

Compact cylinder to ISO 21287, LINER series, available in different versions to meet all possible requirements:

- With or without magnet
- Double acting, single or through piston rod
- Double acting, perforated through piston rod
- Single acting, extended, retracted or through piston rod
- Single acting, perforated through rod
- Double acting anti-rotating version and double acting through piston rod
- Polyurethane or FKM/FPM gaskets (for high temperatures) also available
- Dimensions and centre distances to ISO 21287.

The heads have been eliminated for ease of installation, improved sturdiness and precision. The metal lining is designed to withstand heavy-duty work, tensile stress and impact. Technopolymer parts can withstand dynamic and pneumatic thrust. The lining virtually acts as a "bearing" to which most of user accessories are attached.

The wide range of anchors provide numerous fixing points.

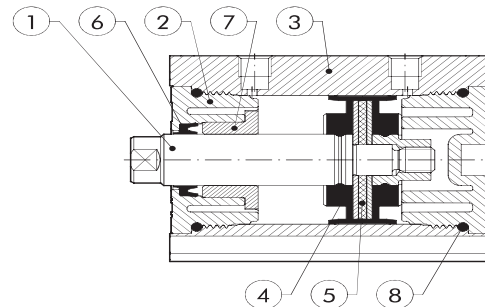
Retractable magnetic limit switches can be mounted to identify the position in the cylinder grooves.



| TECHNICAL DATA | | Ø20 | Ø25 | Ø32 | Ø40 | Ø50 | Ø63 | Ø80 | Ø100 |
|---|-----------------------|---|-----|-----|-----|-----|-----|------------|------|
| Max operating pressure | bar | 10 | | | | | | | |
| | MPa | 1 | | | | | | | |
| | psi | 145 | | | | | | | |
| Temperature range | POLYURETHANE °C | -10 to +60 | | | | | | -10 to +80 | |
| | FKM/FPM °C | -10 to +150 (non-magnetic cylinders) | | | | | | | |
| Design | | With profile | | | | | | | |
| Fixing centre distances | | According to ISO 21287 | | | | | | | |
| Fluid | | Unlubricated air. Lubrication, if used, must be continuous | | | | | | | |
| Versions | | Double-acting, Double-acting through-rod, Single-acting extended or retracted rod, Single-acting through-rod, Single-acting through piston rod perforated, Double-acting through-rod perforated, Double-acting non-rotating, Double-acting through-rod non-rotating, No stick-slip. | | | | | | | |
| | | All versions are available with male or female piston rod. | | | | | | | |
| | | Available magnetic and non-magnetic versions. | | | | | | | |
| Sensor magnet | | | | | | | | | |
| Inrush pressure | single piston rod bar | 0.6 | 0.6 | 0.6 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| | through-rod bar | 0.8 | 0.8 | 0.6 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Forces generated at 6 bar thrust/retraction | | See cylinder "General technical data" at the beginning of the chapter | | | | | | | |
| Weights | | See cylinder "General technical data" at the beginning of the chapter | | | | | | | |
| Notes | | For correct operation, it is advisable to use 50 µm filtered air | | | | | | | |
| | | For speeds lower than 0.2 m/s to prevent surging, use the version No stick-slip and non-lubricated air. | | | | | | | |

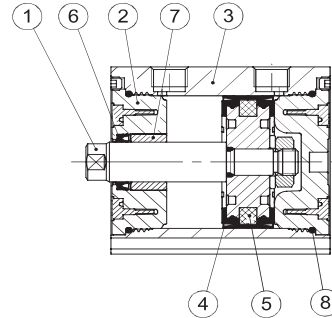
COMPONENTS Ø 20-25

- ① PISTON ROD: stainless steel, thick chromed
- ② END CAP: high-performance technopolymer
- ③ BARREL: drawn anodized and calibrated aluminium alloy
- ④ PISTON GASKET: polyurethane or FKM/FPM (for high temperature)
- ⑤ MAGNET: plasteodimio
- ⑥ PISTON ROD GASKET: polyurethane or FKM/FPM (for high temperature)
- ⑦ GUIDE BUSHING: sintered bronze
- ⑧ STATIC O-RINGS: NBR or FKM/FPM (for high temperature)



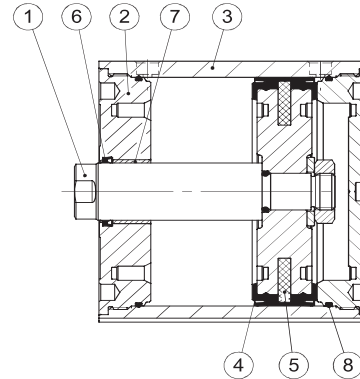
COMPONENTS Ø 32-63

- ① PISTON ROD: C45 stell or stainless steel, thick chromed
- ② END CAP: high-performance technopolymer
- ③ BARREL: drawn anodized and calibrated aluminium alloy
- ④ PISTON GASKET: polyurethane or FKM/FPM (for high temperature)
- ⑤ MAGNET: Ø 32 plastoneodimio - Ø 40 to 63 plastoferrite
- ⑥ PISTON ROD GASKET: polyurethane or FKM/FPM (for high temperature)
- ⑦ GUIDE BUSHING: sintered bronze
- ⑧ STATIC O-RINGS: NBR or FKM/FPM (for high temperature)

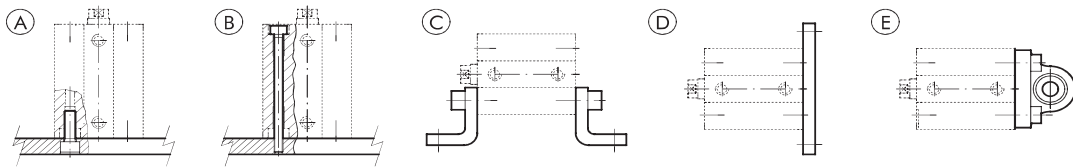


COMPONENTS Ø 80-100

- ① PISTON ROD: C45 stell or stainless steel, thick chromed
- ② END CAP: anodized aluminium alloy
- ③ BARREL: drawn anodized and calibrated aluminium alloy
- ④ PISTON GASKET: polyurethane or FKM/FPM (for high temperature)
- ⑤ MAGNET: plastoferrite
- ⑥ PISTON ROD GASKET: polyurethane or FKM/FPM (for high temperature)
- ⑦ GUIDE BUSHING: steel strip with bronze and PTFE insert
- ⑧ STATIC O-RINGS: NBR or FKM/FPM (for high temperature)



FIXING OPTIONS



- Ⓐ Fixing to structural work with a through screw, using the thread in the heads
- Ⓑ Direct fixing from above using long through screws or tie rods. Non-magnetic stainless steel must be used (e.g. AISI 304)
- Ⓒ Fixing with feet; the ordering code covers the supply of one foot and two screws for fixing to the cylinder
- Ⓓ Fixing with a flange mounted on the front or rear head; the ordering code covers the supply of a flange and four screws for fixing to the cylinder
- Ⓔ Fixing with articulated hinge to compensate for slight system misalignment and turn freely
The ordering code covers the supply of a hinge and four screws for fixing to the cylinder.

FORCE OF SPRINGS IN SINGLE-ACTING CYLINDERS (THEORETICAL)

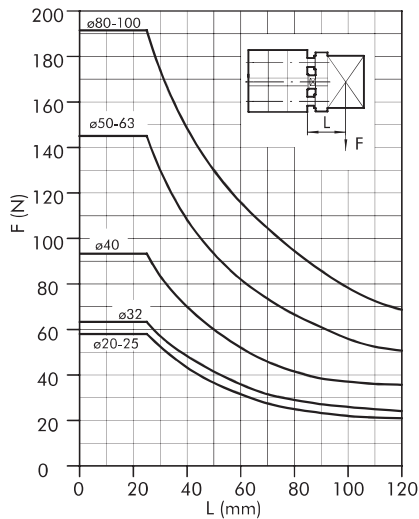
| Bore | Ø 20 | Ø 25 | Ø 32 | Ø 40 | Ø 50 | Ø 63 | Ø 80 | Ø 100 |
|---------------|-------|-------|-------|-------|-------|-------|--------|--------|
| Min. load (N) | 8.40 | 13.90 | 19.00 | 24.80 | 36.30 | 50.20 | 77.60 | 131.80 |
| Max. load (N) | 20.90 | 33.20 | 35.90 | 53.70 | 62.20 | 82.30 | 118.90 | 183.30 |

| Standard stroke for single-acting cylinders | Standard stroke for other types | Max. recommended strokes for other types | Max. recommended strokes for non-rotating cylinders | Max recommended strokes for through-rod perforated |
|---|---|--|---|---|
| Ø 20 to 100 → from 1 to 25 mm | Ø 20 to 25 → from 1 to 60 mm Ø 32 to 100 → from 1 to 80 mm | Ø 20 to 25 → 300 mm Ø 32 to 63 → 400 mm Ø 80 to 100 → 500 mm | Ø 20 to 63 → 120 mm Ø 80 to 100 → 150 mm | Ø 20 to 40 → from 1 to 80 mm Ø 50 to 63 → from 1 to 100 mm Ø 80 to 100 → from 1 to 160 mm |

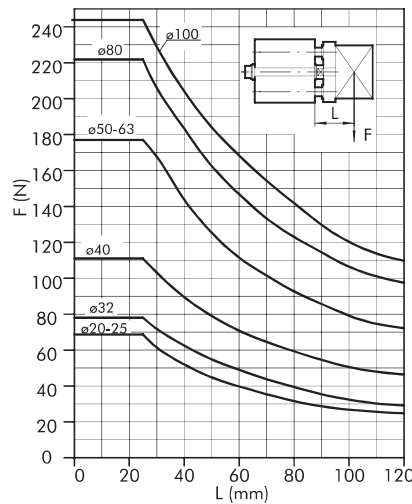
Maximum recommended strokes. Higher values can create operating problems

MAXIMUM LOADS FOR NON-ROTATING VERSION

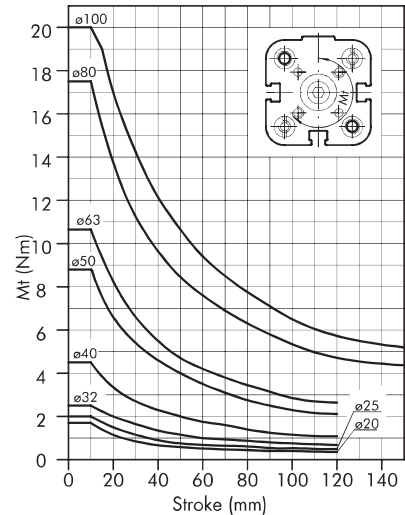
TRANSVERSAL FORCE FOR NON-ROTATING



TRANSVERSAL FORCE FOR NON-ROTATING THROUGH-ROD

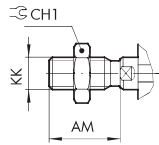


TORQUE DEPENDING ON STROKE

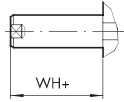


DIMENSIONS OF DOUBLE-ACTING Ø 20 to 50 AND SINGLE-ACTING Ø 20 to 50

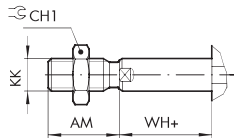
SE-DE MALE PISTON ROD



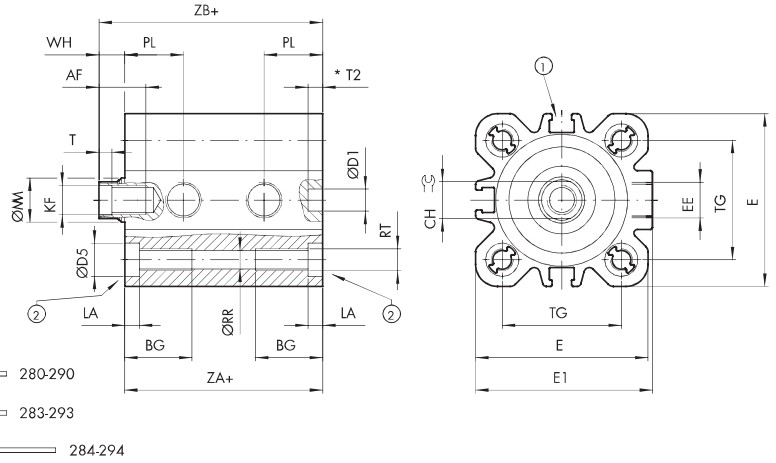
SE EXTENDED PISTON ROD



SE MALE EXTENDED PISTON ROD



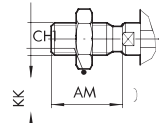
- + = ADD THE STROKE
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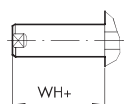
| Ø | AF | AM | BG | CH | CH1 | ØD1 ^{H9} | ØD5 | E | E1 | EE | KF | KK | LA | ØMM | PL | ØRR | RT | T | T2 | TG ^{+0.2} | WH | ZA ^{+0.3} | ZB |
|----|------|----|------|----|-----|-------------------|------|------|------|------|-----|----------|-----|-----|------|-----|----|-----|-----|--------------------|----|--------------------|----|
| 20 | 14 | 16 | 17.5 | 8 | 13 | 6 | 7.5 | 35.5 | 36.5 | M5 | M6 | M8 | 4.2 | 10 | 12 | 4.2 | M5 | 2.5 | 3 | 22 | 6 | 37 | 43 |
| 25 | 14 | 16 | 17.5 | 8 | 13 | 6 | 7.5 | 39.5 | 40 | M5 | M6 | M8 | 4.2 | 10 | 13 | 4.2 | M5 | 2.5 | 3.5 | 26 | 6 | 39 | 45 |
| 32 | 16.5 | 19 | 21.5 | 10 | 17 | 6 | 9 | 47 | 48.2 | G1/8 | M8 | M10x1.25 | 4 | 12 | 16 | 5.1 | M6 | 3.5 | 4 | 32.5 | 7 | 44 | 51 |
| 40 | 16.5 | 19 | 21.5 | 10 | 17 | 6 | 9 | 55.5 | 56.5 | G1/8 | M8 | M10x1.25 | 4 | 12 | 16 | 5.1 | M6 | 3.5 | 4 | 38 | 7 | 45 | 52 |
| 50 | 17 | 22 | 21 | 13 | 19 | 6 | 10.5 | 66.5 | 67.8 | G1/8 | M10 | M12x1.25 | 4.5 | 16 | 15.5 | 6.8 | M8 | 4 | 3 | 46.5 | 8 | 45 | 53 |

DIMENSIONS OF DOUBLE-ACTING Ø 63 to 100 AND SINGLE-ACTING Ø 63 to 100

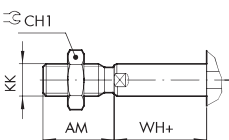
SE-DE MALE PISTON ROD



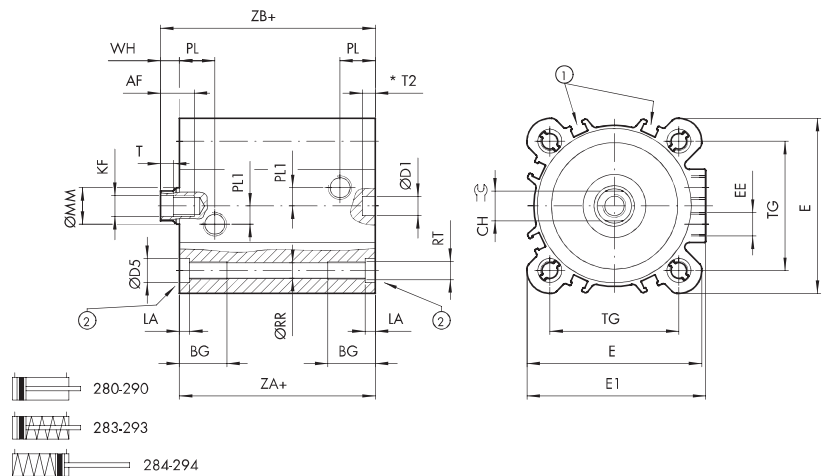
SE EXTENDED PISTON ROD



SE MALE EXTENDED PISTON ROD



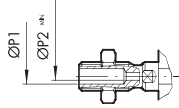
- + = ADD THE STROKE
- * = SECTION WITH TOLERANCE
- 1 = SENSOR SLOT
- 2 = SEAT FOR DIN 7984 SCREWS



| Ø | AF | AM | BG | CH | CH1 | ØD1 ^{H9} | ØD5 | E | E1 | EE | KF | KK | LA | ØMM | PL1 | PL | ØRR | RT | T | T2 | TG ^{+0.2} | WH | ZA ^{+0.4} | ZB |
|-----|----|----|------|----|-----|-------------------|------|------|------|------|-----|----------|-----|-----|-----|------|-----|-----|---|-----|--------------------|----|--------------------|----|
| 63 | 17 | 22 | 21 | 13 | 19 | 8 | 10.5 | 76.5 | 78.3 | G1/8 | M10 | M12x1.25 | 4.5 | 16 | 8 | 15.5 | 6.8 | M8 | 4 | 3.5 | 56.5 | 8 | 49 | 57 |
| 80 | 22 | 28 | 22.5 | 17 | 24 | 8 | 14 | 95.5 | 95.5 | G1/8 | M12 | M16x1.5 | 5 | 20 | 14 | 16.5 | 8.5 | M10 | 5 | 4 | 72 | 10 | 54 | 64 |
| 100 | 24 | 28 | 25.5 | 22 | 30 | 8 | 14 | 114 | 114 | G1/8 | M12 | M16x1.5 | 5 | 25 | 19 | 19.2 | 8.5 | M10 | 5 | 4 | 89 | 10 | 67 | 77 |

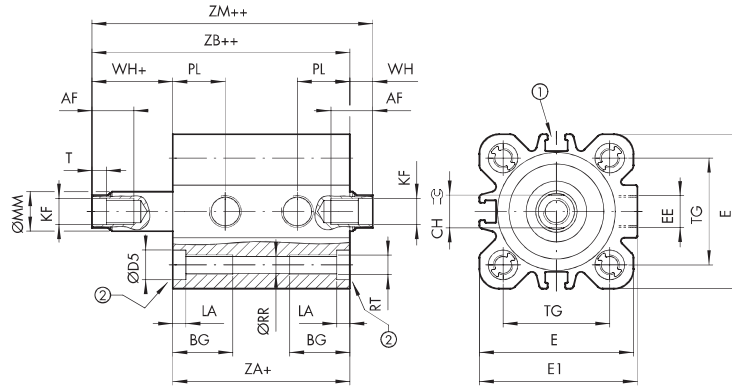
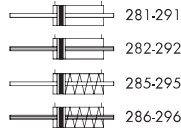
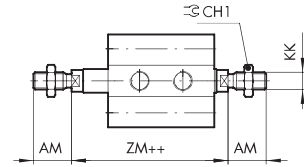
DIMENSIONS OF THROUGH-ROD Ø 20 to 50

SE-DE MALE PERFORATED THROUGH-ROD



- + = ADD THE STROKE
- ++ = ADD TWICE THE STROKE
- 1 = SENSOR SLOT
- 2 = SEAT FOR DIN 7984 SCREWS

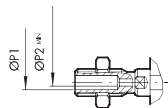
SE-DE MALE PISTON ROD



| Ø | AF | AM | BG | CH | CH1 | ØD5 | E | E1 | EE | KF | KK | LA | ØMM | ØP1 | ØP2 | PL | ØRR | RT | T | TG ^{+0.2} | WH | ZA ^{+0.3} | ZB | ZM |
|----|------|----|------|----|-----|------|------|------|------|-----|----------|-----|-----|-----|-----|------|-----|----|-----|--------------------|----|--------------------|----|----|
| 20 | 14 | 16 | 17.5 | 8 | 13 | 7.5 | 35.5 | 36.5 | M5 | M6 | M8 | 4.2 | 10 | 3 | 1.5 | 12 | 4.2 | M5 | 2.5 | 22 | 6 | 37 | 43 | 49 |
| 25 | 14 | 16 | 17.5 | 8 | 13 | 7.5 | 39.5 | 40 | M5 | M6 | M8 | 4.2 | 10 | 3 | 1.5 | 13 | 4.2 | M5 | 2.5 | 26 | 6 | 39 | 45 | 51 |
| 32 | 16.5 | 19 | 21.5 | 10 | 17 | 9 | 47 | 48.2 | G1/8 | M8 | M10x1.25 | 4 | 12 | 4 | 2.5 | 16 | 5.1 | M6 | 3.5 | 32.5 | 7 | 44 | 51 | 58 |
| 40 | 16.5 | 19 | 21.5 | 10 | 17 | 9 | 55.5 | 56.5 | G1/8 | M8 | M10x1.25 | 4 | 12 | 4 | 2.5 | 16 | 5.1 | M6 | 3.5 | 38 | 7 | 45 | 52 | 59 |
| 50 | 17 | 22 | 21 | 13 | 19 | 10.5 | 66.5 | 67.8 | G1/8 | M10 | M12x1.25 | 4.5 | 16 | 6 | 4 | 15.5 | 6.8 | M8 | 4 | 46.5 | 8 | 45 | 53 | 61 |

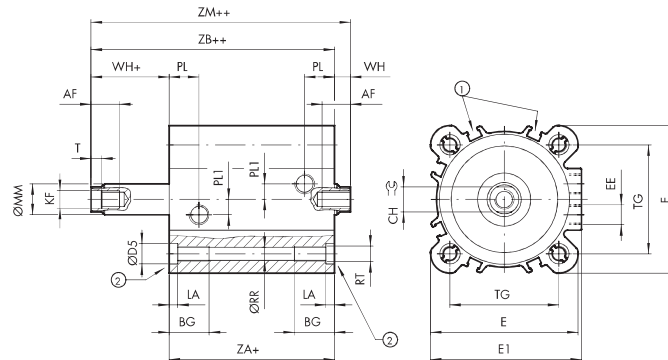
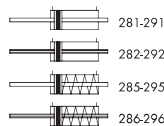
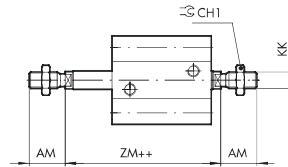
DIMENSIONS OF THROUGH-ROD Ø 63 to 100

SE-DE MALE PERFORATED THROUGH ROD



- + = ADD THE STROKE
- ++ = ADD TWICE THE STROKE
- 1 = SENSOR SLOT
- 2 = SEAT FOR DIN 7984 SCREWS

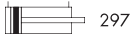
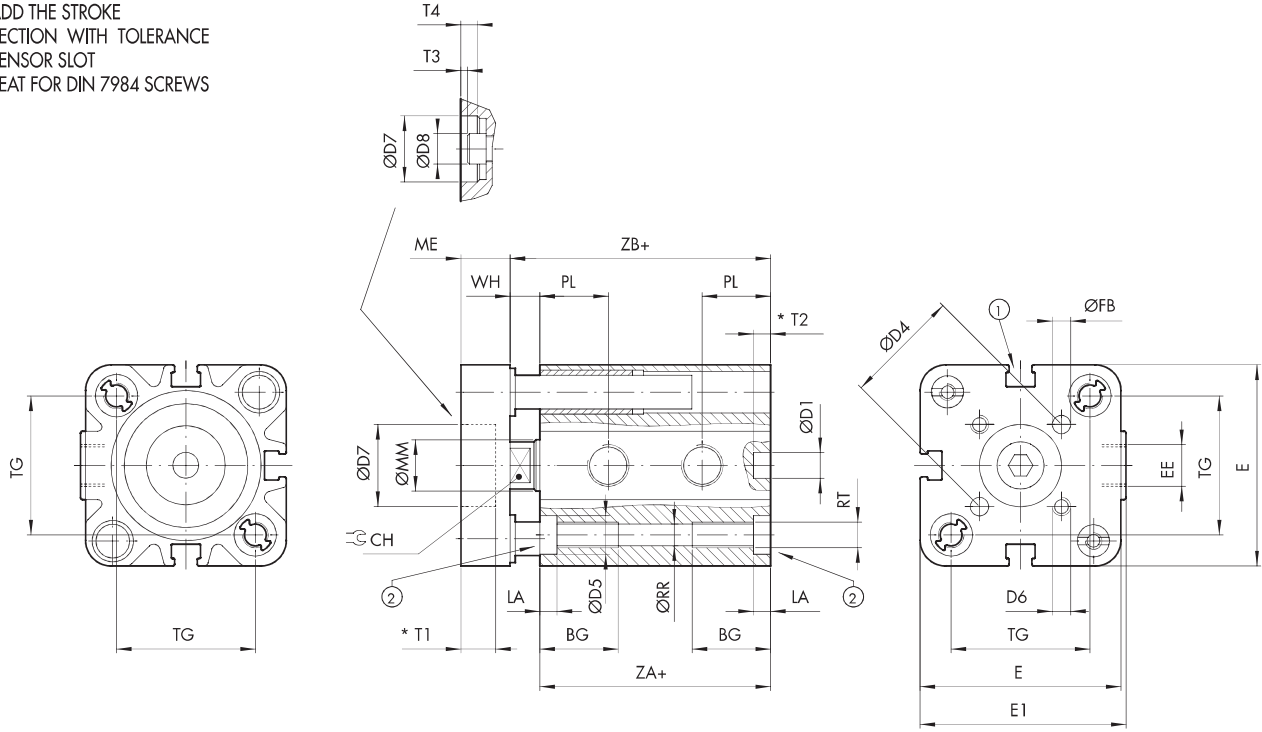
SE-DE MALE PISTON ROD



| Ø | AF | AM | BG | CH | CH1 | ØD5 | E | E1 | EE | KF | KK | LA | ØMM | ØP1 | ØP2 | PL1 | PL | ØRR | RT | T | TG ^{+0.2} | WH | ZA ^{+0.4} | ZB | ZM |
|-----|----|----|------|----|-----|------|------|------|------|-----|----------|-----|-----|------|-----|-----|------|-----|-----|---|--------------------|----|--------------------|----|----|
| 63 | 17 | 22 | 21 | 13 | 19 | 10.5 | 76.5 | 78.3 | G1/8 | M10 | M12x1.25 | 4.5 | 16 | 6 | 4 | 8 | 15.5 | 6.8 | M8 | 4 | 56.5 | 8 | 49 | 57 | 65 |
| 80 | 22 | 28 | 22.5 | 17 | 24 | 14 | 95.5 | 95.5 | G1/8 | M12 | M16x1.5 | 5 | 20 | G1/8 | 5 | 14 | 16.5 | 8.5 | M10 | 5 | 72 | 10 | 54 | 64 | 74 |
| 100 | 24 | 28 | 25.5 | 22 | 30 | 14 | 114 | 114 | G1/8 | M12 | M16x1.5 | 5 | 25 | G1/8 | 6 | 19 | 19.2 | 8.5 | M10 | 5 | 89 | 10 | 67 | 77 | 87 |

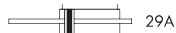
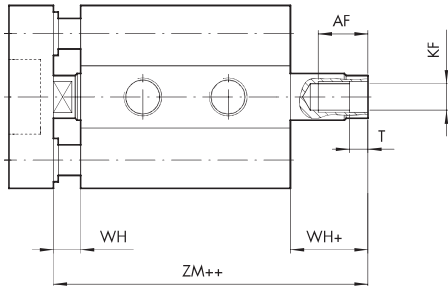
DIMENSIONS OF NON-ROTATING Ø 20 to 50

- + = ADD THE STROKE
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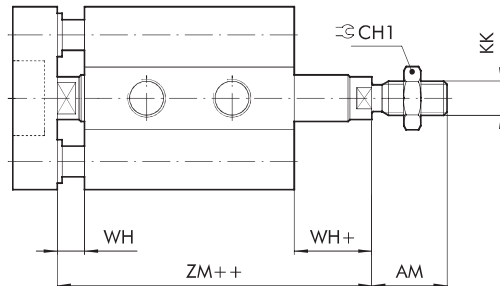
NON-ROTATING FEMALE THROUGH-ROD

- + = ADD THE STROKE
- ++ = ADD TWICE THE STROKE



NON-ROTATING MALE THROUGH-ROD

- + = ADD THE STROKE
- ++ = ADD TWICE THE STROKE

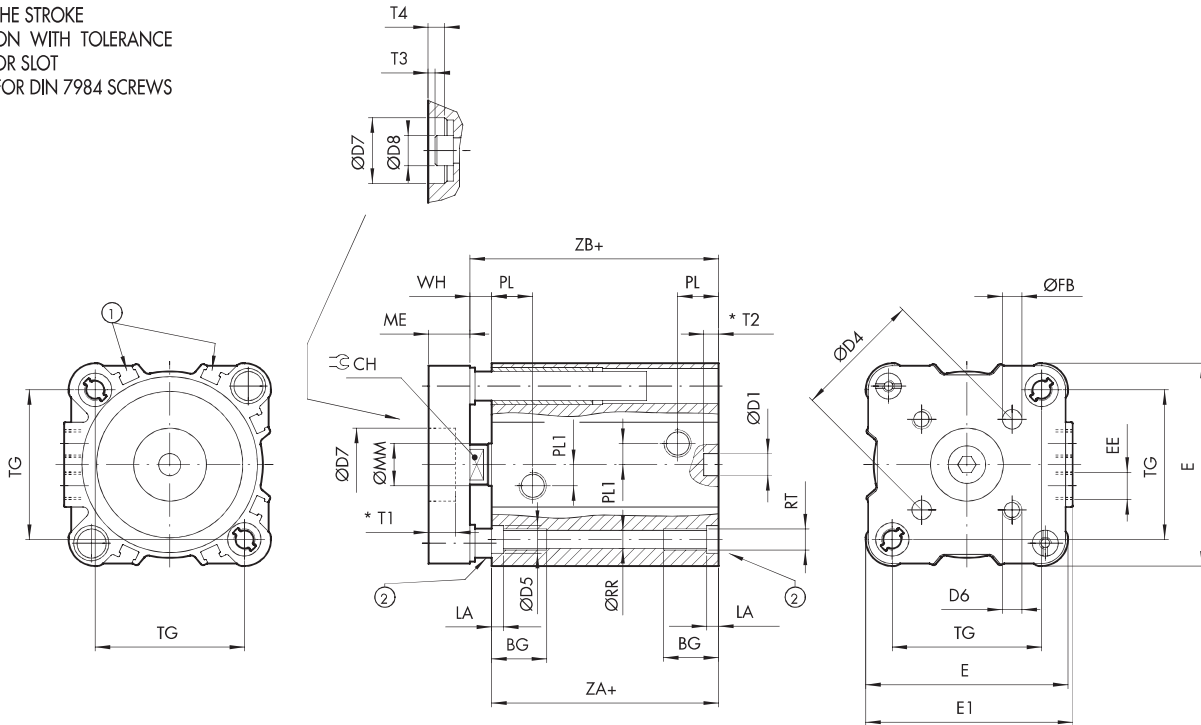


| Ø | AF | AM | BG | CH | CH1 | ØD1 ^{H9} | ØD4 | ØD5 | D6 | ØD7 ^{H9} | ØD8 | E | E1 | EE | ØFB | KF | KK | LA | ME | ØMM | PL | ØRR | RT | T | T1 | T2 | T3 | T4 |
|----|------|----|------|----|-----|-------------------|-----|------|----|-------------------|-----|------|------|------|-----|-----|----------|-----|----|-----|------|-----|----|-----|-----|-----|-----|-----|
| 20 | 14 | 16 | 17.5 | 8 | 13 | 6 | 17 | 7.5 | M4 | - | - | 35.5 | 36.5 | M5 | 4 | M6 | M8 | 4.2 | 8 | 10 | 12 | 4.2 | M5 | 2.5 | - | 3 | - | - |
| 25 | 14 | 16 | 17.5 | 8 | 13 | 6 | 22 | 7.5 | M5 | 14 | 10 | 39.5 | 40 | M5 | 5 | M6 | M8 | 4.2 | 8 | 10 | 13 | 4.2 | M5 | 2.5 | 3.5 | 3.5 | 1 | 3.5 |
| 32 | 16.5 | 19 | 21.5 | 10 | 17 | 6 | 28 | 9 | M5 | 17 | 13 | 47 | 48.2 | G1/8 | 5 | M8 | M10x1.25 | 4 | 10 | 12 | 16 | 5.1 | M6 | 3.5 | 3.5 | 4 | 1 | 3.5 |
| 40 | 16.5 | 19 | 21.5 | 10 | 17 | 6 | 33 | 9 | M5 | 17 | 13 | 55.5 | 56.5 | G1/8 | 5 | M8 | M10x1.25 | 4 | 10 | 12 | 16 | 5.1 | M6 | 3.5 | 3.5 | 4 | 1 | 3.5 |
| 50 | 17 | 22 | 21 | 13 | 19 | 6 | 42 | 10.5 | M6 | 22 | 16 | 66.5 | 67.8 | G1/8 | 6 | M10 | M12x1.25 | 4.5 | 12 | 16 | 15.5 | 6.8 | M8 | 4 | 5 | 3 | 1.5 | 5 |

| Ø | TG ^{±0.2} | WH | ZA ^{±0.3} | ZB | ZM |
|----|--------------------|----|--------------------|----|----|
| 20 | 22 | 6 | 37 | 43 | 49 |
| 25 | 26 | 6 | 39 | 45 | 51 |
| 32 | 32.5 | 7 | 44 | 51 | 58 |
| 40 | 38 | 7 | 45 | 52 | 59 |
| 50 | 46.5 | 8 | 45 | 53 | 61 |

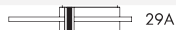
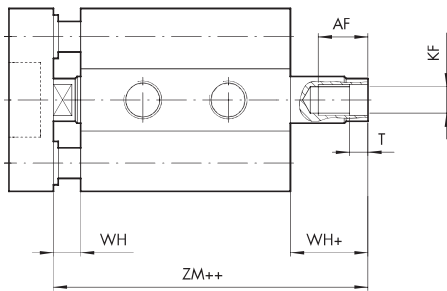
DIMENSIONS OF NON-ROTATING Ø 63 to 100

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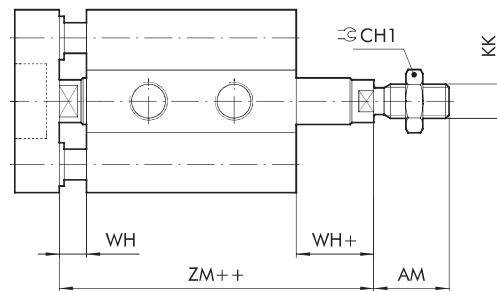
NON-ROTATING FEMALE THROUGH-ROD

- + = ADD THE STROKE
- ++ = ADD TWICE THE STROKE



NON-ROTATING MALE THROUGH-ROD

- + = ADD THE STROKE
- ++ = ADD TWICE THE STROKE



| Ø | AF | AM | BG | CH | CH1 | ØD1 ^{H9} | ØD4 | ØD5 | D6 | ØD7 ^{H9} | ØD8 | E | E1 | EE | ØFB | KF | KK | LA | ME | ØMM | PL1 | PL | ØRR | RT | T | T1 | T2 | T3 |
|-----|-----|--------------------|------|--------------------|-----|-------------------|-----|------|-----|-------------------|-----|------|------|------|-----|-----|----------|-----|----|-----|-----|------|-----|-----|---|-----|-----|-----|
| 63 | 17 | 22 | 21 | 13 | 19 | 8 | 50 | 10.5 | M6 | 22 | 16 | 76.5 | 78.3 | G1/8 | 6 | M10 | M12x1.25 | 4.5 | 12 | 16 | 8 | 15.5 | 6.8 | M8 | 4 | 5 | 3.5 | 1.5 |
| 80 | 22 | 28 | 22.5 | 17 | 24 | 8 | 65 | 14 | M8 | 24 | 18 | 95.5 | 95.5 | G1/8 | 8 | M12 | M16x1.5 | 5 | 14 | 20 | 14 | 16.5 | 8.5 | M10 | 5 | 7.5 | 4 | 3.5 |
| 100 | 24 | 28 | 25.5 | 22 | 30 | 8 | 80 | 14 | M10 | 24 | 18 | 114 | 114 | G1/8 | 10 | M12 | M16x1.5 | 5 | 14 | 25 | 19 | 19.2 | 8.5 | M10 | 5 | 7.5 | 4 | 3.5 |
| Ø | T4 | TG ^{+0.2} | WH | ZA ^{+0.4} | ZB | ZM | | | | | | | | | | | | | | | | | | | | | | |
| 63 | 5 | 56.5 | 8 | 49 | 57 | 65 | | | | | | | | | | | | | | | | | | | | | | |
| 80 | 7.5 | 72 | 10 | 54 | 64 | 74 | | | | | | | | | | | | | | | | | | | | | | |
| 100 | 7.5 | 89 | 10 | 67 | 77 | 87 | | | | | | | | | | | | | | | | | | | | | | |

KEY TO CODE

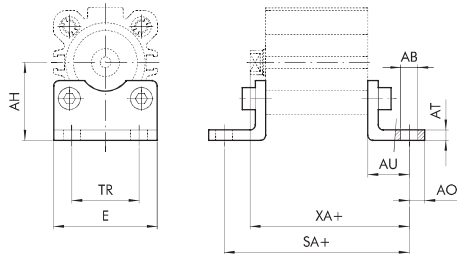
| CYL | 2 8 TYPE | 0 | 0 | 20 BORE | 0 | 0 5 0 STROKE ** | X MATERIAL | P GASKETS |
|-----|---|--|---|---|------------|--------------------|---|---|
| | 28 Compact cylinder ISO 21287 male piston rod | 0 Double-acting 1 Double-acting through-rod 2 Double-acting through-rod perforated | 0 Magnetic S Non-magnetic ▲ G No stick-slip | 20 25 32 40 50 63 80 ◆ 100 | 0 Standard | | * C C45 piston rod chromium-plated ▷ X Stainless steel piston rod and nut ◁ A C45 chromed piston rod, aluminium piston ○ Z Stainless steel piston rod and nut aluminium piston | P Polyurethane gaskets ▶ V FKM/FPM gaskets |
| | 29 Compact cylinder ISO 21287 female piston rod | ● 3 Single-acting retracting piston rod ● 4 Single-acting extended piston rod ● 5 Single-acting through-rod ● 6 Single-acting through piston rod perforated ▼ 7 Double-acting non-rotating A Double-acting through-rod non-rotating | | | | | | |

- ** For the maximum suppliabe stroke, see page A1.89
- Can also be used as double-acting with spring return
- ▼ For versions 29 only (female piston rod)
- ▲ For Ø 12 to 25 the standard version (0 or S) it's already No stick-slip
For Ø 20 to 100 version with gaskets in FKM / FPM (0 or S) is already "No stick-slip"
- For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only**
- ◆ In the code of cylinder with letter in fourth position Ø 100 becomes A1
- ▶ Only for standard double acting and standard through rod double acting version (for Ø20 and Ø25 only "non-magnetic" version provided)
- Compulsory for Ø 20 and Ø 25 version Z
- * Only for Ø 32 to 63 P version (Polyurethane gaskets)
- ▷ Only for Ø 20 to 63 P version (Polyurethane gaskets)
- ◁ Only for Ø 32 to 100 V version (FKM/FPM gaskets) and for Ø 80 and 100 P version (Polyurethane gaskets)
- Only for Ø 20 to 100 V version (FKM/FPM gaskets) and for Ø 80 and 100 P version (Polyurethane gaskets)

NOTES

FOOT - MODEL A

+ = ADD THE STROKE



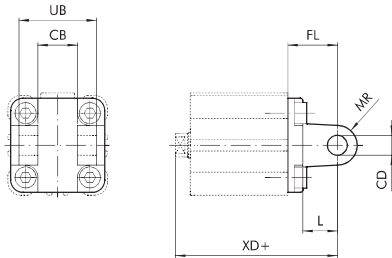
| Code | Ø | ØAB | AH | AO | AT | AU | E | SA | TR | XA | Weight [g] |
|-------------|-----|-----|-----|-----|----|-----|-----|------|----|------|------------|
| W0950206001 | 20 | 6.6 | 27 | 6 | 4 | 16 | 36 | 69 | 22 | 59 | 46 |
| W0950256001 | 25 | 6.6 | 30* | 6 | 4 | 16 | 40 | 71 | 26 | 61 | 52 |
| W0950322001 | 32 | 7 | 32* | 11* | 4 | 24* | 45 | 92* | 32 | 75* | 76 |
| W0950402001 | 40 | 9 | 36* | 15* | 4 | 28* | 52 | 101* | 36 | 80* | 100 |
| W0950502001 | 50 | 9 | 45 | 15* | 5 | 32* | 65 | 109* | 45 | 85* | 162 |
| W0950632001 | 63 | 9 | 50 | 15* | 5 | 32* | 75 | 113* | 50 | 89* | 266 |
| W0950802001 | 80 | 12 | 63 | 20* | 6 | 41* | 95 | 136* | 63 | 105* | 456 |
| W0951002001 | 100 | 14 | 71* | 25* | 6 | 41* | 115 | 149* | 75 | 118* | 572 |

Note: Individually packed with 2 screws.

* **IMPORTANT:** Values not to ISO 21287. Cylinder pins to ISO 15552 are used.

FEMALE HINGE-MODEL B

+ = ADD THE STROKE

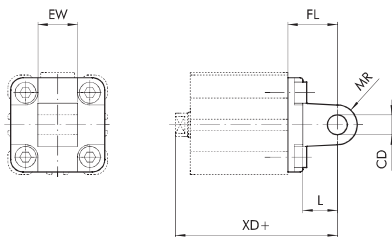


| Code | Ø | CB ^{H14} | CD ^{H9} | FL | L | MR | UB ^{H14} | XD | Weight [g] |
|-------------|-----|-------------------|------------------|----|----|----|-------------------|-----|------------|
| W0950322003 | 32 | 26 | 10 | 22 | 12 | 10 | 45 | 73 | 112 |
| W0950402003 | 40 | 28 | 12 | 25 | 15 | 12 | 52 | 77 | 159 |
| W0950502003 | 50 | 32 | 12 | 27 | 15 | 12 | 60 | 80 | 250 |
| W0950632003 | 63 | 40 | 16 | 32 | 20 | 16 | 70 | 89 | 390 |
| W0950802003 | 80 | 50 | 16 | 36 | 20 | 16 | 90 | 100 | 668 |
| W0951002003 | 100 | 60 | 20 | 41 | 25 | 20 | 110 | 118 | 1047 |

Note: Supplied with 4 screws, 4 washers, 2 snap-rings and 1 pin

MALE HINGE-MODEL BA

+ = ADD THE STROKE

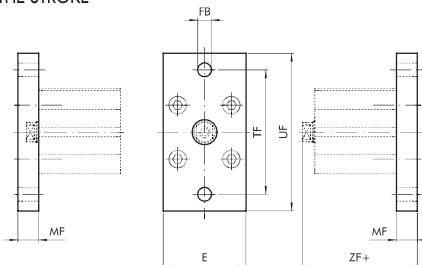


| Code | Ø | CD ^{H9} | EW | FL | L | MR | XD | Weight [g] |
|-------------|-----|------------------|----|----|----|----|-----|------------|
| W0950206004 | 20 | 8 | 16 | 20 | 12 | 8 | 63 | 44 |
| W0950256004 | 25 | 8 | 16 | 20 | 12 | 8 | 65 | 48 |
| W0950322004 | 32 | 10 | 26 | 22 | 13 | 10 | 73 | 94 |
| W0950402004 | 40 | 12 | 28 | 25 | 16 | 12 | 77 | 124 |
| W0950502004 | 50 | 12 | 32 | 27 | 16 | 12 | 80 | 220 |
| W0950632004 | 63 | 16 | 40 | 32 | 22 | 16 | 89 | 316 |
| W0950802004 | 80 | 16 | 50 | 36 | 22 | 16 | 100 | 578 |
| W0951002004 | 100 | 20 | 60 | 41 | 27 | 20 | 118 | 850 |

Note: Supplied with 4 screws.

FLANGE Ø 20 to 25 - MODEL C (FRONT AND REAR)

+ = ADD THE STROKE



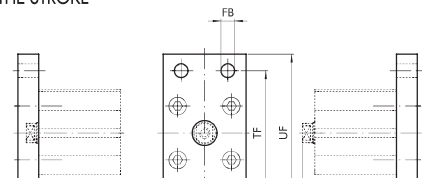
| Code | Ø | E | ØFB | MF | TF | UF | ZF | Weight [g] |
|-------------|----|----|-----|-----|----|----|-----|------------|
| W0950206002 | 20 | 36 | 6.6 | 10* | 55 | 70 | 53* | 184 |
| W0950256002 | 25 | 40 | 6.6 | 10* | 60 | 76 | 55* | 226 |

Note: Supplied with 4 screws.

* **IMPORTANT:** Non ISO 21287 norm fixing distance

FLANGE Ø 32 to 100 - MODEL C (FRONT AND REAR)

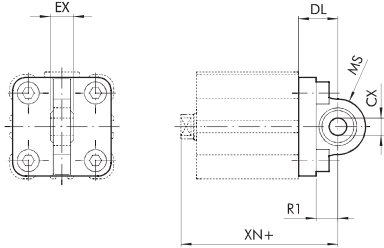
+ = ADD THE STROKE



| Code | Ø | E | ØFB | MF | R | TF | UF | ZF | Weight [g] |
|-------------|-----|-----|-----|----|----|-----|-----|----|------------|
| W0950322002 | 32 | 50 | 7 | 10 | 32 | 64 | 80 | 61 | 246 |
| W0950402002 | 40 | 55 | 9 | 10 | 36 | 72 | 90 | 62 | 290 |
| W0950502002 | 50 | 65 | 9 | 12 | 45 | 90 | 110 | 65 | 522 |
| W0950632002 | 63 | 75 | 9 | 12 | 50 | 100 | 120 | 69 | 670 |
| W0950802002 | 80 | 95 | 12 | 15 | 63 | 126 | 150 | 80 | 1420 |
| W0951002002 | 100 | 115 | 14 | 15 | 75 | 150 | 178 | 93 | 2040 |

ARTICULATED MALE HINGE - MODEL BAS

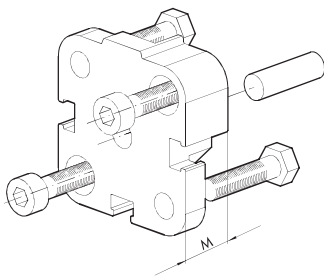
+ = ADD THE STROKE



| Code | Ø | CX ^{H9} | DL | EX | MS | R1 | XN | Weight [g] |
|-------------|-----|------------------|----|----|----|----|-----|------------|
| W0950322006 | 32 | 10 | 22 | 14 | 16 | 12 | 73 | 106 |
| W0950402006 | 40 | 12 | 25 | 16 | 18 | 15 | 77 | 142 |
| W0950502006 | 50 | 12 | 27 | 16 | 21 | 19 | 80 | 236 |
| W0950632006 | 63 | 16 | 32 | 21 | 23 | 20 | 89 | 336 |
| W0950802006 | 80 | 16 | 36 | 21 | 28 | 24 | 100 | 572 |
| W0951002006 | 100 | 20 | 41 | 25 | 30 | 25 | 118 | 840 |

Note: Supplied with 4 screws, 4 washers

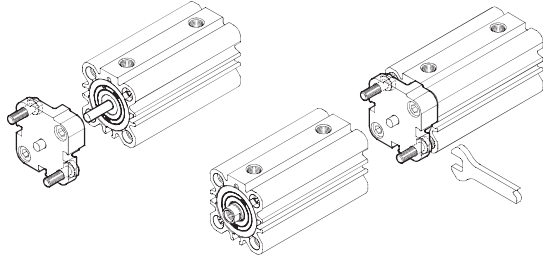
FLANGE FOR OPPOSITE CYLINDERS



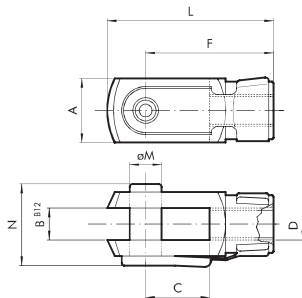
| Code | Ø | M | Weight [g] |
|------------|-----|------|------------|
| 0950203060 | 20 | 12.5 | 45 |
| 0950253060 | 25 | 13 | 57 |
| 0950323060 | 32 | 14.5 | 88 |
| 0950403061 | 40 | 14.5 | 106 |
| 0950503061 | 50 | 14.5 | 158 |
| 0950633061 | 63 | 14.5 | 258 |
| 0950803061 | 80 | 16.5 | 452 |
| 0951003061 | 100 | 19.5 | 801 |

Note: Supplied complete with 1 pin, 4 screws

ASSEMBLING OPPOSING CYLINDERS



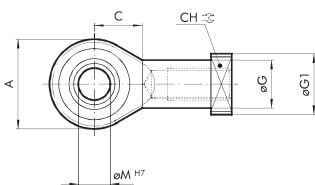
FORK - MODEL GK-M



| Code | Ø | A | B | C | D | F | L | øM | N | Weight [g] |
|-------------|-----|----|----|----|----------|----|----|----|----|------------|
| W0950200020 | 20 | 16 | 8 | 16 | M8 | 32 | 42 | 8 | 22 | 48 |
| W0950200025 | 25 | 16 | 8 | 16 | M8 | 32 | 42 | 8 | 22 | 48 |
| W0950322020 | 32 | 20 | 10 | 20 | M10x1.25 | 40 | 52 | 10 | 26 | 92 |
| W0950322025 | 40 | 20 | 10 | 20 | M10x1.25 | 40 | 52 | 10 | 26 | 92 |
| W0950402020 | 50 | 24 | 12 | 24 | M12x1.25 | 48 | 62 | 12 | 32 | 148 |
| W0950402025 | 63 | 24 | 12 | 24 | M12x1.25 | 48 | 62 | 12 | 32 | 148 |
| W0950502020 | 80 | 32 | 16 | 32 | M16x1.5 | 64 | 83 | 16 | 40 | 340 |
| W0950502025 | 100 | 32 | 16 | 32 | M16x1.5 | 64 | 83 | 16 | 40 | 340 |

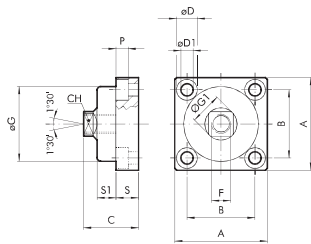
Note: Individually packed

ROD EYE - MODEL GA-M



| Code | Ø | A | B | B1 | C | CH | D | F | øG | øG1 | L | øM | Weight [g] |
|-------------|----|----|----|------|----|----|----------|----|------|-----|----|----|------------|
| W0950200025 | 20 | 24 | 12 | 9 | 13 | 14 | M8 | 36 | 12.5 | 16 | 48 | 8 | 50 |
| W0950200025 | 25 | 24 | 12 | 9 | 13 | 14 | M8 | 36 | 12.5 | 16 | 48 | 8 | 50 |
| W0950322025 | 32 | 28 | 14 | 10.5 | 15 | 17 | M10x1.25 | 43 | 15 | 19 | 57 | 10 | 78 |
| W0950322025 | 40 | 28 | 14 | 10.5 | 15 | 17 | M10x1.25 | 43 | 15 | 19 | 57 | 10 | 78 |
| W0950402025 | 50 | 32 | 16 | 12 | 17 | 19 | M12x1.25 | 50 | 17.5 | 22 | 66 | 12 | 116 |
| W0950402025 | 63 | 32 | 16 | 12 | 17 | 19 | M12x1.25 | 50 | 17.5 | 22 | 66 | 12 | 116 |
| W0950502025 | 80 | 42 | 21 | 15 | 23 | 22 | M16x1.5 | 64 | 22 | 27 | 85 | 16 | 226 |

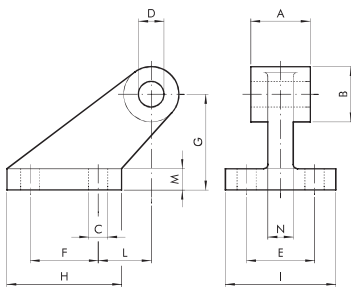
COMPENSATION JOINT - MODEL GA



| Code | Ø | A | B | C | CH | øD | øD1 | F | øG | ØG1 | P | S | S1 | Weight [g] |
|-------------|-----|----|----|----|----|----|------|----------|------|-----|------|----|------|------------|
| W0950326021 | 32 | 49 | 36 | 30 | 13 | 11 | 6.5 | M10x1.25 | 39.5 | 17 | 6.5 | 12 | 10 | 172 |
| W0950326021 | 40 | 49 | 36 | 30 | 13 | 11 | 6.5 | M10x1.25 | 39.5 | 17 | 6.5 | 12 | 10 | 172 |
| W0950406021 | 50 | 59 | 42 | 36 | 15 | 14 | 8.5 | M12x1.25 | 44 | 19 | 8.5 | 15 | 13.5 | 286 |
| W0950406021 | 63 | 59 | 42 | 36 | 15 | 14 | 8.5 | M12x1.25 | 44 | 19 | 8.5 | 15 | 13.5 | 286 |
| W0950506021 | 80 | 79 | 58 | 44 | 22 | 17 | 10.5 | M16x1.5 | 59 | 26 | 10.5 | 20 | 15 | 628 |
| W0950506021 | 100 | 79 | 58 | 44 | 22 | 17 | 10.5 | M16x1.5 | 59 | 26 | 10.5 | 20 | 15 | 628 |

Note: Individually packed

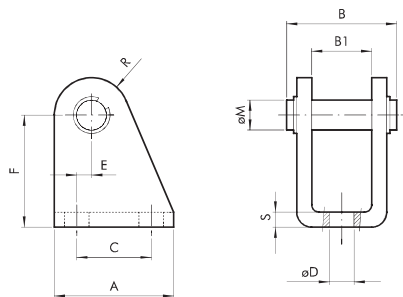
COUNTER-HINGE CETOP Ø 32 to 100



| Code | Ø | A | B | C | D | E | F | G | H | I | L | M | N | Weight [g] |
|-------------|-----|----|----|----|----|----|----|----|-----|----|----|----|----|------------|
| W0950322008 | 32 | 26 | 19 | 7 | 10 | 25 | 20 | 32 | 37 | 41 | 18 | 8 | 10 | 96 |
| W0950402008 | 40 | 28 | 26 | 9 | 12 | 32 | 32 | 45 | 54 | 52 | 25 | 10 | 12 | 216 |
| W0950502008 | 50 | 32 | 26 | 9 | 12 | 32 | 32 | 45 | 54 | 52 | 25 | 10 | 12 | 212 |
| W0950632008 | 63 | 40 | 33 | 11 | 16 | 40 | 50 | 63 | 75 | 63 | 32 | 12 | 15 | 440 |
| W0950802008 | 80 | 50 | 33 | 11 | 16 | 40 | 50 | 63 | 75 | 63 | 32 | 12 | 15 | 464 |
| W0951002008 | 100 | 60 | 44 | 14 | 20 | 50 | 70 | 90 | 103 | 80 | 40 | 16 | 22 | 985 |

Note: Supplied complete with 4 screws, 4 washers

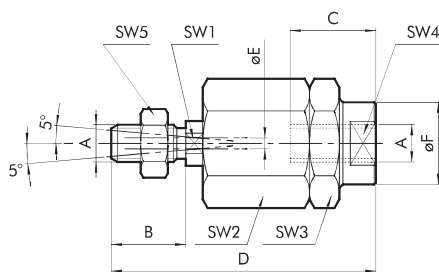
COUNTER-HINGE Ø 16 to 25 - MODEL BC



| Code | Ø | A | B | B1 | C | øD | E | F | øM | R | S | Weight [g] |
|-------------|----|----|----|----|----|-----|---|----|----|----|---|------------|
| W0950200005 | 20 | 32 | 30 | 16 | 20 | 6.5 | 4 | 30 | 8 | 10 | 4 | 78 |
| W0950200005 | 25 | 32 | 30 | 16 | 20 | 6.5 | 4 | 30 | 8 | 10 | 4 | 78 |

Note: Supplied complete with 1 pin and and 2 snap rings

SELF ALIGNING ROD COUPLER - MODEL GA-K

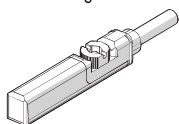


| Code | Ø | A | B | C | D | øE | øF | SW1 | SW2 | SW3 | SW4 | SW5 | Weight [g] |
|-------------|-----|----------|----|----|-----|----|------|-----|-----|-----|-----|-----|------------|
| W0950200030 | 20 | M8 | 20 | 20 | 57 | 4 | 12.5 | 7 | 17 | 17 | 11 | 13 | 56 |
| W0950200030 | 25 | M8 | 20 | 20 | 57 | 4 | 12.5 | 7 | 17 | 17 | 11 | 13 | 56 |
| W0950322030 | 32 | M10x1.25 | 20 | 20 | 71 | 4 | 22 | 12 | 30 | 30 | 19 | 17 | 216 |
| W0950322030 | 40 | M10x1.25 | 20 | 20 | 71 | 4 | 22 | 12 | 30 | 30 | 19 | 17 | 216 |
| W0950402030 | 50 | M12x1.25 | 24 | 20 | 75 | 4 | 22 | 12 | 30 | 30 | 19 | 19 | 220 |
| W0950402030 | 63 | M12x1.25 | 24 | 20 | 75 | 4 | 22 | 12 | 30 | 30 | 19 | 19 | 220 |
| W0950502030 | 80 | M16x1.5 | 32 | 32 | 103 | 4 | 32 | 20 | 41 | 41 | 30 | 24 | 620 |
| W0950502030 | 100 | M16x1.5 | 32 | 32 | 103 | 4 | 32 | 20 | 41 | 41 | 30 | 24 | 620 |

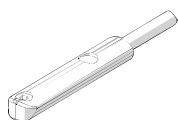
Note: Individually packed

RETRACTABLE SENSOR

SENSOR, SQUARE TYPE
Latest generation,
secure fixing

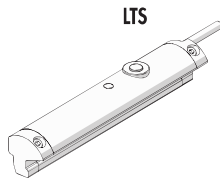


SENSOR, OVAL TYPE
Traditional



For codes and technical data, see chapter A6.

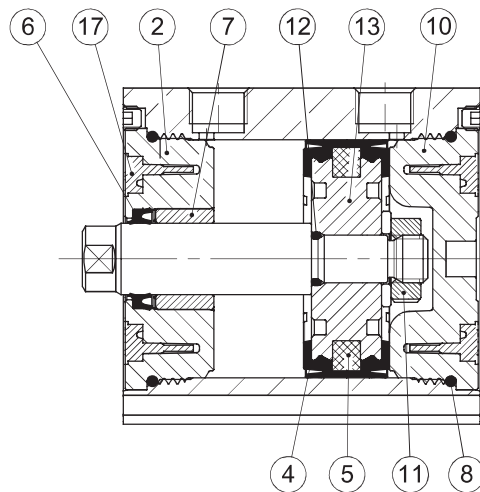
POSITION SENSORS



For technical data and usage strokes see **chapter A6**.

SPARE PARTS FOR ISO 21287 CYLINDER

COMPACT CYLINDERS ISO 21287 (POLYURETHANE)



| Code | Bores | Type | Parts |
|------------|-------------------|--|----------------------------|
| 009...L001 | Ø 20, 25 | Complete set of gaskets polyurethane | 4 6 8 |
| 009...L001 | Ø 32 to 63 | Complete set of gaskets polyurethane | 4 6 8 12 17 |
| 009...L001 | Ø 80, 100 | Complete set of gaskets polyurethane | 4 6 8 12 |
| 009...L008 | Ø 20, 25 | Complete set of (high temperature) FKM/FPM gaskets | 4 6 8 |
| 009...L008 | Ø 32 to 63 | Complete set of (high temperature) FKM/FPM gaskets | 4 6 8 12 17 |
| 009...L008 | Ø 80, 100 | Complete set of (high temperature) FKM/FPM gaskets | 4 6 8 12 |
| 009...7013 | Ø 20 to 100 | Polyurethane piston rod gasket kit | 6 |
| 009...7014 | Ø 20 to 100 | FKM/FPM piston rod gasket kit | 6 |
| 009...L101 | Ø 20, 25, 80, 100 | Front head kit | 2 6 7 8 |
| 009...L101 | Ø 32 to 63 | Front head kit | 2 6 7 8 17 |
| 009...L201 | Ø 20, 25, 80, 100 | Rear head kit | 8 10 |
| 009...L201 | Ø 32 to 63 | Rear head kit | 8 10 17 |
| 009...7401 | Ø 20, 25 | Piston kit polyurethane | 4 5 11 |
| 009...L401 | Ø 32 to 63 | Piston kit polyurethane | 4 5 11 12 13 17 |
| 009...7401 | Ø 80 to 100 | Piston kit polyurethane | 4 5 11 12 13 |
| 009...7501 | Ø 20, 25, 80, 100 | Magnet | 5 |
| 009...L501 | Ø 32 to 63 | Magnet | 5 17 |
| 009...L901 | Ø 20, 25 | Front + rear cylinder head + piston kit polyurethane | 2 4 5 6 7 8 10 11 |
| 009...L901 | Ø 32 to 63 | Front + rear cylinder head + piston kit polyurethane | 2 4 5 6 7 8 10 11 12 13 17 |
| 009...L901 | Ø 80, 100 | Front + rear cylinder head + piston kit polyurethane | 2 4 5 6 7 8 10 11 12 13 |

Compact cylinder series CMPC available in numerous versions to meet a full range of requirements:

- With or without magnet
- Single-acting extended rod, retracted or through-rod
- Dual-acting non-rotating and dual-acting through-rod versions
- Tandem with two, three or four stages
- Multi-position with two and three stages
- Fixing centre distances to ISO 15552 from Ø 32 to Ø 100 and from Ø 20 to Ø 100 complying with French standard NFE 49-004-1 and 2 (UNITOP). Ø 12 and Ø 16 have centre distances compatible with trade cylinders.

The special profile and outer heads locked onto the barrel by screws ensure optimal guiding of the cylinder and multiple fixing options with a wide range of mountings. To determine the position in the relevant cylinder slots, it is possible to mount retracting magnetic limit switches.

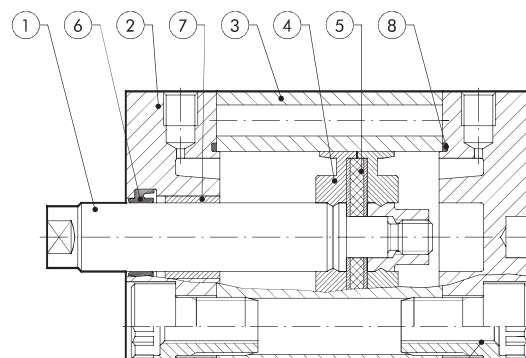
Available also in a version having FKM/FPM gaskets (for high temperature) from Ø 20 to Ø 100.



| TECHNICAL DATA | | Ø12 | Ø16 | Ø20 | Ø25 | Ø32 | Ø40 | Ø50 | Ø63 | Ø80 | Ø100 |
|---|---------------------------|---|-----|-----|-----|-----|-----|-----|-----|-----|------|
| Max operating pressure | bar | 10 | | | | | | | | | |
| | MPa | 1 | | | | | | | | | |
| | psi | 145 | | | | | | | | | |
| Temperature range | POLYURETHANE °C | -10 to +80 | | | | | | | | | |
| | FKM/FPM °C | -10 to +150 (non-magnetic cylinders) | | | | | | | | | |
| Design | | With profile, heads with screws | | | | | | | | | |
| Fixing centre distances | ISO 15552 | * | * | - | - | x | x | x | x | x | x |
| | NFE 49-004-1 e 2 (UNITOP) | * | * | x | x | x | x | x | x | x | x |
| Fluid | | Unlubricated air. Lubrication, if used, must be continuous | | | | | | | | | |
| Versions | | Double-acting, Double-acting through-rod, Single-acting extended or retracted rod, Single-acting through-rod, Single-acting through piston rod perforated, Double-acting through-rod perforated, Double-acting non-rotating, Double-acting through-rod non-rotating, No stick-slip. | | | | | | | | | |
| | | All versions are available with male or female piston rod. | | | | | | | | | |
| | | Available magnetic and non-magnetic versions. | | | | | | | | | |
| Sensor magnet | | | | | | | | | | | |
| Inrush pressure | single piston rod bar | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| | through-rod bar | 1 | 0.8 | 0.8 | 0.8 | 0.6 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| Forces generated at 6 bar thrust/retraction | | See cylinder "General technical data" at the beginning of the chapter | | | | | | | | | |
| Weights | | See cylinder "General technical data" at the beginning of the chapter | | | | | | | | | |
| Notes | | For correct operation, it is advisable to use 50 µm filtered air | | | | | | | | | |
| | | For speeds lower than 0.2 m/s to prevent surging, use the version No stick-slip and non-lubricated air. | | | | | | | | | |
| | | * Interchangeable with similar products. | | | | | | | | | |

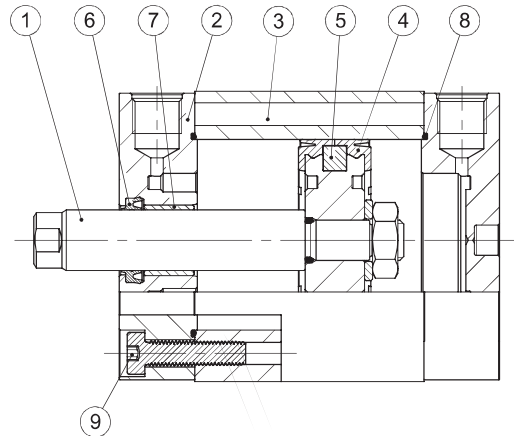
COMPONENTS Ø 12 to 25

- ① PISTON ROD: stainless steel, thick chromed
- ② HEAD: extruded anodized aluminium alloy
- ③ BARREL: drawn anodized and calibrated aluminium alloy
- ④ PISTON GASKET: polyurethane or FKM/FPM
- ⑤ MAGNET: neodymium-plastic
- ⑥ PISTON ROD GASKET: polyurethane or FKM/FPM
- ⑦ GUIDE BUSHING: steel strip with bronze and PTFE insert
- ⑧ STATIC O-RINGS: NBR or FKM/FPM
- ⑨ SECURING SCREWS: zinc-plated steel



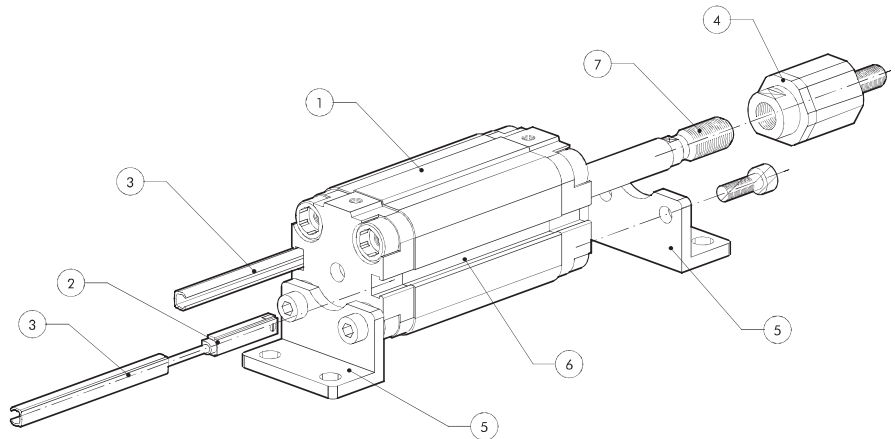
COMPONENTS Ø 32 to 100

- ① PISTON ROD: C45 steel or stainless steel, thick chromed
- ② HEAD: extruded anodized aluminium alloy
- ③ BARREL: drawn anodized and calibrated aluminium alloy
- ④ PISTON GASKET: polyurethane or FKM/FPM
- ⑤ MAGNET: Ø 12 to 32 neodymium-plastic
Ø 40 to 100 plastoferrite
- ⑥ PISTON ROD GASKET: polyurethane or FKM/FPM
- ⑦ GUIDE BUSHING: steel strip with bronze and PTFE insert
- ⑧ STATIC O-rings: NBR or FKM/FPM
- ⑨ SECURING SCREWS: zinc-plated steel

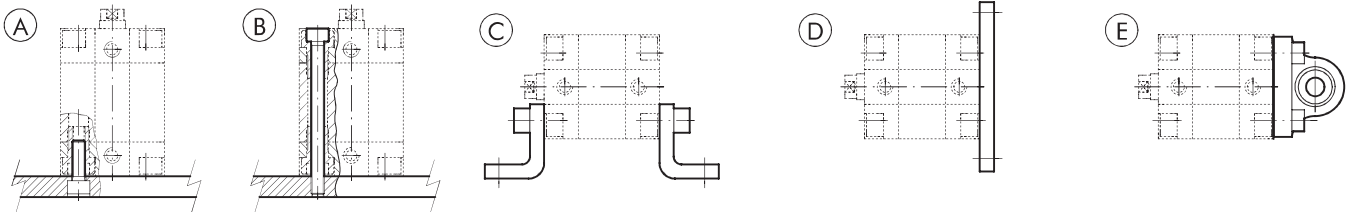


TECHNICAL DATA

- ① Compact cylinder available with two separate fixing centre distances
 - Ø 32 to 100 to ISO 15552
 - Ø 20 to 100 to NFE 49-004-1 and 2
- ② Pre-wired retracting sensor with or without connector
- ③ Plastic strip to keep out dirt and/or protect the sensor wire cod. W0950000160
- ④ Ball-and-socket joint code W095__2030
- ⑤ Example of cylinder mounting with feet code W095__6001. All mountings come complete with cylinder assembly screws
- ⑥ Sensor slot
- ⑦ Piston rod with male or female thread as required



COMPACT CYLINDER FIXING OPTIONS

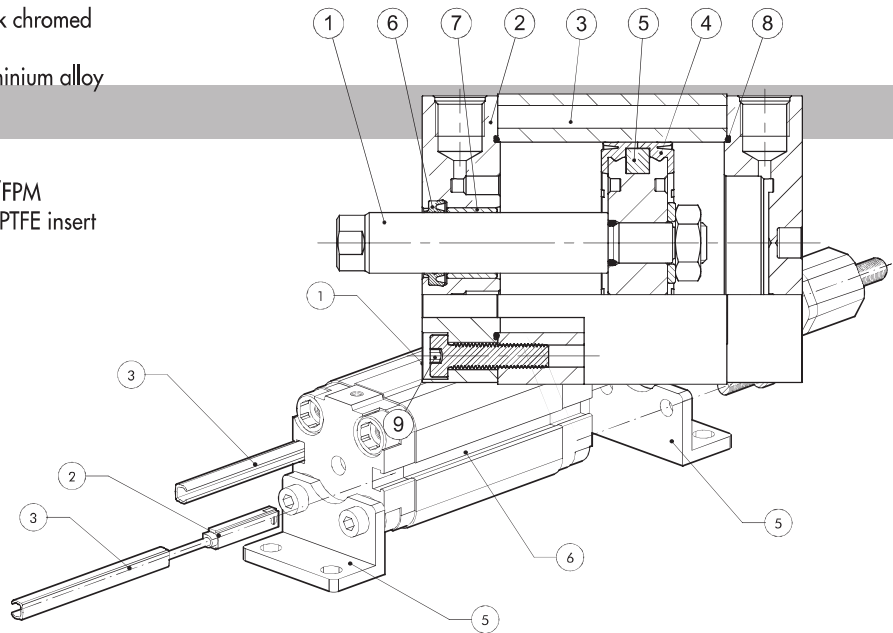


- Ⓐ Fixing to structural work with a through screw, using the thread in the heads
- Ⓑ Direct fixing from above using long through screws or tie rods. Non-magnetic stainless steel must be used (e.g. AISI 304)
- Ⓒ Fixing with feet; the ordering code covers the supply of one foot and two screws for fixing to the cylinder
- Ⓓ Fixing with a flange mounted on the front or rear head; the ordering code covers the supply of a flange and four screws for fixing to the cylinder
- Ⓔ Fixing with articulated hinge to compensate for slight system misalignment and turn freely
The ordering code covers the supply of a hinge and four screws for fixing to the cylinder

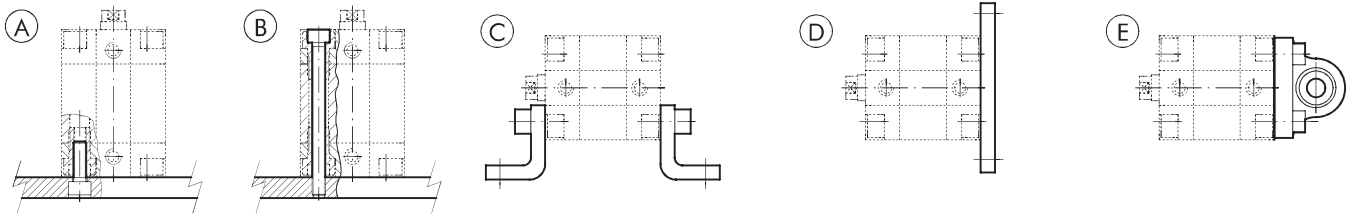
COMPONENTS Ø 32 to 100

- ① PISTON ROD: C45 steel or stainless steel, thick chromed
- ② HEAD: extruded anodized aluminium alloy
- ③ BARREL: drawn anodized and calibrated aluminium alloy
- ④ PISTON RING: polyurethane or FKM/FPM
- ⑤ MAGNET: Ø 12 to 32 neodymium-plastic

- TECHNICAL DATA**
- ① Compact cylinder available
 - ② PISTON ROD GASKET: polyurethane or FKM/FPM with two separate fixing centre distances
 - ③ GUIDE BUSHING: steel strip with bronze and PTFE insert
 - ④ Ø 32 to 100 to ISO 1552
 - ⑤ STATIC O-rings: NBR or FKM/FPM
 - ⑥ Ø 70 to 100 to NEE 49-004-1 and 2
 - ⑦ SECURING SCREWS: zinc-plated steel
 - ⑧ Pre-wired retracting sensor with or without connector
 - ⑨ Plastic strip to keep out dirt and/or protect the sensor wire cod. W0950000160
 - ⑩ Ball-and-socket joint code W095__2030
 - ⑪ Example of cylinder mounting with feet code W095__6001. All mountings come complete with cylinder assembly screws
 - ⑫ Sensor slot
 - ⑬ Piston rod with male or female thread as required



COMPACT CYLINDER FIXING OPTIONS



- Ⓐ Fixing to structural work with a through screw, using the thread in the heads
- Ⓑ Direct fixing from above using long through screws or tie rods. Non-magnetic stainless steel must be used (e.g. AISI 304)
- Ⓒ Fixing with feet; the ordering code covers the supply of one foot and two screws for fixing to the cylinder
- Ⓓ Fixing with a flange mounted on the front or rear head; the ordering code covers the supply of a flange and four screws for fixing to the cylinder
- Ⓔ Fixing with articulated hinge to compensate for slight system misalignment and turn freely
The ordering code covers the supply of a hinge and four screws for fixing to the cylinder

FORCE OF SPRINGS IN SINGLE-ACTING CYLINDERS (THEORETICAL)

| Bore | Ø 12 | Ø 16 | Ø 20 | Ø 25 | Ø 32 | Ø 40 | Ø 50 | Ø 63 | Ø 80 | Ø 100 |
|---------------|------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| Min. load (N) | 4.40 | 4.90 | 8.40 | 13.90 | 19.00 | 24.80 | 36.30 | 50.20 | 77.60 | 131.80 |
| Max. load (N) | 9.80 | 14.20 | 20.90 | 33.20 | 35.90 | 53.70 | 62.20 | 82.30 | 118.90 | 183.30 |

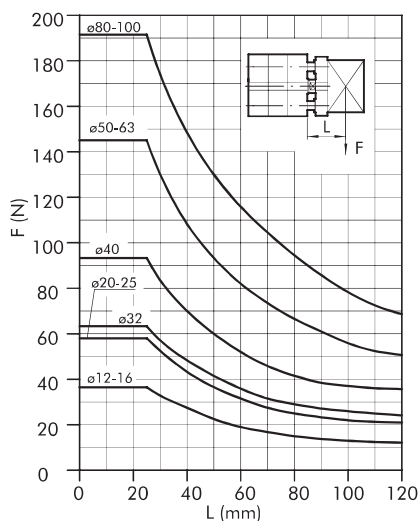
STROKES FOR COMPACT CYLINDERS

| Standard stroke for single-acting cylinders | Standard stroke for other types | Max. recommended strokes for other types | Max. recommended strokes for non-rotating cylinders | Max recommended strokes for through-rod perforated |
|---|---------------------------------|--|---|--|
| Ø 12 → from 5 to 10 mm | Ø 12 to 16 → from 5 to 40 mm | Ø 12 to 25 → 200 mm | Ø 12 to 63 → 120 mm | Ø 20 to 40 → from 5 to 80 mm |
| Ø 16 to 100 → from 5 to 25 mm | Ø 20 to 25 → from 5 to 50 mm | Ø 32 to 40 → 300 mm | Ø 80 to 100 → 150 mm | Ø 50 to 63 → from 5 to 100 mm |
| | Ø 32 to 100 → from 5 to 80 mm | Ø 50 to 63 → 400 mm | | Ø 80 to 100 → from 5 to 160 mm |
| | | Ø 80 to 100 → 500 mm | | |

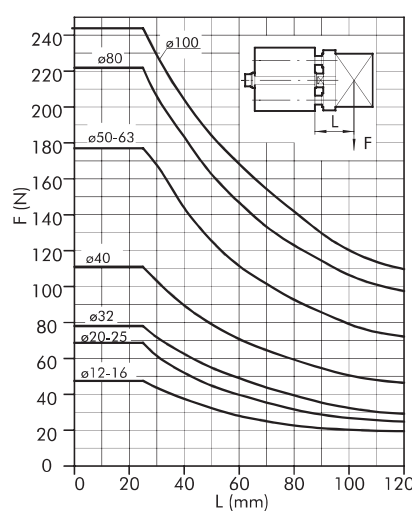
Maximum recommended strokes. Higher values can create operating problems

MAXIMUM LOADS FOR NON-ROTATING VERSION

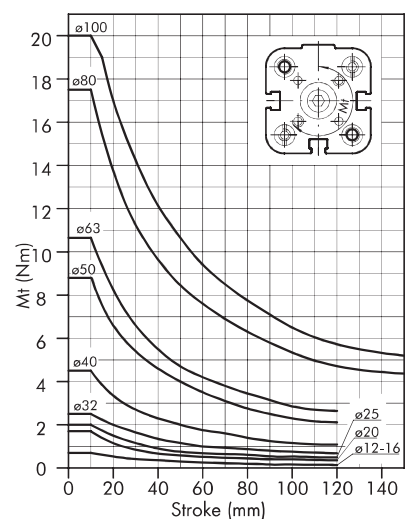
TRANSVERSAL FORCE FOR NON-ROTATING



TRANSVERSAL FORCE FOR NON-ROTATING THROUGH-ROD

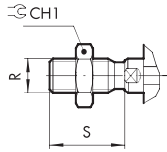


TORQUE DEPENDING ON STROKE



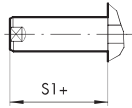
DIMENSIONS OF DOUBLE-ACTING Ø 12 to 25 AND SINGLE-ACTING Ø 12 to 25

SE-DE MALE PISTON ROD

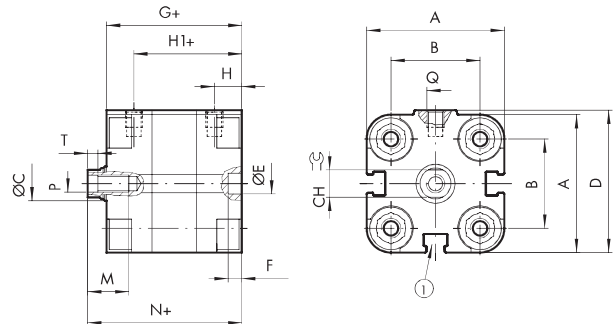
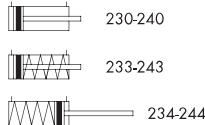
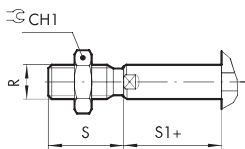


+ = ADD THE STROKE
1 = SENSOR SLOT

SE EXTENDED PISTON ROD



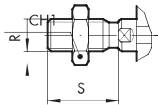
SE MALE EXTENDED PISTON ROD



| Ø | A | B | ØC | CH | CH1 | D | ØE ^{H9} | F | G | H | H1 | L | M | N | O | ØO1 | P | Q | R | S | S1 | T | NORM |
|----|------|----|----|----|-----|------|------------------|---|------|---|------|------|----|------|----|-----|----|----|----------|----|-----|---|--------|
| 12 | 29 | 18 | 6 | 5 | 10 | 30 | 6 | 4 | 38 | 8 | 30 | 18.5 | 8 | 42.5 | M4 | 3.2 | M3 | M5 | M6 | 16 | 4.5 | 2 | - |
| 16 | 29 | 18 | 8 | 7 | 13 | 30 | 6 | 4 | 38 | 8 | 30 | 18.5 | 10 | 42.5 | M4 | 3.2 | M4 | M5 | M8 | 20 | 4.5 | 2 | - |
| 20 | 36.5 | 22 | 10 | 8 | 17 | 37.5 | 6 | 4 | 38 | 8 | 30 | 18.5 | 12 | 42.5 | M5 | 4.2 | M5 | M5 | M10x1.25 | 22 | 4.5 | 2 | UNITOP |
| 25 | 40.5 | 26 | 10 | 8 | 17 | 41.5 | 6 | 4 | 39.5 | 8 | 31.5 | 19 | 12 | 45 | M5 | 4.2 | M5 | M5 | M10x1.25 | 22 | 5.5 | 2 | UNITOP |

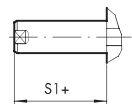
DIMENSIONS OF DOUBLE-ACTING Ø 32 to 100 AND SINGLE-ACTING Ø 32 to 100

SE DE MALE PISTON ROD

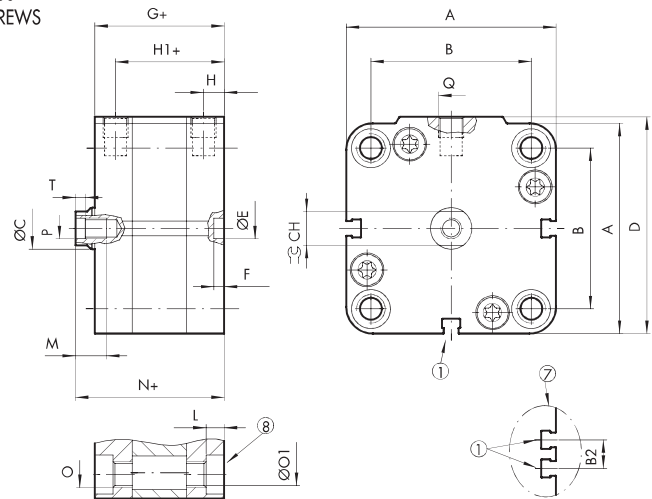
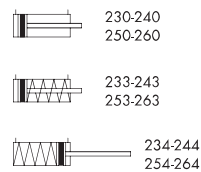
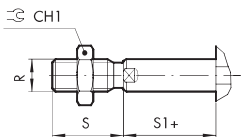


+ = ADD THE STROKE
1 = SENSOR SLOT
7 = ONLY FOR Ø 63 to Ø 100
8 = SEAT FOR DIN 7984 SCREWS

SE EXTENDED PISTON ROD



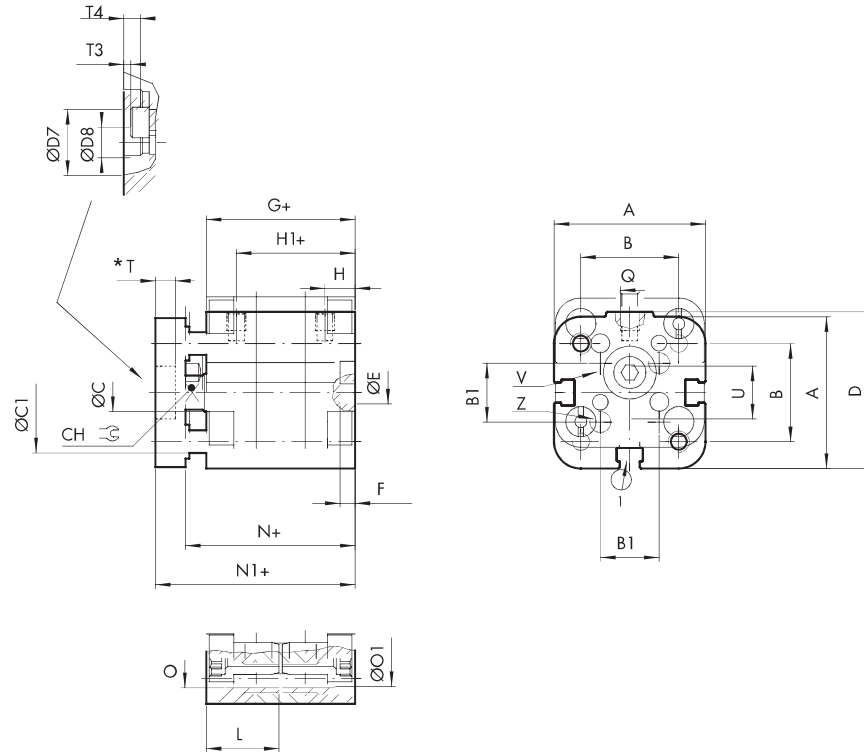
SE MALE EXTENDED PISTON ROD



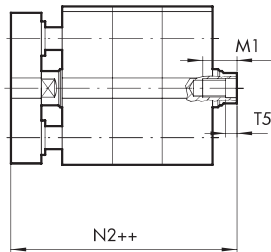
| Ø | A | B | | | ØC | CH | CH1 | D | ØE ^{H9} | F | G | H | H1 | L | M | N | O | | ØO1 | | P | Q | R | S | S1 | T |
|-----|-----|--------------------------------------|------------------------------------|----|----|----|-----|------|------------------|---|------|------|------|-----|----|------|-----|--------|-----|-----|-----|------|----------|----|-----|-----|
| | | ISO | UNITOP | B2 | | | | | | | | | | | | | ISO | UNITOP | | | | | | | | |
| 32 | 47 | 32.5 ^{+0.1} _{-0.4} | 32 ^{-0.4} _{-0.1} | - | 12 | 10 | 17 | 48.5 | 6 | 4 | 44.5 | 7.5 | 37 | 4 | 14 | 50.5 | M6 | M6 | 5.2 | 5.2 | M6 | G1/8 | M10x1.25 | 22 | 6 | 2.5 |
| 40 | 56 | 38 | 42 | - | 12 | 10 | 17 | 57.5 | 6 | 4 | 45.5 | 7.5 | 38 | 4.5 | 14 | 52 | M6 | M6 | 5.2 | 5.2 | M6 | G1/8 | M10x1.25 | 22 | 6.5 | 2.5 |
| 50 | 67 | 46.5 | 50 | - | 16 | 13 | 19 | 69 | 6 | 4 | 45.5 | 7.5 | 38 | 4.5 | 16 | 53 | M8 | M8 | 6.2 | 6.2 | M8 | G1/8 | M12x1.25 | 24 | 7.5 | 3.5 |
| 63 | 80 | 56.5 | 62 | 13 | 16 | 13 | 19 | 82 | 8 | 4 | 50 | 7.5 | 42.5 | 5.5 | 16 | 57.5 | M8 | M10 | 6.2 | 8.5 | M8 | G1/8 | M12x1.25 | 24 | 7.5 | 3.5 |
| 80 | 102 | 72 | 82 | 17 | 20 | 17 | 24 | 105 | 8 | 4 | 56 | 8.5 | 47.5 | 5.5 | 20 | 64 | M10 | M10 | 8.5 | 8.5 | M10 | G1/8 | M16x1.5 | 32 | 8 | 4 |
| 100 | 122 | 82 | 102 | 21 | 25 | 20 | 30 | 132 | 8 | 4 | 62 | 10.5 | 52 | 5.5 | 24 | 72.5 | M12 | M12 | 8.5 | 8.5 | M12 | G1/4 | M20x1.5 | 40 | 10 | 5 |

DIMENSIONS OF NON-ROTATING Ø 12 to 25

- + = ADD THE STROKE
- ++ = ADD TWICE THE STROKE
- * = SECTION WITH TOLERANCE
- 1 = SENSOR SLOT

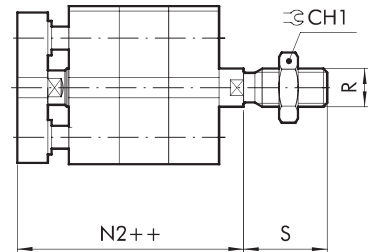


NON-ROTATING FEMALE THROUGH-ROD



24A

NON-ROTATING MALE THROUGH-ROD



23A

| Ø | A | B | B1 | ØC | ØC1 | CH | CH1 | D | ØD7 ^{H9} | ØD8 | ØE ^{H9} | F | G | H | H1 | L | M1 x strokes | | N | N1 | N2 | O | ØO1 | P | Q | R | S | T |
|----|------|----|------|----|-----|----|-----|------|-------------------|-----|------------------|---|------|---|------|------|--------------|-----|------|------|------|----|-----|----|----|----------|----|-----|
| | | | | | | | | | | | | | | | | | < 5 | ≥ 5 | | | | | | | | | | |
| 12 | 29 | 18 | 9.9 | 6 | 5 | 5 | 10 | 30 | 6 | 5.5 | 6 | 4 | 38 | 8 | 30 | 18.5 | 5 | 8 | 42.5 | 48.5 | 53 | M4 | 3.2 | M3 | M5 | M6 | 16 | 2 |
| 16 | 29 | 18 | 9.9 | 8 | 5 | 7 | 13 | 30 | 8 | 7 | 6 | 4 | 38 | 8 | 30 | 18.5 | 5 | 10 | 42.5 | 48.5 | 53 | M4 | 3.2 | M4 | M5 | M8 | 20 | 2 |
| 20 | 36.5 | 22 | 12 | 10 | 6 | 8 | 17 | 37.5 | 10 | 8.5 | 6 | 4 | 38 | 8 | 30 | 18.5 | 7 | 12 | 42.5 | 50.5 | 55 | M5 | 4.2 | M5 | M5 | M10x1.25 | 22 | 3.5 |
| 25 | 40.5 | 26 | 15.6 | 10 | 6 | 8 | 17 | 41.5 | 14 | 8.5 | 6 | 4 | 39.5 | 8 | 31.5 | 19 | 7 | 12 | 45 | 53 | 58.5 | M5 | 4.2 | M5 | M5 | M10x1.25 | 22 | 4 |

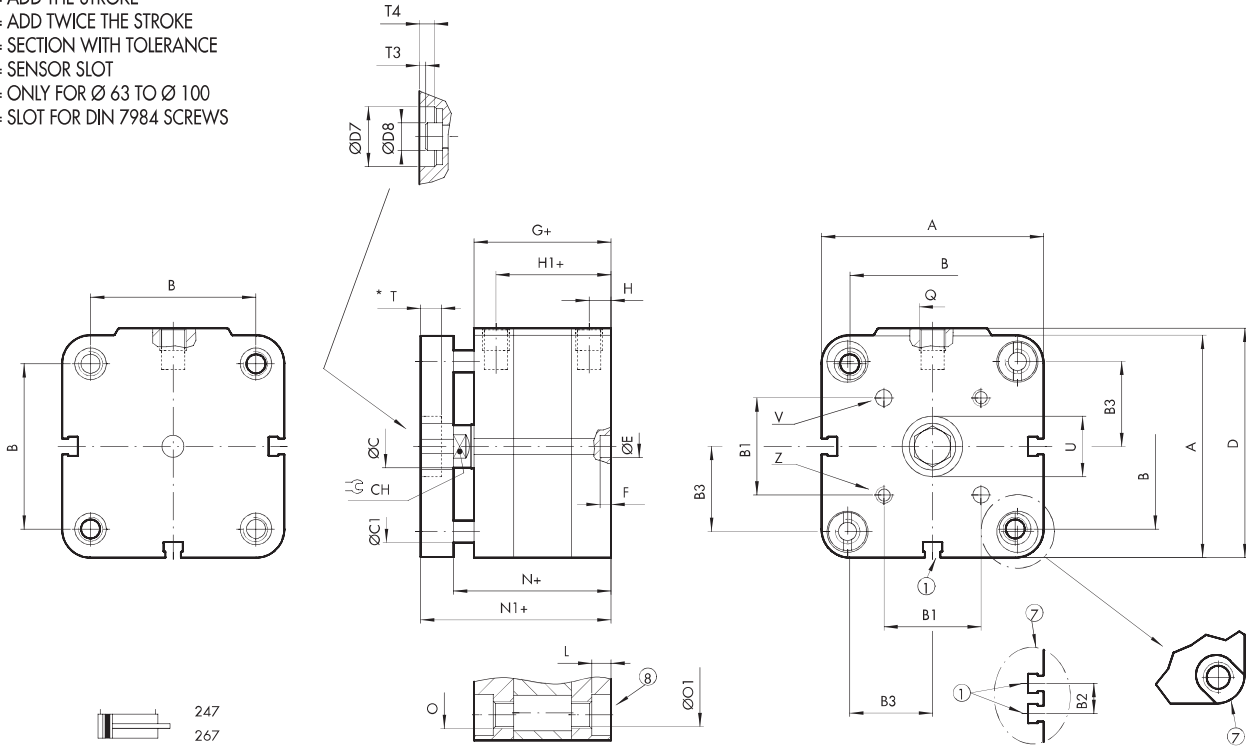
| Ø | T3 | T4 | T5 | ØU ^{H9} | ØV ^{H8} | Z | NORM |
|----|-----|-----|----|------------------|------------------|----|--------|
| 12 | 1 | 2 | 2 | 6 | 3 | M3 | - |
| 16 | 0.5 | 2 | 2 | 8 | 3 | M3 | - |
| 20 | 1.7 | 3.5 | 2 | 10 | 4 | M4 | UNITOP |
| 25 | 2.0 | 4.0 | 2 | 14 | 5 | M5 | UNITOP |

ACTUATORS

COMPACT CYLINDER – SERIES CMPC

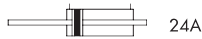
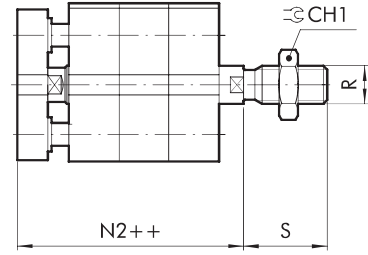
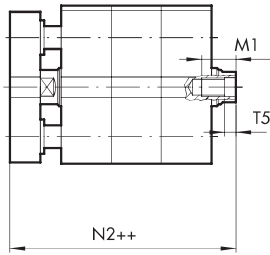
DIMENSIONS OF NON-ROTATING Ø 32 to 100

- + = ADD THE STROKE
- ++ = ADD TWICE THE STROKE
- * = SECTION WITH TOLERANCE
- 1 = SENSOR SLOT
- 7 = ONLY FOR Ø 63 TO Ø 100
- 8 = SLOT FOR DIN 7984 SCREWS



NON-ROTATING FEMALE THROUGH-ROD

NON-ROTATING MALE THROUGH-ROD

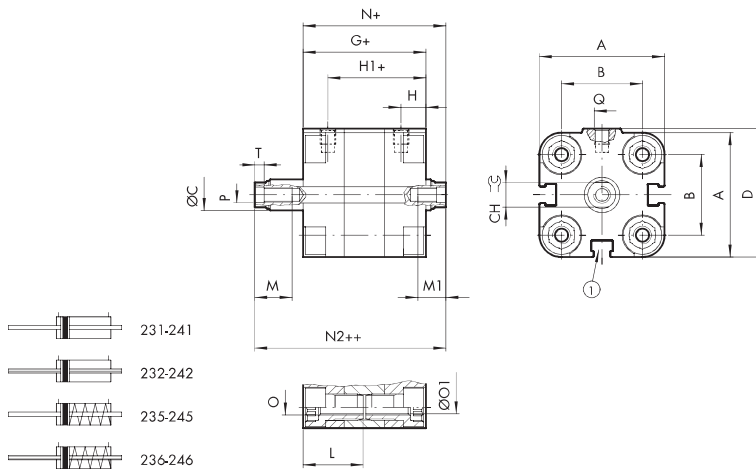


| Ø | A | B | | B1 | B2 | B3 | ØC | ØC1 | CH | CH1 | D | ØD7 ^{H9} | ØD8 | ØE ^{H9} | F | G | H | H1 | L |
|-----|-----|--------------------------------------|------------------------------------|------|----|------|----|-----|----|-----|------|-------------------|------|------------------|---|------|------|------|-----|
| | | ISO | UNITOP | | | | | | | | | | | | | | | | |
| 32 | 47 | 32.5 ^{+0.1} _{-0.4} | 32 ^{+0.4} _{-0.1} | 19.8 | - | 16.1 | 12 | 8 | 10 | 17 | 48.5 | 17 | 11.5 | 6 | 4 | 44.5 | 7.5 | 37 | 4 |
| 40 | 56 | 38 | 42 | 23.3 | - | 20 | 12 | 8 | 10 | 17 | 57.5 | 17 | 11.5 | 6 | 4 | 45.5 | 7.5 | 38 | 4.5 |
| 50 | 67 | 46.5 | 50 | 29.7 | - | 24 | 16 | 10 | 13 | 19 | 69 | 22 | 15 | 6 | 4 | 45.5 | 7.5 | 38 | 4.5 |
| 63 | 80 | 56.5 | 62 | 35.4 | 13 | 30 | 16 | 10 | 13 | 19 | 82 | 22 | 15 | 8 | 4 | 50 | 7.5 | 42.5 | 5.5 |
| 80 | 102 | 72 | 82 | 46 | 17 | 38.5 | 20 | 12 | 17 | 24 | 105 | 28 | 18.5 | 8 | 4 | 56 | 8.5 | 47.5 | 5.5 |
| 100 | 123 | 89 | 103 | 56.6 | 21 | 48 | 25 | 12 | 22 | 30 | 126 | 30 | 21 | 8 | 4 | 66.5 | 10.5 | 56 | 5.5 |

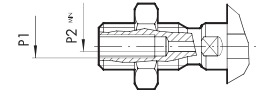
| Ø | M1 x strokes | | | O | | ØO1 | | P | Q | R | S | T | T3 | T4 | T5 | ØU ^{H9} | ØV ^{H8} | Z | | |
|----|--------------|-----|------|------|------|-----|--------|-----|-----|-----|------|----------|----|-----|----|------------------|------------------|----|---|----|
| | < 5 | ≥ 5 | N | N1 | N2 | ISO | UNITOP | | | | | | | | | | | | | |
| 32 | 14 | 9 | 50.5 | 60.5 | 66.5 | M6 | M6 | 5.2 | 5.2 | M6 | G1/8 | M10x1.25 | 22 | 4.5 | 1 | 4.5 | 2.5 | 17 | 5 | M5 |
| 40 | 14 | 9 | 52 | 62 | 68.5 | M6 | M6 | 5.2 | 5.2 | M6 | G1/8 | M10x1.25 | 22 | 4.5 | 1 | 4.5 | 2.5 | 17 | 5 | M5 |
| 50 | 16 | 11 | 53 | 65 | 72.5 | M8 | M8 | 6.2 | 6.2 | M8 | G1/8 | M12x1.25 | 24 | 6 | 1 | 6 | 3.5 | 22 | 6 | M6 |
| 63 | 16 | 11 | 57.5 | 69.5 | 77 | M8 | M10 | 6.2 | 8.5 | M8 | G1/8 | M12x1.25 | 24 | 6 | 1 | 6 | 3.5 | 22 | 6 | M6 |
| 80 | 20 | 15 | 64 | 78 | 86 | M10 | M10 | 8.5 | 8.5 | M10 | G1/8 | M16x1.5 | 32 | 8 | 1 | 8 | 4 | 28 | 8 | M8 |

DIMENSIONS OF THROUGH-ROD Ø 12 to 25

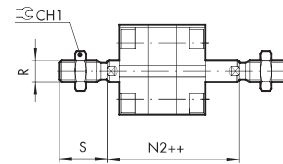
+ = ADD THE STROKE
++ = ADD TWICE THE STROKE
1 = SENSOR SLOT



SE-DE MALE PERFORATED THROUGH-ROD



SE-DE MALE THROUGH-ROD

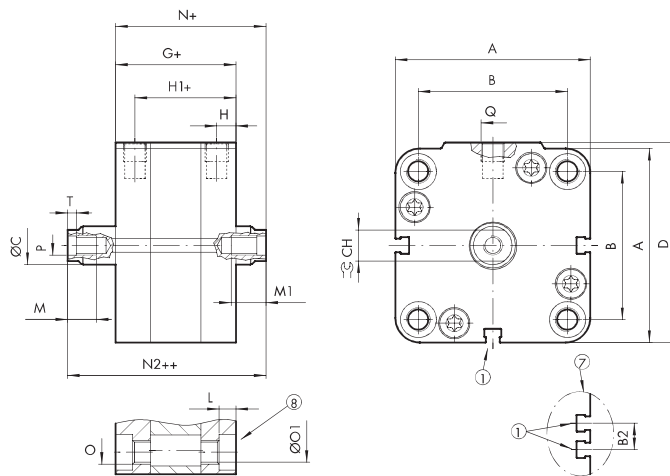


| Ø | A | B | ØC | CH | CH1 | D | G | H | H1 | L | M | M1 x strokes | | | | O | ØO1 | | P | P2 | Q | R | S | T | NORM |
|----|------|----|----|----|-----|------|------|---|------|------|----|--------------|-----|------|------|----|-----|--------|-----|----|----------|----|---|--------|------|
| | | | | | | | | | | | | < 5 | ≥ 5 | N | N2 | | ISO | UNITOP | | | | | | | |
| 12 | 29 | 18 | 6 | 5 | 10 | 30 | 38 | 8 | 30 | 18.5 | 8 | 5 | 8 | 42.5 | 47 | M4 | 3.2 | M3 | - | M5 | M6 | 16 | 2 | - | |
| 16 | 29 | 18 | 8 | 7 | 13 | 30 | 38 | 8 | 30 | 18.5 | 10 | 5 | 10 | 42.5 | 47 | M4 | 3.2 | M4 | - | M5 | M8 | 20 | 2 | - | |
| 20 | 36.5 | 22 | 10 | 8 | 17 | 37.5 | 38 | 8 | 30 | 18.5 | 12 | 7 | 12 | 42.5 | 47 | M5 | 4.2 | M5 | 1.5 | M5 | M10x1.25 | 22 | 2 | UNITOP | |
| 25 | 40.5 | 26 | 10 | 8 | 17 | 41.5 | 39.5 | 8 | 31.5 | 19 | 12 | 7 | 12 | 45 | 50.5 | M5 | 4.2 | M5 | 1.5 | M5 | M10x1.25 | 22 | 2 | UNITOP | |

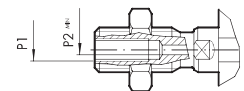
DIMENSIONS OF THROUGH-ROD Ø 32 to 100

+ = ADD THE STROKE
++ = ADD TWICE THE STROKE

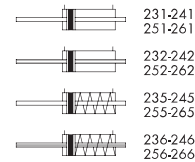
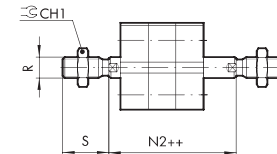
1 = SENSOR SLOT
7 = ONLY FOR Ø 63 TO Ø 100
8 = SLOT FOR DIN 7984 SCREWS



SE-DE MALE PERFORATED THROUGH-ROD



SE-DE MALE THROUGH-ROD



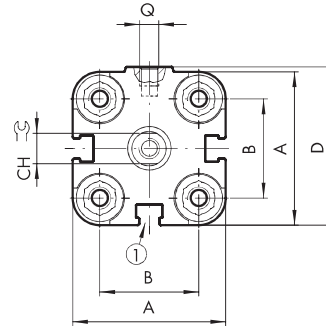
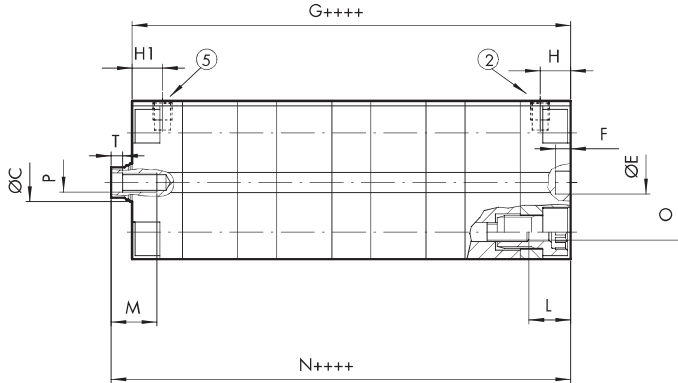
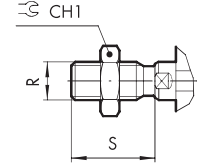
| Ø | A | B | | ØC | CH | CH1 | D | G | H | H1 | L | M | M1 x strokes | | | | O | ØO1 | | P | P1 | P2 | Q | R | S | T | | |
|-----|-----|----------------------|--------------------|----|----|-----|----|------|------|------|------|-----|--------------|-----|-----|------|------|-----|-----|-----|-----|-----|-----|-----|------|----------|--------|-----|
| | | ISO | UNITOP | | | | | | | | | | B2 | < 5 | ≥ 5 | N | | N2 | ISO | | | | | | | | UNITOP | |
| 32 | 47 | 32.5 ^{+0.1} | 32 ^{+0.1} | - | 12 | 10 | 17 | 48.5 | 44.5 | 7.5 | 37 | 4 | 14 | 14 | 9 | 50.5 | 56.5 | M6 | M6 | 5.2 | 5.2 | M6 | - | 2.5 | G1/8 | M10x1.25 | 22 | 2.5 |
| 40 | 56 | 38 | 42 | - | 12 | 10 | 17 | 57.5 | 45.5 | 7.5 | 38 | 4.5 | 14 | 14 | 9 | 52 | 58.5 | M6 | M6 | 5.2 | 5.2 | M6 | - | 2.5 | G1/8 | M10x1.25 | 22 | 2.5 |
| 50 | 67 | 46.5 | 50 | - | 16 | 13 | 19 | 69 | 45.5 | 7.5 | 38 | 4.5 | 16 | 16 | 11 | 53 | 60.5 | M8 | M8 | 6.2 | 6.2 | M8 | - | 4 | G1/8 | M12x1.25 | 24 | 3.5 |
| 63 | 80 | 56.5 | 62 | - | 13 | 16 | 13 | 82 | 50 | 7.5 | 42 | 5.5 | 16 | 16 | 11 | 57.5 | 65 | M8 | M10 | 6.2 | 8.5 | M8 | - | 4 | G1/8 | M12x1.25 | 24 | 3.5 |
| 80 | 102 | 72 | 82 | - | 17 | 20 | 17 | 105 | 56 | 8.5 | 47.5 | 5.5 | 20 | 20 | 15 | 64 | 72 | M10 | M10 | 8.5 | 8.5 | M10 | 1/8 | 5 | G1/8 | M16x1.5 | 32 | 4 |
| 100 | 122 | 90 | 100 | - | 21 | 25 | 20 | 127 | 62 | 10.5 | 52 | 5.5 | 24 | 24 | 18 | 72 | 80 | M10 | M10 | 8.5 | 8.5 | M10 | 1/4 | 5 | G1/4 | M20x1.5 | 40 | 5 |

DIMENSIONS OF TANDEM Ø 20 to 25 - 4-STAGES

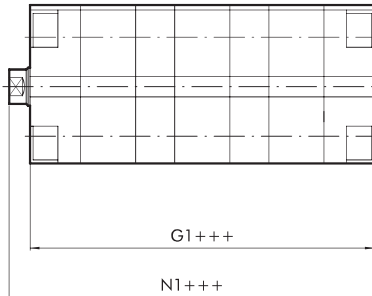
++ = ADD TWICE THE STROKE
+++ = ADD THREE TIMES THE STROKE
++++ = ADD FOUR TIMES THE STROKE

1 = SENSOR SLOT
2 = CYLINDERS OUT
5 = CYLINDERS IN

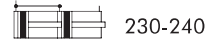
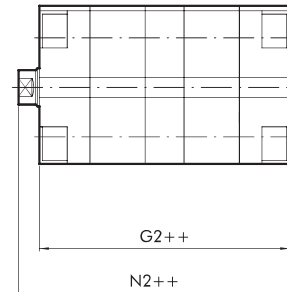
MALE PISTON ROD



TANDEM 3 STAGES



TANDEM 2 STAGES



| Ø | A | B | ØC | CH | CH1 | D | ØE ^{MP} | F | G | G1 | G2 | H | H1 | L | M | N | N1 | N2 | O | P | Q | R | S | T | NORM |
|----|------|----|----|----|-----|------|------------------|---|-------|----|------|---|----|----|----|-------|------|------|----|----|----|----------|----|---|--------|
| 20 | 36.5 | 22 | 10 | 8 | 17 | 37.5 | 6 | 4 | 114.5 | 89 | 63.5 | 8 | 8 | 10 | 12 | 119 | 93.5 | 68 | M5 | M5 | M5 | M10x1.25 | 22 | 2 | UNITOP |
| 25 | 40.5 | 26 | 10 | 8 | 17 | 41.5 | 6 | 4 | 118 | 92 | 66 | 8 | 8 | 10 | 12 | 123.5 | 97.5 | 71.5 | M5 | M5 | M5 | M10x1.25 | 22 | 2 | UNITOP |

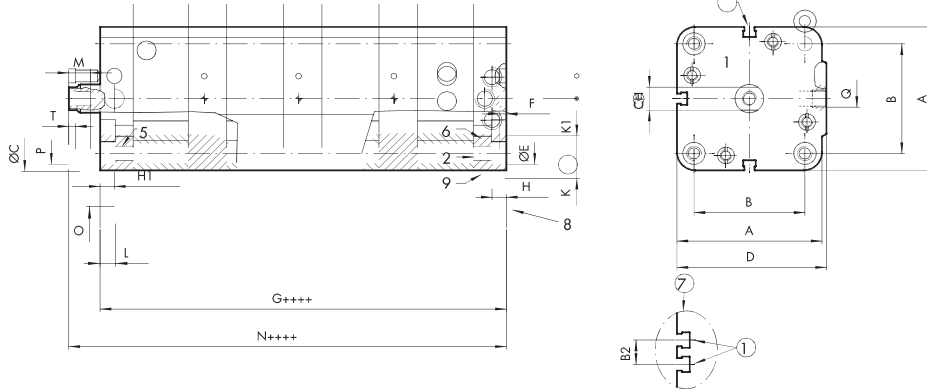
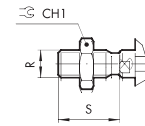
DIMENSIONS OF TANDEM Ø 32 to 100 - 4-STAGES

++ = ADD TWICE THE STROKE
+++ = ADD THREE TIMES THE STROKE
++++ = ADD FOUR TIMES THE STROKE

2 = CYLINDERS OUT FOR Ø 32 to 63
5 = CYLINDERS IN FOR Ø 32 to 63
6 = CYLINDERS IN FOR Ø 80; 100
9 = CYLINDERS OUT FOR Ø 80; 100

1 = SENSOR SLOT
7 = ONLY FOR Ø 63 to 100
8 = SLOT FOR DIN 7984 SCREWS

MALE PISTON ROD



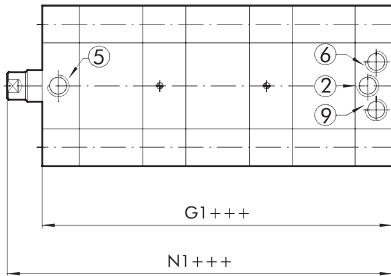
230-240
250-260

ACTUATORS

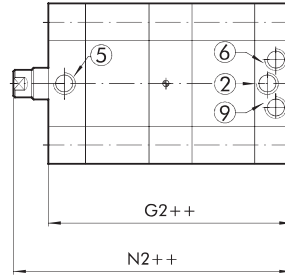
COMPACT CYLINDER - SERIES CMPC

TANDEM 3-STAGES

TANDEM 2-STAGES



230-240
250-260



230-240
250-260

| Ø | A | B | | ØC | CH | CH1 | D | ØE ^{H9} | F | G | G1 | G2 | H | H1 | K | K1 | |
|-----|-----|----------------------|--------------------|----|----|-----|----|------------------|---|---|-------|-------|-------|------|-----|------|------|
| | | ISO | UNITOP | | | | | | | | | | | | | | |
| 32 | 47 | 32.5 ^{+0.1} | 32 ^{+0.1} | - | 12 | 10 | 17 | 48.5 | 6 | 4 | 154 | 117.5 | 81 | 7.5 | 7.5 | - | - |
| 40 | 56 | 38 | 42 | - | 12 | 10 | 17 | 57.5 | 6 | 4 | 162.5 | 123.5 | 84.5 | 7.5 | 7.5 | - | - |
| 50 | 67 | 46.5 | 50 | - | 16 | 13 | 19 | 69 | 6 | 4 | 163.5 | 124 | 85 | 7.5 | 7.5 | - | - |
| 63 | 80 | 56.5 | 62 | 13 | 16 | 13 | 19 | 82 | 8 | 4 | 182 | 138 | 94 | 7.5 | 7.5 | - | - |
| 80 | 102 | 72 | 82 | 17 | 20 | 17 | 24 | 105 | 8 | 4 | 204.5 | 155 | 105.5 | 8.5 | - | 10.5 | 10.5 |
| 100 | 123 | 89 | 103 | 21 | 25 | 22 | 30 | 126 | 8 | 4 | 243 | 184 | 125.5 | 10.5 | - | 14.5 | 14.5 |

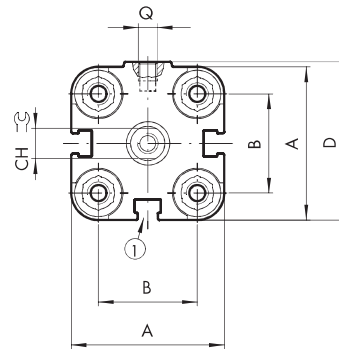
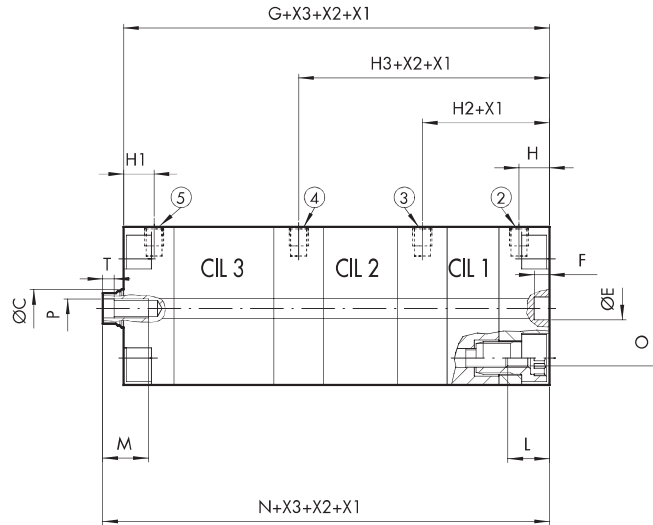
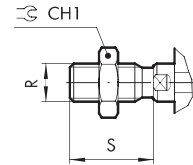
| Ø | L | M | N | N1 | N2 | ISO | UNITOP | P | Q | R | S | T |
|----|-----|----|-------|-------|-------|-----|--------|-----|------|----------|----|-----|
| 32 | 4 | 14 | 160 | 123.5 | 87 | M6 | M6 | M6 | G1/8 | M10x1.25 | 22 | 2.5 |
| 40 | 4.5 | 14 | 169 | 130 | 91 | M6 | M6 | M6 | G1/8 | M10x1.25 | 22 | 2.5 |
| 50 | 4.5 | 16 | 171 | 131.5 | 92.5 | M8 | M8 | M8 | G1/8 | M12x1.25 | 24 | 3.5 |
| 63 | 5.5 | 16 | 189.5 | 145.5 | 101.5 | M8 | M10 | M8 | G1/8 | M12x1.25 | 24 | 3.5 |
| 80 | 5.5 | 20 | 212.5 | 163 | 113.5 | M10 | M10 | M10 | G1/8 | M16x1.5 | 32 | 4 |

DIMENSIONS OF MULTI-POSITION Ø 12 to 25 - 3-STAGES

- 1 = SENSOR SLOT
- 2 = CYLINDER 1 OUT
- 3 = CYLINDER 2 OUT
- 4 = CYLINDER 3 OUT
- 5 = CYLINDERS 1-2-3 IN

- X1 = CYLINDER 1 STROKE
- X2 = CYLINDER 2 STROKE
- X3 = CYLINDER 3 STROKE

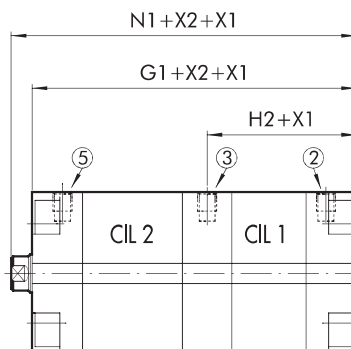
MALE PISTON ROD



MULTI-POSITION 2-STAGES

- 2 = CYLINDER 1 OUT
- 3 = CYLINDER 2 OUT
- 5 = CYLINDERS 1-2 IN

- X1 = CYLINDER 1 STROKE
- X2 = CYLINDER 2 STROKE



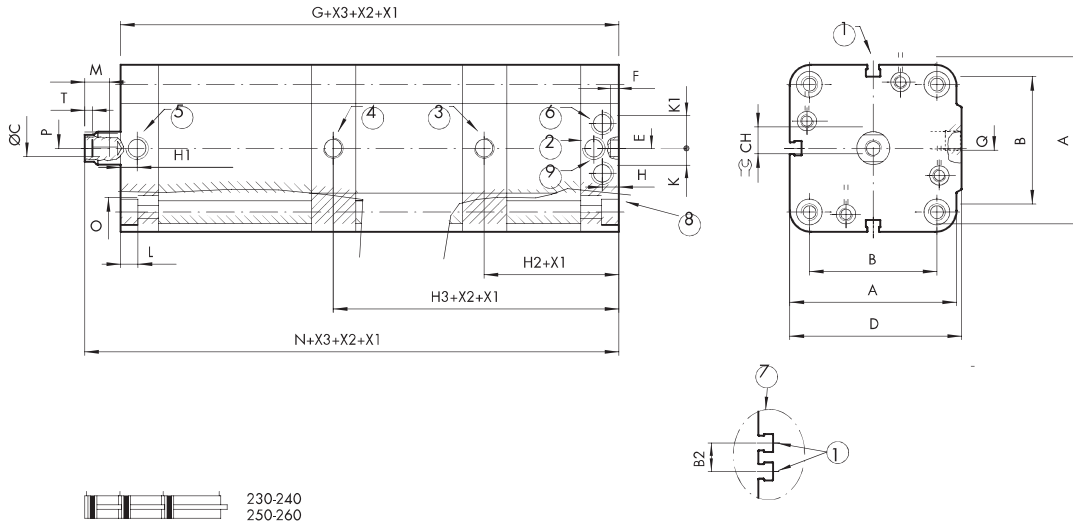
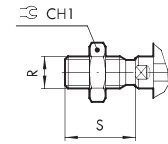
| Ø | A | B | ØC | CH | CH1 | D | ØE ^{H9} | F | G | G1 | H | H1 | H2 | H3 | L | M | N | N1 | O | P | Q | R | S | T | NORM |
|----|------|----|----|----|-----|------|------------------|---|----|------|---|----|------|----|----|----|------|------|----|----|----|----------|----|---|--------|
| 12 | 29 | 18 | 6 | 5 | 10 | 30 | 6 | 4 | 89 | 63.5 | 8 | 8 | 33.5 | 59 | 10 | 8 | 93.5 | 68 | M4 | M3 | M5 | M6 | 16 | 2 | - |
| 16 | 29 | 18 | 8 | 7 | 13 | 30 | 6 | 4 | 89 | 63.5 | 8 | 8 | 33.5 | 59 | 10 | 10 | 93.5 | 68 | M4 | M4 | M5 | M8 | 20 | 2 | - |
| 20 | 36.5 | 22 | 10 | 8 | 17 | 37.5 | 6 | 4 | 89 | 63.5 | 8 | 8 | 33.5 | 59 | 10 | 12 | 93.5 | 68 | M5 | M5 | M5 | M10x1.25 | 22 | 2 | UNITOP |
| 25 | 40.5 | 26 | 10 | 8 | 17 | 41.5 | 6 | 4 | 92 | 66 | 8 | 8 | 34 | 60 | 10 | 12 | 97.5 | 71.5 | M5 | M5 | M5 | M10x1.25 | 22 | 2 | UNITOP |

DIMENSIONS OF MULTI-POSITION Ø 32 to 100 - 3-STAGES

- 1 = SENSOR SLOT
- 2 = CYLINDER 1 OUT FOR Ø 32 to 63
- 3 = CYLINDER 2 OUT FOR Ø 32 to 100
- 4 = CYLINDER 3 OUT FOR Ø 32 to 100
- 5 = CYLINDER 1-2-3 IN FOR Ø 32 to 63
- 6 = CYLINDER 1-2-3 IN FOR Ø 80 to 100
- 7 = ONLY FOR Ø 63 to 100
- 8 = SLOT FOR DIN 7984 SCREWS
- 9 = CYLINDER 1 OUT FOR Ø 80 to 100

- X1 = CYLINDER 1 STROKE
- X2 = CYLINDER 2 STROKE
- X3 = CYLINDER 3 STROKE

MALE PISTON ROD



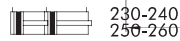
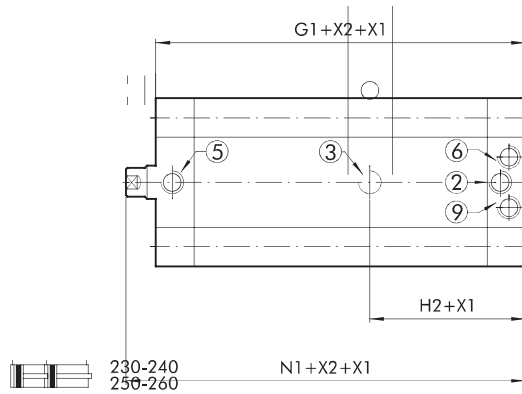
ACTUATORS

COMPACT CYLINDER – SERIES CMPC

MULTI-POSITION 2-STAGES

- 2 = CYLINDER 1 OUT FOR Ø 32 to 63
- 3 = CYLINDER 2 OUT FOR Ø 32 to 100
- 5 = CYLINDER 1-2 IN FOR Ø 32 to 63
- 6 = CYLINDER 1-2 IN FOR Ø 80 to 100
- 9 = CYLINDER 1 OUT FOR Ø 80 to 100

- X1 = CYLINDER 1 STROKE
- X2 = CYLINDER 2 STROKE

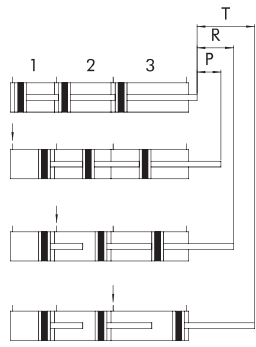


| Ø | A | B | | | ØC | CH | CH1 | D | ØE H9 | F | G | G1 | H | H1 | H2 | H3 |
|-----|-----|--------------------------------------|------------------------------------|----|----|----|-----|------|-------|---|-------|-------|------|-----|------|-------|
| | | ISO | UNITOP | B2 | | | | | | | | | | | | |
| 32 | 47 | 32.5 ^{+0.1} _{-0.4} | 32 ^{+0.4} _{-0.1} | - | 12 | 10 | 17 | 48.5 | 6 | 4 | 117.5 | 81 | 7.5 | 7.5 | 44 | 80.5 |
| 40 | 56 | 38 | 42 | - | 12 | 10 | 17 | 57.5 | 6 | 4 | 123.5 | 84.5 | 7.5 | 7.5 | 46.5 | 85.5 |
| 50 | 67 | 46.5 | 50 | - | 16 | 13 | 19 | 69 | 6 | 4 | 124 | 85 | 7.5 | 7.5 | 47 | 86 |
| 63 | 80 | 56.5 | 62 | 13 | 16 | 13 | 19 | 82 | 8 | 4 | 138 | 94 | 7.5 | 7.5 | 51.5 | 95.5 |
| 80 | 102 | 72 | 82 | 17 | 20 | 17 | 24 | 105 | 8 | 4 | 155 | 105.5 | 8.5 | - | 58 | 107.5 |
| 100 | 123 | 89 | 103 | 21 | 25 | 22 | 30 | 126 | 8 | 4 | 184 | 125.5 | 10.5 | - | 69.3 | 128 |

| Ø | K | K1 | L | M | N | N1 | O | | | | | | |
|----|------|------|-----|----|-------|-------|-----|--------|-----|------|----------|----|-----|
| | | | | | | | ISO | UNITOP | P | Q | R | S | T |
| 32 | - | - | 4 | 14 | 123.5 | 87 | M6 | M6 | M6 | G1/8 | M10x1.25 | 22 | 2.5 |
| 40 | - | - | 4.5 | 14 | 130 | 91 | M6 | M6 | M6 | G1/8 | M10x1.25 | 22 | 2.5 |
| 50 | - | - | 4.5 | 16 | 131.5 | 92.5 | M8 | M8 | M8 | G1/8 | M12x1.25 | 24 | 3.5 |
| 63 | - | - | 5.5 | 16 | 145.5 | 101.5 | M8 | M10 | M8 | G1/8 | M12x1.25 | 24 | 3.5 |
| 80 | 10.5 | 10.5 | 5.5 | 20 | 163 | 113.5 | M10 | M10 | M10 | G1/8 | M16x1.5 | 32 | 4 |

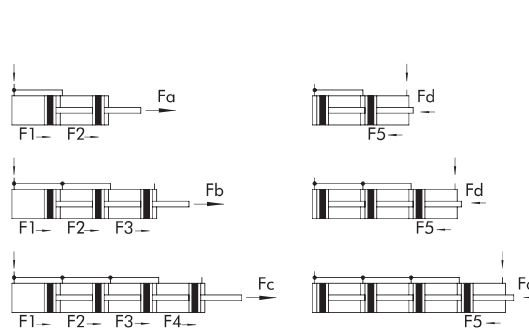
FUNCTIONAL DIAGRAMS

MULTI-POSITION



1 = STAGE 1
2 = STAGE 2
3 = STAGE 3

TANDEM



LEGENDA

P = Stage 1 stroke
R = Stage 2 stroke
T = Stage 3 stroke

$F_a = F_1 + F_2$ [N]
 $F_b = F_1 + F_2 + F_3$ [N]
 $F_c = F_1 + F_2 + F_3 + F_4$ [N]
 $F_d = F_5$ [N]

KEY TO CODE

| CYL | 2 3 | 1 | 0 | 2 5 | 0 | 0 5 0 | X | P |
|-----|--|---|---|---|--|-----------|---|---|
| | TYPE | | | BORE | | STROKE ** | MATERIAL | GASKETS |
| | 23 Compact cylinder centre distances to UNITOP male piston rod | 0 Double-acting 1 Double-acting through-rod + 2 Double-acting through-rod perforated | 0 Magnetic □ S Non-magnetic ▲ G No stick-slip | 12 16 20 25 32 40 50 63 80 ◆ 100 | 0 Standard + A 2-stage tandem + B 3-stage tandem + C 4-stage tandem | | * C C45 piston rod chromium-plated ▷ X Stainless steel piston rod and nut ◁ A C45 chromed piston rod, aluminium piston ○ Z Stainless steel piston rod and nut aluminium piston | P Polyurethane gaskets ▶ + V FKM/FPM gaskets |
| | 24 Compact cylinder centre distances to UNITOP female piston rod | ● 3 Single-acting retracting piston rod ● 4 Single-acting extended piston rod ● 5 Single-acting through-rod | | | MULTI-POSITION ●● P Stage 1 ●● R Stage 2 ●● T Stage 3 | | | |
| | 25 Compact cylinder centre distances to ISO male piston rod | ●+ 6 Single-acting through-rod piston rod perforated ▼ 7 Double-acting non-rotating | | | | | | |
| | 26 Compact cylinder centre distances to ISO female piston rod | A Double-acting through-rod non-rotating | | | | | | |

** For the maximum suppliabe stroke, see page A1.101

- ◆ In the code of cylinder with letter in fourth position Ø 100 becomes A1
- Codes only for cylinders Ø 32 to 100
- Can also be used as double-acting with spring return
- + Available from Ø 20
- ▼ For versions 24 and 26 only (female piston rod)
- ▲ For Ø 12 to 25 the standard version (0 or S) is already "no sick slip"
- For Ø 20 to 100 version with gaskets in FKM / FPM (0 or S) is already "no sick slip"
- ▶ Only for standard double acting and standard through rod double acting version (for Ø20 and Ø25 only "non-magnetic" version provided)
- Compulsory for Ø 20 and Ø 25 version Z
- * Only for Ø 32 to 100 P version (Polyurethane gaskets)
- ▷ Only for Ø 12 to 100 P version (Polyurethane gaskets)
- ◁ Only for Ø 32 to 100 V version (FKM/FPM gaskets)
- Only for Ø 20 to 100 V version (FKM/FPM gaskets)

●● The ordering codes for a Multi-position cylinder is a combination of several codes, each describing a stage.

Coding example for a UNITOP multiposition cylinder

2 stages Ø 20 strokes 40 + 10 (total stroke 50 mm) male rod:
1° STADIO (P): 230020P040XP +
2° STADIO (R): 230020R050XP

Coding example for a UNITOP multiposition cylinder

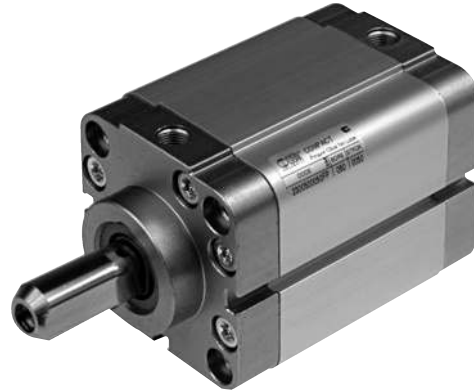
3 stages Ø 25 strokes 15 + 30 + 40 (total stroke 85 mm) male rod:
1° STADIO (P): 230025P015XP +
2° STADIO (R): 230025R045XP +
3° STADIO (T): 230025T085XP

This version is used to keep at an angle the objects fixed onto the piston rod and to apply torques within the specified limits. The piston rod in Two-Flat cylinders has two opposing longitudinal surfaces and is made entirely of stainless steel. The front head of the cylinder includes a sintered bronze bush that engages the piston rod and prevents it from rotating. A special polyurethane gasket guarantees air-tightness and dirt removal. This technical solution is more airtight and reliable than square or hexagonal piston rods.

These compact cylinders come in the following versions:

- with or without a magnet
- dual-acting, single piston rod
- dual-acting, through piston rod – one piston rod is Two-Flat, and the other is cylindrical
- fixing centre distances compatible with ISO 15552 or with French standard NFE 49-004-1 and 2 (UNITOP).

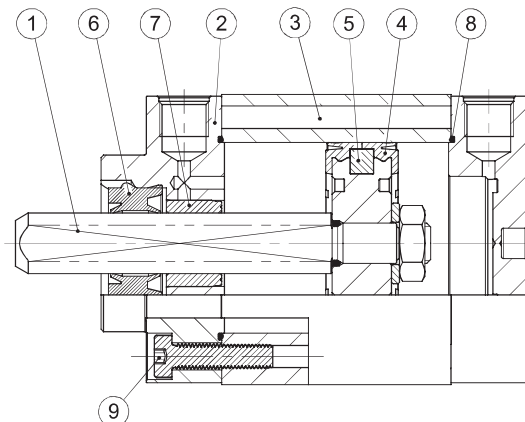
The special profile and the fact that the external heads are screwed onto the liner give an excellent guide. Numerous fixing options are available thanks to wide range of anchor points. Retractable magnetic limit switches can be mounted in slots in the cylinder to measure the position.



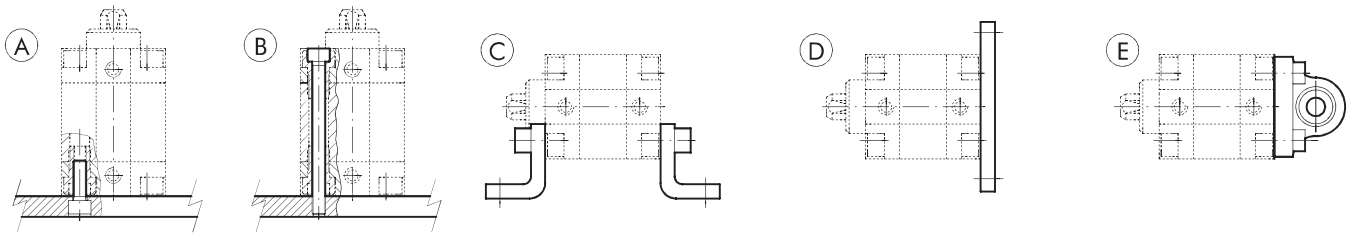
| TECHNICAL DATA | | Ø32 | Ø40 | Ø50 | Ø63 | Ø80 |
|-----------------------------|-----------------|-----|--------|--|-----|-----|
| Max operating pressure | bar | | | 10 | | |
| | MPa | | | 1 | | |
| | psi | | | 145 | | |
| Temperature range | POLYURETHANE °C | | | -10 to +80 | | |
| Design | | | | With profile, heads with screws | | |
| Fixing centre distances | | | | ISO 15552 - VDMA 24562 o NFE 49-004-1 e 2 (UNITOP) | | |
| Fluid | | | | Unlubricated air. Lubrication, if used, must be continuous | | |
| Maximum stroke + | mm | 300 | | 400 | | 500 |
| Versions | | | | Double-acting, Double-acting Through-rod | | |
| Sensor magnet | | | | Available magnetic and non-magnetic versions. | | |
| Inrush pressure | bar | 0.8 | | 0.6 | | |
| Max torque on piston rod | Nm | | 0.2 | 0.4 | | 1 |
| Maximum rotation on the rod | degrees | | 1° 30° | 1° 30° | | 1° |
| Weights | | | | | | |
| Notes | | | | See cylinder "General technical data" at the beginning of the chapter | | |
| | | | | For speeds lower than 0.2 m/s to prevent surging, use the version No stick-slip and non-lubricated air. | | |
| | | | | + Maximum recommended strokes. Higher values can create operating problems | | |

COMPONENTS Ø 12 to 25

- ① PISTON ROD: stainless steel, Two-Flat
- ② HEAD: extruded anodized aluminium alloy
- ③ BARREL: drawn anodized and calibrated aluminium alloy
- ④ PISTON GASKET: polyurethane
- ⑤ MAGNET: Ø 32 neodymium - Ø 40 to 100 plastroferrite
- ⑥ PISTON ROD GASKET TWO-FLAT: polyurethane
- ⑦ GUIDE BUSHING: steel strip with bronze
- ⑧ STATIC O-rings: NBR
- ⑨ SECURING SCREWS: zinc-plated steel



FIXING OPTIONS



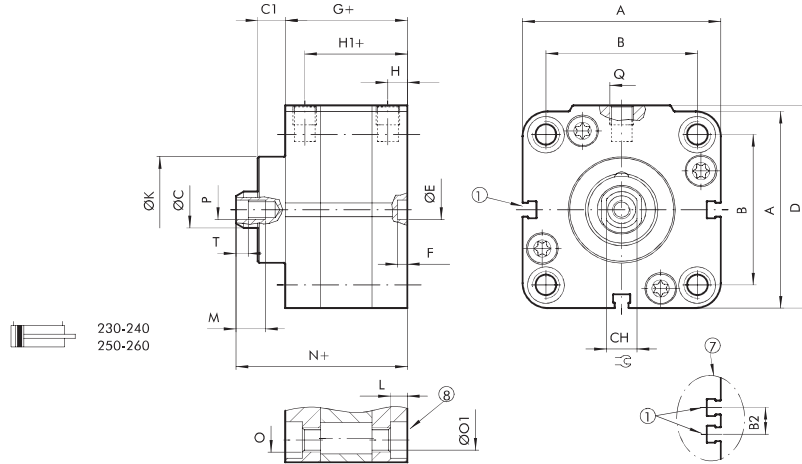
- Ⓐ Fixing to structural work with a through screw, using the thread in the heads
- Ⓑ Direct fixing from above using long through screws or tie rods. Non-magnetic stainless steel must be used (e.g. AISI 304)
- Ⓒ Fixing with feet; the ordering code covers the supply of one foot and two screws for fixing to the cylinder.
- Ⓓ Fixing with a flange mounted on the front or rear head; the ordering code covers the supply of a flange and four screws for fixing to the cylinder
- Ⓔ Fixing with articulated hinge to compensate for slight system misalignment and turn freely
The ordering code covers the supply of a hinge and four screws for fixing to the cylinder

KEY TO CODE

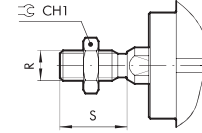
| CYL | 2 3 TYPE | 1 | 0 | 3 2 BORE | 0 | 0 5 0 STROKE * | F MATERIAL | P GASKETS |
|-----|---|--|---|----------------------------|------------|-------------------|--|------------------------|
| 23 | Compact cylinder centre distances to UNITOP male piston rod | 0 Double-acting 1 Double-acting through-rod | 0 Magnetic S Non-magnetic ▲ G No stick-slip | 32 40 50 63 80 | 0 Standard | | F "Two-Flat" piston rod AISI 303 stainless steel | P Polyurethane gaskets |
| 24 | Compact cylinder centre distances to UNITOP female piston rod | | | | | | | |
| 25 | Compact cylinder centre distances to ISO male piston rod | | | | | | | |
| 26 | Compact cylinder centre distances to ISO female piston rod | | | | | | | |

DIMENSIONS OF DOUBLE-ACTING

+ = ADD THE STROKE
1 = SENSOR SLOT
7 = ONLY FOR Ø 63 to 100
8 = SEAT FOR DIN 7984 SCREWS



DE MALE PISTON ROD

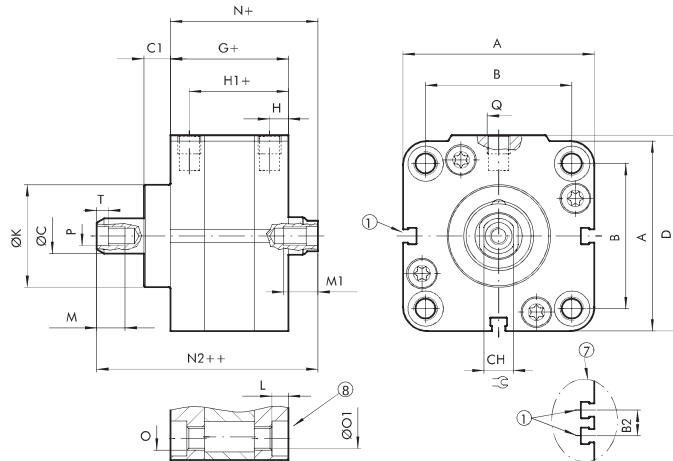


| Ø | A | B | | B2 | ØC | C1 | CH | CH1 | D | ØE ^{H9} | F | G | H | H1 | ØK | L | M | N | O | | ØO1 | | P | Q | R | S | T |
|----|-----|--------------------------------------|------------------------------------|----|----|------|------|-----|------|------------------|---|------|-----|------|----|-----|----|------|-----|--------|-----|-----|-----|------|----------|----|-----|
| | | ISO | UNITOP | | | | | | | | | | | | | | | | ISO | UNITOP | | | | | | | |
| 32 | 47 | 32.5 ^{+0.1} _{-0.4} | 32 ^{+0.1} _{-0.1} | - | 12 | 9 | 10 | 17 | 48.5 | 6 | 4 | 44.5 | 7.5 | 37 | 30 | 4 | 14 | 59.5 | M6 | M6 | 5.2 | 5.2 | M6 | G1/8 | M10x1.25 | 22 | 2.5 |
| 40 | 56 | 38 | 42 | - | 12 | 9 | 10 | 17 | 57.5 | 6 | 4 | 45.5 | 7.5 | 38 | 35 | 4.5 | 14 | 61 | M6 | M6 | 5.2 | 5.2 | M6 | G1/8 | M10x1.25 | 22 | 2.5 |
| 50 | 67 | 46.5 | 50 | - | 16 | 11.5 | 13 | 19 | 69 | 6 | 4 | 45.5 | 7.5 | 38 | 40 | 4.5 | 16 | 64.5 | M8 | M8 | 6.2 | 6.2 | M8 | G1/8 | M12x1.25 | 24 | 3.5 |
| 63 | 80 | 56.5 | 62 | - | 13 | 16 | 11.5 | 13 | 82 | 8 | 4 | 50 | 7.5 | 42.5 | 45 | 5.5 | 16 | 69 | M8 | M10 | 6.2 | 8.5 | M8 | G1/8 | M12x1.25 | 24 | 3.5 |
| 80 | 102 | 72 | 82 | - | 17 | 20 | 13 | 17 | 105 | 8 | 4 | 56 | 8.5 | 47.5 | 45 | 5.5 | 20 | 77 | M10 | M10 | 8.5 | 8.5 | M10 | G1/8 | M16x1.5 | 32 | 4 |

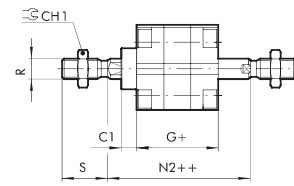
DIMENSIONS OF THROUGH-ROD

+ = ADD THE STROKE
++ = ADD TWICE THE STROKE

1 = SENSOR SLOT
7 = ONLY FOR Ø 63 to Ø 80
8 = SLOT FOR DIN 7984 SCREWS



DE MALE PISTON ROD



| Ø | A | B | | B2 | ØC | C1 | CH | CH1 | D | G | H | H1 | ØK | L | M | M1 x strokes | | | O | | ØO1 | | P | Q | R | S | T | |
|----|-----|--------------------------------------|------------------------------------|----|----|------|------|-----|------|------|-----|------|----|-----|----|--------------|--------|------|--------|-----|--------|-----|-----|-----|------|----------|----|-----|
| | | ISO | UNITOP | | | | | | | | | | | | | ISO | UNITOP | ISO | UNITOP | ISO | UNITOP | | | | | | | |
| 32 | 47 | 32.5 ^{+0.1} _{-0.4} | 32 ^{+0.1} _{-0.1} | - | 12 | 9 | 10 | 17 | 48.5 | 44.5 | 7.5 | 37 | 30 | 4 | 14 | 14 | 9 | 50.5 | 65.5 | M6 | M6 | 5.2 | 5.2 | M6 | G1/8 | M10x1.25 | 22 | 2.5 |
| 40 | 56 | 38 | 42 | - | 12 | 9 | 10 | 17 | 57.5 | 45.5 | 7.5 | 38 | 35 | 4.5 | 14 | 14 | 9 | 52 | 67.5 | M6 | M6 | 5.2 | 5.2 | M6 | G1/8 | M10x1.25 | 22 | 2.5 |
| 50 | 67 | 46.5 | 50 | - | 16 | 11.5 | 13 | 19 | 69 | 45.5 | 7.5 | 38 | 40 | 4.5 | 16 | 16 | 11 | 53 | 72 | M8 | M8 | 6.2 | 6.2 | M8 | G1/8 | M12x1.25 | 24 | 3.5 |
| 63 | 80 | 56.5 | 62 | - | 13 | 16 | 11.5 | 13 | 82 | 50 | 7.5 | 42 | 45 | 5.5 | 16 | 16 | 11 | 57.5 | 76.5 | M8 | M10 | 6.2 | 8.5 | M8 | G1/8 | M12x1.25 | 24 | 3.5 |
| 80 | 102 | 72 | 82 | - | 17 | 20 | 13 | 17 | 105 | 56 | 8.5 | 47.5 | 45 | 5.5 | 20 | 20 | 15 | 64 | 85 | M10 | M10 | 8.5 | 8.5 | M10 | G1/8 | M16x1.5 | 32 | 4 |

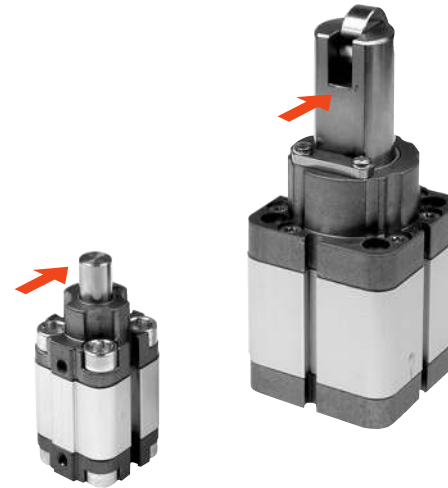
ACTUATORS

COMPACT CYLINDER - SERIES CMPC TWO-FLAT

Compact stopper cylinders designed for stopping moving parts or chucks.

- With or without magnet execution
- Single-acting, oversize extended piston rod
- Can be also used as double-acting with spring return
- Fixing centre distances to ISO 15552 for Ø 32, Ø 50, Ø 80 and French standard NFE 49-004-1 and 2 (UNITOP).

In the relevant cylinder slots, it is possible to mount retracting magnetic sensor.

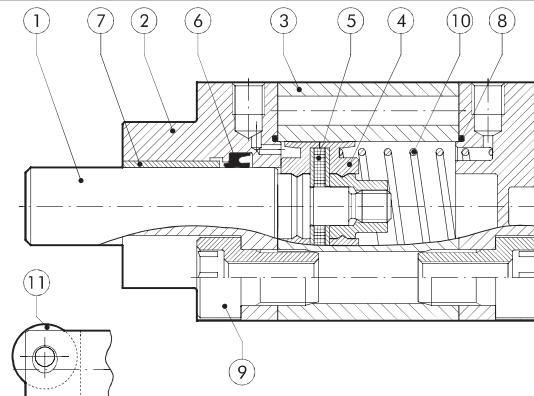


➔ Chuck impact direction

| TECHNICAL DATA | | Ø20 | Ø32 | Ø50 | Ø80 | |
|-------------------------|---------------------------|--|-----------|------------|-----------|-----------|
| | | Stroke 15 | Stroke 20 | Stroke 30 | Stroke 30 | Stroke 40 |
| Max operating pressure | bar | | | 10 | | |
| | MPa | | | 1 | | |
| | psi | | | 145 | | |
| Temperature range | °C | | | -10 to +80 | | |
| Design | | With profile, heads with screws | | | | |
| Fixing centre distances | ISO 15552 | - | x | x | x | x |
| | NFE 49-004-1 e 2 (UNITOP) | x | x | x | x | x |
| Fluid | | Unlubricated air. Lubrication, if used, must be continuous | | | | |
| Versions | | Single-acting extended rod, Can be also used as double-acting with spring return | | | | |
| Sensor magnet | | Available magnetic and non-magnetic versions. | | | | |
| Inrush pressure | bar | 1.2 | | 1 | | 0.5 |
| Weights | | See cylinder "General technical data" at the beginning of the chapter | | | | |
| Notes | | For correct operation, it is advisable to use 50 µm filtered air | | | | |

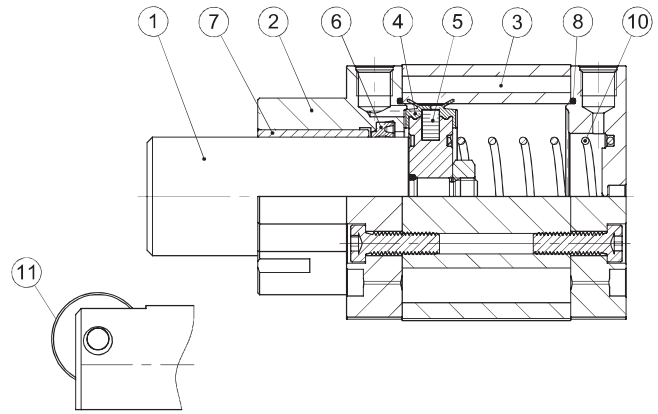
COMPONENTS Ø 20

- PISTON ROD: Stainless steel, thick chromed
- HEAD: extruded anodized aluminium alloy
- BARREL: drawn anodized and calibrated aluminium alloy
- PISTON GASKET: polyurethane
- MAGNET: neodymium-plastic
- PISTON ROD GASKET: polyurethane
- GUIDE BUSHING: steel strip with bronze and PTFE insert
- STATIC O-RINGS: NBR
- SECURING SCREWS: zinc-plated steel
- RETURN SPRING: spring stainless steel
- WHEEL: zinc-plated steel



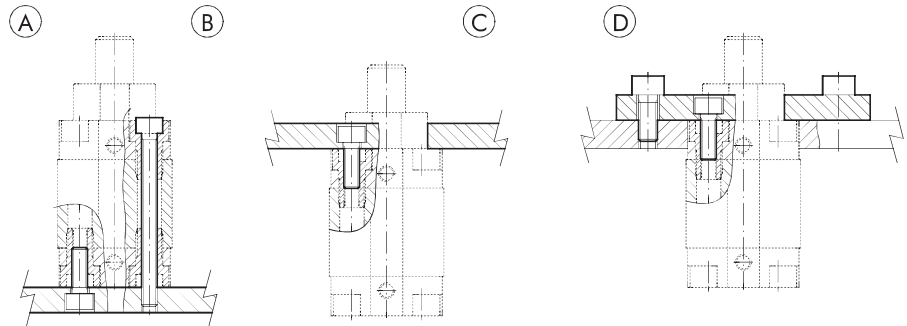
COMPONENTS Ø 32, Ø 50, Ø 80

- ① PISTON ROD: Stainless steel, thick chromed
- ② HEAD: extruded anodized aluminium alloy
- ③ BARREL: drawn anodized and calibrated aluminium alloy
- ④ PISTON GASKET: polyurethane
- ⑤ MAGNET: Ø 32 neodymium-plastic - Ø 50 to 80 plastoferrite
- ⑥ PISTON ROD GASKET: polyurethane
- ⑦ GUIDE BUSHING: steel strip with bronze and PTFE insert.
- ⑧ STATIC O-rings: NBR
- ⑨ SECURING SCREWS: zinc-plated steel
- ⑩ RETURN SPRING: spring stainless steel
- ⑪ WHEEL: zinc-plated steel



COMPACT STOPPER CYLINDER FIXING OPTIONS

- Ⓐ Fixing with screws, using the thread in the rear heads
- Ⓑ Direct fixing from above using long through screws or tie rods. Non-magnetic stainless steel must be used (e.g. AISI 304)
- Ⓒ Fixing with screws, using the thread in the front heads.
- Ⓓ Fixing using flange fixed onto the cylinder.

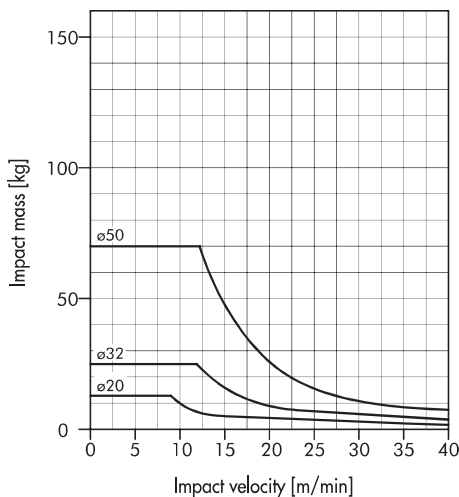


FORCE OF SPRINGS IN COMPACT STOPPER CYLINDERS (THEORETICAL)

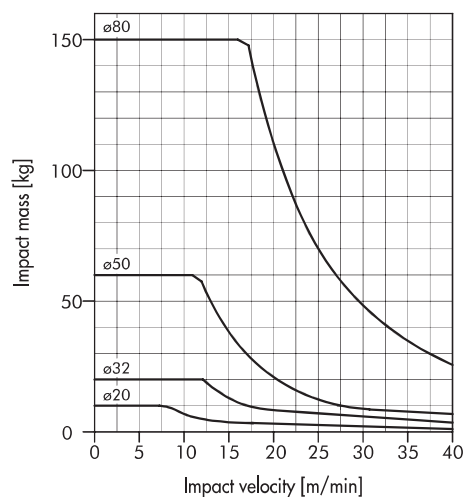
| Stroke bore | Ø 20 x 15 | Ø 32 x 20 | Ø 50 x 30 | Ø 80 x 30 | Ø 80 x 40 |
|---------------|-----------|-----------|-----------|-----------|-----------|
| Min. load (N) | 13.7 | 22.4 | 50.2 | 97.9 | 71.0 |
| Max. load (N) | 21.2 | 36.0 | 115.9 | 178.5 | 178.5 |

LOAD GRAPH

TRUNNION VERSION



ROLLER VERSION



With stopper cylinders it is important to keep to the values shown in the graph to prevent early breakage of the mechanical parts. The values shown are only valid with about 1 mm plastic deformation (stopper on chuck).

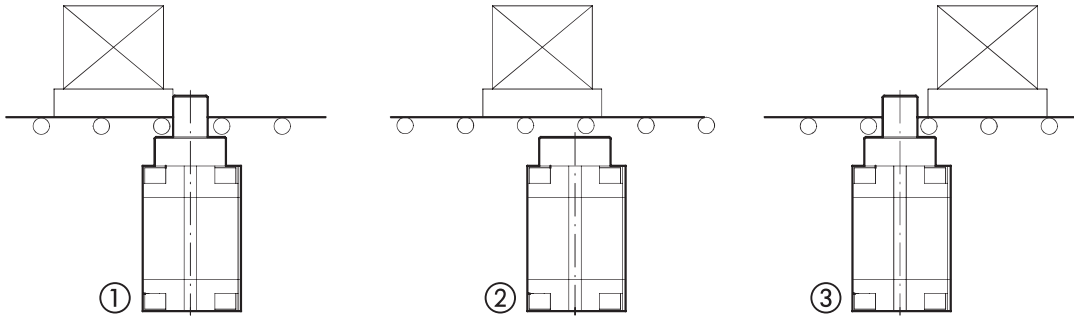
OPERATING DIAGRAMS

ACTUATORS

COMPACT STOPPER CYLINDER

TRUNNION VERSION

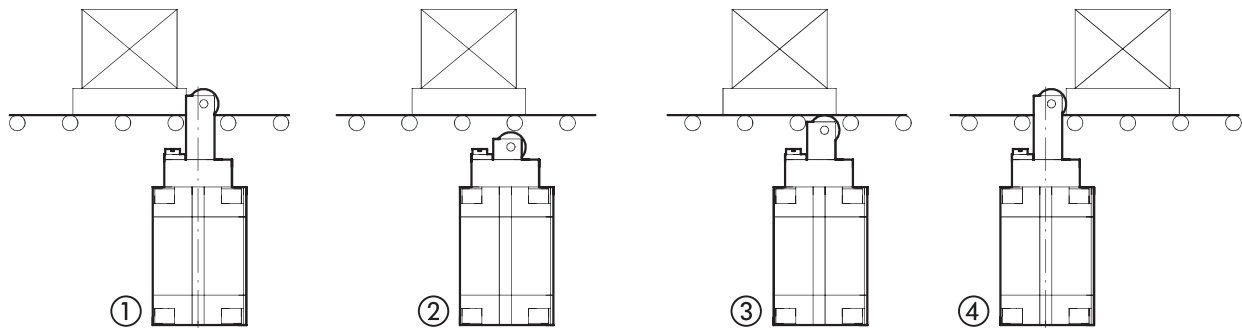
Direction of movement



- ① Deceleration of the chuck as it comes into contact with the piston rod, with elastic deformation of about 1 mm.
- ② The cylinder is pressurized to release the chuck.
- ③ The pressure in the front chamber is maintained until the chuck has passed the stopper cylinder. The piston rod extends due to the effect of the spring and any pressure in the opposite chamber. The system is now ready to stop the next chuck.

ROLLER VERSION

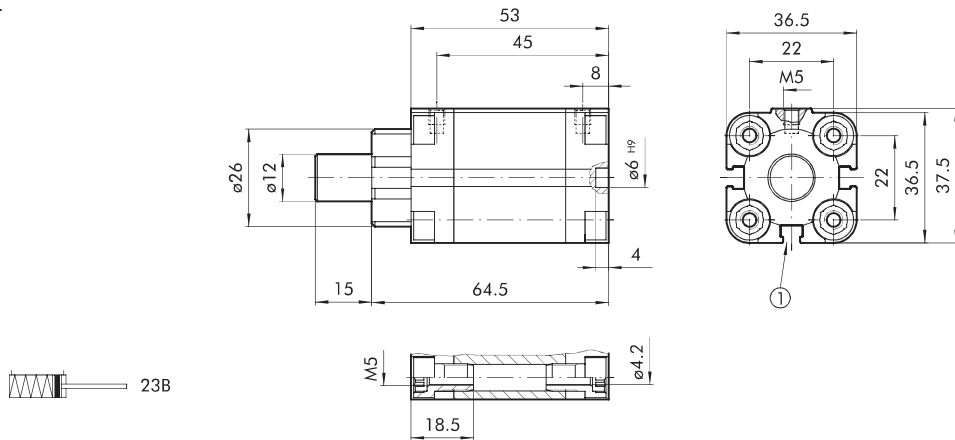
Direction of movement



- ① Deceleration of the chuck as it comes into contact with the piston rod, with elastic deformation of about 1 mm.
- ② The cylinder is pressurized to release the chuck.
- ③ When the pressure in the front chamber drops, the piston rod extends due to the effect of the spring or any pressure until the wheel reaches the chuck and moves it on.
- ④ After the chuck has passed, the cylinder extends the piston rod fully. The system is now ready to stop the next chuck.

Ø 20 STROKE 15 mm TRUNNION VERSION

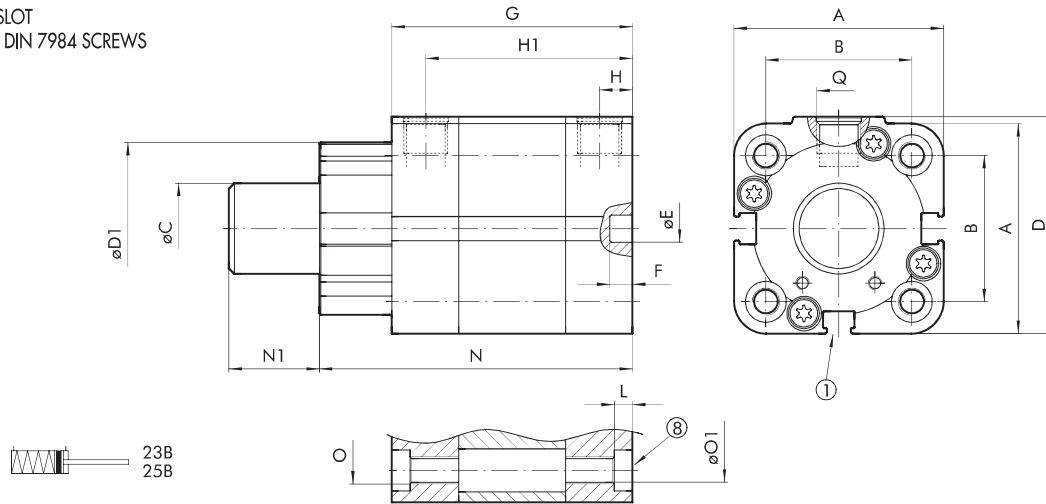
1 = SENSOR SLOT



| Code | Description |
|--------------|---|
| 23B0200015XP | Compact stopper cylinder, trunnion Ø 20, stroke 15 |
| 23BS200015XP | Compact stopper cylinder, trunnion Ø 20, stroke 15 (non-magnetic version) |

Ø 32 STROKE 20 mm; Ø 50 STROKE 30 mm TRUNNION VERSION

1 = SENSOR SLOT
8 = SEAT FOR DIN 7984 SCREWS

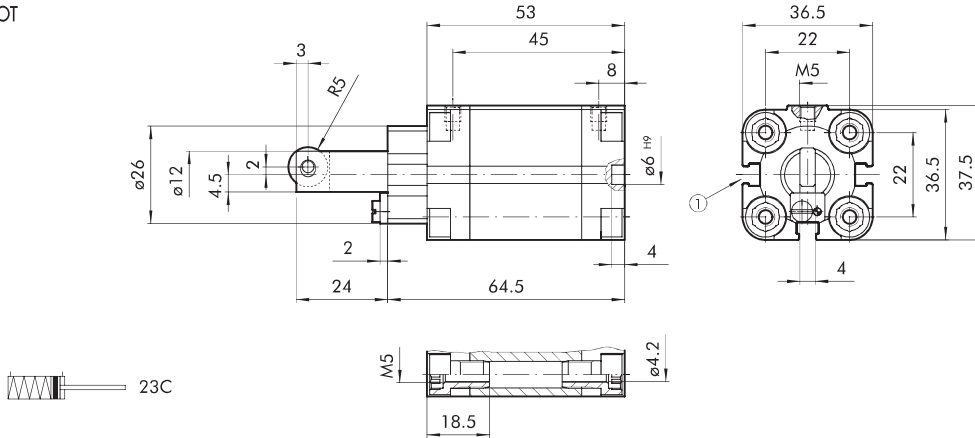


| Ø | A | B | | ØC | D | D1 | ØE H9 | F | G | H | H1 | L | N | N1 | O | | ØO1 | | Q |
|-------|----|--------------------------------------|------------------------------------|----|------|----|-------|---|------|-----|----|-----|------|----|-----|--------|-----|-----|------|
| | | ISO | UNITOP | | | | | | | | | | | | ISO | UNITOP | | | |
| 32x20 | 47 | 32.5 ^{+0.1} _{-0.1} | 32 ^{+0.1} _{-0.1} | 20 | 48.5 | 38 | 6 | 4 | 64.5 | 7.5 | 57 | 4 | 80.5 | 20 | M6 | M6 | 5.2 | 5.2 | G1/8 |
| 50x30 | 67 | 46.5 | 50 | 32 | 69 | 53 | 6 | 4 | 75.5 | 7.5 | 68 | 4.5 | 99.5 | 30 | M8 | M8 | 6.2 | 6.2 | G1/8 |

| Code | Description |
|--------------|---|
| 23B0320020XP | Compact stopper cylinder, trunnion Ø 32, stroke 20 UNITOP |
| 25B0320020XP | Compact stopper cylinder, trunnion Ø 32, stroke 20 ISO 15552 |
| 23BS320020XP | Compact stopper cylinder, trunnion Ø 32, stroke 20 UNITOP (non-magnetic version) |
| 25BS320020XP | Compact stopper cylinder, trunnion Ø 32, stroke 20 ISO 15552 (non-magnetic version) |
| 23B0500030XP | Compact stopper cylinder, trunnion Ø 50, stroke 30 UNITOP |
| 25B0500030XP | Compact stopper cylinder, trunnion Ø 50, stroke 30 ISO 15552 |
| 23BS500030XP | Compact stopper cylinder, trunnion Ø 50, stroke 30 UNITOP (non-magnetic version) |
| 25BS500030XP | Compact stopper cylinder, trunnion Ø 50, stroke 30 ISO 15552 (non-magnetic version) |

Ø 20 STROKE 15 mm ROLLER VERSION

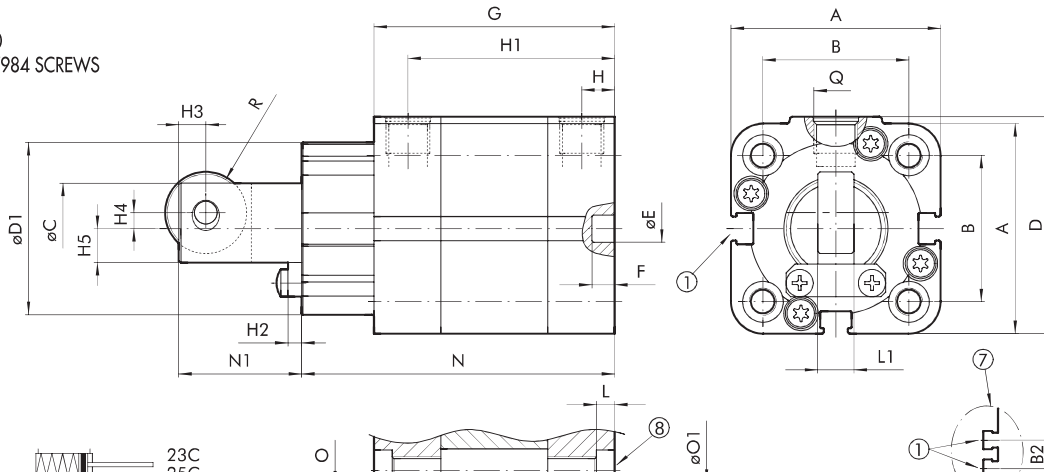
1 = SENSOR SLOT



| Code | Description |
|--------------|---|
| 23C0200015XP | Compact stopper cylinder, roller Ø 20, stroke 15 |
| 23CS200015XP | Compact stopper cylinder, roller Ø 20, stroke 15 (non-magnetic version) |

Ø 32 STROKE 20 mm; Ø 50 STROKE 30 mm; Ø 80 STROKE 30 AND 40 mm ROLLER VERSION

1 = SENSOR SLOT
7 = ONLY FOR Ø 80
8 = SEAT FOR DIN 7984 SCREWS



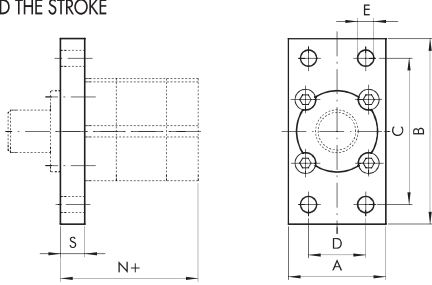
| Ø | A | ISO | UNITOP | B2 | ØC | D | D1 | ØE ^{H9} | G | F | H | H1 | H2 | H3 | H4 | H5 | ISO | UNITOP | ISO | UNITOP | L | L1 | N | N1 | Q | R |
|-------|-----|----------------------|--------------------|----|----|------|----|------------------|------|---|-----|-------|----|----|-----|-----|-----|--------|-----|--------|-----|----|------|------|------|------|
| 32x20 | 47 | 32.5 ^{+0.1} | 32 ^{+0.1} | - | 20 | 48.5 | 38 | 6 | 64.5 | 4 | 7.5 | 57 | 3 | 6 | 3.5 | 7.5 | M6 | M6 | 5.2 | 5.2 | 4 | 8 | 80.5 | 38 | G1/8 | 9 |
| 50x30 | 67 | 46.5 | 50 | - | 32 | 69 | 53 | 6 | 75.5 | 4 | 7.5 | 68 | 4 | 6 | 7 | 12 | M8 | M8 | 6.2 | 6.2 | 4.5 | 10 | 99.5 | 50.5 | G1/8 | 12.5 |
| 80x30 | 102 | 72 | 82 | 17 | 50 | 105 | 76 | 8 | 126 | 4 | 8.5 | 117.5 | 8 | 10 | 11 | 18 | M10 | M10 | 8.5 | 8.5 | 5.5 | 18 | 141 | 63 | G1/8 | 18 |
| 80x40 | 102 | 72 | 82 | 17 | 50 | 105 | 76 | 8 | 136 | 4 | 8.5 | 127.5 | 8 | 10 | 11 | 18 | M10 | M10 | 8.5 | 8.5 | 5.5 | 18 | 151 | 73 | G1/8 | 18 |

| Code | Description |
|--------------|---|
| 23C0320020XP | Compact stopper cylinder, roller Ø 32, stroke 20 UNITOP |
| 25C0320020XP | Compact stopper cylinder, roller Ø 32, stroke 20 ISO 15552 |
| 23CS320020XP | Compact stopper cylinder, roller Ø 32, stroke 20 UNITOP (non-magnetic version) |
| 25CS320020XP | Compact stopper cylinder, roller Ø 32, stroke 20 ISO 15552 (non-magnetic version) |
| 23C0500030XP | Compact stopper cylinder, roller Ø 50, stroke 30 UNITOP |
| 25C0500030XP | Compact stopper cylinder, roller Ø 50, stroke 30 ISO 15552 |
| 23CS500030XP | Compact stopper cylinder, roller Ø 50, stroke 30 UNITOP (non-magnetic version) |
| 25CS500030XP | Compact stopper cylinder, roller Ø 50, stroke 30 ISO 15552 (non-magnetic version) |
| 23C0800030XP | Compact stopper cylinder, roller Ø 80, stroke 30 UNITOP |
| 25C0800030XP | Compact stopper cylinder, roller Ø 80, stroke 30 ISO 15552 |
| 23CS800030XP | Compact stopper cylinder, roller Ø 80, stroke 30 UNITOP (non-magnetic version) |
| 25CS800030XP | Compact stopper cylinder, roller Ø 80, stroke 30 ISO 15552 (non-magnetic version) |
| 23C0800040XP | Compact stopper cylinder, roller Ø 80, stroke 40 UNITOP |
| 25C0800040XP | Compact stopper cylinder, roller Ø 80, stroke 40 ISO 15552 |
| 23CS800040XP | Compact stopper cylinder, roller Ø 80, stroke 40 UNITOP (non-magnetic version) |

ACCESSORIES FOR STOPPER CYLINDER

FLANGE Ø 32, Ø 50, Ø 80

+ = ADD THE STROKE



UNITOP

| Code | Ø | A | B | C | D | E | N | S | Weight [g] |
|-------------|----|-----|-----|-----|----|----|------|----|------------|
| W0950326302 | 32 | 50 | 80 | 64 | 32 | 7 | 54.5 | 10 | 210 |
| W0950506302 | 50 | 68 | 110 | 90 | 45 | 9 | 57.5 | 12 | 502 |
| W0950806302 | 80 | 107 | 160 | 135 | 63 | 12 | 111 | 15 | 1575 |

ISO

| Code | Ø | A | B | C | D | E | N | S | Weight [g] |
|-------------|----|----|-----|-----|----|----|------|----|------------|
| W0950326302 | 32 | 50 | 80 | 64 | 32 | 7 | 54.5 | 10 | 210 |
| W0950506312 | 50 | 65 | 110 | 90 | 45 | 9 | 57.5 | 12 | 447 |
| W0950806312 | 80 | 95 | 153 | 126 | 63 | 12 | 112 | 16 | 1190 |

Note: Supplied with 4 screws.

NOTES

FAMCO IMPACT CYLINDER H INTEGRATED VALVE, SERIES CCIV

ACTUATORS

COMPACT CYLINDER WITH INTEGRATED VALVE, SERIES CCIV

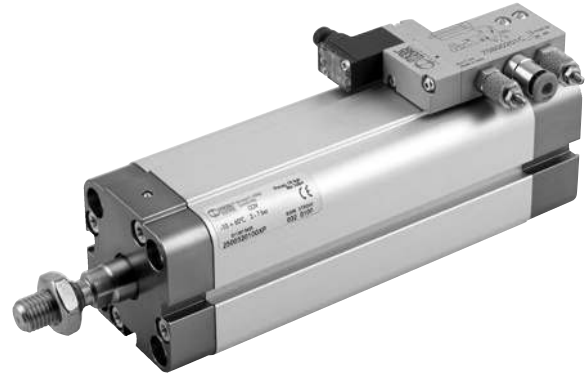
How many times would we have liked to have a pneumatic actuator complete with a control system, so that we would simply need to connect a compressed air hose and a power cable to control the movement of the piston rod?

CCIV is the simple, direct answer to this requirement.

In order to control a standard cylinder, you need a solenoid valve, the required space and a system to fix the solenoid valve, 3 or 5 fittings, 3 pipes, flow regulators, if needed, silencers on the exhaust side; this means 12-14 component parts to be handled and assembled. With CCIV a code is enough to obtain a fully assembled and tested product, in line with the "plug & play" philosophy.

They are double-acting cylinders derivatives from the CMPC series, with a low power consumption solenoid valve. The solenoid valve is the 5/2 monostable type, so the piston rod comes out when it is powered on, and retracts when it is powered off.

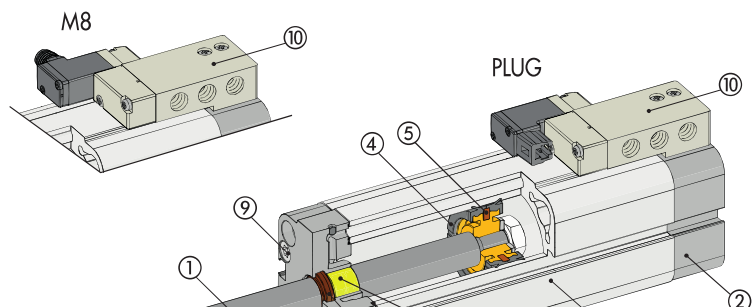
You can choose whether to have a product ready assembled with automatic fitting on the inlet port and fixed or adjustable silencers on the exhaust ports or simply with threaded connections of the inlet and outlet ports.



| TECHNICAL DATA | | Ø 20 | Ø 25 | Ø 32 | Ø 40 |
|---|--------------------|--|--------------|--------------|--------------|
| Pressure range | bar | 3 to 7 | | | |
| | MPa | 0.3 to 0.7 | | | |
| Temperature range | psi | 44 to 102 | | | |
| | °C | -10 to +50 | | | |
| | °F | 14 to 122 | | | |
| Fluid | | Unlubricated air; lubrication, if used, must be continuous | | | |
| Versions | | Double-acting cylinder | | | |
| | | Monostable 5/2 solenoid valve; when operated, the piston rod comes out. Plug-in or M8 connector | | | |
| | | With M7 threaded ports or a solenoid valve complete with automatic connector and fixed or adjustable silencers, on the exhaust ports | | | |
| Magnet for sensors | | YES | | | |
| Inrush pressure | bar | 0.6 | 0.6 | 0.6 | 0.4 |
| Standard strokes | mm | from 5 to 50 | from 5 to 50 | from 5 to 80 | from 5 to 80 |
| Maximum recommended strokes | mm | 200 | 200 | 300 | 300 |
| Maximum speed at 6 bar OUT/IN | m/s | 1.4 / 1.2 | 1 / 0.8 | 0.6 / 0.5 | 0.4 / 0.4 |
| Forces generated at 6 bar thrust/retraction | | See cylinder "General technical data" at the beginning of the chapter | | | |
| Voltage range | | 24VDC ±10% | | | |
| Power | W | 0.9 | | | |
| Solenoid rating | | 100% ED | | | |
| Manual operator | | Monostable | | | |
| Insulation class | | F155 | | | |
| Degree of protection | | With plug-in connector: IP51; with M8 connector: IP65 | | | |
| Installation | | In any position | | | |
| Weights | stroke = 0 [g] | 220 | 250 | 295 | 420 |
| | each mm stroke [g] | 2.35 | 2.73 | 3.17 | 4.41 |
| Air quality required | | ISO 8573-1 class 4-7-3 | | | |
| Notes | | For speeds lower than 0.2 m/s to prevent surging, use the version No stick-slip and non-lubricated air | | | |

COMPONENTS

- ① PISTON ROD: C45 steel or stainless steel, thick chromed
 - ② HEAD: extruded anodized aluminium alloy
 - ③ BARREL: drawn anodized and calibrated aluminium alloy
 - ④ PISTON GASKET: polyurethane
 - ⑤ MAGNET: Ø 20 to 32 neodymium-plastic; Ø 40 plastoferrite
 - ⑥ PISTON ROD GASKET: polyurethane
 - ⑦ GUIDE BUSHING: steel strip with bronze and PTFE insert
 - ⑧ STATIC CONDENSERS: NRD
 - ⑨ SEC: www.famcocorp.com
 - ⑩ VAL: E-mail: info@famcocorp.com
- @famco_group



Tel: ۰۲۱-۴۸۰۰۰۰۴۹

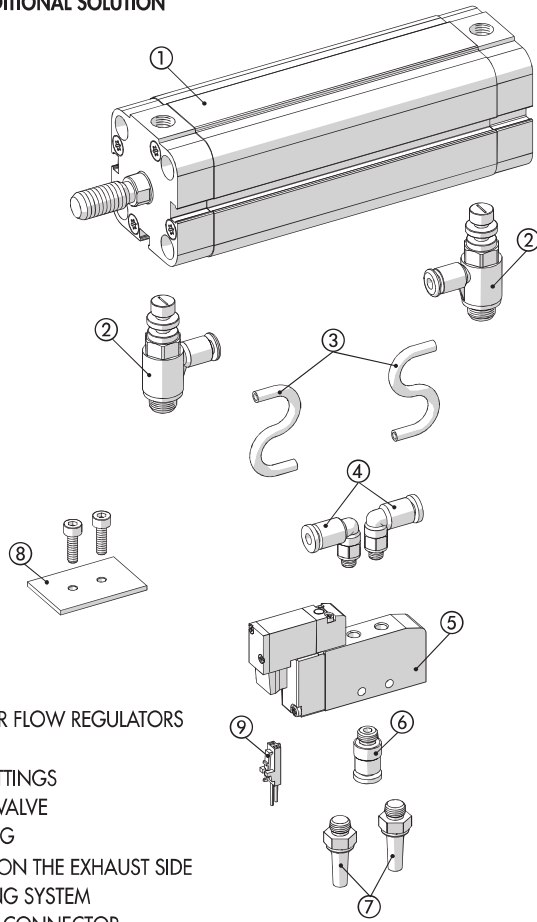
Fax: ۰۲۱-۴۴۹۹۴۶۴۲

تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

روبروی پالایشگاه نفت پارس، پلاک ۱۳

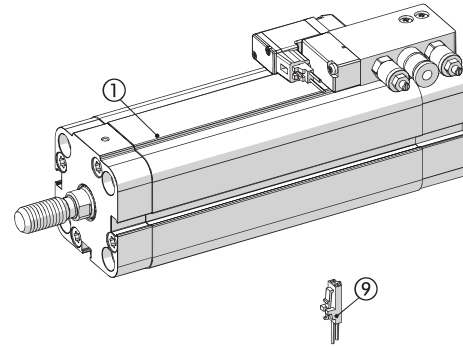
THE ADVANTAGES OF INTEGRATION

TRADITIONAL SOLUTION



- ① CYLINDER
- ② FITTINGS OR FLOW REGULATORS
- ③ PIPES
- ④ DELIVERY FITTINGS
- ⑤ SOLENOID VALVE
- ⑥ INLET FITTING
- ⑦ SILENCERS ON THE EXHAUST SIDE
- ⑧ VALVE-FIXING SYSTEM
- ⑨ ELECTRICAL CONNECTOR

CCIV



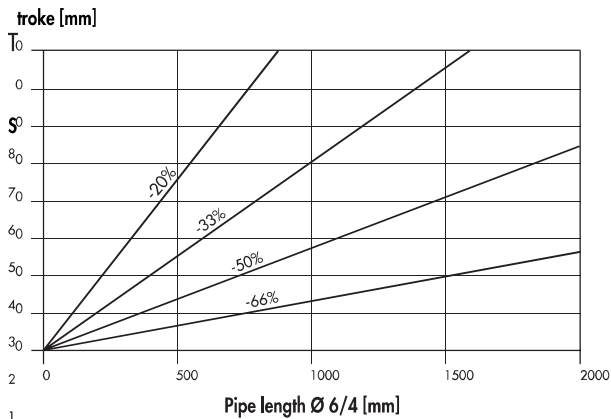
- One code only instead of 10-12 codes when ordering
- Savings in labour costs for assembly operations

ACTUATORS

COMPACT CYLINDER WITH INTEGRATED VALVE, SERIES CCIV

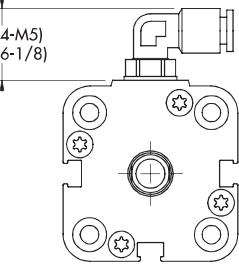
ENERGY SAVING

Reduced air consumption as the result of the elimination of pipes between valves and cylinder.
The sample diagram shows the air savings as a percentage for a $\varnothing 25$ cylinder, depending on the cylinder stroke and the length of $\varnothing 6/4$ pipes.



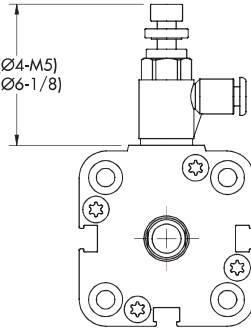
REDUCED OVERALL DIMENSIONS

15 (Ø4-M5)
19 (Ø6-1/8)

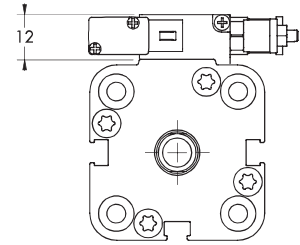


TRADITIONAL SOLUTION
WITH FITTING

27 (Ø4-M5)
31 (Ø6-1/8)



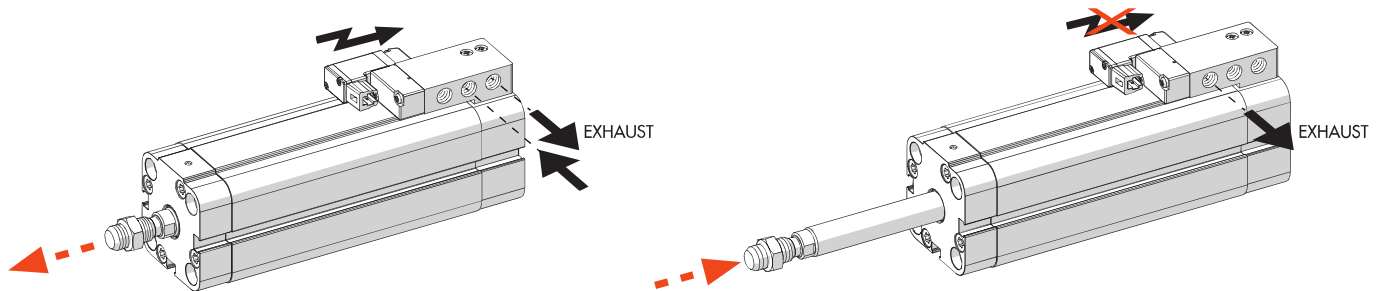
TRADITIONAL SOLUTION
WITH FLOW REGULATOR



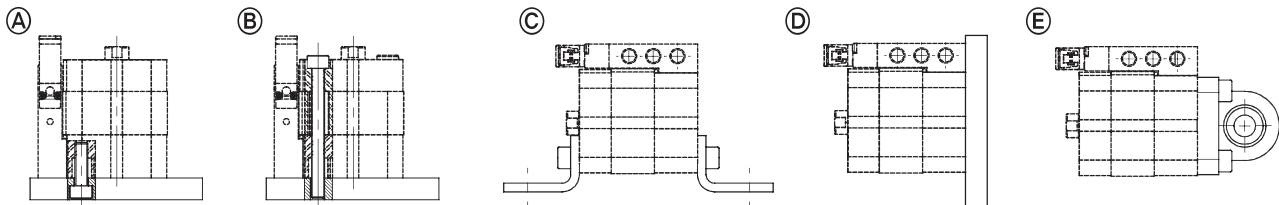
CCIV

OPERATION

The piston rod comes out when the valve is powered on. The piston rod retracts when the valve is powered off.



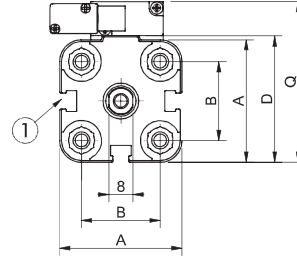
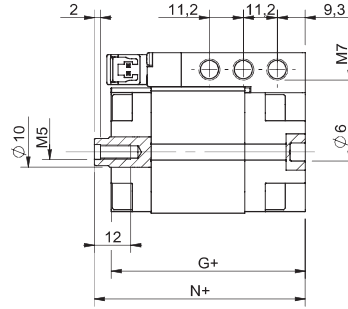
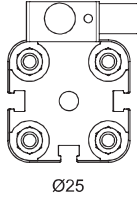
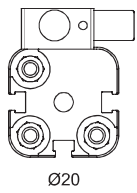
FIXING OPTIONS



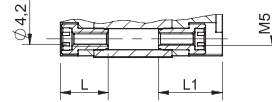
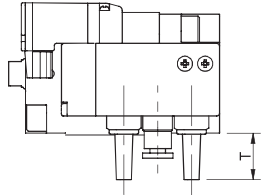
- Ⓐ Fixing to structural work with a screw, using the thread in the heads.
- Ⓑ Direct fixing from above using long through screws or tie rods. Non-magnetic stainless steel must be used (e.g. AISI 304).
- Ⓒ Fixing with feet; the ordering code covers the supply of only one foot and two screws for fixing to the cylinder.
- Ⓓ Fixing with a flange mounted on the front or rear head; the ordering code covers the supply of a flange and four screws for fixing to the cylinder.
- Ⓔ Fixing with articulated hinge to compensate for slight system misalignment and turn freely.
The ordering code covers the supply of a hinge and four screws for fixing to the cylinder.

DIMENSIONS

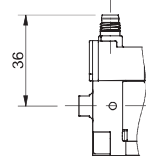
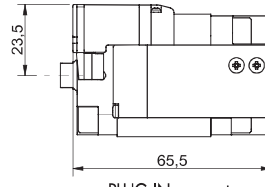
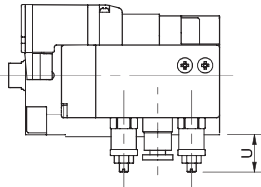
Ø 20 - 25



Version with fitting + silencers



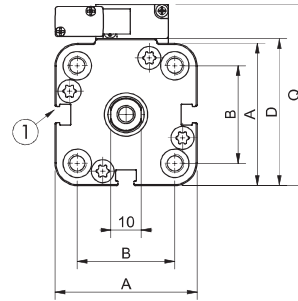
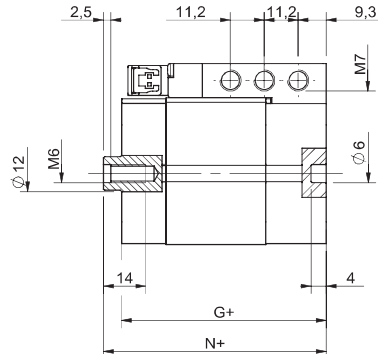
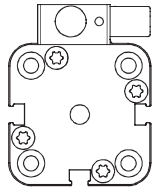
Version with fitting + silenced exhaust regulators



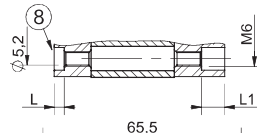
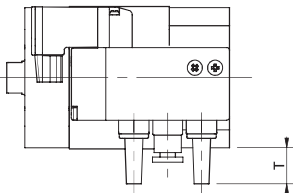
PLUG-IN connector

M8 connector

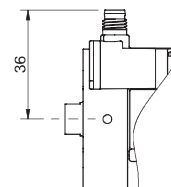
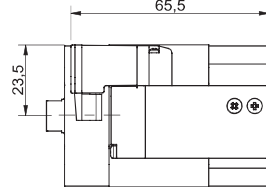
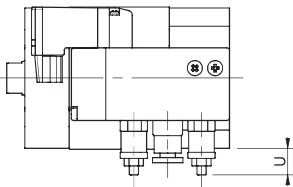
Ø 32 - 40



Version with fitting + silencers



Version with fitting + silenced exhaust regulators



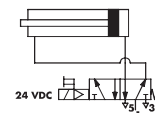
PLUG-IN connector

M8 connector

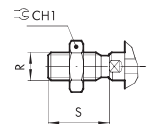
M8 CONNECTOR

- + = ADD THE STROKE
- 1 = SENSOR SLOT
- 8 = SEAT FOR DIN 7984 SCREWS

- 4 3 1 Not used
- 1 3 0 V (Operation also with reverse polarity)
- 1 4 +24V



MALE PISTON ROD



| Ø | A | B |
|----|----|----|
| 20 | 36 | 40 |
| 25 | 40 | 44 |
| 32 | 47 | 50 |
| 40 | 54 | 57 |

Tel: 021- 48 0000 49

Fax: 021 - 44994642

تهران، کیلومتر ۲۱ بزرگراه لشگری (جاده مخصوص کرج)

روبروی پالایشگاه نفت پارس، پلاک ۱۳

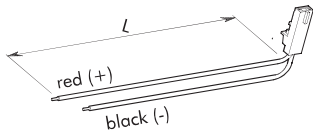
KEY TO CODES

| CYL | 2 3 | 0 | 0 | 3 2 | 0 0 5 0 | C | P | 2 | 2 |
|-----|--|-----------------|---|--------------------------|--|--|------------------------|-----------------------|---|
| | TYPE | | | BORE | STROKE | MATERIAL | GASKETS | ELECTRICAL CONNECTION | PNEUMATIC FITTINGS |
| | 23 Compact cylinder centre distances to UNITOP male piston rod | 0 Double-acting | 0 Magnetic S Non-magnetic ◆ G No stick-slip | ▲ 20 ▲ 25 32 40 | Ø 20 - 25: max 200 mm Ø 32 - 40: max 300 mm | ■ C C45 piston rod chromium-plated X Stainless steel piston rod and nut | P Polyurethane gaskets | 2 Plug-in M M8 | 1 M7 port 2 Straight fitting Ø 4 + silencers 3 Straight fitting Ø 4 + silenced exhaust regulators 4 Straight fitting Ø 6 + silencers 5 Straight fitting Ø 6 + silenced exhaust regulators |
| | 24 Compact cylinder centre distances to UNITOP female piston rod | | | | | | | | |
| | ■ 25 Compact cylinder centre distances to ISO male piston rod | | | | | | | | |
| | ■ 26 Compact cylinder centre distances to ISO female piston rod | | | | | | | | |

- Only for Ø 32 and 40
- ▲ Stainless steel piston rod
- ◆ Standard for Ø 20 and 25

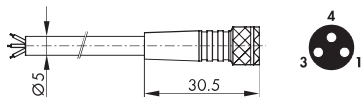
ACCESSORIES

PLUG-IN CONNECTOR



| Code | Description |
|-------------|--|
| W0970512000 | Plug-in connector for Mach 11 L = 300 mm |
| W0970512007 | Plug-in connector for Mach 11 L = 1 m |
| W0970512002 | Plug-in connector for Mach 11 L = 2 m |

M8 STRAIGHT CONNECTOR WITH CABLE

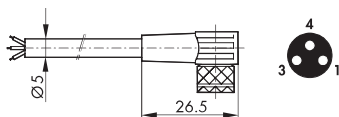


| Pin | Cable color |
|-----|-------------|
| 1 | Brown |
| 3 | Blue |
| 4 | Black |

| Code | Description |
|------------|--|
| 02400A0100 | M8 female 3 PIN HIGH FLEX CL6 connector with cable L = 1 m |
| 02400A0250 | M8 female 3 PIN HIGH FLEX CL6 connector with cable L = 2.5 m |
| 02400A0500 | M8 female 3 PIN HIGH FLEX CL6 connector with cable L = 5 m |
| 02400A1000 | M8 female 3 PIN HIGH FLEX CL6 connector with cable L = 10 m |

Mobile laying cable, class 6 according to IEC 60228

90 M8 CONNECTOR WITH CABLE



| Pin | Cable color |
|-----|-------------|
| 1 | Brown |
| 3 | Blue |
| 4 | Black |

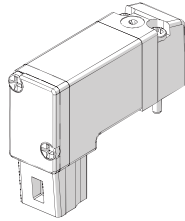
| Code | Description |
|------------|--|
| 02400B0100 | M8 female 3 PIN 90° HIGH FLEX CL6 connector with cable L = 1 m |
| 02400B0250 | M8 female 3 PIN 90° HIGH FLEX CL6 connector with cable L = 2.5 m |
| 02400B0500 | M8 female 3 PIN 90° HIGH FLEX CL6 connector with cable L = 5 m |
| 02400B1000 | M8 female 3 PIN 90° HIGH FLEX CL6 connector with cable L = 10 m |

Mobile laying cable, class 6 according to IEC 60228

ac

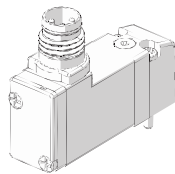
SPARE PARTS

PLUG-IN PILOT



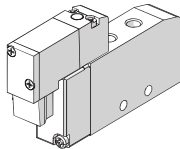
| Code | Description |
|--------------|--|
| 722113541100 | PLT-10 3/2 NC 0.8W 24VDC LED plug-in with manual |

M8 PILOT



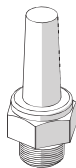
| Code | Description |
|--------------|---|
| 7222M3541100 | PLT-10 3/2 NC 0.8W 24VDC LED M8 with manual |

CCIV 5/2 SOLENOID-PNEUMATIC MONOSTABLE VALVE 24 VDC



| Symbol | Code | Abbrev. | Weight [g] |
|--------|------------|-----------------------------|------------|
| | 70800201C2 | MSV 15 SOS OO 24VDC PLUG-IN | 43.3 |
| | 70800201CM | MSV 15 SOS OO 24VDC M8 | 43.3 |

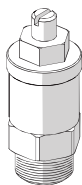
SILENCER MW SE



| Code | Description |
|-------------|-------------------|
| W0970530020 | Silencer MW SE M7 |

For technical data, see **chapter E5**

SILENCED EXHAUST REGULATOR MW SVL



| Code | Description |
|-------------|--------------------------------------|
| W0970520009 | Silenced exhaust regulator MW SVL M7 |

For technical data, see **chapter E5**

NOTES

For other spare parts, such as gaskets and magnets, see page **A1.132**

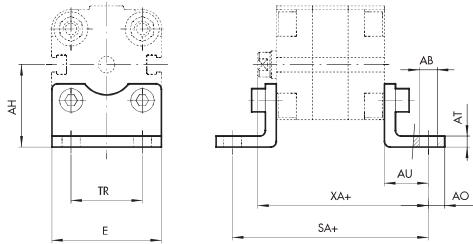
ACCESSORIES

ACTUATORS

ACCESSORIES AND SPARE PARTS FOR COMPACT CYLINDERS

FOOT - MODEL A

+ = ADD THE STROKE



CMPC UNITOP, TWO-FLAT UNITOP, CCIV UNITOP

| Code | Ø | E | AO | TR | AU | AB | AH | AT | XA | SA | TWO-FLAT | | CCIV | | Weight [g] |
|----------------|-----|-----|-----|-----|----|------|------|----|-------|-------|----------|-------|------|------|------------|
| | | | | | | | | | | | XA | SA | XA | SA | |
| W0950126001 ▲ | 12 | 30 | 4.5 | 18 | 13 | 5.5 | 22 | 3 | 55.5 | 64 | - | - | - | - | 26 |
| W0950126001 ▲ | 16 | 30 | 4.5 | 18 | 13 | 5.5 | 22 | 3 | 55.5 | 64 | - | - | - | - | 26 |
| W0950206001 | 20 | 36 | 6 | 22 | 16 | 6.6 | 27 | 4 | 58.5 | 70 | - | - | 66 | 77.5 | 46 |
| W0950256001 | 25 | 40 | 6 | 26 | 16 | 6.6 | 30 | 4 | 58.5 | 71.5 | - | - | 65.5 | 78.5 | 52 |
| W0950322001 | 32 | 45 | 11 | 32 | 24 | 7 | 31.9 | 4 | 74.5 | 92.5 | 83.5 | 101.5 | 80 | 98 | 76 |
| W0950406001 | 40 | 60 | 8 | 42 | 20 | 9 | 42.5 | 5 | 72 | 85.5 | - | - | 77 | 90.5 | 88 |
| W0950406001F * | 40 | 60 | 8 | 42 | 20 | 9 | 42.5 | 5 | 72 | 85.5 | 81 | 94.5 | - | - | 88 |
| W0950506001 | 50 | 68 | 8 | 50 | 24 | 9 | 47 | 6 | 77 | 93.5 | - | - | - | - | 176 |
| W0950506001F * | 50 | 68 | 8 | 50 | 24 | 9 | 47 | 6 | 77 | 93.5 | 88.5 | 105 | - | - | 176 |
| W0950636001 | 63 | 84 | 12 | 62 | 27 | 11 | 59.5 | 6 | 84.5 | 104 | - | - | - | - | 276 |
| W0950636001F * | 63 | 84 | 12 | 62 | 27 | 11 | 59.5 | 6 | 84.5 | 104 | 96 | 115.5 | - | - | 276 |
| W0950806001 | 80 | 102 | 12 | 82 | 30 | 11 | 65.5 | 8 | 94 | 116 | 107 | 129 | - | - | 392 |
| W0951006001 | 100 | 123 | 12 | 103 | 33 | 13.5 | 78 | 8 | 109.5 | 132.5 | - | - | - | - | 558 |

CMPC ISO, TWO-FLAT ISO, CCIV ISO

| Code | Ø | E | AO | TR | AU | AB | AH | AT | XA | SA | TWO-FLAT | | CCIV | | Weight [g] |
|-------------|-----|-----|----|----|----|----|------|----|-------|-------|----------|-------|------|-------|------------|
| | | | | | | | | | | | XA | SA | XA | SA | |
| W0950322001 | 32 | 45 | 11 | 32 | 24 | 7 | 31.9 | 4 | 74.5 | 92.5 | 83.5 | 101.5 | 80 | 98 | 76 |
| W0950402001 | 40 | 52 | 15 | 36 | 28 | 9 | 36 | 4 | 80 | 101.5 | 89 | 110.5 | 85 | 106.5 | 100 |
| W0950502001 | 50 | 65 | 15 | 45 | 32 | 9 | 45 | 5 | 85 | 109.5 | 96.5 | 121 | - | - | 162 |
| W0950632001 | 63 | 75 | 15 | 50 | 32 | 9 | 50 | 5 | 89.5 | 114 | 101 | 125.5 | - | - | 266 |
| W0950802001 | 80 | 95 | 20 | 63 | 41 | 12 | 63 | 6 | 105 | 138 | 118 | 151 | - | - | 456 |
| W0951002001 | 100 | 115 | 25 | 75 | 41 | 14 | 71 | 6 | 117.5 | 148.5 | - | - | - | - | 572 |

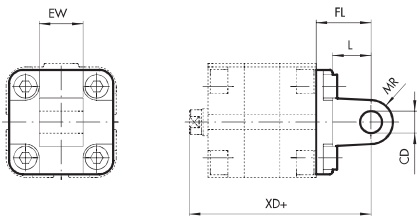
Note: Individually packed with 2 screws.

* Only for Two-Flat version

▲ Non UNITOP norm fixing distance

MALE HINGE-MODEL BA

+ = ADD THE STROKE



CMPC UNITOP, CCIV UNITOP

| Code | Ø | EW | FL | CD ^{HP} | MR | L | XD | CCIV | | Weight [g] |
|---------------|----|----|----|------------------|----|----|------|------|----|------------|
| | | | | | | | | XD | XD | |
| W0950126004 ▲ | 12 | 12 | 16 | 6 | 6 | 10 | 58.5 | - | 24 | |
| W0950126004 ▲ | 16 | 12 | 16 | 6 | 6 | 10 | 58.5 | - | 24 | |
| W0950206004 | 20 | 16 | 20 | 8 | 8 | 12 | 62.5 | 70 | 44 | |
| W0950256004 | 25 | 16 | 20 | 8 | 8 | 12 | 62.5 | 69.5 | 48 | |

CMPC ISO, TWO-FLAT ISO, CCIV ISO

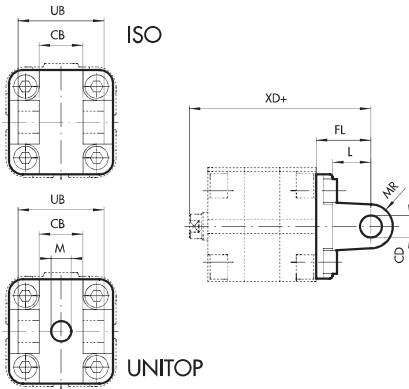
| Code | Ø | EW | FL | CD ^{HP} | MR | L | XD | TWO-FLAT | | CCIV | | Weight [g] |
|-------------|-----|----|----|------------------|----|----|-------|----------|----|------|----|------------|
| | | | | | | | | XD | XD | XD | XD | |
| W0950322004 | 32 | 26 | 22 | 10 | 10 | 13 | 72.5 | 81.5 | 78 | 94 | | |
| W0950402004 | 40 | 28 | 25 | 12 | 12 | 16 | 77 | 86 | 82 | 124 | | |
| W0950502004 | 50 | 32 | 27 | 12 | 12 | 16 | 80 | 91.5 | - | 220 | | |
| W0950632004 | 63 | 40 | 32 | 16 | 16 | 22 | 89.5 | 101 | - | 316 | | |
| W0950802004 | 80 | 50 | 36 | 16 | 16 | 22 | 100 | 113 | - | 578 | | |
| W0951002004 | 100 | 60 | 41 | 20 | 20 | 27 | 117.5 | - | - | 850 | | |

Note: Supplied with 4 screws.

▲ Non UNITOP norm fixing distance

FEMALE HINGE-MODEL B

+ = ADD THE STROKE



CMPC UNITOP, TWO-FLAT UNITOP, CCIV UNITOP

| Code | Ø | UB | CB ^{H14} | FL | CD ^{H9} | M | MR | L | XD | TWO-FLAT | CCIV | Weight [g] |
|-------------|-----|-----|-------------------|----|------------------|----|------|----|-------|----------|------|------------|
| | | | | | | | | | | XD | XD | |
| W0950322003 | 32 | 45 | 26 | 22 | 10 | 14 | 11 | 12 | 72.5 | 81.5 | 78 | 116 |
| W0950406003 | 40 | 52 | 28 | 25 | 12 | 14 | 12.5 | 16 | 77 | 86 | 82 | 184 |
| W0950506003 | 50 | 60 | 32 | 27 | 12 | 18 | 12.5 | 16 | 80 | 91.5 | - | 266 |
| W0950636003 | 63 | 70 | 40 | 32 | 16 | - | 15 | 21 | 89.5 | 101 | - | 470 |
| W0950806003 | 80 | 90 | 50 | 36 | 16 | 23 | 15 | 23 | 100 | 113 | - | 670 |
| W0951006003 | 100 | 110 | 60 | 41 | 20 | 28 | 20 | 26 | 117.5 | - | - | 1110 |

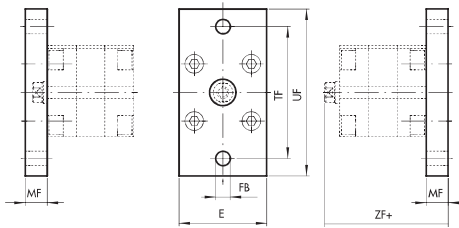
CMPC ISO, TWO-FLAT ISO, CCIV ISO

| Code | Ø | UB | CB ^{H14} | FL | CD ^{H9} | MR | L | XD | TWO-FLAT | CCIV | Weight [g] |
|-------------|-----|-----|-------------------|----|------------------|----|----|-------|----------|------|------------|
| | | | | | | | | | XD | XD | |
| W0950322003 | 32 | 45 | 26 | 22 | 10 | 11 | 12 | 72.5 | 81.5 | 78 | 116 |
| W0950402003 | 40 | 52 | 28 | 25 | 12 | 13 | 15 | 77 | 86 | 82 | 160 |
| W0950502003 | 50 | 60 | 32 | 27 | 12 | 13 | 15 | 80 | 91.5 | - | 252 |
| W0950632003 | 63 | 70 | 40 | 32 | 16 | 17 | 20 | 89.5 | 101 | - | 394 |
| W0950802003 | 80 | 90 | 50 | 36 | 16 | 17 | 20 | 100 | 113 | - | 670 |
| W0951002003 | 100 | 110 | 60 | 41 | 23 | 21 | 25 | 117.5 | - | - | 1085 |

Note: Supplied with 4 screws, 4 washers, 2 snap-rings and 1 pin.

FLANGE Ø 12 to 25 - MODEL C (FRONT AND REAR)

+ = ADD THE STROKE



CMPC, CCIV

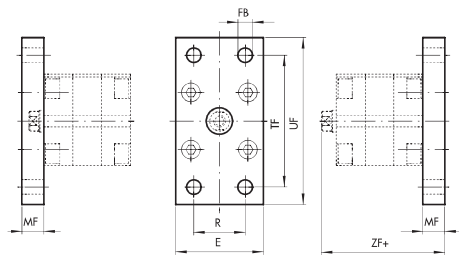
| Code | Ø | E | UF | TF | FB | MF | ZF | CCIV | Weight [g] |
|---------------|----|----|----|----|-----|----|------|------|------------|
| | | | | | | | | ZF | |
| W0950126002 ▲ | 12 | 29 | 55 | 43 | 5.5 | 10 | 52.5 | - | 112 |
| W0950126002 ▲ | 16 | 29 | 55 | 43 | 5.5 | 10 | 52.5 | - | 112 |
| W0950206002 | 20 | 36 | 70 | 55 | 6.6 | 10 | 52.5 | 60 | 184 |
| W0950256002 | 25 | 40 | 76 | 60 | 6.6 | 10 | 55 | 62 | 226 |

Note: Supplied with 4 screws

▲ Non UNITOP norm fixing distance

FLANGE Ø 32 to 100 - MODEL C (FRONT AND REAR)

+ = ADD THE STROKE



CMPC UNITOP, CCIV UNITOP

| Code | Ø | E | UF | TF | R | FB | MF | ZF | CCIV | Weight [g] |
|-------------|-----|-----|-----|-----|----|----|----|------|------|------------|
| | | | | | | | | | ZF | |
| W0950322002 | 32 | 50 | 80 | 64 | 32 | 7 | 10 | 60.5 | 66 | 246 |
| W0950406002 | 40 | 60 | 102 | 82 | 36 | 9 | 10 | 62 | 67 | 454 |
| W0950506002 | 50 | 68 | 110 | 90 | 45 | 9 | 12 | 65 | - | 655 |
| W0950636002 | 63 | 87 | 130 | 110 | 50 | 9 | 15 | 72.5 | - | 1255 |
| W0950806002 | 80 | 107 | 160 | 135 | 63 | 12 | 15 | 79 | - | 1900 |
| W0951006002 | 100 | 128 | 190 | 163 | 75 | 14 | 15 | 91.5 | - | 2700 |

TWO-FLAT UNITOP

| Code | Ø | E | UF | TF | R | FB | MF | ZF | Weight [g] |
|--------------|----|-----|-----|-----|----|----|----|------|------------|
| W0950322002 | 32 | 50 | 80 | 64 | 32 | 7 | 10 | 69.5 | 246 |
| W0950406002F | 40 | 60 | 102 | 82 | 36 | 9 | 10 | 71 | 454 |
| W0950506002F | 50 | 68 | 110 | 90 | 45 | 9 | 12 | 76.5 | 655 |
| W0950636002F | 63 | 87 | 130 | 110 | 50 | 9 | 15 | 84 | 1255 |
| W0950806002F | 80 | 107 | 160 | 135 | 63 | 12 | 15 | 92 | 1900 |

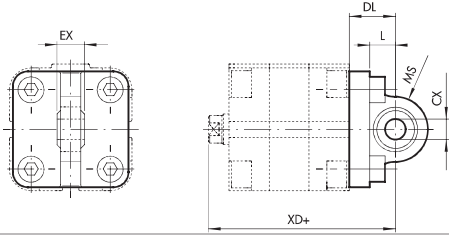
CM C SO, WO SO, CC V SO

| Code | Ø | E | UF | TF | R | FB | MF | ZF | TWO-FLAT | CCIV | Weight [g] |
|-------------|-----|-----|-----|-----|----|----|----|------|----------|------|------------|
| | | | | | | | | | ZF | ZF | |
| W0950322002 | 32 | 50 | 80 | 64 | 32 | 7 | 10 | 60.5 | 69.5 | 66 | 246 |
| W0950402002 | 40 | 55 | 90 | 72 | 36 | 9 | 10 | 62 | 71 | 67 | 290 |
| W0950502002 | 50 | 65 | 110 | 90 | 45 | 9 | 12 | 65 | 76.5 | - | 522 |
| W0950632002 | 63 | 75 | 120 | 100 | 50 | 9 | 12 | 72.5 | 84 | - | 670 |
| W0950802002 | 80 | 95 | 150 | 126 | 63 | 12 | 15 | 79 | 92 | - | 1420 |
| W0951002002 | 100 | 115 | 178 | 150 | 75 | 14 | 15 | 91.5 | - | - | 2040 |

Note: Supplied with 4 screws

ARTICULATED MALE HINGE - MODEL BAS

+ = ADD THE STROKE

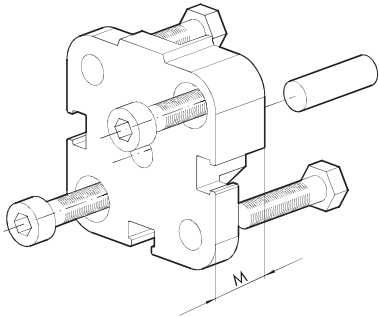


CMPC ISO, TWO-FLAT ISO, CCIV ISO

| Code | Ø | EX | DL | CX ^{H9} | MS | L | XD | TWO-FLAT | CCIV | Weight [g] |
|-------------|-----|----|----|------------------|----|----|-------|----------|------|------------|
| | | | | | | | | XD | XD | |
| W0950322006 | 32 | 14 | 22 | 10 | 16 | 12 | 72.5 | 81.5 | 78 | 106 |
| W0950402006 | 40 | 16 | 25 | 12 | 18 | 15 | 77 | 86 | 82 | 142 |
| W0950502006 | 50 | 16 | 27 | 12 | 21 | 15 | 80 | 91.5 | - | 236 |
| W0950632006 | 63 | 21 | 32 | 16 | 23 | 20 | 89.5 | 101 | - | 336 |
| W0950802006 | 80 | 21 | 36 | 16 | 28 | 20 | 100 | 113 | - | 572 |
| W0951002006 | 100 | 25 | 41 | 20 | 30 | 25 | 117.5 | - | - | 840 |

Note: Supplied with 4 screws, 4 washers

FLANGE FOR OPPOSITE CYLINDERS



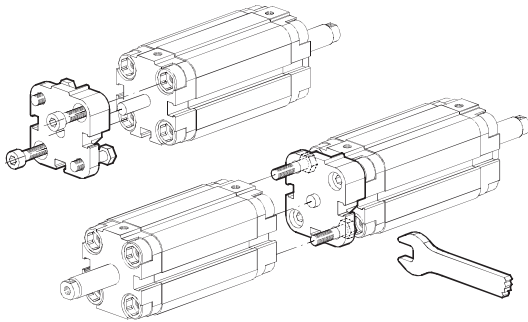
CMPC UNITOP CMPC ISO Weight [g]

| | | | | | |
|--------------|------------|-----|------|-----|-----|
| 0950123060 ▲ | - | 12 | 12.5 | 29 | - |
| 0950123060 ▲ | - | 16 | 12.5 | 29 | - |
| 0950203060 | - | 20 | 12.5 | 45 | - |
| 0950253060 | - | 25 | 13 | 57 | - |
| 0950323060 | 0950323060 | 32 | 14.5 | 88 | 88 |
| 0950403060 | 0950403061 | 40 | 14.5 | 106 | 106 |
| 0950503060 | 0950503061 | 50 | 14.5 | 172 | 158 |
| 0950633060 | 0950633061 | 63 | 14.5 | 274 | 258 |
| 0950803060 | 0950803061 | 80 | 16.5 | 470 | 452 |
| 0951003060 | 0951003061 | 100 | 19.5 | 826 | 801 |

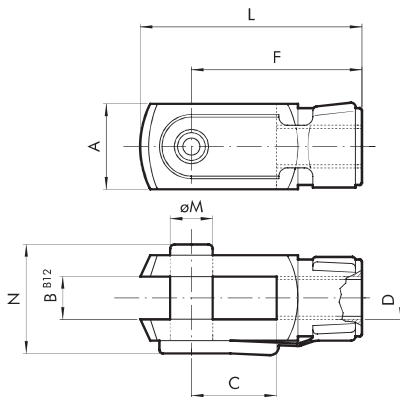
Note: Supplied complete with 1 pin, 4 screws

▲ Non UNITOP norm fixing distance

ASSEMBLING OPPOSING CYLINDERS



FORK - MODEL GK-M

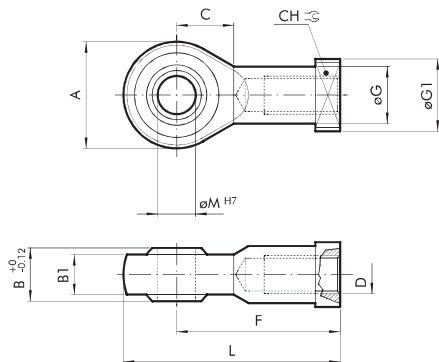


CMPC UNITOP AND ISO, TWO-FLAT UNITOP AND ISO, CCIV UNITOP AND ISO

| Code | Ø | A | B | C | D | F | L | ØM | N | Weight [g] |
|-------------|-----|----|----|----|----------|----|-----|----|----|------------|
| W0950120020 | 12 | 12 | 6 | 12 | M6 | 24 | 31 | 6 | 16 | 20 |
| W0950200020 | 16 | 16 | 8 | 16 | M8 | 32 | 42 | 8 | 22 | 48 |
| W0950322020 | 20 | 20 | 10 | 20 | M10x1.25 | 40 | 52 | 10 | 26 | 92 |
| W0950322020 | 25 | 20 | 10 | 20 | M10x1.25 | 40 | 52 | 10 | 26 | 92 |
| W0950322020 | 32 | 20 | 10 | 20 | M10x1.25 | 40 | 52 | 10 | 26 | 92 |
| W0950322020 | 40 | 20 | 10 | 20 | M10x1.25 | 40 | 52 | 10 | 26 | 92 |
| W0950402020 | 50 | 24 | 12 | 24 | M12x1.25 | 48 | 62 | 12 | 32 | 148 |
| W0950402020 | 63 | 24 | 12 | 24 | M12x1.25 | 48 | 62 | 12 | 32 | 148 |
| W0950502020 | 80 | 32 | 16 | 32 | M16x1.5 | 64 | 83 | 16 | 40 | 340 |
| W0950802020 | 100 | 40 | 20 | 40 | M20x1.5 | 80 | 105 | 20 | 48 | 690 |

Note: Individually packed

ROD EYE - MODEL GA-M

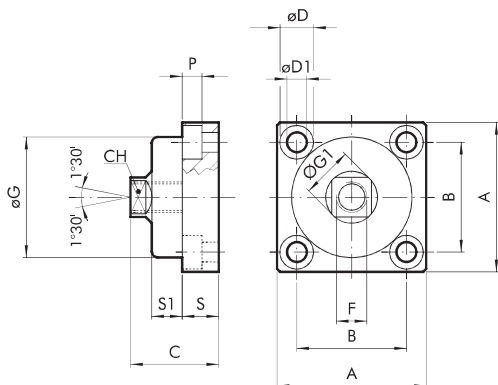


CMPC UNITOP E ISO, TWO-FLAT UNITOP E ISO, CCIV UNITOP AND ISO

| Code | Ø | A | B | B1 | C | CH | D | F | ØG | ØG1 | L | ØM | Weight [g] |
|-------------|-----|----|----|------|----|----|----------|----|------|-----|-----|----|------------|
| W0950120025 | 12 | 20 | 9 | 6.75 | 11 | 11 | M6 | 30 | 10 | 13 | 40 | 6 | 28 |
| W0950200025 | 16 | 24 | 12 | 9 | 13 | 14 | M8 | 36 | 12.5 | 16 | 48 | 8 | 50 |
| W0950322025 | 20 | 28 | 14 | 10.5 | 15 | 17 | M10x1.25 | 43 | 15 | 19 | 57 | 10 | 78 |
| W0950322025 | 25 | 28 | 14 | 10.5 | 15 | 17 | M10x1.25 | 43 | 15 | 19 | 57 | 10 | 78 |
| W0950322025 | 32 | 28 | 14 | 10.5 | 15 | 17 | M10x1.25 | 43 | 15 | 19 | 57 | 10 | 78 |
| W0950322025 | 40 | 28 | 14 | 10.5 | 15 | 17 | M10x1.25 | 43 | 15 | 19 | 57 | 10 | 78 |
| W0950402025 | 50 | 32 | 16 | 12 | 17 | 19 | M12x1.25 | 50 | 17.5 | 22 | 66 | 12 | 116 |
| W0950402025 | 63 | 32 | 16 | 12 | 17 | 19 | M12x1.25 | 50 | 17.5 | 22 | 66 | 12 | 116 |
| W0950502025 | 80 | 42 | 21 | 15 | 23 | 22 | M16x1.5 | 64 | 22 | 27 | 85 | 16 | 226 |
| W0950802025 | 100 | 50 | 25 | 18 | 27 | 30 | M20x1.5 | 77 | 27.5 | 34 | 102 | 20 | 404 |

Note: Individually packed.

COMPENSATION JOINT - MODEL GA

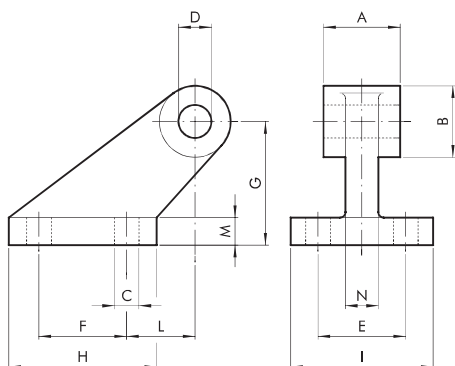


CMPC UNITOP E ISO, TWO-FLAT UNITOP AND ISO, CCIV UNITOP AND ISO

| Code | Ø | A | B | C | CH | ØD | ØD1 | F | ØG | ØG1 | P | S | S1 | Weight [g] |
|-------------|-----|----|----|----|----|----|------|----------|------|-----|------|----|------|------------|
| W0950326021 | 20 | 49 | 36 | 30 | 13 | 11 | 6.5 | M10x1.25 | 39.5 | 17 | 6.5 | 12 | 10 | 172 |
| W0950326021 | 25 | 49 | 36 | 30 | 13 | 11 | 6.5 | M10x1.25 | 39.5 | 17 | 6.5 | 12 | 10 | 172 |
| W0950326021 | 32 | 49 | 36 | 30 | 13 | 11 | 6.5 | M10x1.25 | 39.5 | 17 | 6.5 | 12 | 10 | 172 |
| W0950326021 | 40 | 49 | 36 | 30 | 13 | 11 | 6.5 | M10x1.25 | 39.5 | 17 | 6.5 | 12 | 10 | 172 |
| W0950406021 | 50 | 59 | 42 | 36 | 15 | 14 | 8.5 | M12x1.25 | 44 | 19 | 8.5 | 15 | 13.5 | 286 |
| W0950406021 | 63 | 59 | 42 | 36 | 15 | 14 | 8.5 | M12x1.25 | 44 | 19 | 8.5 | 15 | 13.5 | 286 |
| W0950506021 | 80 | 79 | 58 | 44 | 22 | 17 | 10.5 | M16x1.5 | 59 | 26 | 10.5 | 20 | 15 | 628 |
| W0950806021 | 100 | 89 | 65 | 51 | 27 | 19 | 12.5 | M20x1.5 | 69 | 31 | 12.5 | 20 | 20 | 1200 |

Note: Individually packed.

COUNTER-HINGE CETOP Ø 32 to 100

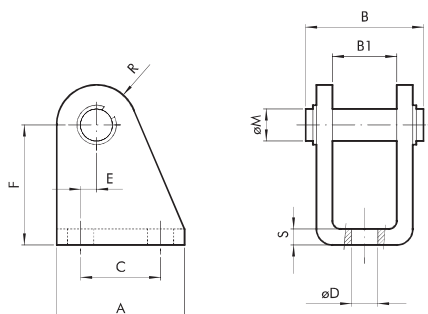


CMPC UNITOP E ISO, TWO-FLAT UNITOP E ISO, CCIV UNITOP AND ISO

| Code | Ø | A | B | C | D | E | F | G | H | I | L | M | N | Weight [g] |
|-------------|-----|----|----|----|----|----|----|----|-----|----|----|----|----|------------|
| W0950322008 | 32 | 26 | 19 | 7 | 10 | 25 | 20 | 32 | 37 | 41 | 18 | 8 | 10 | 96 |
| W0950402008 | 40 | 28 | 26 | 9 | 12 | 32 | 32 | 45 | 54 | 52 | 25 | 10 | 12 | 216 |
| W0950502008 | 50 | 32 | 26 | 9 | 12 | 32 | 32 | 45 | 54 | 52 | 25 | 10 | 12 | 212 |
| W0950632008 | 63 | 40 | 33 | 11 | 16 | 40 | 50 | 63 | 75 | 63 | 32 | 12 | 15 | 440 |
| W0950802008 | 80 | 50 | 33 | 11 | 16 | 40 | 50 | 63 | 75 | 63 | 32 | 12 | 15 | 464 |
| W0951002008 | 100 | 60 | 44 | 14 | 20 | 50 | 70 | 90 | 103 | 80 | 40 | 16 | 22 | 985 |

Note: Supplied complete with 4 screws, 4 washers

COUNTER-HINGE Ø 12 to 25 - MODEL BC

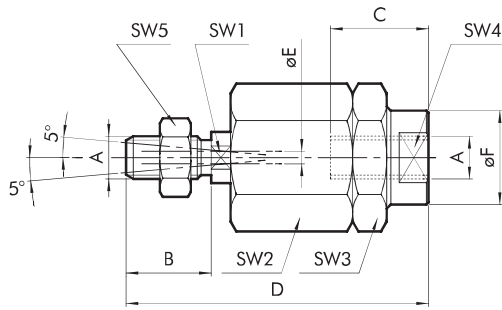


CMPC UNITOP, CCIV UNITOP

| Code | Ø | A | B | B1 | C | ØD | E | F | ØM | R | S | Weight [g] |
|-------------|----|----|----|----|----|-----|---|----|----|----|---|------------|
| W0950120005 | 12 | 25 | 25 | 12 | 15 | 5.5 | 2 | 27 | 6 | 7 | 3 | 40 |
| W0950120005 | 16 | 25 | 25 | 12 | 15 | 5.5 | 2 | 27 | 6 | 7 | 3 | 40 |
| W0950200005 | 20 | 32 | 30 | 16 | 20 | 6.5 | 4 | 30 | 8 | 10 | 4 | 78 |
| W0950200005 | 25 | 32 | 30 | 16 | 20 | 6.5 | 4 | 30 | 8 | 10 | 4 | 78 |

Note: Supplied complete with 1 pin and and 2 snap rings

SELF ALIGNING ROD COUPLER - MODEL GA-K



CMPC UNITOP AND ISO, TWO-FLAT UNITOP AND ISO, CCIV UNITOP AND ISO

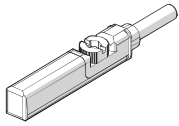
| Code | Ø | A | B | C | D | ØE | ØF | SW1 | SW2 | SW3 | SW4 | SW5 | Weight [g] |
|-------------|-----|----------|----|----|-----|----|------|-----|-----|-----|-----|-----|------------|
| W0950120030 | 12 | M6 | 10 | 10 | 35 | 2 | 8.5 | 5 | 13 | 13 | 7 | 10 | 24 |
| W0950200030 | 16 | M8 | 20 | 20 | 57 | 4 | 12.5 | 7 | 17 | 17 | 11 | 13 | 56 |
| W0950322030 | 20 | M10x1.25 | 20 | 20 | 71 | 4 | 22 | 12 | 30 | 30 | 19 | 17 | 216 |
| W0950322030 | 25 | M10x1.25 | 20 | 20 | 71 | 4 | 22 | 12 | 30 | 30 | 19 | 17 | 216 |
| W0950322030 | 32 | M10x1.25 | 20 | 20 | 71 | 4 | 22 | 12 | 30 | 30 | 19 | 17 | 216 |
| W0950322030 | 40 | M10x1.25 | 20 | 20 | 71 | 4 | 22 | 12 | 30 | 30 | 19 | 17 | 216 |
| W0950402030 | 50 | M12x1.25 | 24 | 20 | 75 | 4 | 22 | 12 | 30 | 30 | 19 | 19 | 220 |
| W0950402030 | 63 | M12x1.25 | 24 | 20 | 75 | 4 | 22 | 12 | 30 | 30 | 19 | 19 | 220 |
| W0950502030 | 80 | M16x1.5 | 32 | 32 | 103 | 4 | 32 | 20 | 41 | 41 | 30 | 24 | 620 |
| W0950802030 | 100 | M20x1.5 | 40 | 40 | 119 | 4 | 32 | 20 | 41 | 41 | 30 | 30 | 680 |

Note: Individually packed.

RETRACTABLE SENSOR

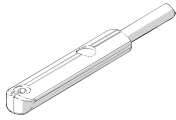
SENSOR, SQUARE TYPE

Latest generation, secure fixing



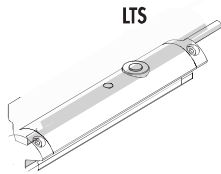
SENSOR, OVAL TYPE

Traditional



For codes and technical data, see chapter A6.

POSITION SENSORS



For technical data and usage strokes see chapter A6.

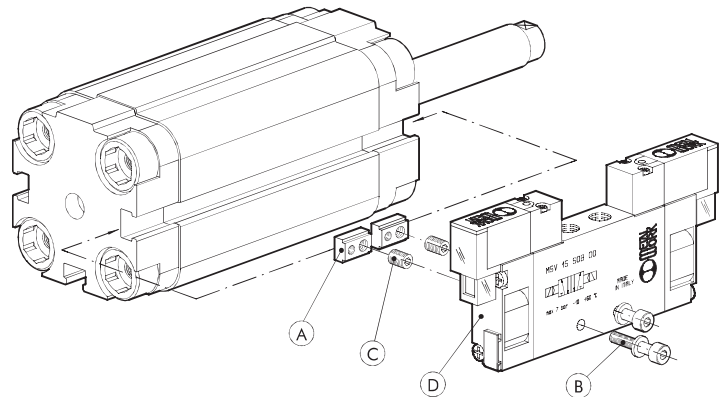
VALVE ASSEMBLY ON CYLINDER

With this type of cylinder, the valves (D) can be mounted directly using the retracting sensor slot, without requiring the use of intermediate brackets. This can be done using the special plates (A) which come with both M3 and M4 threads, and screws (B) of the size, type and quantity shown in the table below.

The plates are supplied complete with 2 stud pins, one M3 and one M4 (C).

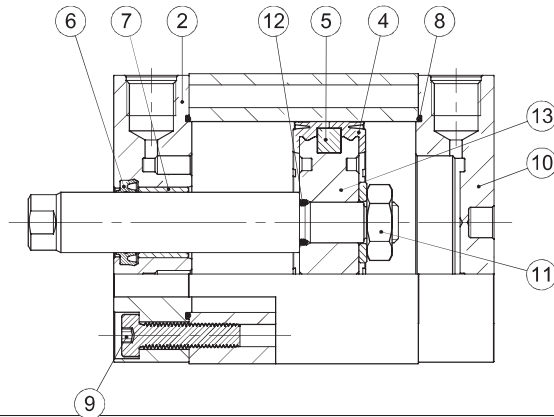
After the valve centre distance and the position of the valve have been determined, the plates can be secured to the cylinder.

A "position memory" will be created to facilitate subsequent maintenance on the valve.



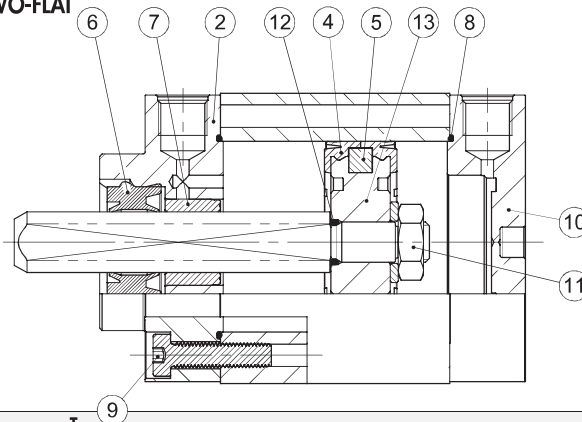
| Type of valve to mount (D) | Fixing plate (A) CODE 0950003000 | Position memory: grub screw (C) to be used | Screw (B) for connection to the cylinder (one per plate) | Washer (B) (one per screw) |
|----------------------------|-------------------------------------|--|--|----------------------------|
| MINIMACH | n° 2 | M4 | M3x16 UNI 5931 (DIN 912) | A3.2 UNI 1751 (DIN 127A) |
| MACH 11 | n° 2 | M4 | M3x16 UNI 5931 (DIN 912) | A3.2 UNI 1751 (DIN 127A) |
| SERIE 70 1/8 | n° 2 | M3 | M4x25 UNI 5931 (DIN 912) | — |
| SERIE 70 1/4 | n° 2 | M3 | M4x25 UNI 5931 (DIN 912) | A3.2 UNI 1751 (DIN 127A) |

COMPACT CYLINDERS, SERIES CMPC



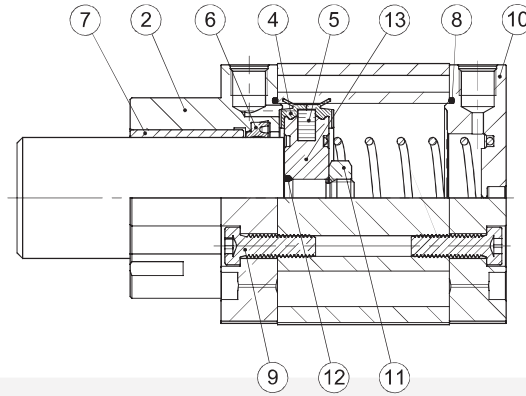
| Code | Bores | Type | Parts |
|------------|-------------|---|---------------------------|
| 009...7001 | Ø 12 to 100 | Complete set of gaskets polyurethane | 4 6 8 |
| 009...7008 | Ø 20 to 100 | Complete set of (high temperature) FKM/FPM gaskets | 4 6 8 |
| 009...7013 | Ø 12 to 100 | Polyurethane piston rod gasket kit | 6 |
| 009...7014 | Ø 20 to 100 | FKM/FPM piston rod gasket kit | 6 |
| 009...7101 | Ø 12 to 100 | Front cylinder head kit for UNITOP polyurethane | 2 7 6 8 9 |
| 0090327101 | Ø 32 | Front cylinder head kit for ISO Ø 32 polyurethane | 2 7 6 8 9 |
| 009...8101 | Ø 40 to 100 | Front cylinder head kit for ISO polyurethane | 2 7 6 8 9 |
| 009...7201 | Ø 12 to 100 | Rear cylinder head kit for UNITOP polyurethane | 8 9 10 |
| 0090327201 | Ø 32 | Rear cylinder head kit for ISO Ø 32 polyurethane | 8 9 10 |
| 009...8201 | Ø 40 to 100 | Rear cylinder head kit for ISO polyurethane | 8 9 10 |
| 009...7401 | Ø 12 to 100 | Piston kit polyurethane | 4 5 11 12 13 |
| 009...7501 | Ø 12 to 100 | Magnet | 5 |
| 009...7901 | Ø 12 to 100 | Front + rear cylinder head + piston kit for UNITOP polyurethane | 2 4 5 6 7 8 9 10 11 12 13 |
| 0090327901 | Ø 32 | Front + rear cylinder head + piston kit for ISO Ø 32 polyurethane | 2 4 5 6 7 8 9 10 11 12 13 |
| 009...8901 | Ø 40 to 100 | Front + rear cylinder head + piston kit for ISO polyurethane | 2 4 5 6 7 8 9 10 11 12 13 |

COMPACT CYLINDERS, SERIES CMPC TWO-FLAT



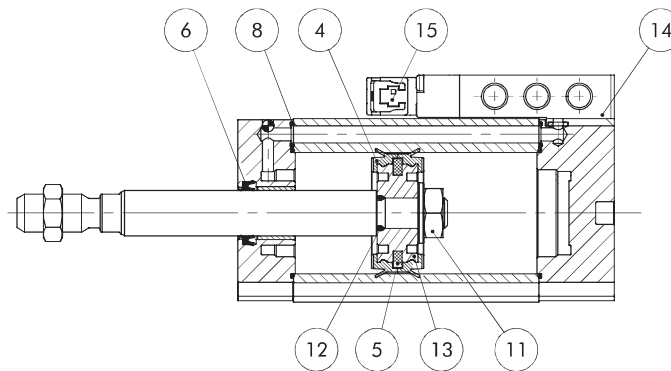
| Code | Bores | Type | Parts |
|-------------|------------|--|---------------------------|
| 009...7001F | Ø 32 to 80 | Set of gaskets | 4 8 12 |
| 009...7101F | Ø 40 to 80 | Front cylinder head kit for UNITOP | 2 7 6 8 9 |
| 0090327101F | Ø 32 | Front cylinder head kit for ISO Ø 32 | 2 7 6 8 9 |
| 009...8101F | Ø 40 to 80 | Front cylinder head kit for ISO | 2 7 6 8 9 |
| 009...7201 | Ø 40 to 80 | Rear cylinder head kit for UNITOP | 8 9 10 |
| 0090327201 | Ø 32 | Rear cylinder head kit for ISO Ø 32 | 8 9 10 |
| 009...8201 | Ø 40 to 80 | Rear cylinder head kit for ISO | 8 9 10 |
| 009...7401 | Ø 32 to 80 | Piston kit | 4 5 11 12 9 13 |
| 009...7501 | Ø 32 to 80 | Magnet | 5 |
| 009...7901F | Ø 40 to 80 | Front + rear cylinder head + piston kit for UNITOP | 2 4 5 6 7 8 9 10 11 12 13 |
| 0090327901F | Ø 32 | Front + rear cylinder head + piston kit for ISO Ø 32 | 2 4 5 6 7 8 9 10 11 12 13 |
| 009...8901F | Ø 40 to 80 | Front + rear cylinder head + piston kit for ISO | 2 4 5 6 7 8 9 10 11 12 13 |

COMPACT CYLINDERS, STOPPER



| Code | Bores | Type | Parts |
|------------|------------------|--|---------------------------|
| 009...7060 | Ø 20; 32; 50; 80 | Complete set of gaskets | 4 6 8 |
| 009...7160 | Ø 20; 32; 50; 80 | Front cylinder head kit for UNITOP | 2 7 6 8 9 |
| 0090327160 | Ø 32 | Front cylinder head kit for ISO Ø 32 | 2 7 6 8 9 |
| 009...8160 | Ø 50; 80 | Front cylinder head kit for ISO | 2 7 6 8 9 |
| 009...7201 | Ø 20; 32 | Rear cylinder head kit for UNITOP Ø 20 - Ø 32 | 8 9 10 |
| 009...7260 | Ø 50; 80 | Rear cylinder head kit for UNITOP | 8 9 10 |
| 0090327201 | Ø 32 | Rear cylinder head kit for ISO Ø 32 | 8 9 10 |
| 009...8260 | Ø 50; 80 | Rear cylinder head kit for ISO | 8 9 10 |
| 0090207401 | Ø 20 | Piston kit Ø 20 | 4 5 11 |
| 009...7460 | Ø 32; 50; 80 | Piston kit | 4 5 11 12 13 |
| 009...7501 | Ø 20; 32; 50; 80 | Magnet | 5 |
| 009...7960 | Ø 20; 32; 50; 80 | Front + rear cylinder head + piston kit for UNITOP | 2 4 5 6 7 8 9 10 11 12 13 |
| 0090327960 | Ø 32 | Front + rear cylinder head + piston kit for ISO Ø 32 | 2 4 5 6 7 8 9 10 11 12 13 |
| 009...8960 | Ø 50; 80 | Front + rear cylinder head + piston kit for ISO | 2 4 5 6 7 8 9 10 11 12 13 |

COMPACT CYLINDER WITH INTEGRATED VALVE, SERIES CCIV



| Code | Bores | Type | Parts |
|--------------|------------|---|--------------|
| 009...7001 | Ø 20 to 40 | Complete set of gaskets polyurethane | 4 6 8 |
| 009...7013 | Ø 20 to 40 | Polyurethane piston rod gasket kit | 6 |
| 009...7401 | Ø 20 to 40 | Piston kit polyurethane | 4 5 11 12 13 |
| 009...7501 | Ø 20 to 40 | Magnet | 5 |
| 70800201C2 | Ø 20 to 40 | CCIV solenoid-pneumatic monostable 24 VDC plug-in valve | 14 |
| 70800201CM | Ø 20 to 40 | CCIV solenoid-pneumatic monostable 24 VDC M8 valve | 14 |
| 722113541100 | Ø 20 to 40 | Plug-in pilot | 15 |
| 7222M3541100 | Ø 20 to 40 | M8 pilot | 15 |

Compact cylinders suitable for installation in limited spaces:

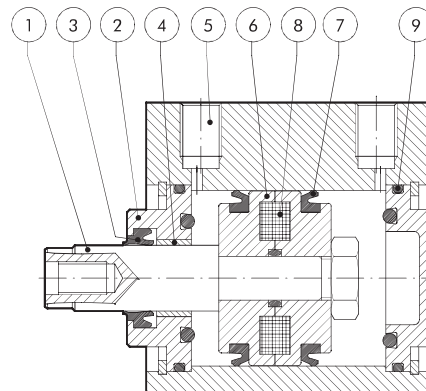
- configuration with or without magnet
- single or double-acting - single or through-rod
- anti-rotation version and with built-in fixings
- possible choice of NBR, POLYURETHANE or FKM/FPM gaskets
- special design on request.



| TECHNICAL DATA | | Ø12 | Ø16 | Ø20 | Ø25 | Ø32 | Ø40 | Ø50 | Ø63 | Ø80 | Ø100 | |
|---|------------------------|---|-----|-----|----------|-----|--------------------------------------|----------|-----|-----|----------|--|
| Max operating pressure | bar | | | | | | 10 | | | | | |
| | MPa | | | | | | 1 | | | | | |
| | psi | | | | | | 145 | | | | | |
| Temperature range | POLYURETHANE | | | | | | -10 to +80 | | | | | |
| | NBR | | | | | | -10 to +80 | | | | | |
| | FKM/FPM | | | | | | -10 to +150 (non-magnetic cylinders) | | | | | |
| | Low Temperature | | | | | | -35 to +80 | | | | | |
| Design | | | | | | | With profile | | | | | |
| Fluid | | Unlubricated air. Lubrication, if used, must be continuous | | | | | | | | | | |
| Standard strokes + | single-acting | 5 to 25 | | | 5 to 50 | | | | | | - | |
| | double acting | 5 to 50 | | | 5 to 70 | | | 5 to 110 | | | 5 to 150 | |
| | anti-rotation | | | | 5 to 120 | | | | | | 5 to 150 | |
| | perforated through-rod | | | | 5 to 100 | | | 5 to 130 | | | 5 to 165 | |
| Versions | | Double-acting, Double-acting through-rod, Single-acting retracted piston rod, Single acting extended piston rod, Single-acting through-rod, Perforated through-rod, Anti-rotation, Oscillating male, Oscillating female, No stick-slip. | | | | | | | | | | |
| Sensor magnet | | Available magnetic and non-magnetic versions. | | | | | | | | | | |
| Inrush pressure | single piston rod | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | |
| | through-rod | 1 | 0.8 | 0.8 | 0.8 | 0.6 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | |
| Forces generated at 6 bar thrust/retraction | | See cylinder "General technical data" at the beginning of the chapter | | | | | | | | | | |
| Weights | | See cylinder "General technical data" at the beginning of the chapter | | | | | | | | | | |
| Notes | | For speeds lower than 0.2 m/s to prevent surging, use the version No stick-slip and non-lubricated air. + Maximum recommended strokes. Higher values can create operating problems | | | | | | | | | | |

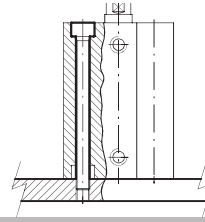
COMPONENTS

- PISTON ROD: C45 steel or stainless steel, thick chromed
- HEAD:
 Ø 12 to 25 nichel-plated brass
 Ø 32 to 100 anodized aluminium
- PISTON ROD GASKET: polyurethane, NBR or FKM/FPM
- GUIDE BUSHING: steel strip with bronze and PTFE insert
- BARREL: drawn anodized aluminium alloy
- HALF-PISTON:
 Ø 12 to 63 acetal resin
 Ø 80 to 100 in aluminium with PTFE guide pad
- PISTON GASKET: polyurethane, NBR or FKM/FPM
- MAGNET: Ø 12 to 25 neodymium - Ø 32 to 100 plastoferrite
- Static O-rings: NBR or FKM/FPM



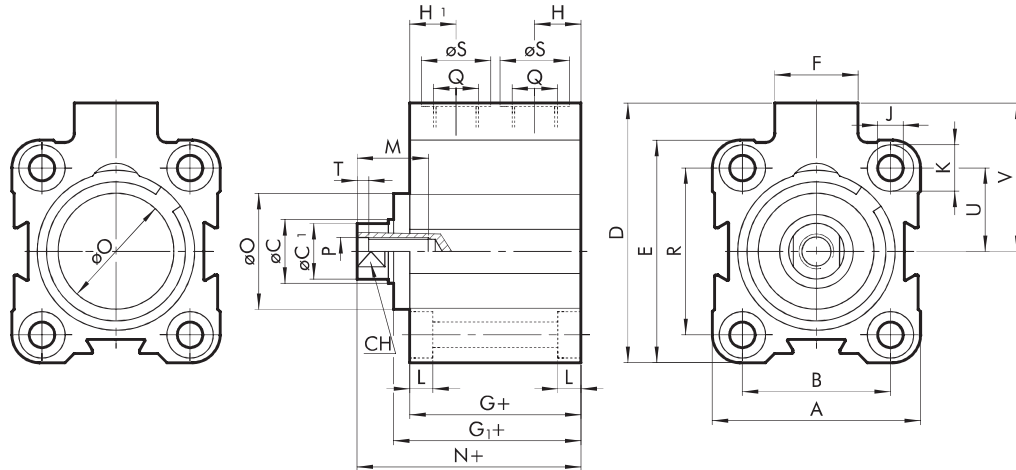
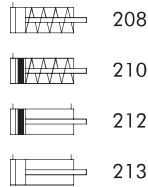
FIXING METHOD

Fix directly from above using long through-screws or tie rods.
Non-magnetic stainless steel must be used (e.g. AISI 304).



DIMENSIONS STANDARD VERSIONS

+ = ADD THE STROKE



DIMENSIONS OF DOUBLE ACTING

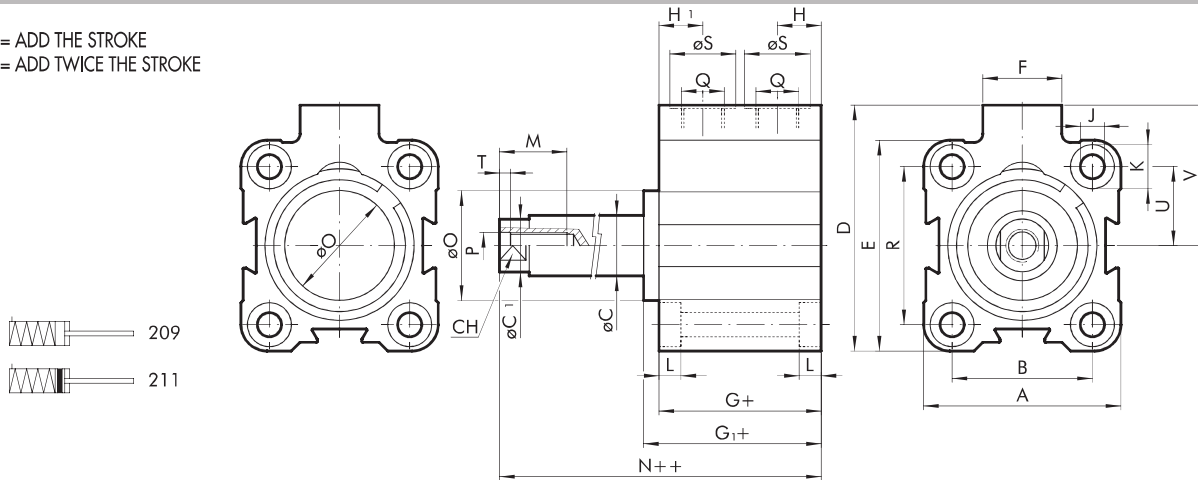
| Ø | A | B | øC | øC ₁ | D | E | F | G | G ₁ | H | H ₁ | J | K | L | M | N | øO | P | Q | R | øS | CH | T | U | V |
|-----|------|-----|----|-----------------|------|------|----|------|----------------|-----|----------------|-----|-----|-----|----|------|----|-----|------|-----|----|----|-----|------|------|
| 12 | 23.5 | 13 | 6 | 5.5 | 28 | 26 | 11 | 32.5 | - | 6.5 | 10.5 | 3.7 | 6 | 3.7 | 7 | 38 | - | M3 | M5 | - | 8 | 5 | 2 | 9.5 | 16.5 |
| 16 | 28 | 20 | 8 | 7.5 | 33 | 28 | 11 | 33 | - | 6.7 | 10.5 | 3.7 | 6 | 3.7 | 10 | 37.5 | - | M5 | M5 | 20 | 8 | 7 | 2 | 10 | 19 |
| 20 | 32 | 22 | 10 | 9 | 37 | 32 | 11 | 32 | - | 6.5 | 10.5 | 4.6 | 7.5 | 4.6 | 10 | 37.6 | - | M5 | M5 | 22 | 8 | 8 | 2 | 11 | 21 |
| 25 | 37 | 26 | 10 | 9 | 47.5 | 39 | 18 | 33 | 36.5 | 8.5 | 8.5 | 4.6 | 7.5 | 4.6 | 10 | 42.5 | 20 | M5 | G1/8 | 28 | 15 | 8 | 2 | 14 | 28 |
| 32 | 45 | 32 | 12 | 11 | 56 | 48 | 18 | 37 | 40.8 | 10 | 10 | 5.5 | 10 | 5.7 | 15 | 48.3 | 25 | M6 | G1/8 | 36 | 15 | 10 | 2.5 | 18 | 32 |
| 40 | 54.5 | 40 | 12 | 11 | 62.7 | 54.5 | 18 | 39.5 | 44.7 | 10 | 10 | 5.5 | 10 | 5.7 | 15 | 53.2 | 30 | M6 | G1/8 | 40 | 15 | 10 | 2.5 | 20 | 35.5 |
| 50 | 66 | 50 | 16 | 15 | 73 | 66 | 18 | 39.5 | 46.2 | 11 | 11 | 6.6 | 11 | 6.8 | 18 | 54.3 | 35 | M8 | G1/8 | 50 | 15 | 13 | 3.5 | 25 | 40 |
| 63 | 80 | 62 | 16 | 15 | 88 | 80 | 23 | 42 | 48.7 | 12 | 12 | 9 | 15 | 9 | 18 | 57.7 | 35 | M8 | G1/8 | 62 | 15 | 13 | 3.5 | 31 | 48 |
| 80 | 100 | 82 | 20 | 19 | 110 | 100 | 26 | 57 | 67.2 | 14 | 14 | 9 | 15 | 9 | 18 | 75.2 | 44 | M10 | G1/4 | 82 | 19 | 17 | 4 | 41 | 60 |
| 100 | 124 | 103 | 25 | 24 | 134 | 124 | 26 | 64 | 74.7 | 15 | 15 | 11 | 18 | 11 | 20 | 84.3 | 56 | M12 | G1/4 | 103 | 19 | 22 | 5 | 51.5 | 72 |

DIMENSIONS OF SINGLE-ACTING, RETRACTED PISTON ROD

| Ø | stroke | A | B | øC | øC ₁ | D | E | F | G | G ₁ | H | H ₁ | J | K | L | M | N | øO | P | Q | R | øS | CH | T | U | V |
|----|------------|------|----|----|-----------------|------|------|----|------|----------------|-----|----------------|-----|-----|-----|----|------|----|----|------|----|----|----|-----|-----|------|
| 12 | 5 to 25 | 23.5 | 13 | 6 | 5.5 | 28 | 26 | 11 | 32.5 | - | 6.5 | 10.5 | 3.7 | 6 | 3.7 | 7 | 38 | - | M3 | M5 | - | 8 | 5 | 2 | 9.5 | 16.5 |
| 16 | 5 to 25 | 28 | 20 | 8 | 7.5 | 33 | 28 | 11 | 33 | - | 6.7 | 10.5 | 3.7 | 6 | 3.7 | 10 | 37.5 | - | M5 | M5 | 20 | 8 | 7 | 2 | 10 | 19 |
| 20 | 5 to 25 | 32 | 22 | 10 | 9 | 37 | 32 | 11 | 32 | - | 6.5 | 10.5 | 4.6 | 7.5 | 4.6 | 10 | 37.6 | - | M5 | M5 | 22 | 8 | 8 | 2 | 11 | 21 |
| 25 | 5 to 25 | 37 | 26 | 10 | 9 | 47.5 | 39 | 18 | 33 | 36.5 | 8.5 | 8.5 | 4.6 | 7.5 | 4.6 | 10 | 42.5 | 20 | M5 | G1/8 | 28 | 15 | 8 | 2 | 14 | 28 |
| 32 | 5 to 25 | 45 | 32 | 12 | 11 | 56 | 48 | 18 | 37 | 40.8 | 10 | 10 | 5.5 | 10 | 5.7 | 15 | 48.3 | 25 | M6 | G1/8 | 36 | 15 | 10 | 2.5 | 18 | 32 |
| | > 25 to 50 | | | | | | | | 45 | 48.8 | | | | | | | 56.3 | | | | | | | | | |
| 40 | 5 to 25 | 54.5 | 40 | 12 | 11 | 62.7 | 54.5 | 18 | 39.5 | 44.7 | 10 | 10 | 5.5 | 10 | 5.7 | 15 | 53.2 | 30 | M6 | G1/8 | 40 | 15 | 10 | 2.5 | 20 | 35.5 |
| | > 25 to 50 | | | | | | | | 47.5 | 52.7 | | | | | | | 61.2 | | | | | | | | | |
| 50 | 5 to 25 | 66 | 50 | 16 | 15 | 73 | 66 | 18 | 39.5 | 46.2 | 11 | 11 | 6.6 | 11 | 6.8 | 18 | 54.3 | 35 | M8 | G1/8 | 50 | 15 | 13 | 3.5 | 25 | 40 |
| | > 25 to 50 | | | | | | | | 47.5 | 54.2 | | | | | | | 62.3 | | | | | | | | | |
| 63 | 5 to 25 | 80 | 62 | 16 | 15 | 88 | 80 | 23 | 42 | 48.7 | 12 | 12 | 9 | 15 | 9 | 18 | 62.3 | 35 | M8 | G1/8 | 62 | 15 | 13 | 3.5 | 31 | 48 |
| | > 25 to 50 | | | | | | | | 50 | 51.7 | | | | | | | 65.7 | | | | | | | | | |

DIMENSIONS OF SINGLE-ACTING EXTENDED PISTON ROD

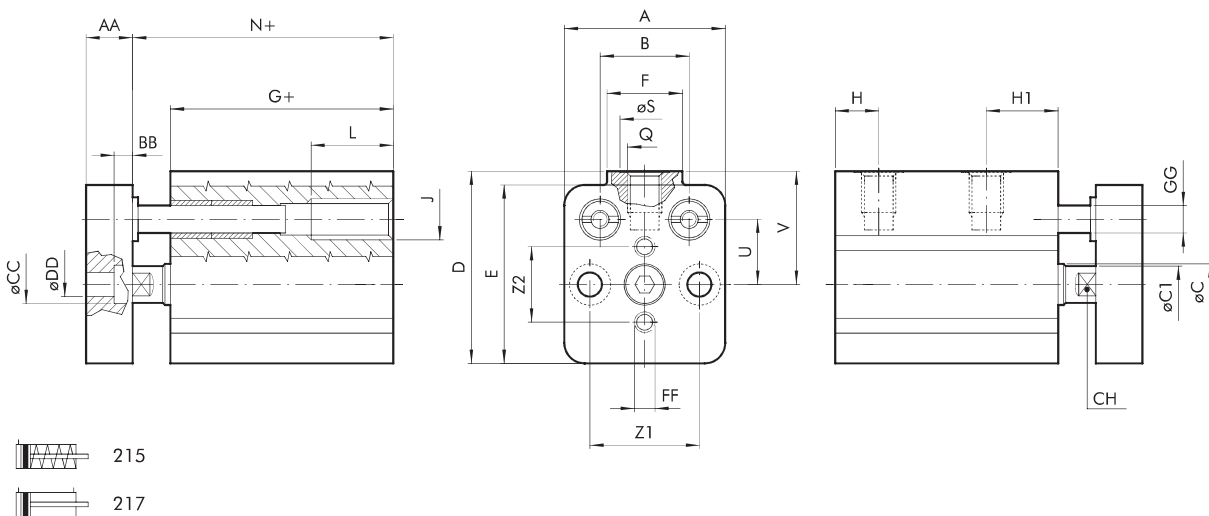
+ = ADD THE STROKE
++ = ADD TWICE THE STROKE



| Ø | stroke | A | B | øC | øC ₁ | D | E | F | G | G ₁ | H | H ₁ | J | K | L | M | N | øO | P | Q | R | øS | CH | T | U | V |
|----|------------|------|----|----|-----------------|------|------|----|------|----------------|-----|----------------|-----|-----|-----|----|------|----|----|------|----|----|----|-----|-----|------|
| 12 | 5 to 25 | 23.5 | 13 | 6 | 5.5 | 28 | 26 | 11 | 32.5 | - | 6.5 | 10.5 | 3.7 | 6 | 3.7 | 7 | 38 | - | M3 | M5 | - | 8 | 5 | 2 | 9.5 | 16.5 |
| 16 | 5 to 25 | 28 | 20 | 8 | 7.5 | 33 | 28 | 11 | 33 | - | 6.7 | 10.5 | 3.7 | 6 | 3.7 | 10 | 37.5 | - | M5 | M5 | 20 | 8 | 7 | 2 | 10 | 19 |
| 20 | 5 to 25 | 32 | 22 | 10 | 9 | 37 | 32 | 11 | 32 | - | 6.5 | 10.5 | 4.6 | 7.5 | 4.6 | 10 | 37.6 | - | M5 | M5 | 22 | 8 | 8 | 2 | 11 | 21 |
| 25 | 5 to 25 | 37 | 26 | 10 | 9 | 47.5 | 39 | 18 | 33 | 36.5 | 8.5 | 8.5 | 4.6 | 7.5 | 4.6 | 10 | 42.5 | 20 | M5 | G1/8 | 28 | 15 | 8 | 2 | 14 | 28 |
| 32 | 5 to 25 | 45 | 32 | 12 | 11 | 56 | 48 | 18 | 37 | 40.8 | 10 | 10 | 5.5 | 10 | 5.7 | 15 | 48.3 | 25 | M6 | G1/8 | 36 | 15 | 10 | 2.5 | 18 | 32 |
| | > 25 to 50 | | | | | | | | 45 | 48.8 | | | | | | | 56.3 | | | | | | | | | |
| 40 | 5 to 25 | 54.5 | 40 | 12 | 11 | 62.7 | 54.5 | 18 | 39.5 | 44.7 | 10 | 10 | 5.5 | 10 | 5.7 | 15 | 53.2 | 30 | M6 | G1/8 | 40 | 15 | 10 | 2.5 | 20 | 35.5 |
| | > 25 to 50 | | | | | | | | 47.5 | 52.7 | | | | | | | 61.2 | | | | | | | | | |
| 50 | 5 to 25 | 66 | 50 | 16 | 15 | 73 | 66 | 18 | 39.5 | 46.2 | 11 | 11 | 6.6 | 11 | 6.8 | 18 | 54.3 | 35 | M8 | G1/8 | 50 | 15 | 13 | 3.5 | 25 | 40 |
| | > 25 to 50 | | | | | | | | 47.5 | 54.2 | | | | | | | 62.3 | | | | | | | | | |
| 63 | 5 to 25 | 80 | 62 | 16 | 15 | 88 | 80 | 23 | 42 | 48.7 | 12 | 12 | 9 | 15 | 9 | 18 | 57.7 | 35 | M8 | G1/8 | 62 | 15 | 13 | 3.5 | 31 | 48 |
| | > 25 to 50 | | | | | | | | 50 | 56.7 | | | | | | | 65.7 | | | | | | | | | |

DIMENSIONS OF Ø 12 ANTI-ROTATIO^N

+ = ADD THE STROKE



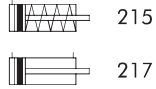
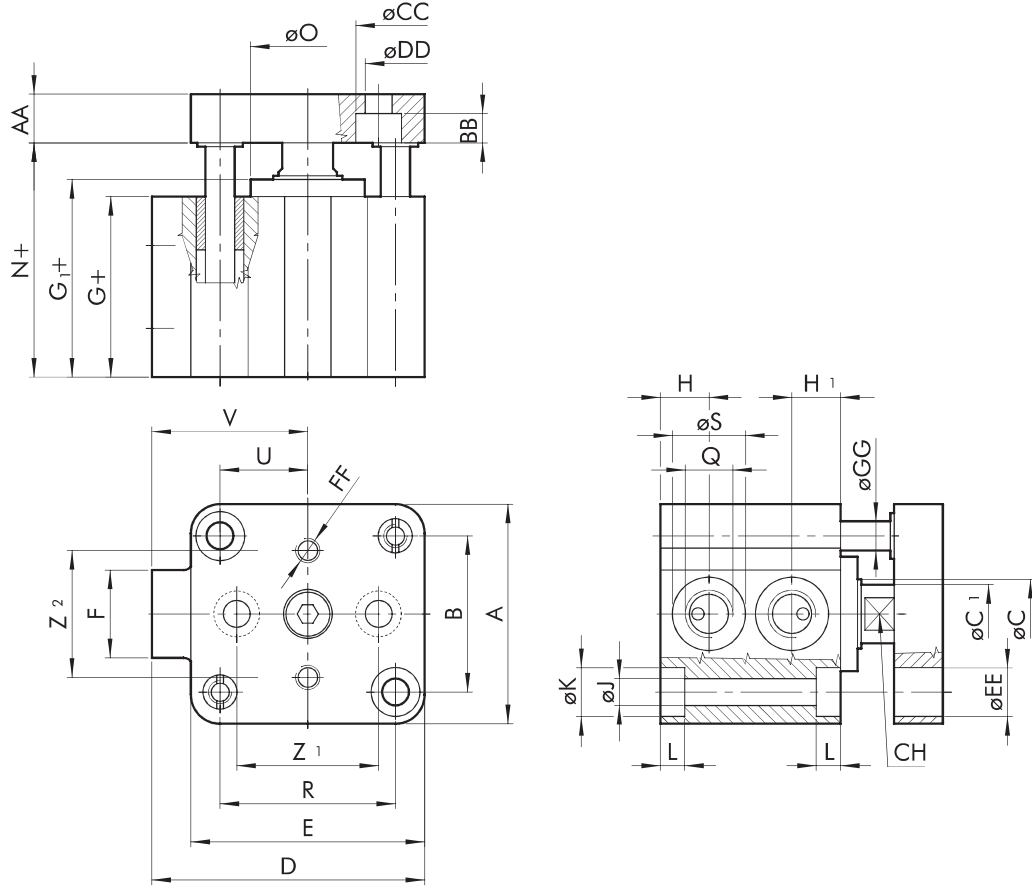
| Ø | A | B | øC | øC ₁ | D | E | F | G | H | H ₁ | J | L | N | Z ₁ | Z ₂ | Q | øS | CH | U | V | AA | BB | øCC | øDD | FF | øGG |
|----|------|----|----|-----------------|----|----|----|------|-----|----------------|----|----|----|----------------|----------------|----|----|----|-----|------|----|-----|-----|-----|----|-----|
| 12 | 23.5 | 13 | 6 | 5.5 | 28 | 26 | 11 | 32.5 | 6.5 | 10.5 | M6 | 12 | 38 | 16 | 11 | M5 | 8 | 5 | 9.5 | 16.5 | 8 | 3.5 | 6 | 3.5 | M3 | 4 |

ACTUATORS

SHORT-STROKE CYLINDER – SERIES SSCY

DIMENSIONS OF Ø 16 TO Ø 100 ANTI-ROTATION

+ = ADD THE STROKE



DOUBLE ACTING VERSION (217)

| Ø | A | B | øC | øC ₁ | D | E | F | G | G ₁ | H | H ₁ | J | K | L | N | Z ₁ | Z ₂ | Q | R | øS | CH | U | V | AA | BB | øCC | øDD | øEE | FF | øGG | øO |
|-----|------|-----|----|-----------------|------|------|----|------|----------------|-----|----------------|-----|-----|-----|------|----------------|----------------|------|-----|----|----|------|------|----|-----|-----|-----|-----|----|-----|----|
| 16 | 28 | 20 | 8 | 7.5 | 33 | 28 | 11 | 33 | - | 6.7 | 10.5 | 3.7 | 6 | 3.7 | 37.5 | 20 | 15 | M5 | 20 | 8 | 7 | 10 | 19 | 8 | 3.5 | 6 | 3.5 | 6 | M3 | 4 | - |
| 20 | 32 | 22 | 10 | 9 | 37 | 32 | 11 | 32 | - | 6.5 | 10.5 | 4.6 | 7.5 | 4.6 | 37.6 | 22 | 18 | M5 | 22 | 8 | 8 | 11 | 21 | 8 | 5 | 7.5 | 4.5 | 7.5 | M4 | 6 | - |
| 25 | 37 | 26 | 10 | 9 | 47.5 | 39 | 18 | 33 | 36.5 | 8.5 | 8.5 | 4.6 | 7.5 | 4.6 | 42.5 | 22 | 22 | G1/8 | 28 | 15 | 8 | 14 | 28 | 8 | 5 | 7.5 | 4.5 | 8 | M4 | 6 | 20 |
| 32 | 45 | 32 | 12 | 11 | 56 | 48 | 18 | 37 | 40.8 | 10 | 10 | 5.5 | 10 | 5.7 | 48.3 | 26 | 26 | G1/8 | 36 | 15 | 10 | 18 | 32 | 10 | 6 | 10 | 5.5 | 10 | M5 | 8 | 25 |
| 40 | 54.5 | 40 | 12 | 11 | 62.7 | 54.5 | 18 | 39.5 | 44.7 | 10 | 10 | 5.5 | 10 | 5.7 | 53.2 | 34 | 34 | G1/8 | 40 | 15 | 10 | 20 | 35.5 | 10 | 6 | 10 | 5.5 | 10 | M5 | 8 | 30 |
| 50 | 66 | 50 | 16 | 15 | 73 | 66 | 18 | 39.5 | 46.2 | 11 | 11 | 6.6 | 11 | 6.8 | 54.3 | 43 | 43 | G1/8 | 50 | 15 | 13 | 25 | 40 | 12 | 7 | 11 | 6.5 | 11 | M6 | 10 | 35 |
| 63 | 80 | 62 | 16 | 15 | 88 | 80 | 23 | 42 | 48.7 | 12 | 12 | 9 | 15 | 9 | 57.7 | 55 | 55 | G1/8 | 62 | 15 | 13 | 31 | 48 | 12 | 9 | 14 | 9 | 15 | M6 | 10 | 35 |
| 80 | 100 | 82 | 20 | 19 | 110 | 100 | 26 | 57 | 67.2 | 14 | 14 | 9 | 15 | 9 | 75.2 | 70 | 70 | G1/4 | 82 | 19 | 17 | 41 | 60 | 14 | 9 | 14 | 9 | 15 | M8 | 12 | 44 |
| 100 | 124 | 103 | 25 | 24 | 134 | 124 | 26 | 64 | 74.7 | 15 | 15 | 11 | 18 | 11 | 84.3 | 94 | 94 | G1/4 | 103 | 19 | 22 | 51.5 | 72 | 17 | 9 | 14 | 9 | 18 | M8 | 12 | 56 |

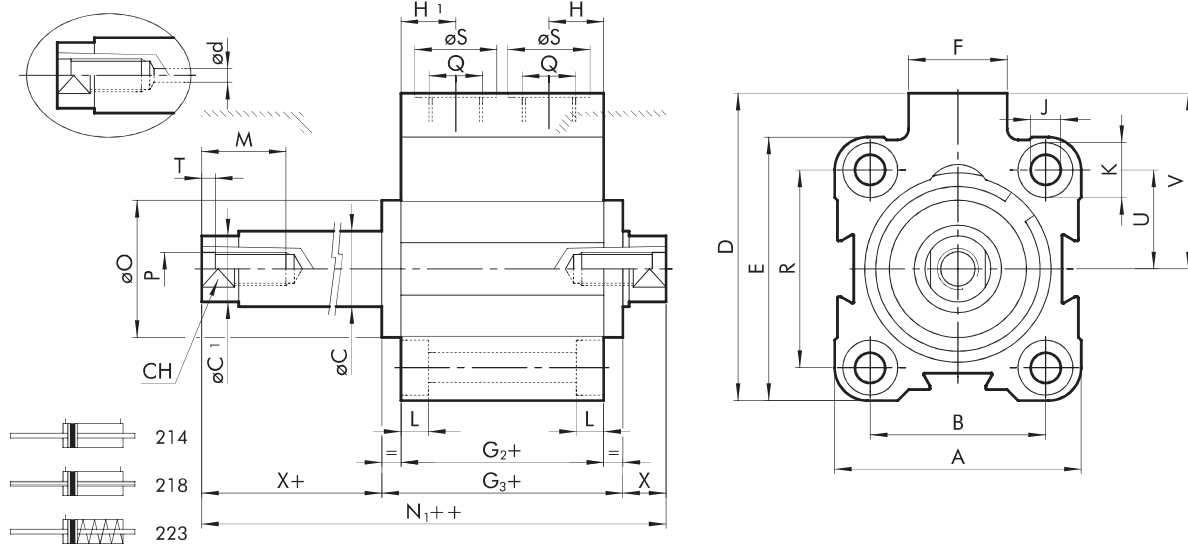
SINGLE-ACTING THROUGH-ROD VERSION (215)

| Ø | Hub | A | B | øC | øC ₁ | D | E | F | G | G ₁ | H | H ₁ | J | K | L | M | N | øO | P | Q | R | øS | CH | T | U | V |
|----|---------|------|----|----|-----------------|------|------|----|------|----------------|------|----------------|-----|-----|-----|----|------|----|----|------|----|----|----|-----|----|------|
| 16 | 5-25 | 28 | 20 | 8 | 7.5 | 33 | 28 | 11 | 33 | - | 6.7 | 10.5 | 3.7 | 6 | 3.7 | 10 | 37.5 | - | M5 | M5 | 20 | 8 | 7 | 2 | 10 | 19 |
| 20 | 5-25 | 32 | 22 | 10 | 9 | 37 | 32 | 11 | 32 | - | 6.5 | 10.5 | 4.6 | 7.5 | 4.6 | 10 | 37.6 | - | M5 | M5 | 22 | 8 | 8 | 2 | 11 | 21 |
| 25 | 5-25 | 37 | 26 | 10 | 9 | 47.5 | 39 | 18 | 33 | 36.5 | 8.5 | 8.5 | 4.6 | 7.5 | 4.6 | 10 | 42.5 | 20 | M5 | G1/8 | 28 | 15 | 8 | 2 | 14 | 28 |
| 32 | 5-25 | 45 | 32 | 12 | 11 | 56 | 48 | 18 | 37 | 40.8 | 10 | 10 | 5.5 | 10 | 5.7 | 15 | 48.3 | 25 | M6 | G1/8 | 36 | 15 | 10 | 2.5 | 18 | 32 |
| | > 25-50 | | | | | | | | | 45 | 48.8 | | | | | | 56.3 | | | | | | | | | |
| 40 | 5-25 | 54.5 | 40 | 12 | 11 | 62.7 | 54.5 | 18 | 39.5 | 44.7 | 10 | 10 | 5.5 | 10 | 5.7 | 15 | 53.2 | 30 | M6 | G1/8 | 40 | 15 | 10 | 2.5 | 20 | 35.5 |
| | > 25-50 | | | | | | | | 47.5 | 52.7 | | | | | | | 61.2 | | | | | | | | | |
| 50 | 5-25 | 66 | 50 | 16 | 15 | 73 | 66 | 18 | 39.5 | 46.2 | 11 | 11 | 6.6 | 11 | 6.8 | 18 | 54.3 | 35 | M8 | G1/8 | 50 | 15 | 13 | 3.5 | 25 | 40 |
| | > 25-50 | | | | | | | | 47.5 | 54.2 | | | | | | | 62.3 | | | | | | | | | |
| 63 | 5-25 | 80 | 62 | 16 | 15 | 88 | 80 | 23 | 42 | 48.7 | 12 | 12 | 9 | 15 | 9 | 18 | 57.7 | 35 | M8 | G1/8 | 62 | 15 | 13 | 3.5 | 31 | 48 |
| | > 25-50 | | | | | | | | 50 | 56.7 | | | | | | | 65.7 | | | | | | | | | |

DIMENSIONS OF THROUGH-ROD

+ = ADD THE STROKE
++ = ADD TWICE THE STROKE

PERFORATED THROUGH-ROD



ACTUATORS

SHORT-STROKE CYLINDER - SERIES SSCY

DIMENSION OF DOUBLE ACTING THROUGH-ROD AND PERFORATED THROUGH-ROD

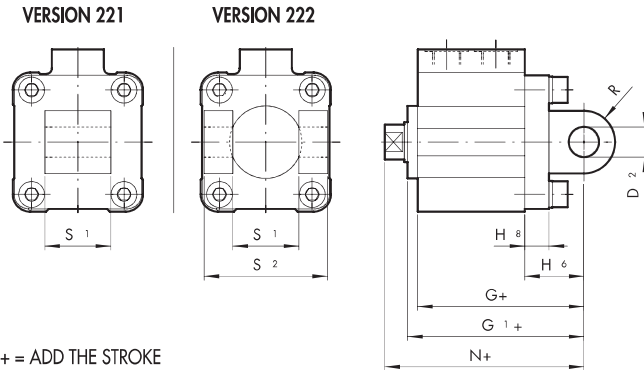
| Ø | A | B | øC | øC ₁ | D | ød** | E | F | G ₂ | G ₃ | H | H ₁ | J | K | L | M | N ₁ | øP | Q | R | øS | CH | T | U | V | X* | |
|-----|------|-----|----|-----------------|------|------|------|----|----------------|----------------|------|----------------|-----|-----|-----|----|----------------|----|-----|------|-----|----|----|-----|------|------|-----|
| 12 | 23.5 | 13 | 6 | 5.5 | 28 | - | 26 | 11 | 36.7 | - | 10.5 | 10.5 | 3.7 | 6 | 3.7 | 7 | 47.7 | - | M3 | M5 | - | 8 | 5 | 2 | 9.5 | 16.5 | 5.5 |
| 16 | 28 | 20 | 8 | 7.5 | 33 | - | 28 | 11 | 36.8 | - | 10.5 | 10.5 | 3.7 | 6 | 3.7 | 10 | 45.8 | - | M5 | M5 | 20 | 8 | 7 | 2 | 10 | 19 | 4.5 |
| 20 | 32 | 22 | 10 | 9 | 37 | 1.5 | 32 | 11 | 36 | - | 10.5 | 10.5 | 4.6 | 7.5 | 4.6 | 10 | 47.2 | - | M5 | M5 | 22 | 8 | 8 | 2 | 11 | 21 | 5.6 |
| 25 | 37 | 26 | 10 | 9 | 47.5 | 1.5 | 39 | 18 | 35.7 | 42.7 | 8.5 | 8.5 | 4.6 | 7.5 | 4.6 | 10 | 54.7 | 20 | M5 | G1/8 | 28 | 15 | 8 | 2 | 14 | 28 | 6 |
| 32 | 45 | 32 | 12 | 11 | 56 | 2.5 | 48 | 18 | 37 | 44.5 | 10 | 10 | 5.5 | 10 | 5.7 | 15 | 59.5 | 25 | M6 | G1/8 | 36 | 15 | 10 | 2.5 | 18 | 32 | 7.5 |
| 40 | 54.5 | 40 | 12 | 11 | 62.7 | 2.5 | 54.5 | 18 | 39.5 | 49.9 | 10 | 10 | 5.5 | 10 | 5.7 | 15 | 66.9 | 30 | M6 | G1/8 | 40 | 15 | 10 | 2.5 | 20 | 35.5 | 8.5 |
| 50 | 66 | 50 | 16 | 15 | 73 | 2.5 | 66 | 18 | 39.5 | 52.9 | 11 | 11 | 6.6 | 11 | 6.8 | 18 | 69.1 | 35 | M8 | G1/8 | 50 | 15 | 13 | 3.5 | 25 | 40 | 8.1 |
| 63 | 80 | 62 | 16 | 15 | 88 | 4 | 80 | 23 | 42 | 55.4 | 12 | 12 | 9 | 15 | 9 | 18 | 73.4 | 35 | M8 | G1/8 | 62 | 15 | 13 | 3.5 | 31 | 48 | 9 |
| 80 | 100 | 82 | 20 | 19 | 110 | 5 | 100 | 26 | 57 | 77.4 | 14 | 14 | 9 | 15 | 9 | 18 | 93.4 | 44 | M10 | G1/4 | 82 | 19 | 17 | 4 | 41 | 60 | 8 |
| 100 | 124 | 103 | 25 | 24 | 134 | 6 | 124 | 26 | 64 | 85.4 | 15 | 15 | 11 | 18 | 11 | 20 | 104.6 | 56 | M12 | G1/4 | 103 | 19 | 22 | 5 | 51.5 | 72 | 9.6 |

* for Ø 12, 16, 20: (N₁++) = (G₂+) + (X) + (X+)
** column for perforated through-rod only

DIMENSION OF SINGLE-ACTING THROUGH-ROD

| Ø | stroke | A | B | øC | øC ₁ | D | E | F | G ₂ | G ₃ | H | H ₁ | J | K | L | M | N ₁ | øP | Q | R | øS | CH | T | U | V | X* | |
|----|------------|------|----|----|-----------------|------|------|----|----------------|----------------|------|----------------|-----|-----|-----|----|----------------|----|----|------|----|----|----|-----|-----|------|-----|
| 12 | 5 to 25 | 23.5 | 13 | 6 | 5.5 | 28 | 26 | 11 | 36.7 | - | 10.5 | 10.5 | 3.7 | 6 | 3.7 | 7 | 47.7 | - | M3 | M5 | - | 8 | 5 | 2 | 9.5 | 16.5 | 5.5 |
| 16 | 5 to 25 | 28 | 20 | 8 | 7.5 | 33 | 28 | 11 | 36.8 | - | 10.5 | 10.5 | 3.7 | 6 | 3.7 | 10 | 45.8 | - | M5 | M5 | 20 | 8 | 7 | 2 | 10 | 19 | 4.5 |
| 20 | 5 to 25 | 32 | 22 | 10 | 9 | 37 | 32 | 11 | 36 | - | 10.5 | 10.5 | 4.6 | 7.5 | 4.6 | 10 | 47.2 | - | M5 | M5 | 22 | 8 | 8 | 2 | 11 | 21 | 5.6 |
| 25 | 5 to 25 | 37 | 26 | 10 | 9 | 47.5 | 39 | 18 | 35.7 | 42.7 | 8.5 | 8.5 | 4.6 | 7.5 | 4.6 | 10 | 57.7 | 20 | M5 | G1/8 | 28 | 15 | 8 | 2 | 14 | 28 | 6 |
| 32 | 5 to 25 | 45 | 32 | 12 | 11 | 56 | 48 | 18 | 37 | 44.5 | 10 | 10 | 5.5 | 10 | 5.7 | 15 | 59.5 | 25 | M6 | G1/8 | 36 | 15 | 10 | 2.5 | 18 | 32 | 7.5 |
| | > 25 to 50 | | | | | | | | 45 | 52.5 | | | | | | | 67.5 | | | | | | | | | | 7.5 |
| 40 | 5 to 25 | 54.5 | 40 | 12 | 11 | 62.7 | 54.5 | 18 | 39.5 | 49.9 | 10 | 10 | 5.5 | 10 | 5.7 | 15 | 66.9 | 30 | M6 | G1/8 | 40 | 15 | 10 | 2.5 | 20 | 35.5 | 8.5 |
| | > 25 to 50 | | | | | | | | 47.5 | 57.9 | | | | | | | 74.9 | | | | | | | | | | 8.5 |
| 50 | 5 to 25 | 66 | 50 | 16 | 15 | 73 | 66 | 18 | 39.5 | 52.9 | 11 | 11 | 6.6 | 11 | 6.8 | 18 | 69.1 | 35 | M8 | G1/8 | 50 | 15 | 13 | 3.5 | 25 | 40 | 8.1 |
| | > 25 to 50 | | | | | | | | 47.5 | 60.9 | | | | | | | 77.1 | | | | | | | | | | 8.1 |
| 63 | 5 to 25 | 80 | 62 | 16 | 15 | 88 | 80 | 23 | 42 | 55.4 | 12 | 12 | 9 | 15 | 9 | 18 | 73.4 | 35 | M8 | G1/8 | 62 | 15 | 13 | 3.5 | 31 | 48 | 9 |
| | > 25 to 50 | | | | | | | | 50 | 63.4 | | | | | | | 81.4 | | | | | | | | | | 9 |

DIMENSIONS: SAME AS 221 VERSION (MALE HINGE MOD. BA) - SAME AS 222 VERSION (FEMALE HINGE MOD. B)



| Ø | Stroke | D ₂ | G | G ₁ | H ₆ | H ₈ | N | R | S ₁ | S ₂ |
|----|----------|----------------|------|----------------|----------------|----------------|------|----|----------------|----------------|
| 32 | 5 to 70 | 10 | 59 | 62.8 | 22 | 10 | 70.3 | 11 | 26 | 45 |
| 40 | 5 to 70 | 12 | 64.5 | 69.7 | 25 | 10 | 78.2 | 13 | 28 | 52 |
| 50 | 5 to 110 | 12 | 66.5 | 73.2 | 27 | 12 | 80.2 | 13 | 32 | 60 |
| 63 | 5 to 110 | 16 | 74 | 80.7 | 32 | 12 | 89.7 | 17 | 40 | 70 |

Note: For other dimensions, refer to the standard version

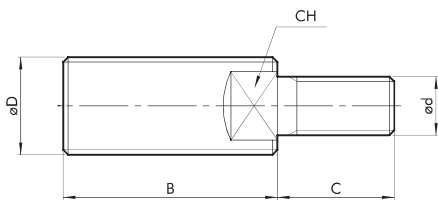
KEY TO CODES

| CYL | 2 1 2 | 0 | 4 0 | 0 0 1 0 | C | P |
|-----|--|-------------------|-------|--|---|------------------------|
| | TYPE | | BORE | STROKE | MATERIAL | GASKETS |
| ■ | 208 Single-acting retracted rod, non-magnetic | 0 Standard | 12 | For the maximum supplyable strokes, look at the technical data | C C45 chrome piston rod, technopolymer piston Ø 12 to 63 mm | P Polyurethane gaskets |
| ■ | 209 Single-acting extended rod, non-magnetic | S Non-magnetic | 16 | | A C45 chrome piston rod, aluminium piston (standard Ø 80 to 100 mm) | N NBR gaskets |
| ■ | 210 Single-acting, retracted rod | ▲ G No stick-slip | 20 | | X Stainless steel piston rod and nut | ● V FKM/FPM gaskets |
| ■ | 211 Single acting, extended rod | | 25 | | | ● B Low temperature |
| ■ | 212 Double acting, magnetic | | 32 | | Z Stainless steel piston rod and nut | |
| ■ | 213 Double acting, non-magnetic | | 40 | | | |
| ■ | 214 Double acting, through-rod | | 50 | | | |
| ■ | 215 Single-acting, retracted, anti-rotation | | 63 | | | |
| ■ | 217 Double acting, anti-rotation | | 80 | | | |
| ▼ | 218 Double acting, perforated through-rod | | ◆ 100 | | | |
| ■ | 221 Oscillating male hinge (up to Ø 63 only) | | | | | |
| ■ | 222 Oscillating female hinge (up to Ø 63 only) | | | | | |
| ■ | 223 Single-acting, through-rod | | | | | |

- ◆ In the code of cylinder with letter in fourth position Ø 100 becomes A1
- Available up to Ø 63
- ▼ Available from Ø 20

- Only available for non-magnetic versions (S) and with aluminium piston (A or Z)
- ▲ For speeds lower than 0.2 m/s, to prevent surging. Use no-lubricated air only

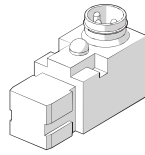
MALE NIPPLE FOR PISTON ROD



| Code | Ø | Ø D | Ø d | B | C | CH | Weight [g] |
|-----------|----|----------|-----|----|----|----|------------|
| 219001200 | 12 | M6 | M3 | 16 | 6 | 4 | 3 |
| 219001600 | 16 | M8 | M5 | 20 | 9 | 6 | 8 |
| 219001600 | 20 | M8 | M5 | 20 | 9 | 6 | 8 |
| 219002500 | 25 | M10x1.25 | M5 | 22 | 9 | 7 | 12 |
| 219003200 | 32 | M10x1.25 | M6 | 22 | 12 | 7 | 14 |
| 219004000 | 40 | M12x1.25 | M6 | 24 | 12 | 10 | 14 |
| 219005000 | 50 | M16x1.5 | M8 | 32 | 15 | 13 | 20 |
| 219005000 | 63 | M16x1.5 | M8 | 32 | 15 | 13 | 20 |
| 219008000 | 80 | M20x1.5 | M10 | 40 | 15 | 17 | 96 |

MAGNETIC SENSORS

SENSOR SERIES DCB

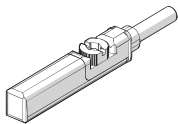


For codes and technical data, see **chapter A6**.

RETRACTABLE SENSOR

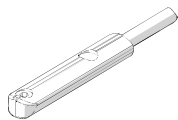
SENSOR, SQUARE TYPE

Latest generation,
secure fixing



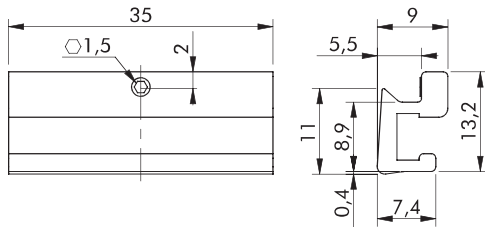
SENSOR, OVAL TYPE

Traditional



For codes and technical data, see **chapter A6**.

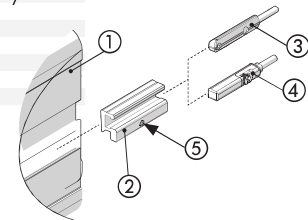
ADAPTER FOR RETRACTABLE SENSOR SQUARE AND OVAL TYPES



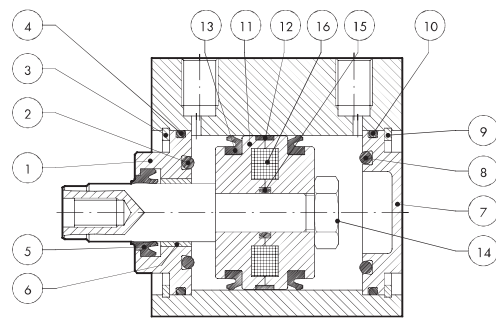
| Code | Ø | Description |
|-------------|-------------|----------------------------------|
| W0950001101 | Ø 12 to 100 | Sensor Adapter for SSC cylinders |

ASSEMBLY DIAGRAM

- ① SSCY cylinder
- ② Sensor adapter for SSCY cylinders
- ③ Retractable sensor "oval type"
- ④ Retractable sensor "square type"
- ⑤ Grub screw for fixing adapter on profile



SPARES PARTS FOR SHORT-STROKE CYLINDERS



| Code | Bores | Type | Parts |
|--------------|-------------|--|-------------------------------|
| 009 ... 0010 | Ø 12 to 100 | Complete polyurethane front head kit | ① ② ③ ④ ⑤ ⑥ |
| 009 ... 0011 | Ø 12 to 100 | Complete NBR front head kit | ① ② ③ ④ ⑤ ⑥ |
| 009 ... 0015 | Ø 12 to 100 | Complete NBR rear head kit | ⑦ ⑧ ⑨ ⑩ |
| 009 ... 0021 | Ø 12 to 100 | Complete polyurethane piston kit | ⑪ ⑫ ⑬ ⑭ ⑮ |
| 009 ... 0023 | Ø 12 to 100 | Complete NBR piston kit | ⑪ ⑫ ⑬ ⑭ ⑮ |
| 009 ... 0005 | Ø 12 to 100 | Complete set of polyurethane gaskets | ② ④ ⑤ ⑧ ⑩ ⑬ ⑮ |
| 009 ... 0006 | Ø 12 to 100 | Complete set of NBR gaskets | ② ④ ⑤ ⑧ ⑩ ⑬ ⑮ |
| 009 ... 0007 | Ø 12 to 100 | Complete set of (high temperature) FKM/FPM gaskets | ② ④ ⑤ ⑧ ⑩ ⑬ ⑮ |
| 009 ... 2008 | Ø 12 to 63 | Polyurethane piston rod gasket kit | ⑤ |
| 009 ... 2008 | Ø 80 to 100 | Polyurethane piston rod gasket kit + seeger | ⑤ |
| 009 ... 2009 | Ø 12 to 63 | NBR piston rod gasket kit | ⑤ |
| 009 ... 2009 | Ø 80 to 100 | NBR piston rod gasket kit + seeger | ⑤ |
| 009 ... 2010 | Ø 12 to 63 | FKM/FPM piston rod gasket kit | ⑤ |
| 009 ... 2010 | Ø 80 to 100 | FKM/FPM piston rod gasket kit + seeger | ⑤ |
| 009 ... 0031 | Ø 12 to 100 | Complete polyurethane front+rear head kit + piston | ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ |
| 009 ... 0033 | Ø 12 to 100 | Complete NBR front + rear head kit + piston | ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ |
| 009 ... 0001 | Ø 12 to 100 | Magnet | ⑯ |