

- > \varnothing 32 ... 320 mm
- > High performance adaptive cushioning system "ACS"
- > Low temperature version up to -40°C
- > High temperature version up to $+150^{\circ}\text{C}$
- > 16 bar version available



Technical features

Medium:

Compressed air, filtered, lubricated or non-lubricated

Standard:

ISO 15552

Operation:

Double acting, adjustable cushioning

Operating pressure:

- \varnothing 32 ... 125 mm (Profile barrel)
1 ... 12 bar (14 ... 174 psi)
- \varnothing 32 ... 200 mm (Round barrel)
1 ... 16 bar (14 ... 232 psi)
- \varnothing 250 & 320 mm (Round barrel)
1 ... 10 bar (14 ... 145 psi)

Ports:

G1/8 ... 1

Cylinder diameters:

32, 40, 50, 63, 80, 100, 125, 160, 200, 250, 320 mm

Standard strokes:

25, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500 mm

Non-standard strokes:

Available (5 ... 2800 mm)

Operating temperature:

- \varnothing 32 ... 125 mm
"Standard version"
 $-20 \dots +80^{\circ}\text{C}$ max. ($-4 \dots +176^{\circ}\text{F}$)
- \varnothing 160 ... 320 mm
"Standard version"
 $-10 \dots +80^{\circ}\text{C}$ max. ($+14 \dots +176^{\circ}\text{F}$)
- \varnothing 32 ... 320 mm
"High temperature version" (T)
 $0 \dots +150^{\circ}\text{C}$ max.
($-17,7 \dots +302^{\circ}\text{F}$)
- \varnothing 32 ... 200 mm
"Low temperature version" (L)
 -40 max. ... $+80^{\circ}\text{C}$ max.
($-40 \dots +176^{\circ}\text{F}$)

Air supply must be dry enough to avoid ice formation at temperatures below $+2^{\circ}\text{C}$ ($+35^{\circ}\text{F}$).

Standard Materials:

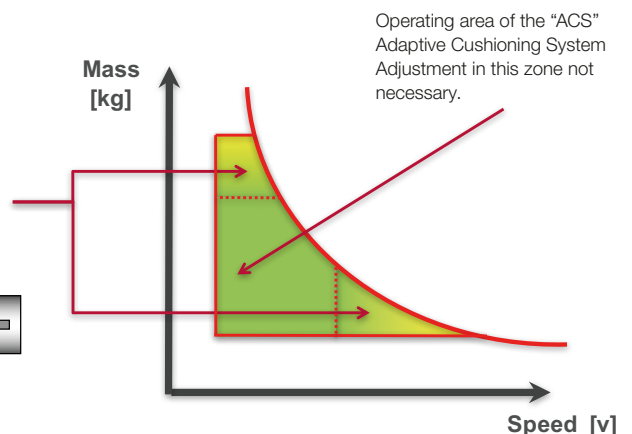
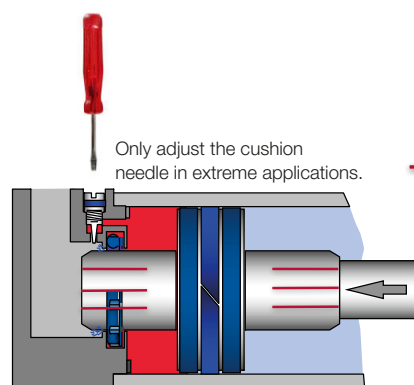
- Barrel: Anodised aluminium
- End covers: Pressure diecast aluminium (\varnothing 200 ... 320 mm gravity cast aluminium)
- Piston rod: Stainless steel (martensitic)
- Piston rod seals: PUR (\varnothing 160 ... 320 mm NBR)
- Piston seals: PUR (\varnothing 160 ... 320 mm NBR)
- 'O'-rings: NBR

Technical data

| Cylinder \varnothing (mm) | 32 | 40 | 50 | 63 | 80 | 100 | 125 | 160 | 200 | 250 | 320 |
|--|------------|------------|-----------|-----------|-----------|-----------|---------|---------|---------|---------|---------|
| Profile barrel | • | • | • | • | • | • | • | | | | |
| Round barrel | • | • | • | • | • | • | • | • | • | • | • |
| Port size | G1/8 | G1/4 | G1/4 | G3/8 | G3/8 | G1/2 | G1/2 | G3/4 | G3/4 | G1 | G1 |
| Piston rod \varnothing (mm) | 12 | 16 | 20 | 20 | 25 | 25 | 32 | 40 | 40 | 50 | 63 |
| Piston rod thread | M10 x 1,25 | M12 x 1,25 | M16 x 1,5 | M16 x 1,5 | M20 x 1,5 | M20 x 1,5 | M27 x 2 | M36 x 2 | M36 x 2 | M42 x 2 | M48 x 2 |
| Cushion length mm | 20 | 22 | 24 | 24 | 26 | 33 | 39 | 43 | 43 | 55 | 60 |
| Cushioning Adaptive cushioning systems "ACS" | • | • | • | • | • | • | • | | | | |
| Cushioning: (adjustable cushion) | | | | | | | | • | • | • | • |
| Initial cushion volume (cm ³) | 12,8 | 20,2 | 36 | 64 | 111 | 235 | 427 | 784 | 1273 | 2534 | 4559 |
| Theoretical thrusts at 6 bar outstroke (N) | 482 | 754 | 1178 | 1870 | 3016 | 4710 | 7363 | 12064 | 18840 | 29436 | 48228 |
| Theoretical thrusts at 6 bar instroke (N) | 414 | 633 | 990 | 1680 | 2722 | 4416 | 6882 | 11310 | 18090 | 28236 | 47292 |
| Air consumption at 6 bar outstroke (l/cm) | 0,056 | 0,088 | 0,137 | 0,218 | 0,35 | 0,55 | 0,86 | 1,41 | 2,2 | 3,44 | 5,63 |
| Air consumption at 6 bar instroke (l/cm) | 0,048 | 0,074 | 0,114 | 0,195 | 0,32 | 0,51 | 0,79 | 1,32 | 2,1 | 3,3 | 5,41 |

The function

The new "ACS" Adaptive Cushioning System provides a high performance pneumatic damping function. The system will automatically cushion for a wide range of general applications as delivered. Manual adjustment is still possible for extreme applications.



Design and sizing in pneumatics

Golden Rules

Design and sizing in pneumatics is often based upon experience coupled with an element of fear of under specifying crucial equipment. In an attempt to ensure enough power, engineers may select over sized cylinders and then select over sized valves to supply them with enough air. The same uncertainty can also lead to over sized specification of air line equipment, fittings and tubing.

The outcome is components larger than necessary that use too much compressed air and waste energy and money.

However when following some well proven golden rules and a few laws of pneumatics it is easy to achieve correctly sized pneumatic installations.

Basics to Consider

The force required, the pressure available, the speed of movement and air consumption. ISO and VDMA standard or compact style also cushioning and sensors. Cylinders are greased on assembly and operate under normal conditions without additional lubrication. However using a lubricator will extend the life of these products.

Golden Rule:

The theoretical force of the cylinder should be 25% extra for high speed, 50% extra for low speed and 100% extra for ultra low speed (positioning) applications.

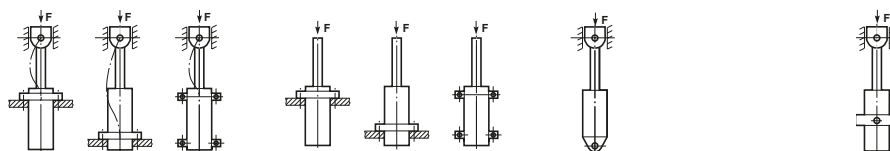
The correct sizing is based upon the required force and applied pressure.

Go to page 1 for more information on cylinder sizing and air consumption.

Load and Buckling

For applications with high side loading, use pneumatic slide actuators or standard cylinders fitted with guide units.

Alternatively external guide bearings should be installed. When a long stroke length is specified, care must be taken to ensure the rod length is within the limits for prevention of buckling. The table shows the maximum stroke length for a variety of installation arrangements.



| Cylinder ø (mm) | Piston rod ø (mm) | Load case 1 Pressure (bar) | | | | Load case 2 Pressure (bar) | | | | Load case 3 Pressure (bar) | | | | Load case 4 Pressure (bar) | | | |
|--------------------|----------------------|-------------------------------|------|------|------|-------------------------------|------|-----|-----|-------------------------------|------|------|-----|-------------------------------|------|------|-----|
| | | 4 | 6 | 10 | 16 | 4 | 6 | 10 | 16 | 4 | 6 | 10 | 16 | 6 | 6 | 10 | 16 |
| 32 | 12 | 1100 | 860 | 650 | 500 | 500 | 390 | 290 | 210 | 650 | 520 | 380 | 290 | 760 | 600 | 450 | 340 |
| 40 | 16 | 1600 | 1200 | 950 | 730 | 730 | 580 | 430 | 320 | 940 | 750 | 560 | 430 | 1100 | 880 | 660 | 500 |
| 50 | 20 | 2000 | 1600 | 1200 | 930 | 930 | 740 | 550 | 420 | 1200 | 960 | 720 | 550 | 1400 | 1100 | 840 | 640 |
| 63 | 20 | 1500 | 1200 | 930 | 720 | 720 | 570 | 420 | 310 | 930 | 740 | 550 | 420 | 1100 | 860 | 650 | 490 |
| 80 | 25 | 1900 | 1500 | 1100 | 880 | 880 | 700 | 510 | 380 | 1100 | 910 | 680 | 510 | 1300 | 1100 | 800 | 600 |
| 100 | 25 | 1500 | 1200 | 880 | 670 | 670 | 520 | 380 | 270 | 880 | 690 | 510 | 370 | 1000 | 820 | 600 | 450 |
| 125 | 32 | 2000 | 1600 | 1200 | 910 | 910 | 710 | 520 | 380 | 1200 | 940 | 690 | 520 | 1400 | 1100 | 820 | 620 |
| 160 | 40 | 2400 | 1900 | 1500 | 1100 | 1100 | 880 | 640 | 480 | 1400 | 1200 | 860 | 640 | 1700 | 1400 | 1000 | 760 |
| 200 | 40 | 1900 | 1500 | 1100 | 860 | 860 | 670 | 480 | 350 | 1100 | 890 | 650 | 480 | 1300 | 1000 | 770 | 580 |
| 250 | 50 | 2400 | 1900 | 1400 | 1100 | 1100 | 850 | 620 | 440 | 1400 | 1100 | 830 | 610 | 1700 | 1300 | 980 | 730 |
| 320 | 63 | 3000 | 2400 | 1800 | 1400 | 1400 | 1100 | 780 | 570 | 1800 | 1400 | 1000 | 780 | 2100 | 1700 | 1200 | 930 |

Additional ISO 1552 Cylinder ranges

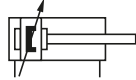
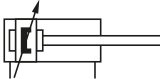
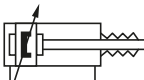

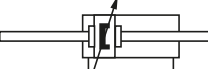

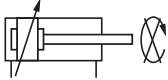
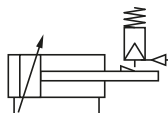


| Symbols | Profile barrel Round Barrel | Industrial Automation | Food & Beverage | Rail | Automotive | ATEX II 2GD | CE-marked | ø (mm) | Range | Description | Datasheet |
|---------|--------------------------------|--------------------------|--------------------|------|------------|-------------|-----------|-------------|--------------------------|---------------------------------|---|
| | • | • | • | • | • | • | • | 32 ... 125 | PRA/802000 | Double Acting Cylinder | 1_5_220_PRA_802000_M_RA_8000_M 1_5_225_PRA_802000_M_EX |
| | • | • | • | • | • | • | • | 32 ... 125 | RA/802000 | Double Acting Cylinder | 1_5_220_PRA_802000_M_RA_8000_M 1_5_225_PRA_802000_M_EX |
| | • | • | • | • | • | • | • | 160 ... 320 | RA/8000 | Double Acting Cylinder | 1_5_220_PRA_802000_M_RA_8000_M 1_5_126_RA_8000_M_EX |
| | • | • | • | • | • | • | • | 32 ... 200 | KA/8000 | Stainless steel Cylinder | 1_5_127_KA_8000_M 1_5_128_KA_8000_M_EX |
| | • | • | • | • | • | • | • | 32 ... 100 | PRA/822000 | Smooth Line Cylinder | 1_5_230_PRA_822000_M 1_5_235_PRA_822000_M_EX |
| | • | • | • | • | • | • | • | 32 ... 100 | PRA/842000 | Clean Line Cylinder | 1_5_240_PRA_842000_M 1_5_245_PRA_842000_M_EX |
| | • | • | • | • | • | • | • | 32 ... 100 | PRA/862000 | IVAC Industrial Cylinder | 1_5_250_PRA_862000_M 1_5_255_PRA_862000_M_EX |
| | • | • | • | • | • | • | • | 32 ... 100 | PRA/882000 | IVAC Clean Line Cylinder | 1_5_260_PRA_882000_M 1_5_265_PRA_882000_M_EX |
| | • | • | • | • | • | • | • | 40 ... 125 | PSA/182000/F1 | Cylinder with position sensor | 1_9_051_PSA_182000_F1 1_9_052_PSA_182000_F1_EX |
| | • | • | • | • | • | • | • | 160 ... 320 | SA/8000/F1 | Cylinder with position sensor | Datasheet (standard) 1_9_062_SA_8000_F1_EX |
| | • | • | • | • | • | • | • | 32 ... 100 | "PRA/801000, PRA/803000" | Standard Single Acting Cylinder | 1_4_101_PRA_801000_803000 |
| | • | • | • | • | • | • | • | 32 ... 100 | "RA/801000, RA/803000" | Standard Single Acting Cylinder | 1_4_101_PRA_801000_803000 |

• Range available

For additional information please contact the technical service or <http://www.imi-precision.com>

Cylinder variants

| Symbol Please see the description below | Versions | Piston Rod Material | Standard Model with | | ø (mm) | Description | Page | |
|---|---------------|---------------------|------------------------|--------------------------|----------------|---|---|----|
| | | | Male Piston Rod Thread | Female Piston Rod Thread | | | | |
|  | • • • X • • • | | .PRA/802000/M | .PRA/802000/MX | 32 ... 125 | Standard Cylinder (Profile barrel) | 8 | |
| | • • • X • • • | | .RA/802000/M | .RA/802000/MX | 32 ... 125 | Standard Cylinder (Round barrel) | 8 | |
| | • • X • • • | | .RA/8000/M | - | 160 ... 320 | Standard Cylinder (Round barrel) | 8 | |
| | • • X • • • | | .RA/8000 | - | 160 ... 320 | Standard Cylinder (Round barrel) without Magnet | 8 | |
| | | X • • • | | PRA/802000/W2 | PRA/802000/W2X | 32 ... 125 | Cylinder with Special Wiper - Seal (suitable for appl. with cement, plaster (stucco), arizona sand, hoar-frost or ice) | 10 |
| | | X • • • | | RA/802000/W2 | RA/802000/W2X | 32 ... 125 | | |
| | | X • • • | | RA/8000/W1 | - | 160 ... 200 | Cylinder with Special Wiper - Seal without Magnet | |
| | | X • • • | | PRA/802000/X2 | PRA/802000/X2X | 32 ... 125 | Low Friction Cylinder | |
| | | X • • • | | RA/802000/X2 | RA/802000/X2X | 32 ... 125 | Operating pressure: 1 ... 10 bar, Medium: Compressed air, filtered and non-lubricated recommended | 10 |
| | | X • • • | | RA/8000/X2 | - | 160 ... 200 | | |
| | X • • • | | RA/8000/X1 | - | 160 ... 200 | Low Friction Cylinder without Magnet | 10 | |
|  | • • • X • • • | | .PRA/802000/MU | .PRA/802000/MUX | 32 ... 125 | Cylinder with Extended Piston Rod Maximum stroke: 2000 Maximum extension: 800 | 10 | |
| | • • • X • • • | | .RA/802000/MU | .RA/802000/MUX | 32 ... 125 | | | |
| | • • X • • • | | .RA/8000/MU | - | 160 ... 320 | | | |
| | • • X • • • | | RA/8000/IU | - | 160 ... 320 | Cylinder with Extended Piston Rod without Magnet | | |
| | | X • • • | | PRA/802000/W6 | PRA/802000/W6X | 32 ... 125 | Cylinder with Extended Piston Rod and Special Wiper - Seal Maximum stroke: 2000 suitable for appl. with cement, plaster (stucco), arizona sand, hoar-frost or ice | 10 |
| | | X • • • | | RA/802000/W6 | RA/802000/W6X | 32 ... 125 | | |
| | | X • • • | | RA/8000/W6 | - | 160 ... 200 | Cylinder with Extended Piston Rod and Special Wiper - Seal without Magnet | |
|  | • X • • • | | .PRA/802000/MG | .PRA/802000/MGX | 32 ... 125 | Cylinder with Piston Rod Bellows Maximum stroke: ø 32 = 1860, ø 40 ... 320 = 2000 | 12 | |
| | • X • • • | | .RA/802000/MG | .RA/802000/MGX | 32 ... 125 | | | |
| | • X • • • | | .RA/8000/MG | - | 160 ... 320 | | | |
| | • X • • • | | .RA/8000/G | - | 160 ... 320 | Cylinder with Piston Rod Bellows without Magnet | | |
|  | • X • • • | | .PRA/802000/MW | .PRA/802000/MWX | 32 ... 125 | Cylinder without Cushioning | 10 | |
| | • X • • • | | .RA/802000/MW | .RA/802000/MWX | 32 ... 125 | | | |
| | • X • • • | | .RA/8000/MW | - | 160 ... 320 | | | |
| | • X • • • | | .RA/8000/W | - | 160 ... 320 | Cylinder without Cushioning without Magnet | | |
| | | X • • • | | PRA/802000/X4 | PRA/802000/X4X | 32 ... 125 | Low Friction Cylinder without Cushioning Operating pressure: 1 ... 10 bar, Medium: Compressed air, filtered and non-lubricated recommended | 10 |
| | | X • • • | | RA/802000/X4 | RA/802000/X4X | 32 ... 125 | | |
| | | X • • • | | RA/8000/X4 | - | 160 ... 200 | | |
| | | X • • • | | RA/8000/X3 | - | 160 ... 200 | Low Friction Cylinder without Cushioning without Magnet | |
|  | • • • X • • • | | .PRA/802000/JM | .PRA/802000/JMX | 32 ... 125 | Cylinder with Double Ended Piston Rod | 11 | |
| | • • • X • • • | | .RA/802000/JM | .RA/802000/JMX | 32 ... 125 | | | |
| | • • X • • • | | .RA/8000/JM | - | 160 ... 320 | | | |
| | • • X • • • | | .RA/8000/J | - | 160 ... 320 | Cylinder with Double Ended Piston Rod without Magnet | | |
| | | X • • • | | PRA/802000/W4 | PRA/802000/W4X | 32 ... 125 | Cylinder with Double Ended Piston Rod and Special Wiper - Seal without Magnet (suitable for appl. with cement, plaster (stucco), arizona sand, hoar-frost or ice) | 8 |
| | | X • • • | | RA/802000/W4 | RA/802000/W4X | 32 ... 125 | | |
| | | X • • • | | RA/8000/W3 | - | 160 ... 200 | | |
|  | • • X • • • | | .PRA/802000/MT | .PRA/802000/MTX | 32 ... 125 | Four Position Cylinder Maximum stroke = stroke 1 + stroke 2 ø 32 = 700, ø 40 = 1000, ø 50 = 1000, ø 63 = 900, ø 80 = 1200, ø 100 = 1100, ø 125 = 1200, ø 160 = 1200, ø 200 = 1100 | 11 | |
| | • • X • • • | | .RA/802000/MT | .RA/802000/MTX | 32 ... 125 | | | |
| | • • X • • • | | .RA/8000/MT | - | 160 ... 200 | | | |
| | • • X • • • | | .RA/8000/IT | - | 160 ... 200 | Four Position Cylinder without Magnet | | |
|  | | X | PRA/802000/N2 | PRA/802000/N2X | 32 ... 100 | Cylinder with Non-Rotating Piston Rod Maximum stroke: 1000 | 10 | |
| | | X | RA/802000/N2 | RA/802000/N2X | 32 ... 100 | | | |
|  | | X • • • | PRA/802000/L4 | PRA/802000/L4X | 32 ... 125 | Cylinder with Locking unit (Passive) Spring force on removal of the signal to the unit. Operating pressure for locking unit: 4 ... 10 bar Maximum stroke: 2600 | 13 | |
| | | X • • • | RA/802000/L4 | RA/802000/L4X | 32 ... 125 | | | |
| | | X • • • | PRA/802000/L8 | PRA/802000/L8X | 32 ... 125 | Cylinder with Locking unit (Passive) and Special Wiper - Seal Spring force on removal of the signal to the unit. Operating pressure for locking unit: 4 ... 10 bar (suitable for appl. with cement, plaster (stucco), arizona sand, hoar-frost or ice) Maximum stroke: 2600 | 13 | |
| | | X • • • | RA/802000/L8 | RA/802000/L8X | 32 ... 125 | | | |

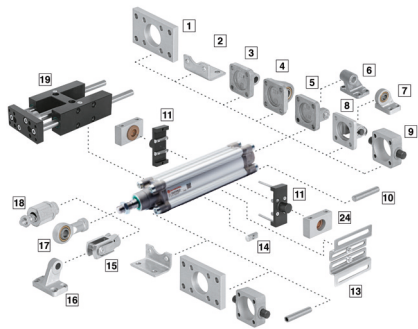
Note: Versions: H = Hydraulic (ø 32 ... 100 mm); L = Low temperature -40°C (-40°F); T = High temperature +150°C (+302°F);
Piston Rod Material: C = Hard chromium plated; D = Stainless steel austenitic & hard chromium plated; R = Stainless steel martensitic;
S = Stainless steel austenitic; X = Standard; • = Option

Option selector
*****A/8*****/***/******

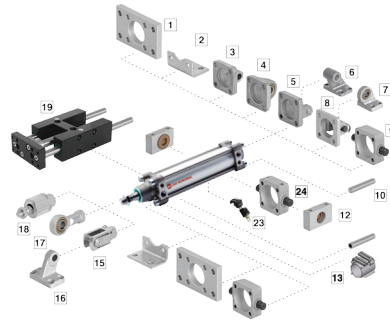
| Non-standard variants | Substitute | Strokes (mm) | Substitute |
|--|---------------------------|--|---------------------------|
| Standard | None | 5 ... 2800 | |
| Hydraulic version ø 32 ... 100 mm only | H | Piston rod thread | Substitute |
| Low temperature version -40°C (-40°F) | L | Male | None |
| High temperature version +150°C max. (+302°F) | T | Female | X |
| Standard | Substitute | Variants ø 160 ... 320 mm (non-magnetic piston) | Substitute |
| Round barrel | None | Standard | None |
| Profile barrel | P | Special wiper/seal | W1 |
| Piston rod material | Substitute | Low friction | X1 |
| Stainless steel martensitic | R | Piston rod bellow | G |
| Stainless steel austenitic | S | Without cushion | W |
| Hard chromium plated | C | Without cushion, low friction | X3 |
| Stainless steel austenitic & hard chromium plated | D | Double ended piston rod | J |
| Cushioning | Substitute | Double ended piston rod, special wiper/seal | W3 |
| "ACS" (ø 32 ... 125 mm) | 02 | Four-position cylinder | IT |
| Standard (ø 160 ... 320 mm) | None | Extended piston rod | IU |
| Cylinder ø (mm) | Substitute | **A/8*****/IU*****/*** | Extension (mm) |
| 032, 040, 050, 063, 080, 100, 125, 160, 200, 250, 320 | | Extended piston rod | W5 |
| Variants ø 32 ... 320 mm (magnetic piston) | Substitute | **A/8*****/W5*****/*** | Extension (mm) |
| Standard | M | | |
| Special wiper/seal | W2 | | |
| Low friction | X2 | | |
| Piston rod bellow | MG | | |
| Without cushion | MW | | |
| Without cushion, low friction | X4 | | |
| Double ended piston rod | JM | | |
| Double ended piston rod, special wiper/seal | W4 | | |
| Four-position cylinder | MT | | |
| Non-rotating piston rod (internal) | N2 | | |
| Locking unit (passive) | L4 | | |
| Locking unit (passive), special wiper/seal | L8 | | |
| Extended piston rod | MU | | |
| **A/8*****/MU*****/*** | Extension (mm) | | |
| Extended piston rod, special wiper/seal | W6 | | |
| **A/8*****/W6*****/*** | Extension (mm) | | |

Note: If position ist not required, disregard option position within part number e.g. RA/802100/M/100. For combinations of cylinder variants consult our technical service. For example: Please note that heat resistant seals are not available for all variants. This option selector explains only the cylinder variants. Additional variants/options are not possible. Detail's see table on page 4.

Cylinder with Profile barrel ø 32 ... 125 mm



Cylinder with Round barrel ø 32 ... 320 mm



Mountings

| Model | A | AK | B, G | C | D | D2 | F | FH | H | UH |
|-------|----------------------|----------------------|---------------------|---------------------|---------------------|---------------------|----------------------|---------------------|----------------------|----------------------|
| ø | 10 Page 14 | 18 Page 14 | 1 Page 14 | 2 Page 14 | 5 Page 15 | 8 Page 15 | 15 Page 15 | 9 Page 15 | 11 Page 16 | 20 Page 16 |
| 32 | QM/8032/35 | QM/8025/38 | QA/8032/22 | QA/8032/21 | QA/8032/23 | QA/8032/42 | QM/8025/25 | QA/8032/34 | QA/8032/28 | QA/8032/40 |
| 40 | QM/8032/35 | QM/8040/38 | QA/8040/22 | QA/8040/21 | QA/8040/23 | QA/8040/42 | QM/8040/25 | QA/8040/34 | QA/8040/28 | QA/8040/40 |
| 50 | QM/8050/35 | QM/8050/38 | QA/8050/22 | QA/8050/21 | QA/8050/23 | QA/8050/42 | QM/8050/25 | QA/8050/34 | QA/8050/28 | QA/8050/40 |
| 63 | QM/8050/35 | QM/8050/38 | QA/8063/22 | QA/8063/21 | QA/8063/23 | QA/8063/42 | QM/8050/25 | QA/8063/34 | QA/8063/28 | QA/8063/40 |
| 80 | QM/8080/35 | QM/8080/38 | QA/8080/22 | QA/8080/21 | QA/8080/23 | QA/8080/42 | QM/8080/25 | QA/8080/34 | QA/8080/28 | QA/8080/40 |
| 100 | QM/8080/35 | QM/8080/38 | QA/8100/22 | QA/8100/21 | QA/8100/23 | QA/8100/42 | QM/8080/25 | QA/8100/34 | QA/8100/28 | QA/8100/40 |
| 125 | QM/8125/35 | QM/8125/38 | QM/8125/22 | QM/8125/21 | QM/8125/23 | QA/8125/42 | QM/8125/25 | QA/8125/34 | QM/8125/28 | QA/8125/40 |
| 160 | QM/8160/35 | QM/8160/38 | QM/8160/22 | QM/8160/21 | QM/8160/23 | QA/8160/42 | QM/8160/25 | - | QM/8160/28 | QA/8160/40 |
| 200 | QM/8160/35 | QM/8160/38 | QM/8200/22 | QM/8200/21 | QM/8200/23 | QA/8200/42 | QM/8160/25 | - | QM/8200/28 | QA/8200/40 |
| 250 | QM/8250/35 | - | QM/8250/22 | QM/8250/21 | QM/8250/23 | - | QM/8250/25 | - | QM/8250/28 | - |
| 320 | QM/8320/35 | - | QM/8320/22 | QM/8320/21 | QM/8320/23 | - | QM/8320/25 | - | QM/8320/28 | - |

| Model | UH | S | SW | UF | UR | R | SS | US | Groove key | Valve mounting kit |
|-------|----------------------|----------------------|---------------------|----------------------|---------------------|---------------------|----------------------|---------------------|----------------------|-------------------------------|
| ø | 24 Page 16 | 12 Page 16 | 6 Page 17 | 17 Page 17 | 4 Page 17 | 3 Page 17 | 16 Page 18 | 7 Page 18 | 14 Page 18 | 13 Page 31 & 32 |
| 32 | PQA/802032/40 | QA/8032/41 | M/P19493 | QM/8025/32 | QA/8032/33 | QA/8032/27 | M/P19931 | M/P40310 | M/P72816 | More Details see page 31 & 32 |
| 40 | PQA/802040/40 | QA/8040/41 | M/P19494 | QM/8040/32 | QA/8040/33 | QA/8040/27 | M/P19932 | M/P40311 | M/P72816 | |
| 50 | PQA/802050/40 | QA/8040/41 | M/P19495 | QM/8050/32 | QA/8050/33 | QA/8050/27 | M/P19933 | M/P40312 | M/P72816 | |
| 63 | PQA/802063/40 | QA/8063/41 | M/P19496 | QM/8050/32 | QA/8063/33 | QA/8063/27 | M/P19934 | M/P40313 | M/P72816 | |
| 80 | PQA/802080/40 | QA/8063/41 | M/P19497 | QM/8080/32 | QA/8080/33 | QA/8080/27 | M/P19935 | M/P40314 | M/P72816 | |
| 100 | PQA/802100/40 | QA/8100/41 | M/P19498 | QM/8080/32 | QA/8100/33 | QA/8100/27 | M/P19936 | M/P40315 | M/P72816 | |
| 125 | PQA/802125/40 | QA/8100/41 | M/P19499 | QM/8125/32 | QM/8125/33 | QM/8125/27 | M/P19937 | M/P71355 | M/P72816 | |
| 160 | - | QA/8160/41 | M/P19679 | QM/8160/32 | QM/8160/33 | QM/8160/27 | M/P19938 | M/P71356 | - | |
| 200 | - | QA/8160/41 | M/P19683 | QM/8160/32 | QM/8200/33 | QM/8200/27 | M/P19939 | M/P71357 | - | |
| 250 | - | - | M/P19446 | QM/8250/32 | QM/8250/33 | - | - | - | - | |
| 320 | - | - | M/P19447 | QM/8320/32 | QM/8320/33 | - | - | - | - | |

| Pos. | Style | Standard |
|------|-------|---|
| 1 | B, G | Clear anodised aluminium |
| 2 | C | Galvanized steel (ø 32 ... 100 mm), Painted steel (ø 125 ... 320 mm) |
| 3 | R | Die-cast aluminium |
| 4 | UR | Galvanized aluminium Inner ring: steel, Outer ring: brass |
| 5 | D | Die-cast aluminium Bolt: galvanized steel (martensitic) Circlip: galvanized steel |
| 6 | SW | Die-cast aluminium |
| 7 | US | Galvanized aluminium Inner ring: steel, Outer ring: brass |

| Pos. | Style | Standard |
|------|--------------------|---|
| 8 | D2 | Painted cast iron, Bolt: stainless steel (martensitic), Circlip: galvanized steel |
| 9 | FH | Cast iron |
| 10 | A | Galvanized steel |
| 11 | H | Cast iron |
| 12 | S | Clear anodised aluminium Bearing: brass |
| 13 | Valve mounting kit | Galvanized steel |
| 14 | Groove key | Steel |

| Pos. | Style | Standard |
|------|----------------|---|
| 15 | F | Galvanized steel, Bolt: galvanized steel, Circlip: Galvanized steel |
| 16 | SS | Painted cast iron |
| 17 | UF | Galvanized steel, Inner ring: steel, Outer ring: brass |
| 18 | AK | Galvanized steel |
| 19 | 51, 61, 81, 85 | Anodised aluminium |
| 20 | UH | Cast iron |
| 24 | UH | Anodised aluminium |

Guide blocks

| | Guide blocks - plain bearings | Guide blocks - roller bearings | Guide blocks - plain bearings, long coupling | Guide blocks - plain bearings, short coupling |
|----------------|-------------------------------|--------------------------------|--|---|
| | | | | |
| 19 | 19 | 19 | 19 | 19 |
| Page 19 | Page 19 | Page 20 | Page 22 | Page 22 |
| ø | | | | |
| 32 | QA/8032/51/* | QA/8032/61/* | QA/8032/81/* | QA/8032/85/* |
| 40 | QA/8040/51/* | QA/8040/61/* | QA/8040/81/* | QA/8040/85/* |
| 50 | QA/8050/51/* | QA/8050/61/* | QA/8050/81/* | QA/8050/85/* |
| 63 | QA/8063/51/* | QA/8063/61/* | QA/8063/81/* | QA/8063/85/* |
| 80 | QA/8080/51/* | QA/8080/61/* | QA/8080/81/* | QA/8080/85/* |
| 100 | QA/8100/51/* | QA/8100/61/* | QA/8100/81/* | QA/8100/85/* |

*) Insert standard stroke length: 50, 100, 160, 200, 250, 320, 400 and 500 mm, use the next bigger standard stroke.

Accessories for Profile (ø 32 ... 125 mm) & Round barrel (ø 32 ... 320 mm)

| Model Profile barrel | Model Round barrel | Port size | Banjo flow control | Straight fitting | Elbow fitting |
|----------------------|--------------------|-----------|--------------------|------------------|---------------|
| | | | | | |
| | | ø | | | |
| PRA/802032/M/* | RA/802032/M/* | 32 | G1/8 C0K510618 | C02250618 | C02470618 |
| PRA/802040/M/* | RA/802040/M/* | 40 | G1/4 C0K510628 | C02250628 | C02470628 |
| PRA/802050/M/* | RA/802050/M/* | 50 | G1/4 C0K510828 | C02250828 | C02470828 |
| PRA/802063/M/* | RA/802063/M/* | 63 | G3/8 C0K510838 | C02250838 | C02470838 |
| PRA/802080/M/* | RA/802080/M/* | 80 | G3/8 C0K511038 | C02251038 | C02471038 |
| PRA/802100/M/* | RA/802100/M/* | 100 | G1/2 C0K511248 | C02251248 | C02471248 |
| PRA/802125/M/* | RA/802125/M/* | 125 | G1/2 C0K511248 | C02251248 | C02471248 |
| - | RA/8160/M/* | 160 | G3/4 M840 (Inline) | - | - |
| - | RA/8200/M/* | 200 | G3/4 M840 (Inline) | - | - |
| - | RA/8250/M/* | 250 | G1 M855 (Inline) | - | - |
| - | RA/8320/M/* | 320 | G1 M855 (Inline) | - | - |

For alternative fitting types please contact the technical service.

Service kit

| Service kit for Round and Profile barrel | |
|--|------------|
| | |
| ø | |
| 32 | QA/8032/00 |
| 40 | QA/8040/00 |
| 50 | QA/8050/00 |
| 63 | QA/8063/00 |
| 80 | QA/8080/00 |
| 100 | QA/8100/00 |
| 125 | QA/8125/00 |
| 160 | QA/8160/00 |
| 200 | QA/8200/00 |
| 250 | QA/8250/00 |
| 320 | QA/8320/00 |

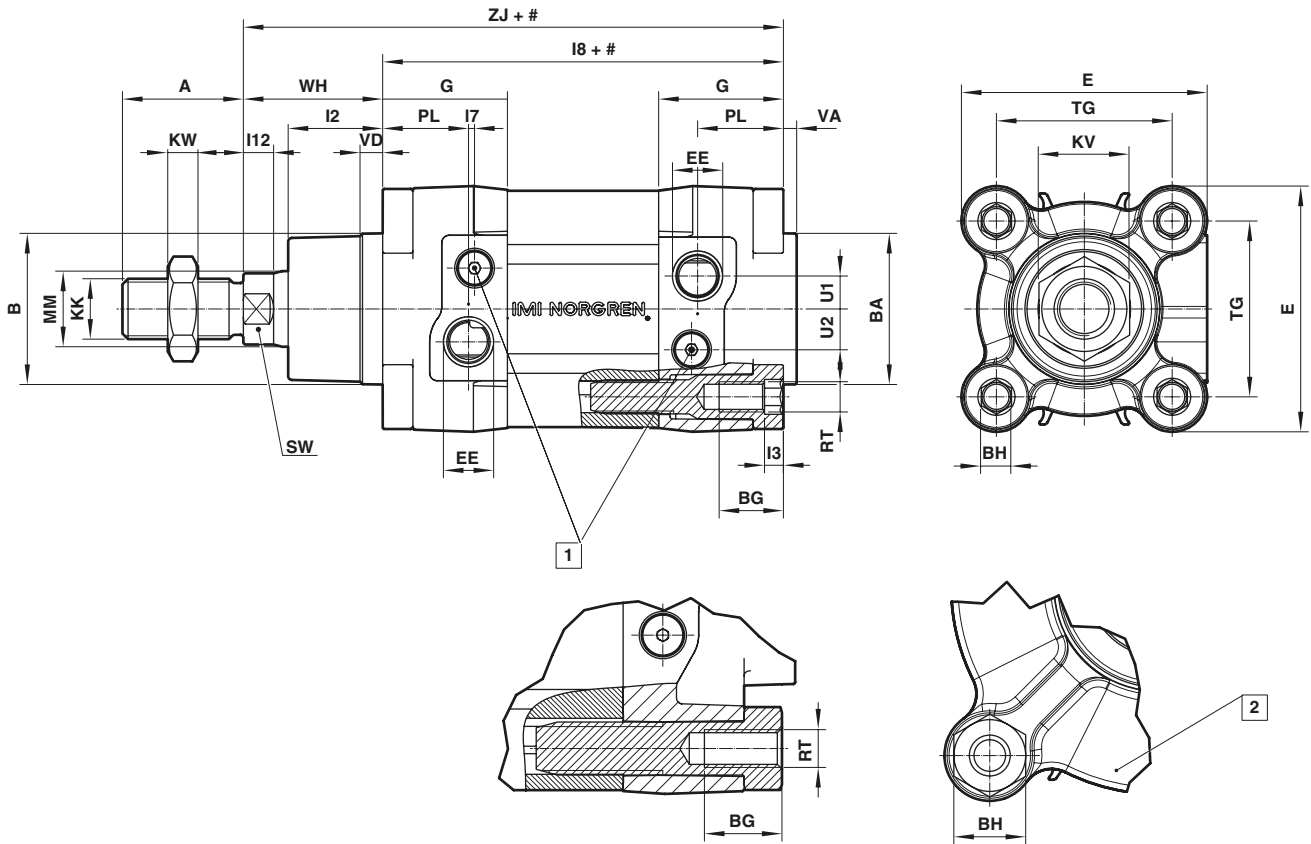
Magnetically operated switches

| | M/50/** | Groove cover | Switch mounting brackets for M/50 | TQM/31, QM/32, QM/132 | Switch mounting brackets for TQM/31, QM/32, QM/132 | QM/140 | Switch mounting brackets for QM/140 |
|-------------------------|----------------|----------------|-----------------------------------|-----------------------|--|----------------|-------------------------------------|
| | | | | | | | |
| 23 | | | 23 | | | | |
| Page 24 & 25 | Page 18 | Page 27 | Page 28 | Page 29 | Page 30 | Page 31 | |
| ø | | | | | | | |
| 32 | M/P72725/1000 | QM/27/2/1 | QM/31/032/22 | QM/140/010/22 | | | |
| 40 | M/P72725/1000 | QM/27/2/1 | QM/31/032/22 | QM/140/010/22 | | | |
| 50 | M/P72725/1000 | QM/27/2/1 | QM/31/032/22 | QM/140/010/22 | | | |
| 63 | M/P72725/1000 | QM/27/2/1 | QM/31/032/22 | QM/140/010/22 | | | |
| 80 | M/P72725/1000 | QM/27/2/1 | QM/31/080/22 | QM/140/010/22 | | | |
| 100 | M/P72725/1000 | QM/27/2/1 | QM/31/080/22 | QM/140/010/22 | | | |
| 125 | M/P72725/1000 | QM/27/2/1 | QM/31/080/22 | - | | | |
| 160 | - | QM/27/2/1 | QM/31/160/22 | - | | | |
| 200 | - | QM/27/2/1 | QM/31/160/22 | - | | | |
| 250 | - | QM/27/2/2 | QM/31/250/22 | - | | | |
| 320 | - | QM/27/2/3 | QM/31/320/22 | - | | | |

Basic dimensions

PRA/802000/M, RA/802000/M, RA/8000, RA/8000/M
 Standard Cylinder

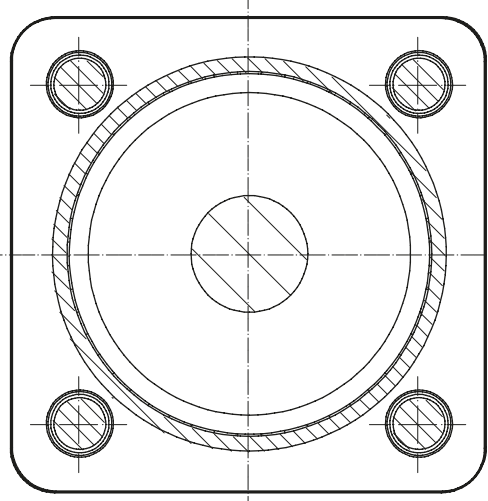
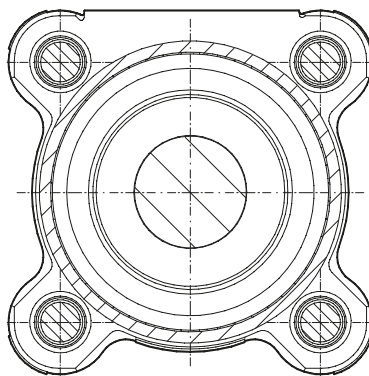
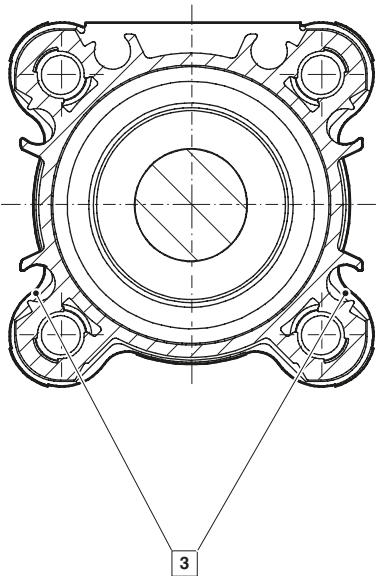
Dimensions in mm
 Projection/First angle



Model Profile barrel
 ø 32 ... 125 mm



Model Round barrel
 ø 32 ... 125 mm


Model Round barrel
 ø 160 ... 320 mm



- # Stroke
- \$ Piston rod extension
- 1 Cushion screw
- 2 ø 80 ... 320 mm
- 3 M/50 switches can be mounted flush with the profile

For additional information please contact the technical service or <http://www.imi-precision.com>

| ∅ | A -0,5 | ∅ B d11 | ∅ BA d11 | BG min |  BH | E | EE | G | KK |  KV | KW | L2 | L3 | L7 | L8 | L12 | ∅ MM h9 | PL | TG |
|-----|--------|------------|-------------|-----------|--|-------|------|------|------------|--|------|------|----|-----|-----|-----|------------|------|------|
| 32 | 22 | 30 | 30 | 16 | 6 | 47 | G1/8 | 29 | M10 x 1,25 | 17 | 5 | 19,5 | 4 | 6,6 | 94 | 5,5 | 12 | 15 | 32,5 |
| 40 | 24 | 35 | 35 | 16 | 6 | 53 | G1/4 | 34,5 | M12 x 1,25 | 19 | 6 | 22 | 4 | 5,6 | 105 | 6,5 | 16 | 21,5 | 38 |
| 50 | 32 | 40 | 40 | 16 | 8 | 65 | G1/4 | 33 | M16 x 1,5 | 24 | 8 | 25 | 5 | 1,6 | 106 | 8 | 20 | 22,7 | 46,5 |
| 63 | 32 | 45 | 45 | 16 | 8 | 75 | G3/8 | 36,5 | M16 x 1,5 | 24 | 8 | 25 | 5 | 3,6 | 121 | 8 | 20 | 24,2 | 56,5 |
| 80 | 40 | 45 | 45 | 17 | 19 | 95 | G3/8 | 42 | M20 x 1,5 | 30 | 10 | 33 | - | 1,8 | 128 | 10 | 25 | 29,7 | 72 |
| 100 | 40 | 55 | 55 | 17 | 19 | 113 | G1/2 | 42 | M20 x 1,5 | 30 | 10 | 35 | - | 3,8 | 138 | 10 | 25 | 27,7 | 89 |
| 125 | 54 | 60 | 60 | 20 | 24 | 140 | G1/2 | 54 | M27 x 2 | 41 | 13,5 | 44 | - | 1,8 | 160 | 13 | 32 | 39,7 | 110 |
| 160 | 72 | 65 | 65 | 28,5 | 32 | 183,5 | G3/4 | 50 | M36 x 2 | 55 | 18 | 58 | - | 10 | 180 | 16 | 40 | 25 | 140 |
| 200 | 72 | 75 | 75 | 28,5 | 32 | 224 | G3/4 | 50 | M36 x 2 | 55 | 18 | 67 | - | 10 | 180 | 16 | 40 | 26 | 175 |
| 250 | 84 | 90 | 90 | 35 | 36 | 280 | G1 | 58 | M42 x 2 | 65 | 21 | 80 | - | 4,5 | 200 | 20 | 50 | 28 | 220 |
| 320 | 96 | 110 | 110 | 30 | 46 | 350 | G1 | 60 | M48 x 2 | 75 | 24 | 90 | - | 4,5 | 220 | 24 | 63 | 31 | 270 |

| ∅ | RT |  SW | U1 | U2 | VA | VD | WH | ZJ | Model Profile barrel | at 0 mm | per 25 mm | Model Round barrel | at 0 mm | per 25 mm |
|-----|------|--|-----|------|-----|----|-----|-----|-------------------------|------------|--------------|-----------------------|------------|--------------|
| 32 | M 6 | 10 | 4,6 | 6,3 | 3,5 | 6 | 26 | 120 | PRA/802032/M/* | 0,49 (kg) | 0,06 (kg) | RA/802032/M/* | 0,46 (kg) | 0,06 (kg) |
| 40 | M 6 | 13 | 5,8 | 9,2 | 3,5 | 6 | 30 | 135 | PRA/802040/M/* | 0,69 (kg) | 0,08 (kg) | RA/802040/M/* | 0,65 (kg) | 0,08 (kg) |
| 50 | M 8 | 17 | 8,7 | 10,8 | 3,5 | 6 | 37 | 143 | PRA/802050/M/* | 1,09 (kg) | 0,12 (kg) | RA/802050/M/* | 1,02 (kg) | 0,12 (kg) |
| 63 | M 8 | 17 | 10 | 12,8 | 3,5 | 6 | 37 | 158 | PRA/802063/M/* | 1,54 (kg) | 0,13 (kg) | RA/802063/M/* | 1,46 (kg) | 0,14 (kg) |
| 80 | M 10 | 22 | 12 | 14,5 | 3,5 | 6 | 46 | 174 | PRA/802080/M/* | 2,64 (kg) | 0,20 (kg) | RA/802080/M/* | 2,54 (kg) | 0,21 (kg) |
| 100 | M 10 | 22 | 9 | 14,5 | 3,5 | 6 | 51 | 189 | PRA/802100/M/* | 3,66 (kg) | 0,23 (kg) | RA/802100/M/* | 3,50 (kg) | 0,23 (kg) |
| 125 | M 12 | 27 | 12 | 17 | 5,5 | 8 | 65 | 225 | PRA/802125/M/* | 6,16 (kg) | 0,45 (kg) | RA/802125/M/* | 5,92 (kg) | 0,34 (kg) |
| 160 | M 16 | 36 | 19 | 16 | 4 | 15 | 80 | 260 | - | - | - | RA/8160/M/* | 14,9 (kg) | 0,55 (kg) |
| 200 | M 16 | 36 | 19 | 16 | 5 | 15 | 95 | 275 | - | - | - | RA/8200/M/* | 21,7 (kg) | 0,60 (kg) |
| 250 | M 20 | 41 | 22 | 30 | 7 | 13 | 105 | 305 | - | - | - | RA/8250/M/* | 32,6 (kg) | 0,92 (kg) |
| 320 | M 24 | 55 | 22 | 30 | 7 | 13 | 120 | 340 | - | - | - | RA/8320/M/* | 59,8 (kg) | 1,46 (kg) |

* Please insert stroke length.

Basic Dimension are also for cylinder variants or for different piston rod material

LPRA/802000/M, LRA/802000/M, LRA/8000/M - Low Temperature Cylinder

TPRA/802000/M, TRA/802000/M, TRA/8000/M - High Temperature Cylinder

HPRA/802000/M, HRA/802000/M, - Hydraulic Cylinder

PRA/802000/W2, RA/802000/W2 - Cylinder with Special Wiper - Seal

PRA/802000/X2, RA/802000/X2, RA/8000/X2 - Low Friction Cylinder

PRA/802000/MU, RA/802000/MU, RA/8000/MU - Cylinder with Extended Piston Rod

PRA/802000/W6, RA/802000/W6 - Cylinder with Extended Piston Rod and Special Wiper - Seal

PRA/802000/MW, RA/802000/MW, RA/8000/MW - Cylinder without Cushioning

PRA/802000/X4, RA/802000/X4, RA/8000/X4 - Low Friction Cylinder without Cushioning

RA/8000/W1 - Cylinder with Special Wiper - Seal without Magnet

RA/8000/X1 - Low Friction Cylinder without Magnet

RA/8000/IU - Cylinder with Extended Piston Rod without Magnet

RA/8000/W5 - Cylinder with Extended Piston Rod and Special Wiper - Seal without Magnet

RA/8000/W - Cylinder without Cushioning without Magnet

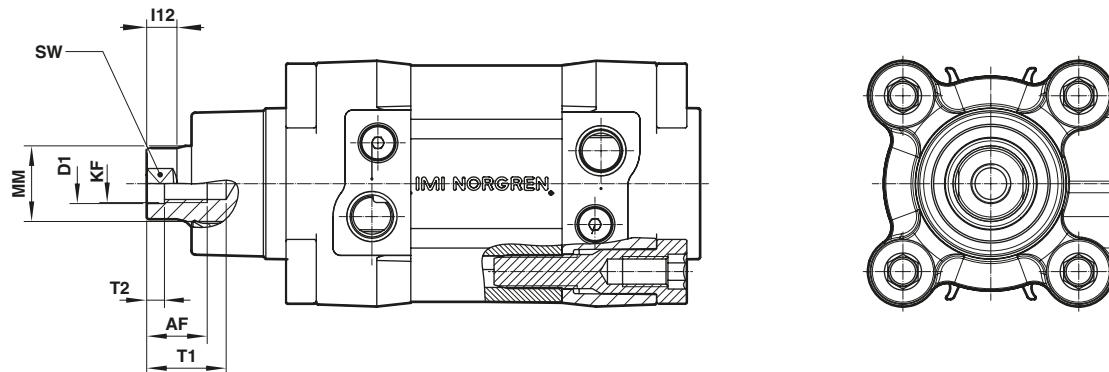
RA/8000/X3 - Low Friction Cylinder without Cushioning without Magnet

Cylinder variants

.../802000/MX; /MUX; /MWX; /W2X; /W6X; /X2X; X4X

Cylinder with Female Piston Rod Thread

Dimensions in mm
 Projection/First angle



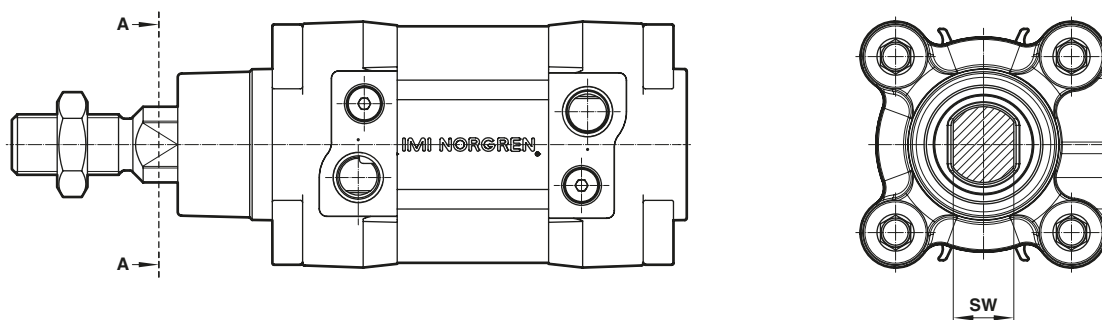
| ø | AF | ø D1 | KF | I12 | ø MM h9 | SW | T1 | T2 |
|-----|----|------|-----|-----|---------|----|----|-----|
| 32 | 12 | 6,4 | M6 | 5,5 | 12 | 10 | 16 | 2,6 |
| 40 | 12 | 8,4 | M8 | 6,5 | 16 | 13 | 16 | 3,3 |
| 50 | 16 | 10,5 | M10 | 8 | 20 | 17 | 21 | 4,7 |
| 63 | 16 | 10,5 | M10 | 8 | 20 | 17 | 21 | 4,7 |
| 80 | 20 | 13 | M12 | 10 | 25 | 22 | 25 | 6,1 |
| 100 | 20 | 13 | M12 | 10 | 25 | 22 | 25 | 6,1 |
| 125 | 32 | 17 | M16 | 13 | 32 | 27 | 38 | 8 |

For missing dimensions please see page 8 and 9

Cylinder variants

PRA/802000/N2, RA/802000/N2 – Cylinder with Non-Rotating Piston Rod

PRA/802000/N2X, RA/802000/N2X – Cylinder with Non-Rotating Piston Rod and Female Piston Rod Thread

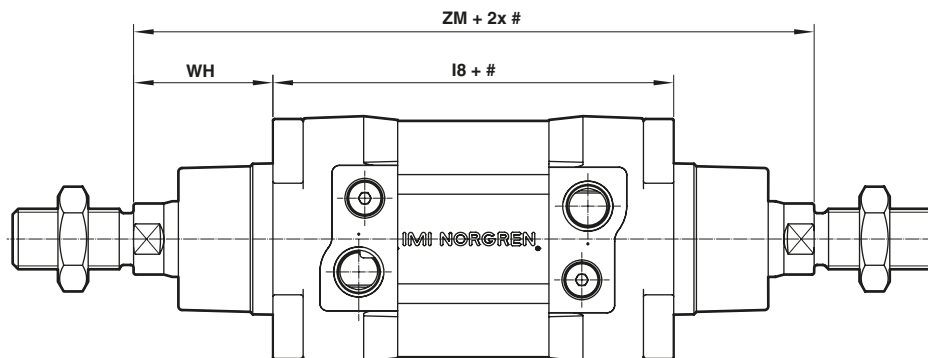


| ø | SW | max. Torque (Nm) | Model Profile barrel | Model Round barrel |
|-----|----|------------------|----------------------|--------------------|
| 32 | 10 | 0,5 | PRA/802032/N2/* | RA/802032/N2/* |
| 40 | 13 | 1 | PRA/802040/N2/* | RA/802040/N2/* |
| 50 | 16 | 1,5 | PRA/802050/N2/* | RA/802050/N2/* |
| 63 | 16 | 1,5 | PRA/802063/N2/* | RA/802063/N2/* |
| 80 | 21 | 2,5 | PRA/802080/N2/* | RA/802080/N2/* |
| 100 | 21 | 2,5 | PRA/802100/N2/* | RA/802100/N2/* |

* Please insert stroke length; Maximum stroke: 1000 mm; For missing dimensions please see page 8 and 9

Cylinder variants

PRA/802000/JM, RA/802000/JM, RA/8000/JM, RA/8000/J, PRA/802000/W4, RA/802000/W4, RA/802000/W3 – Cylinder with Double Ended Piston Rod
PRA/802000/JMX, RA/802000/JMX, PRA/802000/W4X, RA/802000/W4X – Cylinder with Double Ended Piston Rod and Female Piston Rod Thread

 Dimensions in mm
 Projection/First angle


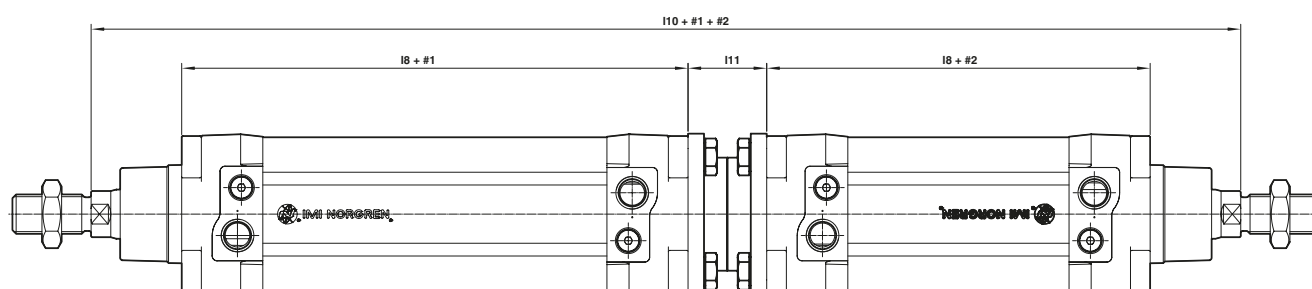
Stroke

| ø | L8 | WH | ZM | Model Profile barrel | Model Round barrel |
|-----|-----|-----|-----|----------------------|--------------------|
| 32 | 94 | 26 | 146 | PRA/802032/JM/* | RA/802032/JM/* |
| 40 | 105 | 30 | 165 | PRA/802040/JM/* | RA/802040/JM/* |
| 50 | 106 | 37 | 180 | PRA/802050/JM/* | RA/802050/JM/* |
| 63 | 121 | 37 | 195 | PRA/802063/JM/* | RA/802063/JM/* |
| 80 | 128 | 46 | 220 | PRA/802080/JM/* | RA/802080/JM/* |
| 100 | 138 | 51 | 240 | PRA/802100/JM/* | RA/802100/JM/* |
| 125 | 160 | 65 | 290 | PRA/802125/JM/* | RA/802125/JM/* |
| 160 | 180 | 80 | 340 | - | RA/8160/JM/* |
| 200 | 180 | 95 | 370 | - | RA/8200/JM/* |
| 250 | 200 | 105 | 410 | - | RA/8250/JM/* |
| 320 | 220 | 120 | 460 | - | RA/8320/JM/* |

* Please insert stroke length; For missing dimensions please see page 8 and 9

Cylinder variants

PRA/802000/MT, RA/802000/MT, RA/8000/MT, RA/8000/IT – Four Position Cylinder
PRA/802000/MTX, RA/802000/MTX – Four Position Cylinder and Female Piston Rod Thread



Stroke

| ø | I8 | I10 | I11 | WH | Model Profile barrel | Model Round barrel |
|-----|-----|-----|-----|----|----------------------|--------------------|
| 32 | 94 | 247 | 27 | 26 | PRA/802032/MT/** | RA/802032/MT/** |
| 40 | 105 | 278 | 27 | 30 | PRA/802040/MT/** | RA/802040/MT/** |
| 50 | 106 | 294 | 32 | 37 | PRA/802050/MT/** | RA/802050/MT/** |
| 63 | 121 | 325 | 28 | 37 | PRA/802063/MT/** | RA/802063/MT/** |
| 80 | 128 | 357 | 38 | 46 | PRA/802080/MT/** | RA/802080/MT/** |
| 100 | 138 | 387 | 38 | 51 | PRA/802100/MT/** | RA/802100/MT/** |
| 125 | 160 | 462 | 44 | 65 | PRA/802125/MT/** | RA/802125/MT/** |
| 160 | 180 | 532 | - | 80 | - | RA/8160/MT/** |
| 200 | 180 | 560 | - | 95 | - | RA/8200/MT/** |

* Please insert stroke length 1; ** Please insert stroke length 2

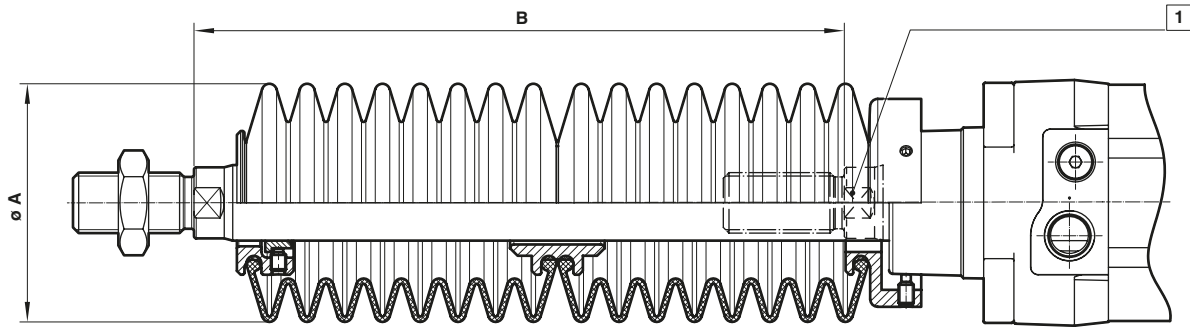
Maximum stroke = stroke 1 + stroke 2; ø 32 = 700 mm, ø 40 = 1000 mm, ø 50 = 1000 mm, ø 63 = 900 mm, ø 80 = 1200 mm, ø 100 = 1100 mm, ø 125 = 1200 mm, ø 160 = 1200 mm, ø 200 = 1100 mm; For missing dimensions please see page 8 and 9


Cylinder variants

PRA/802000/MG, RA/802000/MG, RA/8000/MG, RA/8000/G – Cylinder with Piston Rod Bellows

PRA/802000/MGX, RA/802000/MGX – Cylinder with Piston Rod Bellows and Female Piston Rod Thread  

Dimensions in mm
Projection/First angle

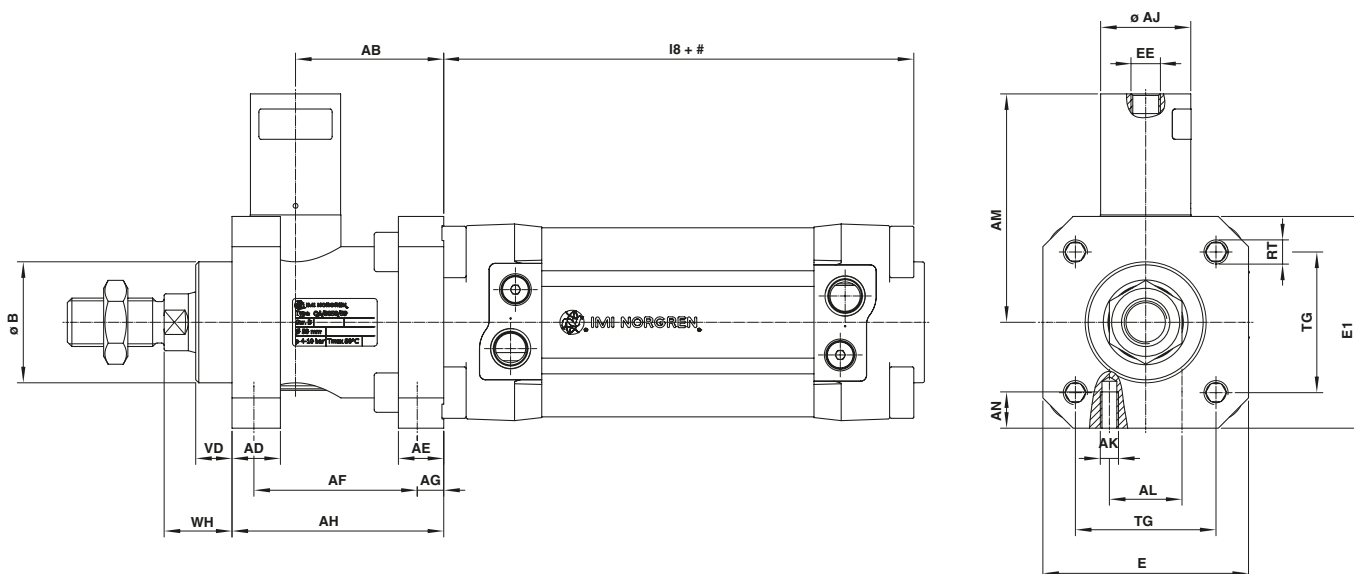


 1 Piston rod without bellows

| ø | ø A | Max. stroke per bellow | Piston rod extension B | | Model Profile barrel | Model Round barrel |
|-----|-----|------------------------|------------------------|---------------------|----------------------|--------------------|
| | | | for first bellow | for further bellows | | |
| 32 | 40 | 60 | 30 | 25 | PRA/802032/MG/* | RA/802032/MG/* |
| 40 | 63 | 145 | 50 | 32 | PRA/802040/MG/* | RA/802040/MG/* |
| 50 | 63 | 145 | 40 | 32 | PRA/802050/MG/* | RA/802050/MG/* |
| 63 | 63 | 145 | 40 | 32 | PRA/802063/MG/* | RA/802063/MG/* |
| 80 | 80 | 250 | 50 | 45 | PRA/802080/MG/* | RA/802080/MG/* |
| 100 | 80 | 250 | 50 | 45 | PRA/802100/MG/* | RA/802100/MG/* |
| 125 | 80 | 250 | 50 | 45 | PRA/802125/MG/* | RA/802125/MG/* |
| 160 | 116 | 350 | 70 | 60 | - | RA/8160/MG/* |
| 200 | 116 | 350 | 70 | 60 | - | RA/8200/MG/* |
| 250 | 116 | 350 | 70 | 60 | - | RA/8250/MG/* |
| 320 | 143 | 500 | 110 | 100 | - | RA/8320/MG/* |

* Please insert stroke length; Maximum stroke: ø 32 = 1860 mm, ø 40 ... 320 = 2000 mm
For missing dimensions please see page 8 and 9

Cylinder variants
PRA/802000/L4, RA/802000/L4 – Cylinder with Locking unit (Passive)
PRA/802000/L4X, RA/802000/L4X – Cylinder with Locking unit (Passive) and Female Piston Rod Thread
PRA/802000/L8, RA/802000/L8 – Cylinder with Locking unit (Passive) and Special Wiper Seal
PRA/802000/L8X, RA/802000/L8X – Cylinder with Locking unit (Passive) and Special Wiper Seal and Female Piston Rod Thread
Spring force on removal of the signal to the unit.
Operating pressure for locking unit: 4 ... 10 bar

 Dimensions in mm
 Projection/First angle


Stroke

| ø | AB | AD | AE | AF | AG | AH | ø AJ | AK | AL | AM | AN | ø B _{e11} | E | E1 | EE |
|-----|------|----|----|----|------|-----|------|------|----|------|----|--------------------|-----|-----|------|
| 32 | 32 | 12 | 8 | 40 | 4,2 | 48 | 25 | M 5 | 16 | 59 | 8 | 30 | 48 | 50 | G1/8 |
| 40 | 35,5 | 12 | 10 | 46 | 4,5 | 55 | 24 | M 5 | 21 | 61,5 | 10 | 35 | 56 | 58 | G1/8 |
| 50 | 49 | 16 | 15 | 54 | 11,5 | 70 | 30 | M 6 | 24 | 75,5 | 12 | 40 | 68 | 70 | G1/8 |
| 63 | 49 | 15 | 15 | 55 | 7,5 | 70 | 38 | M 8 | 32 | 86 | 12 | 45 | 82 | 85 | G1/8 |
| 80 | 62 | 16 | 16 | 70 | 10 | 90 | 53 | M 8 | 44 | 118 | 16 | 45 | 100 | 105 | G1/8 |
| 100 | 65 | 18 | 16 | 70 | 10 | 92 | 53 | M 8 | 60 | 118 | 16 | 55 | 120 | 130 | G1/8 |
| 125 | 85 | 27 | 25 | 95 | 11 | 122 | 65 | M 10 | 75 | 140 | 20 | 60 | 140 | 150 | G1/8 |

| ø | L8 | RT | TG | VD | WH | Locking force | Spare part Locking unit *1) | Spare part Cartridge | Model Profile barrel | Model Round barrel |
|-----|-----|-----|------|----|----|---------------|-----------------------------|----------------------|----------------------|--------------------|
| 32 | 94 | M6 | 32,5 | 10 | 16 | 600 | QA/8032/59 | QA/8032/63 | PRA/802032/L4/* | RA/802032/L4/* |
| 40 | 105 | M6 | 38 | 10 | 18 | 1000 | QA/8040/59 | QA/8040/63 | PRA/802040/L4/* | RA/802040/L4/* |
| 50 | 106 | M8 | 46,5 | 12 | 22 | 1500 | QA/8050/59 | QA/8050/63 | PRA/802050/L4/* | RA/802050/L4/* |
| 63 | 121 | M8 | 56,5 | 12 | 20 | 2200 | QA/8063/59 | QA/8063/63 | PRA/802063/L4/* | RA/802063/L4/* |
| 80 | 128 | M10 | 72 | 20 | 33 | 5000 | QA/8080/59 | QA/8100/63 | PRA/802080/L4/* | RA/802080/L4/* |
| 100 | 138 | M10 | 89 | 23 | 38 | 5000 | QA/8100/59 | QA/8100/63 | PRA/802100/L4/* | RA/802100/L4/* |
| 125 | 160 | M12 | 110 | 32 | 65 | 7000 | QA/8125/59 | QA/8125/63 | PRA/802125/L4/* | RA/802125/L4/* |

* Please insert stroke length

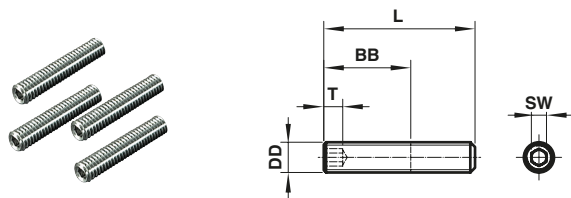
Maximum stroke: 2600 mm

*1) with Cartridge

For missing dimensions please see page 8 and 9

Mountings

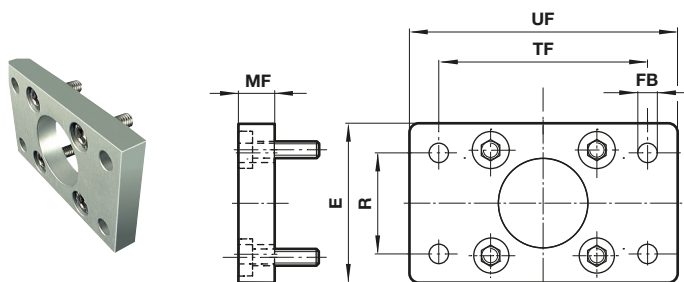
Front or rear stud mounting A



| ø | BB | DD | L | SW | T (min) | (kg) | Model (A) |
|---------|----|-----|----|----|---------|------|------------|
| 32/40 | 17 | M6 | 30 | 3 | 3,5 | 0,02 | QM/8032/35 |
| 50/63 | 23 | M8 | 40 | 4 | 5 | 0,05 | QM/8050/35 |
| 80/100 | 28 | M10 | 45 | 5 | 6 | 0,08 | QM/8080/35 |
| 125 | 34 | M12 | 60 | 6 | 8 | 0,14 | QM/8125/35 |
| 160/200 | 42 | M16 | 70 | 8 | 10 | 0,31 | QM/8160/35 |
| 250 | 50 | M20 | 80 | 10 | 12 | 0,92 | QM/8250/35 |
| 320 | 60 | M24 | 90 | 12 | 15 | 1,46 | QM/8320/35 |

Front flange B, G

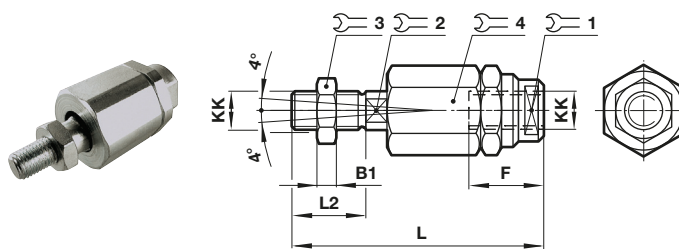
Conforms to ISO 15552,
type MF1 and MF2



| ø | E | ø FB | MF | R | TF | UF | (kg) | Model (B, G) |
|-----|-----|------|----|-----|-----|-----|-------|--------------|
| 32 | 50 | 7 | 10 | 32 | 64 | 80 | 0,10 | QA/8032/22 |
| 40 | 55 | 9 | 10 | 36 | 72 | 90 | 0,12 | QA/8040/22 |
| 50 | 65 | 9 | 12 | 45 | 90 | 110 | 0,21 | QA/8050/22 |
| 63 | 75 | 9 | 12 | 50 | 100 | 125 | 0,27 | QA/8063/22 |
| 80 | 100 | 12 | 16 | 63 | 126 | 154 | 0,63 | QA/8080/22 |
| 100 | 120 | 14 | 16 | 75 | 150 | 186 | 0,89 | QA/8100/22 |
| 125 | 140 | 16 | 20 | 90 | 180 | 224 | 1,59 | QM/8125/22 |
| 160 | 180 | 18 | 20 | 115 | 230 | 280 | 2,65 | QM/8160/22 |
| 200 | 220 | 22 | 25 | 135 | 270 | 320 | 4,47 | QM/8200/22 |
| 250 | 280 | 26 | 25 | 165 | 330 | 395 | 7,09 | QM/8250/22 |
| 320 | 350 | 33 | 30 | 200 | 400 | 475 | 12,84 | QM/8320/22 |

Piston rod swivel AK

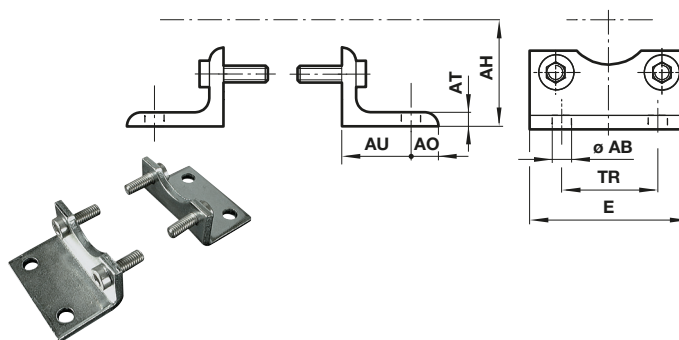
Dimensions in mm
Projection/First angle



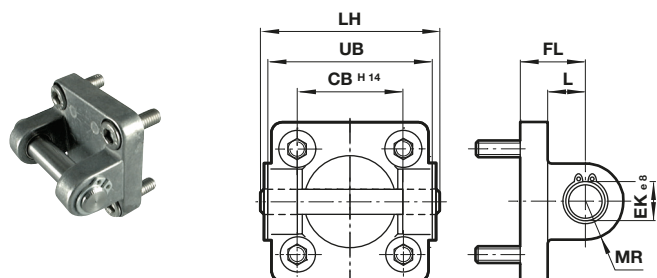
| ø | KK | B1 | F | L | L2 | SW | | | | (kg) | Model (AK) |
|---------|------------|------|----|-----|----|----|----|----|----|------|------------|
| | | | | | | 1 | 2 | 3 | 4 | | |
| 32 | M10 x 1,25 | 5 | 26 | 73 | 20 | 19 | 12 | 17 | 30 | 0,20 | QM/8025/38 |
| 40 | M12 x 1,25 | 6 | 26 | 77 | 24 | 19 | 12 | 19 | 30 | 0,20 | QM/8040/38 |
| 50/63 | M16 x 1,5 | 8 | 34 | 106 | 32 | 30 | 19 | 24 | 42 | 0,65 | QM/8050/38 |
| 80/100 | M20 x 1,5 | 10 | 42 | 122 | 40 | 30 | 19 | 30 | 42 | 0,72 | QM/8080/38 |
| 125 | M27 x 2 | 13,5 | 40 | 147 | 54 | 40 | 24 | 41 | 55 | 1,70 | QM/8125/38 |
| 160/200 | M36 x 2 | 18 | 78 | 251 | 72 | 50 | 36 | 55 | 75 | 5,4 | QM/8160/38 |

Foot mounting C

Conforms to ISO 15552, type MS1

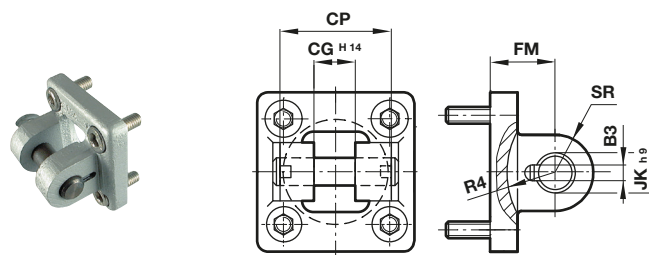


| ø | ø AB | AH | AO | AT | AU | E | TR | (kg) | Model (C) |
|-----|------|-----|----|----|----|-----|-----|------|------------|
| 32 | 7 | 32 | 8 | 4 | 24 | 48 | 32 | 0,15 | QA/8032/21 |
| 40 | 10 | 36 | 9 | 4 | 28 | 53 | 36 | 0,18 | QA/8040/21 |
| 50 | 10 | 45 | 10 | 5 | 32 | 64 | 45 | 0,30 | QA/8050/21 |
| 63 | 10 | 50 | 12 | 5 | 32 | 74 | 50 | 0,39 | QA/8063/21 |
| 80 | 12 | 63 | 19 | 6 | 41 | 98 | 63 | 0,80 | QA/8080/21 |
| 100 | 14,5 | 71 | 19 | 6 | 41 | 115 | 75 | 0,95 | QA/8100/21 |
| 125 | 16 | 90 | 20 | 9 | 45 | 140 | 90 | 2,40 | QM/8125/21 |
| 160 | 18 | 115 | 20 | 8 | 60 | 180 | 115 | 3,5 | QM/8160/21 |
| 200 | 22 | 135 | 30 | 9 | 70 | 220 | 135 | 5,25 | QM/8200/21 |
| 250 | 26 | 165 | 35 | 10 | 75 | 280 | 165 | 9,5 | QM/8250/21 |
| 320 | 33 | 200 | 45 | 16 | 85 | 350 | 200 | 22 | QM/8320/21 |

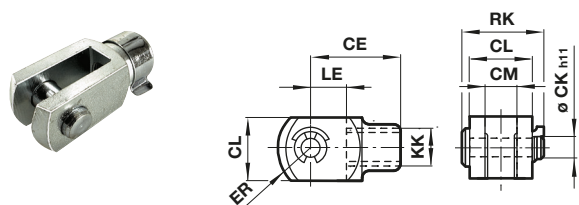
Rear clevis D
Conforms to ISO 15552, type MP2


| ø | CB H14 | ø EK e8 | FL | L | LH | MR | UB | (kg) | Model (D) |
|-----|--------|---------|----|----|-----|----|-----|------|------------|
| 32 | 26 | 10 | 22 | 13 | 52 | 9 | 45 | 0,11 | QA/8032/23 |
| 40 | 28 | 12 | 25 | 16 | 60 | 12 | 52 | 0,16 | QA/8040/23 |
| 50 | 32 | 12 | 27 | 17 | 68 | 12 | 60 | 0,22 | QA/8050/23 |
| 63 | 40 | 16 | 32 | 22 | 79 | 15 | 70 | 0,34 | QA/8063/23 |
| 80 | 50 | 16 | 36 | 22 | 99 | 15 | 90 | 0,54 | QA/8080/23 |
| 100 | 60 | 20 | 41 | 27 | 119 | 20 | 110 | 0,90 | QA/8100/23 |
| 125 | 70 | 25 | 50 | 29 | 140 | 25 | 130 | 2,70 | QM/8125/23 |
| 160 | 90 | 30 | 55 | 37 | 182 | 30 | 170 | 4,3 | QM/8160/23 |
| 200 | 90 | 30 | 60 | 40 | 182 | 30 | 170 | 6,1 | QM/8200/23 |
| 250 | 110 | 40 | 70 | 47 | 218 | 40 | 200 | 19 | QM/8250/23 |
| 320 | 120 | 45 | 80 | 50 | 238 | 45 | 220 | 30,5 | QM/8320/23 |

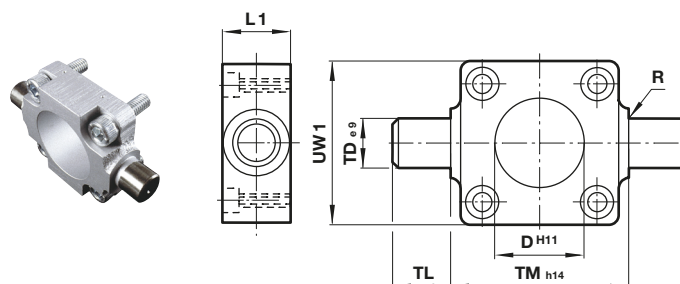
Rear clevis D2
Conforms to ISO 15552, type AB6

 Dimensions in mm
 Projection/First angle


| ø | CG H14 | CP | B3 | ø JK h9 | FM | SR | R4 | (kg) | Model (D2) |
|-----|--------|-----|-----|---------|----|------|----|------|------------|
| 32 | 14 | 34 | 3,3 | 10 | 22 | 11 | 17 | 0,20 | QA/8032/42 |
| 40 | 16 | 40 | 4,3 | 12 | 25 | 12 | 20 | 0,23 | QA/8040/42 |
| 50 | 21 | 45 | 4,3 | 16 | 27 | 14,5 | 22 | 0,36 | QA/8050/42 |
| 63 | 21 | 51 | 4,3 | 16 | 32 | 18 | 25 | 0,55 | QA/8063/42 |
| 80 | 25 | 65 | 4,3 | 20 | 36 | 22 | 30 | 0,90 | QA/8080/42 |
| 100 | 25 | 75 | 4,3 | 20 | 41 | 22 | 32 | 1,45 | QA/8100/42 |
| 125 | 37 | 97 | 6,3 | 30 | 50 | 30 | 42 | 2,7 | QA/8125/42 |
| 160 | 43 | 122 | 6,3 | 35 | 55 | 36 | 46 | 4,3 | QA/8160/42 |
| 200 | 43 | 122 | 6,3 | 35 | 60 | 38 | 49 | 6,1 | QA/8200/42 |

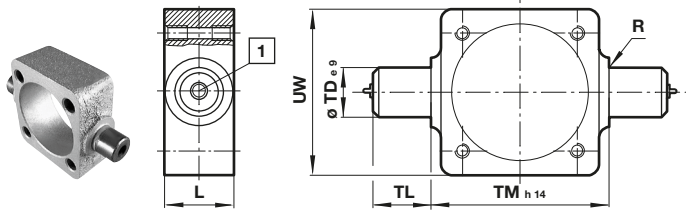
Piston rod clevis F
Conforms to DIN ISO 8140


| ø | KK | CE | ø CK h11 | CL | CM | ER | LE | RK | (kg) | Model (F) |
|---------|------------|-----|----------|----|----|----|----|------|------|------------|
| 32 | M10 x 1,25 | 40 | 10 | 20 | 10 | 16 | 20 | 27,5 | 0,09 | QM/8025/25 |
| 40 | M12 x 1,25 | 48 | 12 | 24 | 12 | 19 | 24 | 33,5 | 0,13 | QM/8040/25 |
| 50/63 | M16 x 1,5 | 64 | 16 | 32 | 16 | 25 | 32 | 42 | 0,33 | QM/8050/25 |
| 80/100 | M20 x 1,5 | 80 | 20 | 40 | 20 | 32 | 40 | 51 | 0,67 | QM/8080/25 |
| 125 | M27 x 2 | 110 | 30 | 55 | 30 | 45 | 54 | 73,5 | 1,35 | QM/8125/25 |
| 160/200 | M36 x 2 | 144 | 35 | 70 | 35 | 57 | 72 | 94 | 3 | QM/8160/25 |
| 250 | M42 x 2 | 168 | 40 | 85 | 40 | 77 | 84 | 107 | 6,4 | QM/8250/25 |
| 320 | M48 x 2 | 192 | 50 | 96 | 50 | 88 | 96 | 123 | 8,7 | QM/8320/25 |

Front or rear detachable trunnion FH
Conforms to VDMA 24562 part 2, type MT 5/6


| ø | ø D H11 | L1 | R | ø TD e9 | TL | TM h14 | UW1 | (kg) | Model (FH) |
|-----|---------|----|-----|---------|----|--------|-----|------|------------|
| 32 | 30 | 16 | 1 | 12 | 12 | 50 | 45 | 0,20 | QA/8032/34 |
| 40 | 35 | 20 | 1,6 | 16 | 16 | 63 | 55 | 0,38 | QA/8040/34 |
| 50 | 40 | 24 | 1,6 | 16 | 16 | 75 | 65 | 0,60 | QA/8050/34 |
| 63 | 45 | 24 | 1,6 | 20 | 20 | 90 | 75 | 1,10 | QA/8063/34 |
| 80 | 45 | 28 | 1,6 | 20 | 20 | 110 | 100 | 1,90 | QA/8080/34 |
| 100 | 55 | 38 | 2 | 25 | 25 | 132 | 120 | 3,50 | QA/8100/34 |
| 125 | 60 | 50 | 2 | 25 | 25 | 160 | 145 | 6,50 | QA/8125/34 |

Centre trunnion – H
Conforms to ISO 15552, type MT4
Used for cylinder model with round barrel



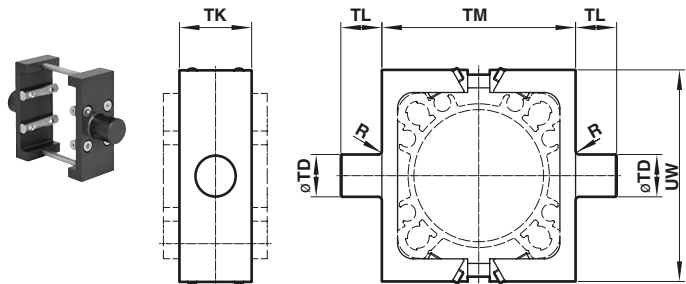
1 Grease nipple from \varnothing 125 mm to \varnothing 320 mm

| \varnothing | L | R | \varnothing TD e9 | TL | TM h14 | UW | XV min. | XV max. + # | (kg) | Model (H) |
|---------------|----|-----|---------------------|----|--------|-----|---------|-------------|------|------------|
| 32 | 20 | 1 | 12 | 12 | 50 | 50 | 66 | 80 | 0,16 | QA/8032/28 |
| 40 | 24 | 1,6 | 16 | 16 | 63 | 58 | 76 | 89 | 0,35 | QA/8040/28 |
| 50 | 28 | 1,6 | 16 | 16 | 75 | 70 | 82 | 98 | 0,65 | QA/8050/28 |
| 63 | 28 | 1,6 | 20 | 20 | 90 | 80 | 88 | 107 | 0,85 | QA/8063/28 |
| 80 | 28 | 1,6 | 20 | 20 | 110 | 100 | 97 | 123 | 1,2 | QA/8080/28 |
| 100 | 38 | 2 | 25 | 25 | 132 | 126 | 107 | 128 | 2,3 | QA/8100/28 |
| 125 | 50 | 2 | 25 | 25 | 160 | 152 | 136 | 154 | 3,3 | QM/8125/28 |
| 160 | 50 | 2,5 | 32 | 32 | 200 | 192 | 155 | 185 | 5,3 | QM/8160/28 |
| 200 | 50 | 2,5 | 32 | 32 | 250 | 240 | 170 | 200 | 9,4 | QM/8200/28 |
| 250 | 60 | 3,2 | 40 | 40 | 320 | 318 | 193 | 217 | 18 | QM/8250/28 |
| 320 | 70 | 3,2 | 50 | 50 | 400 | 400 | 215 | 245 | 30 | QM/8320/28 |

Note: Style 'H': These mountings are only supplied assembled complete with the cylinder. Unless otherwise specified, units will be supplied with dimension 'XV min' plus half the stroke length. 'XV' = Distance from the piston rod shoulder to the centre of the mounting (Please see drawing).

Not for use on profile options.
This item is suited to all loads including heavy duty loads.
This item is for replacement only
H mounting must be initially ordered with the cylinder.

Adjustable trunnion mounting UH
Conforms to ISO 15552, type MT4
Used for cylinder model with profile barrel



| \varnothing | R | \varnothing TD e9 | TK max. | TL h14 | TM h14 | UW | XV min. | XV max. + # | (kg) | Torque (Nm) | Model (UH) |
|---------------|-----|---------------------|---------|--------|--------|-----|---------|-------------|------|-------------|---------------|
| 32 | 1 | 12 | 25 | 12 | 50 | 58 | 67,5 | 78,5 | 0,06 | 1,3 | PQA/802032/40 |
| 40 | 1,6 | 16 | 28 | 16 | 63 | 65 | 78,5 | 86,5 | 0,11 | 1,3 | PQA/802040/40 |
| 50 | 1,6 | 16 | 28 | 16 | 75 | 80 | 84 | 96 | 0,16 | 4 | PQA/802050/40 |
| 63 | 1,6 | 20 | 36 | 20 | 90 | 96 | 91,5 | 103,5 | 0,32 | 4 | PQA/802063/40 |
| 80 | 1,6 | 20 | 36 | 20 | 110 | 116 | 106 | 114 | 0,37 | 6,5 | PQA/802080/40 |
| 100 | 2 | 25 | 48 | 25 | 132 | 140 | 117 | 123 | 0,72 | 6,5 | PQA/802100/40 |
| 125 | 2 | 25 | 50 | 25 | 160 | 163 | 144 | 146 | 0,96 | 14 | PQA/802125/40 |

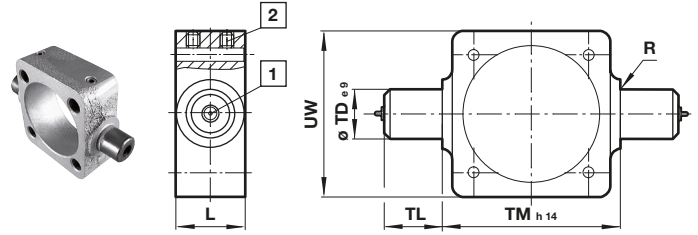
Style 'UH': It is most important that the locking screws which secure the mounting to the tie rod are tightened to the torque figures shown in the table below. For maximum energy input, consult our Technical Service.

Unless otherwise specified, units will be supplied with dimension 'XV min' plus half the stroke length. 'XV' = Distance from the piston rod shoulder to the centre of the mounting (Please see drawing).

This item is adjustable and suited to normal loads.

Adjustable trunnion mounting UH
Conforms to ISO 15552, type MT4
Used for cylinder model with round barrel

Dimensions in mm
Projection/First angle



1 Grease nipple from \varnothing 125 mm to \varnothing 200 mm

2 Locking screws
Torque max: \varnothing 32 & 40 mm = 6 Nm; \varnothing 50 & 63 mm = 10 Nm;
 \varnothing 80 & 100 mm = 15 Nm; \varnothing 125 mm = 25 Nm; \varnothing 160 & 200 mm = 40 Nm

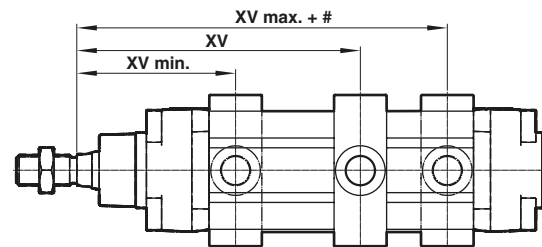
| \varnothing | L | R | \varnothing TD e9 | TL | TM h14 | UW | XV min. | XV max. + # | (kg) | Model (UH) |
|---------------|----|-----|---------------------|----|--------|-----|---------|-------------|------|------------|
| 32 | 20 | 1 | 12 | 12 | 50 | 50 | 65 | 81 | 0,16 | QA/8032/40 |
| 40 | 24 | 1,6 | 16 | 16 | 63 | 58 | 76,5 | 88,5 | 0,35 | QA/8040/40 |
| 50 | 28 | 1,6 | 16 | 16 | 75 | 70 | 84 | 96 | 0,65 | QA/8050/40 |
| 63 | 28 | 1,6 | 20 | 20 | 90 | 80 | 87,5 | 107,5 | 0,85 | QA/8063/40 |
| 80 | 28 | 1,6 | 20 | 20 | 110 | 100 | 102 | 118 | 1,2 | QA/8080/40 |
| 100 | 38 | 2 | 25 | 25 | 132 | 126 | 112 | 128 | 2,3 | QA/8100/40 |
| 125 | 50 | 2 | 25 | 25 | 160 | 152 | 144 | 146 | 3,3 | QM/8125/40 |
| 160 | 50 | 2,5 | 32 | 32 | 200 | 192 | 155 | 185 | 5,3 | QM/8160/40 |
| 200 | 50 | 2,5 | 32 | 32 | 250 | 240 | 170 | 200 | 9,4 | QM/8200/40 |

Style 'UH': It is most important that the locking screws which secure the mounting to the tie rod are tightened to the torque figures shown in the table below. For maximum energy input, consult our Technical Service.

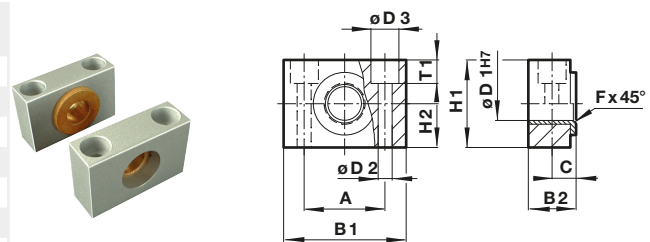
Unless otherwise specified, units will be supplied with dimension 'XV min' plus half the stroke length. 'XV' = Distance from the piston rod shoulder to the centre of the mounting (Please see drawing).

Not for use on profile options.
This item is adjustable and suited to normal loads.

Stroke

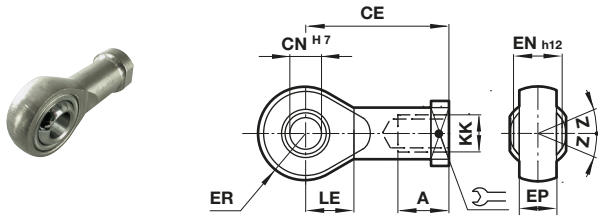


Trunnion support S
Conforms to ISO 15552, type AT4



| \varnothing | A | B | C | \varnothing D1H7 | \varnothing D2 | \varnothing D3 | Fx 45° | H | T1 | (kg) | Model (S) | | |
|---------------|----|----|------|--------------------|------------------|------------------|--------|-----|----|------|-----------|------|------------|
| 32 | 32 | 46 | 18 | 10,5 | 12 | 6,6 | 11 | 1 | 30 | 15 | 6,8 | 0,10 | QA/8032/41 |
| 40/50 | 36 | 55 | 21 | 12 | 16 | 9 | 15 | 1,6 | 36 | 18 | 9 | 0,14 | QA/8040/41 |
| 63/80 | 42 | 65 | 23 | 13 | 20 | 11 | 18 | 1,6 | 40 | 20 | 11 | 0,18 | QA/8063/41 |
| 100/125 | 50 | 75 | 28,5 | 16,5 | 25 | 14 | 20 | 2 | 50 | 25 | 13 | 0,34 | QA/8100/41 |
| 160/200 | 60 | 92 | 39 | 21,5 | 32 | 18 | 26 | 2,5 | 60 | 30 | 15,5 | 1,9 | QA/8160/41 |

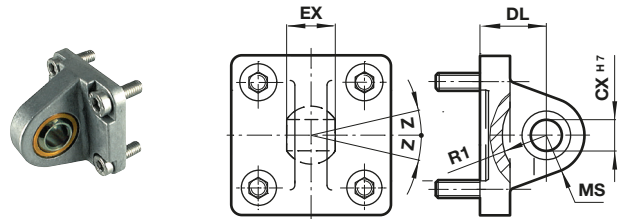
Universal piston rod eye UF
Conforms to DIN ISO 8139



| ø | Thread KK | A | CE | ø CN H7 | EN h12 | ER | LE | Z | (kg) | Model (UF) |
|---------|------------|----|-----|---------|--------|------|----|-----|------|------------|
| 32 | M10 x 1,25 | 20 | 43 | 10 | 14 | 14 | 15 | 9° | 0,09 | QM/8025/32 |
| 40 | M12 x 1,25 | 22 | 50 | 12 | 16 | 16 | 17 | 13° | 0,13 | QM/8040/32 |
| 50/63 | M16 x 1,5 | 28 | 64 | 16 | 21 | 21 | 22 | 15° | 0,33 | QM/8050/32 |
| 80/100 | M20 x 1,5 | 33 | 77 | 20 | 25 | 25 | 26 | 15° | 0,67 | QM/8080/32 |
| 125 | M27 x 2 | 51 | 110 | 30 | 37 | 35 | 36 | 15° | 1,35 | QM/8125/32 |
| 160/200 | M36 x 2 | 56 | 125 | 35 | 43 | 40 | 41 | 16° | 3 | QM/8160/32 |
| 250 | M42 x 2 | 60 | 142 | 40 | 49 | 45 | 46 | 17° | 6,4 | QM/8250/32 |
| 320 | M48 x 2 | 65 | 160 | 50 | 60 | 57,5 | 59 | 12° | 8,7 | QM/8320/32 |

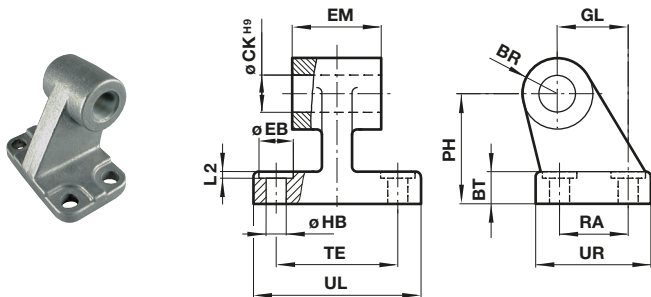
Universal rear eye UR
Conforms to ISO 1552, type MP6

Dimensions in mm
Projection/First angle



| ø | ø CX H7 | EX | MS | DL | R1 | Z | (kg) | Model (UR) |
|-----|---------|----|----|----|----|-----|------|------------|
| 32 | 10 | 14 | 16 | 22 | 13 | 13° | 0,15 | QA/8032/33 |
| 40 | 12 | 16 | 18 | 25 | 16 | 13° | 0,25 | QA/8040/33 |
| 50 | 16 | 21 | 21 | 27 | 19 | 15° | 0,40 | QA/8050/33 |
| 63 | 16 | 21 | 23 | 32 | 22 | 15° | 0,55 | QA/8063/33 |
| 80 | 20 | 25 | 28 | 36 | 24 | 14° | 0,90 | QA/8080/33 |
| 100 | 20 | 25 | 30 | 41 | 27 | 14° | 1,50 | QA/8100/33 |
| 125 | 30 | 37 | 40 | 50 | 36 | 17° | 2,70 | QM/8125/33 |
| 160 | 35 | 43 | 44 | 55 | 41 | 16° | 4,6 | QM/8160/33 |
| 200 | 35 | 43 | 48 | 60 | 42 | 16° | 7,3 | QM/8200/33 |
| 250 | 40 | 49 | 50 | 70 | 47 | 16° | 16,5 | QM/8250/33 |
| 320 | 50 | 60 | 58 | 80 | 52 | 14° | 26 | QM/8320/33 |

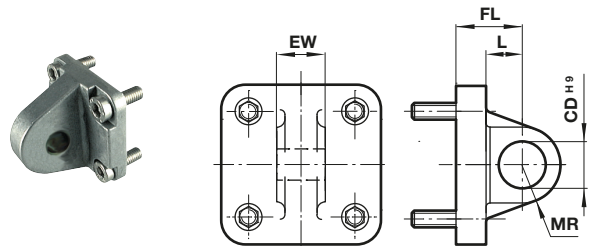
Wide hinge SW
Conforms to ISO 15552, type AB7



| ø | BR | BT | PH | ø CK H9 | ø EB | EM | GL |
|-----|----|----|-----|---------|------|------|-----|
| 32 | 10 | 7 | 32 | 10 | 12 | 25,6 | 21 |
| 40 | 11 | 9 | 36 | 12 | 12 | 27,6 | 24 |
| 50 | 13 | 11 | 45 | 12 | 15 | 31,6 | 33 |
| 63 | 15 | 11 | 50 | 16 | 15 | 39,6 | 37 |
| 80 | 15 | 14 | 63 | 16 | 18 | 49,6 | 47 |
| 100 | 18 | 15 | 71 | 20 | 18 | 59,6 | 55 |
| 125 | 22 | 20 | 90 | 25 | 20 | 69 | 70 |
| 160 | 31 | 25 | 115 | 30 | 20 | 89 | 97 |
| 200 | 31 | 30 | 135 | 30 | 26 | 89 | 105 |
| 250 | 39 | 35 | 165 | 40 | 40 | 109 | 128 |
| 320 | 44 | 40 | 200 | 45 | 48 | 119 | 150 |

| ø | ø HB | L2 | RA | TE | UL | UR | (kg) | Model (SW) |
|-----|------|-----|-----|-----|-----|-----|------|------------|
| 32 | 6,6 | 1,6 | 18 | 38 | 50 | 31 | 0,05 | M/P19493 |
| 40 | 6,6 | 1,6 | 22 | 41 | 53 | 35 | 0,07 | M/P19494 |
| 50 | 9 | 1,6 | 30 | 50 | 65 | 45 | 0,14 | M/P19495 |
| 63 | 9 | 1,6 | 35 | 52 | 67 | 50 | 0,18 | M/P19496 |
| 80 | 11 | 2,5 | 40 | 66 | 84 | 60 | 0,28 | M/P19497 |
| 100 | 11 | 2,5 | 50 | 76 | 94 | 70 | 0,42 | M/P19498 |
| 125 | 14 | 3,2 | 60 | 94 | 124 | 90 | 2,70 | M/P19499 |
| 160 | 14 | 4 | 88 | 118 | 156 | 126 | 6,3 | M/P19679 |
| 200 | 18 | 4 | 90 | 122 | 162 | 130 | 8 | M/P19683 |
| 250 | 22 | 4 | 110 | 150 | 200 | 160 | 13,4 | M/P19446 |
| 320 | 26 | 4 | 122 | 170 | 234 | 186 | 22 | M/P19447 |

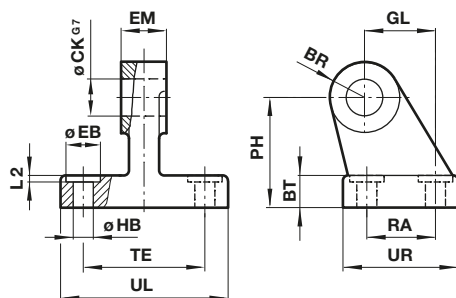
Rear eye R
Conforms to ISO 15552, type MP4



| ø | ø CD H9 | EW | FL | L | MR | (kg) | Model (R) |
|-----|---------|------|----|------|----|------|------------|
| 32 | 10 | 25,6 | 22 | 13 | 9 | 0,09 | QA/8032/27 |
| 40 | 12 | 27,6 | 25 | 16 | 12 | 0,11 | QA/8040/27 |
| 50 | 12 | 31,6 | 27 | 17 | 12 | 0,17 | QA/8050/27 |
| 63 | 16 | 39,6 | 32 | 22 | 15 | 0,24 | QA/8063/27 |
| 80 | 16 | 49,6 | 36 | 22 | 15 | 0,37 | QA/8080/27 |
| 100 | 20 | 59,6 | 41 | 27 | 20 | 0,59 | QA/8100/27 |
| 125 | 25 | 69,6 | 50 | 33 | 25 | 3,20 | QM/8125/27 |
| 160 | 30 | 89,6 | 55 | 35,5 | 30 | 6,1 | QM/8160/27 |
| 200 | 30 | 89,6 | 60 | 37 | 30 | 6,8 | QM/8200/27 |

Narrow hinge SS

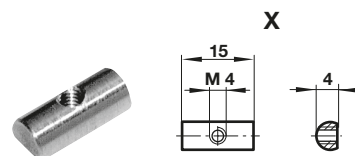
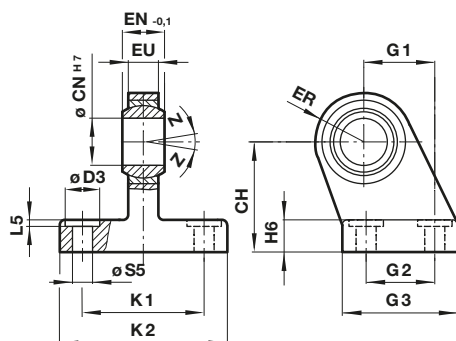
Dimensions in mm
Projection/First angle



| ø | BR | BT | ø CK G7 | ø EB | EM | GL | ø HB | L2 | PH | RA | TE | UL | UR | (kg) | Model (SS) |
|-----|----|----|---------|------|----|-----|------|-----|-----|----|-----|-----|-----|------|------------|
| 32 | 10 | 8 | 10 | 11 | 10 | 21 | 6,6 | 1,6 | 32 | 18 | 38 | 51 | 31 | 0,15 | MP19931 |
| 40 | 11 | 10 | 12 | 11 | 12 | 24 | 6,6 | 1,6 | 36 | 22 | 41 | 54 | 35 | 0,20 | MP19932 |
| 50 | 13 | 12 | 16 | 15 | 16 | 33 | 9 | 1,6 | 45 | 30 | 50 | 65 | 45 | 0,48 | MP19933 |
| 63 | 15 | 12 | 16 | 15 | 16 | 37 | 9 | 1,6 | 50 | 35 | 52 | 67 | 50 | 0,50 | MP19934 |
| 80 | 15 | 14 | 20 | 18 | 20 | 47 | 11 | 2,5 | 63 | 40 | 66 | 86 | 60 | 0,75 | MP19935 |
| 100 | 19 | 15 | 20 | 18 | 20 | 55 | 11 | 2,5 | 71 | 50 | 76 | 96 | 70 | 1,20 | MP19936 |
| 125 | 22 | 20 | 30 | 20 | 30 | 70 | 14 | 3,2 | 90 | 60 | 94 | 124 | 90 | 2,50 | MP19937 |
| 160 | 31 | 25 | 35 | 20 | 35 | 97 | 14 | 4 | 115 | 88 | 118 | 156 | 126 | 6,00 | MP19938 |
| 200 | 31 | 30 | 35 | 26 | 35 | 105 | 18 | 4 | 135 | 90 | 122 | 162 | 130 | 7,60 | MP19939 |

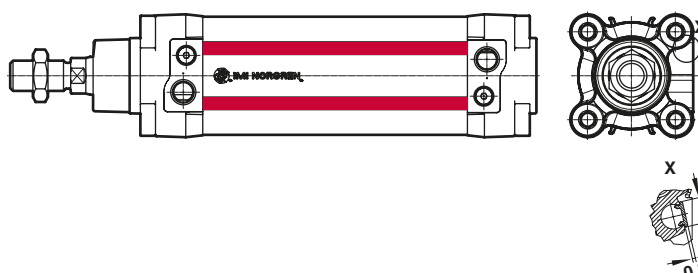
Swivel hinge US Conforms to VDMA 24562 part 2

Groove key M/P72816 Weight: 0,01 (kg)

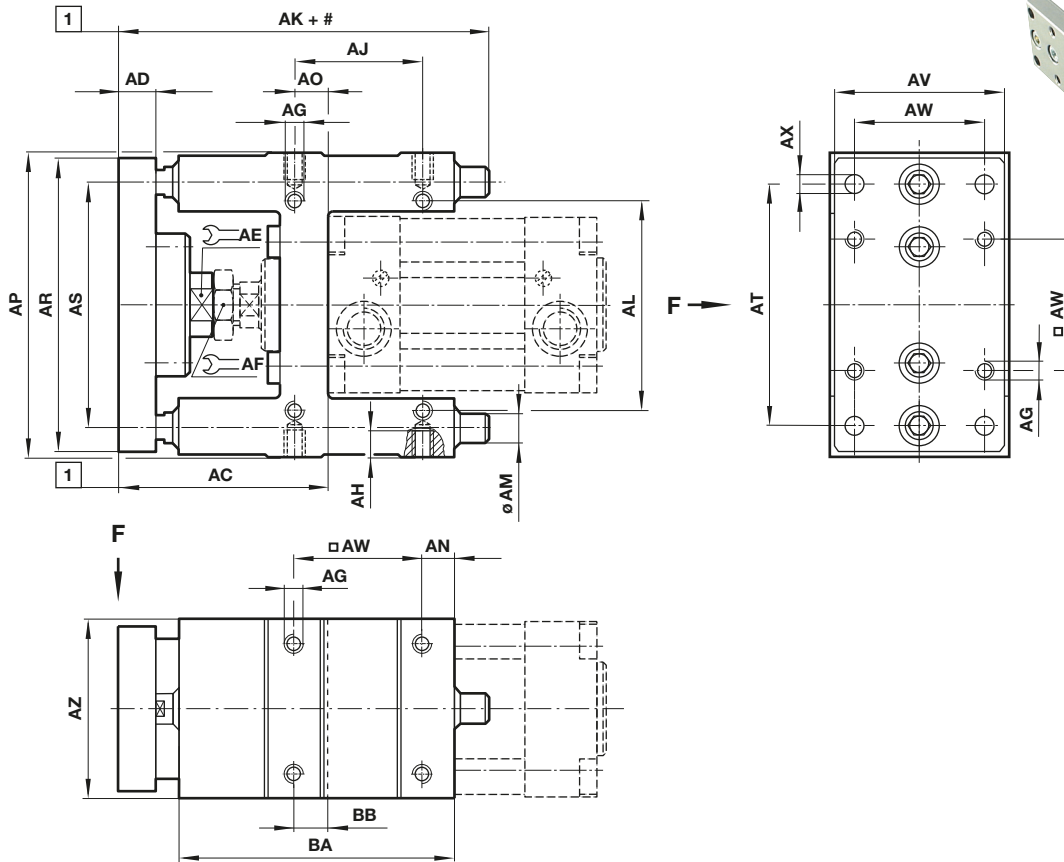
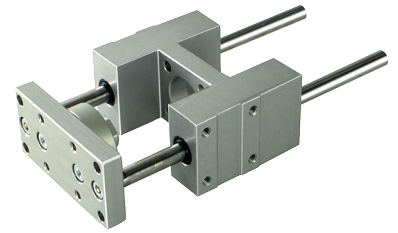


| ø | CH | ø CN H7 | ø D3 | EN -0,1 | ER | EU | G1 | G2 | G3 | H6 | K1 | K2 | L5 | S5 | Z | (kg) | Model (US) |
|-----|-----|---------|------|---------|----|------|-----|----|-----|----|-----|-----|-----|-----|-----|------|------------|
| 32 | 32 | 10 | 11 | 14 | 16 | 10,5 | 21 | 18 | 31 | 10 | 38 | 51 | 1,6 | 6,6 | 13° | 0,19 | MP40310 |
| 40 | 36 | 12 | 11 | 16 | 18 | 12 | 24 | 22 | 35 | 10 | 41 | 54 | 1,6 | 6,6 | 13° | 0,24 | MP40311 |
| 50 | 45 | 16 | 15 | 21 | 21 | 15 | 33 | 30 | 45 | 12 | 50 | 65 | 1,6 | 9 | 15° | 0,46 | MP40312 |
| 63 | 50 | 16 | 15 | 21 | 23 | 15 | 37 | 35 | 50 | 12 | 52 | 67 | 1,6 | 9 | 15° | 0,59 | MP40313 |
| 80 | 63 | 20 | 18 | 25 | 28 | 18 | 47 | 40 | 60 | 14 | 66 | 86 | 2,5 | 11 | 14° | 1,03 | MP40314 |
| 100 | 71 | 20 | 18 | 25 | 30 | 18 | 55 | 50 | 70 | 15 | 76 | 96 | 2,5 | 11 | 14° | 1,40 | MP40315 |
| 125 | 90 | 30 | 20 | 37 | 40 | 25 | 70 | 60 | 90 | 20 | 94 | 124 | 3,2 | 14 | 17° | 3,10 | MP71355 |
| 160 | 115 | 35 | 20 | 43 | 44 | 28 | 97 | 88 | 126 | 25 | 118 | 156 | 4 | 14 | 16° | 6,40 | MP71356 |
| 200 | 135 | 35 | 26 | 43 | 47 | 28 | 105 | 90 | 130 | 30 | 122 | 162 | 4 | 18 | 16° | 9,10 | MP71357 |

Groove cover M/P72725/1000



QA/8000/51 – Guide blocks (plain bearings)



Dimensions in mm
Projection/First angle



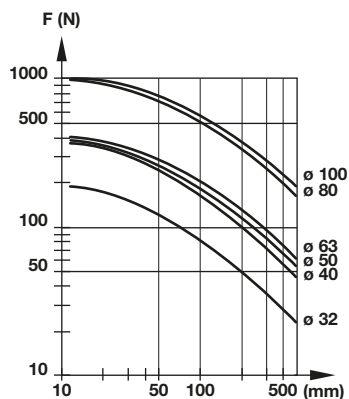
- # Stroke
- 1 Adjustment range
- ϕ 32 & 40 = +2
- ϕ 50 & 63 = +4
- ϕ 80 & 100 = +6

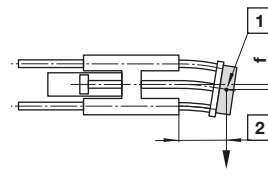
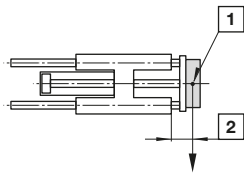
| ϕ | AC | AD | \curvearrowright AE | \curvearrowright AF | AG | AH | AJ | AK | AL | ϕ AM | AN | AO | AP |
|--------|------|----|-----------------------|-----------------------|------|----|------|-----|-----|-----------|----|----|-----|
| 32 | 69 | 12 | 15 | 17 | M 6 | 10 | 32,5 | 110 | 58 | 10 | 6 | 9 | 100 |
| 40 | 74 | 12 | 15 | 19 | M 6 | 10 | 38 | 122 | 64 | 12 | 6 | 11 | 106 |
| 50 | 91,5 | 15 | 22 | 24 | M 8 | 12 | 46,5 | 135 | 80 | 12 | 6 | 19 | 125 |
| 63 | 92 | 15 | 22 | 24 | M 8 | 12 | 56,5 | 153 | 95 | 12 | 7 | 15 | 132 |
| 80 | 106 | 15 | 27 | 30 | M 10 | 15 | 50 | 180 | 130 | 16 | 9 | 14 | 165 |
| 100 | 111 | 15 | 27 | 30 | M 10 | 17 | 70 | 199 | 150 | 16 | 9 | 19 | 185 |

| ϕ | AR | AS | AT | AV | \square AW | ϕ AX | AZ | BA | BB | (kg) at 0 mm | (kg) per 100 mm | Model |
|--------|-----|-----|-----|-----|--------------|-----------|-----|-------|------|--------------|-----------------|--------------|
| 32 | 90 | 74 | 78 | 45 | 32,5 | 6,6 | 48 | 76 | 9 | 1,0 | 0,06 | QA/8032/51/* |
| 40 | 100 | 80 | 84 | 50 | 38 | 6,6 | 56 | 85 | 11 | 1,2 | 0,09 | QA/8040/51/* |
| 50 | 120 | 96 | 100 | 60 | 46,5 | 9 | 66 | 99 | 19 | 1,8 | 0,09 | QA/8050/51/* |
| 63 | 125 | 104 | 105 | 70 | 56,5 | 9 | 76 | 114 | 15 | 2,2 | 0,09 | QA/8063/51/* |
| 80 | 155 | 130 | 130 | 90 | 72 | 11 | 98 | 134,5 | 25 | 4,1 | 0,16 | QA/8080/51/* |
| 100 | 175 | 150 | 150 | 110 | 89 | 11 | 118 | 153,5 | 28,5 | 5,8 | 0,16 | QA/8100/51/* |

* Insert standard stroke length: 50, 100, 160, 200, 250, 320, 400 and 500 mm, use nearest standard stroke.
Note: Supplied complete with mounting screws for cylinders

Maximum load

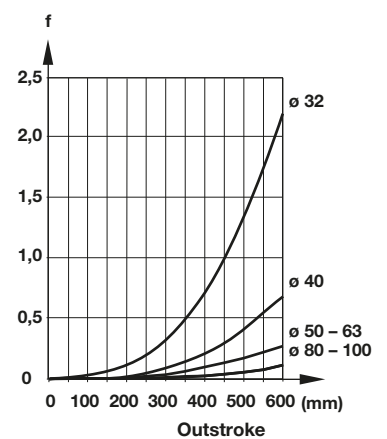
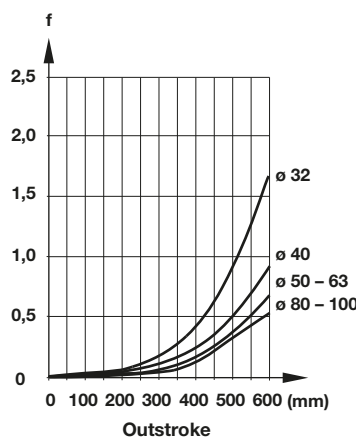
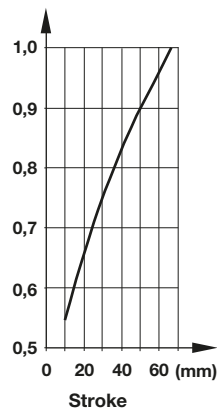
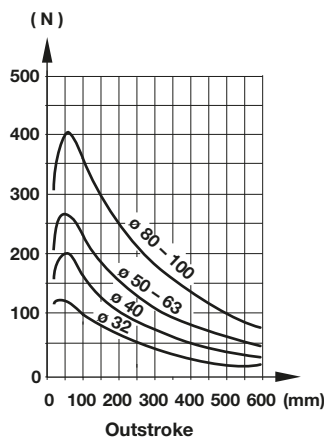


Maximum load for QA/8000/61

 Dimensions in mm
Projection/First angle


- 1 Centre of gravity load capacity
- 2 Outstroke

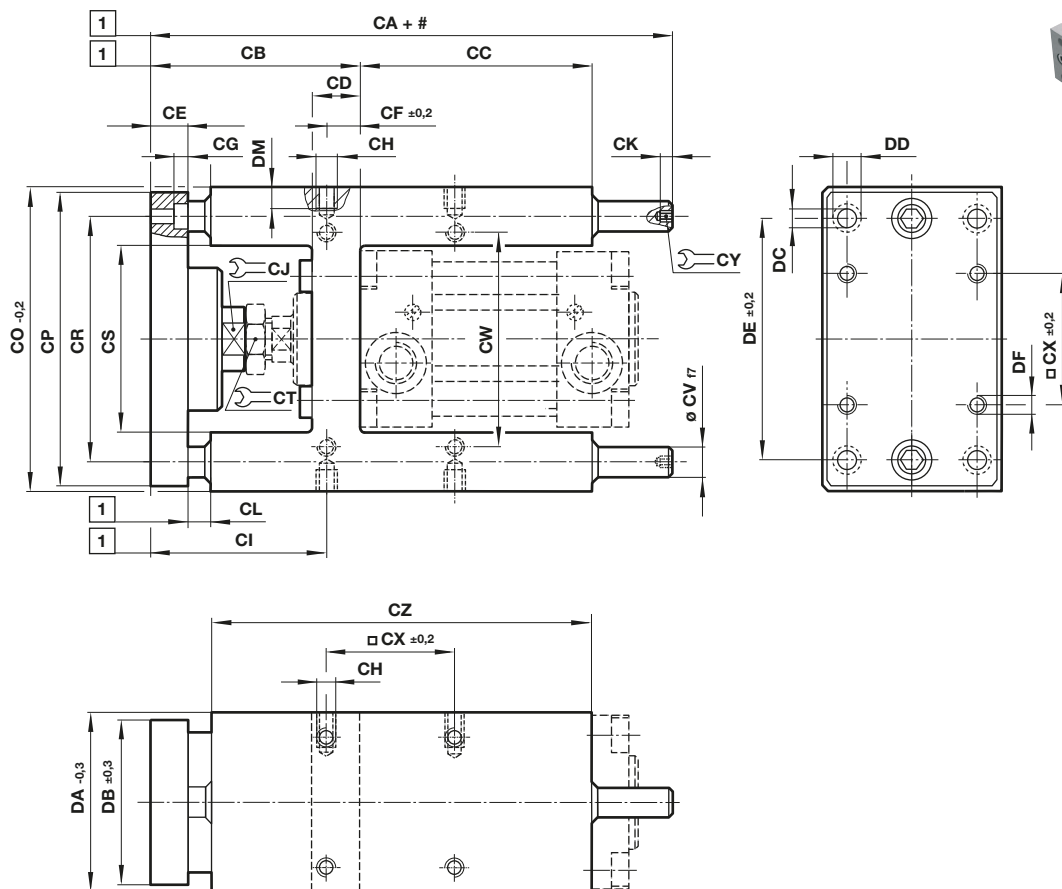
Maximum load capacity is dependent on the outstroke of a horizontally installed guide unit. In the case of short stroke operation, the load capacity figures taken from the diagram must be multiplied by the correction factor (diagram 2). In the curves of load capacity (diagram 1), the short stroke corrections have already been taken into account for an outstroke > 60 mm.

The total deflection of guide rods will be determined by the addition of that due to own weight (diagram 3) and that due to load capacity (diagram 4).

Maximum load capacity depending on outstroke (diagram 1)
Correction factor (diagram 2)
Deflection caused by own weight (diagram 3)
Deflection caused by a load of 10 N (diagram 4)
Load capacity
Correction factor
Deflection (mm)
Deflection (mm)


In the case of shock load applications, the figures given in the diagrams above must be reduced by a factor of 2.

QA/8000/81 – Guide blocks (long coupling)
QA/8000/85 – Guide blocks (short coupling)



Dimensions in mm
Projection/First angle



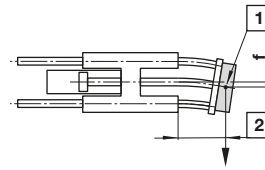
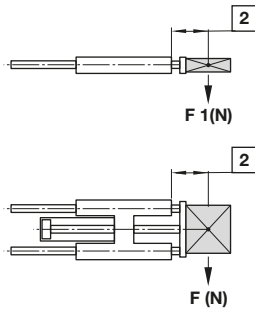
Stroke
1 Adjustment range
ø 32 + 40 = +5
ø 50 ... 100 = +10

| ø | CA /81 | CA /85 | CB + /81 | CB + /85 | CC | CD | CE | CF ±0,2 | CG | CH | CI /81 | CI /85 | CS CJ |
|-----|---------|---------|----------|----------|---------|------|-------|------------------|------------------|--------------------------|------------|------------|-------|
| 32 | 174 | 149 | 89 | 64 | 75 | 24 | 12 | 4,3 | 6,5 | M 6 | 84,7 | 59,7 | 15 |
| 40 | 189 | 164 | 99 | 74 | 80 | 28 | 12 | 11 | 6,5 | M 6 | 88 | 63 | 15 |
| 50 | 210 | 181 | 113 | 88 | 78 | 34 | 15 | 18,8 | 8,5 | M 8 | 94,2 | 69,2 | 20 |
| 63 | 235 | 210 | 114 | 89 | 106 | 34 | 15 | 15,3 | 9 | M 8 | 98,7 | 73,7 | 20 |
| 80 | 265 | 240 | 139 | 114 | 111 | 50 | 20 | 25 | 11 | M 10 | 114 | 89 | 26 |
| 100 | 288 | 265 | 145 | 120 | 128 | 55 | 20 | 30 | 11 | M 10 | 115 | 90 | 26 |
| ø | CK | CL /81 | CL /85 | CO ±0,2 | CP | CR | CS | CT | øCV #8 | CW | □ CX ±0,2 | CY | CZ |
| 32 | 5 | 27 | 2 | 97 | 93 | 74 | 51 | 17 | 12 | 61 | 32,5 | 5 | 125 |
| 40 | 6 | 27 | 2 | 115 | 112 | 87 | 58,2 | 19 | 16 | 69 | 38 | 6 | 140 |
| 50 | 6 | 28 | 3 | 137 | 134 | 104 | 70,2 | 24 | 20 | 85 | 46,5 | 6 | 148 |
| 63 | 6 | 27 | 2 | 152 | 147 | 119 | 85,2 | 24 | 20 | 100 | 56,5 | 6 | 178 |
| 80 | 7 | 35 | 10 | 189 | 180 | 148 | 105,5 | 30 | 25 | 130 | 72 | 8 | 195 |
| 100 | 7 | 35 | 10 | 213 | 206 | 173 | 130,5 | 30 | 25 | 150 | 89 | 8 | 218 |
| ø | DA ±0,2 | DB ±0,3 | ø DC | ø DD | DE ±0,2 | DF | DM | (kg) /81 at 0 mm | (kg) /85 at 0 mm | (kg) /81; /85 per 100 mm | Model /81 | Model /85 | |
| 32 | 49 | 45 | 6,6 | 11 | 78 | M 6 | 12 | 1,2 | 1,15 | 0,18 | QA/8032/81 | QA/8032/85 | |
| 40 | 58 | 55 | 6,6 | 11 | 84 | M 6 | 12 | 2,2 | 2,15 | 0,32 | QA/8040/81 | QA/8040/85 | |
| 50 | 70 | 65 | 9 | 15 | 100 | M 8 | 16 | 3,6 | 3,55 | 0,49 | QA/8050/81 | QA/8050/85 | |
| 63 | 85 | 80 | 9 | 15 | 105 | M 8 | 16 | 4,6 | 4,55 | 0,49 | QA/8063/81 | QA/8063/85 | |
| 80 | 105 | 100 | 11 | 18 | 130 | M 10 | 20 | 8,7 | 8,65 | 0,77 | QA/8080/81 | QA/8080/85 | |
| 100 | 130 | 120 | 11 | 18 | 150 | M 10 | 20 | 11 | 10,95 | 0,77 | QA/8100/81 | QA/8100/85 | |

* Insert standard stroke length: 50, 100, 160, 200, 250, 320, 400 and 500 mm, use nearest standard stroke.

Note: Supplied complete with mounting screws for cylinders

Maximum load for QA/8000/81 and /85

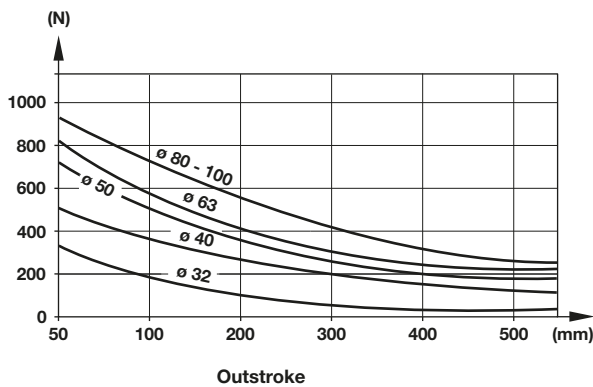
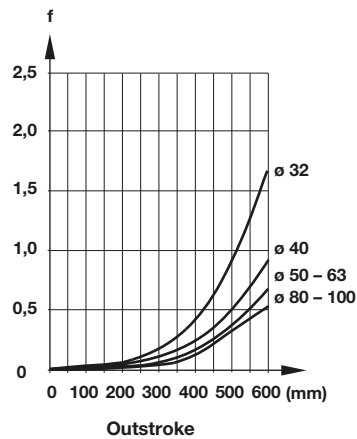
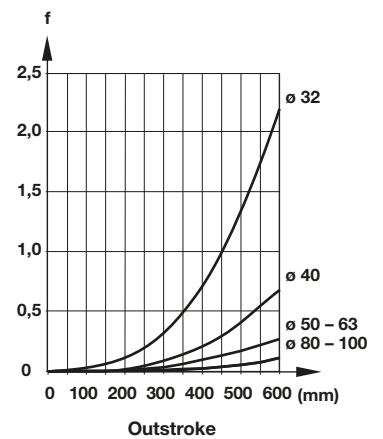
 Dimensions in mm
Projection/First angle


- 1 Centre of gravity load capacity
- 2 Outstroke

$F1 = F \times 0,9$
Static force: $F2 = F \times 2$

Max. load capacity (diagram 1) is dependent on the outstroke of a horizontally installed guide unit.

The total deflection of guide rods will be determined by the addition of the amount of deflection caused by own weight (according to diagram 2) plus the amount of deflection due to load capacity (according to diagram 3).

**Maximum load capacity depending on outroke
Deflection caused by a load of 10 N
(diagram 1)**
Load capacity

**Deflection caused by own weight
(diagram 2)**
Deflection (mm)

**Deflection caused by a load of 10 N
(diagram 3)**
Deflection (mm)


In the case of shock load applications, the figures given in the diagrams above must be reduced by a factor of 2

- > Magnetically operating reed switch - Round style
- > Suitable for all cylinder ranges with magnetic piston
- > Switches can be mounted flush with the delivered special adaptor
- > LED indicator on LSU models
- > Alternative variants allows a wide range of application



Technical features

Operation:

M/50/LSU Normally open with LED (yellow)

Switching voltage (U_b):

10 ... 240 V a.c./170 V d.c.

Switching voltage output:

U_b - 2,7 V

Switching current

(see graph overleaf):

0,18 A max.

Switching power:

10 W/10 VA max.

Contact resistance:

150 mΩ

Response time:

1,8 ms

Operating temperature:

-25°C ... +80°C (-13°F ... +176°F)

High temperature version:

+150°C max.(+302 °F)

Protection rating (EN 60529):

IP 66

Shock resistance:

50 g (during 11 ms)

Vibration resistance:

35 g (at 2000 Hz)

Cable type:

2 x 0,25: PVC, PUR or silicone

3 x 0,25 PVC

Cable length:

2, 5 or 10 m

Electromagnetic compatibility

according to:

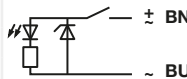
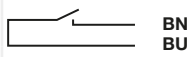
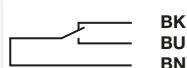
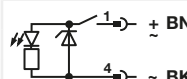
EN 60947-5-2

Materials:

Body: plastic

Cable: see table below

Technical data - Reed switches - additional information see data sheet N/en 4.3.005

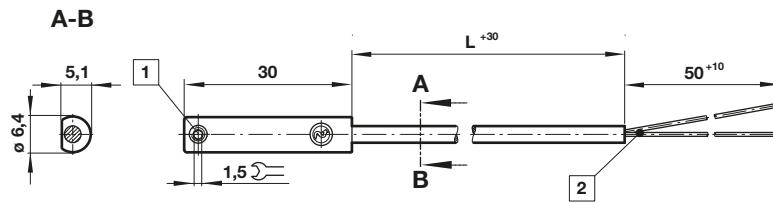
| Symbol | Voltage (V a.c.) | Voltage (V d.c.) | Current maximum (mA) | Function | Operating temperature (°C) | LED | Protection class | Plug | Cable length (m) | Cable type | Weight (g) | Model |
|--|---------------------|---------------------|----------------------------|---------------|----------------------------------|-----|---------------------|---------|------------------------|------------------|---------------|-----------------|
|  | 10 ... 240 | 10 ... 170 | 180 | Normally open | -25 ... +80 | • | IP 66 | — | 2, 5 or 10 | PVC 2 x 0,25 | 37 | M/50/LSU/*V |
| | 10 ... 240 | 10 ... 170 | 180 | Normally open | -25 ... +80 | • | IP 66 | — | 5 | PUR 2 x 0,25 | 37 | M/50/LSU/5U |
|  | 10 ... 240 | 10 ... 170 | 180 | Normally open | -25 ... +150 | — | IP 66 | — | 2 | Silicon 2 x 0,25 | 37 | TM/50/RAU/2S |
|  | 10 ... 240 | 10 ... 170 | 180 | Changeover | -25 ... +80 | — | IP 66 | — | 5 | PVC 3 x 0,25 | 37 | M/50/RAC/5V |
|  | 10 ... 60 | 10 ... 60 | 180 | Normally open | -25 ... +80 | • | IP 66 | M8 x 1 | 0,3 | PVC 3 x 0,25 | 16 | M/50/LSU/CP *1) |
| | 10 ... 60 | 10 ... 60 | 180 | Normally open | -25 ... +80 | • | IP 66 | M12 x 1 | 0,3 | PVC 3 x 0,25 | 16 | M/50/LSU/CC *1) |

* Insert cable length; *1) Plug-in connector see page 11

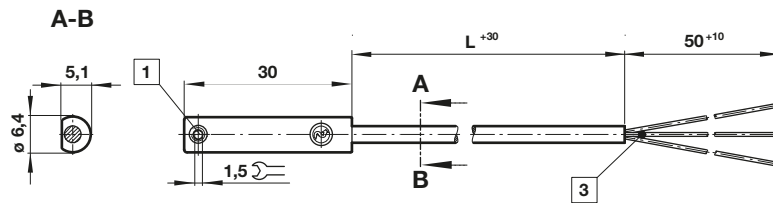
Dimensions

M/50/LSU/*V, M/50/LSU/5U,
TM/50/RAU/2S
Cable length L = 2, 5 or 10 m

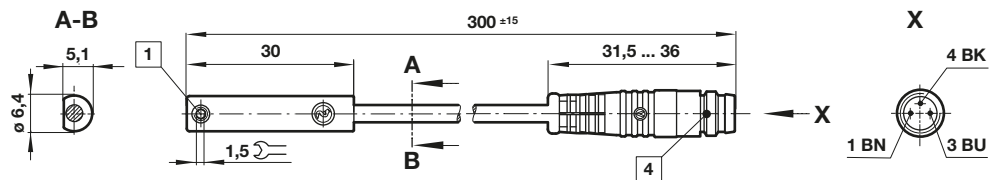
Dimensions in mm
Projection/First angle



M/50/RAC/5V
Cable length L = 5 m



M/50/LSU/CP
M/50/LSU/CC



- 1 Fixing screw
- 2 + BN = brown; - BU = blue (output)
- 3 - BK = black; + BN = brown; - BU = blue
- 4 Version CP: Plug M8 x 1, color code: BK = +; BN = -; BU = output
Version CC: Plug M12 x 1, color code: BK = +; BN = -; BU = output

Accessories

Plug-in connector cable with nut



| Outer cover | Cable length (m) | Weight (kg) | Connector | Connector |
|--------------|------------------|-------------|-----------|------------|
| PVC 3 x 0,25 | 5 | 0,18 | M8 x 1 | M/P73001/5 |
| PUR 3 x 0,25 | 5 | 0,18 | M8 x 1 | M/P73002/5 |
| PUR 3 x 0,34 | 5 | 0,21 | M12 x 1 | M/P34594/5 |

- > Magnetically operating Solid state - Round style
- > Magnetically operating switch, solid state
- > Easy IO link Version available
- > Suitable for all cylinder ranges with magnetic piston
- > Switches can be mounted flush with the delivered special adaptor
- > Resistance, reliable switching with a very fast response time
- > Particularly suited for use in high levels of vibration
- > LED indicator as standard
- > CE verified
- > UL certificated



Technical features

Operation:

M/50/EAP (PNP) open collector output with LED (yellow)
M/50/EAN (NPN) grounded emitter output with LED (yellow)
M/50/IOP (PNP) Easy IO link open collector output with LED (yellow)

Switching voltage (Ub):

10 ... 30 V d.c.

Switching voltage output:

Ub - 2 V

Inducted voltage:

0,5 V

Switching current (see graph overleaf):

150 mA max.

Switching power:

4,5 W max.

Response time:

< 0,5 ms

Operating frequency:

5 kHz

Protection rating (EN 60529):

IP 67 (standard)

IP 68 for type: M/50/EAP/5U

Operating temperature:

-40 ... +80°C (-40 ... 176°F)
(IP 67 & IP 68)

Cable type:

PVC 3 x 0,12 (standard)

PUR 3 x 0,14 (M/50/EAP/5U)

Cable length:

2, 5 and 10 m

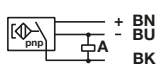
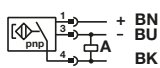
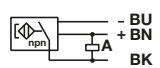
Electromagnetic compatibility

according to:
EN 60947-5-2

Materials:

Body: plastic
Cable: see table below

Technical data - Solid state - additional information see data sheet N/en 4.3.007

| Symbol | Voltage (V d.c.) | Current maximum (mA) | Function | IO Link easy *2) | Operating temperature (°C) | LED | Protection class | Plug | Cable length (m) | Cable type | Weight (g) | Model |
|--|---------------------|----------------------------|----------|---------------------|----------------------------------|-----|---------------------|---------|------------------------|---------------|---------------|-----------------|
|  | 10 ... 30 | 150 | PNP | | -40 ... +80 | • | IP 67 | — | 2, 5 or 10 | PVC 3 x 0,12 | 37 | M/50/EAP/*V |
| | 10 ... 30 | 150 | PNP | • | -40 ... +80 | • | IP 67 | — | 5 | PVC 3 x 0,12 | 37 | M/50/IOP/5V |
| | 10 ... 30 | 150 | PNP | | -40 ... +80 | • | IP 68 | — | 5 | PUR 3 x 0,14 | 37 | M/50/EAP/5U |
|  | 10 ... 30 | 150 | PNP | | -40 ... +80 | • | IP 67 | M8 x 1 | 0,3 | PVC 3 x 0,14 | 16 | M/50/EAP/CP *1) |
| | 10 ... 30 | 150 | PNP | • | -40 ... +80 | • | IP 67 | M8 x 1 | 0,3 | PVC 3 x 0,14 | 16 | M/50/IOP/CP *1) |
| | 10 ... 30 | 150 | PNP | | -40 ... +80 | • | IP 67 | M12 x 1 | 0,3 | PVC 3 x 0,14 | 16 | M/50/EAP/CC *1) |
|  | 10 ... 30 | 150 | NPN | | -40 ... +80 | • | IP 67 | — | 2, 5 or 10 | PVC 3 x 0,12 | 37 | M/50/EAN/*V |
| | 10 ... 30 | 150 | NPN | | -40 ... +80 | • | IP 67 | M8 x 1 | 0,3 | PVC 3 x 0,14 | 16 | M/50/EAN/CP *1) |

* Insert cable length; *1) Plug-in connector below; Color code: BK = black, BN = brown, BU = blue

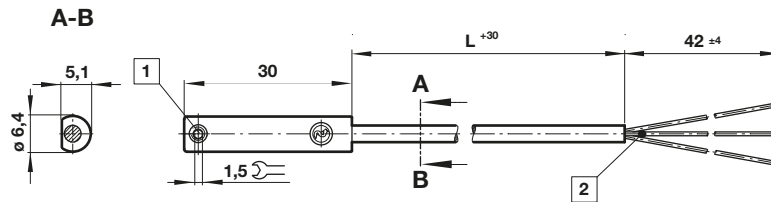
IO Link easy function

- Optical Adjustment
- Counter
- Temperature diagnostic
- Power LED

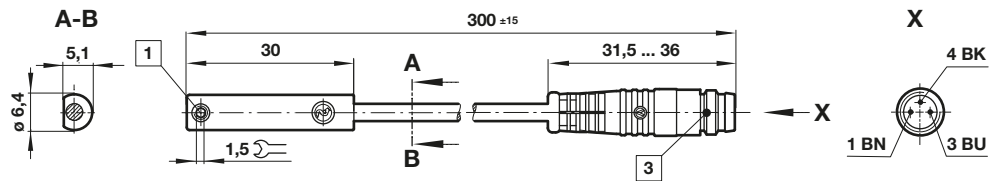
Drawings

M/50/IOP/5V
Cable length L = 2, 5 or 10 m

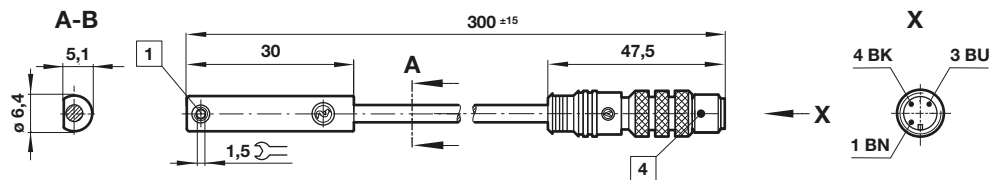
Dimensions in mm
Projection/First angle



M/50/IOP/CP



M/50/EAP/CC



- 1 Fixing screw
- 2 Color code:
BK = black; BN = brown; BU = blue
- 3 Plug M8 x 1
- 4 Plug M12 x 1

Accessories

Plug-in connector cable with nut



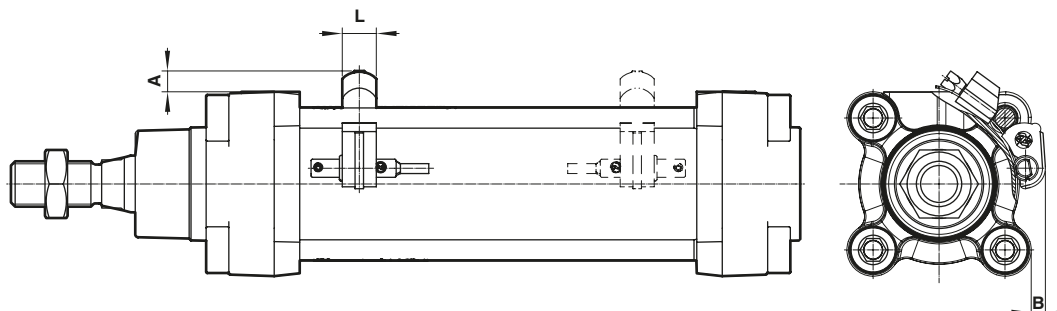
| Outer cover | Cable length (m) | Weight (kg) | Connector | Connector |
|--------------|------------------|-------------|-----------|------------|
| PVC 3 x 0,25 | 5 | 0,18 | M8 x 1 | M/P73001/5 |
| PUR 3 x 0,25 | 5 | 0,18 | M8 x 1 | M/P73002/5 |
| PUR 3 x 0,34 | 5 | 0,21 | M12 x 1 | M/P34594/5 |

QM/27/2/1 – Switch mounting brackets for Round barrel

Switch: M/50



| ø | A | B | L | Weight (kg) | Model |
|-----|-----|-----|----|-------------|-----------|
| 32 | 9 | 6 | 12 | 0,010 | QM/27/2/1 |
| 40 | 9 | 7 | 12 | 0,010 | QM/27/2/1 |
| 50 | 7 | 5 | 12 | 0,010 | QM/27/2/1 |
| 63 | 7 | 6 | 12 | 0,010 | QM/27/2/1 |
| 80 | 4 | 4 | 12 | 0,010 | QM/27/2/1 |
| 100 | 3 | 2 | 12 | 0,010 | QM/27/2/1 |
| 125 | -2 | -2 | 12 | 0,010 | QM/27/2/1 |
| 160 | -10 | -9 | 12 | 0,010 | QM/27/2/1 |
| 200 | -17 | -16 | 12 | 0,010 | QM/27/2/1 |
| 250 | -10 | -6 | 35 | 0,085 | QM/27/2/2 |
| 320 | -20 | -16 | 35 | 0,072 | QM/27/2/3 |



- > Magnetically operating Reed switch & Solid state - Block style
- > Suitable for all Rond barrel cylinder with magnetic piston
- > Alternative materials allows a wide range of application
- > Switch with plug



Technical features

Operation:

TQM/31, QM/32 normally open with LED (yellow)

Switching voltage (U_b):

10 ... 240 V a.c./d.c.

Switching voltage output:

U_b - 2 V (QM/32)

Switching current (see graph overleaf):

1 A max. (QM/32)

Switching power:

50 W/50 VA max.

Contact resistance:

100 mΩ

Response time:

3 ms

Operating temperature:

-20 ... +80°C (-4 ... +176°F)

High temperature version:

+150°C max. (TQM/31) (+302°F)

Protection rating (EN 60529):

IP 66

Shock resistance:

50 g (during 11 ms)

Vibration resistance:

35 g (50 to 2000 Hz)

Cable type:

PVC 2 x 0,75, PUR 2 x 0,75

VMQ 2 x 0,75 (TQM/31)

Cable length:

2, 5 or 10 m

Electromagnetic compatibility

according to:

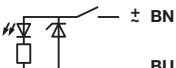
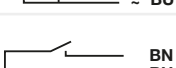
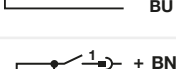
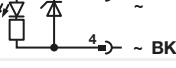
EN 60947-5-2

Materials:

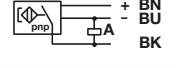
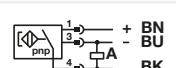
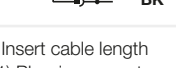
Body: plastic

Cable: see table below

Technical data - Reed switches - additional information see data sheet N/en 4.3.021

| Symbol | Voltage (V a.c./V d.c.) | Current maximum (A) | Function | Temperature (°C) | LED | Protection class | Features | Cable length (m) | Cable type | Weight (g) | Model |
|--|----------------------------|------------------------|---------------|---------------------|-----|------------------|------------------|---------------------|------------------|---------------|-------------|
|  | 10 ... 240 | 1 | Normally open | -20 ... +80 | • | IP 66 | — | 2, 5 or 10 | PVC 2 x 0,75 | 108 (2 m) | QM/32/* |
|  | 10 ... 240 | 1 | Normally open | -20 ... +80 | • | IP 66 | — | 2 | PUR 2 x 0,75 | 108 | QM/32/2/PU |
|  | 10 ... 240 | 2 | Normally open | -20 ... +150 | — | IP 66 | High temperature | 2, 5 or 10 | Silicon 2 x 0,75 | 102 (2 m) | TQM/31/* |
|  | 10 ... 240 | 1 | Normally open | -20 ... +80 | • | IP 66 | Plug M12 x 1 | — | — | 15 | QM/32/P *1) |

Technical data - Solid state - additional information see data sheet N/en 4.3.025

| Symbol | Voltage (V d.c.) | Current maximum (mA) | Function | Temperature (°C) | LED | Protection class | Features | Cable length (m) | Cable type | Weight (g) | Model |
|--|---------------------|-------------------------|----------|---------------------|-----|------------------|--------------|---------------------|--------------|---------------|--------------|
|  | 10 ... 30 | 200 | PNP | -20 ... +80 | • | IP 66 | — | 2, 5 or 10 | PVC 3 x 0,5 | 102 (2 m) | QM/132/* |
|  | 10 ... 30 | 200 | PNP | -20 ... +80 | • | IP 66 | — | 5 | PUR 3 x 0,34 | — | QM/132/5/PU |
|  | 10 ... 30 | 200 | PNP | -20 ... +80 | • | IP 66 | Plug M12 x 1 | — | — | 15 | QM/132/P *1) |

* Insert cable length

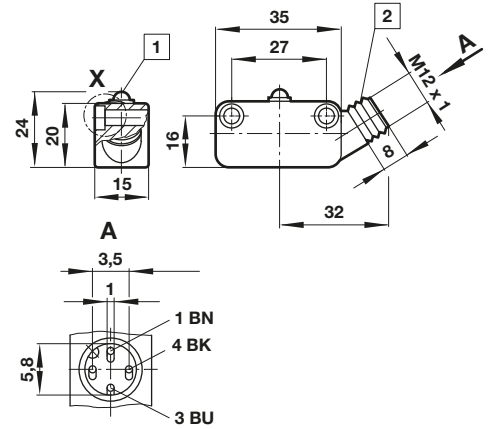
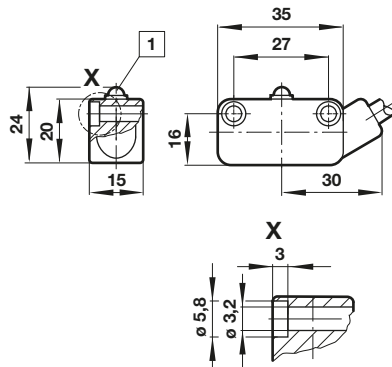
*1) Plug-in connector see page below; Color code: BK = black, BN = brown, BU = blue

Drawings

TQM/31, QM/32, QM/132

QM/32/P, QM/132/P

Dimensions in mm
Projection/First angle



- 1 LED (yellow)
- 2 Plug M12 x1
Color code
BK = black
BN = brown
BU = blue

Accessories

Plug-in connector cable with nut



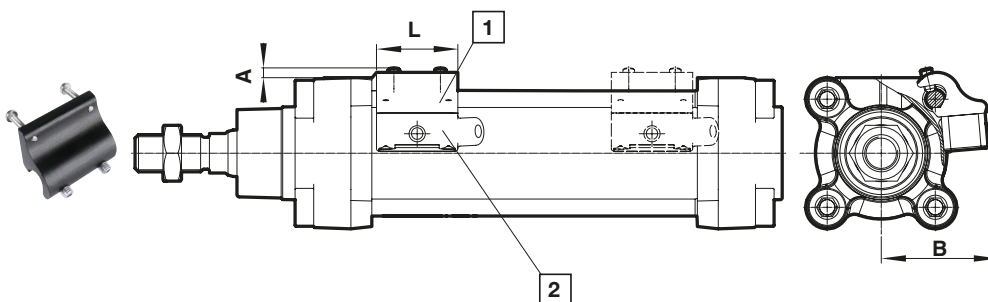
| Outer cover | Cable length (m) | Weight (kg) | Connector | Connector |
|--------------|------------------|-------------|-----------|-----------|
| PVC 3 x 0,34 | 5 | 0,21 | M12 x 1 | MP34692/5 |
| PUR 3 x 0,34 | 5 | 0,21 | M12 x 1 | MP34594/5 |

QM/31/000/22 – Switch mounting brackets for Round barrel Switches: TQM/31, QM/32, QM/132

Dimensions in mm
Projection/First angle

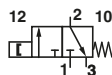


| Cy. ø | A | B | Weight (kg) | Model |
|-------|-----|------|-------------|--------------|
| 32 | 5 | 42 | 0,026 | QM/31/032/22 |
| 40 | 4,5 | 46 | 0,026 | QM/31/032/22 |
| 50 | 4,5 | 50,5 | 0,026 | QM/31/032/22 |
| 63 | 4 | 56,5 | 0,026 | QM/31/032/22 |
| 80 | 2 | 62,5 | 0,028 | QM/31/080/22 |
| 100 | 1,5 | 70,5 | 0,028 | QM/31/080/22 |
| 125 | 0 | 81 | 0,028 | QM/31/080/22 |
| 160 | 0 | 91,5 | 0,023 | QM/31/160/22 |
| 200 | -4 | 106 | 0,023 | QM/31/160/22 |
| 250 | -3 | 138 | 0,041 | QM/31/250/22 |
| 320 | -21 | 154 | 0,080 | QM/31/320/22 |



- 1 Bracket
- 2 Switch

- > Pneumatic proximity sensor
- > Port size: ø 3 mm
- > Pneumatic proximity sensor
- > Optical pressure indicator signals position
- > Non-contact sensing with pneumatic output
- > Intrinsically safe – no problem in explosion areas



Technical features

Medium:

Compressed air, filtered and non-lubricated

Operation:

Pneumatic proximity switch for non-contact sensing via a magnetic field

Operating pressure:

2 ... 6 bar (29 ... 87 psi)

Connections:

Pipes for 3 mm I/D tubing

Vibration resistance:

10 ... 50 Hz (to IEC 68 T. 2-27)

Shock resistance:

500 m/s² over a period of 5 ms (to IEC 68 T. 2-27)

Flow rate:

40 l/min

Orifice size:

2 mm

Repeatability:

± 0,2 mm

Can be used with cylinder:

ø 10 ... 100 mm

Operating temperature:

-15 ... +60°C (+5 ... +140°F)

Humidity and water content:

Air supply must be dry.

Corresponding of the application and working conditions the air

must be dry enough to avoid condensate. The pressure dewpoint

must be minimum 15°C under the application and working conditions.

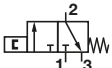
Materials

Body: Plastic

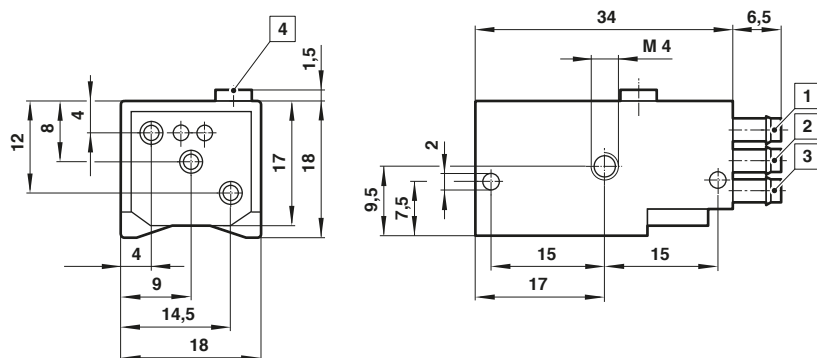
Pipe connectors: Brass

Holding strap: CU ZU 37 (brass)

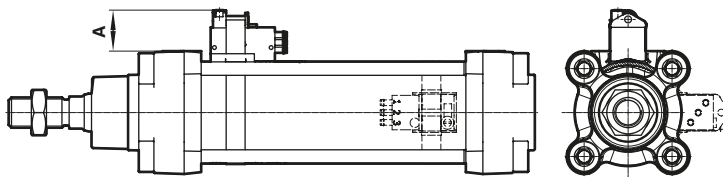
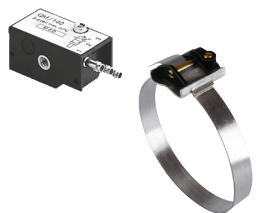
Pneumatic proximity sensor - additional information see data sheet N/en 4.3.061

| Symbol | Operating pressure | Flow rate | Orifice size | Optical indicator | Connections | Model |
|---|--------------------|-----------|--------------|-------------------|---------------------------|--------|
|  | 2 ... 6 bar | 40 l/min | 2 mm | • | Pipes for 3 mm I/D tubing | QM/140 |

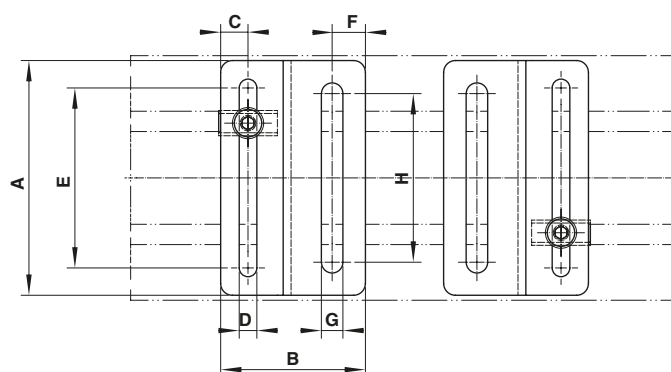
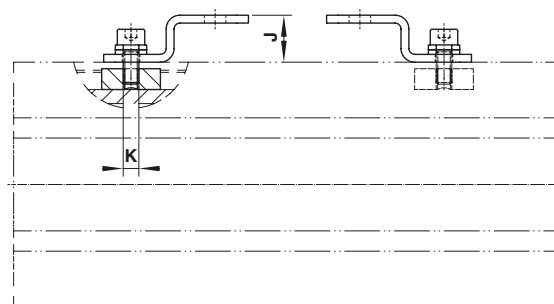
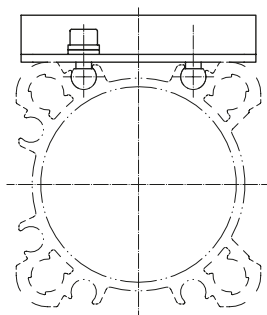
Dimensions



- 1 Compressed air port 1
- 2 Output port 2
- 3 Exhaust port
- 4 Optical indicator

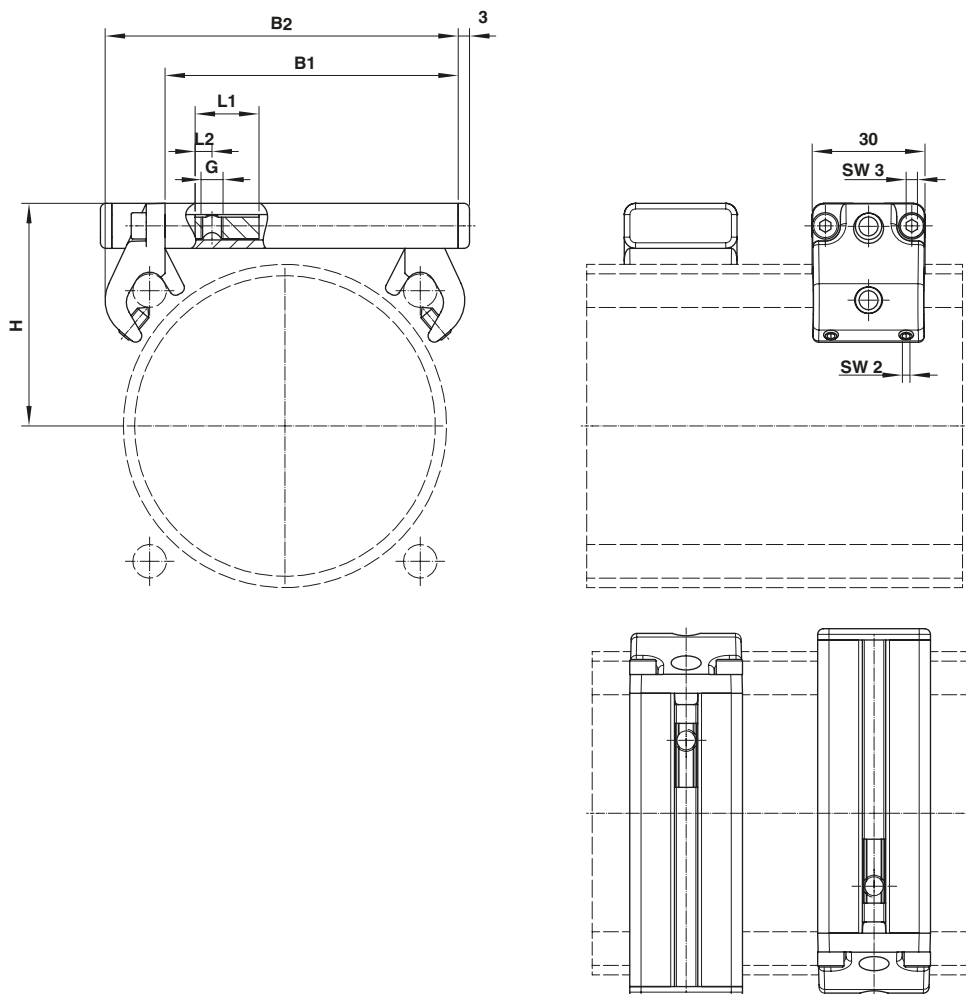
QM/140/010/22 – Bracket with holding strap
Pneumatic switch: QM/140


| ø | A (Round barrel) | (kg) |
|-----|------------------|-------|
| 32 | 22 | 0,020 |
| 40 | 23 | 0,020 |
| 50 | 22 | 0,020 |
| 63 | 24 | 0,020 |
| 80 | 23 | 0,020 |
| 100 | 24,5 | 0,020 |

Valve mounting kit for Profile barrel





| ø | A | B | C | D | E | F | G | H | J | K | SW | (kg) | Model |
|--------|-----|----|---|-----|-----|-----|-----|-----|----|----|----|------|------------------|
| 50/63 | 60 | 37 | 7 | 4,5 | 46 | 8,5 | 5,5 | 43 | 12 | M4 | 3 | 0,08 | PQA/802050/22/54 |
| 80/100 | 90 | 37 | 7 | 4,5 | 76 | 8,5 | 6,5 | 70 | 12 | M4 | 3 | 0,11 | PQA/802080/22/54 |
| 125 | 135 | 37 | 7 | 4,5 | 121 | 8,5 | 6,5 | 115 | 12 | M4 | 3 | 0,16 | PQA/802125/22/54 |

Valve mounting kit for Round barrel



| ø | B1 | B2 | H | L1 | L2 | G | kg | Model |
|-----|------|------|-------|----|-----|----|------|-----------------|
| 63 | 61,5 | 77,5 | 50 | 17 | 4,5 | M4 | 0,13 | QA/8063/22/55/4 |
| 63 | 61,5 | 77,5 | 50 | 17 | 4,5 | M5 | 0,13 | QA/8063/22/55/5 |
| 63 | 61,5 | 77,5 | 50 | 17 | 4,5 | M6 | 0,13 | QA/8063/22/55/6 |
| 80 | 78 | 94 | 59,5 | 17 | 4,5 | M4 | 0,14 | QA/8080/22/55/4 |
| 80 | 78 | 94 | 59,5 | 17 | 4,5 | M5 | 0,14 | QA/8080/22/55/5 |
| 80 | 78 | 94 | 59,5 | 17 | 4,5 | M6 | 0,14 | QA/8080/22/55/6 |
| 100 | 97 | 113 | 68 | 17 | 4,5 | M4 | 0,19 | QA/8100/22/55/4 |
| 100 | 97 | 113 | 68 | 17 | 4,5 | M5 | 0,19 | QA/8100/22/55/5 |
| 100 | 97 | 113 | 68 | 17 | 4,5 | M6 | 0,19 | QA/8100/22/55/6 |
| 125 | 120 | 136 | 80 | 17 | 4,5 | M4 | 0,21 | QA/8125/22/55/4 |
| 125 | 120 | 136 | 80 | 17 | 4,5 | M5 | 0,21 | QA/8125/22/55/5 |
| 125 | 120 | 136 | 80 | 17 | 4,5 | M6 | 0,21 | QA/8125/22/55/6 |
| 160 | 156 | 175 | 101,5 | 17 | 4,5 | M4 | 0,28 | QA/8160/22/55/4 |
| 160 | 156 | 175 | 101,5 | 17 | 4,5 | M5 | 0,28 | QA/8160/22/55/5 |
| 160 | 156 | 175 | 101,5 | 17 | 4,5 | M6 | 0,28 | QA/8160/22/55/6 |
| 200 | 194 | 231 | 119 | 17 | 4,5 | M4 | 0,31 | QA/8200/22/55/4 |
| 200 | 194 | 231 | 119 | 17 | 4,5 | M5 | 0,31 | QA/8200/22/55/5 |
| 200 | 194 | 231 | 119 | 17 | 4,5 | M6 | 0,31 | QA/8200/22/55/6 |

Recommended Valves

| | | | | | | Recommended Valve Range | | |
|----------|-----------|--------|---|-----------------|---|---|----------------|--|
| Cylinder | Tubing | Valve | Inline Valve V60 | | ISO Valve | 3/2 Poppet valve | | |
| | | |  | |  |  | | |
| ø | Port size | ø | Flow l/min | Valve port size | | | | |
| 32 | G1/8 | 6/4 | 250 | 1/8" | V60 | | | |
| 40 | G1/4 | 6/4 | 250 | 1/8" | V60 | | | |
| 50 | G1/4 | 6/4 | 250 | 1/8" | V60 | | | |
| 63 | G3/8 | 8/6 | 750 | 1/8" | V60 | | | |
| 80 | G3/8 | 10/7 | 1250 | 1/4" | V61 | ISO Star | UM/22000 | |
| 100 | G1/2 | 10/7 | 1250 | 1/4" | V61 | ISO Star | UM/22000 | |
| 125 | G1/2 | 12/8,5 | 2500 | 3/8" | V62 | ISO Star | UM/22000 | |
| 160 | G3/4 | 16/12 | 4250 | 1/2" | V63 | ISO Star | UM/22000 | |
| 200 | G3/4 | 16/12 | 4250 | 1/2" | V63 | ISO Star | UM/22000 | |
| 250 | G1 | 22/17 | 6000 | 3/4" | | | UM/22000 | |
| 320 | G1 | 26/18 | 10000 | 1" | | | UM/22000 80265 | |

**Customer Solution Cylinder valve unit
For additional information please contact the technical service**
Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/data**«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult IMI Precision Engineering, Norgren GmbH.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.