

## COMPACT CYLINDERS

### Series RP/RS


**RP**

Ø 16 ÷ 63 mm UNITOP Compact cylinders

#### CHARACTERISTICS

|                           |                                                                             |
|---------------------------|-----------------------------------------------------------------------------|
| Ambient temperature       | -20 ÷ 80 °C                                                                 |
| Fluid                     | filtered air, with or without lubrication                                   |
| Working pressure          | 1,5 ÷ 10 bar                                                                |
| End-caps                  | die-cast aluminium                                                          |
| Barrel                    | anodized aluminium                                                          |
| Piston                    | aluminium                                                                   |
| Guide slide               | acetalic resin                                                              |
| Piston rod                | chromium-plated steel, stainless steel upon request                         |
| Piston seal               | nitrile rubber                                                              |
| Guide bush for piston rod | acetalic resin                                                              |
| Shock absorber seals      | nitrile rubber                                                              |
| Cushionings               | pneumatic adjustable (UNIVER original standard supplied)                    |
| Magnet                    | standard supplied                                                           |
| Other available versions  | tandem, two-position tandem, opposed, with common piston rod (upon request) |



#### CODIFICATION KEY

|   |   |   |   |   |   |   |   |   |   |   |   |  |
|---|---|---|---|---|---|---|---|---|---|---|---|--|
| R | P | 2 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 2 | 5 |  |
| 1 | 2 | 3 | 4 | 5 | 6 |   |   |   |   |   |   |  |

| 1 Series                                 | 2 Type                                                                                                                                                                                                         | 3 Version                                                                                                                                                                                                                                                       |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RP = Ø 16÷63 mm UNITOP Compact cylinders | 1 = Stainless steel female piston rod<br>2 = Chromium-plated steel female piston rod<br><br>Upon request<br>3 = Stainless steel male piston rod (Ø40÷63)<br>4 = Chromium-plated steel male piston rod (Ø40÷63) | 00 = D.A. Standard version<br>01 = D.A. Through piston rod<br>10 = D.A. Non-rotating guided piston rod<br>11 = D.A. Non-rotating guided through piston rod<br>20 = D.A. Long piston (Ø32÷63)<br>60 = S.A. Retracted piston rod<br>70 = S.A. Extended piston rod |

D.A. = Double acting  
S.A. = Single acting

| 4 Bore (mm)                                                                             | 5 Stroke (mm)                                                                                                                                                                             | 6 Option                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 016 = Ø16    040 = Ø40<br>020 = Ø20    050 = Ø50<br>025 = Ø25    063 = Ø63<br>032 = Ø32 | <b>Single acting</b><br>0005 - 0010 (Ø16÷25)<br>0005 - 0010 - 0015 - 0020 - 0025 (Ø32÷63)<br><b>Double acting</b><br>0005 - 0010 - 0015 - 0020 - 0025 - 0030 - 0040<br>0050 - 0060 - 0080 | <b>Max standard stroke</b><br>0040 (Ø16)<br>0050 (Ø20-25)<br>0080 (Ø32÷63)<br><b>Max stroke with non-rotating guided piston rod (upon request)</b><br>0100 (Ø16)<br>0200 (Ø20-25)<br>0400 (Ø32-40)<br>0500 (Ø50-63)<br><br>C = With flange for versions:<br>100-101-120-160-170<br>200-201-220-260-270<br>H = Hollow piston rod only for through piston rod versions without flange |

#### FIXING ELEMENTS AND ACCESSORIES

| Ø  | Flange for female piston rod | Rear male hinge | Rear female hinge with pin | Counter hinge 90° | Front/rear flange | Angle bracket | Intermediate hinge | Centering adaptor ring | Hinge support | DF sensor and DHF covering strip | Cable clamping for DF sensor |
|----|------------------------------|-----------------|----------------------------|-------------------|-------------------|---------------|--------------------|------------------------|---------------|----------------------------------|------------------------------|
|    |                              |                 |                            |                   |                   |               |                    |                        |               |                                  |                              |
| 16 | RPF-28016                    | RPF-11016       | -                          | -                 | RPF-12016         | RPF-13016     | -                  | -                      | -             |                                  |                              |
| 20 | RPF-28020                    | RPF-11020       | -                          | -                 | RPF-12020         | RPF-13020     | -                  | -                      | -             |                                  |                              |
| 25 | RPF-28025                    | RPF-11025       | -                          | -                 | RPF-12025         | RPF-13025     | -                  | -                      | -             |                                  |                              |
| 32 | RPF-28032                    | -               | KF-10032A                  | KF-19032          | KF-12032          | KF-13032      | KDF-14032          | RSF-09032              | KF-41032      |                                  |                              |
| 40 | RPF-28040                    | -               | RPF-10040A                 | KF-19040          | RPF-12040         | RPF-13040     | RPF-14040          | RSF-09040              | KF-41040      |                                  |                              |
| 50 | RPF-28050                    | -               | RPF-10050A                 | KF-19050          | RPF-12050         | RPF-13050     | RPF-14050          | RSF-09050              | KF-41040      |                                  |                              |
| 63 | RPF-28063                    | -               | RPF-10063A                 | KF-19063          | RPF-12063         | RPF-13063     | RPF-14063          | RSF-09063              | KF-41063      |                                  |                              |

DF  
DHF-0020100

DF-001

**CHARACTERISTICS**

|                           |                                                                                    |
|---------------------------|------------------------------------------------------------------------------------|
| Ambient temperature       | -20 ÷ 80 °C                                                                        |
| Fluid                     | filtered air, with or without lubrication                                          |
| Working pressure          | 1,5 ÷ 10 bar                                                                       |
| End-caps                  | die-cast aluminium                                                                 |
| Barrel                    | anodized aluminium                                                                 |
| Piston                    | aluminium                                                                          |
| Guide slide               | acetalic resin                                                                     |
| Piston rod                | chromium-plated steel, stainless steel upon request                                |
| Piston seal               | nitrile rubber                                                                     |
| Guide bush for piston rod | acetalic resin                                                                     |
| Shock absorber seals      | nitrile rubber                                                                     |
| Cushionings               | pneumatic adjustable (UNIVER original standard supplied)                           |
| Magnet                    | standard supplied                                                                  |
| Other versions available  | tandem, two-position tandem, opposed tandem, with common piston rod (upon request) |

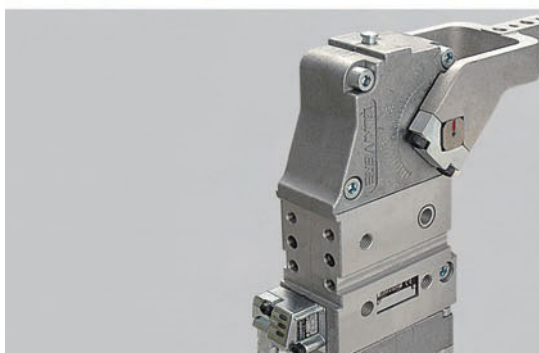
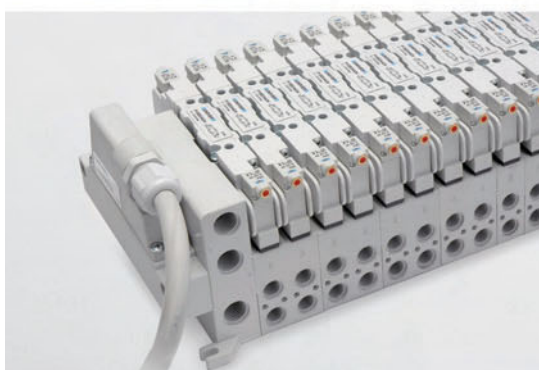

**CODIFICATION KEY**

|   |   |   |   |   |   |   |   |   |   |   |   |  |
|---|---|---|---|---|---|---|---|---|---|---|---|--|
| R | S | 2 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 2 | 5 |  |
| 1 | 2 | 3 | 4 | 5 | 6 |   |   |   |   |   |   |  |

| 1 Series                                                                                                              | 2 Type                                                                                                                                                                                                                               | 3 Version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>RS</b> = Ø 32÷100 mm - STRONG<br>Compact cylinders                                                                 | <b>1</b> = Stainless steel female piston rod<br><b>2</b> = Chromium-plated steel female piston rod<br><b>3</b> = Stainless steel male piston rod<br><b>4</b> = Chromium-plated steel male piston rod                                 | <b>For type 1 - 2</b><br><b>00</b> = <b>D.A.</b> Standard version<br><b>01</b> = <b>D.A.</b> Through piston rod<br><b>10</b> = <b>D.A.</b> Non-rotating guided piston rod (Ø32÷63)<br><b>11</b> = <b>D.A.</b> Non-rotating guided through piston rod (Ø32÷63)<br><b>20</b> = <b>D.A.</b> Long piston (Ø32÷63)<br><b>60</b> = <b>S.A.</b> Retracted piston rod<br><b>70</b> = <b>S.A.</b> Extended piston rod<br><br><b>For type 3 - 4</b><br><b>00</b> = <b>D.A.</b> Standard version<br><b>01</b> = <b>D.A.</b> Through piston rod<br><b>20</b> = <b>D.A.</b> Long piston (Ø32÷63)<br><b>60</b> = <b>S.A.</b> Retracted piston rod<br><b>70</b> = <b>S.A.</b> Extended piston rod<br><br><b>D.A.</b> = Double acting<br><b>S.A.</b> = Single acting |                                                                                                                                                                                                                                                                           |
| 4 Bore (mm)                                                                                                           | 5 Stroke (mm)                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 6 Option                                                                                                                                                                                                                                                                  |
| <b>032</b> = Ø32<br><b>040</b> = Ø40<br><b>050</b> = Ø50<br><b>063</b> = Ø63<br><b>080</b> = Ø80<br><b>100</b> = Ø100 | <b>Single acting</b><br><b>0005 - 0010 - 0015 - 0020 - 0025</b><br><b>Double acting</b><br><b>0005 - 0010 - 0015 - 0020 - 0025</b><br><b>0030 - 0040 - 0050 - 0060 - 0080</b><br><b>Max standard stroke</b><br><b>0080 (Ø32÷100)</b> | <b>Version with extended piston (upon request)</b><br><b>0800 (Ø32-40) 1000 (Ø50÷100)</b><br><b>Max stroke with non-rotating guided piston rod (upon request)</b><br><b>0400 (Ø32-40) 0800 (Ø63)</b><br><b>0500 (Ø50) 1000 (Ø80-100)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>H</b> = Hollow piston rod only for through piston rod versions without flange<br><b>G</b> = Preset for locking unit only for D.A. cylinder with chromium-plated steel piston rod<br><b>C</b> = With flange for versions:<br>100-101-120-160-170<br>200-201-220-260-270 |

**FIXING ELEMENTS AND ACCESSORIES**

| Ø   | Female fork with clips       | Articulated self-lubricating fork | Fork with axially mounted articulated pin | Fork with angle mounted articulated pin | Floating joint    | Flange for female piston rod | Centering adaptor ring             | Female rear hinge with pin | Counter hinge 90° (CETOP) | Counter hinge 90°                | Counter hinge 90° (CNOMO)    |
|-----|------------------------------|-----------------------------------|-------------------------------------------|-----------------------------------------|-------------------|------------------------------|------------------------------------|----------------------------|---------------------------|----------------------------------|------------------------------|
|     |                              |                                   |                                           |                                         |                   |                              |                                    |                            |                           |                                  |                              |
| 32  | KF-15032                     | KF-17032                          | KF-22032                                  | KF-23032                                | KF-24032          | RPF-28032                    | RSF-09032                          | KF-10032A                  | KF-19032CTA               | KF-19032                         | KF-19032CN                   |
| 40  | KF-15040                     | KF-17040                          | KF-22040                                  | KF-23040                                | KF-24040          | RPF-28040                    | RSF-09040                          | KF-10040A                  | KF-19040CTA               | KF-19040                         | KF-19040050CN                |
| 50  | KF-15050                     | KF-17050                          | KF-22050                                  | KF-23050                                | KF-24050          | RPF-28050                    | RSF-09050                          | KF-10050A                  | KF-19050CTA               | KF-19050                         | KF-19040050CN                |
| 63  | KF-15063                     | KF-17063                          | KF-22063                                  | KF-23063                                | KF-24063          | RPF-28063                    | RSF-09063                          | KF-10063A                  | KF-19063CTA               | KF-19063                         | KF-19063080CN                |
| 80  | KF-15080                     | KF-17080                          | KF-22080                                  | KF-23080                                | KF-24080          | -                            | RSF-09080                          | KF-10080A                  | KF-19080CTA               | KF-19080                         | KF-19063080CN                |
| 100 | KF-15080                     | KF-17080                          | KF-22080                                  | KF-23080                                | KF-24080          | -                            | RSF-09100                          | KF-10100A                  | KF-19100CTA               | KF-19100                         | KF-19100125CN                |
| Ø   | Narrow female hinge with pin | Articulated counter hinge         | Articulated rear male hinge               | Rear male hinge                         | Front/rear flange | Angle bracket                | Front/rear hinge with floating pin | Hinge support              | ISO Intermediate hinge    | DF sensor and DHF covering strip | Cable clamping for DF sensor |
|     |                              |                                   |                                           |                                         |                   |                              |                                    |                            |                           |                                  |                              |
| 32  | KF-10032AS                   | KF-19032SC                        | KF-11032S                                 | KF-11032                                | KF-12032          | KF-13032                     | KF-14032AP                         | KF-41032                   | KDF-14032                 |                                  |                              |
| 40  | KF-10040AS                   | KF-19040SC                        | KF-11040S                                 | KF-11040                                | KF-12040          | KF-13040                     | KF-14040AP                         | KF-41040                   | RPF-14040                 |                                  |                              |
| 50  | KF-10050AS                   | KF-19050SC                        | KF-11050S                                 | KF-11050                                | KF-12050          | KF-13050                     | KF-14050AP                         | KF-41040                   | RPF-14050                 |                                  |                              |
| 63  | KF-10063AS                   | KF-19063SC                        | KF-11063S                                 | KF-11063                                | KF-12063          | KF-13063                     | KF-14063AP                         | KF-41063080                | RPF-14063                 |                                  |                              |
| 80  | KF-10080AS                   | KF-19080SC                        | KF-11080S                                 | KF-11080                                | KF-12080          | KF-13080                     | KF-14080AP                         | KF-41063080                | KDF-14080                 |                                  |                              |
| 100 | KF-10100AS                   | KF-19100SC                        | KF-11100S                                 | KF-11100                                | KF-12100          | KF-13100                     | KF-14100AP                         | KF-41100125                | KDF-14100                 |                                  |                              |



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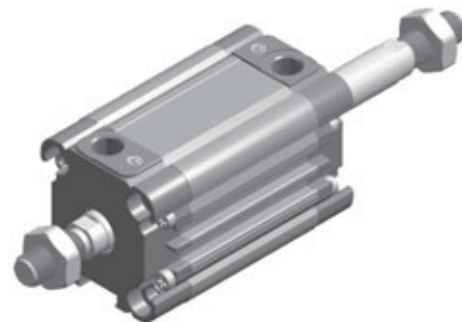
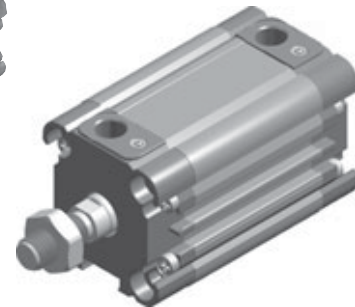
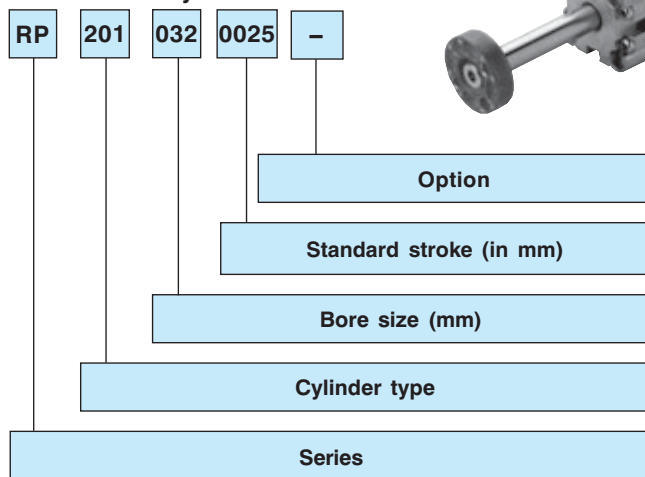
# 1. COMPACT CYLINDERS UNITOP Series RP

Working pressure: 1,5 ÷ 10 bar  
 Ambient temperature: -20 ÷ +80°C  
 Fluid: lubricated or non lubricated air  
 Barrel: extruded aluminium alloy with piston rod in chromium-plated steel or stainless steel  
 Magnetic version  
 The octagonal version with female piston rod is standard supplied with assembled flange  
 Max. speed: 1 m/s

## Upon request

- Hollow piston rod only for through piston rod versions.
- Magnetic sensor DF-series
- Wire protection strap for magnetic sensor, part n. DHF-002100.

## Codification Key



## SERIES

### Round cylinder barrel

**RP series** – compact UNITOP RU – P/7 Ø 16 ÷ 63 mm

**RM series** – compact ISO 21287 Ø 16 ÷ 63 mm

### Octagonal cylinder barrel

**RO series** – compact UNITOP RU - P/7 Ø 16 ÷ 63 mm

**RN series** – compact ISO 21287 Ø 16 ÷ 63 mm

## TYPE

**1... with female piston rod in stainless steel RP – RO series**

**2... with female piston rod in chromium-plated steel RP – RO series**

- 00 D.A.
- 01 D.A. through rod
- 10 D.A. non-rotating rod (only RP series)
- 11 D.A. non-rotating through rod (only RP series)
- 20 D.A. extended piston (32 ÷ 63 mm)
- 60 S.A. retracted rod (only RP series)
- 70 S.A. extended rod (only RP series)

**3... with male piston rod in stainless steel RM – RN series**

**4... with male piston rod in chromium-plated steel RM – RN series**

- 00 D.A.
- 01 D.A. through rod
- 20 D.A. extended piston (32 ÷ 63 mm)
- 60 S.A. retracted rod (only RM series)
- 70 S.A. extended rod (only RM series)

## BORE

016 – 020 – 025 – 032 – 040 – 050 – 063 mm

## STANDARD STROKE

### Single acting

0005-0010 mm (16 ÷ 25 mm)  
 0015-0020-0025 mm (Ø 32 ÷ 63 mm)

### Double acting

0005-0010-0015-0020-0025-0030-0040-0050-0060-0080 mm

### Max. standard stroke

|         |         |
|---------|---------|
| Ø 16    | 0040 mm |
| Ø 20-25 | 0050 mm |
| Ø 32-63 | 0080 mm |

### Max. stroke with guided piston rod (upon request)

|         |         |
|---------|---------|
| Ø 16    | 0100 mm |
| Ø 20-25 | 0200 mm |
| Ø 32-40 | 0400 mm |
| Ø 50-63 | 0500 mm |

## OPTION

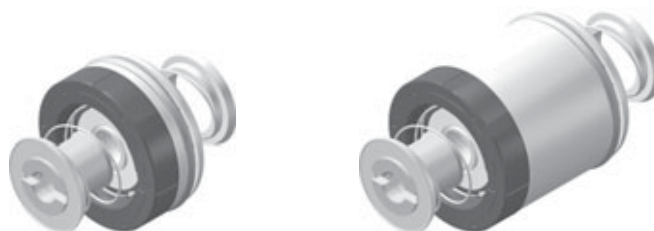
**C** = with flange for RP series versions 200/201/260/270 and 100/101/160/170

**H** = hollow rod only for versions with through rod, without flange

## Construction details

- Barrel in extruded aluminium alloy, externally and internally anodized 15  $\mu\text{m}$ , plain profile, for flush-mounted sensors
- Die-cast end-caps in zamac ( $\varnothing 16 \div 25 \text{ mm}$ ); in aluminium alloy ( $\varnothing 32 \div 63 \text{ mm}$ )
- Self-tapping screws in zinc-plated steel
- Chromium-plated steel rod
- Stainless steel rod
- Piston in aluminium
- Acetal resin slide
- Piston seals in nitrile rubber
- Rod seals in polyurethane
- Piston in aluminium D.A.

- Extended piston D.A. for supporting a higher radial load ( $\varnothing 32 \div 63 \text{ mm}$ )



## Nominal tolerances on stroke

| Cyl. $\varnothing$ | Tolerance mm |
|--------------------|--------------|
| 16 $\div$ 25       | + 1,5/0      |
| 32 $\div$ 50       | + 2/0        |
| 63                 | + 2,5/0      |

- Adjustable pneumatic cushioning for efficient deceleration of the piston and reduced noise level.
- Cushioning length 8 mm ( $\varnothing 16 \div 25 \text{ mm}$ ); 10 mm ( $\varnothing 32 \div 63 \text{ mm}$ ).

## Theoretical forces [N] developed at the working pressure [bar]

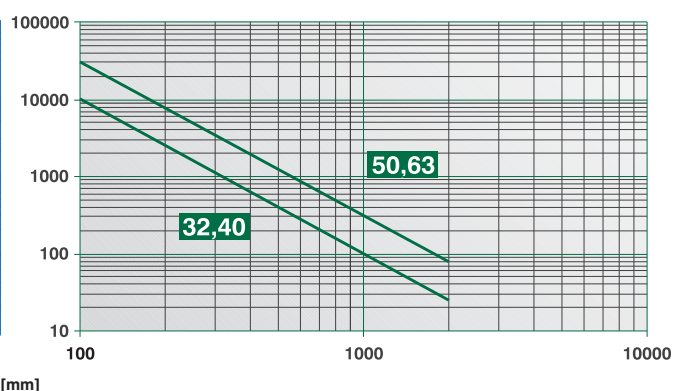
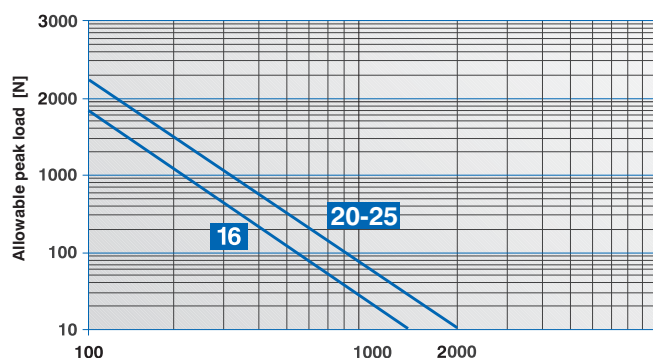
| Cyl. $\varnothing$ | Working area [mm <sup>2</sup> ] | Working pressure [bar] |     |      |      |      |
|--------------------|---------------------------------|------------------------|-----|------|------|------|
|                    |                                 | 2                      | 4   | 6    | 8    | 10   |
| 16                 | Thrust                          | 201                    | 40  | 80   | 121  | 161  |
|                    | traction                        | 151                    | 30  | 60   | 91   | 121  |
| 20                 | Thrust                          | 314                    | 63  | 126  | 188  | 251  |
|                    | traction                        | 236                    | 47  | 94   | 142  | 189  |
| 25                 | Thrust                          | 491                    | 98  | 196  | 295  | 393  |
|                    | traction                        | 412                    | 82  | 165  | 247  | 330  |
| 32                 | Thrust                          | 804                    | 161 | 322  | 482  | 643  |
|                    | traction                        | 691                    | 138 | 276  | 414  | 553  |
| 40                 | Thrust                          | 1256                   | 251 | 502  | 754  | 1005 |
|                    | traction                        | 1143                   | 228 | 457  | 685  | 914  |
| 50                 | Thrust                          | 1962                   | 393 | 785  | 1178 | 1570 |
|                    | traction                        | 1762                   | 352 | 704  | 1057 | 1409 |
| 63                 | Thrust                          | 3116                   | 623 | 1246 | 1869 | 2493 |
|                    | traction                        | 2916                   | 583 | 1166 | 1749 | 2332 |

## Max. applicable torque [Nm] for RO/RN series with non-rotating rod

| Cyl. $\varnothing$ | Torque [Nm] |
|--------------------|-------------|
| 16                 | 0,5         |
| 20                 | 0,8         |
| 25                 | 1           |
| 32                 | 2           |
| 40                 | 3           |
| 50                 | 5           |
| 63                 | 8           |

In case of pneumatic cylinders with through rod, the theoretical force to be considered, in both directions, is always equal to the "traction" value indicated in the table.

For practical purposes these values should be reduced taking into account the weight and sliding friction of the mobile equipment ( $\sim -10\%$ ).

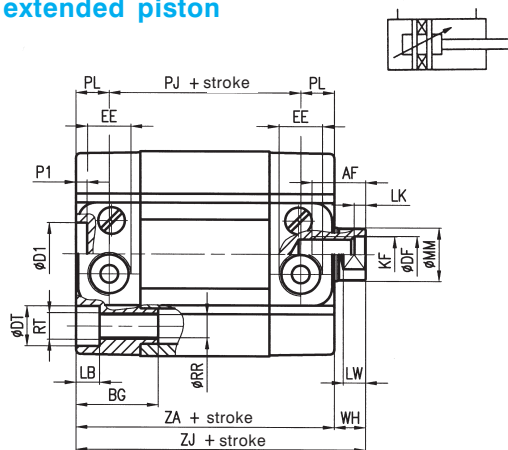
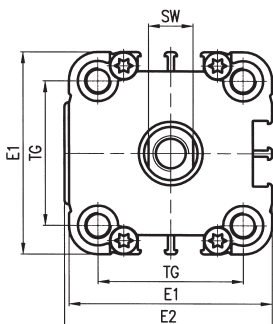
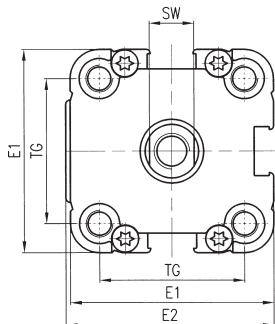




## Double-acting cylinder RP 200... / RP 220...\* series with extended piston

Ø 16 ÷ 25 mm

Ø 32 ÷ 63 mm



Mass RP 200...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving parts stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|-----------------------------|---------------------------|
| 16     | 103                     | 1,05                      | 15,5                        | 0,39                      |
| 20     | 135                     | 1,45                      | 24,5                        | 0,62                      |
| 25     | 203                     | 1,65                      | 34,5                        | 0,62                      |

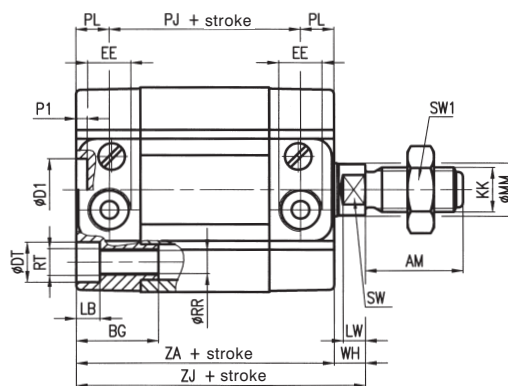
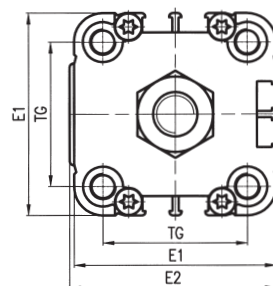
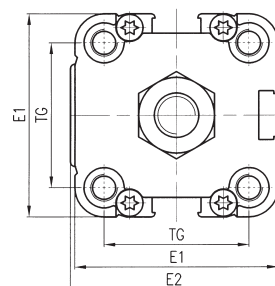
Mass RP 200.../RP 220...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving parts stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|-----------------------------|---------------------------|
| 32     | 205/291,5               | 2,65                      | 60/115,5                    | 0,9                       |
| 40     | 305/426                 | 3,3                       | 75/148                      | 0,9                       |
| 50     | 450/676,5               | 4,7                       | 125/274                     | 1,6                       |
| 63     | 735/1063,5              | 5,65                      | 200/427                     | 1,6                       |

## Double-acting cylinder male piston rod RM 400.../RM 420...\* series with extended piston

Ø 16 ÷ 25 mm

Ø 32 ÷ 63 mm



Mass RM 400...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving parts stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|-----------------------------|---------------------------|
| 16     | 115                     | 1,05                      | 27,5                        | 0,39                      |
| 20     | 157                     | 1,45                      | 46,5                        | 0,62                      |
| 25     | 225                     | 1,65                      | 56,5                        | 0,62                      |

Mass RM 400.../RM 420...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving parts stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|-----------------------------|---------------------------|
| 32     | 240/326,5               | 2,65                      | 95/146,5                    | 0,9                       |
| 40     | 340/461                 | 3,3                       | 110/183                     | 0,9                       |
| 50     | 505/731,5               | 4,7                       | 180/329                     | 1,6                       |
| 63     | 790/1198,5              | 5,65                      | 255/482                     | 1,6                       |

▲ Only for RM series: dimensional variants for end-caps with ISO inter-axes: Ø 40 - 38 mm / Ø 50 - 46,5 mm / Ø 63 - 56,5 mm

| Cyl. Ø | AF | AM | BG | ØD1 H11 | Ø DF | Ø DT | E1 | E2 | EE   | KF  | KK       | LB  | LK | LW  | Ø MM | P1  | PJ | PL  | Ø RR | RT | SW | SW1 | TG   | WH | ZA | ZJ |
|--------|----|----|----|---------|------|------|----|----|------|-----|----------|-----|----|-----|------|-----|----|-----|------|----|----|-----|------|----|----|----|
| 16     | 8  | 12 | 16 | 2       | 4,1  | 5,8  | 28 | 30 | M5   | M4  | M6X1     | 3,2 | 1  | 4,5 | 8    | 2   | 21 | 8   | 3,2  | M4 | 7  | 10  | 18   | 5  | 37 | 42 |
| 20     | 10 | 16 | 16 | 2       | 6,1  | 7,3  | 32 | 34 | M5   | M6  | M8x1,25  | 4,2 | 1  | 4,5 | 10   | 2   | 21 | 8   | 4,2  | M5 | 8  | 13  | 22   | 6  | 37 | 43 |
| 25     | 10 | 16 | 16 | 2       | 6,1  | 8    | 37 | 39 | M5   | M6  | M8x1,25  | 4,5 | 1  | 4,5 | 10   | 2   | 23 | 8   | 4,2  | M5 | 8  | 13  | 26   | 6  | 39 | 45 |
| 32     | 12 | 19 | 18 | 14      | 8,2  | 9    | 46 | 47 | G1/8 | M8  | M10x1,25 | 5,3 | 2  | 5   | 12   | 2,5 | 29 | 7,5 | 5,2  | M6 | 10 | 17  | 32,5 | 7  | 44 | 51 |
| 40     | 12 | 19 | 18 | 14      | 8,2  | 9    | 56 | 57 | G1/8 | M8  | M10x1,25 | 5,3 | 2  | 5   | 12   | 2,5 | 30 | 7,5 | 5,2  | M6 | 10 | 17  | 42   | 7  | 45 | 52 |
| 50     | 16 | 22 | 24 | 18      | 10,2 | 11   | 66 | 67 | G1/8 | M10 | M12x1,25 | 6,5 | 2  | 6   | 16   | 2,5 | 30 | 7,5 | 6,5  | M8 | 13 | 19  | 50   | 8  | 45 | 53 |
| 63     | 16 | 22 | 24 | 18      | 10,2 | 11   | 79 | 80 | G1/8 | M10 | M12x1,25 | 6,5 | 2  | 6   | 16   | 2,5 | 34 | 7,5 | 6,5  | M8 | 13 | 19  | 62   | 8  | 49 | 57 |

\* For cylinder types with extended piston, dimensions PJ, ZA and ZJ will be increased by 20 mm (Ø 32-40 mm), and 25 mm (Ø 50-63 mm).

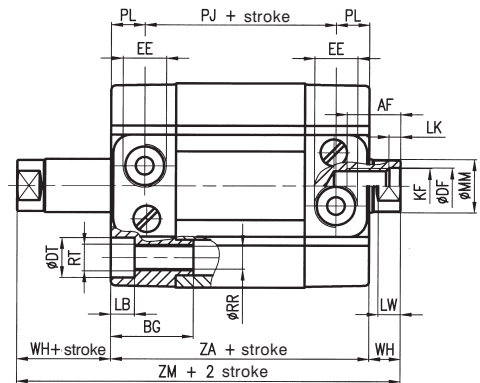
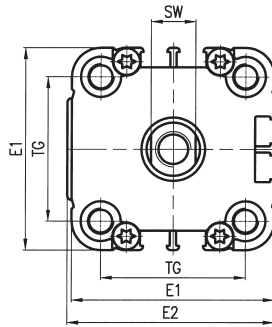
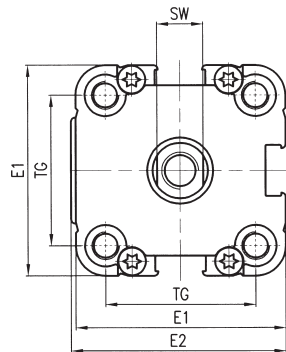
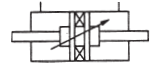
Technical modifications keep in reserve !

(2020/10)

## Double-acting cylinder, through rod RP 201 series

Ø 16 ÷ 25 mm

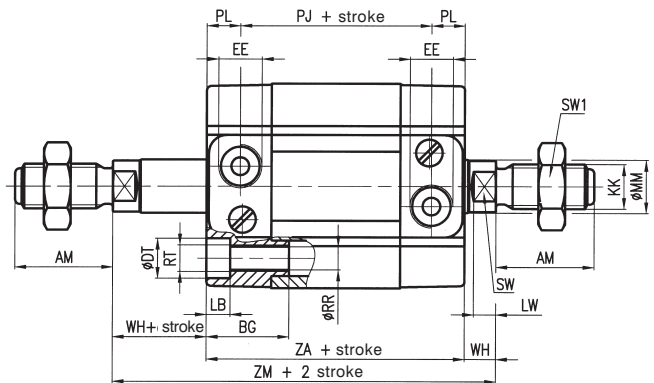
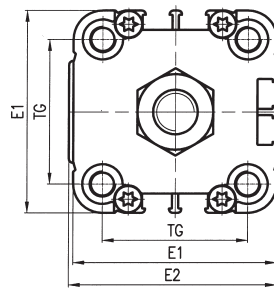
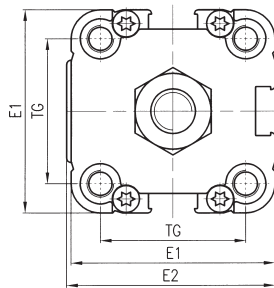
Ø 32 ÷ 63 mm



## Double-acting cylinder with male through piston rod RP 401 series

Ø 16 ÷ 25 mm

Ø 32 ÷ 63 mm



### Series RP 201...

For version with hollow through piston rod, variant H in codification key:

| Cyl. Ø | Hole mm |
|--------|---------|
| 16     | 3,2     |
| 20-25  | 3,8     |
| 32-40  | 4,5     |
| 50-63  | 6       |

### Mass RP 201...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving parts stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|-----------------------------|---------------------------|
| 16     | 105                     | 1,45                      | 17,5                        | 0,78                      |
| 20     | 138                     | 2,07                      | 24,8                        | 1,24                      |
| 25     | 206                     | 2,27                      | 34,8                        | 1,24                      |
| 32     | 230                     | 3,55                      | 85                          | 1,8                       |
| 40     | 325                     | 4,2                       | 100                         | 1,8                       |
| 50     | 490                     | 6,3                       | 165                         | 3,2                       |
| 63     | 775                     | 7,25                      | 245                         | 3,2                       |

### Mass RM 401...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving parts stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|-----------------------------|---------------------------|
| 16     | 129                     | 1,45                      | 41,5                        | 0,78                      |
| 20     | 182                     | 2,07                      | 68,8                        | 1,24                      |
| 25     | 250                     | 2,27                      | 78,8                        | 1,24                      |
| 32     | 290                     | 3,55                      | 125                         | 1,8                       |
| 40     | 390                     | 4,2                       | 140                         | 1,8                       |
| 50     | 570                     | 6,3                       | 225                         | 3,2                       |
| 63     | 855                     | 7,25                      | 300                         | 3,2                       |

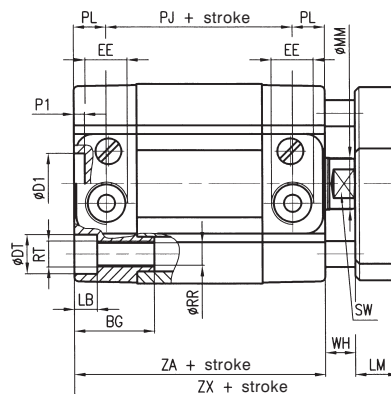
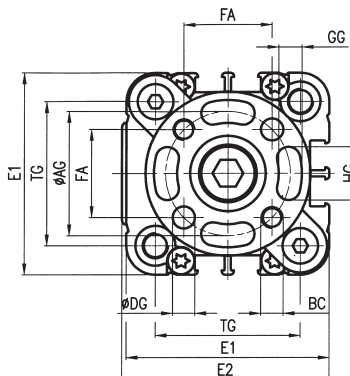
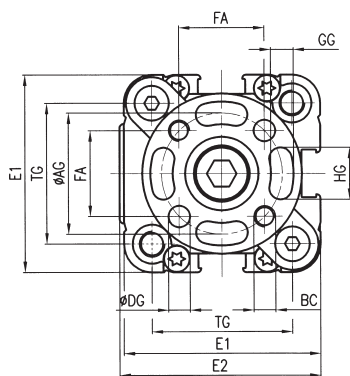
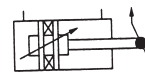
▲ Only for RM series: dimensional variants for end-caps with ISO inter-axes: Ø 40 - 38 mm / Ø 50 - 46,5 mm / Ø 63 - 56,5 mm

| Cyl. Ø | AF | AM | BG | Ø DF | Ø DT | E1 | E2 | EE   | KF  | KK       | LB  | LK | LW  | Ø MM | PJ | PL  | Ø RR | RT | SW | SW1 | TG   | WH | ZA | ZM |
|--------|----|----|----|------|------|----|----|------|-----|----------|-----|----|-----|------|----|-----|------|----|----|-----|------|----|----|----|
| 16     | 8  | 12 | 16 | 4,1  | 5,8  | 28 | 30 | M5   | M4  | M6X1     | 3,2 | 1  | 4,5 | 8    | 21 | 8   | 3,2  | M4 | 7  | 10  | 18   | 5  | 37 | 47 |
| 20     | 10 | 16 | 16 | 4,1  | 7,3  | 32 | 34 | M5   | M6  | M8X1,25  | 4,2 | 1  | 4,5 | 10   | 21 | 8   | 4,2  | M5 | 8  | 13  | 22   | 6  | 37 | 49 |
| 25     | 10 | 16 | 16 | 4,1  | 8    | 37 | 39 | M5   | M6  | M8X1,25  | 4,5 | 1  | 4,5 | 10   | 23 | 8   | 4,2  | M5 | 8  | 13  | 26   | 6  | 39 | 51 |
| 32     | 12 | 19 | 18 | 8,2  | 9    | 46 | 47 | G1/8 | M8  | M10x1,25 | 5,3 | 2  | 5   | 12   | 29 | 7,5 | 5,2  | M6 | 10 | 17  | 32,5 | 7  | 44 | 58 |
| 40     | 12 | 19 | 18 | 8,2  | 9    | 56 | 57 | G1/8 | M8  | M10x1,25 | 5,3 | 2  | 5   | 12   | 30 | 7,5 | 5,2  | M6 | 10 | 17  | 42   | 7  | 45 | 59 |
| 50     | 16 | 22 | 24 | 10,2 | 11   | 66 | 67 | G1/8 | M10 | M12x1,25 | 6,5 | 2  | 6   | 16   | 30 | 7,5 | 6,6  | M8 | 13 | 19  | 50   | 8  | 45 | 61 |
| 63     | 16 | 22 | 24 | 10,2 | 11   | 79 | 80 | G1/8 | M10 | M12x1,25 | 6,5 | 2  | 6   | 16   | 35 | 7,5 | 6,6  | M8 | 13 | 19  | 62   | 8  | 50 | 66 |

## Double-acting cylinder with non-rotating device RP 210 ... series

Ø 16 ÷ 25 mm

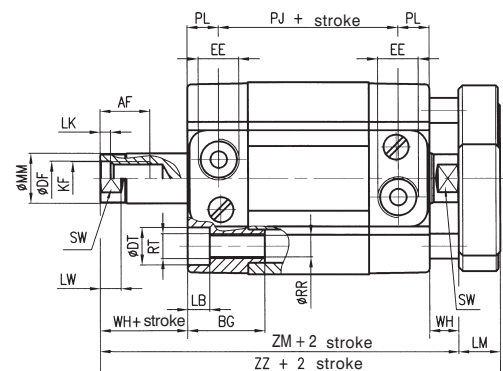
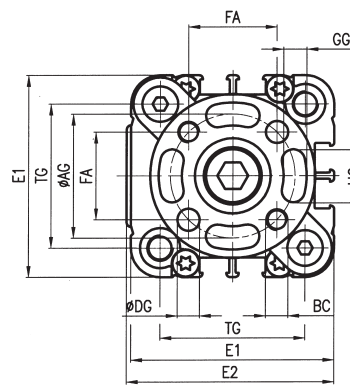
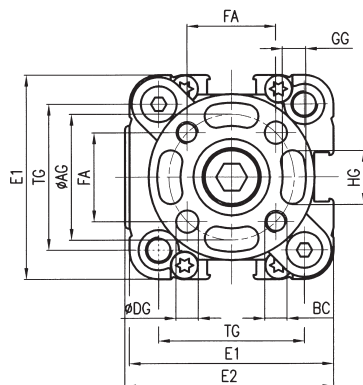
Ø 32 ÷ 63 mm



## Double-acting cylinder, through rod with non-rotating device RP 211... series

Ø 16 ÷ 25 mm

Ø 32 ÷ 63 mm



Mass RP 210...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving parts stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|-----------------------------|---------------------------|
| 16     | 122                     | 1,25                      | 34,5                        | 0,59                      |
| 20     | 165                     | 1,75                      | 54,5                        | 0,93                      |
| 25     | 240                     | 1,95                      | 71,5                        | 0,93                      |
| 32     | 245                     | 3,09                      | 100                         | 1,34                      |
| 40     | 372                     | 4,1                       | 142                         | 1,7                       |
| 50     | 545                     | 5,5                       | 220                         | 2,4                       |
| 63     | 875                     | 6,89                      | 340                         | 2,84                      |

Mass RP 211...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving parts stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|-----------------------------|---------------------------|
| 16     | 124                     | 1,64                      | 36,7                        | 0,98                      |
| 20     | 168                     | 2,37                      | 57,5                        | 1,55                      |
| 25     | 243                     | 2,57                      | 74,5                        | 1,55                      |
| 32     | 270                     | 3,99                      | 125                         | 2,24                      |
| 40     | 392                     | 5                         | 167                         | 2,6                       |
| 50     | 585                     | 7,1                       | 260                         | 4                         |
| 63     | 915                     | 8,49                      | 385                         | 4,44                      |

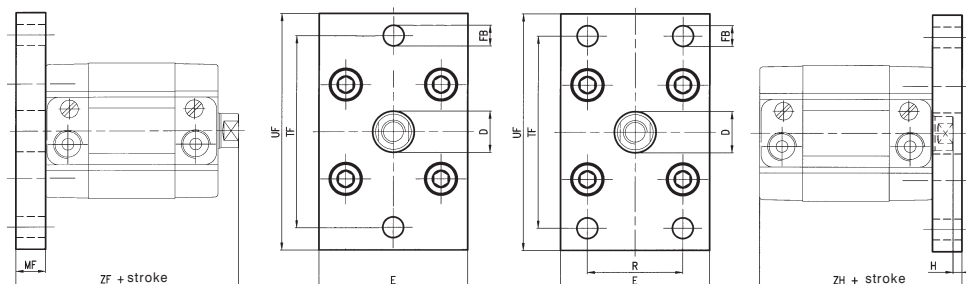
| Cyl. Ø | AF | AG | BC | BG | Ø D1 D11 | Ø DF | Ø DG | Ø DT | E1 | E2 | EE   | FA   | GG  | HG | KF  | LB  | LM | LK | LW  | Ø MM | P1  | PJ | PL  | RR  | RT | SW | SW2 | TG   | WH | ZA | ZM | ZX | ZZ |
|--------|----|----|----|----|----------|------|------|------|----|----|------|------|-----|----|-----|-----|----|----|-----|------|-----|----|-----|-----|----|----|-----|------|----|----|----|----|----|
| 16     | 8  | 14 | M3 | 16 | 2        | 4,1  | 3    | 5,8  | 28 | 30 | M5   | 9,9  | 3   | 5  | M4  | 3,2 | 6  | 1  | 4,5 | 8    | 2   | 21 | 8   | 3,2 | M4 | 7  | -   | 18   | 5  | 37 | 47 | 48 | 53 |
| 20     | 10 | 17 | M4 | 16 | 2        | 6,1  | 4    | 7,3  | 32 | 34 | M5   | 12   | 4   | 7  | M6  | 4,2 | 8  | 1  | 4,5 | 10   | 2   | 21 | 8   | 4,2 | M5 | 8  | -   | 22   | 6  | 37 | 49 | 51 | 57 |
| 25     | 10 | 22 | M5 | 16 | 2        | 6,1  | 5    | 8    | 37 | 39 | M5   | 15,6 | 5   | 9  | M6  | 4,5 | 8  | 1  | 4,5 | 10   | 2   | 23 | 8   | 4,2 | M5 | 8  | -   | 26   | 6  | 39 | 51 | 53 | 59 |
| 32     | 12 | 28 | M5 | 18 | 14       | 8,2  | 5    | 9    | 46 | 47 | G1/8 | 19,8 | 5,2 | 11 | M8  | 5,3 | 10 | 2  | 5   | 12   | 2,5 | 29 | 7,5 | 5,2 | M6 | 10 | 17  | 32,5 | 7  | 44 | 58 | 61 | 68 |
| 40     | 12 | 33 | M5 | 18 | 14       | 8,2  | 5    | 9    | 56 | 57 | G1/8 | 23,3 | 5,2 | 15 | M8  | 5,3 | 10 | 2  | 5   | 12   | 2,5 | 30 | 7,5 | 5,2 | M6 | 10 | 19  | 42   | 7  | 45 | 59 | 62 | 69 |
| 50     | 16 | 42 | M6 | 24 | 18       | 10,2 | 6    | 11   | 66 | 67 | G1/8 | 29,7 | 6,2 | 19 | M10 | 6,5 | 12 | 2  | 6   | 16   | 2,5 | 30 | 7,5 | 6,6 | M8 | 13 | 24  | 50   | 8  | 45 | 61 | 65 | 73 |
| 63     | 16 | 50 | M6 | 24 | 18       | 10,2 | 6    | 11   | 79 | 80 | G1/8 | 35,4 | 6,2 | 25 | M10 | 6,5 | 12 | 2  | 6   | 16   | 2,5 | 35 | 7,5 | 6,6 | M8 | 13 | 24  | 62   | 8  | 50 | 66 | 70 | 78 |

Technical modifications keep in reserve !

(2020/10)

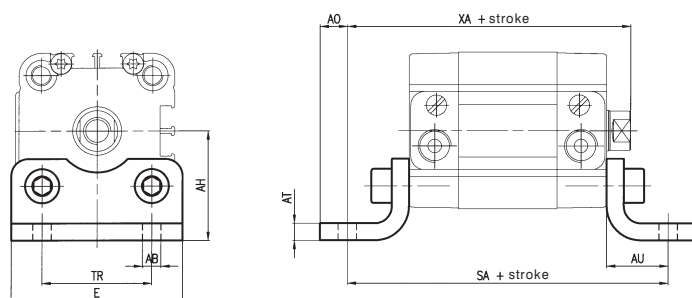


## Front or rear flange in zinc-plated steel



| Cyl. Ø           | Part num. / Mass for... |
|------------------|-------------------------|
| Unitop RU-P/7/Kg | ISO21287/Kg             |
| 16               | RPF-12016/0,10          |
| 20               | RPF-12020/0,16          |
| 25               | RPF-12025/0,20          |
| 32               | RPF-12032/0,26          |
| 40               | RPF-12040/0,42          |
| 50               | RPF-12050/0,60          |
| 63               | RPF-12063/1,20          |

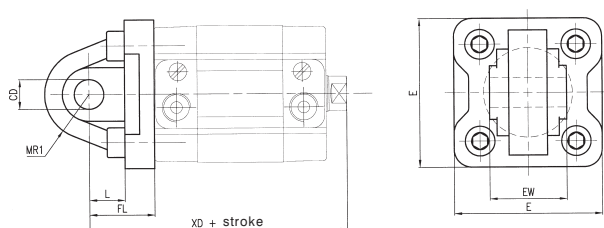
## Angle bracket in zinc-plated steel



| Cyl. Ø           | Part num. / Mass for... |
|------------------|-------------------------|
| Unitop RU-P/7/Kg | ISO21287/Kg             |
| 16               | RPF-13016/0,02          |
| 20               | RPF-13020/0,03          |
| 25               | RPF-13025/0,04          |
| 32               | RPF-13032/0,07          |
| 40               | RPF-13040/0,10          |
| 50               | RPF-13050/0,15          |
| 63               | RPF-13063/0,25          |

| Flange |         |       |          |     |       |        |         |         |       |       | Bracket  |           |      |     |       |       |         |       |       |
|--------|---------|-------|----------|-----|-------|--------|---------|---------|-------|-------|----------|-----------|------|-----|-------|-------|---------|-------|-------|
| Cyl. Ø | Ø D H11 | E     | Ø FB H13 | H   | MF    | R Js14 | TF Js14 | UF      | ZF    | ZH    | Ø AB H13 | Ø AN Js15 | AO   | AT  | AU    | E     | SA      | TR    | XA    |
| 16     | 10      | 29    | 5,5      | 5   | 10    | -      | 43      | 55      | 52    | 47    | 5,5      | 22        | 4,5  | 3   | 13    | 30    | 63      | 18    | 55    |
| 20     | 12      | 36    | 6,6      | 4   | 10    | -      | 55      | 70      | 53    | 47    | 6,6      | 27        | 6    | 4   | 16    | 36    | 69      | 22    | 59    |
| 25     | 12      | 40    | 6,6      | 4   | 10    | -      | 60      | 76      | 55    | 49    | 6,6      | 30        | 6    | 4   | 16    | 40    | 71      | 26    | 61    |
| 32     | 14/30   | 50/45 | 7        | 3   | 10    | 32     | 65/64   | 80      | 61    | 54    | 6,6/7    | 32.25/32  | 8/6  | 5/4 | 18/24 | 50/45 | 80/92   | 32    | 69/75 |
| 40     | 14/35   | 60/52 | 9        | 3   | 10    | 36     | 82/72   | 102/90  | 62    | 55    | 6,6/9    | 42.5/36   | 8    | 5/4 | 20/28 | 60/52 | 85/101  | 42/36 | 72/80 |
| 50     | 18/40   | 68/65 | 9        | 4   | 12    | 45     | 90      | 110     | 65    | 57    | 9        | 47/45     | 8/10 | 6/5 | 24/32 | 68/64 | 93/109  | 50/45 | 77/85 |
| 63     | 18/45   | 87/75 | 9        | 7/4 | 15/12 | 50     | 110/100 | 130/120 | 73/70 | 65/63 | 9        | 59.5/50   | 12   | 6/5 | 27/32 | 84/74 | 104/114 | 62/50 | 85/93 |

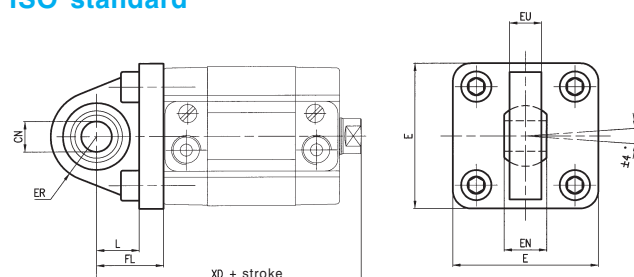
## Male rear hinge in die-cast aluminium, ISO MP4 without pin



| Male rear hinge |            |           |           |            |    |     |    | Part num. / Mass for... |                |
|-----------------|------------|-----------|-----------|------------|----|-----|----|-------------------------|----------------|
| Cyl.<br>Ø       | Ø CD<br>H7 | E<br>±0,5 | EW<br>h14 | FL<br>±0,2 | L  | MR1 | XD | UnitopRU-P/7/Kg         | ISO21287/Kg    |
| 16              | 6          | 27        | 12        | 16         | 10 | 6   | 58 | RPF-11016/0,017         |                |
| 20              | 8          | 34        | 16        | 20         | 14 | 8   | 63 | RPF-11020/0,021         |                |
| 25              | 8          | 38        | 16        | 20         | 14 | 8   | 65 | RPF-11025/0,027         |                |
| 32              | 10         | 48        | 26        | 22         | 12 | 15  | 73 | RPF-11032/0,080         |                |
| 40              | 12         | 54        | 28        | 25         | 15 | 18  | 77 | -                       | KF-11040/0,100 |
| 50              | 12         | 65        | 32        | 27         | 15 | 20  | 80 | -                       | KF-11050/0,170 |
| 63              | 16         | 75        | 40        | 32         | 20 | 23  | 89 | -                       | KF-11063/0,250 |

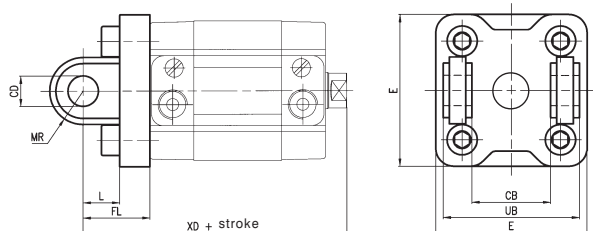
- It is possible to use the male hinge together with the female hinge MF-21+Ø of microcylinders ISO 6432.

## Male articulated hinge in die-cast aluminium Ø 32 ÷ 63 mm for compact cylinder according to ISO standard



| Male articulated hinge |          |    |    |    |      |    |      |    | Part num. / Mass for... |             |
|------------------------|----------|----|----|----|------|----|------|----|-------------------------|-------------|
| Cyl.<br>Ø              | CN<br>H9 | E  | EN | ER | EU   | FL | L    | XD | UnitopRU-P/7/Kg         | ISO21287/Kg |
| 32                     | 10       | 48 | 14 | 15 | 10,5 | 22 | 14   | 73 | KF-11032S/0,10          |             |
| 40                     | 12       | 54 | 16 | 18 | 12   | 25 | 16,5 | 77 | KF-10040S/0,20          |             |
| 50                     | 12       | 65 | 16 | 20 | 12   | 27 | 17,5 | 80 | KF-10050S/0,30          |             |
| 63                     | 16       | 75 | 21 | 21 | 15   | 32 | 21,5 | 90 | KF-10063S/0,35          |             |

## Female rear hinge in die-cast aluminium with pin in zinc-plated steel



Hinge with pin

Part num. / Mass for...

| Cyl. Ø | CB H14 | C H9 | E  | FL ±0,2 | L  | MR   | UB h14 | XD | Unitop RU-P/7/Kg |
|--------|--------|------|----|---------|----|------|--------|----|------------------|
| 32     | 26     | 10   | 48 | 22      | 12 | 11   | 45     | 73 | KF-10032A/0,060  |
| 40     | 28     | 12   | 58 | 25      | 16 | 12,5 | 52     | 77 | RPF-10040/0,104  |
| 50     | 32     | 12   | 66 | 27      | 16 | 12,5 | 60     | 80 | RPF-10050/0,142  |
| 63     | 40     | 16   | 83 | 32      | 21 | 15   | 70     | 90 | RPF-10063/0,240  |

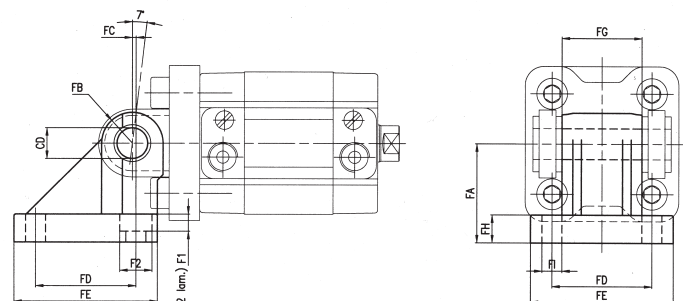
Hinge with pin

Part num. / Mass for...

| Cyl. Ø | CB H14 | C H9 | E  | FL ±0,2 | L  | MR | UB h14 | XD | ISO 21287/Kg   |
|--------|--------|------|----|---------|----|----|--------|----|----------------|
| 32     | 26     | 10   | 48 | 22      | 12 | 11 | 45     | 73 | KF-10032A/0,10 |
| 40     | 28     | 12   | 58 | 25      | 15 | 13 | 52     | 77 | KF-10040A/0,20 |
| 50     | 32     | 12   | 66 | 27      | 15 | 13 | 60     | 80 | KF-10050A/0,30 |
| 63     | 40     | 16   | 83 | 32      | 20 | 17 | 70     | 90 | KF-10063A/0,35 |

- Removing the pin it is possible to use the female hinge also in front.

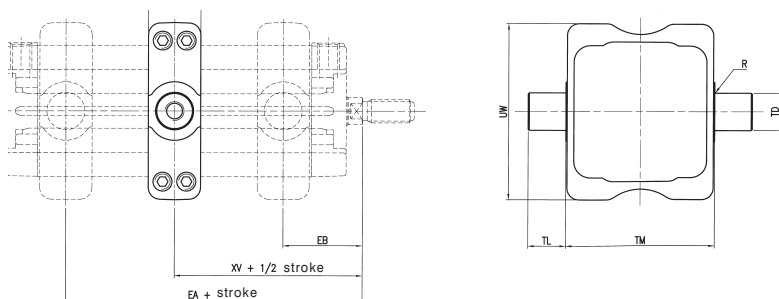
## Counter-hinge 90° in die-cast aluminium



| Cyl. Ø | Ø CD H9 | FA Js15 | FB | FC  | FD   | FE   | FG -0.2/-0.6 | FH   | FI  | F1  | F2   |
|--------|---------|---------|----|-----|------|------|--------------|------|-----|-----|------|
| 32     | 10      | 32      | 10 | 1,2 | 32,5 | 46,5 | 26           | 9    | 6,4 | 5,5 | 10,5 |
| 40     | 12      | 36      | 12 | 2,6 | 38   | 51,5 | 28           | 9    | 6,4 | 5,5 | 10,5 |
| 50     | 12      | 45      | 12 | 0,3 | 46,5 | 63,5 | 32           | 9    | 8,4 | 5   | 13,5 |
| 63     | 16      | 50      | 16 | 3,3 | 56,5 | 73,5 | 40           | 10,5 | 8,4 | 5   | 13,5 |

| Cyl. Ø | Part num. | Mass Kg |
|--------|-----------|---------|
| 32     | KF-19032  | 0,09    |
| 40     | KF-19040  | 0,12    |
| 50     | KF-19050  | 0,20    |
| 63     | KF-19063  | 0,32    |

## Intermediate hinge with fixing grub screw



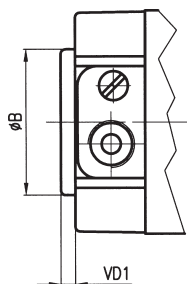
| Cyl. Ø | EA (max) | EB (min) | I1 (max) | R (max) | TD (e9) | TL (h14) | TM (h14) | UW (max) | XV      |
|--------|----------|----------|----------|---------|---------|----------|----------|----------|---------|
| 32     | 24       | 34       | 22       | 0,5     | 12      | 12       | 50       | 65       | 29 ±2   |
| 40     | 25       | 34       | 22       | 0,5     | 16      | 16       | 63       | 75       | 29,5 ±2 |
| 50     | 26       | 35       | 22       | 1       | 16      | 16       | 75       | 95       | 30,5 ±2 |
| 63     | 27       | 38       | 28       | 1       | 20      | 20       | 90       | 105      | 32,5 ±2 |

| Cyl. Ø | Part num. | Mass Kg |
|--------|-----------|---------|
| 32     | KDF-14032 | 0,13    |
| 40     | RPF-14040 | 0,24    |
| 50     | RPF-14050 | 0,32    |
| 63     | RPF-14063 | 0,47    |

Min. cylinder stroke: 10 mm

V+1/2 stroke: hinge in the middle of the end-caps

## Adaptor ring for rear centering ISO (upon request)



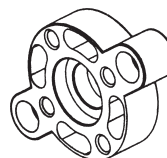
| Cyl.<br>Ø | Adaptor<br>ring |     | Part<br>number |
|-----------|-----------------|-----|----------------|
|           | ØB              | VD1 |                |
| 32        | 30              | 3   | RSF-09032      |
| 40        | 35              | 3   | RSF-09040      |
| 50        | 40              | 3   | RSF-09050      |
| 63        | 45              | 3   | RSF-09063      |

**Flange for female piston rod in zamac (Ø 16 ÷ 25 mm); in die-cast aluminium (Ø 32 ÷ 63 mm) (complete with fixing screw, standard supplied with octagonal cylinder types RO-RN series). If mounted on cylinder types RP-RM dimensions are the same as those of RO-RN series.**



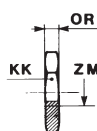
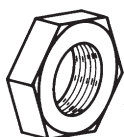
| Cyl.<br>Ø | Part<br>number | Mass<br>kg |
|-----------|----------------|------------|
| 16        | RPF-28016      | 0,007      |
| 20        | RPF-28020      | 0,018      |
| 25        | RPF-28025      | 0,020      |
| 32        | RPF-28032      | 0,024      |
| 40        | RPF-28040      | 0,035      |
| 50        | RPF-28050      | 0,057      |
| 63        | RPF-28063      | 0,094      |

**Flange for piston-rod with antirotation device in zamac (Ø 16 ÷ 25 mm); in die-cast aluminium (Ø 32 ÷ 63 mm) for RP 210... - RP 211... series (with fixing screws)**



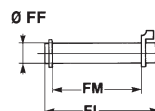
| Cyl.<br>Ø | Part<br>number | Mass<br>kg |
|-----------|----------------|------------|
| 16        | RPF-29016      | 0,010      |
| 20        | RPF-29020      | 0,018      |
| 25        | RPF-29025      | 0,025      |
| 32        | RPF-29032      | 0,026      |
| 40        | RPF-29040      | 0,036      |
| 50        | RPF-29050      | 0,065      |
| 63        | RPF-29063      | 0,100      |

## Piston rod nut in zinc-plated steel



| Cyl.<br>Ø | ZM         | KK | OR | Part<br>number |
|-----------|------------|----|----|----------------|
| 16        | M6 x 1     | 10 | 4  | MF-16012       |
| 20-25     | M8 x 1,25  | 13 | 5  | MF-16020       |
| 32-40     | M10 x 1,25 | 17 | 6  | KF-16032       |
| 50-63     | M12 x 1,25 | 19 | 7  | KF-16040       |

## Pin in zinc-plated steel with 2 circlips



| Cyl.<br>Ø | FF<br>f8 | FL   | FM | Mass<br>kg | Part<br>number |
|-----------|----------|------|----|------------|----------------|
| 32        | 10       | 53   | 46 | 0,03       | KF-18032       |
| 40        | 12       | 61,3 | 53 | 0,05       | KF-18040       |
| 50        | 12       | 69   | 61 | 0,05       | KF-18050       |
| 63        | 16       | 80,5 | 71 | 0,12       | KF-18063       |

## Fixing screws accessories

### Cylindrical screw UNI 5931

(packing 100 pcs.)

Part n° AZ4-VN... suitable for mounting elements RPF-12... and RPF-13... series

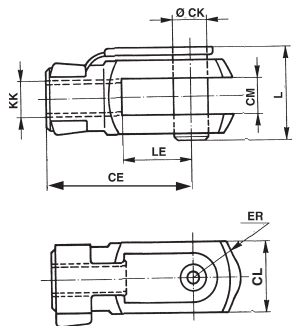
| Cyl.<br>Ø | Screw   | Part<br>number |
|-----------|---------|----------------|
| 16        | M4 x 18 | AZ4-VN0418     |
| 20-25     | M5 x 18 | AZ4-VN0518     |
| 32-40     | M6 x 20 | AZ4-VN0620     |
| 50-63     | M8 x 25 | AZ4-VN0825     |

### Cylindrical screw UNI 5931

Part n° AZ4-VN... suitable for mounting elements KF-10032/RPF-10... series

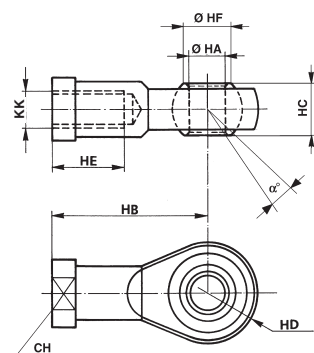
| Cyl.<br>Ø | Screw   | Part num.  |
|-----------|---------|------------|
| 32-40     | M6 x 25 | AZ4-VN0625 |
| 50-63     | M8 x 30 | AZ4-VN0830 |

## Female fork with clips in zinc-plated steel for piston rod according to ISO 8140 standard with pin



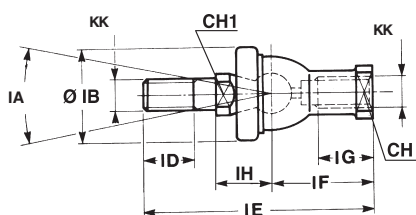
| Cyl.<br>Ø | CE | CK | CL | CM<br>B12 | ER | KK         | L  | LE | Masse<br>kg | Part<br>number |
|-----------|----|----|----|-----------|----|------------|----|----|-------------|----------------|
| 16        | 24 | 6  | 12 | 6         | 7  | M6 x 1     | 16 | 12 | 0,019       | MF-15016       |
| 20÷25     | 32 | 8  | 16 | 8         | 10 | M8 x 1,25  | 22 | 16 | 0,046       | MF-15020       |
| 32-40     | 40 | 10 | 20 | 10        | 16 | M10 x 1,25 | 26 | 20 | 0,090       | KF-15032       |
| 50-63     | 48 | 12 | 24 | 12        | 19 | M12 x 1,25 | 32 | 24 | 0,015       | KF-15040       |

## Self-lubricating articulated fork in zinc-plated steel



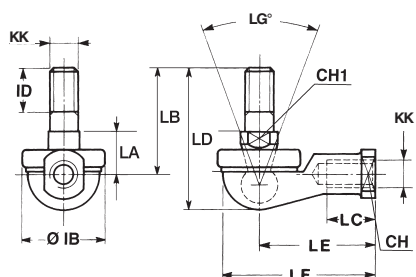
| Cyl.<br>Ø | a   | CH | KK         | HA<br>H7 | HB | HC | HD<br>0<br>-0,12 | HE | HF   | Masse<br>kg | Part<br>number |
|-----------|-----|----|------------|----------|----|----|------------------|----|------|-------------|----------------|
| 16        | 13° | 11 | M6 x 1     | 6        | 30 | 9  | 10               | 12 | 9    | 0,026       | MF-17012       |
| 20÷25     | 13° | 14 | M8 x 1,25  | 8        | 36 | 12 | 12               | 16 | 10,4 | 0,046       | MF-17020       |
| 32-40     | 13° | 17 | M10 x 1,25 | 10       | 43 | 14 | 14               | 20 | 12,9 | 0,076       | KF-17032       |
| 50-63     | 13° | 19 | M12 x 1,25 | 12       | 50 | 16 | 16               | 22 | 15,4 | 0,110       | KF-17040       |

## Fork with axially mounted articulated pin



| Cyl.<br>Ø | CH | CH1 | IA  | KK         | IH<br>0<br>±0,3 | IB | ID | IE   | IF | IG | Masse<br>kg | Part<br>number |
|-----------|----|-----|-----|------------|-----------------|----|----|------|----|----|-------------|----------------|
| 16        | 11 | 8   | 30° | M6 x 1     | 12,2            | 22 | 11 | 55,2 | 28 | 15 | 0,04        | MF-22016       |
| 20÷25     | 14 | 10  | 30° | M8 x 1,25  | 16              | 28 | 12 | 65   | 32 | 16 | 0,075       | MF-22020       |
| 32-40     | 17 | 11  | 30° | M10 x 1,25 | 19,5            | 32 | 15 | 74,5 | 35 | 18 | 0,120       | KF-22025       |
| 50-63     | 19 | 11  | 30° | M12 x 1,25 | 22              | 36 | 17 | 84   | 40 | 20 | 0,185       | KF-22040       |

## Fork with angle-mounted articulated pin



| Cyl.<br>Ø | CH | CH1 | LG  | KK         | IB | ID | LA<br>0<br>±0,3 | LB | LC | LD   | LE | LF | Masse<br>kg | Part<br>number |
|-----------|----|-----|-----|------------|----|----|-----------------|----|----|------|----|----|-------------|----------------|
| 16        | 11 | 8   | 50° | M6 x 1     | 22 | 11 | 11              | 26 | 14 | 35,5 | 30 | 40 | 0,037       | MF-23012       |
| 20÷25     | 14 | 10  | 50° | M8 x 1,25  | 28 | 12 | 14              | 31 | 17 | 42,5 | 36 | 48 | 0,067       | MF-23020       |
| 32-40     | 17 | 11  | 50° | M10 x 1,25 | 32 | 15 | 17              | 37 | 21 | 50,5 | 43 | 57 | 0,110       | KF-23025       |
| 50-63     | 19 | 17  | 50° | M12 x 1,25 | 36 | 17 | 19              | 42 | 27 | 57,5 | 50 | 66 | 0,165       | KF-23040       |

## 2. COMPACT CYLINDERS STRONG Series RS

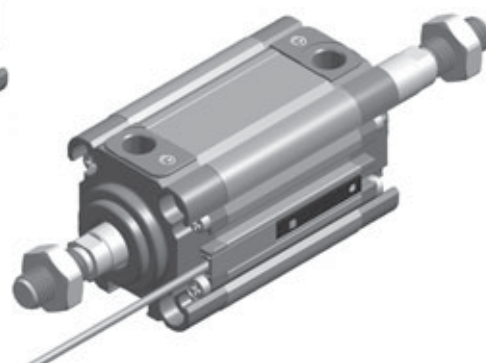
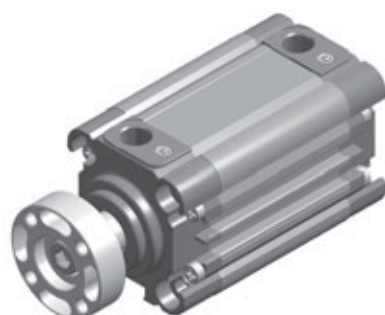
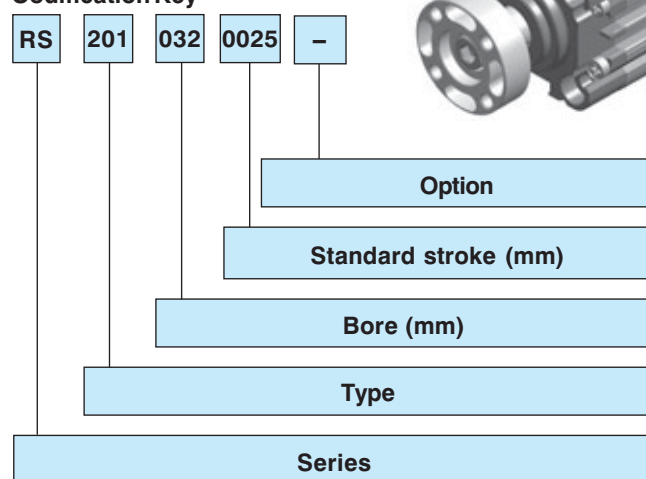
A new series of compact cylinders for long strokes and heavy-duty applications standard supplied with oversized guides and rods, **the first one with adjustable pneumatic cushioning without variations in size**. The inter-axes, centering diameters and rods are in accordance with ISO 6431 and VDMA 24562 specifications.

Working pressure: 1,5 ÷ 10 bar  
 Ambient temperature: -20°C ÷ 80°C  
 Fluid: filtered air, lubricated or not  
 Barrel profile of extruded aluminium alloy with chromium-plated piston rod.  
 Oversized guides.  
 Adjustable cushioning (10 mm ~).  
 The version with non-rotating piston rod (RQ-...series) is standard supplied with assembled flange on the female rod.  
 Max. operating speed: 1 m/s.  
 Magnetic version.

### Upon request

- Magnetic sensor DF-... (see page 2.27)
- Wire protection strap for magnetic sensor, part no.DHF-002100.
- Flange for RS series types 200-201-260-270.
- Hollow piston rod only for through piston rod version.
- Suitable for locking unit only with chromium-plated rod. (see page 2.28)

### Codification Key



### SERIES

Compact cylinders STRONG Ø 032 ÷ 063 mm, magnetic version, with cushioning and oversized guides standard supplied:

#### Round barrel:

**RS series** - compact STRONG

#### Octagonal barrel

**RQ series** - compact STRONG non-rotating piston rod with flange.

### TYPE

#### RS series

**1.. with stainless steel piston rod**

**2.. with chromium-plated steel piston rod**

-00 D.A.

-01 D.A. through piston rod

-10 D.A. non-rotating piston rod

-11 D.A. non-rotating through piston rod

-20 D.A. long piston

-60 S.A. retracted piston rod

-70 S.A. extended piston rod

**3.. with male piston rod in stainless steel**

**4.. with male piston rod in chromium-plated steel**

-00 D.A.

-01 D.A. through piston rod

-20 D.A. long piston

-60 S.A. retracted piston rod

-70 S.A. extended piston rod

#### RQ series

**1.. with piston rod in stainless steel**

**2.. with piston rod in chromium-plated steel**

-00 D.A.

-01 D.A. through piston rod

-20 D.A. long piston

### BORE

032 - 040 - 050 - 063 mm

### STANDARD STROKE

#### Single acting

0005-0010-0015-0020-0025 mm

#### Double acting

0005-0010-0015-0020-0025-0030-0040-0050-0060  
0080 mm

#### Max stroke with guided piston rod (upon request):

Ø 32-40 **0400 mm**

Ø 50 **0500 mm**

Ø 63 **0800 mm**

#### Version with extended piston (upon request):

Ø 32-40 **0800 mm**

Ø 50-63 **1000 mm**

### OPTION

**C** = with flange for RS series versions 100/101/160/170 and 200/201/260/270

**H** = hollow piston rod only for versions with through piston rod

**G** = prearranged for locking unit with the exception of single-acting cylinders and only with piston rod in chromium-plated steel.



## Construction details

- Barrel in extruded aluminium alloy, externally and internally anodized 15  $\mu\text{m}$ , plain profile, flush-mounted sensors.
- Die-cast end-caps in aluminium alloy.
- Self-tapping screws in zinc-plated steel.
- Chromium-plated steel rod; stainless steel upon request.
- Aluminium piston.
- Acetal resin slide.
- Oversized bearings.
- Piston seals in nitrile rubber.
- Polyurethane rod seals.
- Adjustable pneumatic cushioning for efficient deceleration of the piston and reduced sound pollution.

- D.A. piston in aluminium



- D.A. extended piston for supporting higher radial load



- Locking unit L1-N... series with chromium-plated piston rod except for versions with non-rotating device (RS-210...-RS-211...).

### Nominal tolerance on stroke

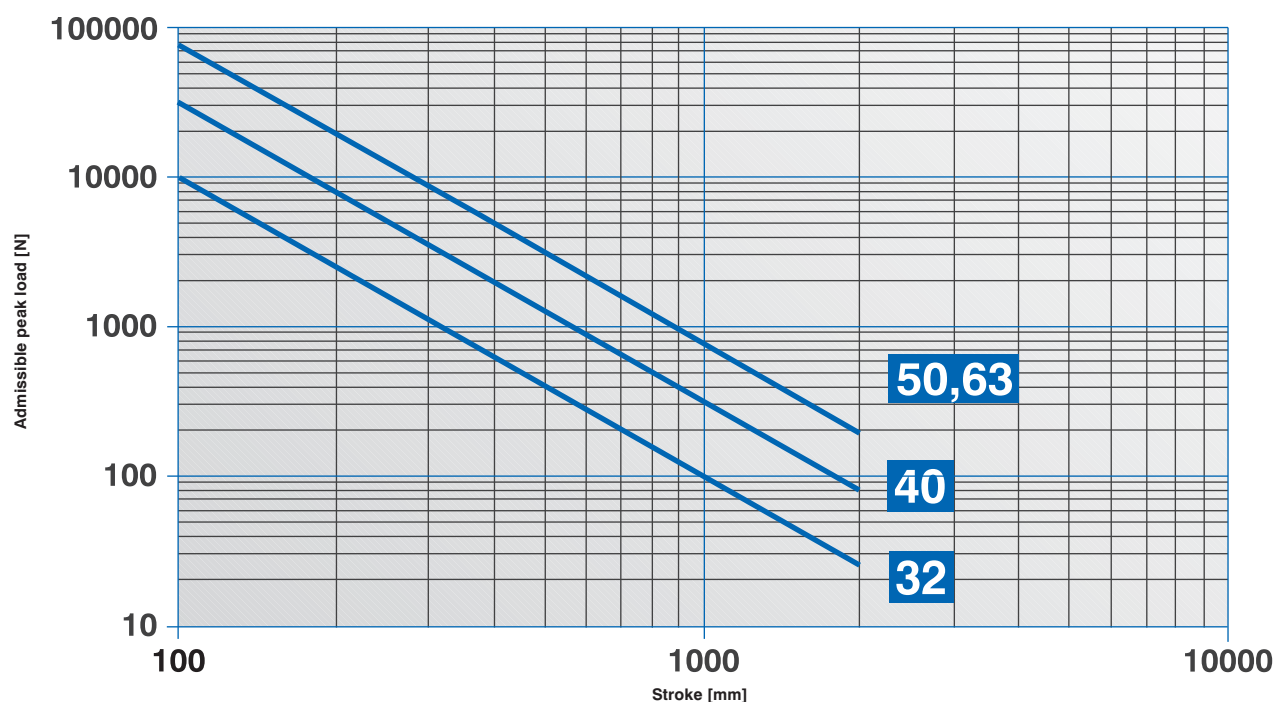
| Cyl. Ø  | Tolerance mm |
|---------|--------------|
| 32 ÷ 50 | + 2/0        |
| 63      | + 2,5/0      |

## Theoretical forces [N] developed at the working pressure [bar]

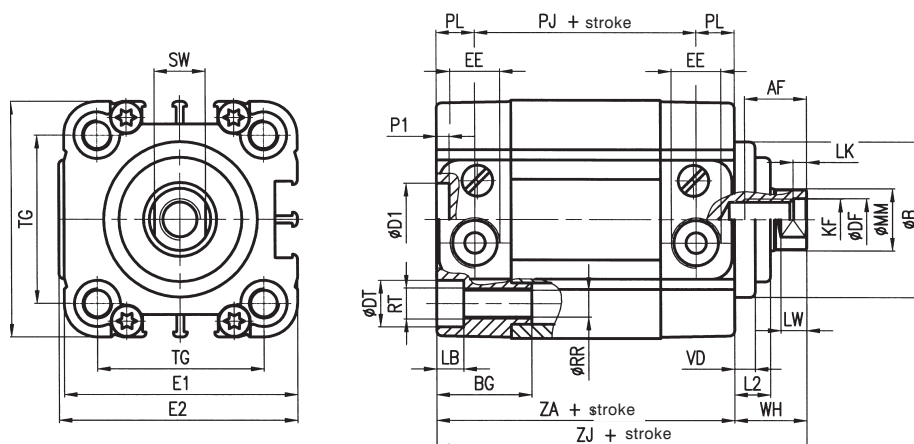
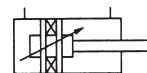
| Cyl.<br>Ø | Working<br>area [mm²] |      | Working pressure [bar] |      |      |      |      | Cyl.<br>Ø | Torque<br>[Nm] |
|-----------|-----------------------|------|------------------------|------|------|------|------|-----------|----------------|
|           |                       |      | 2                      | 4    | 6    | 8    | 10   |           |                |
| 32        | Thrust<br>traction    | 804  | 161                    | 322  | 482  | 643  | 804  | 32        | 2              |
|           |                       | 691  | 138                    | 276  | 414  | 553  | 691  |           |                |
| 40        | Thrust<br>traction    | 1256 | 251                    | 502  | 754  | 1005 | 1256 | 40        | 3              |
|           |                       | 1056 | 211                    | 422  | 633  | 844  | 1055 |           |                |
| 50        | Thrust<br>traction    | 1962 | 393                    | 785  | 1178 | 1570 | 1963 | 50        | 5              |
|           |                       | 1649 | 330                    | 660  | 990  | 1320 | 1650 |           |                |
| 63        | Thrust<br>traction    | 3116 | 623                    | 1246 | 1869 | 2493 | 3116 | 63        | 8              |
|           |                       | 2802 | 560                    | 1120 | 1680 | 2240 | 2800 |           |                |

### Maximum applicable torque [Nm] for RQ series non-rotating rod

In the case of pneumatic cylinders with a through rod, the theoretical force to be considered, in both directions, is always equal to the "traction" value indicated in the table.  
For practical purposes these values should be reduced taking into account the weight and sliding friction of the mobile equipment (~ -10%).



## Double-acting cylinder RS 200... / RS 220...\* series extended piston



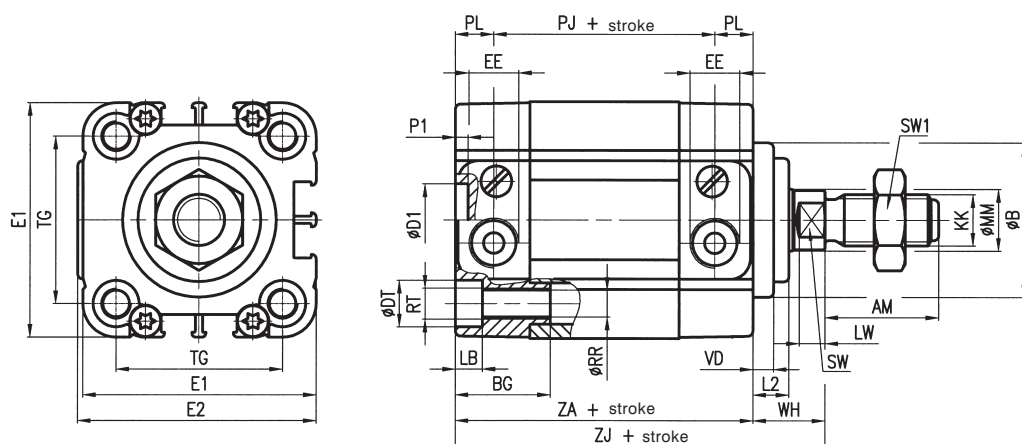
Mass RS 200...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving part stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|----------------------------|---------------------------|
| 32     | 215                     | 2,65                      | 70                         | 0,9                       |
| 40     | 347                     | 4                         | 110                        | 1,6                       |
| 50     | 520                     | 5,6                       | 180                        | 2,5                       |
| 63     | 800                     | 6,55                      | 260                        | 2,5                       |

Mass RS 220...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving part stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|----------------------------|---------------------------|
| 32     | 301,5                   | 2,65                      | 121,5                      | 0,9                       |
| 40     | 482                     | 4                         | 197                        | 1,6                       |
| 50     | 769                     | 5,6                       | 327                        | 2,5                       |
| 63     | 1151,5                  | 6,55                      | 485                        | 2,5                       |

## Double-acting cylinder with male rod RS 400... / RS 420...\* series extended piston



Mass RS 400...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving part stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|----------------------------|---------------------------|
| 32     | 245                     | 2,65                      | 100                        | 0,9                       |
| 40     | 392                     | 4                         | 155                        | 1,6                       |
| 50     | 600                     | 5,6                       | 260                        | 2,5                       |
| 63     | 880                     | 6,55                      | 340                        | 2,5                       |

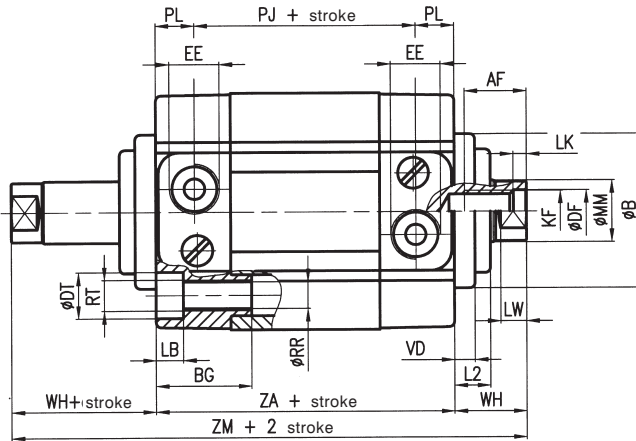
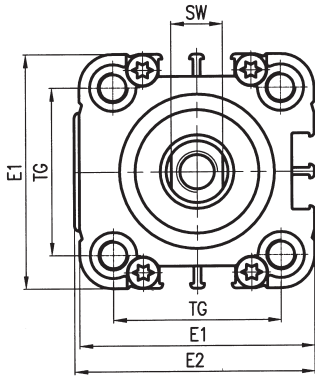
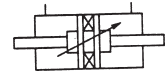
Mass RS 420...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving part stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|----------------------------|---------------------------|
| 32     | 331,5                   | 2,65                      | 151,5                      | 0,9                       |
| 40     | 527                     | 4                         | 242                        | 1,6                       |
| 50     | 849                     | 5,6                       | 407                        | 2,5                       |
| 63     | 1231,5                  | 6,55                      | 565                        | 2,5                       |

| Cyl. Ø | AF | AM | Ø B | BG | ØD1 H11 | Ø DF | Ø DT | E1 | E2 | EE   | KF  | KK       | L2 | LB  | LK | LW | Ø MM | P1 | PJ | PL  | Ø RR | RT | SW | SW1 | TG   | VD | WH | ZA | ZJ |
|--------|----|----|-----|----|---------|------|------|----|----|------|-----|----------|----|-----|----|----|------|----|----|-----|------|----|----|-----|------|----|----|----|----|
| 32     | 12 | 22 | 30  | 18 | 14      | 8,2  | 9    | 46 | 47 | G1/8 | M8  | M10x1,25 | 7  | 5,3 | 2  | 5  | 12   | 25 | 29 | 7,5 | 5,2  | M6 | 10 | 17  | 32,5 | 4  | 14 | 44 | 58 |
| 40     | 16 | 24 | 35  | 18 | 14      | 10,2 | 9    | 56 | 57 | G1/8 | M10 | M12x1,25 | 7  | 5,3 | 2  | 5  | 16   | 25 | 30 | 7,5 | 5,2  | M6 | 13 | 19  | 38   | 4  | 14 | 45 | 59 |
| 50     | 20 | 32 | 40  | 24 | 18      | 12,2 | 11   | 66 | 67 | G1/8 | M12 | M16x1,5  | 10 | 6,5 | 2  | 6  | 20   | 25 | 30 | 7,5 | 6,5  | M8 | 17 | 24  | 46,5 | 5  | 18 | 45 | 63 |
| 63     | 20 | 32 | 45  | 24 | 18      | 12,2 | 11   | 79 | 80 | G1/8 | M12 | M16x1,5  | 10 | 6,5 | 2  | 6  | 20   | 25 | 34 | 7,5 | 6,5  | M8 | 17 | 24  | 56,5 | 5  | 18 | 49 | 67 |

\* For cylinder types with extended piston, dimensions PJ, ZA and ZJ will be increased by 20 mm (Ø 32-40 mm) and 25 mm (Ø 50-63 mm).

## Double-acting cylinder, through piston rod RS 201 ... series



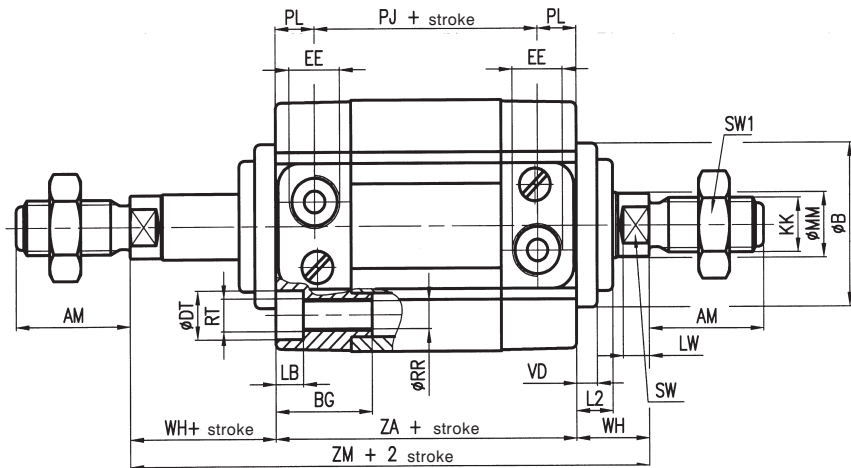
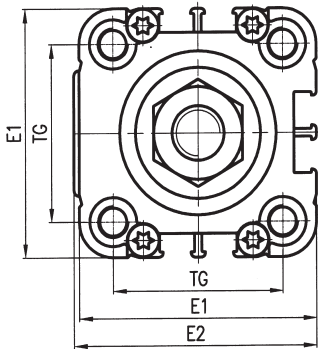
For version with hollow through piston rod, option H in codification key:

| Cyl. Ø | Hole mm |
|--------|---------|
| 32-40  | 4,5     |
| 50-63  | 6       |

Mass

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving part stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|----------------------------|---------------------------|
| 32     | 245                     | 3,55                      | 96                         | 1,8                       |
| 40     | 392                     | 5,6                       | 151                        | 3,2                       |
| 50     | 596                     | 8,1                       | 250                        | 5                         |
| 63     | 875                     | 9,05                      | 330                        | 5                         |

## Double-acting cylinder, through male piston rod RS 401 ... series

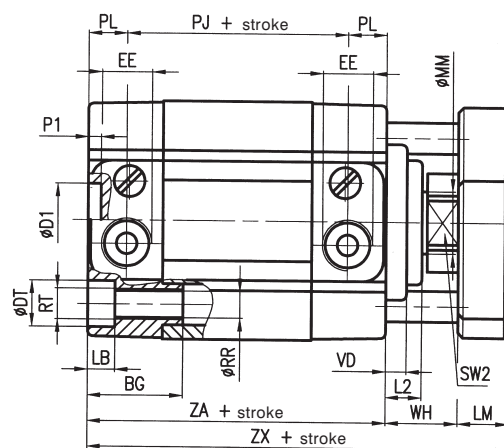
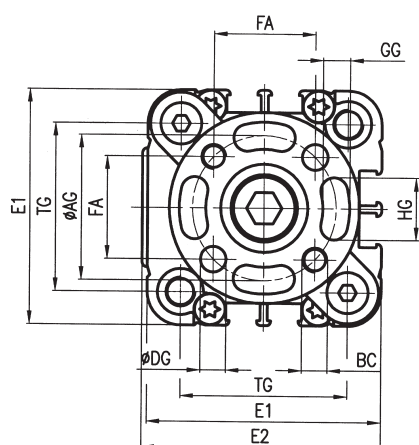
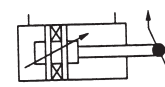


Mass

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving part stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|----------------------------|---------------------------|
| 32     | 305                     | 3,55                      | 156                        | 1,8                       |
| 40     | 482                     | 5,6                       | 241                        | 3,2                       |
| 50     | 756                     | 8,1                       | 410                        | 5                         |
| 63     | 1035                    | 9,05                      | 490                        | 5                         |

| Cyl. Ø | AF | AM | Ø B | BG | Ø DF | Ø DT | E1 | E2 | EE   | KF  | KK       | L2 | LB  | LK | LW | Ø MM | PJ | PL  | Ø RR | RT | SW | SW1 | TG   | VD | WH | ZA | ZM |
|--------|----|----|-----|----|------|------|----|----|------|-----|----------|----|-----|----|----|------|----|-----|------|----|----|-----|------|----|----|----|----|
| 32     | 12 | 22 | 30  | 18 | 8,2  | 9    | 46 | 47 | G1/8 | M8  | M10x1,25 | 7  | 5,3 | 2  | 5  | 12   | 29 | 7,5 | 5,2  | M6 | 10 | 17  | 32,5 | 4  | 14 | 44 | 72 |
| 40     | 16 | 24 | 35  | 18 | 10,2 | 9    | 56 | 57 | G1/8 | M10 | M12x1,25 | 7  | 5,3 | 2  | 5  | 16   | 30 | 7,5 | 5,2  | M6 | 13 | 19  | 38   | 4  | 14 | 45 | 73 |
| 50     | 20 | 32 | 40  | 24 | 12,2 | 11   | 66 | 67 | G1/8 | M12 | M16x1,5  | 10 | 6,5 | 2  | 6  | 20   | 30 | 7,5 | 6,5  | M8 | 17 | 24  | 46,5 | 5  | 18 | 45 | 81 |
| 63     | 20 | 32 | 45  | 24 | 12,2 | 11   | 79 | 80 | G1/8 | M12 | M16x1,5  | 10 | 6,5 | 2  | 6  | 20   | 35 | 7,5 | 6,5  | M8 | 17 | 24  | 56,5 | 5  | 18 | 50 | 86 |

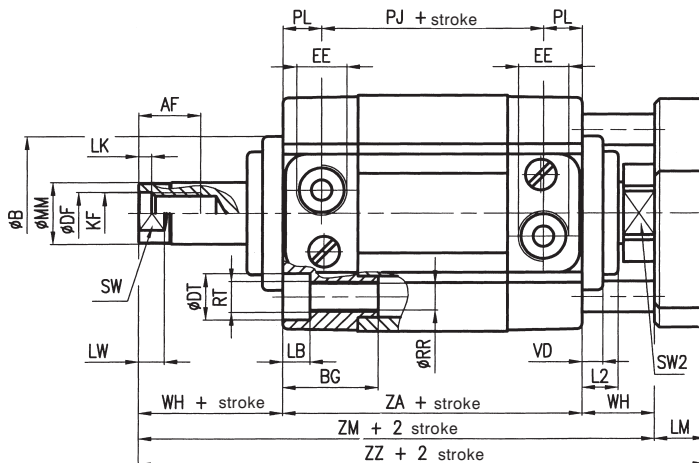
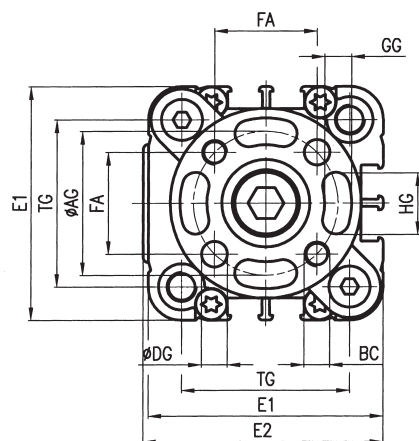
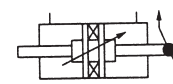
## Double-acting cylinder with non-rotating device RS 210 ... series



**Mass**

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving part stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|----------------------------|---------------------------|
| 32     | 255                     | 3,09                      | 110                        | 1,34                      |
| 40     | 414                     | 4,8                       | 177                        | 2,4                       |
| 50     | 622                     | 6,4                       | 282                        | 3,3                       |
| 63     | 952                     | 7,79                      | 412                        | 3,7                       |

## Double-acting cylinder, through piston rod with non-rotating device RS 211 ... series



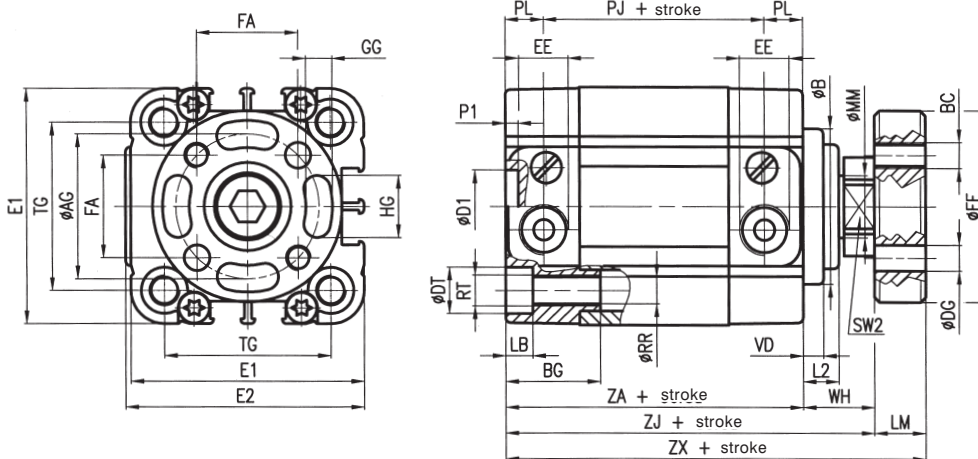
**Mass**

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving part stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|----------------------------|---------------------------|
| 32     | 285                     | 3,99                      | 136                        | 2,24                      |
| 40     | 459                     | 6,4                       | 218                        | 4                         |
| 50     | 698                     | 8,9                       | 352                        | 5,8                       |
| 63     | 1025                    | 10,29                     | 482                        | 6,24                      |

| Cyl. Ø | AF | Ø AG | Ø B | BC | BG | ØD1 H11 | Ø DF | Ø DG | Ø DT |
|--------|----|------|-----|----|----|---------|------|------|------|
| 32     | 12 | 28   | 30  | M5 | 18 | 14      | 8,2  | 5    | 9    |
| 40     | 16 | 33   | 35  | M5 | 18 | 14      | 10,2 | 5    | 9    |
| 50     | 20 | 42   | 40  | M6 | 24 | 18      | 12,2 | 6    | 11   |
| 63     | 20 | 50   | 45  | M6 | 24 | 18      | 12,2 | 6    | 11   |

| Cyl. Ø | E1 | E2 | EE   | FA   | GG  | HG | KF  | L2 | LB  | LM | LK | LW | Ø MM | P1  | PJ | PL  | Ø RR | RT | SW | SW2 | TG   | VD | WH | ZA | ZM | ZX | ZZ |
|--------|----|----|------|------|-----|----|-----|----|-----|----|----|----|------|-----|----|-----|------|----|----|-----|------|----|----|----|----|----|----|
| 32     | 46 | 47 | G1/8 | 19,8 | 5,2 | 11 | M8  | 7  | 5,3 | 10 | 2  | 5  | 12   | 2,5 | 29 | 7,5 | 5,2  | M6 | 10 | 17  | 32,5 | 4  | 14 | 44 | 72 | 68 | 82 |
| 40     | 56 | 57 | G1/8 | 23,3 | 5,2 | 15 | M10 | 7  | 5,3 | 10 | 2  | 5  | 16   | 2,5 | 30 | 7,5 | 5,2  | M6 | 13 | 19  | 38   | 4  | 14 | 45 | 73 | 69 | 83 |
| 50     | 66 | 67 | G1/8 | 29,7 | 6,2 | 19 | M12 | 10 | 6,5 | 12 | 2  | 6  | 20   | 2,5 | 30 | 7,5 | 6,6  | M8 | 17 | 24  | 46,5 | 5  | 18 | 45 | 81 | 75 | 93 |
| 63     | 79 | 80 | G1/8 | 35,4 | 6,2 | 25 | M12 | 10 | 6,5 | 12 | 2  | 6  | 20   | 2,5 | 35 | 7,5 | 6,6  | M8 | 17 | 24  | 56,5 | 5  | 18 | 50 | 86 | 80 | 98 |

## Double-acting cylinder with non-rotating rod RQ 200... / RQ 220...\* series extended piston



If it is necessary to remove the flange from the rod, oppose the force needed to unscrew it by using exclusively the hexagon wrench SW2.

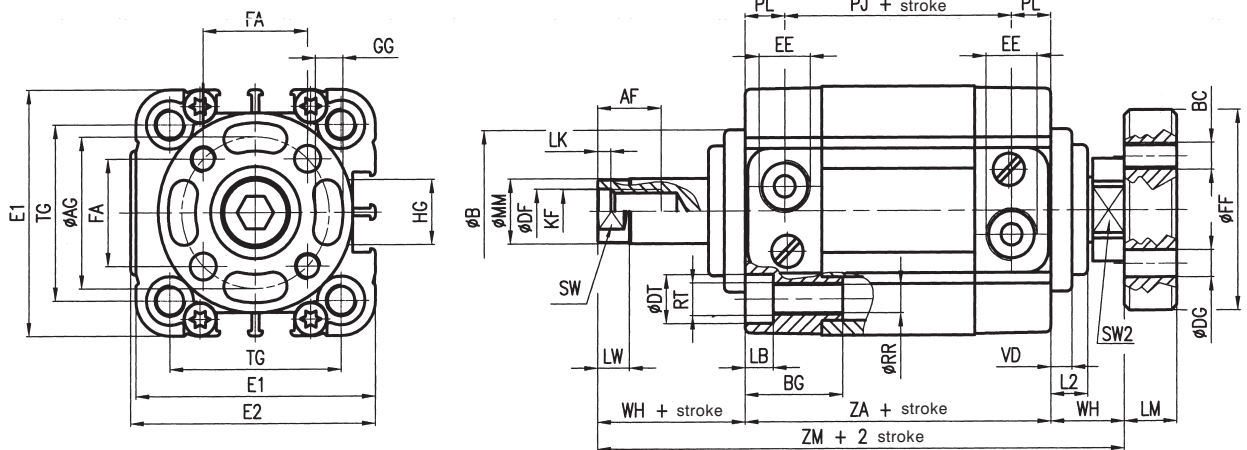
Mass RQ 200...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving part stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|----------------------------|---------------------------|
| 32     | 240                     | 2,65                      | 94                         | 0,9                       |
| 40     | 386                     | 4                         | 148,5                      | 1,6                       |
| 50     | 587                     | 5,6                       | 247                        | 2,5                       |
| 63     | 894                     | 6,55                      | 354                        | 2,5                       |

Mass RQ 220...

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving part stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|----------------------------|---------------------------|
| 32     | 326,5                   | 2,65                      | 146,5                      | 0,9                       |
| 40     | 522                     | 4                         | 237                        | 1,6                       |
| 50     | 839                     | 5,6                       | 397                        | 2,5                       |
| 63     | 1249,5                  | 6,55                      | 583                        | 2,5                       |

## Double-acting cylinder non rotating through rod RQ 201... series



| Cyl. Ø | AF | Ø AG | Ø B | BC | BG | ØD1 H11 | Ø DF | Ø DG | Ø DT | E1 | E2 | EE   | FA   | Ø FF |
|--------|----|------|-----|----|----|---------|------|------|------|----|----|------|------|------|
| 32     | 12 | 28   | 30  | M5 | 18 | 14      | 8,2  | 5    | 9    | 46 | 47 | G1/8 | 19,8 | 37   |
| 40     | 16 | 33   | 35  | M5 | 18 | 14      | 10,2 | 5    | 9    | 56 | 57 | G1/8 | 23,3 | 42   |
| 50     | 20 | 42   | 40  | M6 | 24 | 18      | 12,2 | 6    | 11   | 66 | 67 | G1/8 | 29,7 | 52   |
| 63     | 20 | 50   | 45  | M6 | 24 | 18      | 12,2 | 6    | 11   | 79 | 80 | G1/8 | 35,4 | 64   |

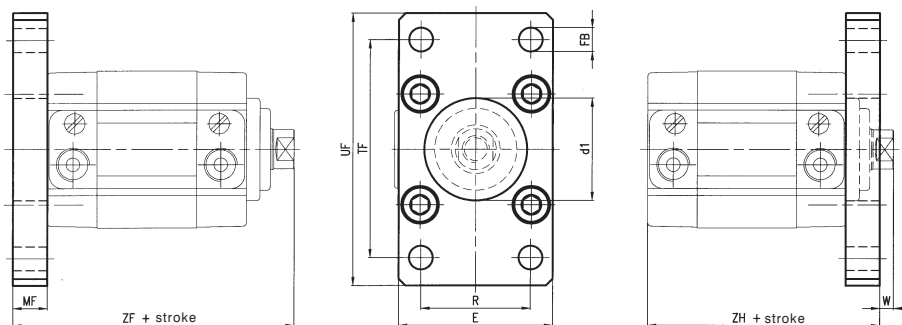
Mass

| Cyl. Ø | Cylinder stroke "0" (g) | Increase by mm stroke (g) | Moving part stroke "0" (g) | Increase by mm stroke (g) |
|--------|-------------------------|---------------------------|----------------------------|---------------------------|
| 32     | 270                     | 3,55                      | 120                        | 1,8                       |
| 40     | 431                     | 5,6                       | 189,5                      | 3,2                       |
| 50     | 663                     | 8,1                       | 317                        | 5                         |
| 63     | 969                     | 9,05                      | 424                        | 5                         |

| Cyl. Ø | GG  | HG | KF  | L2 | LB  | LM | LK | LW | Ø MM | P1  | PJ | PL  | Ø RR | RT | SW | SW2 | TG   | VD | VD 1 | WH | ZA | ZM | ZJ | ZX |
|--------|-----|----|-----|----|-----|----|----|----|------|-----|----|-----|------|----|----|-----|------|----|------|----|----|----|----|----|
| 32     | 5,2 | 11 | M8  | 7  | 5,3 | 10 | 2  | 5  | 12   | 2,5 | 29 | 7,5 | 5,2  | M6 | 10 | 17  | 32,5 | 4  | 3    | 14 | 44 | 72 | 58 | 68 |
| 40     | 5,2 | 15 | M10 | 7  | 5,3 | 10 | 2  | 5  | 16   | 2,5 | 30 | 7,5 | 5,2  | M6 | 13 | 19  | 38   | 4  | 3    | 14 | 45 | 73 | 59 | 69 |
| 50     | 6,2 | 19 | M12 | 10 | 6,5 | 12 | 2  | 6  | 20   | 2,5 | 30 | 7,5 | 6,6  | M8 | 17 | 24  | 46,5 | 5  | 3    | 18 | 45 | 81 | 63 | 75 |
| 63     | 6,2 | 25 | M12 | 10 | 6,5 | 12 | 2  | 6  | 20   | 2,5 | 34 | 7,5 | 6,6  | M8 | 17 | 24  | 56,5 | 5  | 3    | 18 | 49 | 85 | 67 | 79 |

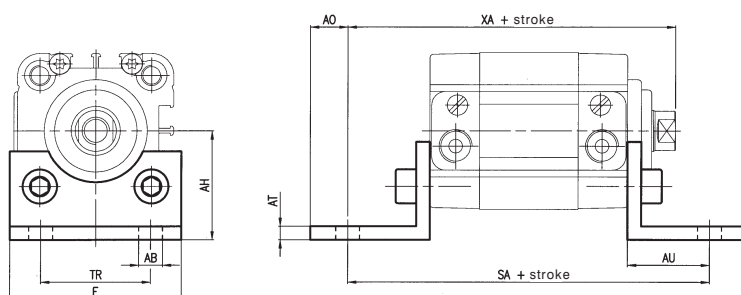
\* For cylinder types with extended piston, dimensions PJ, ZA and ZJ, ZX will be increased by 20 mm (Ø 32-40 mm), and 25 mm (Ø 50-63 mm).

## Front and rear flange in zinc-plated steel, ISO MF1-MF2



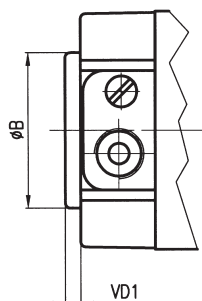
| Cyl. Ø | Part number | Mass kg |
|--------|-------------|---------|
| 32     | KF-12032    | 0,20    |
| 40     | KF-12040    | 0,25    |
| 50     | KF-12050    | 0,50    |
| 63     | KF-12063    | 0,65    |

## Angle bracket in zinc-plated steel, ISO MS1



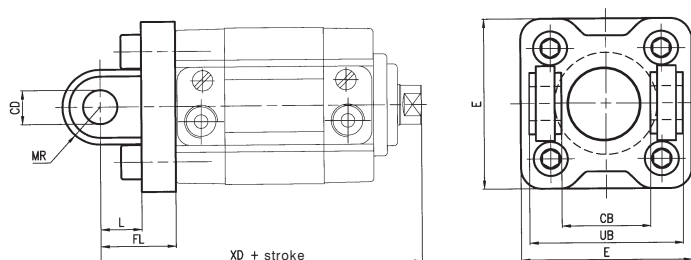
| Cyl. Ø | Part number | Mass kg |
|--------|-------------|---------|
| 32     | KF-13032    | 0,07    |
| 40     | KF-13040    | 0,09    |
| 50     | KF-13050    | 0,20    |
| 63     | KF-13063    | 0,20    |

## Adaptor ring for rear centering ISO (upon request)



| Cyl. Ø | Part number |
|--------|-------------|
| 32     | RSF-09032   |
| 40     | RSF-09040   |
| 50     | RSF-09050   |
| 63     | RSF-09063   |

## Rear female hinge in die-cast aluminium with pin in zinc-plated steel ISO MP2



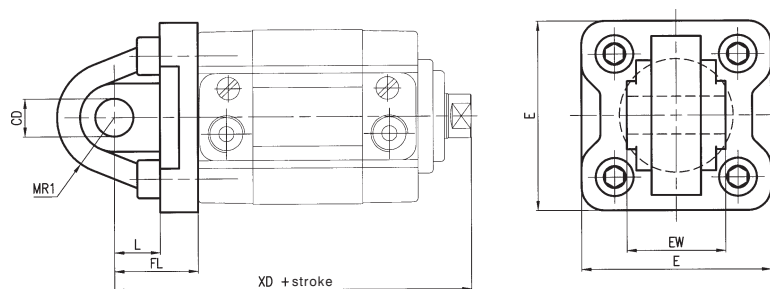
| Cyl. Ø | Part number | Mass kg |
|--------|-------------|---------|
| 32     | KF-10032A   | 0,06    |
| 40     | KF-10040A   | 0,08    |
| 50     | KF-10050A   | 0,15    |
| 63     | KF-10063A   | 0,25    |

By removing the pin it is possible to use the female hinge also in front.

| Flange |         |    |         |   |    |        |         |     |    |    | Bracket |         |    |    |          |    |     |    |    |    | Adaptor ring |        | Female hinge with pin |    |    |    |    |        |    |  |  |
|--------|---------|----|---------|---|----|--------|---------|-----|----|----|---------|---------|----|----|----------|----|-----|----|----|----|--------------|--------|-----------------------|----|----|----|----|--------|----|--|--|
| Cyl. Ø | Ød1 H11 | E  | ØFB H13 | W | MF | R Js14 | TF Js14 | UF  | ZF | ZH | ØAB H13 | AH Js15 | AO | AT | AU ± 0.2 | E  | SA  | TR | XA | ØB | VD1          | CB H14 | ØCD H9                | E  | FL | L  | MR | UB h14 | XD |  |  |
| 32     | 30      | 45 | 7       | 4 | 10 | 32     | 64      | 80  | 68 | 54 | 7       | 32      | 6  | 4  | 24       | 45 | 92  | 32 | 82 | 30 | 3            | 26     | 10                    | 48 | 22 | 12 | 11 | 45     | 80 |  |  |
| 40     | 35      | 52 | 9       | 4 | 10 | 36     | 72      | 90  | 69 | 55 | 9       | 36      | 8  | 4  | 28       | 52 | 101 | 36 | 87 | 35 | 3            | 28     | 12                    | 54 | 25 | 15 | 13 | 52     | 84 |  |  |
| 50     | 40      | 65 | 9       | 6 | 12 | 45     | 90      | 110 | 75 | 57 | 9       | 45      | 10 | 5  | 32       | 64 | 109 | 45 | 95 | 40 | 3            | 32     | 12                    | 65 | 27 | 15 | 13 | 60     | 90 |  |  |
| 63     | 45      | 75 | 9       | 6 | 12 | 50     | 100     | 120 | 79 | 61 | 9       | 50      | 12 | 5  | 32       | 74 | 113 | 50 | 99 | 45 | 3            | 40     | 16                    | 75 | 32 | 20 | 17 | 70     | 99 |  |  |

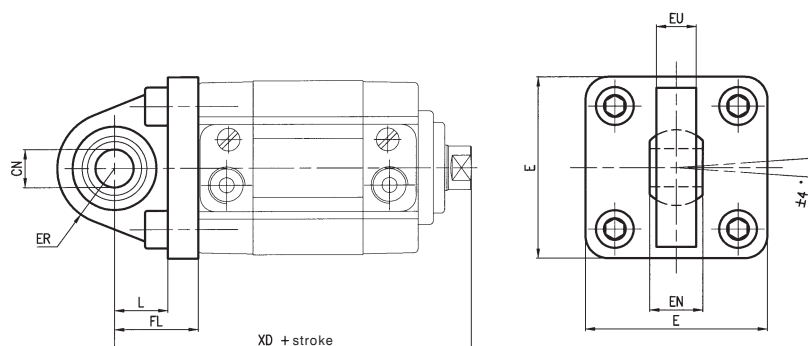


## Rear male hinge in die-cast aluminium ISO MP4 without pin



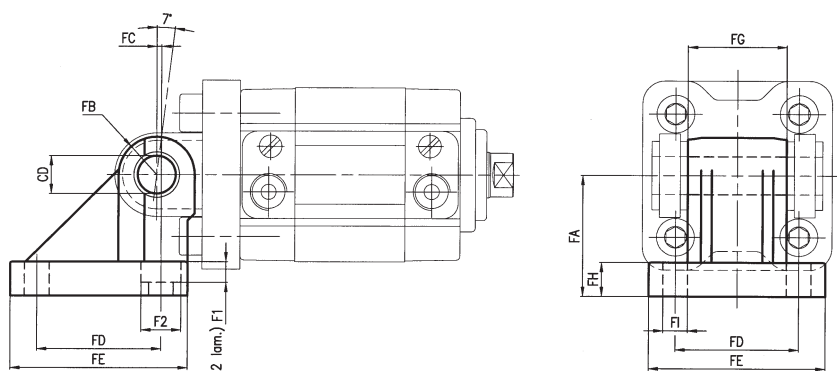
| Cyl. Ø | Part number | Mass kg |
|--------|-------------|---------|
| 32     | KF-11032    | 0,20    |
| 40     | KF-11040    | 0,25    |
| 50     | KF-11050    | 0,50    |
| 63     | KF-11063    | 0,65    |

## Articulated male hinge in die-cast aluminium



| Cyl. Ø | Part number | Mass kg |
|--------|-------------|---------|
| 32     | KF-11032S   | 0,10    |
| 40     | KF-11040S   | 0,20    |
| 50     | KF-11040S   | 0,30    |
| 63     | KF-11063S   | 0,35    |

## Counter-hinge 90° in die-cast aluminium



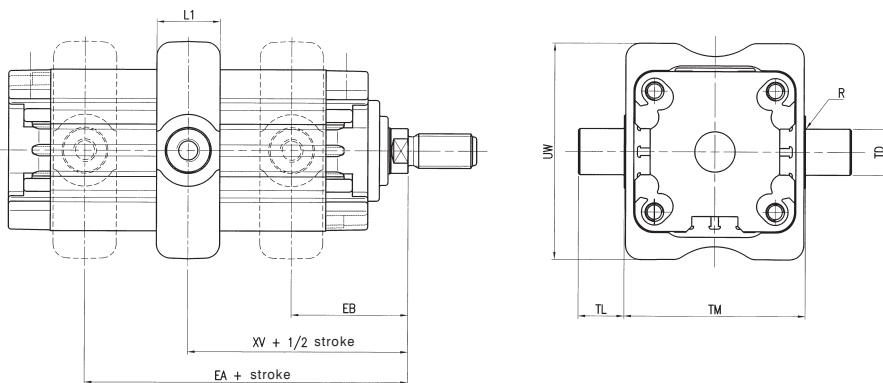
| Cyl. Ø | Part number | Mass kg |
|--------|-------------|---------|
| 32     | KF-19032    | 0,09    |
| 40     | KF-19040    | 0,12    |
| 50     | KF-19050    | 0,20    |
| 63     | KF-19063    | 0,32    |

| Rear male hinge |        |    |                    |    |    |     |    | Articulated male hinge |    |    |    |      |    |      |    | Counter-hinge |         |    |     |      |      |              |      |     |     |      |
|-----------------|--------|----|--------------------|----|----|-----|----|------------------------|----|----|----|------|----|------|----|---------------|---------|----|-----|------|------|--------------|------|-----|-----|------|
| Cyl. Ø          | ØCD H9 | E  | EW toll. -0.2/-0.6 | FL | L  | MR1 | XD | ØCN H9                 | E  | EN | ER | EU   | FL | L    | XD | ØCD H9        | FA Js15 | FB | FC  | FD   | FE   | FG -0.2/-0.6 | FH   | FI  | F1  | F2   |
| 32              | 10     | 48 | 26                 | 22 | 12 | 15  | 80 | 10                     | 48 | 14 | 15 | 10.5 | 22 | 14   | 80 | 10            | 32      | 10 | 1.2 | 32.5 | 46.5 | 26           | 9    | 6.4 | 5.5 | 10.5 |
| 40              | 12     | 54 | 28                 | 25 | 15 | 18  | 84 | 12                     | 54 | 16 | 18 | 12   | 25 | 16.5 | 84 | 12            | 36      | 12 | 2.6 | 38   | 51.5 | 28           | 9    | 6.4 | 5.5 | 10.5 |
| 50              | 12     | 65 | 32                 | 27 | 15 | 20  | 90 | 12                     | 65 | 16 | 20 | 12   | 27 | 17.5 | 90 | 12            | 45      | 12 | 0.3 | 46.5 | 63.5 | 32           | 9    | 8.4 | 5   | 13.5 |
| 63              | 16     | 75 | 40                 | 32 | 20 | 23  | 99 | 16                     | 75 | 21 | 23 | 15   | 32 | 21.5 | 99 | 16            | 50      | 16 | 3.3 | 56.5 | 73.5 | 40           | 10.5 | 8.4 | 5   | 13.5 |

Technical modifications keep in reserve !

(2020/10)

## Intermediate hinge with grub screws



| Cyl.<br>Ø | EA<br>(max) | EB<br>(min) | I1<br>(max) | R<br>(max) | TD<br>(e9) | TL<br>(h14) | TM<br>(h14) | UW<br>(max) | XV   |      |
|-----------|-------------|-------------|-------------|------------|------------|-------------|-------------|-------------|------|------|
|           |             |             |             |            |            |             |             |             | Nom. | Tol. |
| 32        | 31          | 41          | 22          | 0,5        | 12         | 12          | 50          | 65          | 36   | ±2   |
| 40        | 32          | 41          | 22          | 0,5        | 16         | 16          | 63          | 75          | 36,5 | ±2   |
| 50        | 36          | 45          | 22          | 1          | 16         | 16          | 75          | 95          | 40,5 | ±2   |
| 63        | 37          | 48          | 28          | 1          | 20         | 20          | 90          | 105         | 42,5 | ±2   |

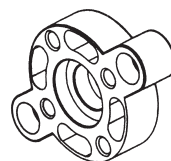
| Cyl.<br>Ø | Part<br>number | Mass<br>kg |
|-----------|----------------|------------|
| 32        | KDF-14032      | 0,13       |
| 40        | KDF-14040      | 0,24       |
| 50        | KDF-14050      | 0,32       |
| 63        | KDF-14063      | 0,47       |

## Flange for female rod in die-cast aluminium, (with fixing screw standard supplied with octagonal cylinders RQ series)



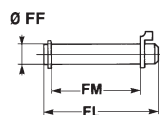
| Cyl.<br>Ø | Part<br>number | Mass<br>kg |
|-----------|----------------|------------|
| 32        | RPF-28032      | 0,024      |
| 40        | RSF-28040      | 0,035      |
| 50        | RSF-28050      | 0,057      |
| 63        | RSF-28063      | 0,094      |

## Flange for rod with non-rotating device in die-cast aluminium for RS210.../RS211... series (fixing screws included)



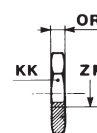
| Cyl.<br>Ø | Part<br>number | Mass<br>kg |
|-----------|----------------|------------|
| 32        | RPF-29032      | 0,026      |
| 40        | RSF-29040      | 0,036      |
| 50        | RSF-29050      | 0,065      |
| 63        | RSF-29063      | 0,100      |

## Pin in zinc-plated steel with 2 circlips



| Cyl.<br>Ø | FF<br>f8 | FL   | FM | Mass<br>kg | Part<br>number |
|-----------|----------|------|----|------------|----------------|
| 32        | 10       | 53   | 46 | 0,03       | KF-18032       |
| 40        | 12       | 61,3 | 53 | 0,05       | KF-18040       |
| 50        | 12       | 69   | 61 | 0,05       | KF-18050       |
| 63        | 16       | 80,5 | 71 | 0,12       | KF-18063       |

## Rod nut in zinc-plated steel



| Cyl.<br>Ø | ZM         | KK | OR | Part<br>number |
|-----------|------------|----|----|----------------|
| 32        | M10 x 1,25 | 17 | 6  | KF-16032       |
| 40        | M12 x 1,25 | 19 | 7  | KF-16040       |
| 50-63     | M16 x 1,5  | 24 | 8  | KF-16050       |

## Fixing screws for accessories

### Cylindrical screw UNI 5931 Part n° AZ4-VN... suitable for mounting elements KF-12... and KF-13... series

| Cyl.<br>Ø | Screw   | Part<br>number |
|-----------|---------|----------------|
| 32-40     | M6 x 20 | AZ4-VN0620     |
| 50-63     | M8 x 25 | AZ4-VN0825     |

### Cylindrical screw UNI 5931 Part n° AZ4-VN... suitable for mounting elements KF-19... series (Ø 32-40)

| Cyl.<br>Ø | Screw<br>2 pcs.<br>per type | Part<br>number |
|-----------|-----------------------------|----------------|
| 32-40     | M6 x 20                     | AZ4-VN0620     |
|           | M6 x 25                     | AZ4-VN0625     |

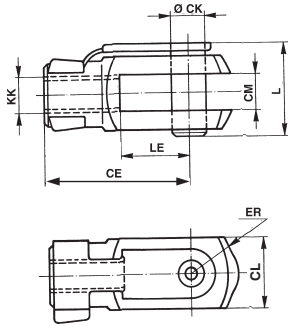
### Cylindrical screw UNI 5931 Part n° AZ4-VN... suitable for mounting elements KF-10... KF-11... series

| Cyl.<br>Ø | Screw   | Part<br>number |
|-----------|---------|----------------|
| 32-40     | M6 x 25 | AZ4-VN0625     |
| 50-63     | M8 x 30 | AZ4-VN0830     |

### Cylindrical screw UNI 5931 Part n° AZ4-VN... suitable for mounting elements KF-19... series (Ø 50-63)

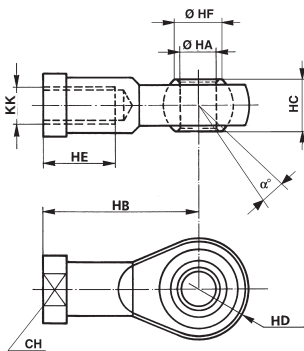
| Cyl.<br>Ø | Screw<br>2 pcs.<br>per type | Part<br>number |
|-----------|-----------------------------|----------------|
| 50-63     | M8 x 25                     | AZ4-VPA0825    |
|           | M8 x 30                     | AZ4-VPA0830    |

## Female fork with clips in zinc-plated steel for piston rod according to ISO 8140 standard with pin



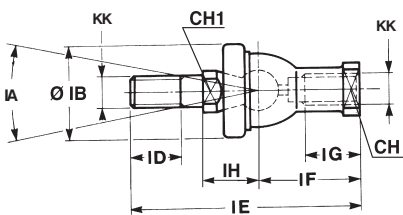
| Cyl. Ø | CE | CK | CL | CM B12 B12 | ER | KK         | L  | LE | Mass kg | Part number |
|--------|----|----|----|------------|----|------------|----|----|---------|-------------|
| 32     | 40 | 10 | 20 | 10         | 16 | M10 x 1,25 | 26 | 20 | 0,09    | KF - 15032  |
| 40     | 48 | 12 | 24 | 12         | 19 | M12 x 1,25 | 32 | 24 | 0,015   | KF - 15040  |
| 50-63  | 64 | 16 | 32 | 16         | 25 | M16 x 1,5  | 39 | 32 | 0,34    | KF - 15050  |

## Articulated self-lubricating fork in zinc-plated steel



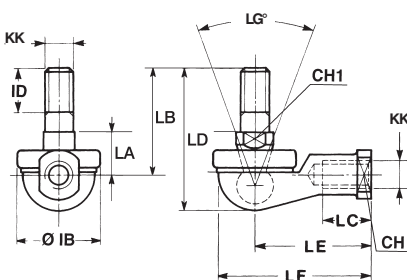
| Cyl. Ø | a   | CH | KK         | HA | HB | HC | HD      | HE | HF   | Mass kg | Part number |
|--------|-----|----|------------|----|----|----|---------|----|------|---------|-------------|
|        |     |    |            | H7 |    |    | 0 -0,12 |    |      |         |             |
| 32     | 13° | 17 | M10 x 1,25 | 10 | 43 | 14 | 14      | 20 | 12,9 | 0,076   | KF - 17032  |
| 40     | 13° | 19 | M12 x 1,25 | 12 | 50 | 16 | 16      | 22 | 15,4 | 0,11    | KF - 17040  |
| 50-63  | 15° | 22 | M16 x 1,5  | 16 | 64 | 21 | 21      | 28 | 19,3 | 0,22    | KF - 17050  |

## Fork with axially mounted articulated pin



| Cyl. Ø | CH | CH1 | IA  | KK         | IH ±0,3 | IB | ID | IE   | IF | IG | Mass kg | Part number |
|--------|----|-----|-----|------------|---------|----|----|------|----|----|---------|-------------|
|        |    |     |     |            |         |    |    |      |    |    |         |             |
| 32     | 17 | 11  | 30° | M10 x 1,25 | 19,5    | 32 | 15 | 74,5 | 35 | 18 | 0,12    | KF - 22025  |
| 40     | 19 | 17  | 30° | M12 x 1,25 | 22      | 36 | 17 | 84   | 40 | 20 | 0,185   | KF - 22040  |
| 50-63  | 22 | 19  | 22° | M16 x 1,5  | 27,5    | 47 | 23 | 112  | 50 | 27 | 0,36    | KF - 22050  |

## Fork with angle-mounted articulated pin



| Cyl. Ø | CH | CH1 | LG  | KK         | IB | ID | LA ±0,3 | LB | LC | LD   | LE | LF | Mass kg | Part number |
|--------|----|-----|-----|------------|----|----|---------|----|----|------|----|----|---------|-------------|
|        |    |     |     |            |    |    |         |    |    |      |    |    |         |             |
| 32     | 17 | 11  | 50° | M10 x 1,25 | 32 | 15 | 17      | 37 | 21 | 50,5 | 43 | 57 | 0,11    | KF - 23025  |
| 40     | 19 | 17  | 50° | M12 x 1,25 | 36 | 17 | 19      | 42 | 27 | 57,5 | 50 | 66 | 0,165   | KF - 23040  |
| 50-63  | 22 | 19  | 40° | M16 x 1,5  | 47 | 23 | 23,5    | 60 | 33 | 79,5 | 64 | 84 | 0,33    | KF - 23050  |