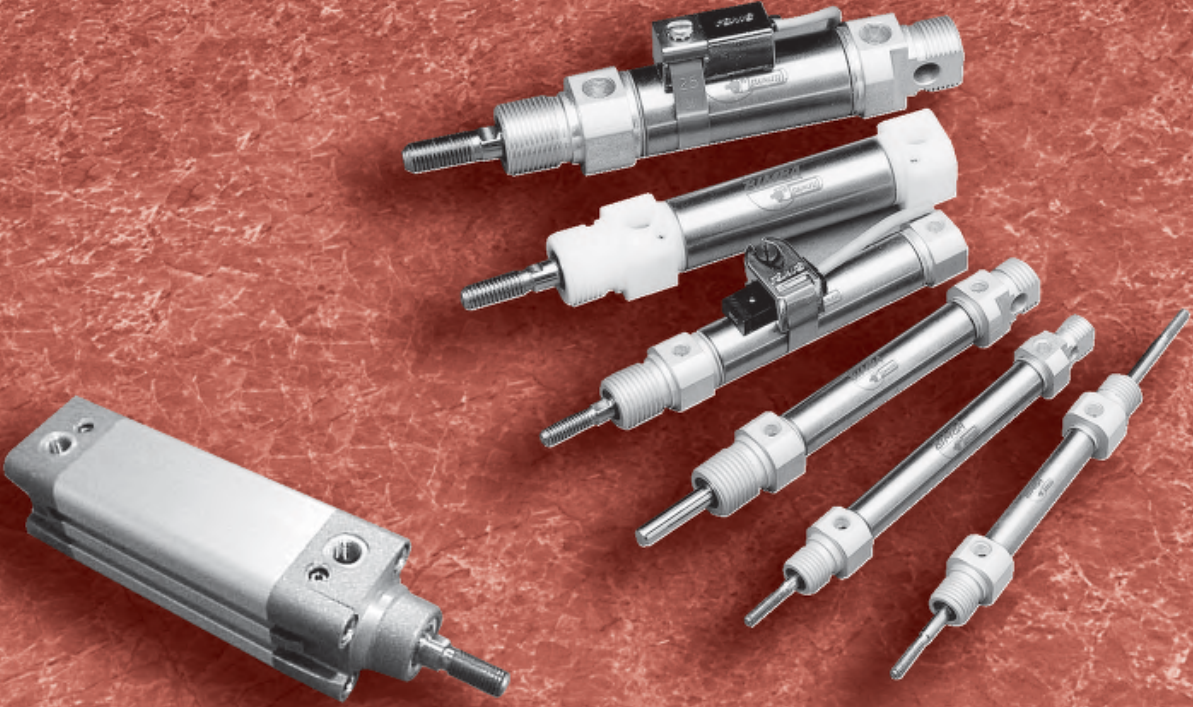


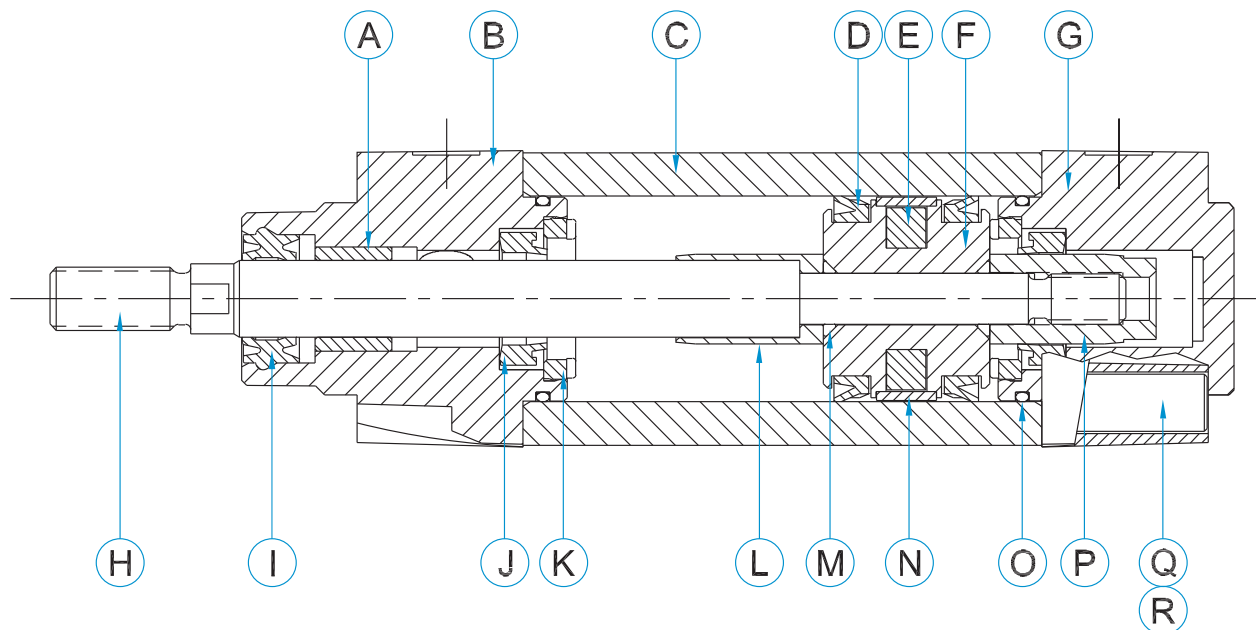
ISO 6431/6432 Cylinders

| | |
|---------------------------------------|-------------|
| ISO 6431, VDMA 24562 Air Cylinders | 11.2-11.6 |
| ISO 6431 Accessories | 11.7-11.9 |
| ISO 6432/CETOP Cylinders | 11.10-11.22 |
| ISO 6432 Accessories | 11.23 |
| PCE Air Cylinders | 11.24-11.26 |
| PCE Accessories | 11.27 |



ISO 6431/6432
Cylinders

Bimba ISO 6431, VDMA 24562 Air Cylinders



| Item | Component | Material |
|-----------|---|-------------------------|
| A | Rod Bearing | Sintered Bronze |
| B | Rod Guide | Aluminum Alloy |
| C | Body | Anodized Aluminum Alloy |
| D | Piston Seal (2) | Polyurethane |
| E | Magnet | Plastoferrite |
| F | Piston | Aluminum Alloy |
| G | Rear Head | Aluminum Alloy |
| H | Piston Rod | Stainless Steel |
| I | Rod Seal/Wiper | Polyurethane |
| J | Cushion Seal (2) | Buna-N |
| K | Cushion Seal Retainer (2) | Nylon 66 |
| L | Cushion Sleeve | Aluminum Alloy |
| M | Piston O-Ring (2) | Buna-N |
| N | Piston Bearing Ring | Nylon 66 |
| O | Body Seal (2) | Buna-N |
| P | Piston Nut/Cushion | Aluminum Alloy |
| Q | Tie Rod Nut (8) | Zinc Plated Steel |
| R | Tie Rod (4) | Stainless Steel |
| Not Shown | Cushion Adjustable Screw (2) Cushion Adjustable Seal (2) | Plated Brass Buna-N |

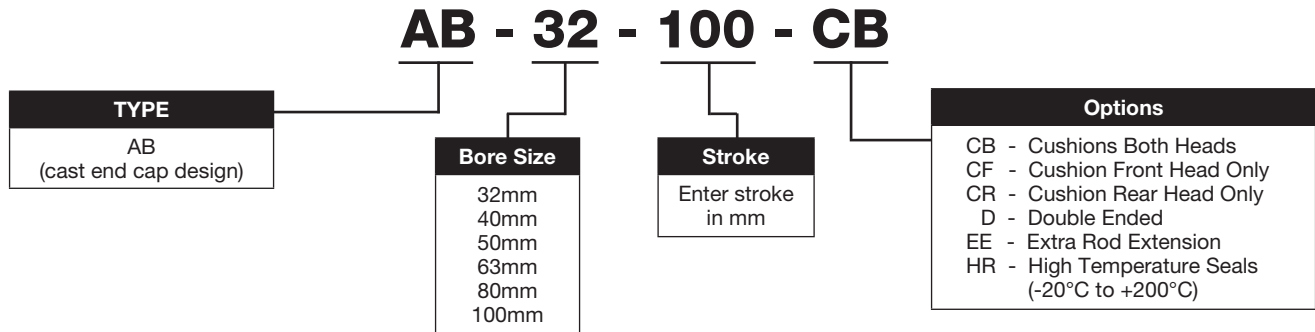
Bimba ISO 6431, VDMA 24562 Air Cylinders

How to Order

The Model Number for all Bimba ISO 6431 cylinders consists of four alphanumeric clusters. These designate type, bore size and stroke length, and options.

A variety of *Mounting Kits* are available for use with each basic cylinder. Please select the required mounting type from the specifications shown in the appropriate Bore Size Section.

Please refer to the charts below for an example of Model Number **AB-32-100-CB**. This is an ISO 6431 Type Cylinder, with 32mm Bore Size, 100mm Stroke Size. **Cushions and Magnetic Piston are standard.**



General Specifications

| Specifications | Cylinder Bore |
|-----------------------------|-------------------|
| Operating Pressure Range | 0.5 bar to 10 bar |
| Operating Temperature Range | 0°C to +80°C |
| Stroke Lengths | 1mm to 2800mm |

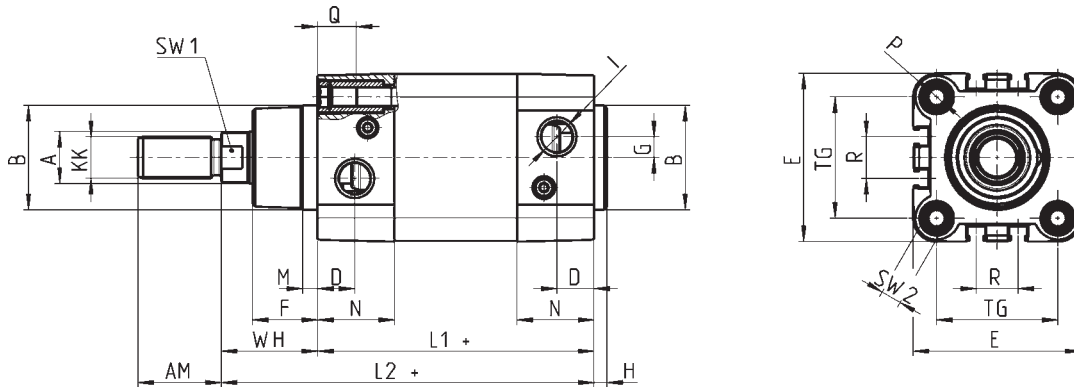
Note: Position Feedback available as a special option.

ISO 6431 VDMA Price List

| Basic Model | 32mm | 40mm | 50mm | 63mm | 80mm | 100mm |
|--------------------------|----------|----------|----------|----------|----------|----------|
| AB-00-□ - | \$110.10 | \$118.30 | \$130.00 | \$153.70 | \$206.90 | \$254.00 |
| <i>add per mm stroke</i> | 0.12 | 0.15 | 0.20 | 0.23 | 0.32 | 0.39 |
| Options | | | | | | |
| D - Double Rod Option | \$25.70 | \$34.10 | \$44.40 | \$48.30 | \$58.00 | \$90.60 |
| <i>add per mm stroke</i> | 0.17 | 0.19 | 0.26 | 0.30 | 0.45 | 0.51 |
| HR - High Temperature | 53.90 | 58.80 | 59.70 | 63.80 | 97.80 | 112.00 |
| EE - per mm | 0.07 | 0.07 | 0.09 | 0.09 | 0.16 | 0.16 |

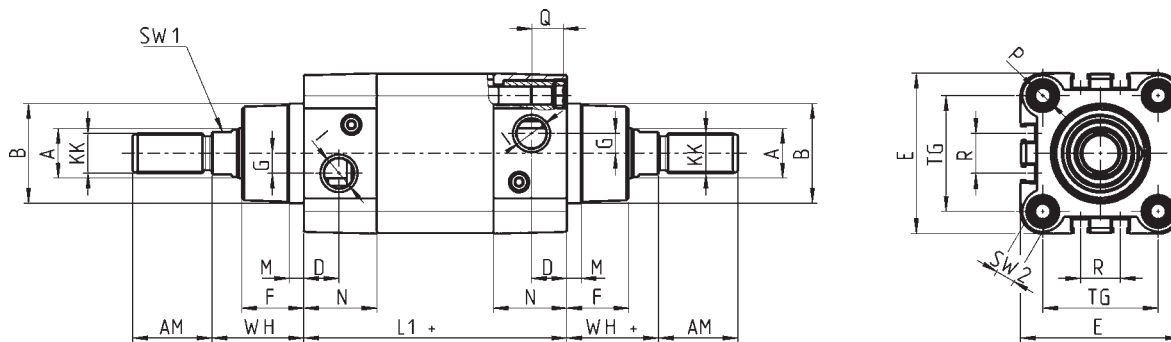
Bimba ISO 643I, VDMA 24562 Air Cylinders

Basic Cylinder (mm)



| Bore | A | KK | B ^{d11} | D | F | AM | H | I | WH | L1 | L2 | M | N | Q | P | G | TG | R | E | SW1 | SW2 | Cushion Stroke | Weight (Kg) | Weight per mm |
|------|----|----------|------------------|----|----|----|---|------|----|-----|-----|---|------|------|-----|---|------|------|------|-----|-----|----------------|-------------|---------------|
| 32 | 12 | M10x1.25 | 30 | 14 | 18 | 22 | 4 | G1/8 | 26 | 94 | 120 | 5 | 26 | 16 | M6 | 5 | 32,5 | 13 | 46 | 10 | 6 | 19 | .60 | .003 |
| 40 | 16 | M12x1.25 | 35 | 15 | 21 | 24 | 4 | G1/4 | 30 | 105 | 135 | 5 | 29 | 16 | M6 | 5 | 38 | 13,5 | 55 | 13 | 6 | 22 | .89 | .005 |
| 50 | 20 | M16x1.5 | 40 | 15 | 25 | 32 | 4 | G1/4 | 37 | 106 | 143 | 6 | 29,5 | 16 | M8 | 8 | 46,5 | 16 | 64,5 | 17 | 8 | 22 | 1.44 | .006 |
| 63 | 20 | M16x1.5 | 45 | 21 | 26 | 32 | 4 | G3/8 | 37 | 121 | 158 | 6 | 36,5 | 16 | M8 | 8 | 56,5 | 28 | 75 | 17 | 8 | 22 | 2.08 | .008 |
| 80 | 25 | M20x1.5 | 45 | 21 | 30 | 40 | 4 | G3/8 | 46 | 128 | 174 | 7 | 36 | 19 | M10 | 8 | 72 | 30 | 93 | 22 | 10 | 25 | 3.43 | .01 |
| 100 | 25 | M20x1.5 | 55 | 23 | 35 | 40 | 4 | G1/2 | 51 | 138 | 189 | 7 | 38,5 | 19,5 | M10 | 8 | 89 | 40 | 110 | 22 | 10 | 25 | 4.85 | .01 |

Double Rod End (mm)

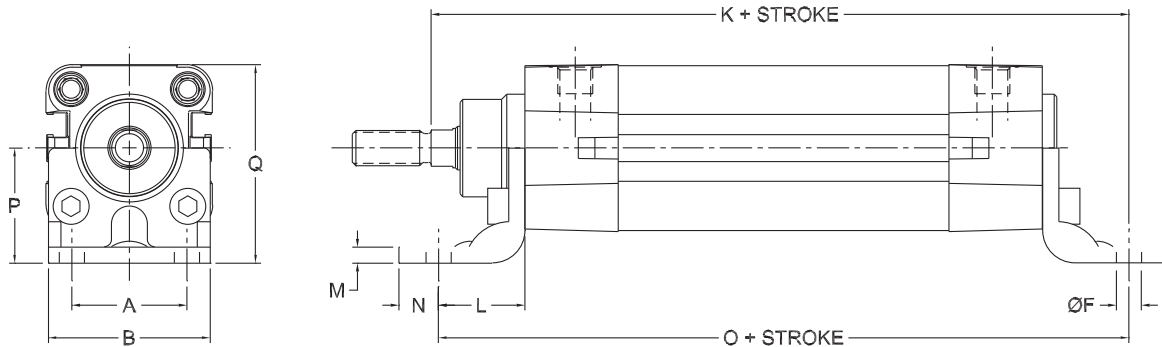


| Bore | A | KK | B ^{d11} | D | F | AM | I | WH | L1 | M | N | P | Q | G | TG | R | E | SW1 | SW2 | Cushion Stroke | Weight (Kg) | Weight per mm |
|------|----|----------|------------------|----|----|----|------|----|-----|---|------|-----|------|---|------|------|------|-----|-----|----------------|-------------|---------------|
| 32 | 12 | M10x1.25 | 30 | 14 | 18 | 22 | G1/8 | 26 | 94 | 5 | 26 | M6 | 16 | 5 | 32,5 | 13 | 46 | 10 | 6 | 19 | .69 | .003 |
| 40 | 16 | M12x1.25 | 35 | 15 | 21 | 24 | G1/4 | 30 | 105 | 5 | 29 | M6 | 16 | 5 | 38 | 13,5 | 55 | 13 | 6 | 22 | 1.06 | .006 |
| 50 | 20 | M16x1.5 | 40 | 15 | 25 | 32 | G1/4 | 37 | 106 | 6 | 29,5 | M8 | 16 | 8 | 46,5 | 16 | 64,5 | 17 | 8 | 22 | 1.76 | .008 |
| 63 | 20 | M16x1.5 | 45 | 21 | 26 | 32 | G3/8 | 37 | 121 | 6 | 36,5 | M8 | 16 | 8 | 56,5 | 28 | 75 | 17 | 8 | 22 | 2.40 | .01 |
| 80 | 25 | M20x1.5 | 45 | 21 | 30 | 40 | G3/8 | 46 | 128 | 7 | 36 | M10 | 19 | 8 | 72 | 30 | 93 | 22 | 10 | 25 | 4.06 | .01 |
| 100 | 25 | M20x1.5 | 55 | 23 | 35 | 40 | G1/2 | 51 | 138 | 7 | 38,5 | M10 | 19,5 | 8 | 89 | 40 | 110 | 22 | 10 | 25 | 5.55 | .01 |

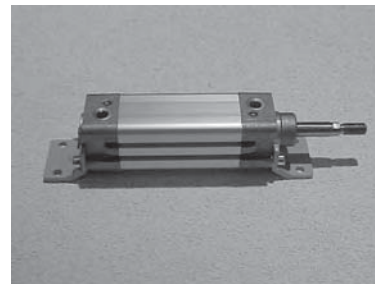
Bimba ISO 6431, VDMA 24562 Air Cylinders

Foot Bracket (mm)

MS1 - □

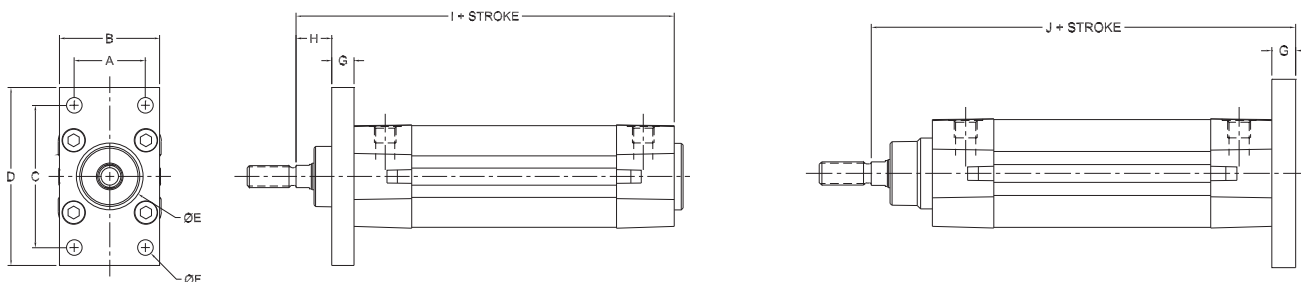


| Model | K | L | M | N | O | P | Q | Weight (Kg) |
|---------|-----|----|-----|----|-----|-----|-----|-------------|
| MS1-32 | 144 | 24 | 4.5 | 11 | 142 | 32 | 55 | .156 |
| MS1-40 | 163 | 28 | 4.5 | 8 | 161 | 36 | 64 | .186 |
| MS1-50 | 175 | 32 | 5.5 | 15 | 170 | 45 | 77 | .388 |
| MS1-63 | 190 | 32 | 5.5 | 13 | 185 | 50 | 88 | .438 |
| MS1-80 | 215 | 41 | 6.5 | 14 | 210 | 63 | 110 | .846 |
| MS1-100 | 230 | 41 | 6.5 | 15 | 220 | 128 | 126 | 1.085 |

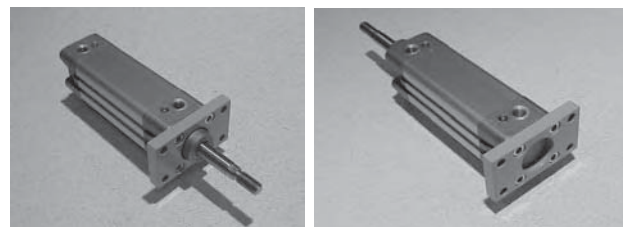


Front and Rear Flange (mm)

MF - □



| Model | A | B | C | D | E | F | G | H | I | J | Weight (Kg) |
|--------|----|-----|-----|-----|-----|-----|----|----|-----|-----|-------------|
| MF-32 | 32 | 45 | 64 | 80 | Ø30 | Ø7 | 10 | 16 | 120 | 130 | .218 |
| MF-40 | 36 | 52 | 72 | 90 | Ø35 | Ø9 | 10 | 20 | 135 | 145 | .270 |
| MF-50 | 45 | 65 | 90 | 110 | Ø40 | Ø9 | 12 | 25 | 143 | 155 | .522 |
| MF-63 | 50 | 75 | 100 | 120 | Ø45 | Ø9 | 12 | 25 | 158 | 170 | .667 |
| MF-80 | 63 | 95 | 126 | 150 | Ø45 | Ø12 | 16 | 30 | 174 | 190 | 1.505 |
| MF-100 | 75 | 115 | 150 | 170 | Ø55 | Ø14 | 16 | 35 | 189 | 205 | 2.500 |



ISO 6431, VDMA
24562 Air Cylinders

ISO 6431
Accessories

ISO 6432/ETOP
Cylinders

ISO 6432
Accessories

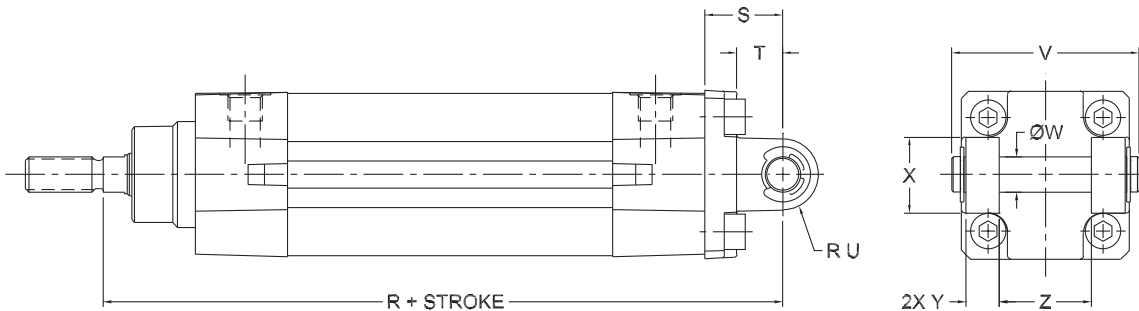
PCE Air Cylinders

PCE Accessories

Bimba ISO 643I, VDMA 24562 Air Cylinders

Clevis Mount (mm)

MP2 - □

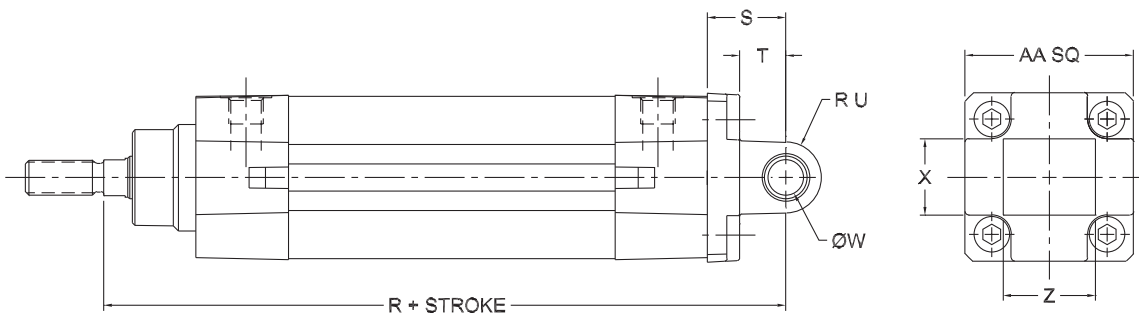


| Model | R | S | T | U | V | W | X | Y | Z | Weight (Kg) |
|---------|-----|----|----|-----|-----|-----|----|-----|----|-------------|
| MP2-32 | 142 | 22 | 12 | R10 | 53 | Ø10 | 22 | 9.5 | 26 | .111 |
| MP2-40 | 160 | 25 | 15 | R12 | 60 | Ø12 | 26 | 12 | 28 | .157 |
| MP2-50 | 170 | 27 | 15 | R12 | 68 | Ø12 | 28 | 14 | 32 | .234 |
| MP2-63 | 190 | 32 | 20 | R16 | 79 | Ø16 | 39 | 15 | 40 | .376 |
| MP2-80 | 210 | 36 | 21 | R16 | 99 | Ø16 | 46 | 20 | 50 | .639 |
| MP2-100 | 230 | 41 | 26 | R20 | 121 | Ø20 | 55 | 25 | 60 | 1.008 |

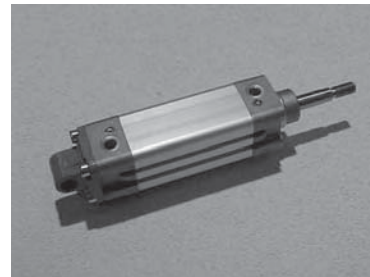


Pivot Mount (mm)

MP4 - □



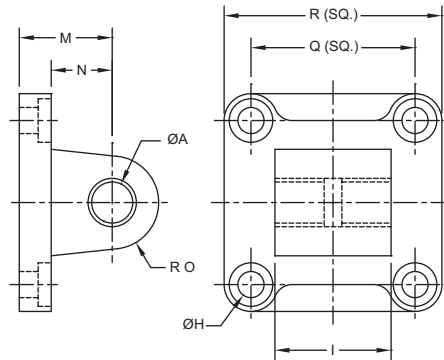
| Model | R | S | T | U | W | X | Z | AA | Weight (Kg) |
|---------|-----|----|----|-----|-----|----|----|-----|-------------|
| MP4-32 | 142 | 22 | 12 | R10 | Ø10 | 22 | 26 | 48 | .081 |
| MP4-40 | 160 | 25 | 15 | R12 | Ø12 | 26 | 28 | 54 | .108 |
| MP4-50 | 170 | 27 | 15 | R12 | Ø12 | 28 | 32 | 66 | .174 |
| MP4-63 | 190 | 32 | 20 | R16 | Ø16 | 39 | 40 | 76 | .257 |
| MP4-80 | 210 | 36 | 21 | R16 | Ø16 | 46 | 50 | 95 | .483 |
| MP4-100 | 230 | 41 | 26 | R20 | Ø20 | 55 | 60 | 114 | .690 |



Bimba ISO 6431, VDMA 24562 Air Cylinders

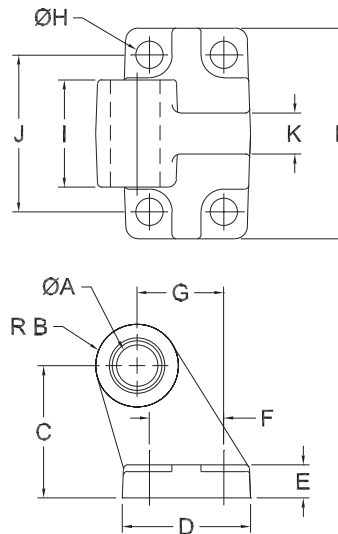
Accessories (mm)

Pivot Bracket - Type 2



| Model | A | H | I | M | N | O | Q | R | Weight (Kg) |
|---------|-----|------|----|----|----|-----|------|-----|-------------|
| PB2-32 | Ø10 | Ø6.6 | 26 | 22 | 13 | R10 | 32.5 | 45 | .054 |
| PB2-40 | Ø12 | Ø6.6 | 28 | 25 | 16 | R12 | 38 | 52 | .076 |
| PB2-50 | Ø12 | Ø9 | 32 | 27 | 16 | R12 | 46.5 | 65 | .123 |
| PB2-63 | Ø16 | Ø9 | 40 | 32 | 21 | R16 | 56.5 | 75 | .212 |
| PB2-80 | Ø16 | Ø11 | 50 | 36 | 22 | R16 | 72 | 95 | .420 |
| PB2-100 | Ø20 | Ø11 | 60 | 41 | 27 | R20 | 89 | 115 | .667 |

Pivot Bracket - Type 1



| Model | A | B | C | D | E | F | G | H | I | J | K | L | Weight (Kg) |
|---------|-----|-----|----|----|----|----|----|------|----|----|----|----|-------------|
| PB1-32 | Ø10 | R10 | 32 | 31 | 8 | 18 | 21 | Ø6.6 | 26 | 38 | 10 | 51 | .058 |
| PB1-40 | Ø12 | R11 | 36 | 35 | 10 | 22 | 24 | Ø6.6 | 28 | 41 | 15 | 54 | .141 |
| PB1-50 | Ø12 | R13 | 45 | 45 | 12 | 30 | 33 | Ø9 | 32 | 50 | 16 | 65 | .144 |
| PB1-63 | Ø16 | R15 | 50 | 50 | 14 | 35 | 37 | Ø9 | 40 | 52 | 16 | 67 | .203 |
| PB1-80 | Ø16 | R15 | 63 | 60 | 14 | 40 | 47 | Ø11 | 50 | 66 | 20 | 86 | .314 |
| PB1-100 | Ø20 | R19 | 71 | 70 | 17 | 50 | 55 | Ø11 | 60 | 76 | 20 | 96 | .658 |

ISO 6431, VDMA
24562 Air Cylinders

ISO 6431
Accessories

ISO 6432/ETOP
Cylinders

ISO 6432
Accessories

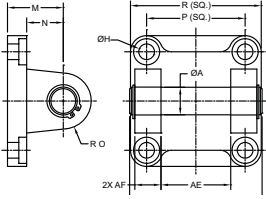
PCE Air Cylinders

PCE Accessories

Bimba ISO 643I, VDMA 24562 Air Cylinders

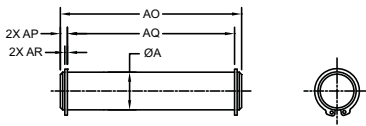
Accessories

Clevis Bracket



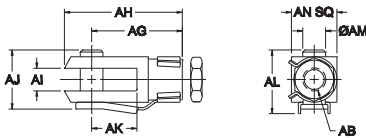
| Model | A | H | M | N | O | P | R | AD | AE | AF | Weight (Kg) |
|--------|-----|------|----|----|-----|------|-----|-----|----|-----|-------------|
| CB-32 | Ø10 | Ø6.6 | 22 | 13 | R10 | 32.5 | 45 | 52 | 26 | 9.5 | .086 |
| CB-40 | Ø12 | Ø6.6 | 25 | 16 | R12 | 38 | 52 | 59 | 28 | 12 | .132 |
| CB-50 | Ø12 | Ø9 | 27 | 16 | R12 | 46.5 | 65 | 67 | 32 | 14 | .186 |
| CB-63 | Ø16 | Ø9 | 32 | 21 | R16 | 56.5 | 75 | 77 | 40 | 15 | .322 |
| CB-80 | Ø16 | Ø11 | 36 | 22 | R16 | 72 | 95 | 97 | 50 | 20 | .543 |
| CB-100 | Ø20 | Ø11 | 41 | 27 | R20 | 89 | 115 | 121 | 60 | 25 | .922 |

Pivot Pin



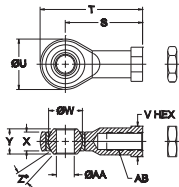
| Model | A | AO | AP | AQ | AR | Weight (Kg) |
|--------|-----|-----|----|-----|-----|-------------|
| PP-32 | Ø10 | 52 | 3 | 46 | 1.1 | .035 |
| PP-40 | Ø12 | 59 | 3 | 53 | 1.1 | .055 |
| PP-50 | Ø12 | 67 | 3 | 61 | 1.1 | .060 |
| PP-63 | Ø16 | 77 | 3 | 71 | 1.1 | .127 |
| PP-80 | Ø16 | 97 | 3 | 91 | 1.1 | .160 |
| PP-100 | Ø20 | 121 | 5 | 111 | 1.3 | .300 |

Rod Clevis



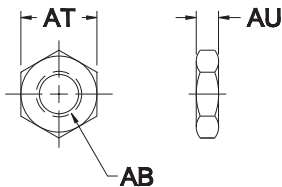
| Bore | Model | AB | AG | AH | AI | AJ | AK | AL | AM | AN | Weight (Kg) |
|---------|-------------|----------|----|-----|----|----|----|----|----|----|-------------|
| 32 | RC-M10x1.25 | M10x1.25 | 40 | 52 | 10 | 26 | 20 | 28 | 10 | 20 | .097 |
| 40 | RC-M12x1.25 | M12x1.25 | 48 | 62 | 12 | 32 | 24 | 34 | 12 | 24 | .157 |
| 50, 63 | RC-M16x1.5 | M16x1.5 | 64 | 83 | 16 | 40 | 32 | 42 | 16 | 32 | .356 |
| 80, 100 | RC-M20x1.5 | M20x1.5 | 80 | 105 | 20 | 48 | 40 | 50 | 20 | 40 | .714 |

Spherical Rod Eye



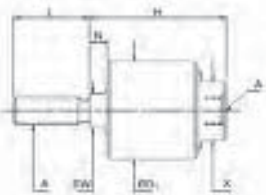
| Bore | Model | S | T | U | V | W | X | Y | Z | AA | AB | Weight (Kg) |
|---------|--------------|----|-----|-----|----|-------|------|----|-----|-----|----------|-------------|
| 32 | SRE-M10x1.25 | 43 | 57 | Ø28 | 17 | Ø19 | 10.5 | 14 | 13° | Ø10 | M10x1.25 | .080 |
| 40 | SRE-M12x1.25 | 50 | 66 | Ø32 | 19 | Ø22 | 12 | 16 | 13° | Ø12 | M12x1.25 | .124 |
| 50, 63 | SRE-M16x1.5 | 64 | 85 | Ø42 | 23 | Ø28.5 | 15 | 21 | 15° | Ø16 | M16x1.5 | .248 |
| 80, 100 | SRE-M20x1.5 | 77 | 102 | Ø50 | 30 | Ø35 | 18 | 25 | 14° | Ø20 | M20x1.5 | .438 |

Rod Nut



| Bore | Model | AB | AT | AU | Weight (Kg) |
|---------|-------|----------|----|----|-------------|
| 32 | RN-4 | M10x1.25 | 17 | 5 | .006 |
| 40 | MN-1 | M12x1.25 | 19 | 7 | .010 |
| 50, 63 | MN-2 | M16x1.5 | 24 | 8 | .017 |
| 80, 100 | MN-5 | M20x1.5 | 30 | 9 | .030 |

Rod Coupler



| Bore | Model | A | B | D ₁ | H | L | N | SW | X |
|---------|-------------|----------|---|----------------|----|----|-----|------|----|
| 25, 32 | AC-M10x1.25 | M10x1.25 | 5 | 29 | 40 | 24 | 5.3 | 10 | 17 |
| 40 | AC-M12x1.25 | M12x1.25 | 7 | 32 | 47 | 24 | 8.2 | 13 | 20 |
| 50, 63 | AC-M16x1.5 | M16x1.5 | 8 | 32 | 48 | 32 | 10 | 13.5 | 20 |
| 80, 100 | AC-M20x1.5 | M20x1.5 | 9 | 45 | 57 | 40 | 10 | 21 | 28 |

Bimba ISO 6431, VDMA 24562 Air Cylinders

Accessories

Prices

| Mounting Kits and Accessories | 32mm | 40mm | 50mm | 63mm | 80mm | 100mm |
|-------------------------------|---------|---------|---------|---------|---------|---------|
| MS1 Bore (Foot Bracket Kit) | \$19.95 | \$21.80 | \$25.70 | \$28.55 | \$33.45 | \$46.55 |
| MF Bore (Flange Kit) | 22.30 | 26.20 | 29.45 | 36.15 | 45.65 | 51.50 |
| MP2 Bore (Pivot Female Kit) | 25.55 | 25.85 | 28.55 | 31.55 | 38.05 | 47.50 |
| MP4 Bore (Pivot Male Kit) | 20.45 | 20.95 | 23.40 | 25.85 | 32.10 | 38.05 |
| PB1 Bore (Pivot Bracket) | 19.60 | 19.95 | 21.90 | 24.25 | 29.45 | 35.45 |
| PB2 Bore (Pivot Bracket) | 19.60 | 19.95 | 21.90 | 24.25 | 29.45 | 35.45 |
| CB Bore (Clevis Bracket) | 24.50 | 24.90 | 26.95 | 29.75 | 35.45 | 44.85 |

Rod Accessories

| Rod Clevis | List |
|-------------|---------|
| RC-M10x1.25 | \$ 7.95 |
| RC-M12x1.25 | 11.90 |
| RC-M16x1.5 | 21.25 |
| RC-M20x1.5 | 43.90 |

| Spherical Rod Eyes | List |
|--------------------|---------|
| SRE-M10x1.25 | \$28.70 |
| SRE-M12x1.25 | 33.30 |
| SRE-M16x1.5 | 63.85 |
| SRE-M20x1.5 | 98.50 |

| Rod Nuts | List |
|----------|---------|
| RN-4 | \$ 1.00 |
| MN-1 | 1.50 |
| MN-2 | 2.15 |
| MN-5 | 4.70 |

| Rod Alignment Couplers | List |
|------------------------|---------|
| AC-M10x1.25 | \$36.35 |
| AC-M12x1.25 | 41.75 |
| AC-M16x1.5 | 75.75 |
| AC-M20x1.5 | 92.20 |

| Pivot Pins | List |
|------------|---------|
| PP-32 | \$ 7.95 |
| PP-40 | 8.60 |
| PP-50 | 8.80 |
| PP-63 | 10.00 |
| PP-80 | 10.80 |
| PP-100 | 15.55 |

| Switches | List |
|----------|---------|
| MRS-AB | \$23.15 |
| MRS-ABQ | 35.05 |
| HSC-AB | 35.05 |
| HSC-ABQ | 46.10 |
| HSK-AB | 35.05 |
| HSK-ABQ | 46.10 |

ISO 6431, VDMA
24562 Air Cylinders

ISO 6431
Accessories

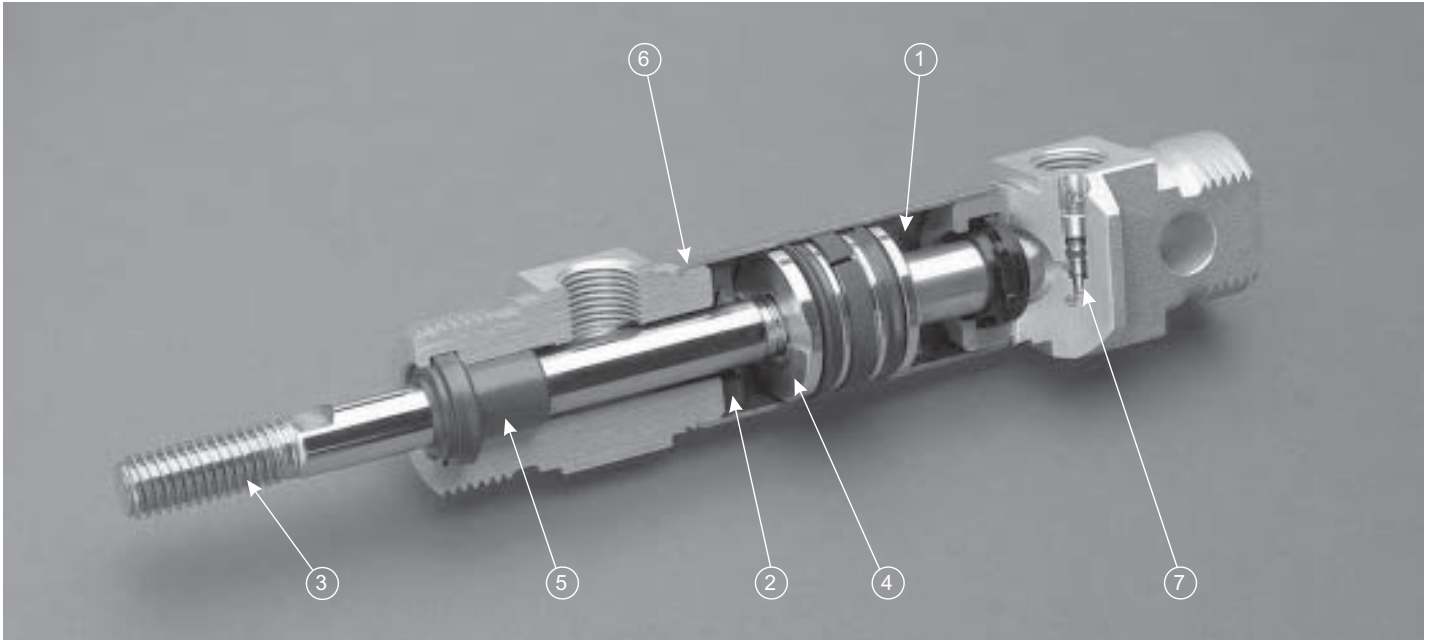
ISO 6432/CE/TP
Cylinders

ISO 6432
Accessories

PCE Air Cylinders

PCE Accessories

Bimba ISO 6432 Air Cylinders



BIMBA meets YOUR NEEDS

- **Reliable Service, World-Wide**
 - From a world-wide leader producing millions of actuators each year
- **Environmental**
 - Pre-lubricated for longer, maintenance free operation ①
- **Noise Reduction**
 - Shock absorbing bumpers ②
- **Performance And Quality Processes Throughout**
 - Roll formed threads ③
 - High strength pistons permanently riveted and sealed ④
 - Roller burnished stainless steel rods
- **Productivity**
 - Advanced bearing and seal materials for higher speed applications ⑤
- **Safety**
 - Double rolled construction ⑥
 - Permanent mechanical retention; needles cannot blow out under pressure ⑦
- **Reduced Envelope**
 - Space savings available resulting from smaller external dimensions
- **A Material For Any Application**
 - Heads available in Aluminum, Stainless Steel and Delrin®
- **Unique Customer Solutions**
 - Rapid design and delivery time for custom modifications

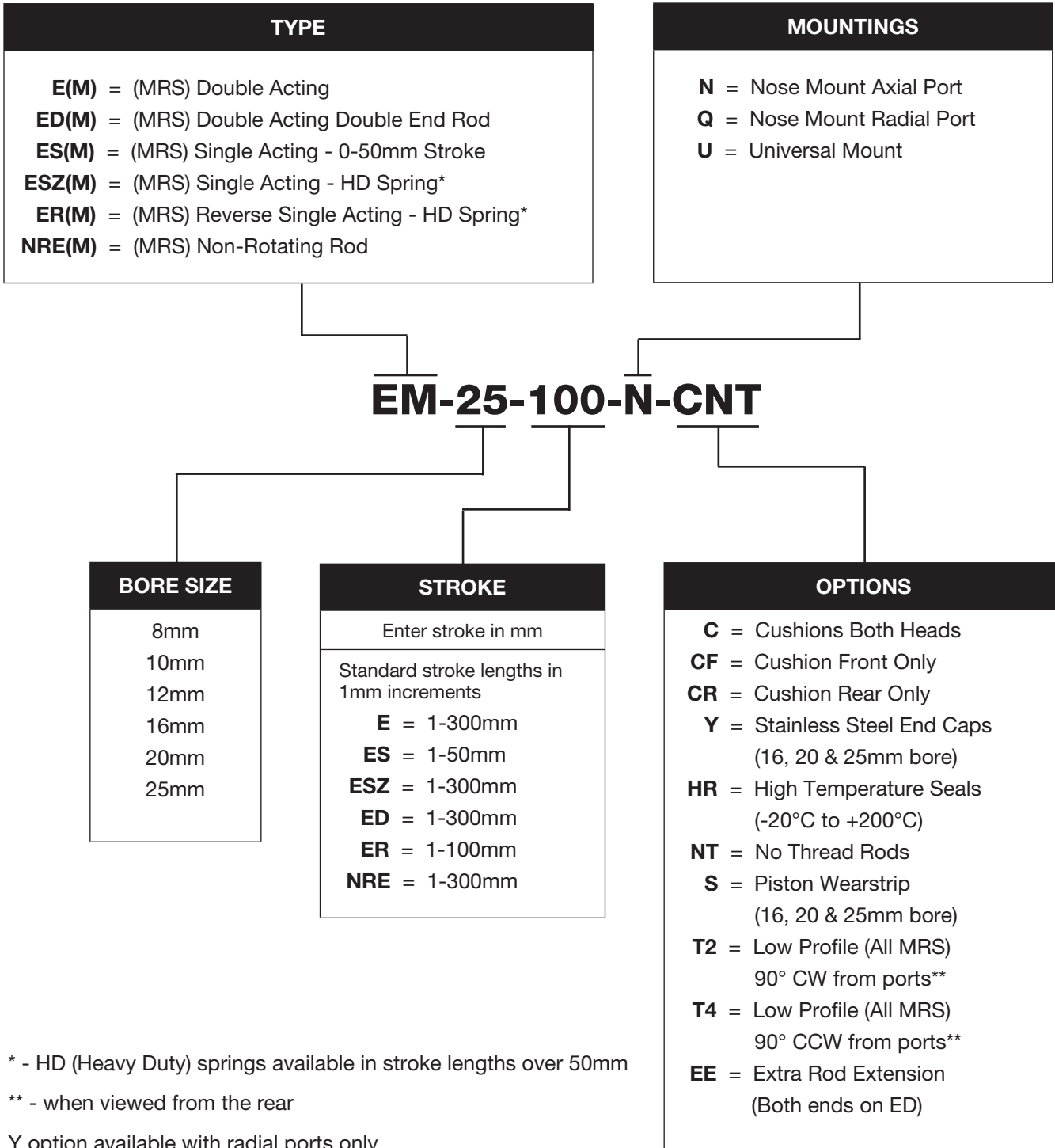
Bimba ISO 6432 Air Cylinders

How to Order

The Model Number for all Bimba ISO 6432 Cylinders consists of five Alphanumeric clusters. The first designates the *Type*, the second the *Bore Size*, the third the *Stroke Length*, the fourth the *Mounting* style, and the fifth the *Options*.

Please refer to the chart below for an explanation of the following model number:

EM-25-100-N-CNT: This is an ISO 6432 Type Cylinder with a magnet, with 25mm Bore Size, 100mm Stroke Size, Nose Mounted, and with Cushions in Both Heads and No Thread Rod.



* - HD (Heavy Duty) springs available in stroke lengths over 50mm

** - when viewed from the rear

Y option available with radial ports only

ISO 6431, VDMA
24562 Air Cylinders

ISO 6431
Accessories

ISO 6432/CE/TP
Cylinders

ISO 6432
Accessories

PCE Air Cylinders

PCE Accessories

Bimba ISO 6432 Air Cylinders

List Prices

E - Bore - Stroke - Mount - Options

| | 8mm | 10mm | 12mm | 16mm | 20mm | 25mm |
|-----------------------------|---------|---------|---------|---------|---------|---------|
| Nose Mount Base (-N) | \$22.35 | \$24.50 | \$26.95 | \$28.70 | \$30.60 | \$32.15 |
| Universal Base (-U) | 24.15 | 26.75 | 29.00 | 30.80 | 32.70 | 34.65 |
| Stroke | .09 | .09 | .10 | .10 | .10 | .10 |
| EEX.XX (per mm) | .06 | .06 | .07 | .07 | .07 | .07 |
| HR (High Temperature Seals) | 11.15 | 11.55 | 12.00 | 12.45 | 14.00 | 14.50 |
| Cushions Per End | n/a | n/a | n/a | 10.25 | 10.25 | 10.25 |
| S (Wear Strip) | n/a | n/a | n/a | 2.45 | 3.10 | 3.70 |
| Y (SS End Caps) | n/a | n/a | n/a | 66.95 | 73.65 | 80.30 |
| M (Magnet Prefix) | n/a | 12.15 | 12.15 | 12.15 | 12.15 | 12.15 |
| NR (Non-rotating) | n/a | n/a | n/a | 7.85 | 8.60 | 9.60 |
| Stroke Adder for NR | n/a | n/a | n/a | .11 | .11 | .11 |
| EEX.XX (per mm) for NR | n/a | n/a | n/a | .08 | .08 | .08 |
| T (Switch Track) | n/a | 3.10 | 3.10 | 3.10 | 3.10 | 3.10 |

Standard strokes are 1mm increments to 300mm. Non-standard and longer strokes, add Schedule 27.

No charge options: Q, Side Ported Rear Head (use Nose Mount base price); NT, Nontreaded Rod.

ES - Bore - Stroke - Mount - Options

| | 8mm | 10mm | 12mm | 16mm | 20mm | 25mm |
|---|---------|---------|---------|---------|---------|---------|
| Nose Mount Base (-N) | \$18.40 | \$20.05 | \$21.70 | \$23.85 | \$25.75 | \$28.70 |
| Universal Mount Base (-U) | 20.75 | 22.70 | 24.25 | 26.15 | 28.05 | 30.30 |
| Stroke | .10 | .10 | .10 | .11 | .12 | .13 |
| HR (High Temperature Seals) | 6.15 | 6.20 | 6.30 | 6.45 | 6.80 | 7.70 |
| EEX.XX (per mm) | .06 | .06 | .07 | .07 | .07 | .07 |
| M (Magnet Prefix) | n/a | 12.15 | 12.15 | 12.15 | 12.15 | 12.15 |
| Z (Heavy Spring and long Strokes; Prefix) | n/c | n/c | n/c | n/c | n/c | n/c |
| T (Switch Track) | n/a | 3.10 | 3.10 | 3.10 | 3.10 | 3.10 |

Standard strokes are 1mm increments to 50mm. For longer strokes, order as ESZ model.

No charge options: Q (use Nose Mount base price); NT

*Z option required for strokes longer than 50mm. ESZ strokes are standard in 1mm increments from 1 to 150mm. Non-standard strokes, add Schedule 27.

ED - Bore - Stroke - Options

| | 8mm | 10mm | 12mm | 16mm | 20mm | 25mm |
|-----------------------------|---------|---------|---------|---------|---------|---------|
| Base | \$31.75 | \$35.05 | \$35.25 | \$39.15 | \$40.90 | \$42.20 |
| Stroke | .12 | .12 | .12 | .12 | .12 | .13 |
| HR (High Temperature Seals) | 14.80 | 14.95 | 15.40 | 15.75 | 17.75 | 18.35 |
| Cushions per end | n/a | n/a | n/a | 10.25 | 10.25 | 10.25 |
| S (Wear Strip) | n/a | n/a | n/a | 2.45 | 3.10 | 3.70 |
| Y (SS End Caps) | n/a | n/a | n/a | 66.95 | 73.65 | 80.30 |
| EEX.XX (per mm) | .08 | .08 | .08 | .08 | .08 | .08 |
| M (Magnet Prefix) | n/a | 12.15 | 12.15 | 12.15 | 12.15 | 12.15 |
| T (Switch Track) | n/a | 3.10 | 3.10 | 3.10 | 3.10 | 3.10 |

Standard strokes are 1mm increments to 300mm. Non-standard and longer strokes, add Schedule 27.

No charge options: NT

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List Prices

ER - Bore - Stroke - Mount - Options

| | 8mm | 10mm | 12mm | 16mm | 20mm | 25mm |
|-----------------------------|---------|---------|---------|---------|---------|---------|
| Nose Mount Base (-N) | \$21.55 | \$26.50 | \$27.90 | \$29.80 | \$31.40 | \$33.05 |
| Universal Mount Base (-U) | 27.25 | 29.00 | 30.75 | 32.55 | 34.05 | 35.50 |
| Stroke | .10 | .10 | .10 | .11 | .12 | .13 |
| HR (High Temperature Seals) | 8.60 | 8.65 | 8.75 | 8.85 | 9.15 | 10.15 |
| EEX.XX (per mm) | .06 | .06 | .07 | .07 | .07 | .07 |
| M (Magnet Prefix) | n/a | 12.15 | 12.15 | 12.15 | 12.15 | 12.15 |
| T (Switch Track) | n/a | 3.10 | 3.10 | 3.10 | 3.10 | 3.10 |

Standard strokes are 1mm increments to 100mm. Non-standard and longer strokes, add Schedule 27.

No charge options: NT

Type PCE - Bore - Stroke - Mount - Options

| | 16mm | 20mm | 25mm |
|---------------------------|---------|---------|---------|
| Nose Mount Base (-N) | \$45.70 | \$47.15 | \$48.70 |
| Universal Mount Base (-U) | 47.15 | 48.70 | 50.05 |
| Stroke | .10 | .10 | .10 |
| Cushions per end | 10.25 | 10.25 | 10.25 |
| S (Wear Strip) | 2.45 | 3.10 | 3.70 |
| EEX.XX (per mm) | .07 | .07 | .07 |
| M (Magnet Prefix) | 12.15 | 12.15 | 12.15 |
| T (Switch Track) | 3.10 | 3.10 | 3.10 |

Standard strokes are 1mm increments to 500mm. Non-standard and longer strokes, add Schedule 27.

No charge options: NT

PCED - Bore - Stroke - Mount - Options

| | 16mm | 20mm | 25mm |
|----------------------|---------|---------|---------|
| Nose Mount Base (-N) | \$56.30 | \$57.75 | \$59.25 |
| Stroke | .12 | .12 | .13 |
| Cushions per end | 10.25 | 10.25 | 10.25 |
| S (Wear Strip) | 2.45 | 3.10 | 3.70 |
| EEX.XX (per mm) | .08 | .08 | .08 |
| M (Magnet Prefix) | 12.15 | 12.15 | 12.15 |
| T (Switch Track) | 3.10 | 3.10 | 3.10 |

Standard strokes are 1mm increments to 300mm. Non-standard and longer strokes, add Schedule 27.

No charge options: NT

ISO 6432 Position Sensing Switches

| Model Number | Price ¹ | Model Number | Price ¹ |
|-----------------|--------------------|------------------|--------------------|
| MRS-.027-B-□ | \$22.90 | MRS-.027-BL-□ | \$27.55 |
| MRS-.027-XB-□ | 30.15 | MRS-.027-XBL-□ | 36.40 |
| MRS-.027-BQ-□ | 43.20 | MRS-.027-BLQ-□ | 51.55 |
| MRS-.027-BQC-□ | 70.00 | MRS-.027-BLQC-□ | 78.35 |
| MRS-.027-BQCX-□ | 83.40 | MRS-.027-BLQCX-□ | 91.75 |

¹Price includes band

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PCE Air Cylinders

PCE Accessories

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Accessories

Foot Bracket

| Bore | Model Number | Price |
|--------|--------------|---------|
| 8, 10 | FB-1 | \$ 4.50 |
| 12, 16 | FB-2 | 5.75 |
| 20, 25 | FB-3 | 7.70 |

Flange Mount

| Bore | Model Number | Price |
|--------|--------------|---------|
| 8, 10 | MF-1 | \$ 3.35 |
| 12, 16 | MF-2 | 4.40 |
| 20, 25 | MF-3 | 6.50 |

Clevis Foot

| Bore | Model Number | Price |
|--------|--------------|---------|
| 8, 10 | CFB-1 | \$ 7.55 |
| 12, 16 | CFB-2 | 8.55 |
| 20, 25 | CFB-3 | 10.50 |

Rod Clevis

| Bore | Model Number | Price |
|--------|--------------|---------|
| 8, 10 | RC-M4X0.7 | \$ 4.30 |
| 12, 16 | RC-M6X1.0 | 5.40 |
| 20 | RC-M8X1.25 | 6.60 |
| 25 | RC-M10X1.25 | 7.95 |

Mounting Nut

| Bore | Model Number | Price |
|--------|--------------|---------|
| 8, 10 | MN-1 | \$ 1.50 |
| 12, 16 | MN-2 | 2.15 |
| 20, 25 | MN-3 | 4.65 |

Rod Nut

| Bore | Model Number | Price |
|--------|--------------|---------|
| 8, 10 | RN-1 | \$ 0.75 |
| 12, 16 | RN-2 | 0.75 |
| 20 | RN-3 | 0.95 |
| 25 | RN-4 | 1.00 |

Metric Quik-Flo® Flow Controls

Spherical Rod Eyes

| Bore | Model Number | Price |
|--------|--------------|---------|
| 8, 10 | SRE-M4X0.7 | \$16.40 |
| 12, 16 | SRE-M6X1.0 | 17.05 |
| 20 | SRE-M8X1.25 | 17.60 |
| 25 | SRE-M10X1.25 | 28.70 |

Knurled Knob

| Model Number | Price |
|--------------|---------|
| FCPM-1-Q4-L | \$21.90 |
| FCPM-1-Q6-L | 21.90 |
| FCPM-2-Q4-L | 22.70 |
| FCPM-2-Q6-L | 22.85 |
| FCPM-2-Q8-L | 23.15 |
| FCPM-4-Q6-L | 29.70 |
| FCPM-4-Q8-L | 30.10 |

Recessed Needle

| Model Number | Price |
|--------------|---------|
| FCPM-1-Q4-R | \$18.70 |
| FCPM-1-Q6-R | 18.70 |
| FCPM-2-Q4-R | 22.70 |
| FCPM-2-Q6-R | 22.85 |
| FCPM-2-Q8-R | 23.15 |
| FCPM-4-Q6-R | 29.70 |
| FCPM-4-Q8-R | 30.10 |

PCE Accessories (All Stainless Construction)

Foot Bracket

| Bore | Model Number | Price |
|--------|--------------|---------|
| 16 | FB-2-SS | \$12.10 |
| 20, 25 | FB-3-SS | 14.05 |

Clevis Foot (Pivot Bracket)

| Bore | Model Number | Price |
|--------|--------------|---------|
| 16 | CFB-2-SS | \$18.85 |
| 20, 25 | CFB-3-SS | 19.70 |

Rod Clevis

| Bore | Model Number | Price |
|------|--------------|---------|
| 16 | RC-2-SS | \$22.60 |
| 20 | RC-3-SS | 24.90 |
| 25 | RC-4-SS | 27.15 |

Mounting Nut

| Bore | Model Number | Price |
|--------|--------------|---------|
| 16 | MN-2-SS | \$ 2.40 |
| 20, 25 | MN-3-SS | 3.20 |

Rod Nut

| Bore | Model Number | Price |
|------|--------------|---------|
| 16 | RN-2-SS | \$ 1.05 |
| 20 | RN-3-SS | 1.50 |
| 25 | RN-4-SS | 2.10 |

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Compatibility Chart

Due to design or incompatibility restrictions, the following options may **NOT** be ordered in combination. For example stainless steel end cap may not be ordered with cushions.

Options NT and EE are available independently, with each other or with all viable option combinations.

| BORE | OPTION | | | | |
|------|--------|--------|--------|-----|-----|
| | NRE | C | Y | M | S |
| 8 | N/A | N/A | N/A | N/A | N/A |
| 10 | N/A | N/A | N/A | N/A | N/A |
| 12 | N/A | N/A | N/A | N/A | N/A |
| 16 | C, Y | NRE, Y | NRE, C | S | M |
| 20 | C, Y | NRE, Y | NRE, C | S | M |
| 25 | C, Y | NRE, Y | NRE, C | S | M |

Conversion Tables

| | Metric Unit Of Measure | Metric To Imperial Conversion | Imperial Unit Of Measure | Imperial To Metric Conversion |
|-------------|------------------------|------------------------------------|------------------------------|--|
| Force | Newtons (N) | x 0.2248 | Pounds (lbs) | x 4.448 |
| Pressure | Bar (b) | x 14.5 | Pounds Per Square Inch (PSI) | x 0.069 |
| Measurement | Millimetres | x 0.03937 | Inches | x 25.4 |
| Temperature | Centigrade | $\frac{9 \times ^\circ C + 32}{5}$ | Fahrenheit | $\frac{5 \times (^{\circ} F - 32)}{9}$ |

General Specifications

| | BORE | | | | | |
|------------------------------|---|----|----|----|----|----|
| | 8 | 10 | 12 | 16 | 20 | 25 |
| Cushion Length (mm) Each End | N/A | | | 18 | 21 | 21 |
| Operating Pressure Range | 10 bar | | | | | |
| Maximum | 0.5 bar | | | | | |
| Minimum - Double Acting | | | | | | |
| Operating Temperature Range | -10°C to +80°C | | | | | |
| Standard Seals | -20°C to +200°C | | | | | |
| High Temperature Seals | | | | | | |
| Operating Media | Filtered Compressed Air/Lubricated or Non-Lubricated | | | | | |
| Standard Stroke Lengths | See Table on page 11.11 | | | | | |
| Maximum Stroke Length* | 1000mm | | | | | |
| Stroke Tolerance | +1.0mm/-0mm | | | | | |
| Piston Speed | 5mm/s to 1000mm/s (Higher speed available on request) | | | | | |
| Life Expectancy | 3000km | | | | | |

* Varies according to bore size, please consult your local BIMBA distributor.

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PCE Accessories

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Weights

| | BORE | | | | | |
|-----------------------|------|----|----|----|-----|-----|
| | 8 | 10 | 12 | 16 | 20 | 25 |
| Option N | 20 | 22 | 41 | 53 | 102 | 149 |
| Option U | 23 | 25 | 46 | 59 | 118 | 167 |
| Type ED | 28 | 30 | 61 | 74 | 152 | 218 |
| adder per 10mm stroke | 2 | 2 | 4 | 5 | 8 | 11 |

Weights (approximate) are for zero stroke, in grams.

Rod Buckling Formula

The maximum recommended cylinder stroke is dependent upon:

1. Mounting type
2. Rod diameter
3. Rod end connection

Using the following formula it is possible to determine the buckling load for a given stroke length of cylinder

$$BL = \frac{\pi^2 EJ}{(l \times M)^2 S}$$

BL = Permissible Buckling Load (N)
 E = Young's Modulus of Elasticity (N/mm²)
 J = Moment of Inertia (mm⁴)
 l = Buckling Length = Stroke (mm)
 M = Stroke Multiplier (see table below)
 S = Safety Factor (recommended minimum 5)

HOW TO CALCULATE ROD BUCKLING FORCES

EXAMPLE:

Q. What is the buckling load for a 25mm bore cylinder with a pivoted and guided load attached, stroke 200mm?

A. Using the formula: $BL = \frac{\pi^2 EJ}{(l \times M)^2 S}$

$$E = 190.05 \times 10^3 \text{ N/mm}^2$$

$$l = 200 \text{ mm (stroke)}$$

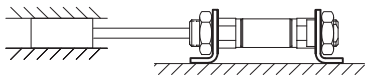
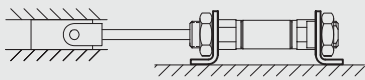
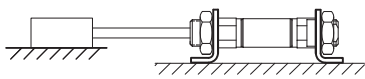
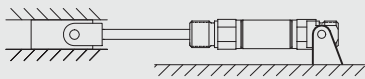
$$M = 2 \text{ (for pivoted and guided load)}$$

$$S = 5 \text{ (safety factor)}$$

$$D = 10 \text{ mm (piston rod diameter for cylinder)}$$

$$J = \frac{\pi D^4}{64} = \frac{\pi 10^4}{64} = 490.87 \text{ mm}^4$$

$$BL = \frac{\pi^2 \times 190.05 \times 10^3 \times 490.9}{(2 \times 200)^2 \times 5} = 1150.9 \text{ N} - 1.15 \text{ kN}$$

| ROD END CONNECTION | CYLINDER MOUNTING | TYPE | STROKE MULTIPLIER |
|--------------------|---|------|-------------------|
| FIXED & GUIDED |  | A | 0.5 |
| PIVOTED & GUIDED |  | B | 0.7 |
| FIXED & SUPPORTED |  | C | 2 |
| PIVOTED & GUIDED |  | C | 2 |

Bimba ISO 6432 Air Cylinders

Output Forces

Cylinder output forces can be determined in one of two ways:

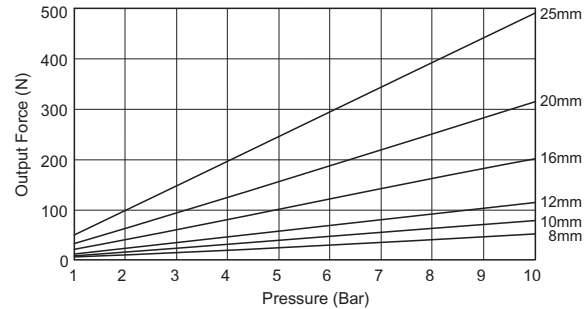
1. Calculation

$$\text{Cylinder Output Force (N)} = \text{Power Factor} \times \text{Pressure (bar)}$$

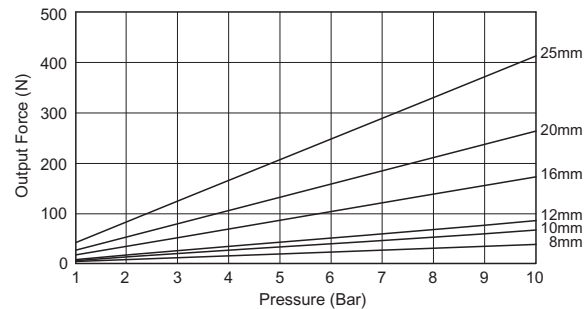
| BORE | POWER FACTOR | |
|------|--------------|------------|
| | EXTENSION | RETRACTION |
| 8 | 5.3 | 4.0 |
| 10 | 7.9 | 6.6 |
| 12 | 11.3 | 8.5 |
| 16 | 20.1 | 17.3 |
| 20 | 31.4 | 26.1 |
| 25 | 49.1 | 41.2 |

2. Graph

Extend



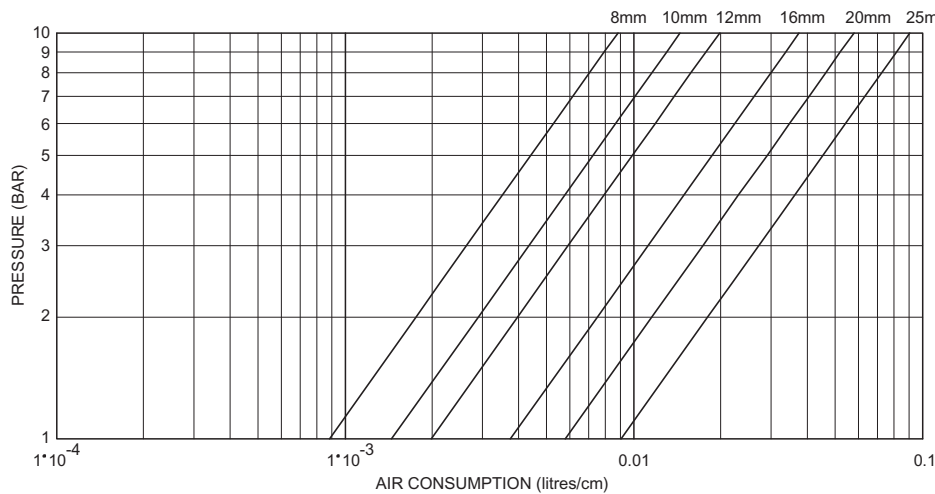
Retract



Air Consumption Chart

The Air Consumption Chart is based on the following formula for a complete cylinder cycle (cylinder extends and retracts):

$$Q = \left[\frac{\pi D^2}{4} + \left(\frac{\pi(D^2 - d^2)}{4} \right) \right] hp 10^{-6}$$



Draw a line across for the pressure used. Where this intersects the required bore size, draw a vertical line down. This will give you the air consumption. Multiply this by the stroke in cm, and this will give the air consumption per cycle.

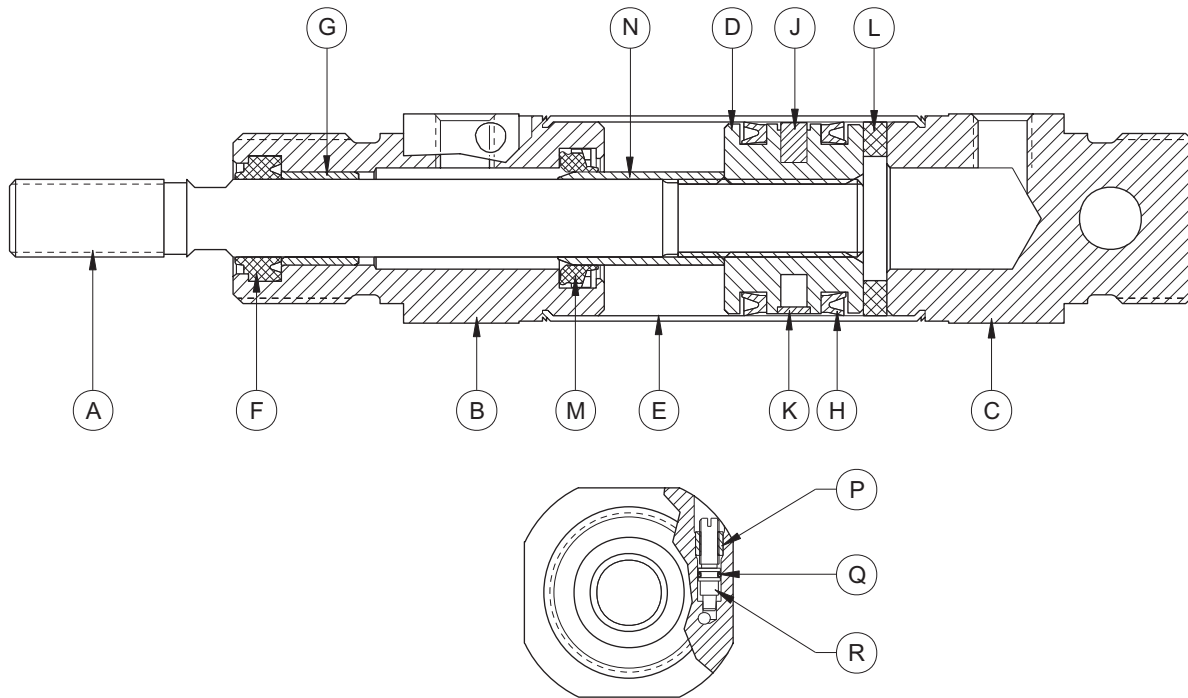
Q = Air volume per cm of stroke (L)
 D = Piston or piston rod diameter (mm)
 h = Stroke (mm)
 p = Operating pressure (bar)
 d = Piston rod diameter (mm)

EXAMPLE:

Cylinder Stroke = 2.5cm
 Cylinder Bore = Ø25mm
 Operating Pressure = 7 Bar
 Air Consumption = 0.158 Litres

Bimba ISO 6432 Air Cylinders

Materials

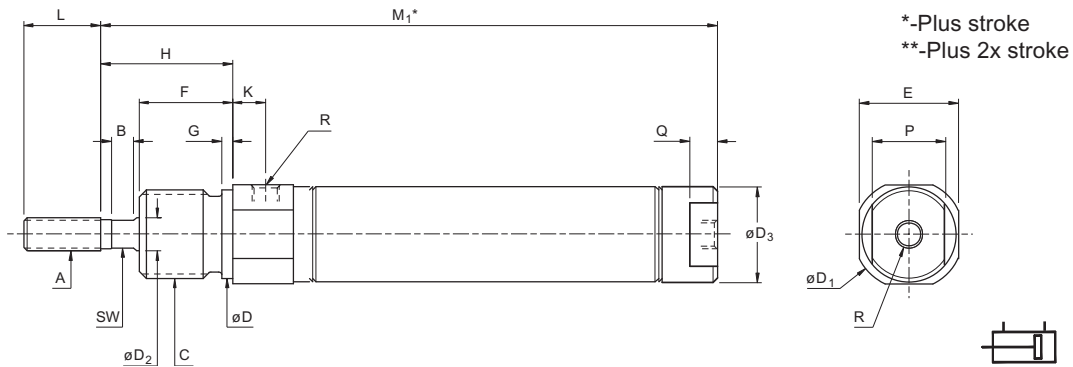


| ITEM | COMPONENT | MATERIAL |
|------|------------------------|--|
| A | Piston Rod | Stainless Steel (type 303 s31) |
| B | Rod Guide | Aluminium Alloy (anodized) Delrin® Plastic - (type PCE) Stainless Steel - (option Y) |
| C | Rear Head | Aluminium Alloy (anodized) Delrin® Plastic - (type PCE) Stainless Steel - (option Y) |
| D | Piston | Aluminium Alloy Brass - (type ED) |
| E | Body | Stainless Steel (type 304) |
| F | Rod Seal/Rod Wiper | Nitrile (NBR) or Fluoro-rubber (FPM) - (option HR) |
| G | Rod Bearing | Self Lubricating Thermoplastic Alloy |
| H | Piston Seal | Nitrile (NBR) or Fluoro-rubber (FPM) - (option HR) |
| J | Magnet | Neodymium Iron Boron Nitrile |
| K | Piston Bearing Ring | Carbon Filled PTFE |
| L | Bumper | Fluoro-rubber (FPM) |
| M | Cushion Seal | Nitrile (NBR) - Standard or Fluoro-rubber (FPM) - (option HR) |
| N | Cushion Sleeve | Aluminium Alloy |
| P | Cushion Screw Retainer | Aluminium Alloy (anodized) Stainless Steel - (type PCE) |
| Q | Cushion o-ring | Fluoro-rubber (FPM) |
| R | Cushion Screw | Stainless Steel (type 303 s31) |

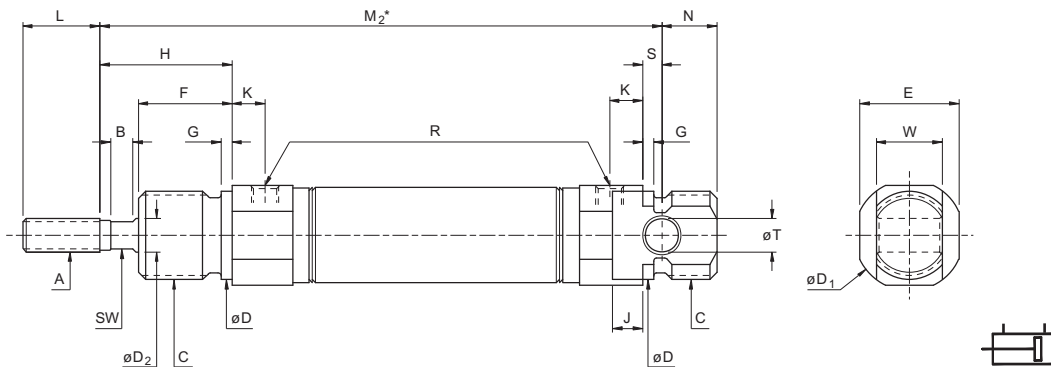
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Double Acting

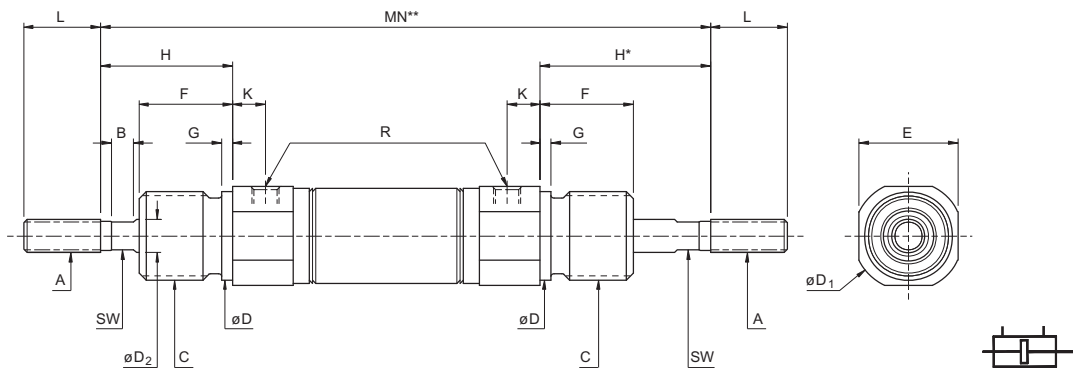
NOSE MOUNT - N option



UNIVERSAL MOUNT - U option



DOUBLE ENDED



| Bore | A ^{9g} | B | C ^{9g} | D | D ₁ | D ₂ ^{h8} | D ₃ | E | F | G | H | J | K | L | P | Q | N | R | S | T ^{H9} | W ^{H13} | SW | M ₁ | M ₂ | MN |
|------|-----------------|---|-----------------|----|----------------|------------------------------|----------------|----|----|---|----|-----|---|----|----|---|----|--------|-----|-----------------|------------------|----|----------------|----------------|-----|
| 8 | M4x0.7 | - | M12x1.25 | 12 | 17 | 4 | 9 | 15 | 12 | 2 | 16 | 3 | 6 | 12 | 8 | 4 | 9 | M5x0.8 | 3 | 4 | 8 | - | 56.5 | 64 | 77 |
| 10 | M4x0.7 | - | M12x1.25 | 12 | 17 | 4 | 11 | 15 | 12 | 2 | 16 | 3 | 6 | 12 | 10 | 5 | 9 | M5x0.8 | 3 | 4 | 8 | - | 58 | 64 | 77 |
| 12 | M6x1.0 | 4 | M16x1.5 | 16 | 20 | 6 | 13 | 18 | 17 | 2 | 24 | 5.4 | 6 | 14 | 10 | 5 | 8 | M5x0.8 | 3.6 | 6 | 12 | 5 | 68.7 | 77 | 97 |
| 16 | M6x1.0 | 4 | M16x1.5 | 16 | 20 | 6 | 17 | 18 | 17 | 2 | 24 | 5.5 | 6 | 14 | 13 | 5 | 10 | M5x0.8 | 3.5 | 6 | 12 | 5 | 74 | 84 | 104 |
| 20 | M8x1.25 | 4 | M22x1.5 | 22 | 28 | 8 | 21 | 24 | 19 | 3 | 25 | 8 | 8 | 19 | 19 | 7 | 11 | G1/8 | 4 | 8 | 16 | 6 | 84.5 | 96 | 117 |
| 25 | M10x1.25 | 4 | M22x1.5 | 22 | 30 | 10 | 26 | 27 | 22 | 3 | 30 | 6 | 8 | 20 | 22 | 8 | 11 | G1/8 | 6 | 8 | 16 | 8 | 92 | 106 | 130 |

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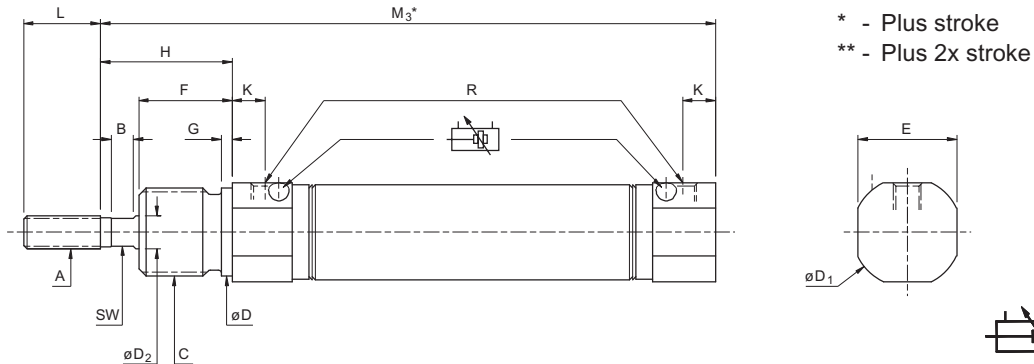
Q option

Radially ported rear head available on non-cushioned cylinders.
The M_1 dimension increases by the amount shown alongside

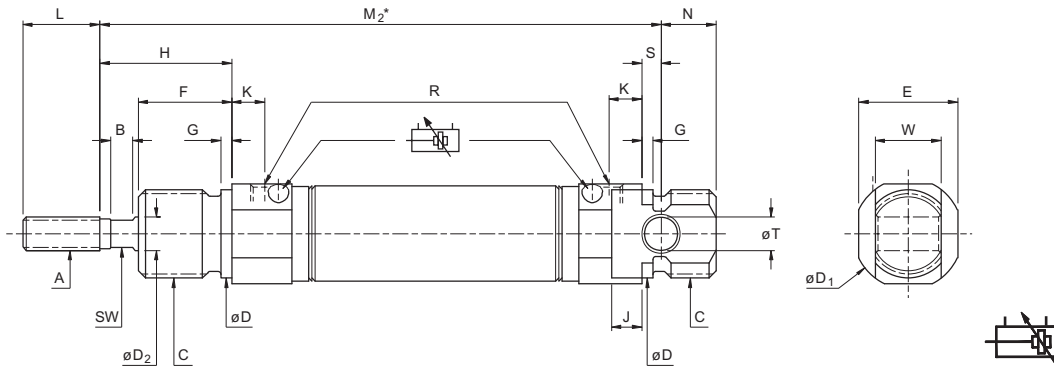
| Bore | Adder | Bore | Adder |
|------|-------|------|-------|
| 8 | 4.5 | 16 | 6.5 |
| 10 | 3 | 20 | 7.5 |
| 12 | 4.7 | 25 | 8 |

Double Acting - With Adjustable Cushioning

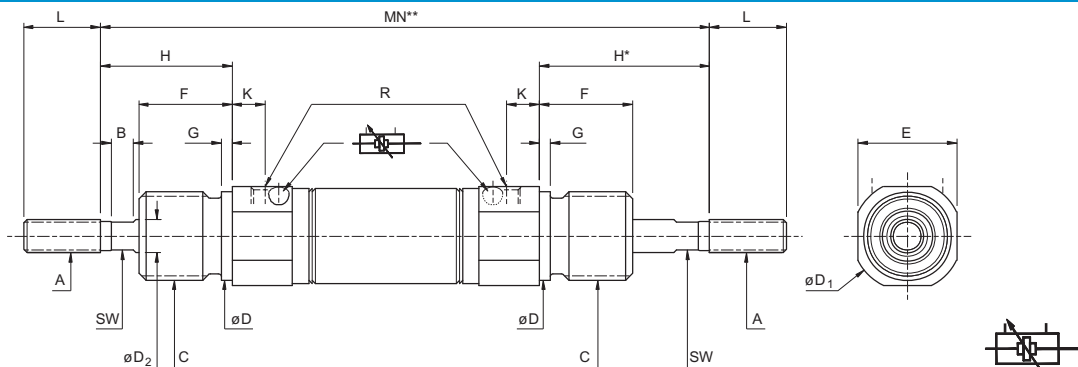
NOSE MOUNT - N option



UNIVERSAL MOUNT - U option



DOUBLE ENDED



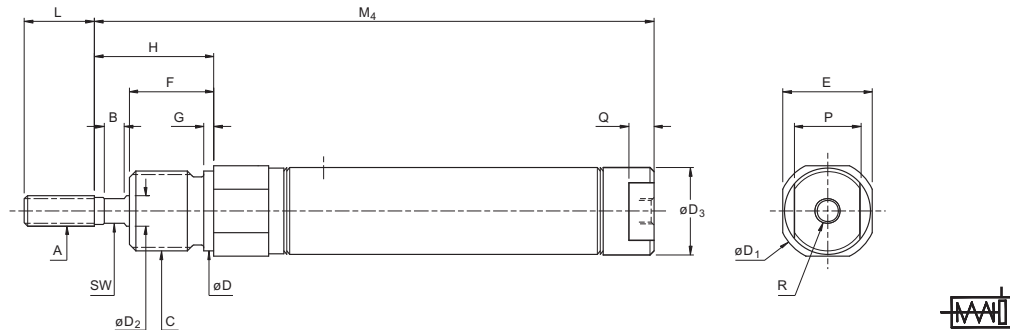
| Bore | A ⁶⁹ | B | C ⁶⁹ | D | D ₁ | D ₂ ^{h8} | E | F | G | H | J | K | L | N | R | S | T ^{h9} | W ^{d13} | SW | M ₂ | M ₃ | MN |
|------|-----------------|---|-----------------|----|----------------|------------------------------|----|----|---|----|-----|---|----|----|--------|-----|-----------------|------------------|----|----------------|----------------|-----|
| 16 | M6x1.0 | 4 | M16x1.5 | 16 | 20 | 6 | 18 | 17 | 2 | 24 | 5.5 | 6 | 14 | 10 | M5x0.8 | 3.5 | 6 | 12 | 5 | 84 | 80.5 | 104 |
| 20 | M8x1.25 | 4 | M22x1.5 | 22 | 28 | 8 | 24 | 19 | 3 | 25 | 8 | 8 | 19 | 11 | G1/8 | 4 | 8 | 16 | 6 | 96 | 92 | 117 |
| 25 | M10x1.25 | 4 | M22x1.5 | 22 | 30 | 10 | 27 | 22 | 3 | 30 | 6 | 8 | 20 | 11 | G1/8 | 6 | 8 | 16 | 8 | 106 | 100 | 130 |

Bimba ISO 6432 Air Cylinders

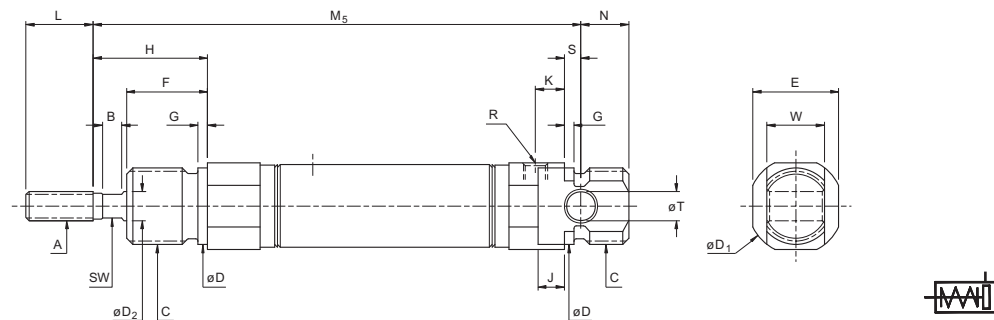
Single Acting - Spring To Retract (ESZ)

The ESZ & ER series offer a heavier spring force than the ES, and the flexibility of strokes exceeding 50mm.

NOSE MOUNT - N option

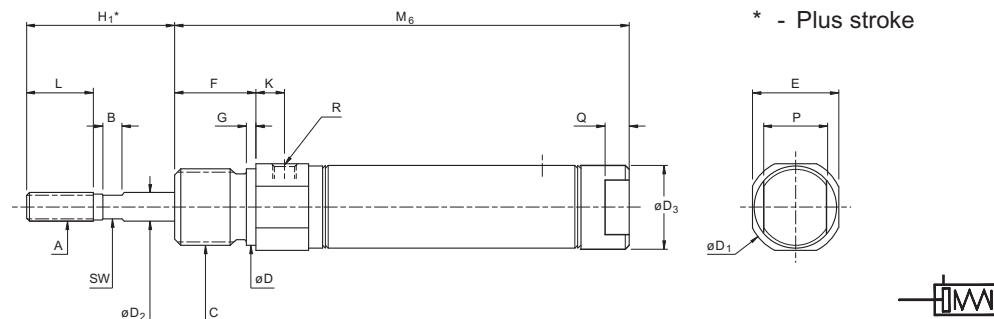


UNIVERSAL MOUNT - U option

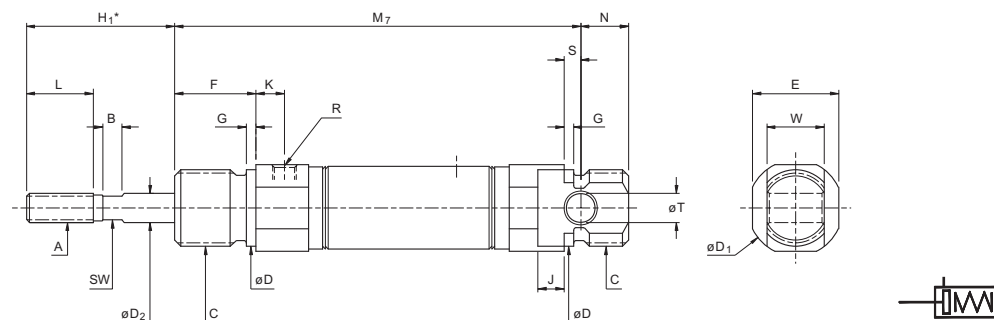


Single Acting - Spring To Extend (ER)

NOSE MOUNT - N option



UNIVERSAL MOUNT - U option



See following page for dimensional tables

Bimba ISO 6432 Air Cylinders

| Bore | A ^{6g} | B | C ^{6g} | D | D ₁ | D ₂ ^{h8} | D ₃ | E | F | G | H | H ₁ | J | K | L | N | P | Q | R | S | T ^{h8} | W ^{d13} | SW |
|------|-----------------|---|-----------------|----|----------------|------------------------------|----------------|----|----|---|----|----------------|-----|---|----|----|----|---|--------|-----|-----------------|------------------|----|
| 8 | M4x0.7 | - | M12x1.25 | 12 | 17 | 4 | 9 | 15 | 12 | 2 | 16 | 16 | 3 | 6 | 12 | 9 | 8 | 4 | M5x0.8 | 3 | 4 | 8 | - |
| 10 | M4x0.7 | - | M12x1.25 | 12 | 17 | 4 | 11 | 15 | 12 | 2 | 16 | 16 | 3 | 6 | 12 | 9 | 10 | 5 | M5x0.8 | 3 | 4 | 8 | - |
| 12 | M6x1.0 | 4 | M16x1.5 | 16 | 20 | 6 | 13 | 18 | 17 | 2 | 24 | 21 | 5.4 | 6 | 14 | 8 | 10 | 5 | M5x0.8 | 3.6 | 6 | 12 | 5 |
| 16 | M6x1.0 | 4 | M16x1.5 | 16 | 20 | 6 | 17 | 18 | 17 | 2 | 24 | 21 | 5.5 | 6 | 14 | 10 | 13 | 5 | M5x0.8 | 3.5 | 6 | 12 | 5 |
| 20 | M8x1.25 | 4 | M22x1.5 | 22 | 28 | 8 | 21 | 24 | 19 | 3 | 25 | 27 | 8 | 8 | 19 | 11 | 19 | 7 | G1/8 | 4 | 8 | 16 | 6 |
| 25 | M10x1.25 | 4 | M22x1.5 | 22 | 30 | 10 | 26 | 27 | 22 | 3 | 30 | 28 | 6 | 8 | 20 | 11 | 22 | 8 | G1/8 | 6 | 8 | 16 | 8 |

Calculating Cylinder Lengths

In order to provide greater customer flexibility, Bimba ESZ and ER cylinders can be fitted with multiple springs. To calculate the length ("M" dimension), use the following formula based on the table below:

Example 1: **ESZ-25-78-U**

ESZ-25-_-U Base length (M_b) = 103mm
 Multiplier = Stroke ÷ Increment = $78 \div 25 = 3.12$
 Multiplier = 3 (always round down)
 Multiplier x Adder = $3 \times 47 = 141$ mm
 Add Base Length = $141 + 103 = 244$

Add whole stroke increment:
 Stroke - (Multiplier x 25) = $78 - 75 = 3$

ESZ-25-78-U = $244 + 3 = 247$

Example 2: **ER-12-86-N**

ER-12-86-N Base length (M_b) = 60.2mm
 Multiplier = Stroke ÷ Increment = $86 \div 12.5 = 6.88$
 Multiplier = 6 (always round up)
 Multiplier x Adder = $6 \times 29 = 174$ mm
 Add Base Length = $174 + 60.2 = 234.2$

Add whole stroke increment:
 Stroke - (Multiplier x 12.5) = $86 - 75 = 11$

ER-12-86-N = $234.2 - 11 = 223.2$

| | ESZ - Single Acting, Rod To Retract | | | | ER - Single Acting, Rod To Extend | | | |
|----|-------------------------------------|--------------------|-------|-----------|-----------------------------------|--------------------|-------|-----------|
| | M ₄ (N) | M ₅ (U) | Adder | Increment | M ₆ (N) | M ₇ (U) | Adder | Increment |
| 8 | 63.8 | 71.3 | 20.8 | 12.5 | 51.5 | 59 | 20.8 | 12.5 |
| 10 | 57 | 63 | 24 | | 53 | 59 | 29 | |
| 12 | 67.2 | 75.5 | 26.5 | | 60.2 | 68.5 | 29 | |
| 16 | 72 | 82 | 48.5 | 25 | 65 | 75 | 49 | 25 |
| 20 | 81.5 | 93 | 46.5 | | 75.5 | 87 | 49 | |
| 25 | 89 | 103 | 47 | | 81 | 95 | 41.7 | |

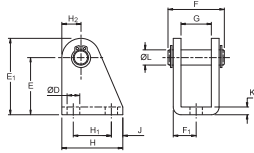
Spring Forces

| Bore | ES (available up to 50mm stroke) | | | ESZ & ER | | |
|------|----------------------------------|------|------|----------------|----------------------------|----------------|
| | Preload At Strokes (N) | | | Final Load (N) | Preload At 10mm Stroke (N) | Final Load (N) |
| | 10mm | 25mm | 50mm | | | |
| 8 | 5.1 | 4.2 | 2.6 | 5.7 | 1.8 | 8 |
| 10 | 5.1 | 4.2 | 2.6 | 5.7 | 3.1 | 8 |
| 12 | 5.8 | 4.4 | 3.1 | 6.2 | 4.9 | 16 |
| 16 | 5.8 | 4.4 | 3.1 | 6.2 | 8.9 | 22.7 |
| 20 | 20 | 16.5 | 11.1 | 22 | 12 | 31.7 |
| 25 | 28 | 23.1 | 15.6 | 31.1 | 12 | 39.2 |

Bimba ISO 6432 Air Cylinders

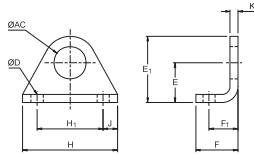
Accessories - Carbon Steel

CLEVIS FOOT



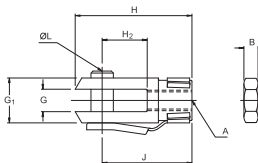
| Bore | Type | D | E | E ₁ | F | F ₁ | G | H | H ₁ | H ₂ | J | K | L |
|--------|-------|-----|----|----------------|------|----------------|------|----|----------------|----------------|---|-----|---|
| 8, 10 | CFB-1 | 4.5 | 24 | 29 | 17 | 6.5 | 8.1 | 20 | 12.5 | 5 | 4 | 2.5 | 4 |
| 12, 16 | CFB-2 | 5.5 | 27 | 34 | 23 | 9 | 12.1 | 25 | 15 | 7 | 5 | 3 | 6 |
| 20, 25 | CFB-3 | 6.6 | 30 | 40 | 29.5 | 12 | 16.1 | 32 | 20 | 10 | 6 | 4 | 8 |

FOOT MOUNTING



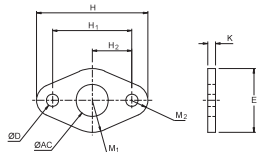
| Bore | Type | AC | D | E | E ₁ | F | F ₁ | H | H ₁ | J | K |
|--------|------|------|-----|----|----------------|----|----------------|----|----------------|-----|-----|
| 8, 10 | FB-1 | 12.1 | 4.6 | 15 | 25 | 16 | 11 | 36 | 25 | 5.5 | 3 |
| 12, 16 | FB-2 | 16.1 | 5.6 | 20 | 33 | 20 | 14 | 45 | 32 | 6.5 | 4 |
| 20, 25 | FB-3 | 22.1 | 6.6 | 25 | 40 | 24 | 17 | 56 | 40 | 8 | 4.5 |

ROD CLEVIS



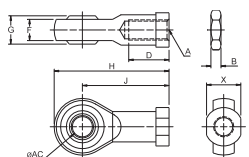
| Bore | Type | A | B | G | G ₁ | H | H ₂ | J | L |
|--------|-------------|----------|-----|----|----------------|----|----------------|----|----|
| 8, 10 | RC-M4x0.7 | M4x0.7 | 3.2 | 4 | 8 | 21 | 8 | 16 | 84 |
| 12, 16 | RC-M6x1.0 | M6x1.0 | 5 | 6 | 12 | 31 | 12 | 24 | 6 |
| 20 | RC-M8x1.25 | M8x1.25 | 4 | 8 | 16 | 42 | 16 | 32 | 8 |
| 25 | RC-M10x1.25 | M10x1.25 | 5 | 10 | 20 | 52 | 24 | 40 | 10 |

FLANGE MOUNTING



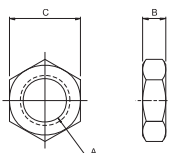
| Bore | Type | AC | D | E | H | H ₁ | H ₂ | K | M ₁ | M ₂ |
|--------|------|------|-----|----|----|----------------|----------------|-----|----------------|----------------|
| 8, 10 | MF-1 | 12.1 | 4.6 | 24 | 42 | 30 | 15 | 3 | 12 | 6 |
| 12, 16 | MF-2 | 16.1 | 5.6 | 28 | 54 | 40 | 20 | 4 | 14 | 7 |
| 20, 25 | MF-3 | 22.1 | 6.6 | 38 | 66 | 50 | 25 | 4.5 | 19 | 8 |

SPHERICAL ROD EYE



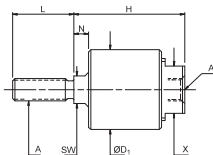
| Bore | Type | A | AC | B | D | F | G | H | J | X |
|--------|--------------|----------|----|-----|----|------|----|----|----|----|
| 8, 10 | SRE-M4x0.7 | M4x0.7 | 5 | 3.2 | 10 | 6 | 8 | 36 | 27 | 9 |
| 12, 16 | SRE-M6x1.0 | M6x1.0 | 6 | 5 | 12 | 6.75 | 9 | 40 | 30 | 11 |
| 20 | SRE-M8x1.25 | M8x1.25 | 8 | 4 | 16 | 9 | 12 | 48 | 36 | 14 |
| 25 | SRE-M10x1.25 | M10x1.25 | 10 | 5 | 20 | 10.5 | 14 | 57 | 43 | 17 |

ROD/MOUNTING NUT



| Bore | Type | A | B | C | Type | A | B | C |
|--------|------|----------|-----|----|------|----------|----|----|
| 8, 10 | RN-1 | M4x0.7 | 3.2 | 7 | MN-1 | M12x1.25 | 7 | 19 |
| 12, 16 | RN-2 | M6x1.0 | 5 | 10 | MN-2 | M16x1.5 | 8 | 24 |
| 20 | RN-3 | M8x1.25 | 4 | 13 | MN-3 | M22x1.5 | 10 | 32 |
| 25 | RN-4 | M10x1.25 | 5 | 17 | | | | |

ROD COUPLER



| Bore | Type | A | D ₁ | H | L | N | SW | X |
|---------|-------------|----------|----------------|----|----|----|----|------|
| 8, 10 | AC-M4x0.7 | M4x0.7 | 14 | 24 | 14 | 64 | - | 11.3 |
| 12, 16 | AC-M6x1.0 | M6x1.0 | 29 | 44 | 13 | 10 | 10 | 17 |
| 20 | AC-M8x1.25 | M8x1.25 | 32 | 50 | 19 | 12 | 13 | 21 |
| 25, 32 | AC-M10x1.25 | M10x1.25 | 32 | 50 | 19 | 12 | 13 | 21 |
| 40 | AC-M12x1.25 | M12x1.25 | 32 | 50 | 19 | 12 | 13 | 21 |
| 50, 63 | AC-M16x1.5 | M16x1.5 | 32 | 50 | 32 | 12 | 14 | 21 |
| 80, 100 | AC-M20x1.5 | M20x1.5 | 45 | 58 | 29 | 12 | 21 | 29 |

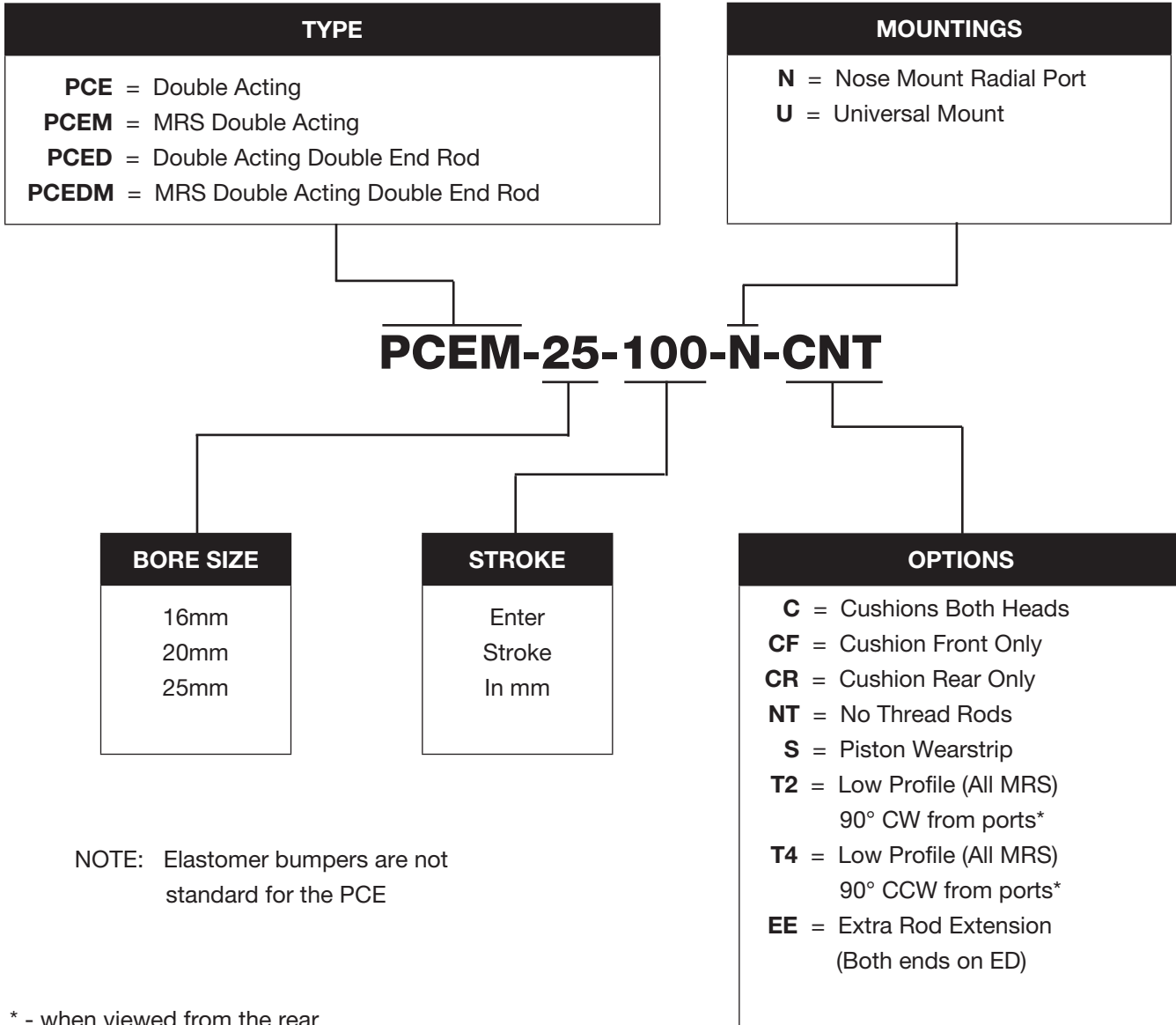
Bimba PCE Air Cylinders

How to Order

The Model Number for all Bimba PCE Cylinders consists of five Alphanumeric clusters. The first designates the *Type*, the second the *Bore Size*, the third the *Stroke Length*, the fourth the *Mounting style*, and the fifth the *Options*.

Please refer to the chart below for an explanation of the following model number:

PCEM-25-100-N-CNT: This is a PCE Type Cylinder with a magnet, with 25mm Bore Size, 100mm Stroke Size, Nose Mounted, and with Cushions in Both Heads and no Rod Threads.



Bimba PCE Air Cylinders

General Specifications



The Bimba PCE cylinder has stainless steel body, stainless steel rod and Delrin® end caps. It is ideal for applications or operating environments that require exposure to moisture, lubricants and specific solvents.

| | BORE | | |
|------------------------------------|--|----|----|
| | 16 | 20 | 25 |
| Cushion Length (mm) Each End | 18 | 21 | 21 |
| Head Material | Delrin® Plastic type 150SA | | |
| Operating Pressure Max. Min. | 7 bar 0.5 bar | | |
| Operating Temperature Range | -10°C to +80°C | | |
| Operating Media | Filtered Compressed Air/Lubricated or Non-Lubricated | | |
| Standard Stroke Lengths | 1mm to 300mm | | |
| Maximum Stroke Length* | 1000mm | | |
| Stroke Tolerance | +1.0mm/-0mm | | |
| Piston Speed | 5mm/s to 1000mm/s | | |
| Life Expectancy | 3000km | | |

* Varies according to bore size, please consult your local BIMBA distributor.

Weights

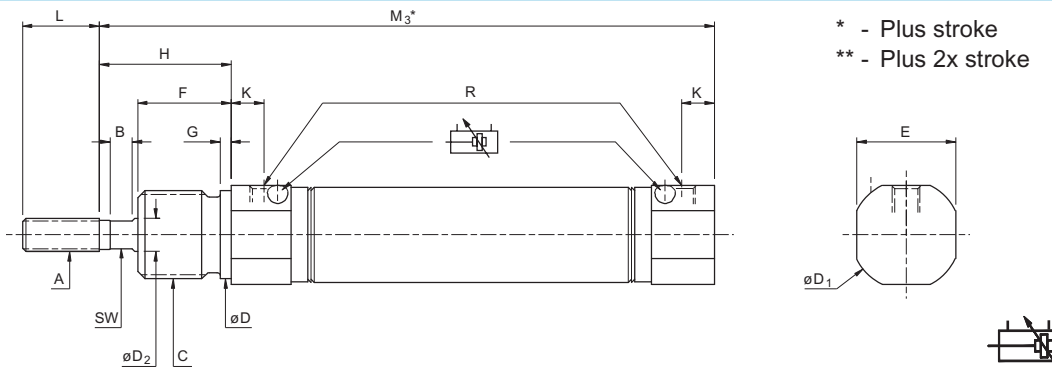
| | Bore | | |
|-----------------------|------|-----|-----|
| | 16 | 20 | 25 |
| Option N | 40 | 77 | 117 |
| Option U | 43 | 85 | 126 |
| Type ED | 57 | 116 | 176 |
| adder per 10mm stroke | 5 | 8 | 11 |

Weights (approximate) are for zero stroke, in grams.

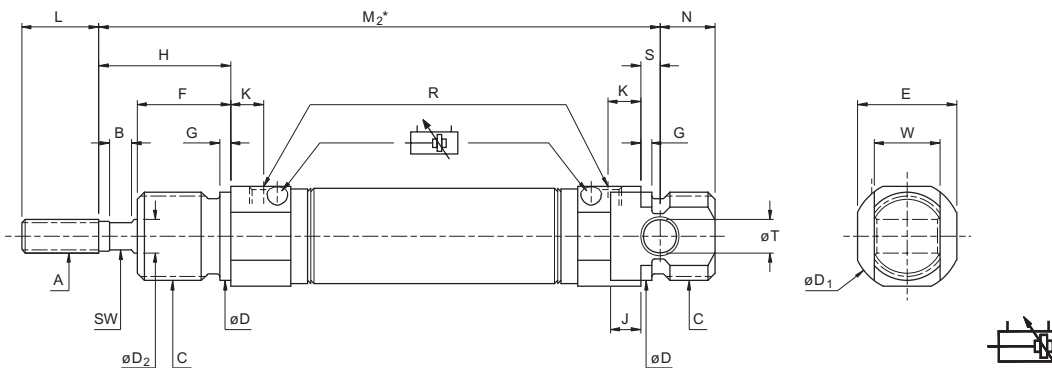
Bimba PCE Air Cylinders

Double Acting - With Adjustable Cushioning

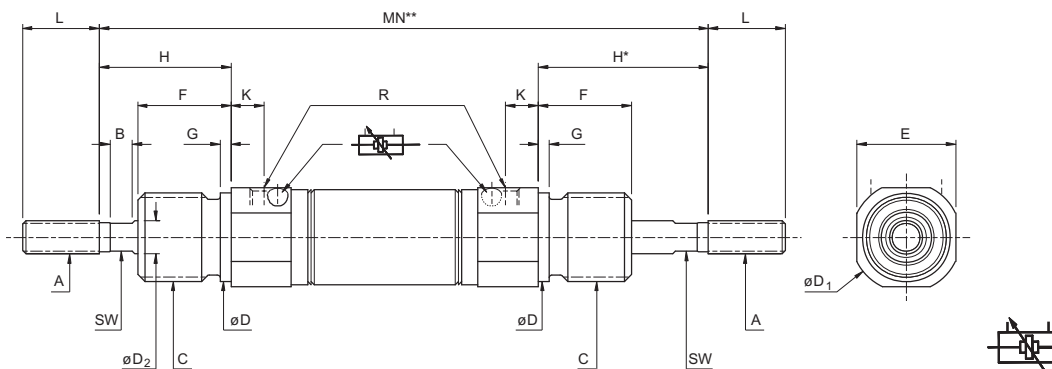
NOSE MOUNT - N option



UNIVERSAL MOUNT - U option



DOUBLE ENDED



| Bore | A ⁶⁹ | B | C ⁶⁹ | D | D ₁ | D ₂ ¹⁰ | E | F | G | H | J | K | L | N | R | S | T ¹⁰ | W ^{d13} | SW | M ₂ | M ₃ | MN |
|------|-----------------|---|-----------------|----|----------------|------------------------------|----|----|---|----|-----|---|----|----|--------|-----|-----------------|------------------|----|----------------|----------------|-----|
| 16 | M6x1.0 | 4 | M16x1.5 | 16 | 20 | 6 | 18 | 17 | 2 | 24 | 5.5 | 6 | 14 | 10 | M5x0.8 | 3.5 | 6 | 12 | 5 | 84 | 80.5 | 104 |
| 20 | M8x1.25 | 4 | M22x1.5 | 22 | 28 | 8 | 24 | 19 | 3 | 25 | 8 | 8 | 19 | 11 | G1/8 | 4 | 8 | 16 | 6 | 96 | 92 | 117 |
| 25 | M10x1.25 | 4 | M22x1.5 | 22 | 30 | 10 | 27 | 22 | 3 | 30 | 6 | 8 | 20 | 11 | G1/8 | 6 | 8 | 16 | 8 | 106 | 100 | 130 |

Bimba PCE Air Cylinders

Accessories - Stainless Steel

ISO 6431, VDMA
24562 Air Cylinders

ISO 6431
Accessories

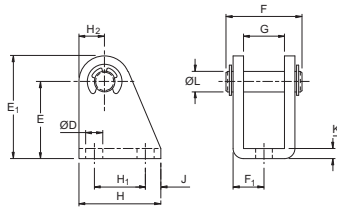
ISO 6432/ETOP
Cylinders

ISO 6432
Accessories

PCE Air Cylinders

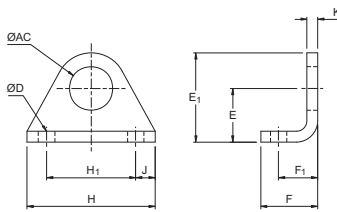
PCE Accessories

PIVOT BRACKET



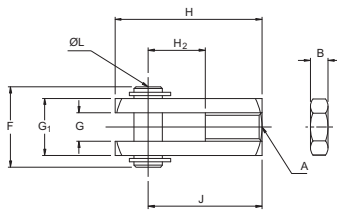
| Bore | Type | D | E | E ₁ | F | F ₁ | G | H | H ₁ | H ₂ | J | K | L |
|--------|----------|-----|----|----------------|------|----------------|------|----|----------------|----------------|---|---|---|
| 16 | CFB-2-SS | 5.6 | 27 | 34 | 24 | 9 | 12.5 | 25 | 15 | 7 | 5 | 3 | 6 |
| 20, 25 | CFB-3-SS | 6.6 | 30 | 40 | 30.5 | 12 | 16.5 | 32 | 20 | 10 | 6 | 4 | 8 |

FOOT MOUNTING BRACKET



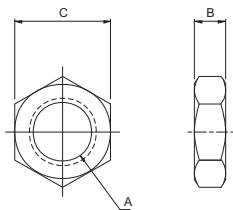
| Bore | Type | AC | D | E | E ₁ | F | F ₁ | H | H ₁ | J | K |
|--------|---------|------|-----|----|----------------|----|----------------|----|----------------|---|---|
| 16 | FB-2-SS | 16.1 | 5.6 | 20 | 33 | 20 | 14 | 42 | 32 | 5 | 4 |
| 20, 25 | FB-3-SS | 22.1 | 6.6 | 25 | 40 | 25 | 17 | 54 | 40 | 7 | 5 |

ROD CLEVIS BRACKET



| Bore | Type | A | B | F | G | G ₁ | H | H ₂ | J | L |
|------|---------|----------|---|----|----|----------------|----|----------------|----|----|
| 16 | RC-2-SS | M6x1.0 | 5 | 16 | 6 | 12 | 31 | 12 | 24 | 6 |
| 20 | RC-3-SS | M8x1.25 | 4 | 20 | 8 | 16 | 42 | 16 | 32 | 8 |
| 25 | RC-4-SS | M10x1.25 | 5 | 26 | 10 | 20 | 52 | 24 | 40 | 10 |

ROD NUT



| Bore | Type | A | B | C |
|------|---------|----------|---|----|
| 16 | RN-2-SS | M6x1.0 | 5 | 10 |
| 20 | RN-3-SS | M8x1.25 | 4 | 13 |
| 25 | RN-4-SS | M10x1.25 | 5 | 17 |

MOUNTING NUT

| Bore | Type | A | B | C |
|--------|---------|---------|----|----|
| 16 | MN-2-SS | M16x1.5 | 8 | 24 |
| 20, 25 | MN-3-SS | M22x1.5 | 10 | 32 |