

# Cylinders Series 60

New version 

1

MOVEMENT

Single and double-acting, magnetic, cushioned  
Standard, low friction and low temperature versions  
ø 32, 40, 50, 63, 80, 100, 125 mm



The Series 60 cylinders have been designed to comply with the dimensions laid down in the ISO 15552 standards. A permanent magnet, mounted on the piston, enables information to be received regarding the piston position by means of proximity switches positioned along the cylinder tube.

This cylinders series is normally equipped with adjustable end-stroke cushioning. Moreover these cylinders are equipped with a mechanical cushioning in order to reduce the impact of the piston as it reaches the end of the stroke.

- » In compliance with ISO 15552 standards and with the previous DIN/ISO 6431 - VDMA 24562 standards
- » Rolled stainless steel rod
- » Adjustable pneumatic cushioning
- » Available special versions  
LOW FRICTION:
- » Friction force reduced by over 40%
- » Reduced stick-slip effect
- » Minimum operating pressure down to 0,1 bar  
LOW TEMPERATURE:
- » Versions for -40°C and for -50°C  
G VARIANT FOR DUSTY APPLICATIONS:
- » Highly resistant to dusty residues (cement, resin, mud, residues from wood, etc...)

## GENERAL DATA

|                              |  |
|------------------------------|--|
| <b>Type of construction</b>  | with tie-rods  |
| <b>Operation</b>             | double-acting, single-acting, tandem. Low friction version: double-acting only.  |
| <b>Materials</b>             | standard: AL end-blocks and piston, rolled stainless steel AISI 420B rod, anodized AL tube, zinc-plated steel tie-rods and tie-rod nuts, PU seals;<br>low friction: standard materials with NBR piston seals and NBR rod seal (FKM rod seal on request)<br>low temperature: standard materials with chrome plated stainless steel AISI 420B rod, brass rod scraper ring, stainless steel AISI 303 nuts, stainless steel AISI 420B tie-rods, PU piston seals and NBR rod seal |
| <b>Type of mounting</b>      | with tie-rods, with front / rear flange, foot mounting, with centre / front / rear / swivel trunnion   |
| <b>Strokes min - max</b>     | 10 ÷ 2500 mm   |
| <b>Operating temperature</b> | standard and low friction: 0°C ÷ 80°C (with dry air - 20°C)<br>low temperature (-40°C version): -40°C ÷ 60°C (with dry air -40°C)<br>low temperature (-50°C version): -50°C ÷ 60°C (with dry air -50°C)  |
| <b>Operating pressure</b>    | 1 ÷ 10 bar (standard and low temperature); 0,1 ÷ 10 bar (low friction)   |
| <b>Speed</b>                 | 10 ÷ 1000 mm/sec, no load (standard and low temperature); 5 ÷ 1000 mm/sec, no load (low friction)  |
| <b>Fluid</b>                 | filtered air, without lubrication. For standard versions only: if lubricated air is used, it is recommended to use oil ISOVG32. Once applied the lubrication should never be interrupted.  |

**STANDARD STROKES FOR CYLINDERS SERIES 60**

■ = Single-acting (standard and low temperature)    ✕ = Double-acting (standard, low friction and low temperature)  
 Other strokes up to 2500 mm are available on request.

| ∅   | 25  | 50  | 75  | 100 | 125 | 150 | 160 | 200 | 250 | 300 | 320 | 400 | 500 |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 32  | ■ ✕ | ■ ✕ | ■ ✕ | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   |
| 40  | ■ ✕ | ■ ✕ | ■ ✕ | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   |
| 50  | ■ ✕ | ■ ✕ | ■ ✕ | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   |
| 63  | ■ ✕ | ■ ✕ | ■ ✕ | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   |
| 80  | ■ ✕ | ■ ✕ | ■ ✕ | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   |
| 100 |     | ■ ✕ | ■ ✕ | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   |
| 125 |     | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   | ✕   |

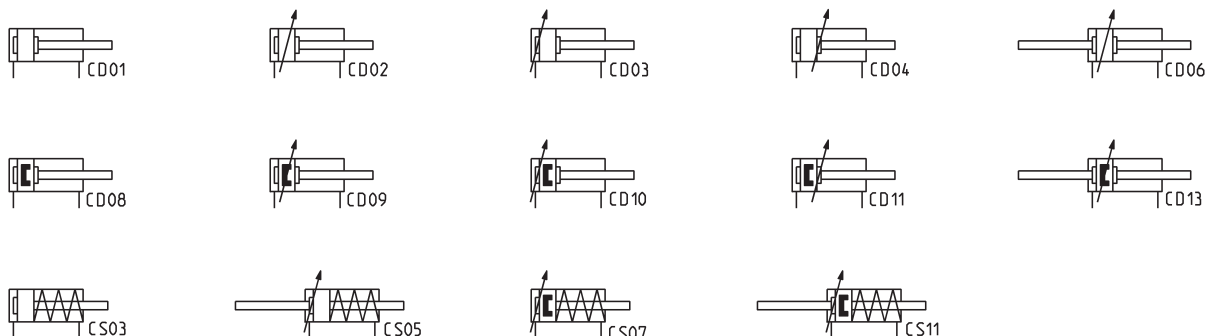
**CODING EXAMPLE**

|   |  |          |          |            |  |             |
|---|--|----------|----------|------------|--|-------------|
| <b>60</b>   | <b>M</b>   | <b>2</b> | <b>L</b> | <b>050</b> | <b>A</b>   | <b>0200</b> |
| <b>60</b>   | SERIES   |          |          |            |  |             |
| <b>M</b>  | VERSIONS<br>M = magnetic    N = non magnetic    L = low friction, magnetic   |          |          |            |  |             |
| <b>2</b>  | OPERATION<br>1 = single-acting, front spring<br>2 = double-acting, front and rear cushioned<br>3 = double-acting, no cushion<br>4 = double-acting, rear cushioned<br>5 = double-acting, front cushioned<br>6 = double-acting, through-rod, front and rear cushioned<br>7 = single-acting, through-rod  |          |          |            | PNEUMATIC SYMBOLS<br>CS03 (N) - CS07 (M)<br>CD02 (N) - CD09 (M)<br>CD01 (N) - CD08 (M)<br>CD03 (N) - CD10 (M)<br>CD04 (N) - CD11 (M)<br>CD06 (N) - CD13 (M)<br>CS05 (N) - CS11 (M) |             |
| <b>L</b>  | MATERIALS<br>L = see the general data on page 1/1.20.01<br>T = stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rod nuts, others: see p. 1/1.20.01<br>C = rolled stainless steel AISI 303 piston rod, stainless steel AISI 304 piston rod nut<br>U = rolled stainless steel AISI 303 piston rod, AISI 304 piston-rod nut, AISI 420B tie-rods, AISI 303 tie-rod nuts<br>W = rolled stainless steel AISI 304 piston rod, AISI304 piston-rod nut, AISI 420B tie-rods, AISI 303 tie-rod nuts<br>Z = chrome plated stainless steel AISI 420B rod, stainless steel AISI 304 rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rods nuts, seals for low temperature (-40°C), brass rod scraper [ ∅ 125 excepted ]<br>Y = chrome plated stainless steel AISI 420B rod, stainless steel AISI 304 rod nut, stainless steel AISI 420B tie-rods, stainless steel AISI 303 tie-rods nuts, seals for low temperature (-50°C), brass rod scraper [ ∅ 125 excepted ] |          |          |            |  |             |
| <b>050</b>  | BORE<br>032 = 32 mm - 040 = 40 mm - 050 = 50 mm - 063 = 63 mm - 080 = 80 mm - 100 = 100 mm - 125 = 125 mm  |          |          |            |  |             |
| <b>A</b>  | CONSTRUCTION<br>A = standard with lock nut for rod - RL = cylinder with rod lock - F = cylinder with centre trunnion   |          |          |            |  |             |
| <b>0200</b>   | STROKE (see the table)<br>= standard    V = FKM rod seal    N = tandem<br>R = NBR rod seal    W = all FKM seals +130°C    C = PU coated cylinder. Colour: Grey *<br>L = low friction version without rod seal (rear supply only) ** ( _ _ _ ) = extended piston rod _ _ _ mm<br>G = with brass rod scraper (chrome plated stainless steel AISI 420B rod, NBR rod seal) [ ∅ 125 excepted ]  |          |          |            |  |             |
| * Version C: available on request. For further information, please contact our technical dept.<br>** The possibility to order the cylinder without piston rod seal, further reduces the friction force. |  |          |          |            |  |             |

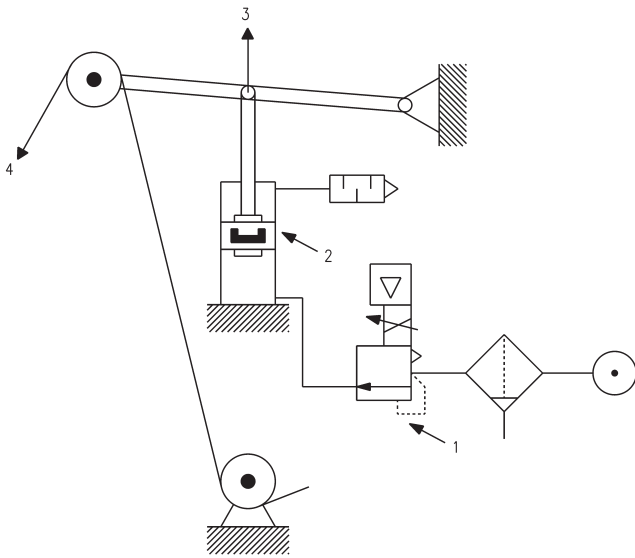
Note: all double-acting cylinders are also available in the low friction version.

**PNEUMATIC SYMBOLS**

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.



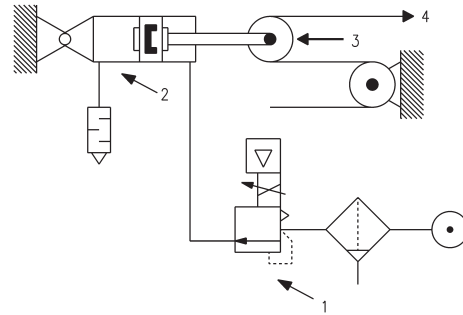
Low friction cylinders Series 60 - APPLICATION EXAMPLES



CYLINDER IN THRUST

DRAWING NOTES:

- 1. Precision pressure regulator or electro-pneumatic regulator
- 2. Low friction cylinder
- 3. Force direction
- 4. Band

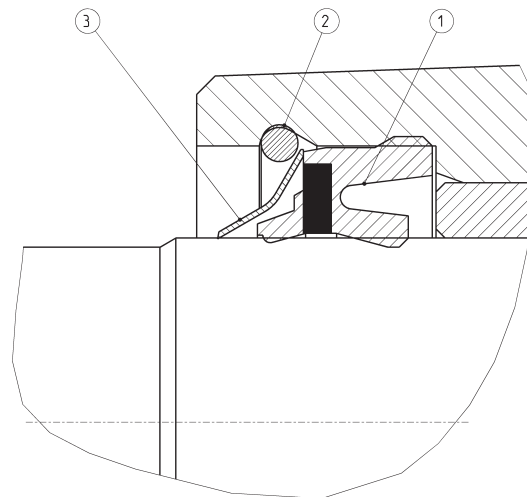
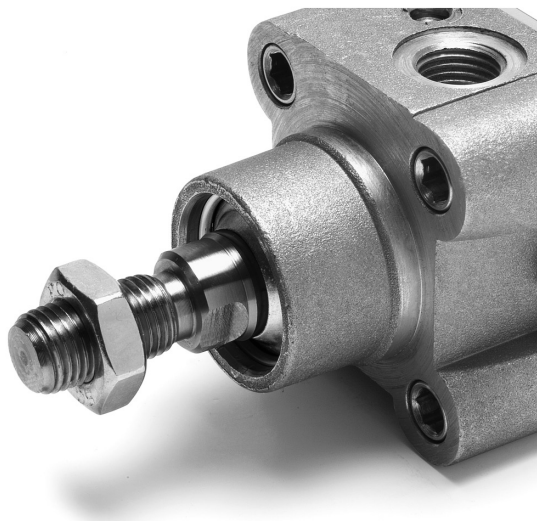


CYLINDER IN TRACTION

Note: in order to reach the highest performance, it is recommended to connect precision pressure regulator or an electro-pneumatic regulator with the low friction cylinder as shown in the drawing.

Low temperature cylinders Series 60 - DETAIL

New version



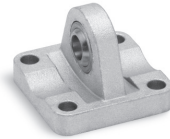
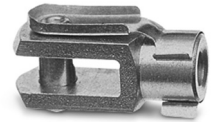
- 1 = rod seal
- 2 = seeger
- 3 = metal scraper

**ACCESSORIES FOR CYLINDERS SERIES 60**

 Piston rod socket joint  
Mod. GY

 Piston rod lock nut  
Mod. U

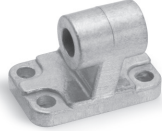
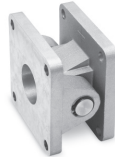

Clevis pin Mod. S


 Rear trunnion ball-joint  
Mod. R


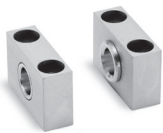
Rod fork end Mod. G



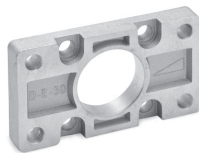
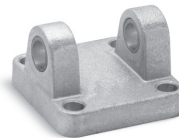
Swivel ball joint Mod. GA

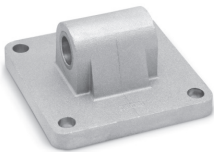

 90° male trunnion  
Mod. ZC

 Swivel combination  
Mod. C+L+S


Centre trunnion Mod. F


 Self aligning rod  
Mod. GK

 Counter bracket for centre  
trunnion Mod. BF


Foot mount Mod. B


 Front and rear flange  
Mod. D-E

 Rear female trunnion  
Mod. C and C-H

 Front female trunnion  
Mod. H and C-H

 Rear male trunnion Mod.  
L

 Coupling piece  
Mod. GKF

 Key to disassemble cylinders  
Ø 80 and 100


All accessories are supplied separately, except for piston rod lock nut Mod. U

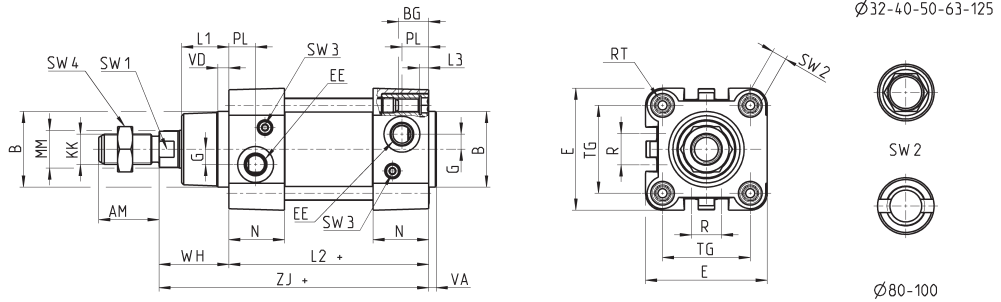
### Cylinders Series 60

Note: the single-acting cylinders' sizes ZJ and L2 are increased by 25 mm.



+ = add the stroke

Table note:  
\* = special key 80-62/8C  
(see accessories)



**DIMENSIONS**

| Ø   | AM | B  | BG   | E    | EE   | G    | KK       | L1 | L2+ | L3 | MM | N    | PL   | R    | RT  | SW1 | SW2 | SW3 | SW4 | TG   | VA | VD | WH | ZJ+ | Front/rear cushion stroke |
|-----|----|----|------|------|------|------|----------|----|-----|----|----|------|------|------|-----|-----|-----|-----|-----|------|----|----|----|-----|---------------------------|
| 32  | 22 | 30 | 16   | 46   | G1/8 | 5    | M10x1,25 | 18 | 94  | 5  | 12 | 26   | 14   | 13   | M6  | 10  | 6   | 2   | 17  | 32,5 | 4  | 5  | 26 | 120 | 17 / 12                   |
| 40  | 24 | 35 | 16   | 55   | G1/4 | 5    | M12x1,25 | 21 | 105 | 5  | 16 | 29   | 15   | 13,5 | M6  | 13  | 6   | 2   | 19  | 38   | 4  | 5  | 30 | 135 | 20 / 17                   |
| 50  | 32 | 40 | 16   | 64,5 | G1/4 | 8    | M16x1,5  | 25 | 106 | 5  | 20 | 29,5 | 15   | 16   | M8  | 17  | 8   | 3   | 24  | 46,5 | 4  | 6  | 37 | 143 | 15 / 14                   |
| 63  | 32 | 45 | 16   | 75   | G3/8 | 8    | M16x1,5  | 26 | 121 | 5  | 20 | 36,5 | 21   | 28   | M8  | 17  | 8   | 3   | 24  | 56,5 | 4  | 6  | 37 | 158 | 17 / 16                   |
| 80  | 40 | 45 | 19   | 93   | G3/8 | 8    | M20x1,5  | 30 | 128 | 0  | 25 | 36   | 21   | 30   | M10 | 22  | *   | 5   | 30  | 72   | 4  | 7  | 46 | 174 | 20 / 20                   |
| 100 | 40 | 55 | 19,5 | 110  | G1/2 | 8    | M20x1,5  | 35 | 138 | 0  | 25 | 38,5 | 23   | 40   | M10 | 22  | *   | 5   | 30  | 89   | 4  | 7  | 51 | 189 | 21 / 19                   |
| 125 | 54 | 60 | 23   | 135  | G1/2 | 10,5 | M27x2    | 42 | 160 | 0  | 32 | 43   | 23,5 | 50   | M12 | 27  | 12  | 4   | 41  | 110  | 6  | 8  | 65 | 225 | 26 / 25                   |

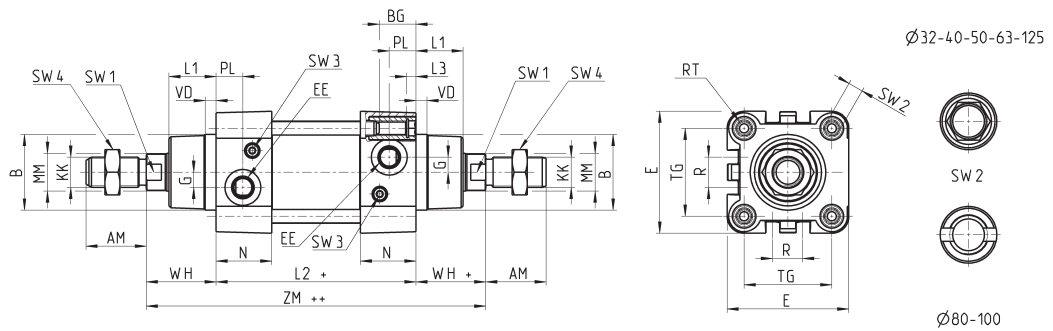
### Cylinders Series 60 - through-rod

Note: the single-acting cylinders' sizes ZM and L2 are increased by 25 mm.



+ = add the stroke once  
++ = add the stroke twice

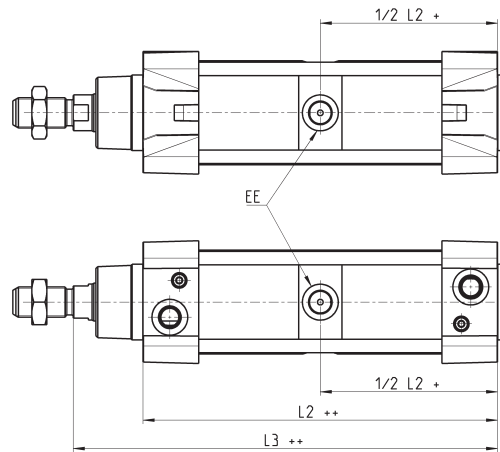
Table note:  
\* = special key 80-62/8C  
(see accessories)



**DIMENSIONS**

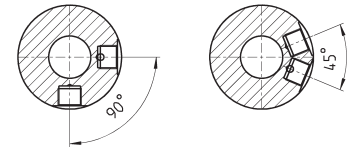
| Ø   | AM | B  | BG   | E    | EE   | G    | KK       | L1 | L2+ | L3 | MM | N    | PL   | R    | RT  | SW1 | SW2 | SW3 | SW4 | TG   | VD | WH | ZM++ | Front/rear cushion stroke |
|-----|----|----|------|------|------|------|----------|----|-----|----|----|------|------|------|-----|-----|-----|-----|-----|------|----|----|------|---------------------------|
| 32  | 22 | 30 | 16   | 46   | G1/8 | 5    | M10x1,25 | 18 | 94  | 5  | 12 | 26   | 14   | 13   | M6  | 10  | 6   | 2   | 17  | 32,5 | 5  | 26 | 146  | 17 / 12                   |
| 40  | 24 | 35 | 16   | 55   | G1/4 | 5    | M12x1,25 | 21 | 105 | 5  | 16 | 29   | 15   | 13,5 | M6  | 13  | 6   | 2   | 19  | 38   | 5  | 30 | 165  | 20 / 17                   |
| 50  | 32 | 40 | 16   | 64,5 | G1/4 | 8    | M16x1,5  | 25 | 106 | 5  | 20 | 29,5 | 15   | 16   | M8  | 17  | 8   | 3   | 24  | 46,5 | 6  | 37 | 180  | 15 / 14                   |
| 63  | 32 | 45 | 16   | 75   | G3/8 | 8    | M16x1,5  | 26 | 121 | 5  | 20 | 36,5 | 21   | 28   | M8  | 17  | 8   | 3   | 24  | 56,5 | 6  | 37 | 195  | 17 / 16                   |
| 80  | 40 | 45 | 19   | 93   | G3/8 | 8    | M20x1,5  | 30 | 128 | 0  | 25 | 36   | 21   | 30   | M10 | 22  | *   | 5   | 30  | 72   | 7  | 46 | 220  | 20 / 20                   |
| 100 | 40 | 55 | 19,5 | 110  | G1/2 | 8    | M20x1,5  | 35 | 138 | 0  | 25 | 38,5 | 23   | 40   | M10 | 22  | *   | 5   | 30  | 89   | 7  | 51 | 240  | 21 / 19                   |
| 125 | 54 | 60 | 23   | 135  | G1/2 | 10,5 | M27x2    | 42 | 160 | 0  | 32 | 43   | 23,5 | 50   | M12 | 27  | 12  | 4   | 41  | 110  | 8  | 65 | 290  | 26 / 25                   |

## Cylinders Series 60 - tandem version



Ø32-40-50-63

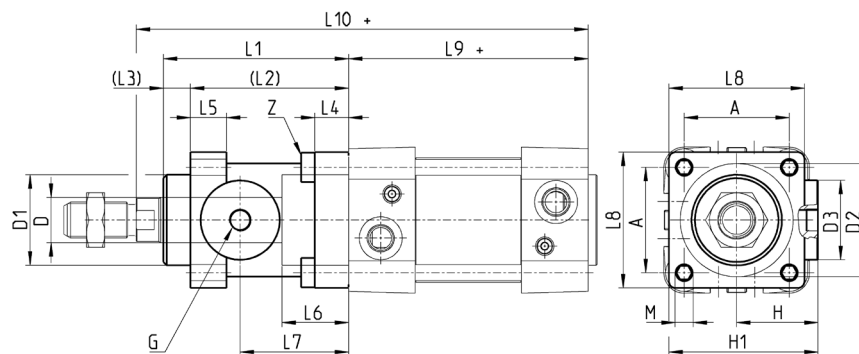
Ø80-100-125


 + = add the stroke once  
 ++ = add the stroke twice

## DIMENSIONS

| Ø   | EE   | L2    | L3    |
|-----|------|-------|-------|
| 32  | G1/8 | 171,5 | 197,5 |
| 40  | G1/4 | 191,5 | 221,5 |
| 50  | G1/4 | 188   | 225   |
| 63  | G3/8 | 204   | 241   |
| 80  | G3/8 | 225,5 | 271,5 |
| 100 | G1/2 | 231   | 282   |
| 125 | G1/2 | 264   | 329   |

## Cylinders Series 60 with rod lock



+ = add the stroke

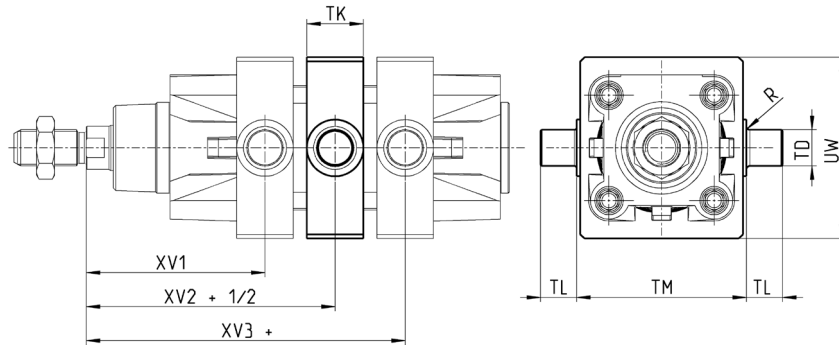
## DIMENSIONS

| Ø   | ØD | ØD1  | ØD2 | ØD3 | A    | G    | H    | H1    | L1  | L2  | L3 | L4 | L5 | L6   | L7   | L8  | L9+ | L10+ | M   | Z      |
|-----|----|------|-----|-----|------|------|------|-------|-----|-----|----|----|----|------|------|-----|-----|------|-----|--------|
| 32  | 12 | 30,5 | 35  | 25  | 32,5 | M5   | 25,5 | 46,5  | 58  | 48  | 10 | 8  | 13 | 20,5 | 34   | 45  | 94  | 160  | M6  | M6X20  |
| 40  | 16 | 35   | 40  | 28  | 38   | G1/8 | 30   | 53    | 65  | 55  | 10 | 8  | 13 | 22,5 | 38   | 50  | 105 | 178  | M6  | M6X20  |
| 50  | 20 | 40   | 50  | 35  | 46,5 | G1/8 | 36   | 64    | 82  | 70  | 12 | 15 | 16 | 29,5 | 48   | 60  | 106 | 200  | M8  | M8X30  |
| 63  | 20 | 45   | 60  | 38  | 56,5 | G1/8 | 40   | 75    | 82  | 70  | 12 | 15 | 16 | 29,5 | 49,5 | 70  | 121 | 215  | M8  | M8X30  |
| 80  | 25 | 45   | 80  | 48  | 72   | G1/8 | 50   | 95    | 110 | 90  | 20 | 18 | 20 | 35   | 61   | 90  | 128 | 254  | M10 | M10X35 |
| 100 | 25 | 55   | 100 | 58  | 89   | G1/8 | 58   | 110,5 | 115 | 100 | 15 | 18 | 20 | 39   | 69   | 105 | 138 | 269  | M10 | M10X35 |
| 125 | 32 | 60   | 130 | 65  | 110  | G1/8 | 80   | 150   | 167 | 122 | 45 | 22 | 30 | 51   | 86,5 | 140 | 160 | 350  | M12 | M12X40 |

Cylinders Series 60 with centre trunnion Mod. F



+ = add the stroke once  
 ++ = add the stroke twice



| DIMENSIONS |       |      |       |          |    |         |          |     |     |
|------------|-------|------|-------|----------|----|---------|----------|-----|-----|
| Ø          | XV1   | XV2  | XV3   | TM (h14) | TK | TD (e9) | TL (h14) | UW  | R   |
| 32         | 62    | 73   | 84    | 50       | 20 | 12      | 12       | 50  | 0.5 |
| 40         | 69    | 82,5 | 96    | 63       | 20 | 16      | 16       | 60  | 1   |
| 50         | 79    | 90   | 101   | 75       | 25 | 16      | 16       | 70  | 1   |
| 63         | 86    | 97,5 | 109   | 90       | 25 | 20      | 20       | 85  | 1   |
| 80         | 97    | 110  | 123   | 110      | 30 | 20      | 20       | 105 | 1   |
| 100        | 104,5 | 120  | 135,5 | 132      | 30 | 25      | 25       | 125 | 1.5 |
| 125        | 123   | 145  | 167   | 160      | 30 | 25      | 25       | 155 | 1.5 |

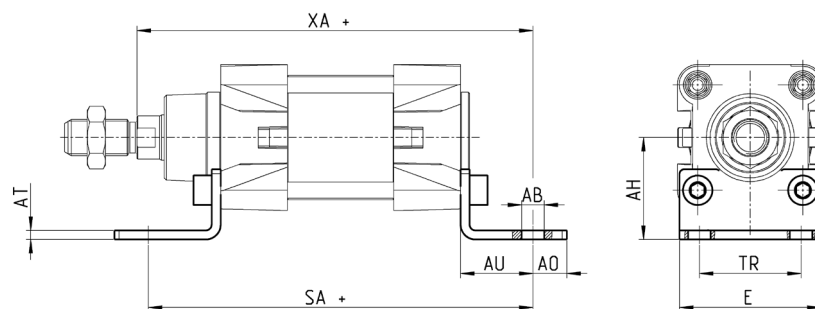
Foot mount Mod. B

Material: zinc-plated steel



Supplied with:  
 2x feet  
 4x screws

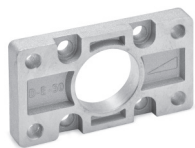
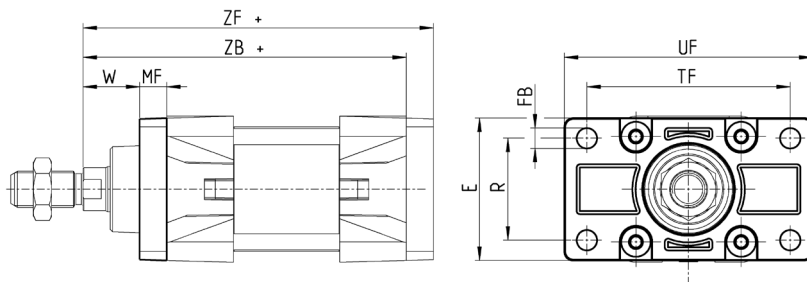
+ = add the stroke



| DIMENSIONS |     |    |     |     |    |       |      |    |    |    |              |
|------------|-----|----|-----|-----|----|-------|------|----|----|----|--------------|
| Mod.       | Ø   | AT | SA+ | XA+ | TR | E     | AB   | AH | AO | AU | torque force |
| B-41-32    | 32  | 4  | 142 | 144 | 32 | 45    | 7    | 32 | 11 | 24 | 6 Nm         |
| B-41-40    | 40  | 4  | 161 | 163 | 36 | 53,5  | 10   | 36 | 15 | 28 | 6 Nm         |
| B-41-50    | 50  | 4  | 170 | 175 | 45 | 62,5  | 10   | 45 | 15 | 32 | 13 Nm        |
| B-41-63    | 63  | 5  | 185 | 190 | 50 | 73    | 10   | 50 | 15 | 32 | 13 Nm        |
| B-41-80    | 80  | 6  | 210 | 216 | 63 | 92    | 12   | 63 | 20 | 41 | 19 Nm        |
| B-41-100   | 100 | 6  | 220 | 230 | 75 | 108,5 | 14,5 | 71 | 25 | 41 | 22 Nm        |
| B-41-125   | 125 | 7  | 250 | 270 | 90 | 132   | 16,5 | 90 | 25 | 45 | 26 Nm        |

**Front and rear flange Mod. D-E**

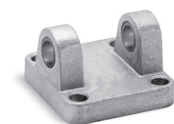
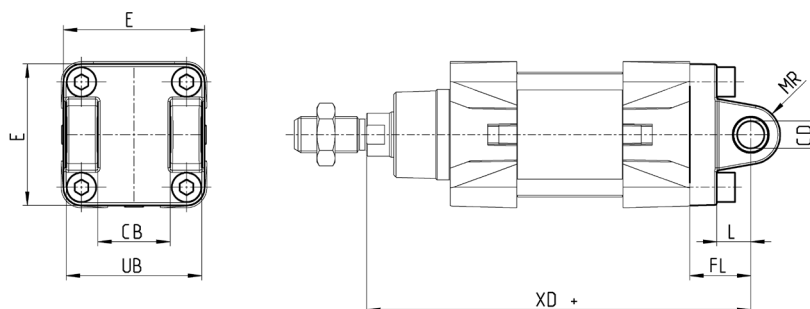
Material: Aluminium


 Supplied with:  
 1x flange  
 4x screws  
 + = add the stroke

**DIMENSIONS**

| Mod.              | ∅   | W  | MF | ZB  | TF  | R  | UF  | E   | FB | ZF  | torque force |
|-------------------|-----|----|----|-----|-----|----|-----|-----|----|-----|--------------|
| <b>D-E-41-32</b>  | 32  | 16 | 10 | 120 | 64  | 32 | 86  | 45  | 7  | 130 | 6 Nm         |
| <b>D-E-41-40</b>  | 40  | 20 | 10 | 135 | 72  | 36 | 88  | 52  | 9  | 145 | 6 Nm         |
| <b>D-E-41-50</b>  | 50  | 25 | 12 | 143 | 90  | 45 | 110 | 63  | 9  | 155 | 13 Nm        |
| <b>D-E-41-63</b>  | 63  | 25 | 12 | 158 | 100 | 50 | 116 | 73  | 9  | 170 | 13 Nm        |
| <b>D-E-41-80</b>  | 80  | 30 | 16 | 174 | 126 | 63 | 148 | 95  | 12 | 190 | 19 Nm        |
| <b>D-E-41-100</b> | 100 | 35 | 16 | 189 | 150 | 75 | 176 | 115 | 14 | 205 | 22 Nm        |
| <b>D-E-41-125</b> | 125 | 45 | 20 | 225 | 180 | 90 | 224 | 135 | 16 | 245 | 26 Nm        |

**Rear female trunnion Mod. C and C-H**

Material: Aluminium


 Supplied with:  
 1x female trunnion  
 4x screws  
 + = add the stroke

**DIMENSIONS**

| Mod.              | ∅   | CD | L  | FL | XD+ | MR | E   | CB | UB  | torque force |
|-------------------|-----|----|----|----|-----|----|-----|----|-----|--------------|
| <b>C-41-32</b>    | 32  | 10 | 12 | 22 | 142 | 10 | 45  | 26 | 45  | 6 Nm         |
| <b>C-41-40</b>    | 40  | 12 | 15 | 25 | 160 | 13 | 52  | 28 | 52  | 6 Nm         |
| <b>C-41-50</b>    | 50  | 12 | 15 | 27 | 170 | 13 | 63  | 32 | 60  | 13 Nm        |
| <b>C-H-41-63</b>  | 63  | 16 | 20 | 32 | 190 | 15 | 73  | 40 | 70  | 13 Nm        |
| <b>C-H-41-80</b>  | 80  | 16 | 24 | 36 | 210 | 15 | 95  | 50 | 90  | 19 Nm        |
| <b>C-H-41-100</b> | 100 | 20 | 29 | 41 | 230 | 18 | 115 | 60 | 110 | 22 Nm        |
| <b>C-H-41-125</b> | 125 | 25 | 30 | 50 | 275 | 25 | 135 | 70 | 130 | 26 Nm        |



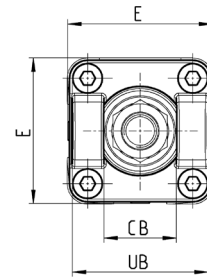
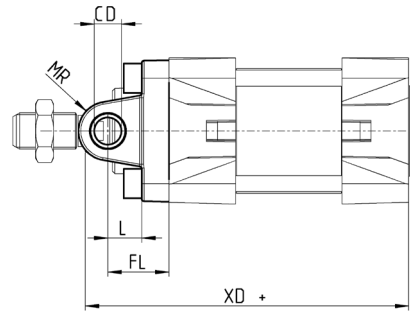
### Front female trunnion Mod. H and C-H

Material: Aluminium



Supplied with:  
1x trunnion  
4x screws

+ = add the stroke

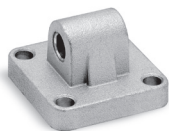


**DIMENSIONS**

| Mod.       | CB | UB  | E   | XD+ | FL | L  | CD | MR | torque force |
|------------|----|-----|-----|-----|----|----|----|----|--------------|
| H-41-32    | 26 | 45  | 45  | 120 | 22 | 12 | 10 | 10 | 6 Nm         |
| H-41-40    | 28 | 52  | 52  | 135 | 25 | 15 | 12 | 13 | 6 Nm         |
| H-41-50    | 32 | 60  | 63  | 143 | 27 | 15 | 12 | 13 | 13 Nm        |
| H-60-63    | 40 | 70  | 73  | 158 | 32 | 20 | 16 | 15 | 13 Nm        |
| C-H-41-80  | 50 | 90  | 95  | 174 | 36 | 24 | 16 | 15 | 19 Nm        |
| C-H-41-100 | 60 | 110 | 115 | 189 | 41 | 29 | 20 | 18 | 22 Nm        |
| C-H-41-125 | 70 | 130 | 135 | 225 | 50 | 30 | 25 | 25 | 22 Nm        |

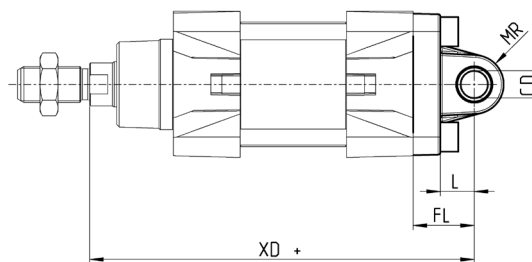
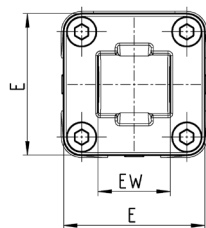
### Rear male trunnion Mod. L

Material: Aluminium



Supplied with:  
2x male trunnions  
4x screws

+ = add the stroke



**DIMENSIONS**

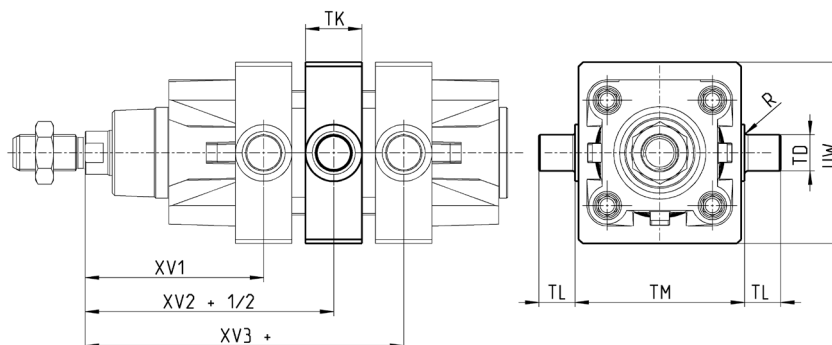
| Mod.     | ∅   | CD | L  | FL | XD+ | MR | E   | EW | torque force |
|----------|-----|----|----|----|-----|----|-----|----|--------------|
| L-41-32  | 32  | 10 | 12 | 22 | 142 | 9  | 45  | 26 | 6 Nm         |
| L-41-40  | 40  | 12 | 15 | 25 | 160 | 13 | 52  | 28 | 6 Nm         |
| L-41-50  | 50  | 12 | 15 | 27 | 170 | 13 | 63  | 32 | 13 Nm        |
| L-41-63  | 63  | 16 | 20 | 32 | 190 | 15 | 73  | 40 | 13 Nm        |
| L-41-80  | 80  | 16 | 24 | 36 | 210 | 15 | 95  | 50 | 19 Nm        |
| L-41-100 | 100 | 20 | 29 | 41 | 230 | 18 | 115 | 60 | 22 Nm        |
| L-41-125 | 125 | 25 | 30 | 50 | 275 | 25 | 135 | 70 | 26 Nm        |

**Centre trunnion Mod. F**

Material: zinc-plated steel


 Supplied with:  
 1x intermediate trunnion  
 4x clamping elements  
 4x locking screws

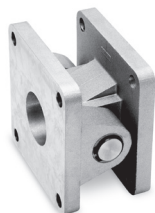
+ = add the stroke


**DIMENSIONS**

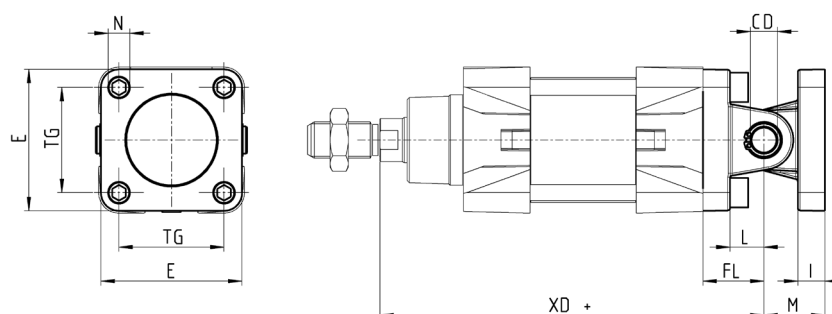
| Mod.         | ∅   | XV1   | XV2  | XV3   | TM (h14) | TK | TD (e9) | TL | UW  | R   |
|--------------|-----|-------|------|-------|----------|----|---------|----|-----|-----|
| <b>F-32</b>  | 32  | 62    | 73   | 84    | 50       | 20 | 12      | 12 | 50  | 0.5 |
| <b>F-40</b>  | 40  | 69    | 82,5 | 96    | 63       | 20 | 16      | 16 | 60  | 1   |
| <b>F-50</b>  | 50  | 79    | 90   | 101   | 75       | 25 | 16      | 16 | 70  | 1   |
| <b>F-63</b>  | 63  | 86    | 97,5 | 109   | 90       | 25 | 20      | 20 | 85  | 1   |
| <b>F-80</b>  | 80  | 97    | 110  | 123   | 110      | 30 | 20      | 20 | 105 | 1   |
| <b>F-100</b> | 100 | 104,5 | 120  | 135,5 | 132      | 30 | 25      | 25 | 125 | 1.5 |
| <b>F-125</b> | 125 | 123   | 145  | 167   | 160      | 30 | 25      | 25 | 155 | 1.5 |

**Accessory combination Mod. C+L+S**

Material: Aluminium



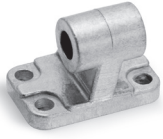
+ = add the stroke


**DIMENSIONS**

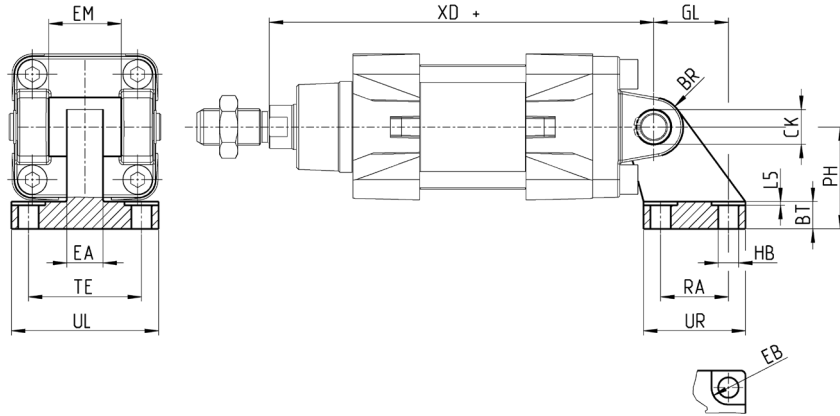
| Mod.         | ∅   | ∅CD | L  | FL | XD+ | TG   | E   | I  | M  | ∅N  | torque force |
|--------------|-----|-----|----|----|-----|------|-----|----|----|-----|--------------|
| <b>C+L+S</b> | 32  | 10  | 12 | 22 | 142 | 32,5 | 45  | 10 | 22 | 6,5 | 6 Nm         |
| <b>C+L+S</b> | 40  | 12  | 15 | 25 | 160 | 38   | 52  | 10 | 25 | 6,5 | 6 Nm         |
| <b>C+L+S</b> | 50  | 12  | 15 | 27 | 170 | 46,5 | 63  | 12 | 27 | 9   | 13 Nm        |
| <b>C+L+S</b> | 63  | 16  | 20 | 32 | 190 | 56,5 | 73  | 12 | 32 | 9   | 13 Nm        |
| <b>C+L+S</b> | 80  | 16  | 24 | 36 | 210 | 72   | 95  | 12 | 36 | 11  | 19 Nm        |
| <b>C+L+S</b> | 100 | 20  | 29 | 41 | 230 | 89   | 115 | 12 | 41 | 11  | 22 Nm        |
| <b>C+L+S</b> | 125 | 25  | 30 | 50 | 275 | 110  | 135 | 20 | 50 | 13  | 26 Nm        |

90° male trunnion Mod. ZC

CETOP RP 107P  
Material: aluminium



Supplied with:  
1x male trunnion  
+ = add the stroke

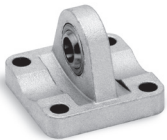


DIMENSIONS

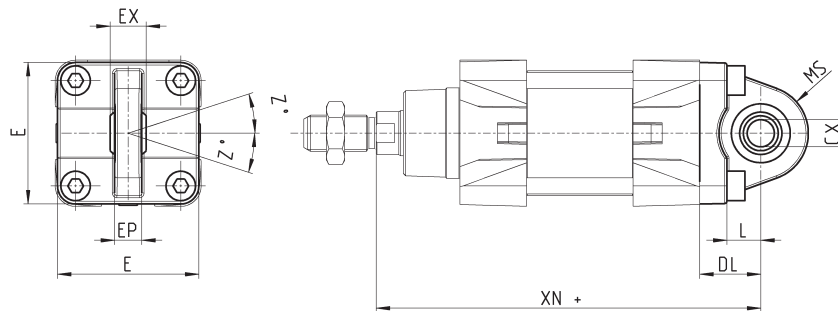
| Mod.   | ∅   | EB | ∅CK | HB  | XD+ | TE | UL  | EA | GL | L5  | RA | EM | UR | PH | BT | BR   |
|--------|-----|----|-----|-----|-----|----|-----|----|----|-----|----|----|----|----|----|------|
| ZC-32  | 32  | 11 | 10  | 6,6 | 142 | 38 | 51  | 10 | 21 | 1,6 | 18 | 26 | 31 | 32 | 8  | 10   |
| ZC-40  | 40  | 11 | 12  | 6,6 | 160 | 41 | 54  | 15 | 24 | 1,6 | 22 | 28 | 35 | 36 | 10 | 11   |
| ZC-50  | 50  | 15 | 12  | 9   | 170 | 50 | 65  | 16 | 33 | 1,6 | 30 | 32 | 45 | 45 | 12 | 13   |
| ZC-63  | 63  | 15 | 16  | 9   | 190 | 52 | 67  | 16 | 37 | 1,6 | 35 | 40 | 50 | 50 | 14 | 15   |
| ZC-80  | 80  | 18 | 16  | 11  | 210 | 66 | 86  | 20 | 47 | 2,5 | 40 | 50 | 60 | 63 | 14 | 15   |
| ZC-100 | 100 | 18 | 20  | 11  | 230 | 76 | 96  | 20 | 55 | 2,5 | 50 | 60 | 70 | 71 | 17 | 19   |
| ZC-125 | 125 | 20 | 25  | 14  | 275 | 94 | 124 | 30 | 70 | 3,2 | 60 | 70 | 90 | 90 | 20 | 22,5 |

Rear trunnion ball-joint Mod. R\*

Material: aluminium  
\* not according to standard



Supplied with:  
1x trunnion ball joint  
4x screws  
+ = add the stroke

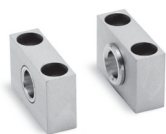


DIMENSIONS

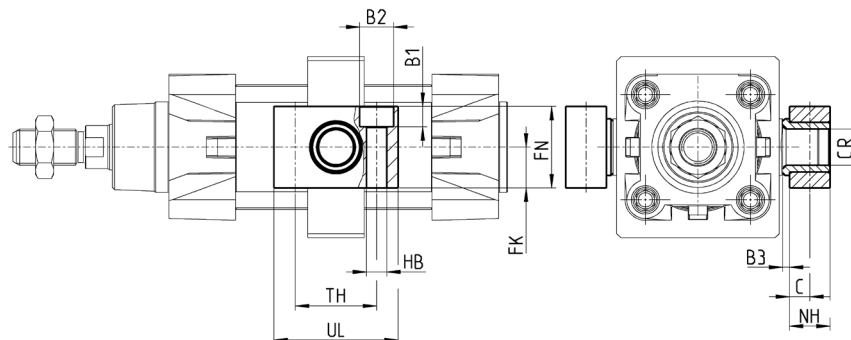
| Mod.     | ∅   | ∅CX | L  | DL | XN+ | MS | E   | EX | EP   | Z | torque force |
|----------|-----|-----|----|----|-----|----|-----|----|------|---|--------------|
| R-41-32  | 32  | 10  | 12 | 22 | 142 | 16 | 45  | 14 | 10,5 | 4 | 6 Nm         |
| R-41-40  | 40  | 12  | 15 | 25 | 160 | 20 | 52  | 16 | 12   | 4 | 6 Nm         |
| R-41-50  | 50  | 12  | 15 | 27 | 170 | 20 | 63  | 16 | 12   | 4 | 13 Nm        |
| R-41-63  | 63  | 16  | 20 | 32 | 190 | 24 | 73  | 21 | 15   | 4 | 13 Nm        |
| R-41-80  | 80  | 16  | 24 | 36 | 210 | 24 | 95  | 21 | 15   | 4 | 19 Nm        |
| R-41-100 | 100 | 20  | 29 | 41 | 230 | 30 | 115 | 25 | 18   | 4 | 22 Nm        |
| R-41-125 | 125 | 30  | 30 | 50 | 275 | 40 | 140 | 37 | 25   | 4 | 26 Nm        |

### Counter bracket for centre trunnion Mod. BF

Material: aluminium



Supplied with:  
2x supports



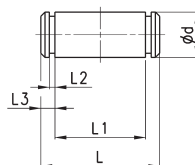
#### DIMENSIONS

| Mod.              | CR | NH | C    | b3  | TH | UL | FK | FN | B1  | B2 | HB  |
|-------------------|----|----|------|-----|----|----|----|----|-----|----|-----|
| <b>BF-32</b>      | 12 | 15 | 7,5  | 3   | 32 | 46 | 15 | 30 | 6,8 | 11 | 6,6 |
| <b>BF-40-50</b>   | 16 | 18 | 9    | 3   | 36 | 55 | 18 | 36 | 9   | 15 | 9   |
| <b>BF-63-80</b>   | 20 | 20 | 10   | 3   | 42 | 65 | 20 | 40 | 11  | 18 | 11  |
| <b>BF-100-125</b> | 25 | 25 | 12,5 | 3,5 | 50 | 75 | 25 | 50 | 13  | 20 | 14  |

### Clevis pin Mod. S



Supplied with:  
1x clevis pin in  
stainless steel 303  
2x Seeger in steel



#### DIMENSIONS

| Mod.         | Ø   | d  | L     | L1  | L2  | L3   |
|--------------|-----|----|-------|-----|-----|------|
| <b>S-32</b>  | 32  | 10 | 52    | 46  | 1,1 | 3    |
| <b>S-40</b>  | 40  | 12 | 59    | 53  | 1,1 | 3    |
| <b>S-50</b>  | 50  | 12 | 67    | 61  | 1,1 | 3    |
| <b>S-63</b>  | 63  | 16 | 77    | 71  | 1,1 | 3    |
| <b>S-80</b>  | 80  | 16 | 97    | 91  | 1,1 | 3    |
| <b>S-100</b> | 100 | 20 | 121   | 111 | 1,3 | 5    |
| <b>S-125</b> | 125 | 25 | 140,5 | 132 | 1,3 | 4,25 |

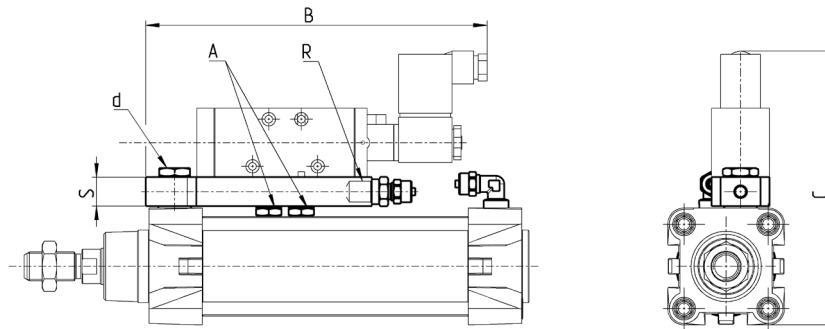
### Accessory for mounting valves on the cylinder

The mounting sub-base Mod. PCV enables the valve to be mounted directly on the cylinder and it's fixed on it using screws Mod. 1635 or flow controllers, Mod. SCU. The other end of the plate has a threaded port.



d\* = mounting on the cylinder using Mod. 1635 or Mod. SCU.

Note: the minimum possible stroke is 100mm.



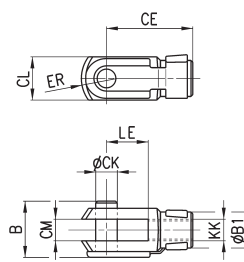
#### DIMENSIONS

| Mod.      | Ø  | A    | B     | C     | R    | S  | d*   |
|-----------|----|------|-------|-------|------|----|------|
| PCV-32    | 32 | G1/8 | 185   | 131,5 | G1/8 | 16 | G1/8 |
| PCV-40-50 | 40 | G1/8 | 188,5 | 140,5 | G1/4 | 16 | G1/4 |
| PCV-40-50 | 50 | G1/8 | 188,5 | 150   | G1/4 | 16 | G1/4 |
| PCV-63-80 | 63 | G1/4 | 215   | 167   | G1/4 | 16 | G3/8 |
| PCV-63-80 | 80 | G1/4 | 215   | 185   | G1/4 | 16 | G3/8 |

### Rod fork end Mod. G

ISO 8140

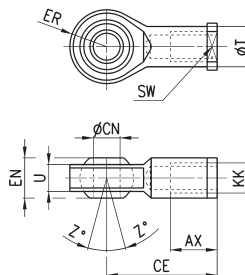
Material: zinc-plated steel



#### DIMENSIONS

|          | CK | LE | CM | CL | ER | CE  | KK       | B  | B1 |
|----------|----|----|----|----|----|-----|----------|----|----|
| G-25-32  | 10 | 20 | 10 | 20 | 12 | 40  | M10X1,25 | 26 | 18 |
| G-40     | 12 | 24 | 12 | 24 | 14 | 48  | M12X1,25 | 32 | 20 |
| G-50-63  | 16 | 32 | 16 | 32 | 19 | 64  | M16X1,5  | 40 | 26 |
| G-80-100 | 20 | 40 | 20 | 40 | 25 | 80  | M20X1,5  | 48 | 34 |
| G-41-125 | 30 | 54 | 30 | 55 | 38 | 110 | M27X2    | 74 | 48 |

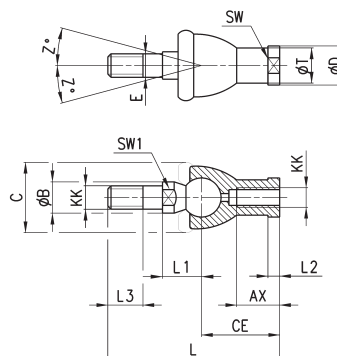
**Swivel ball joint Mod. GA**

 ISO 8139.  
 Material: zinc-plated steel.


| DIMENSIONS        |        |                     |      |    |    |    |     |          |      |     |    |
|-------------------|--------|---------------------|------|----|----|----|-----|----------|------|-----|----|
| Mod.              | Ø      | ØCN <sup>(H7)</sup> | U    | EN | ER | AX | CE  | KK       | T    | Z   | SW |
| <b>GA-32</b>      | 32     | 10                  | 10,5 | 14 | 14 | 20 | 43  | M10X1,25 | 15   | 6,5 | 17 |
| <b>GA-40</b>      | 40     | 12                  | 12   | 16 | 16 | 22 | 50  | M12X1,25 | 17,5 | 6,5 | 19 |
| <b>GA-50-63</b>   | 50-63  | 16                  | 15   | 21 | 21 | 28 | 64  | M16X1,5  | 22   | 7,5 | 22 |
| <b>GA-80-100</b>  | 80-100 | 20                  | 18   | 25 | 25 | 33 | 77  | M20x1,5  | 27,5 | 7   | 30 |
| <b>GA-112-125</b> | 125    | 30                  | 25   | 37 | 35 | 51 | 110 | M27x2    | 40   | 7,5 | 41 |

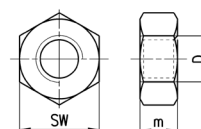
**Piston rod socket joint Mod. GY**

Material: zama and zinc-plated steel.



| DIMENSIONS       |        |          |     |    |     |    |    |     |      |    |      |    |    |    |    |     |
|------------------|--------|----------|-----|----|-----|----|----|-----|------|----|------|----|----|----|----|-----|
| Mod.             | Ø      | KK       | L   | CE | L2  | AX | SW | SW1 | L1   | L3 | ØT   | ØD | E  | ØB | ØC | Z   |
| <b>GY-32</b>     | 32     | M10X1,25 | 74  | 35 | 6,5 | 18 | 17 | 11  | 19,5 | 15 | 15   | 19 | 10 | 14 | 28 | 15  |
| <b>GY-40</b>     | 40     | M12X1,25 | 84  | 40 | 6,5 | 20 | 19 | 17  | 21   | 17 | 17,5 | 22 | 12 | 19 | 32 | 15  |
| <b>GY-50-63</b>  | 50-63  | M16X1,5  | 112 | 50 | 8   | 27 | 22 | 19  | 27,5 | 23 | 22   | 27 | 16 | 22 | 40 | 11  |
| <b>GY-80-100</b> | 80-100 | M20x1,5  | 133 | 63 | 10  | 38 | 30 | 24  | 31,5 | 25 | 27,5 | 34 | 20 | 27 | 45 | 7,5 |

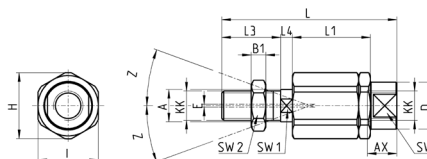
**Piston rod lock nut Mod. U**

 ISO 4035  
 Material: zinc-plated steel


| DIMENSIONS       |        |          |    |    |
|------------------|--------|----------|----|----|
| Mod.             | Ø      | KK       | m  | SW |
| <b>U-25-32</b>   | 32     | M10X1,25 | 6  | 17 |
| <b>U-40</b>      | 40     | M12X1,25 | 7  | 19 |
| <b>U-50-63</b>   | 50-63  | M16X1,5  | 8  | 24 |
| <b>U-80-100</b>  | 80-100 | M20X1,5  | 9  | 30 |
| <b>U-112-125</b> | 125    | M27X2    | 12 | 41 |

**Self aligning rod Mod. GK**

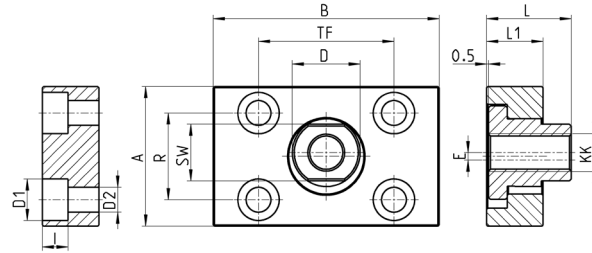
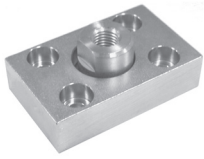
Material: zama and zinc-plated steel.



| DIMENSIONS       |        |          |      |    |    |     |    |    |    |    |    |     |     |    |    |   |   |
|------------------|--------|----------|------|----|----|-----|----|----|----|----|----|-----|-----|----|----|---|---|
| Mod.             | Ø      | KK       | L    | L1 | L3 | L4  | ØA | ØD | H  | I  | SW | SW1 | SW2 | B1 | AX | Z | E |
| <b>GK-25-32</b>  | 32     | M10X1,25 | 71,5 | 35 | 20 | 7,5 | 14 | 22 | 32 | 30 | 19 | 12  | 17  | 5  | 22 | 4 | 2 |
| <b>GK-40</b>     | 40     | M12X1,25 | 75,5 | 35 | 24 | 7,5 | 14 | 22 | 32 | 30 | 19 | 12  | 19  | 6  | 22 | 4 | 2 |
| <b>GK-50-63</b>  | 50-63  | M16X1,5  | 104  | 53 | 32 | 10  | 22 | 32 | 45 | 41 | 27 | 20  | 24  | 8  | 30 | 3 | 2 |
| <b>GK-80-100</b> | 80-100 | M20x1,5  | 119  | 53 | 40 | 10  | 22 | 32 | 45 | 41 | 27 | 20  | 30  | 10 | 37 | 3 | 2 |

Coupling piece Mod. GKF

Material: zinc-plated steel.

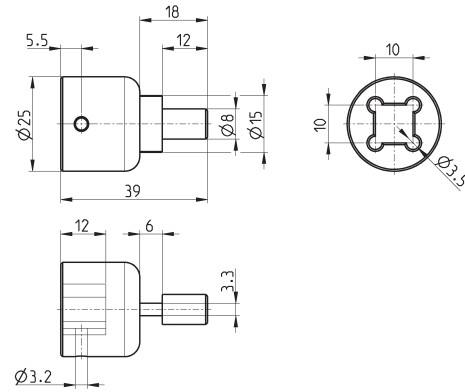
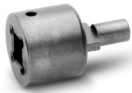


DIMENSIONS

| Mod.              | Ø      | KK       | A  | B  | R  | TF | L    | L1 | I    | Ø D  | Ø D1 | Ø D2 | SW | E   |
|-------------------|--------|----------|----|----|----|----|------|----|------|------|------|------|----|-----|
| <b>GKF-25-32</b>  | 32     | M10x1,25 | 37 | 60 | 23 | 36 | 22,5 | 15 | 6,8  | 18   | 11   | 6,6  | 15 | 2   |
| <b>GKF-40</b>     | 40     | M12x1,25 | 56 | 60 | 38 | 42 | 22,5 | 15 | 9    | 20   | 15   | 9    | 15 | 2,5 |
| <b>GKF-50-63</b>  | 50-63  | M16x1,5  | 80 | 80 | 58 | 58 | 26,5 | 15 | 10,5 | 25   | 18   | 11   | 22 | 2,5 |
| <b>GKF-80-100</b> | 80-100 | M20x1,5  | 90 | 90 | 65 | 65 | 32,5 | 20 | 13   | 30,5 | 20   | 14   | 27 | 2,5 |
| <b>GKF-125</b>    | 125    | M27x2    | 90 | 90 | 65 | 65 | 35,5 | 20 | 13   | 40   | 20   | 14   | 36 | 4   |

Special key to disassemble cylinders Ø 80 and 100

Material: hardened steel.



Mod.

**80-62/8C**