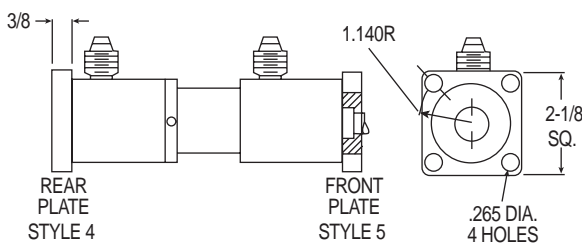
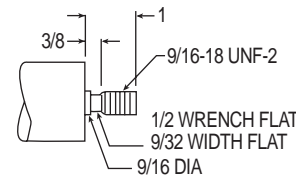


PLATE MOUNT (EITHER END) - STYLE 4

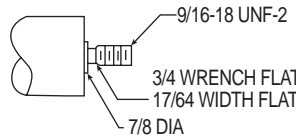
STYLE 5



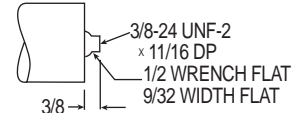
ROD ENDS



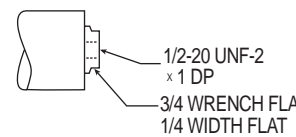
STYLE 1
STANDARD ROD-MALE



STYLE 2
2:1 ROD-MALE

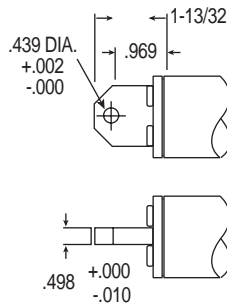


STYLE 3
STANDARD ROD-FEMALE

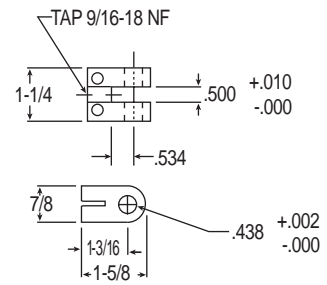


STYLE 4
2:1 ROD-FEMALE

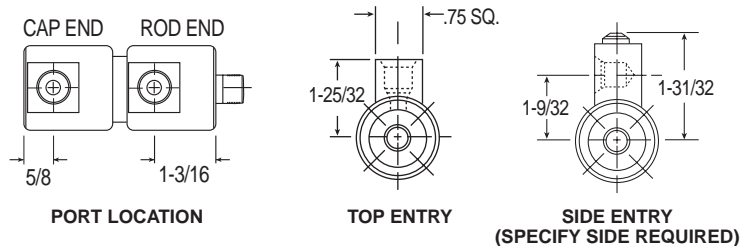
PIVOT MOUNT STYLE 2



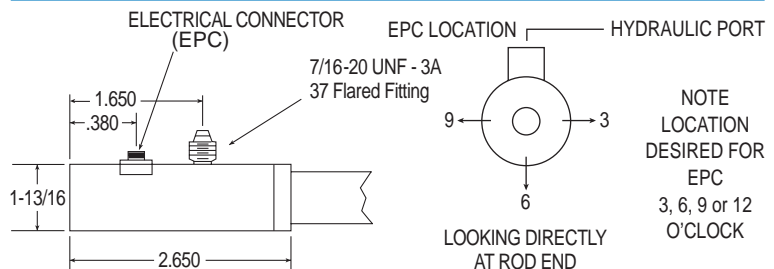
ROD CLEVIS (ATTACHMENT 2)



PORT STYLE BB



FOR POSITION FEEDBACK CYLINDERS
ADD 1.025 TO BODY LENGTH OF CYLINDER

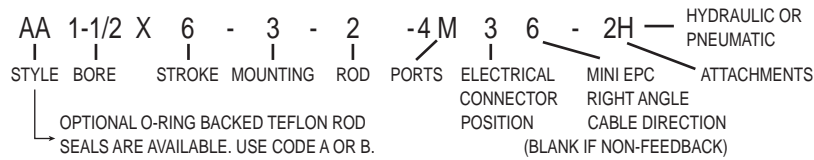


| Specifications | STD. ROD | 2:1 ROD |
|---------------------------------------|----------|---------|
| Diameter of bore, inches | 1.250 | 1.250 |
| Diameter of piston rod, inches | 0.562 | 0.875 |
| Effective area, rod side, sq. ins. | 0.980 | 0.830 |
| Effective area, piston side, sq. ins. | 1.230 | 1.230 |

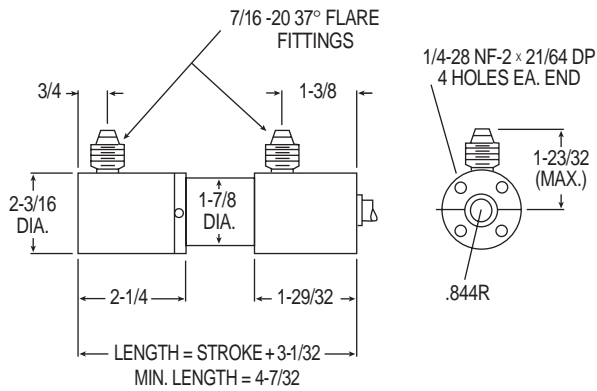
CUSTOM ACTUATOR PRODUCTS, INC.

1-1/2" BORE CYLINDER

The Cylinder Model Code Will Appear As Follows:



END MOUNT - STYLE 1



FOOT MOUNT (BOTH ENDS) - STYLE 3

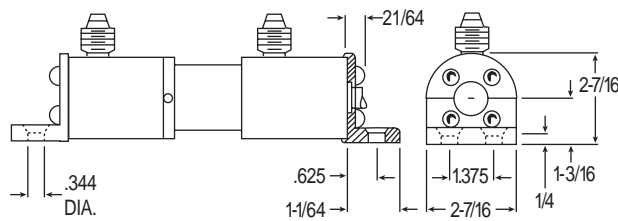
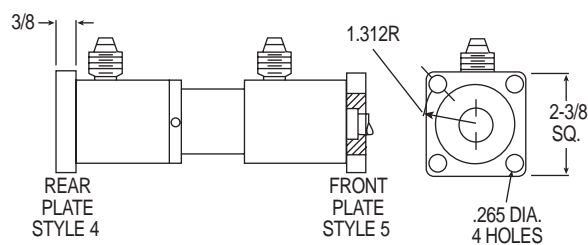
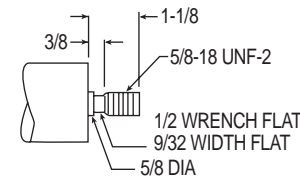


PLATE MOUNT (EITHER END) - STYLE 4

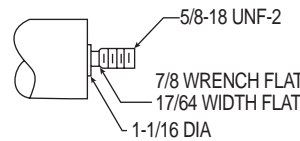
STYLE 5



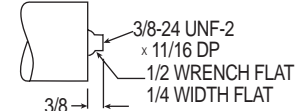
ROD ENDS



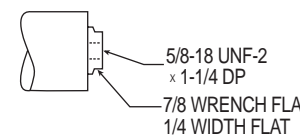
STYLE 1
STANDARD ROD-MALE



STYLE 2
2:1 ROD-MALE



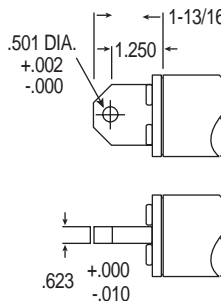
STYLE 3
STANDARD ROD-FEMALE



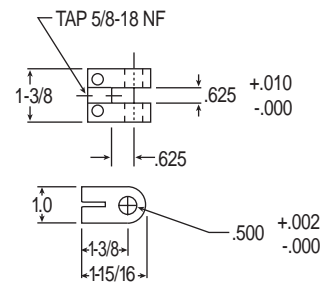
STYLE 4
2:1 ROD-FEMALE

PIVOT MOUNT

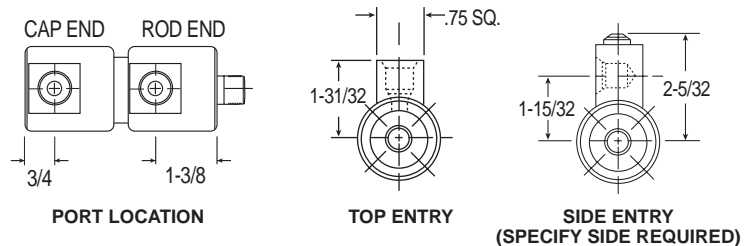
STYLE 2



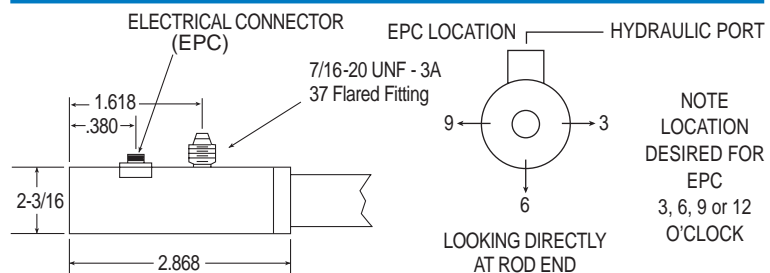
ROD CLEVIS (ATTACHMENT 2)



PORT STYLE BB



FOR POSITION FEEDBACK CYLINDERS
ADD 1.025 TO BODY LENGTH OF CYLINDER



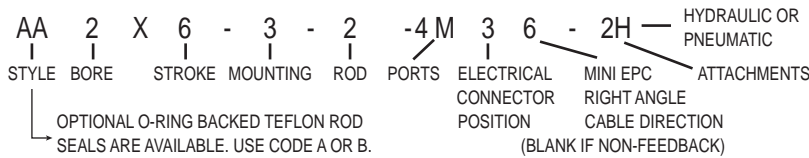
Specifications

| | STD. ROD | 2:1 ROD |
|---------------------------------------|----------|---------|
| Diameter of bore, inches | 1.500 | 1.500 |
| Diameter of piston rod, inches | 0.625 | 1.063 |
| Effective area, rod side, sq. ins. | 1.460 | 0.880 |
| Effective area, piston side, sq. ins. | 1.770 | 1.770 |

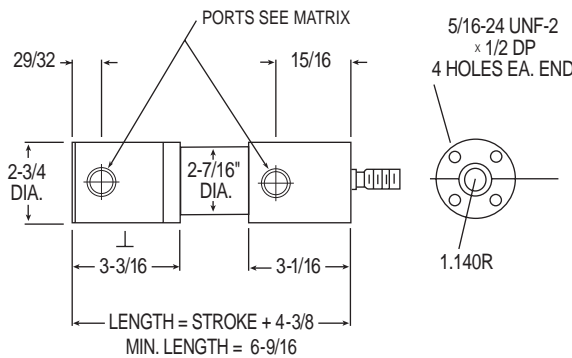
CUSTOM ACTUATOR PRODUCTS, INC.

2" BORE CYLINDER

The Cylinder Model Code Will Appear As Follows:



END MOUNT – STYLE 1



FOOT MOUNT (BOTH ENDS) – STYLE 3

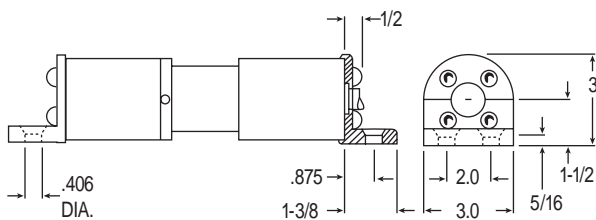
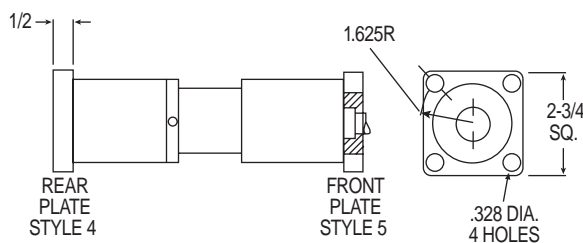


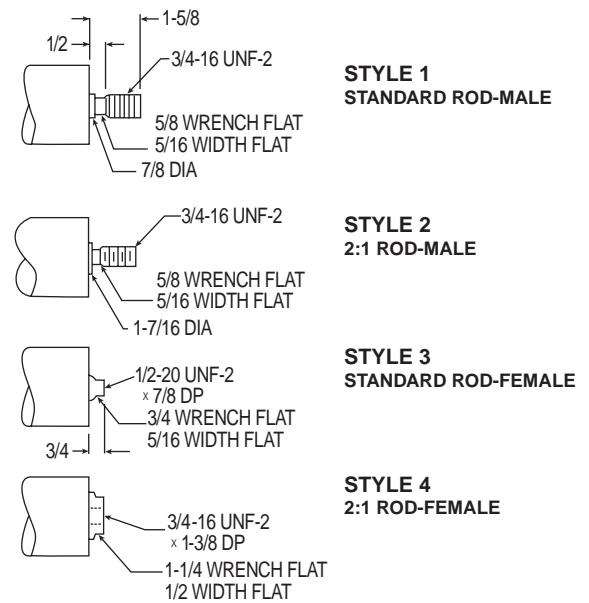
PLATE MOUNT (EITHER END) – STYLE 4

STYLE 5



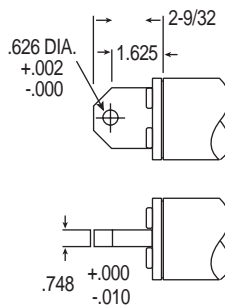
| Specifications | STD. ROD | 2:1 ROD |
|---------------------------------------|----------|---------|
| Diameter of bore, inches | 2.000 | 2.000 |
| Diameter of piston rod, inches | 0.875 | 1.438 |
| Effective area, rod side, sq. ins. | 2.540 | 1.520 |
| Effective area, piston side, sq. ins. | 3.140 | 3.140 |

ROD ENDS

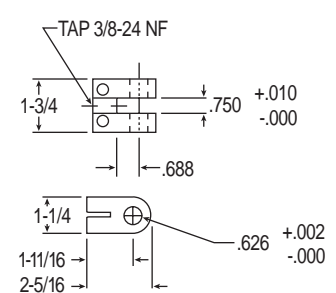


PIVOT MOUNT

STYLE 2



ROD CLEVIS (ATTACHMENT 2)

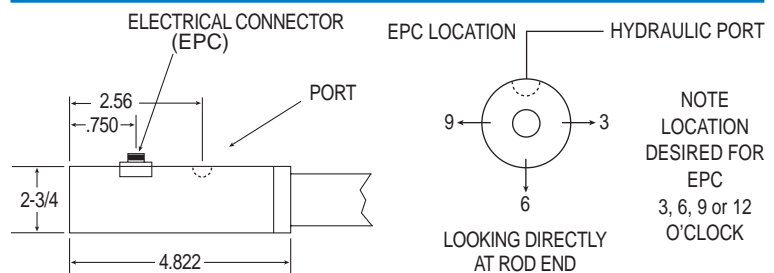


PORT STYLE

| | |
|-----|---|
| 4J | 7/16-20 straight thread female for 1/4 tubing |
| 5J | 1/2-20 straight thread female for 5/16 tubing |
| 6J | 9/16-18 straight thread female for 3/8 tubing |
| 8J | 3/4-16 straight thread female for 1/2 tubing, 2-1/2" and 3" Bores – Std. Rod. |
| 10J | 7/8-14 straight thread female for 5/8 tubing, 3" Bore – Std. Rod. |
| 1P | 1/8 female (NPSF) |
| 2P | 1/4 female (NPSF) |
| 3P | 3/8 female (NPSF) |
| 4P | 1/2 female (NPSF), 3" Bore – Std. Rod. |

NOTE:
All "J"s are used with "O" ring type fittings.
All "P" types are not recommended where leak-free connections are required for high pressure service.

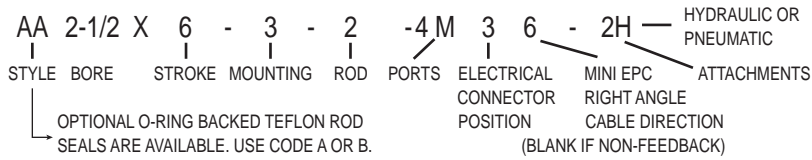
FOR POSITION FEEDBACK CYLINDERS
ADD 1.281 TO BODY LENGTH OF CYLINDER



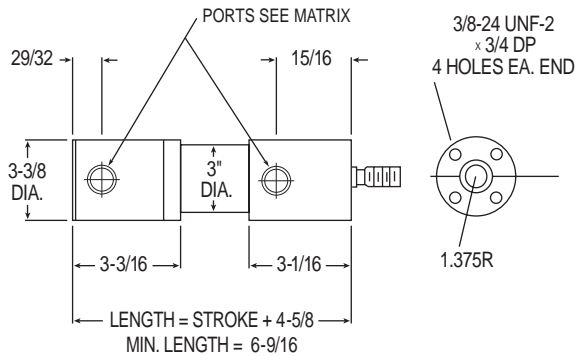
CUSTOM ACTUATOR PRODUCTS, INC.

2-1/2" BORE CYLINDER

The Cylinder Model Code Will Appear As Follows:



END MOUNT - STYLE 1



FOOT MOUNT (BOTH ENDS) - STYLE 3

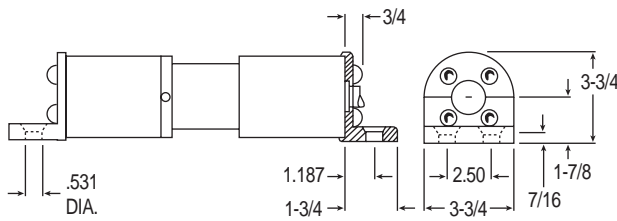
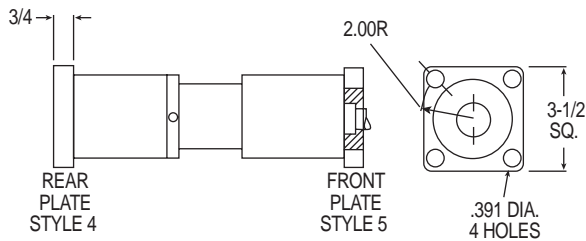
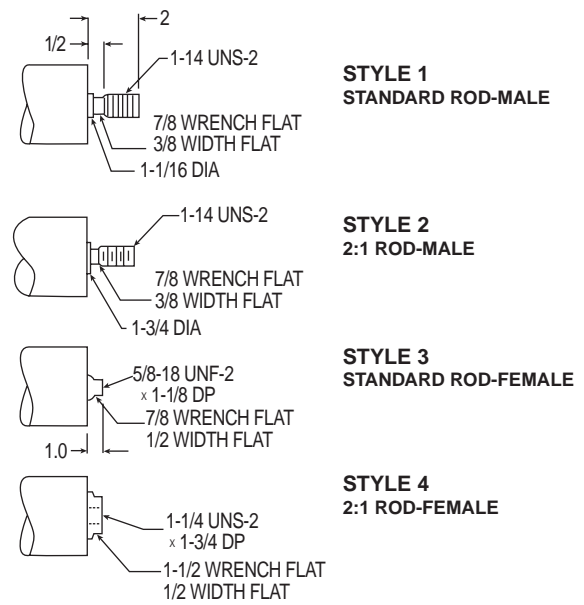


PLATE MOUNT (EITHER END) - STYLE 4 STYLE 5

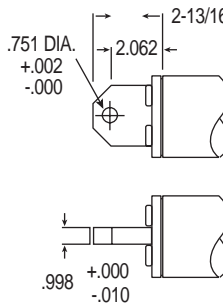


| Specifications | STD. ROD | 2:1 ROD |
|---------------------------------------|----------|---------|
| Diameter of bore, inches | 2.500 | 2.500 |
| Diameter of piston rod, inches | 1.063 | 1.750 |
| Effective area, rod side, sq. ins. | 4.020 | 2.500 |
| Effective area, piston side, sq. ins. | 4.910 | 4.910 |

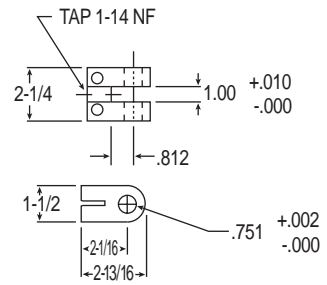
ROD ENDS



PIVOT MOUNT STYLE 2



ROD CLEVIS (ATTACHMENT 2)

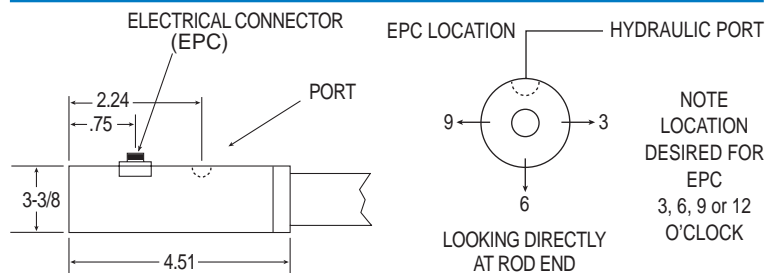


PORT STYLE

| | |
|-----|---|
| 4J | 7/16-20 straight thread female for 1/4 tubing |
| 5J | 1/2-20 straight thread female for 5/16 tubing |
| 6J | 9/16-18 straight thread female for 3/8 tubing |
| 8J | 3/4-16 straight thread female for 1/2 tubing, 2-1/2" and 3" Bores - Std. Rod. |
| 10J | 7/8-14 straight thread female for 5/8 tubing, 3" Bore - Std. Rod. |
| 1P | 1/8 female (NPSF) |
| 2P | 1/4 female (NPSF) |
| 3P | 3/8 female (NPSF) |
| 4P | 1/2 female (NPSF), 3" Bore - Std. Rod. |

NOTE:
All "J"s are used with "O" ring type fittings.
All "P" types are not recommended where leak-free connections are required for high pressure service.

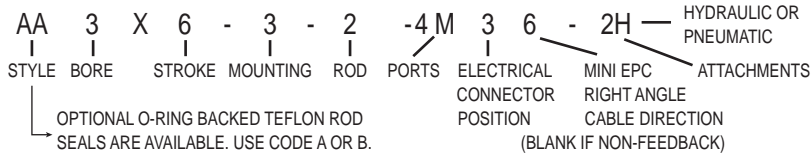
FOR POSITION FEEDBACK CYLINDERS
ADD 1.281 TO BODY LENGTH OF CYLINDER



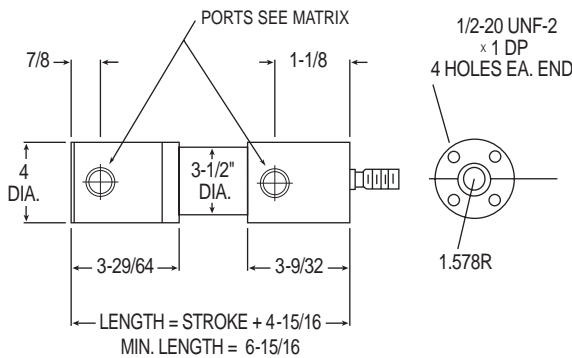
CUSTOM ACTUATOR PRODUCTS, INC.

3" BORE CYLINDER

The Cylinder Model Code Will Appear As Follows:



END MOUNT - STYLE 1



FOOT MOUNT (BOTH ENDS) - STYLE 3

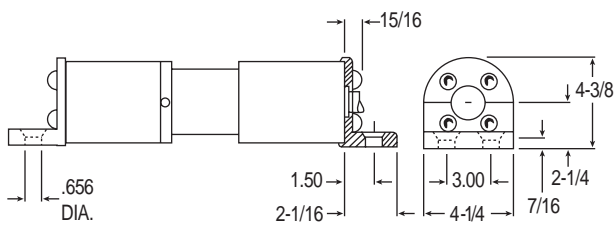
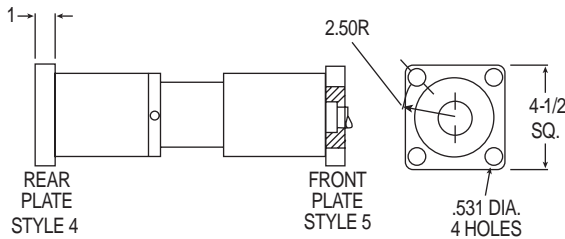
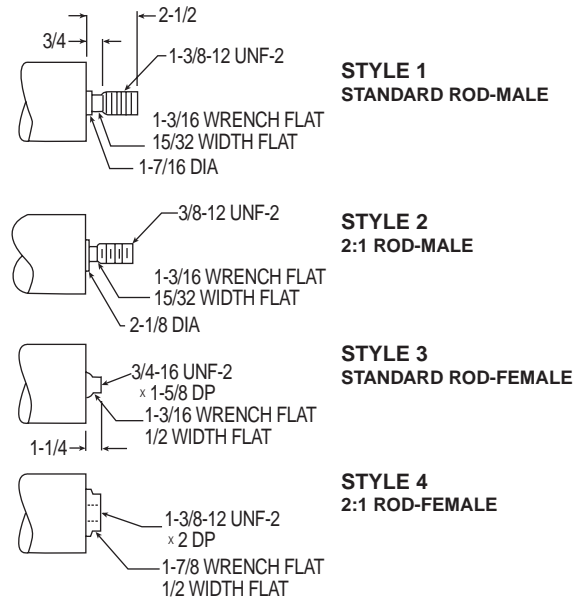


PLATE MOUNT (EITHER END) - STYLE 4

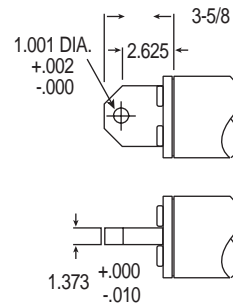


| Specifications | STD. ROD | 2:1 ROD |
|---------------------------------------|----------|---------|
| Diameter of bore, inches | 3.000 | 3.000 |
| Diameter of piston rod, inches | 1.438 | 2.125 |
| Effective area, rod side, sq. ins. | 5.450 | 3.520 |
| Effective area, piston side, sq. ins. | 7.070 | 7.070 |

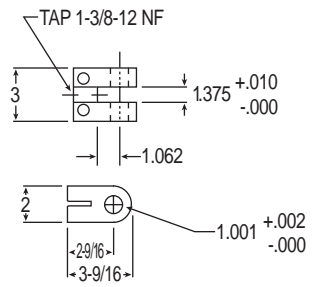
ROD ENDS



PIVOT MOUNT STYLE 2



ROD CLEVIS (ATTACHMENT 2)

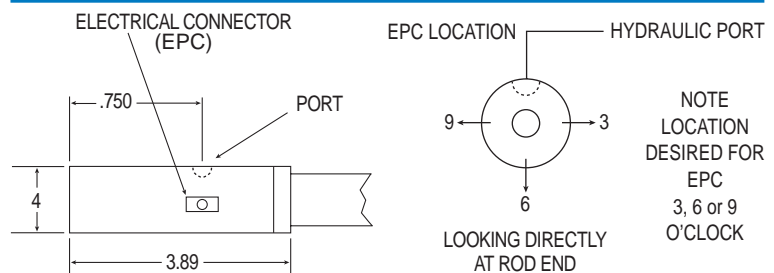


PORT STYLE

| | |
|-----|---|
| 4J | 7/16-20 straight thread female for 1/4 tubing |
| 5J | 1/2-20 straight thread female for 5/16 tubing |
| 6J | 9/16-18 straight thread female for 3/8 tubing |
| 8J | 3/4-16 straight thread female for 1/2 tubing, 2-1/2" and 3" Bores - Std. Rod. |
| 10J | 7/8-14 straight thread female for 5/8 tubing, 3" Bore - Std. Rod. |
| 1P | 1/8 female (NPSF) |
| 2P | 1/4 female (NPSF) |
| 3P | 3/8 female (NPSF) |
| 4P | 1/2 female (NPSF), 3" Bore - Std. Rod. |

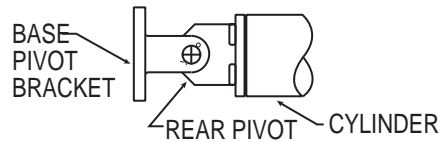
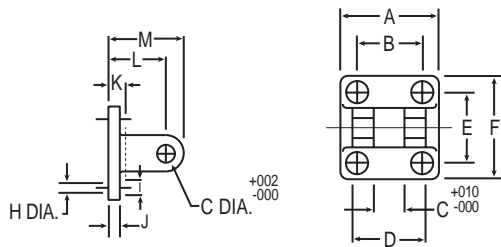
NOTE:
All "J"s are used with "O" ring type fittings.
All "P" types are not recommended where leak-free connections are required for high pressure service.

FOR POSITION FEEDBACK CYLINDERS
ADD 1.281 TO BODY LENGTH OF CYLINDER

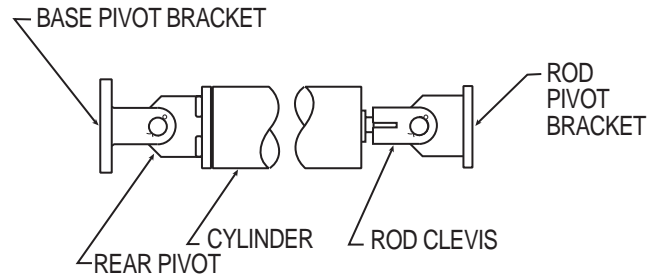


CUSTOM ACTUATOR PRODUCTS, INC.

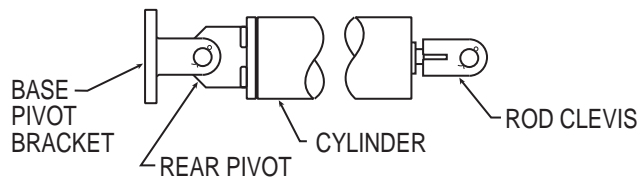
**BASE PIVOT BRACKET
(ATTACHMENT 4)**



**BASE PIVOT BRACKET
WITH ROD CLEVIS AND ROD PIVOT
(ATTACHMENT 7)**



**BASE PIVOT BRACKET WITH ROD CLEVIS
(ATTACHMENT 5)**



BASE PIVOT BRACKET

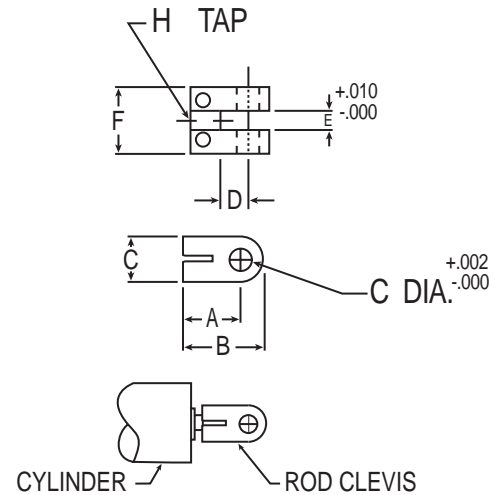
| DIM. | CYLINDER BORE SIZE | | | | | | | |
|-----------|--------------------|---------|---------|---------|---------|---------|---------|--------|
| | 1/2 | 3/4 | 1 | 1-1/4 | 1-1/2 | 2 | 2-1/2 | 3 |
| A | 1-1/8 | 1-3/8 | 1-9/16 | 1-13/16 | 2-5/16 | 2-7/8 | 3-1/2 | 4-1/8 |
| B | .625 | .875 | 1.000 | 1.250 | 1.625 | 2.000 | 2.500 | 3.000 |
| C | .188 | .250 | .375 | .500 | .625 | .750 | 1.000 | 1.375 |
| D | 11/16 | 7/8 | 1-1/8 | 1-1/4 | 1-5/8 | 2-1/16 | 2-5/8 | 3-1/4 |
| E | 1.125 | 1.250 | 1.375 | 1.750 | 2.125 | 2.500 | 3.000 | 3.750 |
| F | 1-5/8 | 1-3/4 | 1-15/16 | 2-5/16 | 2-13/16 | 3-3/8 | 4 | 4-7/8 |
| G | .188 | .251 | .376 | .438 | .501 | .626 | .751 | 1.001 |
| H | .203 | .203 | .265 | .265 | .328 | .391 | .515 | .656 |
| I | 21/64 | 21/64 | 25/64 | 26/64 | 31/64 | 19/32 | 49/64 | 31/32 |
| J | 1/8 | 1/8 | 1/8 | 1/8 | 7/32 | 1/4 | 3/8 | 3/8 |
| K | 11/32 | 11/32 | 7/16 | 7/16 | 9/16 | 15/16 | 1-13/64 | 1-1/4 |
| L | .875 | 1.000 | 1.250 | 1.375 | 1.750 | 2.250 | 2.750 | 3.250 |
| M | 1-5/32 | 1-11/32 | 1-5/8 | 1-27/32 | 2-11/32 | 2-15/16 | 3-5/8 | 4-1/4 |
| ORDER NO. | 704259 | 704260 | 704261 | 704262 | 704263 | 704264 | 704265 | 704266 |

CUSTOM ACTUATOR PRODUCTS, INC.

ROD CLEVIS

| DIM. | CYLINDER BORE SIZE | | | | | | | |
|-----------|--------------------|--------------|---------------|---------------|--------------|--------------|------------|----------------|
| | 1/2 | 3/4 | 1 | 1-1/4 | 1-1/2 | 2 | 2-1/2 | 3 |
| A | 11/16 | 3/4 | 1-1/16 | 1-3/16 | 1-3/8 | 1-11/16 | 2-1/16 | 2-9/16 |
| B | 15/16 | 1-1/16 | 1-7/16 | 1-5/8 | 1-15/16 | 2-5/16 | 2-13/16 | 3-9/16 |
| C | .188 | .251 | .376 | .438 | .501 | .626 | .751 | 1.001 |
| D | .313 | .343 | .500 | .534 | .625 | .688 | .812 | 1.062 |
| E | .188 | .250 | .375 | .500 | .625 | .750 | 1.000 | 1.375 |
| F | 3/4 | 7/8 | 1-1/8 | 1-1/4 | 1-3/8 | 1-3/4 | 2-1/4 | 3 |
| G | 1/2 | 5/8 | 3/4 | 7/8 | 1 | 1-1/4 | 1-1/2 | 2 |
| H | 1/4-28 NF | 3/8-24 NF | 7/16-20 NF | 9/16-18 NF | 5/8-18 NF | 3/4-16 NF | 1-14 NF | 1-3/8-12 NF |
| ORDER NO. | 704267 | 704268 | 704269 | 704270 | 704271 | 704272 | 704273 | 704274 |

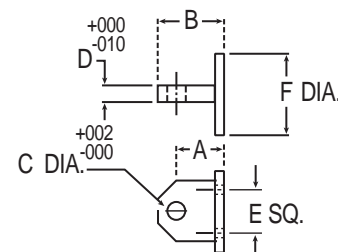
ROD CLEVIS (ATTACHMENT 2)



PIVOT MOUNT

| DIM. | CYLINDER BORE SIZE | | | | | | | |
|-----------|--------------------|--------|--------|---------|---------|--------|---------|--------|
| | 1/2 | 3/4 | 1 | 1-1/4 | 1-1/2 | 2 | 2-1/2 | 3 |
| A | .641 | .719 | .781 | .969 | 1.250 | 1.625 | 2.062 | 2.625 |
| B | 7/8 | 1-1/32 | 1-5/32 | 1-13/32 | 1-13/16 | 2-9/32 | 2-13/16 | 3-5/8 |
| C | .188 | .251 | .376 | .439 | .501 | .626 | .751 | 1.001 |
| D | .186 | .248 | .373 | .498 | .623 | .748 | .98 | 1.373 |
| E | .508 | .619 | .774 | .948 | 1.193 | 1.612 | 1.945 | 2.232 |
| F | 1 | 1-1/4 | 1-1/2 | 1-13/16 | 2-3/16 | 2-3/4 | 3-3/8 | 4 |
| ORDER NO. | 358676 | 358677 | 358678 | 358679 | 358680 | 205135 | 205136 | 205137 |

PIVOT MOUNT (MOUNTING STYLE 2)



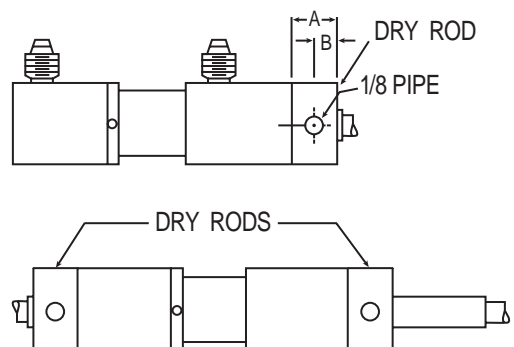
DRY ROD CYLINDER OPTION

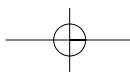
Dry Rods are used to trap and drain off excess oil which may leak past cylinder seals due to severe cylinder duty, extreme environmental conditions or use of thin fluids.

| DIM. | DIMENSIONAL INFORMATION | | | | | | | | ROD |
|-----------|-------------------------|--------|--------|--------|--------|--------|--------|--------|------|
| | CYLINDER BORE SIZE | | | | | | | | |
| | 1/2 | 3/4 | 1 | 1-1/4 | 1-1/2 | 2 | 2-1/2 | 3 | |
| A | 5/8 | 27/32 | 27/32 | 29/32 | 3/4 | 3/4 | 3/4 | 3/4 | — |
| B | 3/8 | 35/64 | 37/64 | 39/64 | 7/16 | 29/64 | 29/64 | 29/64 | — |
| ORDER NO. | 704185 | 704186 | 704188 | 704190 | 704192 | 704194 | 704196 | 704198 | Std. |
| | — | 704187 | 704189 | 704191 | 704193 | 704195 | 704197 | 704199 | 2:1 |

NOTE: Cylinders ordered with Dry Rod(s) are provided with dimension A of extra rod so the rod extension from the cylinder face is as shown in standard cylinder dimensional information.

DRY ROD CYLINDER OPTION

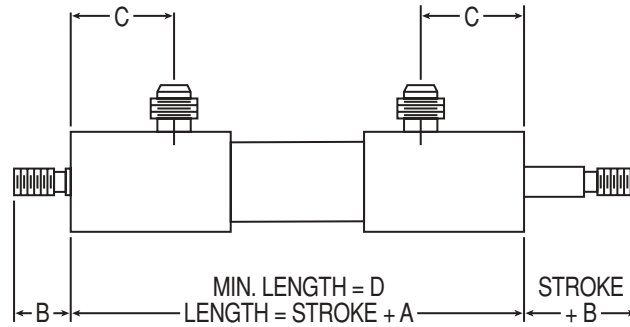




CUSTOM ACTUATOR PRODUCTS, INC.

DOUBLE ROD END CYLINDER

| DIMENSIONAL INFORMATION | | | | |
|-------------------------|---------|-------|--------|---------|
| BORE | A | B | C | D |
| 1/2 | 2-1/4 | 5/8 | 15/16 | 2-11/16 |
| 3/4 | 2-1/4 | 3/4 | 15/16 | 2-11/16 |
| 1 | 2-11/16 | 7/8 | 1-3/32 | 3 |
| 1-1/4 | 2-15/16 | 1 | 1-3/16 | 3-1/4 |
| 1-1/2 | 3-1/2 | 1-1/8 | 1-3/8 | 3-7/8 |
| 2 | 4-5/8 | 1-5/8 | 15/16 | 6-13/16 |
| 2-1/2 | 4-7/8 | 2 | 15/16 | 6-3/16 |
| 3 | 5-1/16 | 2-1/2 | 1-1/8 | 7-1/8 |



REPLACEMENT PARTS FOR CYLINDERS

SEAL KITS

STYLE "AA," "BB," & "CC" SEAL KITS WITH "V-LIP" ROD SEAL

| BORE | BUNA-N | | | | EPR | |
|--------|------------------|---------|----------|---------|----------|---------|
| | Double End Cycl. | | | | | |
| SIZE | Std. Rod | 2:1 Rod | Std. Rod | 2:1 Rod | Std. Rod | 2:1 Rod |
| 1/2" | 632450 | 640210 | 632451 | N.A. | N.A. | N.A. |
| 3/4" | 632452 | 632453 | 632454 | 632455 | 634249 | |
| 1" | 632456 | 632457 | 632458 | 632459 | 635025 | |
| 1-1/4" | 632460 | 632461 | 632462 | 632463 | | |
| 1-1/2" | 632464 | 632465 | 632466 | 632467 | 634250 | |
| 2" | 630255 | 631874 | 631084 | 635751 | 636052 | |
| 2-1/2" | 630253 | | | | | |
| 3" | 630254 | | 631993 | | 634243 | |
| 4" | 629590 | 632805 | 629886 | | 630791 | 630619 |



STUFFING BOXES

| BORE | STANDARD ROD | | 2:1 ROD | |
|--------|-----------------|----------------|-----------------|----------------|
| | Teflon Rod Seal | V-Lip Rod Seal | Teflon Rod Seal | V-Lip Rod Seal |
| 1/2" | 357441 | 359713 | N.A. | 365292 |
| 3/4" | 357442 | 359717 | 357443 | 359823 |
| 1" | 357444 | 359799 | 357445 | 359855 |
| 1-1/4" | 357446 | 359794 | 357447 | 360202 |
| 1-1/2" | 357448 | 359722 | 357449 | 360607 |

Stuffing boxes are made of bearing bronze unless otherwise specified.



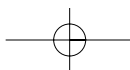
STYLE "A," "B," & "C" SEAL KITS WITH TEFLON ROD SEAL

| BORE | BUNA-N | | | | VITON | | EPR | |
|--------|------------------|---------|----------|---------|----------|---------|----------|---------|
| | Double End Cycl. | | | | | | | |
| SIZE | Std. Rod | 2:1 Rod | Std. Rod | 2:1 Rod | Std. Rod | 2:1 Rod | Std. Rod | 2:1 Rod |
| 1/2" | 626443 | N.A. | 626460 | N.A. | 626446 | N.A. | 626451 | N.A. |
| 3/4" | 626481 | 626515 | 626501 | 628142 | 626483 | 626514 | 633626 | 633330 |
| 1" | 626518 | 626552 | 626535 | 629681 | 626520 | 626551 | 626526 | 626548 |
| 1-1/4" | 626555 | 626590 | 626570 | 627951 | 626558 | 626587 | | 626581 |
| 1-1/2" | 626592 | 626627 | 626612 | 626614 | 626594 | 626625 | 626596 | |
| 2" | 626629 | 626664 | 626645 | 631760 | 626631 | 626662 | | |
| 2-1/2" | 626666 | 626701 | 626684 | 632702 | 626669 | 626699 | 626672 | |
| 3" | 626703 | 626738 | 626720 | 632794 | 626706 | 626736 | 626717 | |
| 4" | 626397 | 626398 | 628936 | 627790 | 627673 | 628625 | 627891 | |

ROD BUSHINGS

| BORE | STANDARD ROD | | 2:1 ROD | |
|--------|-----------------|----------------|-----------------|----------------|
| | Teflon Rod Seal | V-Lip Rod Seal | Teflon Rod Seal | V-Lip Rod Seal |
| 2" | 357450 | 359519 | 364273 | 364266 |
| 2-1/2" | 357452 | 360414 | 357453 | N.A. |
| 3" | 357454 | 359800 | 357455 | N.A. |
| 4" | 358520 | N.A. | 359627 | N.A. |

SEAL KIT CONTENTS: All O-Rings, all Teflon seals or "V-Lip" seals, rod wiper(s), back-up ring(s), and installation instructions.



CUSTOM ACTUATOR PRODUCTS, INC.

“Smart” Cylinder With Integral Valve Pad



CYLINDER FEATURES:

- Internal LRT or MLRT position feedback device
- Stroke lengths in 1/8" increments
- NG3 Mini or NG6(DO3) Valve Pad
- NG3 Mini or NG6(DO3) Proportional Valve
- Bore sizes as small as 3/4"
- Pressures to 5000 psi
- 3-Pin quick disconnect position output port

Designed to operate with CAP Series 5030 Closed Loop Signal Tracking Control Unit

System Integration Information MM Series Cylinder

3/4", 1", 1 1/4" BORE:

- Uses NG3 Mini Valve
- Internal MLRT Position Device
- Maximum Stroke 16"
- Use NH Series Cable

1 1/2", 2", 2 1/2" BORE:

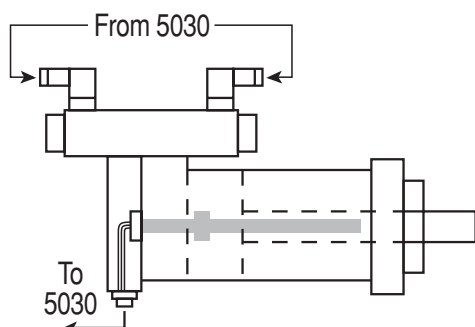
- Uses NG6(DO3) Proportional Valve
- Internal LRT Position Device
- Maximum Stroke 72"
- Use BH Series Cable

NH SERIES CABLES:

- Specify 6', 15', 20'
- 24 AWG PVC Insulated
- 3 Conductor

BH SERIES CABLES:

- Specify 6', 12', 20'
- 22 AWG PVC Insulated
- 3 Conductor



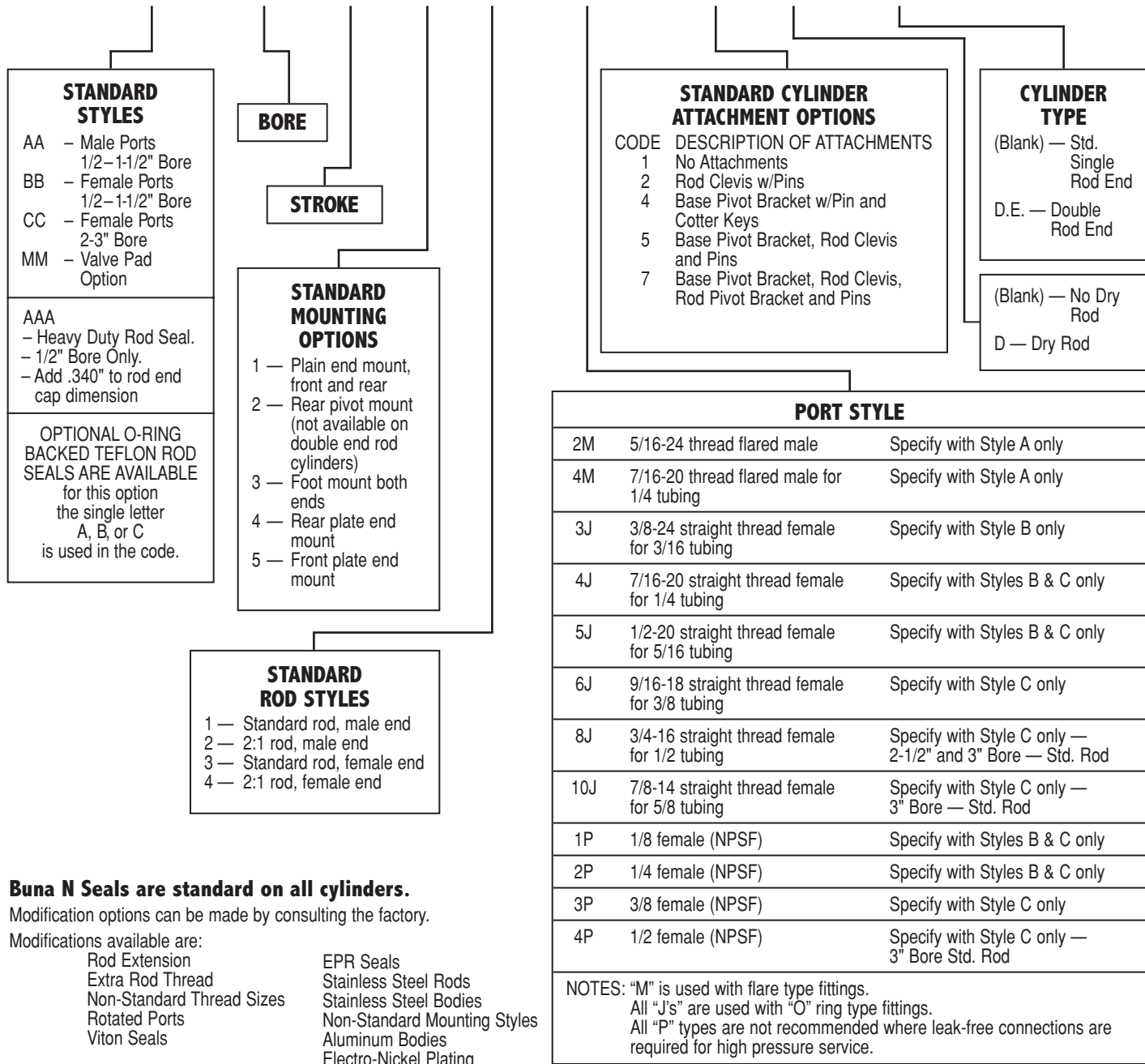
5030 Ordering Information

| Model No. | Input Power | Input Signal | Output Signal | Hyd./Pneu. |
|-----------|-------------|--------------|---------------|------------|
| 5030 | 9 to 36Vdc | 0 to 10Vdc | 0 to 10Vdc | H |
| 5031 | 115vac | 0 to 10Vdc | 0 to 10Vdc | H |
| 5032 | 9 to 36Vdc | 4 to 20mA | 4 to 20mA | H |
| 5033 | 115vac | 4 to 20mA | 4 to 20mA | H |
| 5034 | 9 to 36Vdc | 0 to 10Vdc | 0 to 10Vdc | P |
| 5035 | 115vac | 0 to 10Vdc | 0 to 10Vdc | P |
| 5036 | 9 to 36Vdc | 4 to 20mA | 4 to 20mA | P |
| 5037 | 115vac | 4 to 20mA | 4 to 20mA | P |

CYLINDER ORDERING INFORMATION

HOW TO ORDER: EXAMPLE MODEL CODE:

AA1 X 8—2—1—4M—1 D—D.E.**



Buna N Seals are standard on all cylinders.

Modification options can be made by consulting the factory.

Modifications available are:

- Rod Extension
- Extra Rod Thread
- Non-Standard Thread Sizes
- Rotated Ports
- Viton Seals

- EPR Seals
- Stainless Steel Rods
- Stainless Steel Bodies
- Non-Standard Mounting Styles
- Aluminum Bodies
- Electro-Nickel Plating

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