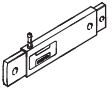
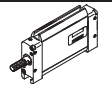
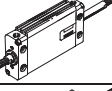
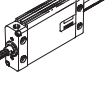
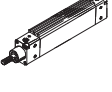
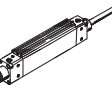
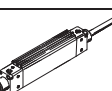




- Extremely flat design
- Protected against torsion thanks to special piston shape
- Compact assembly with block mounting
- Wide variety of mounting options

Flat cylinders EZH/DZF/DZH

Product range overview

| Function | Design | Type | Piston Ø [mm] | Stroke [mm] | |
|---|---|---|--|--|------------------------------------|
| Single-acting |  | EZH | | | |
| | | EZH Single-ended piston rod | 1.5x6.5 | 10 | |
| | | | 2.5x9 | 10, 20 | |
| | | | 5x20 | 25, 50 | |
| | | | 10x40 | 40 | |
| Double-acting |  | DZF | | | |
| | | DZF Single-ended piston rod | 12, 18, 25 | 10, 25, 40, 50, 80, 100, 125, 160, 200 | 10 ... 200 |
| | 32, 40, 50, 63 | | 10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 320 | 10 ... 320 | |
| |  | DZF-...-S2 Through piston rod | 12, 18, 25 | - | 10 ... 200 |
| | | | 32, 40, 50, 63 | - | 10 ... 320 |
| |  | DZF-...-S20 Through, hollow piston rod | 12, 18, 25 | - | 10 ... 200 |
| | | | 32, 40, 50, 63 | - | 10 ... 320 |
| | Double-acting |  | DZH | | |
| | | | DZH Single-ended piston rod | 16 | 25, 40, 50, 80, 100, 125, 160, 200 |
| 20 | | | | 25, 40, 50, 80, 100, 125, 160, 200, 250, 320 | 1 ... 320 |
| 25 | | | | 25, 40, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500 | 1 ... 500 |
| 32, 40, 50, 63 | | 25, 40, 50, 80, 100, 125, 160, 200, 250, 300 | | 1 ... 1000 | |
|  | | DZH-...-S2 Through piston rod | 16 | - | 1 ... 200 |
| | | | 20 | - | 1 ... 320 |
| | | | 25 | - | 1 ... 500 |
| | | | 32, 40, 50, 63 | - | 1 ... 1000 |
|  | | DZH-...-S20 Through, hollow piston rod | 16 | - | 1 ... 200 |
| | | | 20 | - | 1 ... 320 |
| | | | 25 | - | 1 ... 500 |

Flat cylinders EZH/DZF/DZH

Product range overview



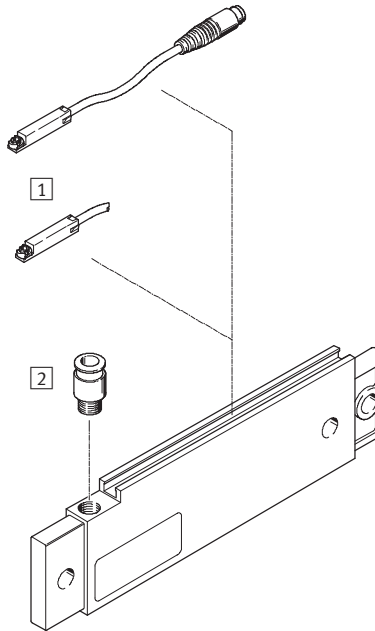
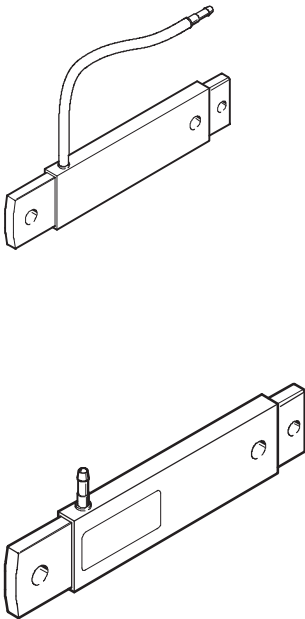
| Type | Position sensing | Piston rod | | Non-rotating | S6 Heat resistant seals up to 120 °C | → Page/Internet |
|--|------------------|--------------------|------------------|--------------|--|-----------------|
| | | with female thread | with male thread | | | |
| EZH Single-ended piston rod | ■ for 10x40 | - | - | ■ | - | 4 |
| DZF Single-ended piston rod | ■ | ■ | ■ | ■ | ■ | 8 |
| DZF-...-S2 Through piston rod | ■ | ■ | ■ | ■ | - | 8 |
| DZF-...-S20 Through, hollow piston rod | ■ | - | ■ | ■ | - | 8 |
| DZH Single-ended piston rod | ■ | - | ■ | ■ | ■ | 22 |
| DZH-...-S2 Through piston rod | ■ | - | ■ | ■ | - | 22 |
| DZH-...-S20 Through, hollow piston rod | ■ | - | ■ | ■ | - | 22 |

Flat cylinders EZH

Peripherals overview and type codes

Piston area 1.5x6.5/2.5x9/5x20 mm

Piston area 10x40 mm



| Accessories | | |
|-------------|--|-----------------|
| | Brief description | → Page/Internet |
| 1 | Proximity sensor SME/SMT-8 | 37 |
| 2 | Push-in fitting QSM-G $\frac{1}{8}$...-I, QS-G $\frac{1}{8}$...-I | quick star |

| | | | | | |
|-------------------------|-----------------------|-------|----|--|---|
| | EZH | 2.5x9 | 20 | | B |
| Type | | | | | |
| Single-acting | | | | | |
| EZH | Flat cylinder | | | | |
| Piston area [mm] | | | | | |
| Stroke [mm] | | | | | |
| Position sensing | | | | | |
| | No position sensing | | | | |
| A | For proximity sensing | | | | |
| Generation | | | | | |
| | Series A | | | | |
| B | Series B | | | | |

Flat cylinders EZH

Technical data

FESTO

Function

EZH...

Without end-position sensing



EZH...-A-B

For end position sensing



- \varnothing - Diameter
approx. 3.6 ... 22 mm

- | - Stroke length
10 ... 50 mm



| General technical data | | | | | | |
|---------------------------------|---|-------|-------|------|------|-----------------------|
| Piston area | 1.5x6.5 | 2.5x9 | 2.5x9 | 5x20 | 5x20 | 10x40 |
| Stroke length | 10 | 10 | 20 | 25 | 50 | 40 |
| Equivalent piston \varnothing | 3.6 | 5.6 | 5.6 | 12 | 12 | 22 |
| Pneumatic connection | Barbed fitting PK-3 for 3 mm plastic tubing | | | | | G $\frac{1}{8}$ |
| Operating medium | Filtered compressed air, lubricated or unlubricated | | | | | |
| Constructional design | Piston Piston rod | | | | | |
| Cushioning | None | | | | | |
| Position sensing | - | - | - | - | - | For proximity sensing |
| Type of mounting | With transverse bore | | | | | |
| Mounting position | Any | | | | | |

| Operating conditions | | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|
| Piston area | 1.5x6.5 | 2.5x9 | 2.5x9 | 5x20 | 5x20 | 10x40 |
| Stroke length | 10 | 10 | 20 | 25 | 50 | 40 |
| Operating pressure [bar] | 3.0 ... 6.0 | 2.5 ... 6.0 | 2.8 ... 6.0 | 2.5 ... 6.0 | 2.5 ... 6.0 | 2.5 ... 6.0 |
| Ambient temperature ¹⁾ [°C] | 0 ... +60 | | | | | |
| Corrosion resistance class CRC ²⁾ | 2 | | | | | |

1) Observe operating range of proximity sensors

2) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

| Forces [N] | | | | | | |
|---------------------------------------|---------|-------|-------|------|------|-------|
| Piston area | 1.5x6.5 | 2.5x9 | 2.5x9 | 5x20 | 5x20 | 10x40 |
| Stroke length | 10 | 10 | 20 | 25 | 50 | 40 |
| Theoretical force at 6 bar, advancing | 3.0 | 7.5 | 6.0 | 42.0 | 38.0 | 205.0 |
| Spring return force | 1.0 | 3.0 | 2.8 | 8.0 | 10.6 | 28.0 |

Flat cylinders EZH

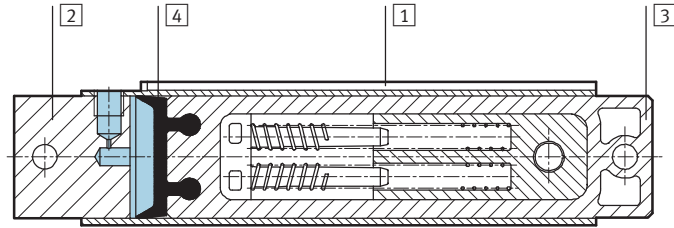
Technical data

FESTO

| Weights [g] | | | | | | |
|----------------|---------|-------|-------|------|------|-------|
| Piston area | 1.5x6.5 | 2.5x9 | 2.5x9 | 5x20 | 5x20 | 10x40 |
| Stroke length | 10 | 10 | 20 | 25 | 50 | 40 |
| Product weight | 4 | 11 | 17 | 108 | 145 | 242 |

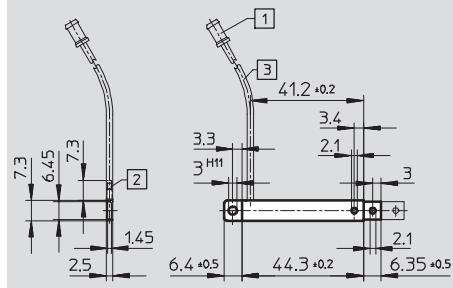
Materials

Sectional view



| | | | | | | |
|----------------------|-----------------------|------------------|-------|------|------|-----------------------|
| Piston area | 1.5x6.5 | 2.5x9 | 2.5x9 | 5x20 | 5x20 | 10x40 |
| Stroke length | 10 | 10 | 20 | 25 | 50 | 40 |
| 1 Housing | Aluminium | | | | | |
| 2 Cover | Aluminium | | | | | |
| 3 Rectangular piston | Polyamide, reinforced | High-alloy steel | | | | Polyamide, reinforced |
| 4 Seal | Polyurethane | | | | | |
| - Note on materials | Conforms to RoHS | | | | | |

Dimensions EZH-1,5/6,5-10 Download CAD data → www.festo.com



- 1 Barbed fittings for 3 mm plastic tubing
- 2 Barbed fittings for 1.5 mm plastic tubing
- 3 200 mm tubing length

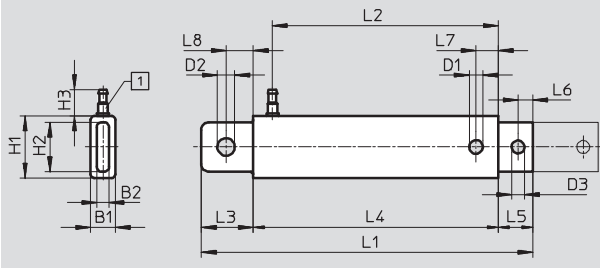
Flat cylinders EZH

Technical data

FESTO

Dimensions EZH-2,5/9-... and EZH-5/20-...

Download CAD data → www.festo.com



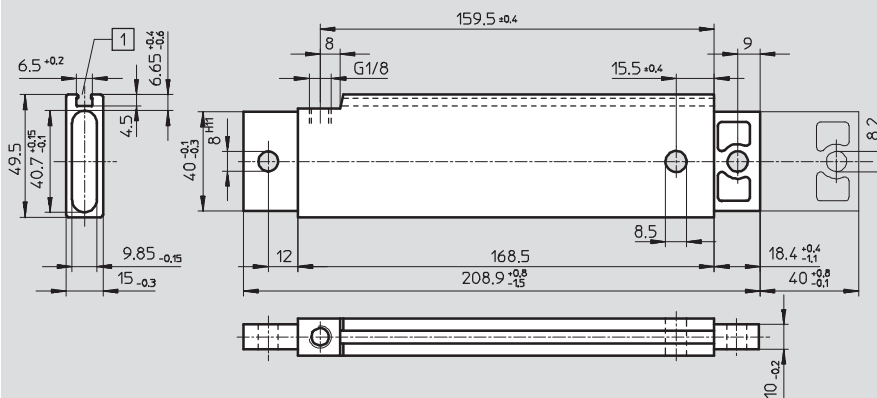
1 Barbed fittings for 3 mm plastic tubing

| Type | B1 | B2 | D1 ∅ | D2 ∅ H11 | D3 ∅ | H1 | H2 | H3 |
|--------------|-----|-----|---------|----------------|---------|----|------|------|
| EZH-2,5/9-10 | 4.9 | 2.5 | 3.1 | 4 | 3.1 | 12 | 9.9 | 10.7 |
| EZH-2,5/9-20 | 4.9 | 2.4 | 3.1 | 4 | 3.1 | 12 | 9.9 | 10.7 |
| EZH-5/20-25 | 10 | 4.9 | 5.5 | 7 | 5.2 | 25 | 21.9 | 10.7 |
| EZH-5/20-50 | 10 | 4.9 | 5.5 | 7 | 5.2 | 25 | 21.9 | 10.7 |

| Type | L1 | L2 | L3 | L4 +0.2 | L5 | L6 | L7 | L8 |
|--------------|-----------------|-------|--------------|------------|----------------|----|-----|-----|
| EZH-2,5/9-10 | 67 +0.7/-0.8 | 43.6 | 10 +0.3/-0.5 | 48.6 | 8.4 +0.3/-0.5 | 4 | 4.5 | 5.5 |
| EZH-2,5/9-20 | 99 ±0.7 | 75.5 | 10 +0.3/-0.5 | 80.6 | 8.4 +0.3/-0.5 | 4 | 4.5 | 5.5 |
| EZH-5/20-25 | 133.9 +0.6/-0.8 | 91.3 | 21 +0.3/-0.5 | 99 | 13.9 +0.3/-0.5 | 6 | 9 | 11 |
| EZH-5/20-50 | 205.9 +0.8/-1.1 | 163.3 | 21 +0.5/-0.7 | 171 | 13.9 +0.3/-0.6 | 6 | 9 | 11 |

Dimensions EZH-10/40-40-A-B

Download CAD data → www.festo.com



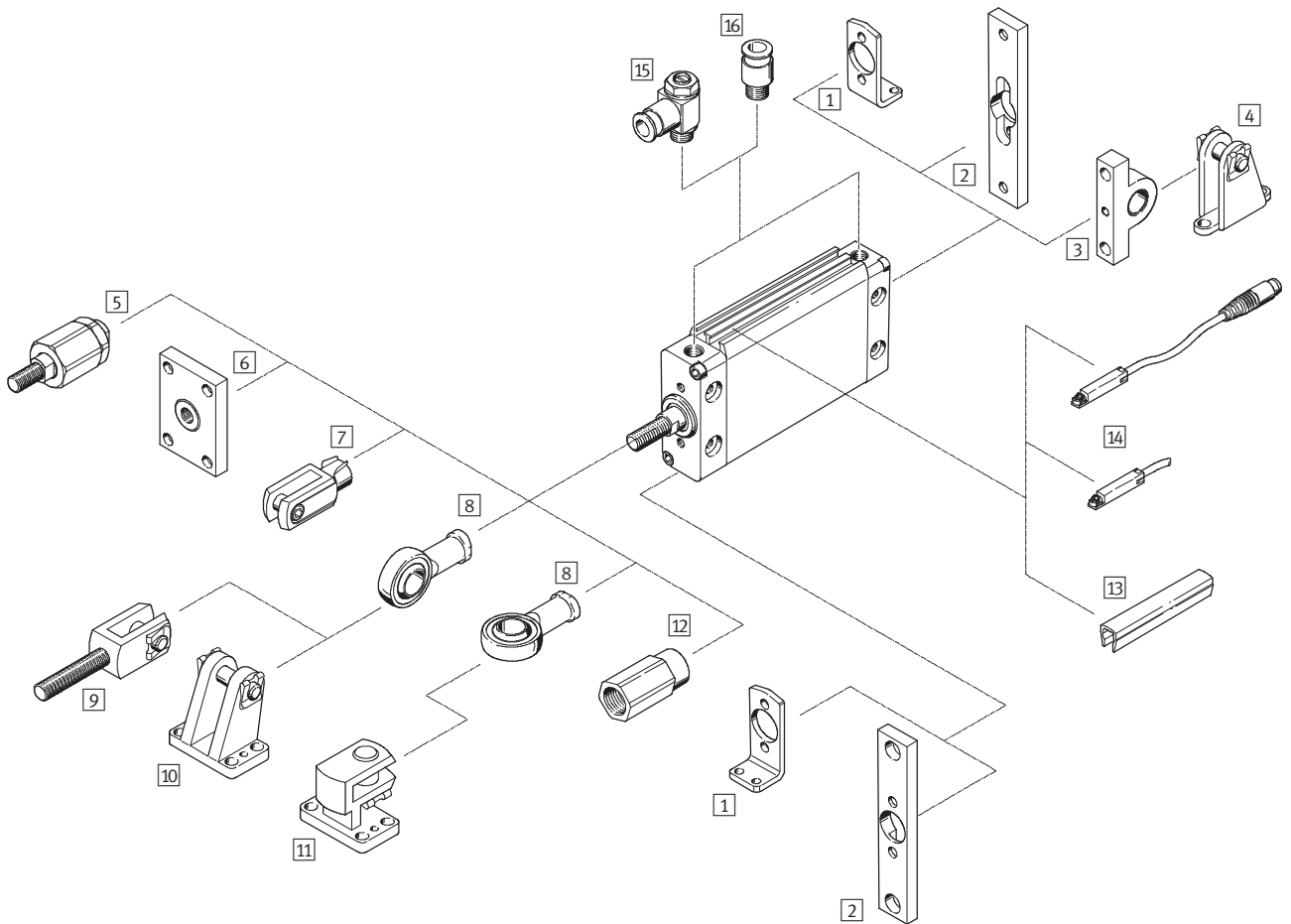
1 Mounting slot for proximity sensor SME/SMT-8

Ordering data

| Type | Piston area [mm] | Stroke [mm] | Part No. | Type |
|------------------------------|---------------------|----------------|---------------|------------------|
| Without end-position sensing | | | | |
| | 1.5x6.5 | 10 | 13 009 | EZH-1,5/6,5-10 |
| | 2.5x9 | 10 | 164 991 | EZH-2,5/9-10-B |
| | | 20 | 164 992 | EZH-2,5/9-20-B |
| | 5x20 | 25 | 164 993 | EZH-5/20-25-B |
| 50 | | 164 994 | EZH-5/20-50-B | |
| For end position sensing | | | | |
| | 10x40 | 40 | 164 990 | EZH-10/40-40-A-B |

Flat cylinders DZF

Peripherals overview



Flat cylinders DZF

Peripherals overview

FESTO

| Mounting attachments and accessories | | | | | |
|--------------------------------------|---|--|-----------------------|-----------------|------------|
| | Brief description | Piston Ø 16 ... 40 mm | Piston Ø 50 ... 63 mm | → Page/Internet | |
| 1 | Foot mounting HZF | for bearing and end caps | ■ | ■ | 19 |
| 2 | Flange mounting FZF | for bearing and end caps | ■ | ■ | 19 |
| 3 | Swivel flange SZF | for end caps | ■ | ■ | 20 |
| 4 | Clevis foot LZF | – | ■ | ■ | 20 |
| 5 | Self-aligning rod coupler FK | for compensating radial and angular deviations | ■ | ■ | 21 |
| 6 | Coupling piece KSZ | for cylinders with a non-rotating piston rod to compensate for radial deviations | ■ | ■ | 21 |
| 7 | Rod clevis SG | permits a swivelling movement of the cylinder in one plane | ■ | ■ | 21 |
| 8 | Rod eye SGS | with spherical bearing | ■ | ■ | 21 |
| 9 | Rod clevis SGA | with male thread | ■ | ■ | 21 |
| 10 | Clevis foot LBG | – | ■ | ■ | 21 |
| 11 | Right-angle clevis foot LQG | – | ■ | ■ | 21 |
| 12 | Adapter AD | for a vacuum generator | ■ S20 | – | 21 |
| 13 | Slot cover ABP-5-S | to protect the sensor cable and keep dirt out of the sensor slots | ■ | ■ | 37 |
| 14 | Proximity sensor SME/SMT-8 | can be integrated in the cylinder profile barrel | ■ | ■ | 37 |
| 15 | One-way flow control valve GRLA/GRLZ | to regulate speed | ■ | ■ | 38 |
| 16 | Push-in fitting QS | for connecting compressed air tubing with standard external diameters | ■ | ■ | quick star |

Flat cylinders DZF

Type codes

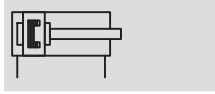
| | | | | | | | | | | | | | | |
|--------------------------|---|-----|---|----|---|-----|---|--|---|---|---|---|---|--|
| | | DZF | - | 25 | - | 100 | - | | - | P | - | A | - | |
| Type | | | | | | | | | | | | | | |
| Double-acting | | | | | | | | | | | | | | |
| DZF | Flat cylinder | | | | | | | | | | | | | |
| Piston Ø [mm] | | | | | | | | | | | | | | |
| Stroke [mm] | | | | | | | | | | | | | | |
| Piston rod thread | | | | | | | | | | | | | | |
| | Female thread | | | | | | | | | | | | | |
| A | Male thread | | | | | | | | | | | | | |
| Cushioning | | | | | | | | | | | | | | |
| P | Flexible cushioning rings/plates at both ends | | | | | | | | | | | | | |
| Position sensing | | | | | | | | | | | | | | |
| A | For proximity sensing | | | | | | | | | | | | | |
| Variant | | | | | | | | | | | | | | |
| S2 | Through piston rod | | | | | | | | | | | | | |
| S6 | Heat resistant seals up to 120 °C | | | | | | | | | | | | | |
| S20 | Through, hollow piston rod | | | | | | | | | | | | | |



Flat cylinders DZF

Technical data

FESTO

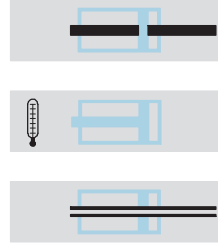
Function



-  - Diameter
12 ... 63 mm
-  - Stroke length
10 ... 320 mm

-  - www.festo.com

Variants



S2

S6

S20



| General technical data | | | | | | | | |
|------------------------|---|----|----|----------|-----------------|-----------------|-----------------|-----------------|
| Piston Ø | | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
| Pneumatic connection | | M5 | M5 | M5 | G $\frac{1}{8}$ | G $\frac{1}{8}$ | G $\frac{1}{4}$ | G $\frac{1}{4}$ |
| Piston rod thread | female | M3 | M4 | M5 | M6 | M8 | M10 | M10 |
| | male | M6 | M8 | M10x1.25 | M10x1.25 | M12x1.25 | M16x1.5 | M16x1.5 |
| Operating medium | Filtered compressed air, lubricated or unlubricated | | | | | | | |
| Constructional design | Piston | | | | | | | |
| | Piston rod | | | | | | | |
| Cushioning | Flexible cushioning rings/plates at both ends | | | | | | | |
| Position sensing | For proximity sensing | | | | | | | |
| Type of mounting | Via through holes | | | | | | | |
| | With female thread | | | | | | | |
| | With accessories | | | | | | | |
| Mounting position | Any | | | | | | | |

| Operating pressure [bar] | | | | | | | | |
|--------------------------|--|------------|----------|----|----|----|----|----|
| Piston Ø | | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
| | | 1.6 ... 10 | 1 ... 10 | | | | | |

| Ambient conditions | | |
|--|---------------|------------|
| Variant | Basic version | S6 |
| Ambient temperature ¹⁾ [°C] | 0 ... +80 | 0 ... +120 |
| Corrosion resistance class CRC ²⁾ | 2 | 2 |

1) Observe operating range of proximity sensors

2) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

| Forces [N] and impact energy [J] | | | | | | | | |
|--|--------|------|------|------|------|------|-------|-------|
| Piston Ø | | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
| Theoretical force at 6 bar, advancing | | 68 | 162 | 295 | 483 | 754 | 1,178 | 1,870 |
| | S2/S20 | 51 | 122 | 247 | 415 | 633 | 990 | 1,682 |
| Theoretical force at 6 bar, retracting | | 51 | 122 | 247 | 415 | 633 | 990 | 1,682 |
| | S2/S20 | 51 | 122 | 247 | 415 | 633 | 990 | 1,682 |
| Max. impact energy at end positions | | 0.09 | 0.10 | 0.10 | 0.40 | 0.52 | 0.64 | 0.70 |

Flat cylinders DZF

Technical data

FESTO

| Torque [Nm] and torsional backlash [°] | | | | | | | |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Piston \varnothing | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
| Max. torque at the piston rod ¹⁾ | 0.1 | 0.2 | 0.5 | 0.8 | 1.0 | 1.2 | 1.5 |
| Max. torsional backlash of the piston rod | ± 2.5 | ± 1.2 | ± 1.0 | ± 0.8 | ± 0.6 | ± 0.5 | ± 0.4 |

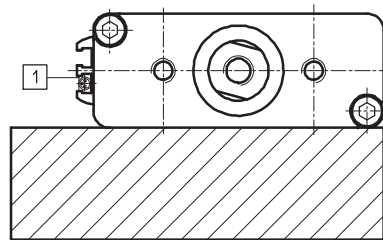
1) The max. torque must also be observed when fitting mounting attachments to the piston rod

| Weights [g] | | | | | | | |
|------------------------------------|----|-----|-----|-----|-----|-----|-------|
| Piston \varnothing | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
| Product weight at 0 mm stroke | 96 | 107 | 168 | 272 | 480 | 855 | 1,380 |
| Additional weight per 10 mm stroke | 9 | 13 | 18 | 24 | 40 | 64 | 91 |

Safety clearances for reliable switching function

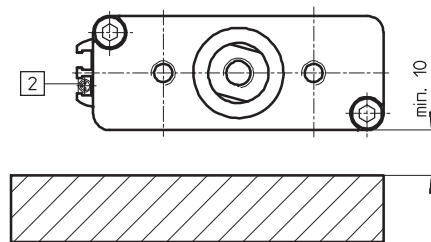
Cylinder – Ferritic components

If the cylinder is mounted on a ferritic component, piston position sensing is possible using proximity sensors SMT-8.



1) SMT-8...

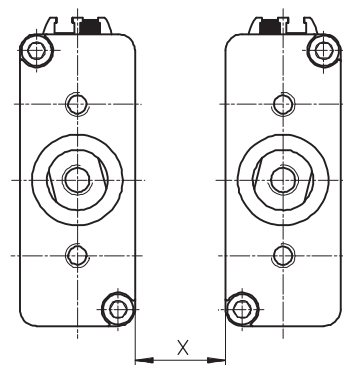
If a proximity sensor SME-8 is used, then with piston \varnothing 12 to 32 mm, a minimum clearance to the ferritic component of 10 mm must be maintained.



2) SME-8...

Cylinder – Cylinder

Safety clearance X must be maintained when connecting cylinders together in series, as the stray fields of the switching magnets can result in incorrect switching.



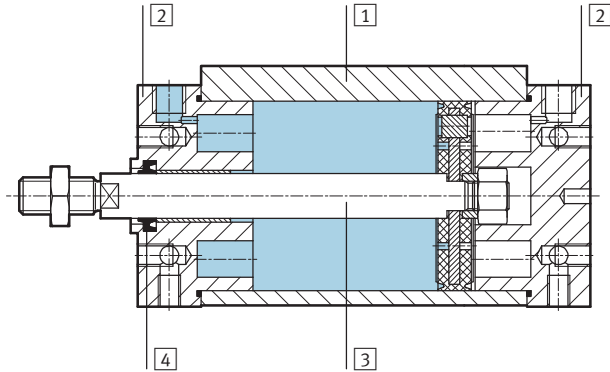
| Piston \varnothing | | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
|-------------------------|----------|----|----|----|----|----|----|----|
| Min. safety clearance X | SMT-8... | 35 | | | 25 | 45 | | 80 |
| [mm] | SME-8... | 50 | | | 45 | 65 | | 50 |

Flat cylinders DZF

Technical data

Materials

Sectional view

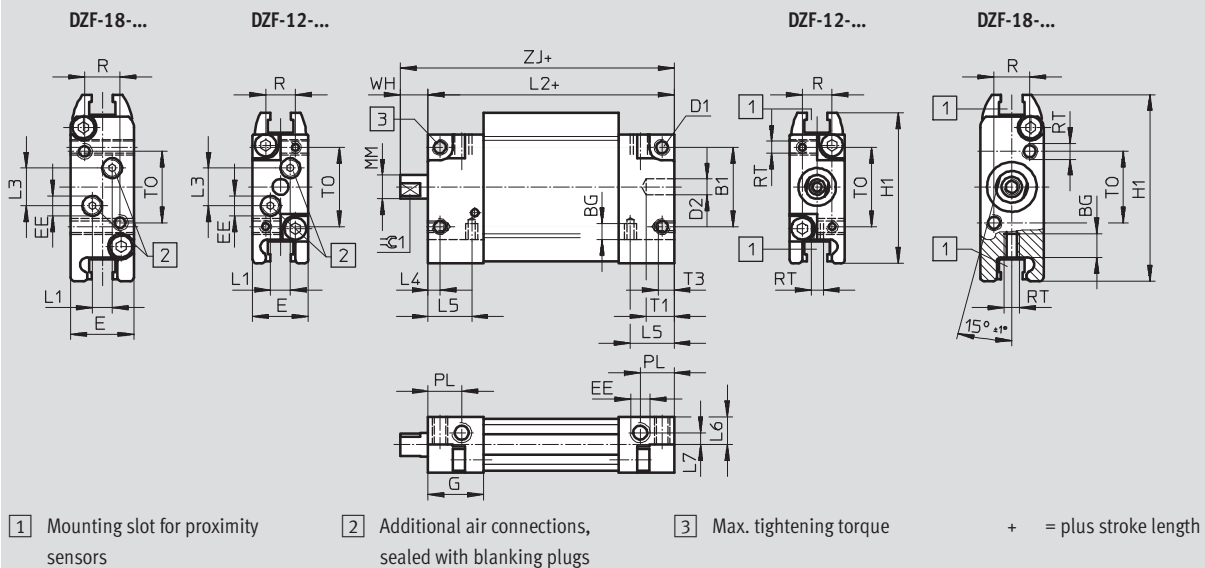


| Flat cylinder | Basic version | S6 |
|---------------------|---|-----------------------------------|
| 1 Cylinder barrel | Wrought aluminium alloy, anodised | Wrought aluminium alloy, anodised |
| 2 Bearing end cap | Wrought aluminium alloy | Wrought aluminium alloy |
| 3 Piston rod | High-alloy stainless steel Ø 12 ... 25 | High-alloy stainless steel |
| | High-alloy steel Ø 32 ... 63 | High-alloy steel |
| 4 Dynamic seals | Polyurethane | Fluorocarbon rubber |
| - Note on materials | Conforms to RoHS | |

Dimensions – Basic version

Download CAD data → www.festo.com

Ø 12, 18



| Ø | B1 | BG | D1 | D2 | E | EE | G | H1 | L1 | L2 | L3 | L4 | L5 |
|------|----|----|----|---------|----|----|----|----|----|----|-----|-----|----|
| [mm] | | | | Ø H9 | | | | | | | | | |
| 12 | 20 | 4 | M4 | 4 | 14 | M5 | 14 | 38 | 5 | 62 | 9.5 | 3 | 11 |
| 18 | 20 | 6 | M4 | 4 | 16 | M5 | 14 | 47 | 5 | 62 | 9.5 | 3.5 | 5 |

| Ø | L6 | L7 | MM | PL | R | RT | T1 | T3 | T0 | WH | ZJ | ≈C1 | Max. tightening torque |
|------|----|----|----|-----|-----|----|----|----|----|----|----|-----|------------------------|
| [mm] | | | Ø | | | | | | | | | h13 | [Nm] +10% |
| 12 | 7 | 3 | 6 | 8.5 | 7.5 | M3 | 7 | 4 | 20 | 7 | 69 | 5 | 2.9 |
| 18 | - | - | 8 | 8.5 | 9 | M4 | 7 | 6 | 18 | 7 | 69 | 7 | 2.9 |

Flat cylinders DZF

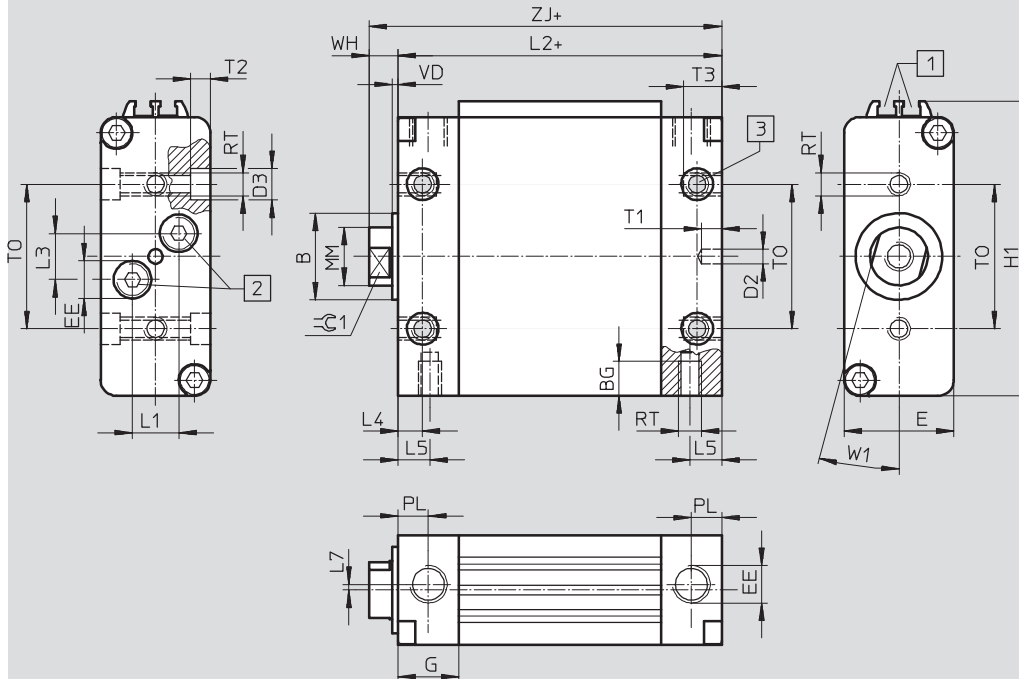
Technical data

FESTO

Dimensions – Basic version

Download CAD data → www.festo.com

Piston Ø 25 ... 63



1 Mounting slot for proximity sensors

2 Additional air connections, sealed with blanking plugs

3 Max. tightening torque

+ = plus stroke length

| Ø [mm] | B Ø h9 | BG | D2 Ø H9 | D3 Ø | E | EE | G | H1 | L1 | L2 | L3 | L4 | L5 |
|-----------|--------------|----|---------------|---------|----|-------------------------------|----|-------|-----|----|------|-----|-----|
| 25 | 16 | 8 | 4 | 8 | 20 | M5 | 12 | 56 | 6 | 62 | 10 | 5 | 5 |
| 32 | 20 | 9 | 4 | 10 | 24 | G ¹ / ₈ | 17 | 65 | 7.5 | 72 | 14.5 | 8.5 | 8.5 |
| 40 | 25 | 9 | 4 | 10 | 30 | G ¹ / ₈ | 17 | 82 | 7.5 | 76 | 14.5 | 8.5 | 8.5 |
| 50 | 30 | 12 | 5 | 11 | 38 | G ¹ / ₄ | 21 | 102 | 16 | 82 | 16 | 8.5 | 8.5 |
| 63 | 30 | 14 | 5 | 15 | 50 | G ¹ / ₄ | 21 | 126.5 | 21 | 82 | 19 | 8.5 | 8.5 |

| Ø [mm] | L7 | MM Ø | PL | RT | T1 | T2 | T3 | T0 | VD | W1 ±1 | WH | ZJ | ∠1 h13 | Max. tightening torque [Nm] +10% |
|-----------|-----|---------|------|-----|----|----|----|----|----|----------|----|----|-----------|-------------------------------------|
| 25 | – | 10 | 6 | M5 | 7 | 4 | 8 | 25 | 2 | 15° | 8 | 70 | 9 | 4 |
| 32 | 1.5 | 12 | 8.5 | M6 | 7 | 4 | 9 | 32 | 2 | 15° | 8 | 80 | 10 | 9.9 |
| 40 | – | 16 | 8.5 | M6 | 7 | 5 | 9 | 40 | 2 | 15° | 9 | 85 | 13 | 9.9 |
| 50 | – | 20 | 10.5 | M8 | 7 | 6 | 12 | 50 | 2 | 15° | 10 | 92 | 17 | 20 |
| 63 | – | 20 | 10.5 | M10 | 7 | 6 | 14 | 60 | 2 | 15° | 10 | 92 | 17 | 35 |

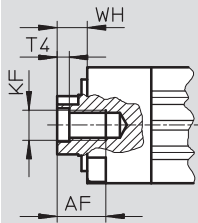
Flat cylinders DZF

Technical data

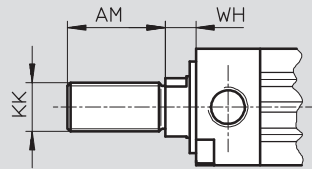
Dimensions – Variants

Download CAD data → www.festo.com

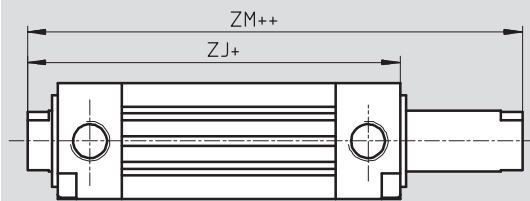
Basic version with female thread



Basic version with male thread

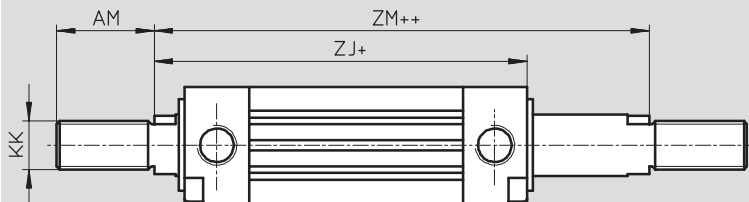


S2 – Through piston rod with female thread



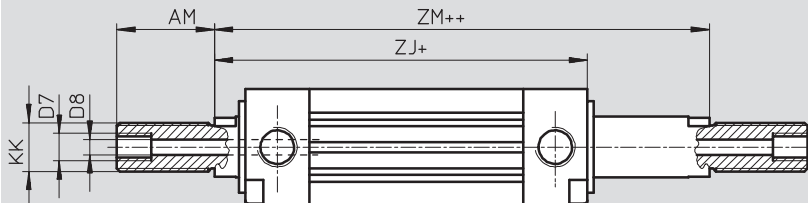
+ = plus stroke length
++ = plus 2x stroke length

S2 – Through piston rod with male thread



+ = plus stroke length
++ = plus 2x stroke length

S20 – Through, hollow piston rod




+ = plus stroke length
++ = plus 2x stroke length

| ∅ | AF | AM | D7 | D8 | KF | KK | T4 | WH | ZJ | ZM |
|------|----|----|------|-----|-----|----------|-----|----|----|-----|
| [mm] | | | | ∅ | | | | | | |
| 12 | 8 | 16 | – | 1.8 | M3 | M6 | 1.5 | 7 | 69 | 76 |
| 18 | 10 | 20 | – | 2.8 | M4 | M8 | 1.5 | 7 | 69 | 76 |
| 25 | 12 | 22 | – | 3.8 | M5 | M10x1.25 | 2 | 8 | 70 | 78 |
| 32 | 14 | 22 | – | 4.5 | M6 | M10x1.25 | 2.6 | 8 | 80 | 88 |
| 40 | 16 | 24 | – | 6 | M8 | M12x1.25 | 3.3 | 9 | 85 | 94 |
| 50 | 20 | 32 | G1/8 | 8 | M10 | M16x1.5 | 4.7 | 10 | 92 | 102 |
| 63 | 20 | 32 | G1/8 | 8 | M10 | M16x1.5 | 4.7 | 10 | 92 | 102 |

Flat cylinders DZF

Technical data

FESTO


| Ordering data – Basic version | | | | | | |
|---|------------------|----------------|-------------------------------|----------------|--------------------------------|--------------------------------|
| Type | Piston Ø [mm] | Stroke [mm] | Piston rod with female thread | | Piston rod with male thread | |
| | | | Part No. | Type | Part No. | Type |
|  | 12 | 10 | 164 003 | DZF-12-10-P-A | 161 224 | DZF-12-10-A-P-A |
| | | 25 | 164 004 | DZF-12-25-P-A | 161 225 | DZF-12-25-A-P-A |
| | | 40 | 164 005 | DZF-12-40-P-A | 161 226 | DZF-12-40-A-P-A |
| | | 50 | 164 006 | DZF-12-50-P-A | 161 227 | DZF-12-50-A-P-A |
| | | 80 | 164 007 | DZF-12-80-P-A | 161 228 | DZF-12-80-A-P-A |
| | | 100 | 164 008 | DZF-12-100-P-A | 161 229 | DZF-12-100-A-P-A |
| | | 125 | 164 009 | DZF-12-125-P-A | 161 230 | DZF-12-125-A-P-A |
| | | 160 | 164 010 | DZF-12-160-P-A | 161 231 | DZF-12-160-A-P-A |
| | | 200 | 164 011 | DZF-12-200-P-A | 161 232 | DZF-12-200-A-P-A |
| | 18 | 10 | 164 015 | DZF-18-10-P-A | 161 237 | DZF-18-10-A-P-A |
| | | 25 | 164 016 | DZF-18-25-P-A | 161 238 | DZF-18-25-A-P-A |
| | | 40 | 164 017 | DZF-18-40-P-A | 161 239 | DZF-18-40-A-P-A |
| | | 50 | 164 018 | DZF-18-50-P-A | 161 240 | DZF-18-50-A-P-A |
| | | 80 | 164 019 | DZF-18-80-P-A | 161 241 | DZF-18-80-A-P-A |
| | | 100 | 164 020 | DZF-18-100-P-A | 161 242 | DZF-18-100-A-P-A |
| | | 125 | 164 021 | DZF-18-125-P-A | 161 243 | DZF-18-125-A-P-A |
| | | 160 | 164 022 | DZF-18-160-P-A | 161 244 | DZF-18-160-A-P-A |
| | | 200 | 164 023 | DZF-18-200-P-A | 161 245 | DZF-18-200-A-P-A |
| | 25 | 10 | 164 027 | DZF-25-10-P-A | 161 250 | DZF-25-10-A-P-A ¹⁾ |
| | | 25 | 164 028 | DZF-25-25-P-A | 161 251 | DZF-25-25-A-P-A ¹⁾ |
| | | 40 | 164 029 | DZF-25-40-P-A | 161 252 | DZF-25-40-A-P-A ¹⁾ |
| | | 50 | 164 030 | DZF-25-50-P-A | 161 253 | DZF-25-50-A-P-A ¹⁾ |
| | | 80 | 164 031 | DZF-25-80-P-A | 161 254 | DZF-25-80-A-P-A ¹⁾ |
| | | 100 | 164 032 | DZF-25-100-P-A | 161 255 | DZF-25-100-A-P-A ¹⁾ |
| | | 125 | 164 033 | DZF-25-125-P-A | 161 256 | DZF-25-125-A-P-A ¹⁾ |
| | | 160 | 164 034 | DZF-25-160-P-A | 161 257 | DZF-25-160-A-P-A ¹⁾ |
| | | 200 | 164 035 | DZF-25-200-P-A | 161 258 | DZF-25-200-A-P-A ¹⁾ |
| | 32 | 10 | 164 039 | DZF-32-10-P-A | 161 263 | DZF-32-10-A-P-A ¹⁾ |
| | | 25 | 164 040 | DZF-32-25-P-A | 161 264 | DZF-32-25-A-P-A ¹⁾ |
| | | 40 | 164 041 | DZF-32-40-P-A | 161 265 | DZF-32-40-A-P-A ¹⁾ |
| | | 50 | 164 042 | DZF-32-50-P-A | 161 266 | DZF-32-50-A-P-A ¹⁾ |
| | | 80 | 164 043 | DZF-32-80-P-A | 161 267 | DZF-32-80-A-P-A ¹⁾ |
| 100 | | 164 044 | DZF-32-100-P-A | 161 268 | DZF-32-100-A-P-A ¹⁾ | |
| 125 | | 164 045 | DZF-32-125-P-A | 161 269 | DZF-32-125-A-P-A ¹⁾ | |
| 160 | | 164 046 | DZF-32-160-P-A | 161 270 | DZF-32-160-A-P-A ¹⁾ | |
| 200 | | 164 047 | DZF-32-200-P-A | 161 271 | DZF-32-200-A-P-A ¹⁾ | |
| 250 | | 164 048 | DZF-32-250-P-A | 161 272 | DZF-32-250-A-P-A ¹⁾ | |
| 320 | | 164 049 | DZF-32-320-P-A | 161 273 | DZF-32-320-A-P-A ¹⁾ | |

1) The scope of delivery includes a hexagonal nut for the piston rod thread

Flat cylinders DZF

Technical data

FESTO





| Ordering data – Basic version | | | | | | |
|---|------------------|----------------|-------------------------------|----------------|-----------------------------|--------------------------------|
| Type | Piston Ø [mm] | Stroke [mm] | Piston rod with female thread | | Piston rod with male thread | |
| | | | Part No. | Type | Part No. | Type |
|  | 40 | 10 | 164 053 | DZF-40-10-P-A | 161 278 | DZF-40-10-A-P-A ¹⁾ |
| | | 25 | 164 054 | DZF-40-25-P-A | 161 279 | DZF-40-25-A-P-A ¹⁾ |
| | | 40 | 164 055 | DZF-40-40-P-A | 161 280 | DZF-40-40-A-P-A ¹⁾ |
| | | 50 | 164 056 | DZF-40-50-P-A | 161 281 | DZF-40-50-A-P-A ¹⁾ |
| | | 80 | 164 057 | DZF-40-80-P-A | 161 282 | DZF-40-80-A-P-A ¹⁾ |
| | | 100 | 164 058 | DZF-40-100-P-A | 161 283 | DZF-40-100-A-P-A ¹⁾ |
| | | 125 | 164 059 | DZF-40-125-P-A | 161 284 | DZF-40-125-A-P-A ¹⁾ |
| | | 160 | 164 060 | DZF-40-160-P-A | 161 285 | DZF-40-160-A-P-A ¹⁾ |
| | | 200 | 164 061 | DZF-40-200-P-A | 161 286 | DZF-40-200-A-P-A ¹⁾ |
| | | 250 | 164 062 | DZF-40-250-P-A | 161 287 | DZF-40-250-A-P-A ¹⁾ |
| | | 320 | 164 063 | DZF-40-320-P-A | 161 288 | DZF-40-320-A-P-A ¹⁾ |
| | 50 | 10 | 164 067 | DZF-50-10-P-A | 161 293 | DZF-50-10-A-P-A ¹⁾ |
| | | 25 | 164 068 | DZF-50-25-P-A | 161 294 | DZF-50-25-A-P-A ¹⁾ |
| | | 40 | 164 069 | DZF-50-40-P-A | 161 295 | DZF-50-40-A-P-A ¹⁾ |
| | | 50 | 164 070 | DZF-50-50-P-A | 161 296 | DZF-50-50-A-P-A ¹⁾ |
| | | 80 | 164 071 | DZF-50-80-P-A | 161 297 | DZF-50-80-A-P-A ¹⁾ |
| | | 100 | 164 072 | DZF-50-100-P-A | 161 298 | DZF-50-100-A-P-A ¹⁾ |
| | | 125 | 164 073 | DZF-50-125-P-A | 161 299 | DZF-50-125-A-P-A ¹⁾ |
| | | 160 | 164 074 | DZF-50-160-P-A | 161 300 | DZF-50-160-A-P-A ¹⁾ |
| | | 200 | 164 075 | DZF-50-200-P-A | 161 301 | DZF-50-200-A-P-A ¹⁾ |
| | | 250 | 164 076 | DZF-50-250-P-A | 161 302 | DZF-50-250-A-P-A ¹⁾ |
| | | 320 | 164 077 | DZF-50-320-P-A | 161 303 | DZF-50-320-A-P-A ¹⁾ |
| | 63 | 10 | 164 081 | DZF-63-10-P-A | 161 308 | DZF-63-10-A-P-A ¹⁾ |
| | | 25 | 164 082 | DZF-63-25-P-A | 161 309 | DZF-63-25-A-P-A ¹⁾ |
| | | 40 | 164 083 | DZF-63-40-P-A | 161 310 | DZF-63-40-A-P-A ¹⁾ |
| | | 50 | 164 084 | DZF-63-50-P-A | 161 311 | DZF-63-50-A-P-A ¹⁾ |
| | | 80 | 164 085 | DZF-63-80-P-A | 161 312 | DZF-63-80-A-P-A ¹⁾ |
| | | 100 | 164 086 | DZF-63-100-P-A | 161 313 | DZF-63-100-A-P-A ¹⁾ |
| | | 125 | 164 087 | DZF-63-125-P-A | 161 314 | DZF-63-125-A-P-A ¹⁾ |
| | | 160 | 164 088 | DZF-63-160-P-A | 161 315 | DZF-63-160-A-P-A ¹⁾ |
| | | 200 | 164 089 | DZF-63-200-P-A | 161 316 | DZF-63-200-A-P-A ¹⁾ |
| | | 250 | 164 090 | DZF-63-250-P-A | 161 317 | DZF-63-250-A-P-A ¹⁾ |
| | | 320 | 164 091 | DZF-63-320-P-A | 161 318 | DZF-63-320-A-P-A ¹⁾ |

1) The scope of delivery includes a hexagonal nut for the piston rod thread

Flat cylinders DZF

Technical data

FESTO

| Ordering data – Variants | | | | | | |
|---|------------------|----------------|-------------------------------|--------------------------|-----------------------------|--|
| Type | Piston Ø [mm] | Stroke [mm] | Piston rod with female thread | | Piston rod with male thread | |
| | | | Part No. | Type | Part No. | Type |
| Variable stroke | | | | | | |
|  | 12 | 10 ... 200 | 164 000 | DZF-12-...-P-A | 161 220 | DZF-12-...-A-P-A |
| | 18 | 10 ... 200 | 164 012 | DZF-18-...-P-A | 161 233 | DZF-18-...-A-P-A |
| | 25 | 10 ... 200 | 164 024 | DZF-25-...-P-A | 161 246 | DZF-25-...-A-P-A¹⁾ |
| | 32 | 10 ... 320 | 164 036 | DZF-32-...-P-A | 161 259 | DZF-32-...-A-P-A¹⁾ |
| | 40 | 10 ... 320 | 164 050 | DZF-40-...-P-A | 161 274 | DZF-40-...-A-P-A¹⁾ |
| | 50 | 10 ... 320 | 164 064 | DZF-50-...-P-A | 161 289 | DZF-50-...-A-P-A¹⁾ |
| | 63 | 10 ... 320 | 164 078 | DZF-63-...-P-A | 161 304 | DZF-63-...-A-P-A¹⁾ |
| S2 – Through piston rod | | | | | | |
|  | 12 | 10 ... 200 | 164 001 | DZF-12-...-P-A-S2 | 161 221 | DZF-12-...-A-P-A-S2 |
| | 18 | 10 ... 200 | 164 013 | DZF-18-...-P-A-S2 | 161 234 | DZF-18-...-A-P-A-S2 |
| | 25 | 10 ... 200 | 164 025 | DZF-25-...-P-A-S2 | 161 247 | DZF-25-...-A-P-A-S2¹⁾ |
| | 32 | 10 ... 320 | 164 037 | DZF-32-...-P-A-S2 | 161 260 | DZF-32-...-A-P-A-S2¹⁾ |
| | 40 | 10 ... 320 | 164 051 | DZF-40-...-P-A-S2 | 161 275 | DZF-40-...-A-P-A-S2¹⁾ |
| | 50 | 10 ... 320 | 164 065 | DZF-50-...-P-A-S2 | 161 290 | DZF-50-...-A-P-A-S2¹⁾ |
| | 63 | 10 ... 320 | 164 079 | DZF-63-...-P-A-S2 | 161 305 | DZF-63-...-A-P-A-S2¹⁾ |
| S6 – Heat resistant seals up to 120 °C | | | | | | |
|  | 12 | 10 ... 200 | 164 002 | DZF-12-...-P-A-S6 | 161 223 | DZF-12-...-A-P-A-S6 |
| | 18 | 10 ... 200 | 164 014 | DZF-18-...-P-A-S6 | 161 236 | DZF-18-...-A-P-A-S6 |
| | 25 | 10 ... 200 | 164 026 | DZF-25-...-P-A-S6 | 161 249 | DZF-25-...-A-P-A-S6¹⁾ |
| | 32 | 10 ... 320 | 164 038 | DZF-32-...-P-A-S6 | 161 262 | DZF-32-...-A-P-A-S6¹⁾ |
| | 40 | 10 ... 320 | 164 052 | DZF-40-...-P-A-S6 | 161 277 | DZF-40-...-A-P-A-S6¹⁾ |
| | 50 | 10 ... 320 | 164 066 | DZF-50-...-P-A-S6 | 161 292 | DZF-50-...-A-P-A-S6¹⁾ |
| | 63 | 10 ... 320 | 164 080 | DZF-63-...-P-A-S6 | 161 307 | DZF-63-...-A-P-A-S6¹⁾ |
| S20 – Through, hollow piston rod | | | | | | |
|  | 12 | 10 ... 200 | – | – | 161 222 | DZF-12-...-A-P-A-S20 |
| | 18 | 10 ... 200 | – | – | 161 235 | DZF-18-...-A-P-A-S20 |
| | 25 | 10 ... 200 | – | – | 161 248 | DZF-25-...-A-P-A-S20¹⁾ |
| | 32 | 10 ... 320 | – | – | 161 261 | DZF-32-...-A-P-A-S20¹⁾ |
| | 40 | 10 ... 320 | – | – | 161 276 | DZF-40-...-A-P-A-S20¹⁾ |
| | 50 | 10 ... 320 | – | – | 161 291 | DZF-50-...-A-P-A-S20¹⁾ |
| | 63 | 10 ... 320 | – | – | 161 306 | DZF-63-...-A-P-A-S20¹⁾ |

1) The scope of delivery includes a hexagonal nut for the piston rod thread

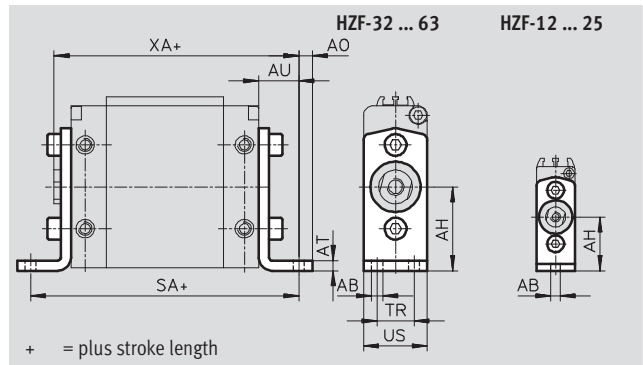
Flat cylinders DZF

Accessories



Foot mounting HZF

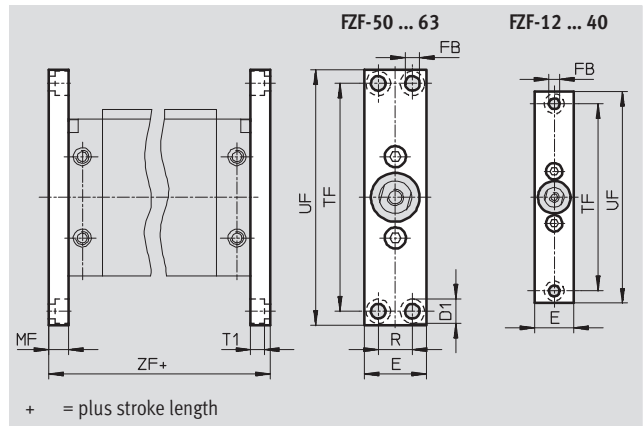
Material:
Steel



| Dimensions and ordering data | | | | | | | | | | | | |
|------------------------------|---------------------|----|-----|----|----|-----|----|----|-----|---------------|----------|--------|
| For \varnothing | AB \varnothing | AH | AO | AT | AU | SA | TR | US | XA | Weight [g] | Part No. | Type |
| 12 | 4.5 | 25 | 5 | 2 | 13 | 88 | - | 14 | 82 | 8 | 161 804 | HZF-12 |
| 18 | 5.5 | 29 | 5 | 2 | 17 | 96 | - | 16 | 86 | 10 | 161 805 | HZF-18 |
| 25 | 5.5 | 28 | 7 | 3 | 16 | 94 | - | 20 | 86 | 21 | 161 806 | HZF-25 |
| 32 | 5.5 | 32 | 5.5 | 3 | 18 | 108 | 13 | 24 | 98 | 27 | 161 807 | HZF-32 |
| 40 | 5.5 | 40 | 7 | 4 | 20 | 116 | 16 | 30 | 105 | 57 | 161 808 | HZF-40 |
| 50 | 6.6 | 50 | 8 | 4 | 24 | 130 | 22 | 38 | 116 | 97 | 161 809 | HZF-50 |
| 63 | 9 | 63 | 10 | 4 | 27 | 136 | 30 | 50 | 119 | 167 | 161 810 | HZF-63 |

Flange mounting FZF

Material:
Wrought aluminium alloy



| Dimensions and ordering data | | | | | | | | | | | | |
|------------------------------|---------------------|----|---------------------|----|----|-----|-----|-----|-----|---------------|----------|--------|
| For \varnothing | D1 \varnothing | E | FB \varnothing | MF | R | T1 | TF | UF | ZF | Weight [g] | Part No. | Type |
| 12 | 8 | 14 | 4.5 | 8 | - | 4.5 | 75 | 90 | 78 | 20 | 161 811 | FZF-12 |
| 18 | 8 | 16 | 4.5 | 8 | - | 4.5 | 80 | 94 | 78 | 24 | 161 812 | FZF-18 |
| 25 | 10 | 20 | 5.5 | 10 | - | 5.7 | 100 | 112 | 82 | 50 | 161 813 | FZF-25 |
| 32 | 11 | 24 | 6.6 | 10 | - | 6.5 | 115 | 130 | 92 | 68 | 161 814 | FZF-32 |
| 40 | 11 | 30 | 6.6 | 10 | - | 6.3 | 132 | 146 | 96 | 98 | 161 815 | FZF-40 |
| 50 | 15 | 38 | 9 | 12 | 21 | 8.3 | 140 | 157 | 106 | 147 | 161 816 | FZF-50 |
| 63 | 15 | 50 | 9 | 15 | 33 | 8.3 | 140 | 157 | 112 | 259 | 161 817 | FZF-63 |

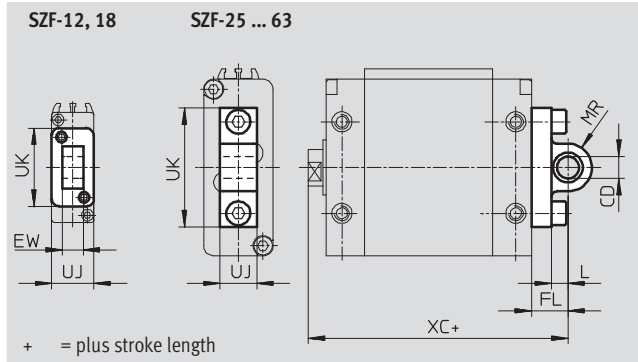
Flat cylinders DZF

Accessories

FESTO

Swivel flange SZF

Material:
High-alloy steel

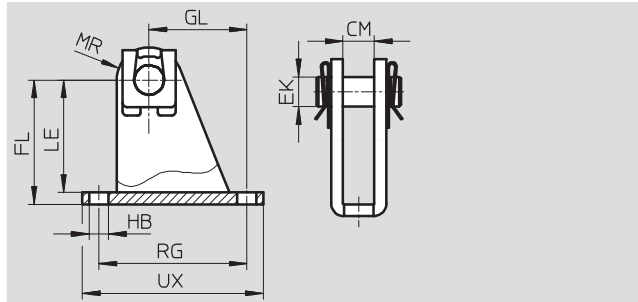


| Dimensions and ordering data | | | | | | | | | | | |
|------------------------------|---------------------------|-----------|----|----|-----|------|----|-----|-------------------|----------|--------|
| For \varnothing | CD \varnothing H9 | EW h12 | FL | L | MR | UJ | UK | XC | CRC ¹⁾ | Part No. | Type |
| 12 | 8 | 7 | 16 | 13 | 7 | 14 | 26 | 85 | 2 | 161 818 | SZF-12 |
| 18 | 8 | 7 | 18 | 15 | 7 | 16 | 26 | 87 | 2 | 161 819 | SZF-18 |
| 25 | 8 | – | 14 | 8 | 7.5 | 9 | 37 | 84 | 2 | 161 820 | SZF-25 |
| 32 | 10 | – | 15 | 6 | 10 | 10.5 | 44 | 95 | 2 | 161 821 | SZF-32 |
| 40 | 12 | – | 18 | 9 | 13 | 10.5 | 52 | 103 | 2 | 161 822 | SZF-40 |
| 50 | 12 | – | 20 | 9 | 13 | 20 | 65 | 112 | 2 | 161 823 | SZF-50 |
| 63 | 16 | – | 24 | 13 | 17 | 25 | 78 | 116 | 2 | 161 824 | SZF-63 |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Clevis foot LZF

Material:
Steel

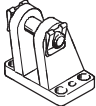
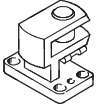






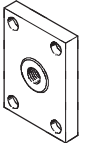

| Dimensions and ordering data | | | | | | | | | | | |
|------------------------------|-----------|---------------------------|--------------|------|---------------------|----|-----|----|----|----------|-----------|
| For \varnothing | CM | EK \varnothing H8 | FL | GL | HB \varnothing | LE | MR | RG | UX | Part No. | Type |
| 12 | 7.1 +0.4 | 8 | 32 +0.4/-0.2 | 18 | 4.5 | 29 | 8 | 30 | 37 | 163 962 | LZF-12/18 |
| 18 | 7.1 +0.4 | 8 | 32 +0.4/-0.2 | 18 | 4.5 | 29 | 8 | 30 | 37 | 163 962 | LZF-12/18 |
| 25 | 9.1 +0.4 | 8 | 35 +0.4/-0.2 | 25.5 | 5.5 | 32 | 9.5 | 40 | 49 | 163 963 | LZF-25 |
| 32 | 10.6 +0.4 | 10 | 42 +0.4/-0.2 | 33 | 6.6 | 38 | 11 | 50 | 60 | 163 964 | LZF-32 |
| 40 | 10.6 +0.4 | 12 | 51 +0.4/-0.2 | 29.5 | 6.6 | 47 | 14 | 50 | 60 | 163 965 | LZF-40 |
| 50 | 20.1 +0.5 | 12 | 55 +0.6/-0.2 | 24 | 9 | 50 | 14 | 30 | 46 | 163 966 | LZF-50 |
| 63 | 25.1 +0.5 | 16 | 68 +0.6/-0.2 | 32 | 11 | 63 | 18 | 40 | 60 | 163 967 | LZF-63 |

Flat cylinders DZF

Accessories

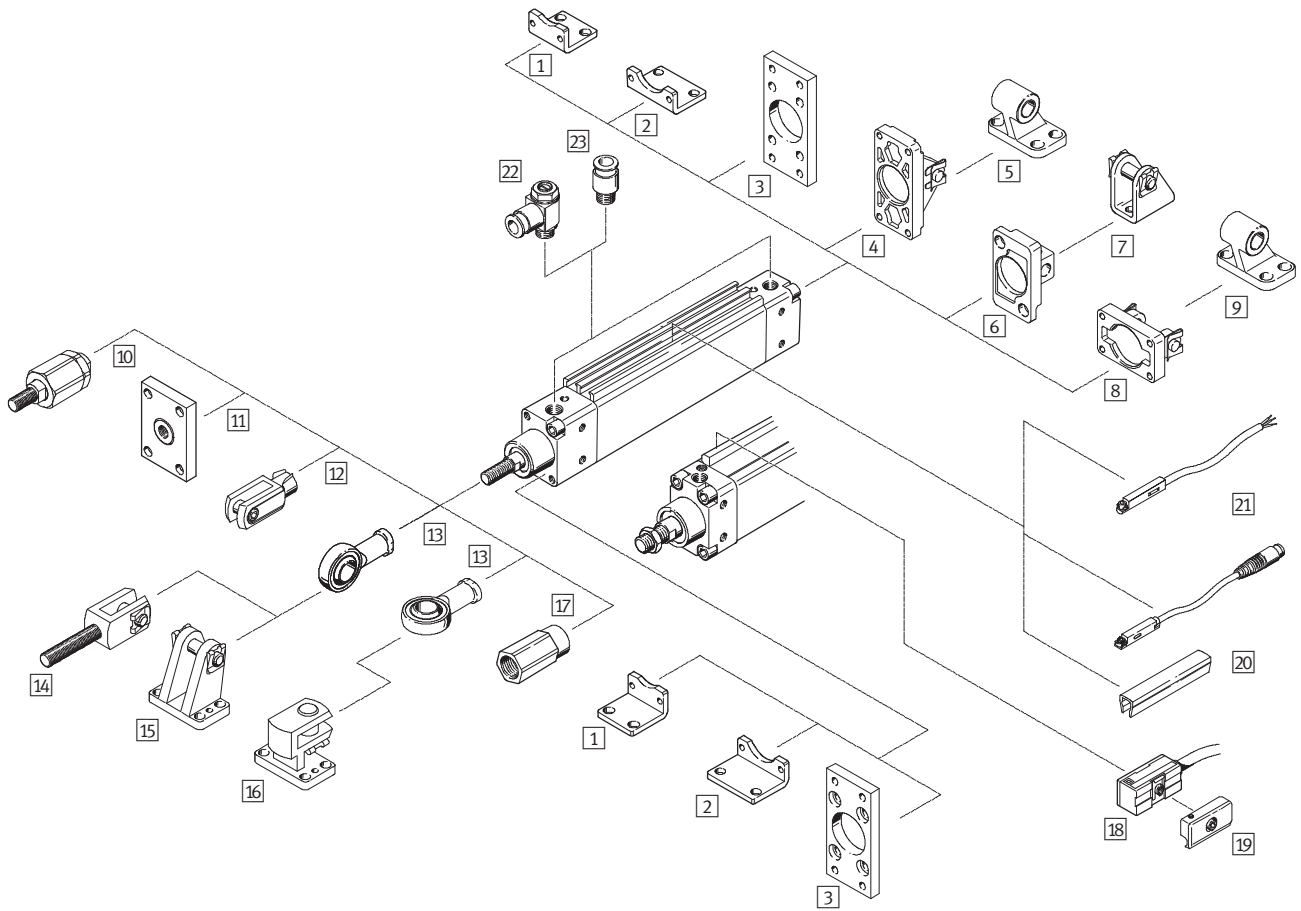
FESTO

| Ordering data – Mounting attachments | | | | Technical data → Internet: clevis foot | | | |
|---|-------|----------|--------|---|-------|----------|--------|
| Designation | For Ø | Part No. | Type | Designation | For Ø | Part No. | Type |
| Clevis foot LBG | | | | Right-angle clevis foot LQG | | | |
|  | 32 | 31 761 | LBG-32 |  | 32 | 31 768 | LQG-32 |
| | 40 | 31 762 | LBG-40 | | 40 | 31 769 | LQG-40 |
| | 50 | 31 763 | LBG-50 | | 50 | 31 770 | LQG-50 |
| | 63 | 31 764 | LBG-63 | | 63 | 31 771 | LQG-63 |

| Ordering data – Piston rod attachments | | | | Technical data → Internet: piston-rod attachment | | | |
|---|-------|----------|--------------|---|-------|----------|-----------------|
| Designation | For Ø | Part No. | Type | Designation | For Ø | Part No. | Type |
| Rod eye SGS | | | | Rod clevis SGA | | | |
|  | 12 | 9 254 | SGS-M6 |  | 12 | – | – |
| | 18 | 9 255 | SGS-M8 | | 18 | – | – |
| | 25 | 9 261 | SGS-M10x1,25 | | 25 | 32 954 | SGA-M10x1,25 |
| | 32 | | | | 32 | | |
| | 40 | 9 262 | SGS-M12x1,25 | | 40 | 10 767 | SGA-M12x1,25 |
| | 50 | 9 263 | SGS-M16x1,5 | | 50 | 10 768 | SGA-M16x1,5 |
| | 63 | | | | 63 | | |
| Rod clevis SG | | | | Self-aligning rod coupler FK | | | |
|  | 12 | 3 110 | SG-M6 |  | 12 | 2 061 | FK-M6 |
| | 18 | 3 111 | SG-M8 | | 18 | 2 062 | FK-M8 |
| | 25 | 6 144 | SG-M10x1,25 | | 25 | 6 140 | FK-M10x1,25 |
| | 32 | | | | 32 | | |
| | 40 | 6 145 | SG-M12x1,25 | | 40 | 6 141 | FK-M12x1,25 |
| | 50 | 6 146 | SG-M16x1,5 | | 50 | 6 142 | FK-M16x1,5 |
| | 63 | | | | 63 | | |
| Coupling piece KSZ | | | | Adapter AD | | | |
|  | 12 | 36 123 | KSZ-M6 |  | 12 | 157 328 | AD-M6-M5 |
| | 18 | 36 124 | KSZ-M8 | | | 157 329 | AD-M6-1/8 |
| | 25 | 36 125 | KSZ-M10x1,25 | | | 157 330 | AD-M6-1/4 |
| | 32 | | | | 18 | 157 331 | AD-M8-1/8 |
| | 40 | 36 126 | KSZ-M12x1,25 | | | 157 332 | AD-M8-1/4 |
| | 50 | 36 127 | KSZ-M16x1,5 | | 25 | 157 333 | AD-M10x1,25-1/8 |
| | 63 | | | | 32 | 157 334 | AD-M10x1,25-1/4 |
| | | | | | 40 | 160 256 | AD-M12x1,25-1/4 |
| | | | | | | 160 257 | AD-M12x1,25-3/8 |

Flat cylinders DZH

Peripherals overview



Flat cylinders DZH

Peripherals overview

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| Mounting attachments and accessories | | | | | | |
|--------------------------------------|---|--|-------------|--------------------|-----------------|------------|
| | Brief description | Piston Ø 16 ... 20 | Piston Ø 25 | Piston Ø 32 ... 63 | → Page/Internet | |
| 1 | Foot mounting, narrow HZS | for bearing and end caps | ■ | ■ | ■ | 31 |
| 2 | Foot mounting, wide HZB | for bearing and end caps | ■ | ■ | ■ | 32 |
| 3 | Flange mounting FZS | for bearing and end caps | ■ | ■ | ■ | 31 |
| 4 | Swivel flange, narrow SZS | for end caps | - | - | ■ | 33 |
| 5 | Clevis foot LBZB/LBZS | - | - | ■ | | 34 |
| 6 | Swivel flange, narrow SZSB | for end caps | ■ | ■ | - | 32 |
| 7 | Clevis foot LBN | - | ■ | ■ | - | 35 |
| 8 | Swivel flange, wide SZB | for end caps | - | - | ■ | 33 |
| 9 | Clevis foot LN | - | - | ■ | | 35 |
| 10 | Self-aligning rod coupler FK | for compensating radial and angular deviations | ■ | ■ | ■ | 35 |
| 11 | Coupling piece KSZ | for cylinders with a non-rotating piston rod to compensate for radial deviations | ■ | ■ | ■ | 35 |
| 12 | Rod clevis SG | permits a swivelling movement of the cylinder in one plane | ■ | ■ | ■ | 35 |
| 13 | Rod eye SGS | with spherical bearing | ■ | ■ | ■ | 35 |
| 14 | Rod clevis SGA | with male thread | ■ | ■ | ■ | 35 |
| 15 | Clevis foot LBG | - | ■ | ■ | ■ | 35 |
| 16 | Right-angle clevis foot LQG | - | ■ | ■ | ■ | 35 |
| 17 | Adapter AD | for the vacuum generator | ■ S20 | ■ S20 | - | 35 |
| 18 | Proximity sensors SMEO-1/SMT0-1/SMPO-1 | - | - | - | ■ | 36 |
| 19 | Mounting kit SMB-1 | - | - | - | ■ | 36 |
| 20 | Slot cover ABP-5-S | to protect the sensor cable and keep dirt out of the sensor slots | ■ | ■ | - | 37 |
| 21 | Proximity sensors SME/SMT-8 | can be integrated in the cylinder profile barrel | ■ | ■ | - | 37 |
| 22 | One-way flow control valve GRLA/GRLZ | to regulate speed | ■ | ■ | ■ | 38 |
| 23 | Push-in fitting QS | for connecting compressed air tubing with standard external diameters | ■ | ■ | ■ | quick star |

Flat cylinders DZH

Type codes

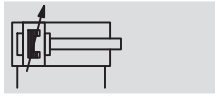
| | | | | | | | | | | | | |
|-------------------------|--|-----|---|----|---|----|---|-----|---|---|---|--|
| | | DZH | – | 16 | – | 40 | – | PPV | – | A | – | |
| Type | | | | | | | | | | | | |
| Double-acting | | | | | | | | | | | | |
| DZH | Flat cylinder | | | | | | | | | | | |
| Piston Ø [mm] | | | | | | | | | | | | |
| Stroke [mm] | | | | | | | | | | | | |
| Cushioning | | | | | | | | | | | | |
| PPV | Pneumatic cushioning adjustable at both ends | | | | | | | | | | | |
| Position sensing | | | | | | | | | | | | |
| A | For proximity sensing | | | | | | | | | | | |
| Variant | | | | | | | | | | | | |
| S2 | Through piston rod | | | | | | | | | | | |
| S6 | Heat resistant seals up to 120 °C | | | | | | | | | | | |
| S20 | Through, hollow piston rod | | | | | | | | | | | |

Flat cylinders DZH

Technical data

FESTO

Function

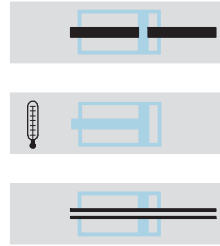


- - Diameter
16 ... 63
- - Stroke length
10 ... 1,000

- - www.festo.com

Wearing parts kits
→ 30

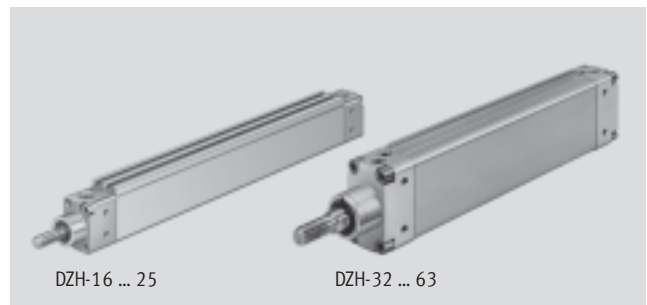
Variants



S2

S6

S20



DZH-16 ... 25

DZH-32 ... 63

| General technical data | | | | | | | |
|----------------------------------|---|------|----------|----------|----------|---------|---------|
| Piston Ø | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
| Pneumatic connection | M5 | G1/8 | G1/8 | G1/8 | G1/4 | G1/4 | G3/8 |
| End of piston rod Male thread | M6 | M8 | M10x1.25 | M10x1.25 | M12x1.25 | M16x1.5 | M16x1.5 |
| Operating medium | Filtered compressed air, lubricated or unlubricated | | | | | | |
| Constructional design | Piston | | | | | | |
| | Piston rod | | | | | | |
| Protection against torsion/guide | Oval piston | | | | | | |
| Cushioning | Pneumatic cushioning adjustable at both ends | | | | | | |
| Cushioning length [mm] | 14 | 17 | 17 | 19 | 21 | 23 | 23 |
| Position sensing | For proximity sensing | | | | | | |
| Type of mounting | With female thread | | | | | | |
| | With accessories | | | | | | |
| Mounting position | Any | | | | | | |

| Operating pressure [bar] | | | | | | | |
|--------------------------|------------|----|----|------------|----|----|----|
| Piston Ø | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
| | 1.0 ... 10 | | | 0.6 ... 10 | | | |

| Ambient conditions | | |
|--|---------------|------------|
| Variant | Basic version | S6 |
| Ambient temperature ¹⁾ [°C] | -20 ... +80 | 0 ... +120 |
| Corrosion resistance class CRC ²⁾ | 2 | 2 |

1) Observe operating range of proximity sensors

2) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

- - Note
Sizing software
ProPneu
→ www.festo.com

Flat cylinders DZH

Technical data

FESTO

| Forces [N] and torques [Nm] | | | | | | | | |
|---|--------|-----|-----|-----|-----|-----|-------|-------|
| Piston Ø | 16 | 20 | 25 | 32 | 40 | 50 | 63 | |
| Theoretical force at 6 bar, advancing | | 121 | 188 | 295 | 483 | 754 | 1,178 | 1,870 |
| | S2/S20 | 104 | 158 | 247 | 415 | 633 | 989 | 1,682 |
| Theoretical force at 6 bar, retracting | | 104 | 158 | 247 | 415 | 633 | 989 | 1,682 |
| | S2/S20 | 104 | 158 | 247 | 415 | 633 | 989 | 1,682 |
| Max. torque at the piston rod ¹⁾ | 0.5 | 0.6 | 0.8 | 1.0 | 1.2 | 1.7 | 2.0 | |

1) The max. torque must also be observed when fitting mounting attachments to the piston rod

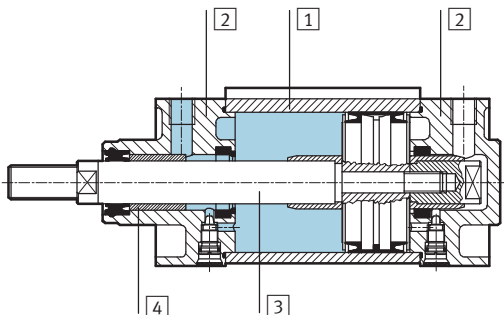
| Weights [g] | | | | | | | |
|------------------------------------|-----|-----|-----|-----|-----|-------|-------|
| Piston Ø | 16 | 20 | 25 | 32 | 40 | 50 | 63 |
| Product weight at 0 mm stroke | 140 | 230 | 330 | 500 | 820 | 1,200 | 1,690 |
| Additional weight per 10 mm stroke | 11 | 15 | 21 | 30 | 40 | 60 | 80 |

| Minimum stroke length [mm] for contactless position sensing with one proximity sensor | | | | | | | |
|---|----|----|----|----|--|--|--|
| Piston Ø | 32 | 40 | 50 | 63 | | | |
| SMEO-1/SMTO-1 | | | | | | | |
| Plug | 10 | | | | | | |
| Cable | | | | | | | |

| Minimum stroke length [mm] for contactless position sensing with two proximity sensors | | | | | | | |
|--|-----------------------|---|-----|-----|-----|--|--|
| Piston Ø | 32 | 40 | 50 | 63 | | | |
| SMEO-1 | | | | | | | |
| Plug | outlet towards caps | 86 | 87 | 90 | 91 | | |
| | outlet towards center | 46 | 48 | 49 | 50 | | |
| Cable | outlet towards caps | 63 | 64 | 67 | 68 | | |
| | outlet towards center | 48 | 50 | 51 | 53 | | |
| SMTO-1 | | | | | | | |
| Plug | outlet towards caps | 105 | 107 | 106 | 107 | | |
| | outlet towards center | not possible as the plug would cover the pneumatic port | | | | | |
| Cable | outlet towards caps | 82 | 84 | 85 | 86 | | |
| | outlet towards center | 19 | 21 | 20 | 22 | | |

Materials

Sectional view



| Flat cylinder | Basic version | S6 |
|---------------------|--------------------|---------------------|
| 1 Cylinder barrel | Anodised aluminium | Anodised aluminium |
| 2 Bearing end cap | Aluminium | Aluminium |
| 3 Piston rod | ∅ 16 ... 25 | Stainless steel |
| | ∅ 32 ... 63 | High-alloy steel |
| 4 Dynamic seals | Polyurethane | Fluorocarbon rubber |
| - Note on materials | Conforms to RoHS | |

Flat cylinders DZH

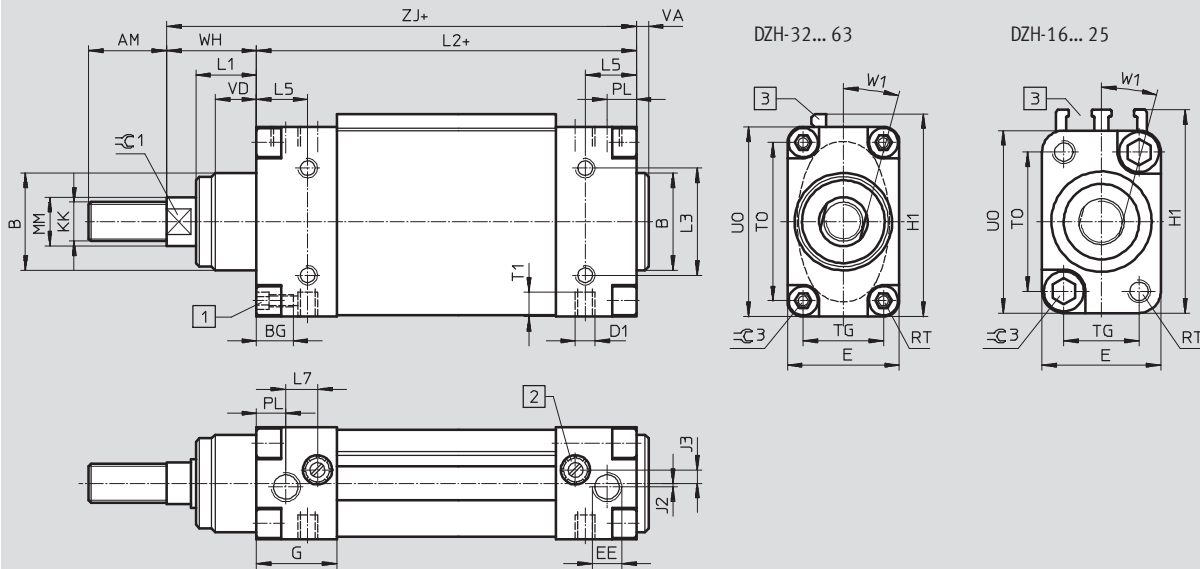
Technical data

FESTO

Dimensions

Download CAD data → www.festo.com

Basic version



- 1 Socket head screw with female thread
 - 2 Regulating screw for adjustable end-position cushioning
 - 3 $\varnothing 16 \dots 25$:
Mounting slot for proximity sensors
 $\varnothing 32 \dots 63$:
Mounting rail for proximity sensor
- + = plus stroke length

| \varnothing | AM | B | BG | D1 | D8 | E | EE | G | H1 | J2 | J3 | KK | L1 | L2 | L3 | L5 |
|---------------|----|----------------------|-----|-----|---------------|----|-----------------|------|-------|------|-----|----------|----|-----------|----|------|
| [mm] | | \varnothing f10 | | | \varnothing | | | | | | | | | | | |
| 16 | 16 | 16 | 5.5 | M4 | 2.3 | 20 | M5 | 20.5 | 35.5 | -0.7 | 2.8 | M6 | 12 | 78.5 ±0.5 | 12 | 12 |
| 20 | 20 | 20 | 5.5 | M4 | 3.2 | 23 | G $\frac{1}{8}$ | 25 | 39.5 | -0.7 | 5 | M8 | 14 | 90.5 ±0.5 | 15 | 15 |
| 25 | 22 | 22 | 7 | M5 | 3.8 | 26 | G $\frac{1}{8}$ | 26 | 44.5 | -0.3 | 4.2 | M10x1.25 | 14 | 92.5 ±0.5 | 18 | 16 |
| 32 | 22 | 30 | 13 | M6 | - | 36 | G $\frac{1}{8}$ | 27 | 53.3 | - | 3 | M10x1.25 | 16 | 94 ±0.7 | 18 | 13 |
| 40 | 24 | 35 | 13 | M6 | - | 40 | G $\frac{1}{4}$ | 33 | 66.3 | - | 6 | M12x1.25 | 20 | 105 ±0.7 | 32 | 16.5 |
| 50 | 32 | 40 | 15 | M8 | - | 46 | G $\frac{1}{4}$ | 32.5 | 82.3 | 2.5 | 3 | M16x1.5 | 25 | 106 ±0.7 | 44 | 21 |
| 63 | 32 | 42 | 15 | M10 | - | 54 | G $\frac{3}{8}$ | 36.5 | 108.3 | 4 | 5 | M16x1.5 | 28 | 115 ±0.7 | 64 | 22.5 |

| \varnothing | L7 | MM | PL | RT | T1 | TG | TO | U0 | VA | VD | WH | W1 | ZJ | ZM | $\approx \text{C1}$ | $\approx \text{C3}$ |
|---------------|------|---------------|------|----|-----|------|------|-----|-----|----|------|-----|-------|------------|---------------------|---------------------|
| [mm] | | \varnothing | | | | | | | | | ±1 | | | | | |
| 16 | 8.5 | 6 | 7.5 | M4 | 5.5 | 12 | 23 | 31 | 2.5 | 12 | 17.5 | 15° | 96 | 114.4 ±0.4 | 5 | 4 |
| 20 | 10.5 | 8 | 9.3 | M4 | 5.5 | 15 | 27 | 35 | 2.5 | 14 | 18.5 | 15° | 109 | 128 ±0.4 | 7 | 4 |
| 25 | 10 | 10 | 10.5 | M5 | 7 | 16.5 | 30.5 | 40 | 2.5 | 14 | 20.5 | 15° | 113 | 134 ±0.4 | 9 | 5 |
| 32 | 10.2 | 12 | 9 | M5 | 9 | 24.5 | 36.5 | 48 | 4 | 16 | 26 | 15° | 120 | 147.1 ±0.5 | 10 | 6 |
| 40 | 13.2 | 16 | 11 | M5 | 9 | 28 | 50 | 62 | 5.5 | 20 | 30 | 15° | 135 | 165.3 ±0.5 | 13 | 6 |
| 50 | 14 | 20 | 10.5 | M6 | 10 | 33 | 65 | 78 | 5 | 17 | 37.5 | 15° | 143.5 | 181.5 ±0.5 | 17 | 6 |
| 63 | 14.5 | 20 | 12.5 | M6 | 12 | 40 | 90 | 104 | 6 | 20 | 40 | 15° | 155 | 195.3 ±0.5 | 17 | 6 |

- Note

The maximum permissible torque must not be exceeded when additional components are screwed

onto the piston rod. Counterhold by means of the spanner flats $\approx \text{C1}$.

Flat cylinders DZH

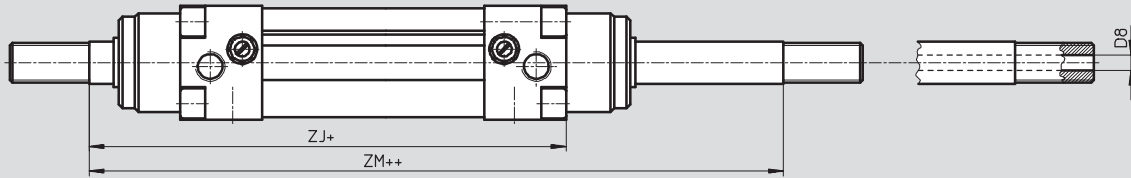
Technical data

FESTO

Dimensions

Download CAD data → www.festo.com

Variant S2 – Through piston rod, S20 – Through, hollow piston rod



+ = plus stroke length


++ = plus 2x stroke length

| Ø | D8 Ø | ZJ | ZM |
|------|---------|-------|------------|
| [mm] | | | |
| 16 | 2,3 | 96 | 114,4 ±0,4 |
| 20 | 3,2 | 109 | 128 ±0,4 |
| 25 | 3,8 | 113 | 134 ±0,4 |
| 32 | – | 120 | 147,1 ±0,5 |
| 40 | – | 135 | 165,3 ±0,5 |
| 50 | – | 143,5 | 181,5 ±0,5 |
| 63 | – | 155 | 195,3 ±0,5 |

Flat cylinders DZH

Technical data

FESTO





| Ordering data – Basic version | | | | | | |
|---|----------------|--------------------------------|------------------|----------------|--------------------------------|------------------|
| Type | Stroke [mm] | Part No. | Type | Stroke [mm] | Part No. | Type |
|  | Piston Ø 16 mm | | | Piston Ø 20 mm | | |
| | 25 | 151 145 | DZH-16-25-PPV-A | 25 | 151 134 | DZH-20-25-PPV-A |
| | 40 | 151 146 | DZH-16-40-PPV-A | 40 | 151 135 | DZH-20-40-PPV-A |
| | 50 | 151 147 | DZH-16-50-PPV-A | 50 | 151 136 | DZH-20-50-PPV-A |
| | 80 | 151 148 | DZH-16-80-PPV-A | 80 | 151 137 | DZH-20-80-PPV-A |
| | 100 | 151 149 | DZH-16-100-PPV-A | 100 | 151 138 | DZH-20-100-PPV-A |
| | 125 | 151 150 | DZH-16-125-PPV-A | 125 | 151 139 | DZH-20-125-PPV-A |
| | 160 | 151 151 | DZH-16-160-PPV-A | 160 | 151 140 | DZH-20-160-PPV-A |
| | 200 | 151 152 | DZH-16-200-PPV-A | 200 | 151 141 | DZH-20-200-PPV-A |
| | 250 | – | – | 250 | 151 142 | DZH-20-250-PPV-A |
| 300 | – | – | 300 | – | – | |
| 320 | – | – | 320 | 151 143 | DZH-20-320-PPV-A | |
| Piston Ø 25 mm | | | Piston Ø 32 mm | | | |
| 25 | 151 121 | DZH-25-25-PPV-A ¹⁾ | 25 | 14 041 | DZH-32-25-PPV-A ¹⁾ | |
| 40 | 151 122 | DZH-25-40-PPV-A ¹⁾ | 40 | 14 042 | DZH-32-40-PPV-A ¹⁾ | |
| 50 | 151 123 | DZH-25-50-PPV-A ¹⁾ | 50 | 14 043 | DZH-32-50-PPV-A ¹⁾ | |
| 80 | 151 124 | DZH-25-80-PPV-A ¹⁾ | 80 | 14 044 | DZH-32-80-PPV-A ¹⁾ | |
| 100 | 151 125 | DZH-25-100-PPV-A ¹⁾ | 100 | 14 045 | DZH-32-100-PPV-A ¹⁾ | |
| 125 | 151 126 | DZH-25-125-PPV-A ¹⁾ | 125 | 14 046 | DZH-32-125-PPV-A ¹⁾ | |
| 160 | 151 127 | DZH-25-160-PPV-A ¹⁾ | 160 | 14 047 | DZH-32-160-PPV-A ¹⁾ | |
| 200 | 151 128 | DZH-25-200-PPV-A ¹⁾ | 200 | 14 048 | DZH-32-200-PPV-A ¹⁾ | |
| 250 | 151 129 | DZH-25-250-PPV-A ¹⁾ | 250 | 14 049 | DZH-32-250-PPV-A ¹⁾ | |
| 300 | – | – | 300 | 14 050 | DZH-32-300-PPV-A ¹⁾ | |
| 320 | 151 130 | DZH-25-320-PPV-A ¹⁾ | 320 | – | – | |
| 400 | 151 131 | DZH-25-400-PPV-A ¹⁾ | 400 | – | – | |
| 500 | 151 132 | DZH-25-500-PPV-A ¹⁾ | 500 | – | – | |
| Piston Ø 40 mm | | | Piston Ø 50 mm | | | |
| 25 | 14 052 | DZH-40-25-PPV-A ¹⁾ | 25 | 14 063 | DZH-50-25-PPV-A ¹⁾ | |
| 40 | 14 053 | DZH-40-40-PPV-A ¹⁾ | 40 | 14 064 | DZH-50-40-PPV-A ¹⁾ | |
| 50 | 14 054 | DZH-40-50-PPV-A ¹⁾ | 50 | 14 065 | DZH-50-50-PPV-A ¹⁾ | |
| 80 | 14 055 | DZH-40-80-PPV-A ¹⁾ | 80 | 14 066 | DZH-50-80-PPV-A ¹⁾ | |
| 100 | 14 056 | DZH-40-100-PPV-A ¹⁾ | 100 | 14 067 | DZH-50-100-PPV-A ¹⁾ | |
| 125 | 14 057 | DZH-40-125-PPV-A ¹⁾ | 125 | 14 068 | DZH-50-125-PPV-A ¹⁾ | |
| 160 | 14 058 | DZH-40-160-PPV-A ¹⁾ | 160 | 14 069 | DZH-50-160-PPV-A ¹⁾ | |
| 200 | 14 059 | DZH-40-200-PPV-A ¹⁾ | 200 | 14 070 | DZH-50-200-PPV-A ¹⁾ | |
| 250 | 14 060 | DZH-40-250-PPV-A ¹⁾ | 250 | 14 071 | DZH-50-250-PPV-A ¹⁾ | |
| 300 | 14 061 | DZH-40-300-PPV-A ¹⁾ | 300 | 14 072 | DZH-50-300-PPV-A ¹⁾ | |
| Piston Ø 63 mm | | | | | | |
| 25 | 14 074 | DZH-63-25-PPV-A ¹⁾ | | | | |
| 40 | 14 075 | DZH-63-40-PPV-A ¹⁾ | | | | |
| 50 | 14 076 | DZH-63-50-PPV-A ¹⁾ | | | | |
| 80 | 14 077 | DZH-63-80-PPV-A ¹⁾ | | | | |
| 100 | 14 078 | DZH-63-100-PPV-A ¹⁾ | | | | |
| 125 | 14 079 | DZH-63-125-PPV-A ¹⁾ | | | | |
| 160 | 14 080 | DZH-63-160-PPV-A ¹⁾ | | | | |
| 200 | 14 081 | DZH-63-200-PPV-A ¹⁾ | | | | |
| 250 | 14 082 | DZH-63-250-PPV-A ¹⁾ | | | | |
| 300 | 14 083 | DZH-63-300-PPV-A ¹⁾ | | | | |

1) The scope of delivery includes a hexagonal nut for the piston rod thread

Flat cylinders DZH

Technical data

FESTO

| Ordering data – Variants | | | | |
|---|------------------|----------------|----------------|--|
| Type | Piston Ø [mm] | Stroke [mm] | Part No. | Type |
| Variable stroke | | | | |
|  | 16 | 10 ... 200 | 150 295 | DZH-16-...-PPV-A |
| | 20 | 10 ... 320 | 150 294 | DZH-20-...-PPV-A |
| | 25 | 10 ... 500 | 150 293 | DZH-25-...-PPV-A¹⁾ |
| | 32 | 10 ... 1,000 | 14 040 | DZH-32-...-PPV-A¹⁾ |
| | 40 | 10 ... 1,000 | 14 051 | DZH-40-...-PPV-A¹⁾ |
| | 50 | 10 ... 1,000 | 14 062 | DZH-50-...-PPV-A¹⁾ |
| | 63 | 10 ... 1,000 | 14 073 | DZH-63-...-PPV-A¹⁾ |
| S2 – Through piston rod | | | | |
|  | 16 | 10 ... 200 | 151 155 | DZH-16-...-PPV-A-S2 |
| | 20 | 10 ... 320 | 151 154 | DZH-20-...-PPV-A-S2 |
| | 25 | 10 ... 500 | 151 153 | DZH-25-...-PPV-A-S2¹⁾ |
| | 32 | 10 ... 1,000 | 151 772 | DZH-32-...-PPV-A-S2¹⁾ |
| | 40 | 10 ... 1,000 | 151 773 | DZH-40-...-PPV-A-S2¹⁾ |
| | 50 | 10 ... 1,000 | 151 774 | DZH-50-...-PPV-A-S2¹⁾ |
| | 63 | 10 ... 1,000 | 151 775 | DZH-63-...-PPV-A-S2¹⁾ |
| S6 – Heat resistant seals up to 120 °C | | | | |
|  | 16 | 10 ... 200 | 151 156 | DZH-16-...-PPV-A-S6 |
| | 20 | 10 ... 320 | 151 157 | DZH-20-...-PPV-A-S6 |
| | 25 | 10 ... 500 | 151 158 | DZH-25-...-PPV-A-S6¹⁾ |
| | 32 | 10 ... 1,000 | 16 531 | DZH-32-...-PPV-A-S6¹⁾ |
| | 40 | 10 ... 1,000 | 16 532 | DZH-40-...-PPV-A-S6¹⁾ |
| | 50 | 10 ... 1,000 | 16 533 | DZH-50-...-PPV-A-S6¹⁾ |
| | 63 | 10 ... 1,000 | 16 534 | DZH-63-...-PPV-A-S6¹⁾ |
| S20 – Through, hollow piston rod | | | | |
|  | 16 | 10 ... 200 | 158 379 | DZH-16-...-PPV-A-S20 |
| | 20 | 10 ... 320 | 158 380 | DZH-20-...-PPV-A-S20 |
| | 25 | 10 ... 500 | 158 381 | DZH-25-...-PPV-A-S20¹⁾ |

1) The scope of delivery includes a hexagonal nut for the piston rod thread

| Ordering data – Wearing parts kits | | |
|------------------------------------|----------------|---------------------|
| Piston Ø | Part No. | Type |
| 16 | 121 125 | DZH-16-PPV-A |
| 20 | 121 126 | DZH-20-PPV-A |
| 25 | 121 127 | DZH-25-PPV-A |
| 32 | 108 706 | DZH-32-PPV-A |
| 40 | 108 707 | DZH-40-PPV-A |
| 50 | 108 708 | DZH-50-PPV-A |
| 63 | 108 709 | DZH-63-PPV-A |

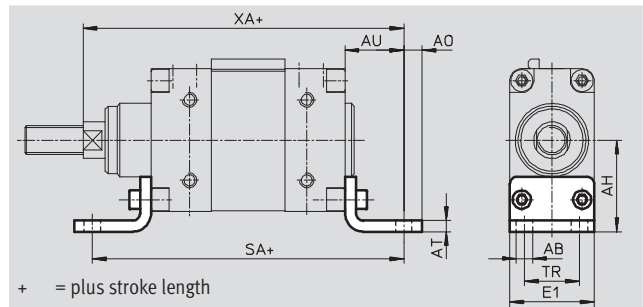
Flat cylinders DZH

Accessories



Foot mounting HZS, narrow

Material:
Steel
Free of copper, PTFE and silicone

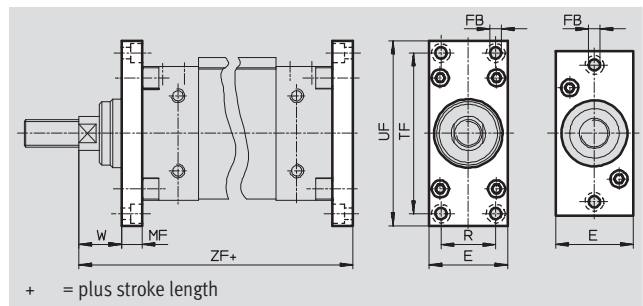
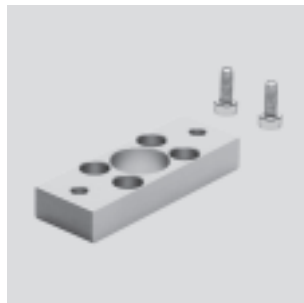


| Dimensions and ordering data | | | | | | | | | | | | | |
|------------------------------|---------------------|------|----|----|----|----|-------|------|-------|-------------------|---------------|----------|--------|
| For \varnothing | AB \varnothing | AH | AO | AT | AU | E1 | SA | TR | XA | CRC ¹⁾ | Weight [g] | Part No. | Type |
| 16 | 4.5 | 24.5 | 4 | 4 | 21 | 20 | 120.5 | 12 | 117 | 2 | 60 | 151 933 | HZS-16 |
| 20 | 4.5 | 27.5 | 4 | 4 | 21 | 23 | 132.5 | 15 | 130 | 2 | 70 | 151 932 | HZS-20 |
| 25 | 5.5 | 30 | 5 | 4 | 25 | 26 | 142.5 | 16.5 | 138 | 2 | 90 | 151 931 | HZS-25 |
| 32 | 7 | 32 | 8 | 4 | 24 | 36 | 142 | 24 | 144 | 2 | 105 | 14 879 | HZS-32 |
| 40 | 9 | 40 | 10 | 5 | 28 | 40 | 161 | 25 | 163 | 2 | 165 | 14 880 | HZS-40 |
| 50 | 9 | 50 | 10 | 6 | 32 | 46 | 170 | 30 | 175.5 | 2 | 270 | 14 881 | HZS-50 |
| 63 | 9 | 62 | 15 | 6 | 35 | 54 | 185 | 38 | 190 | 2 | 365 | 14 882 | HZS-63 |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Flange mounting FZS

Material:
Wrought aluminium alloy



| Dimensions and ordering data | | | | | | | | | | | | | |
|------------------------------|----|---------------------|----|----|-----|-----|------|-------|-------------------|---------------|----------|--------|--|
| For \varnothing | E | FB \varnothing | MF | R | TF | UF | W | ZF | CRC ¹⁾ | Weight [g] | Part No. | Type | |
| 16 | 21 | 4.8 | 10 | - | 48 | 60 | 7.5 | 106 | 2 | 30 | 151 930 | FZS-16 | |
| 20 | 24 | 4.8 | 10 | - | 54 | 70 | 8.5 | 119 | 2 | 40 | 151 929 | FZS-20 | |
| 25 | 27 | 5.8 | 10 | - | 60 | 75 | 10.5 | 123 | 2 | 50 | 151 928 | FZS-25 | |
| 32 | 36 | 5.8 | 10 | 24 | 62 | 75 | 16 | 130 | 2 | 60 | 14 887 | FZS-32 | |
| 40 | 40 | 5.8 | 10 | 28 | 78 | 90 | 20 | 145 | 2 | 80 | 14 888 | FZS-40 | |
| 50 | 46 | 6.8 | 12 | 32 | 94 | 108 | 25.5 | 155.5 | 2 | 135 | 14 889 | FZS-50 | |
| 63 | 54 | 6.8 | 15 | 40 | 120 | 134 | 25 | 170 | 2 | 260 | 14 890 | FZS-63 | |

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

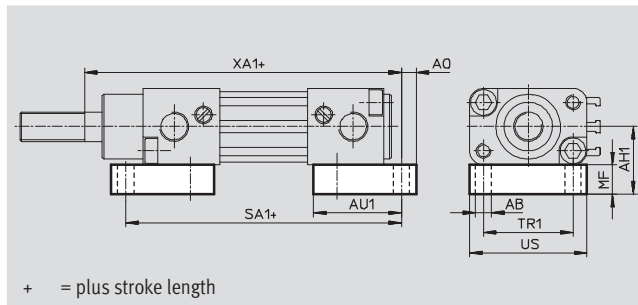
Flat cylinders DZH

Accessories



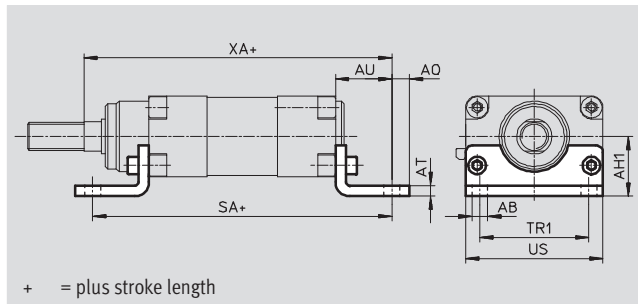
Foot mounting HZB, wide for piston \varnothing 16 ... 25 mm

Material:
Wrought aluminium alloy



for piston \varnothing 32 ... 63 mm

Material:
Steel



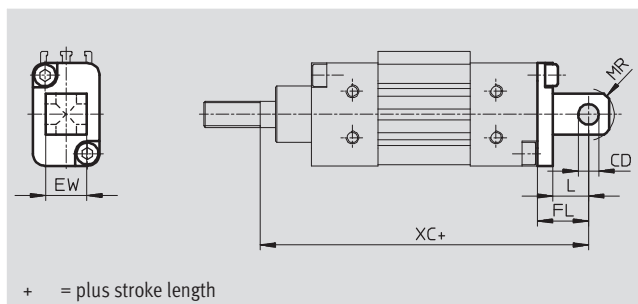
| Dimensions and ordering data | | | | | | | | | | | | | | | | | |
|------------------------------|---------------------|------|----|----|----|-----|----|-----|-------|------|-----|-------|-----|-------------------|---------------|----------|--------|
| For \varnothing | AB \varnothing | AH1 | AO | AT | AU | AU1 | MF | SA | SA1 | TR1 | US | XA | XA1 | CRC ¹⁾ | Weight [g] | Part No. | Type |
| 16 | 4.5 | 20 | 4 | - | - | 23 | 10 | - | 88.5 | 23 | 30 | - | 101 | 2 | 50 | 151 936 | HZB-16 |
| 20 | 4.5 | 21.5 | 4 | - | - | 26 | 10 | - | 100.5 | 27 | 35 | - | 114 | 2 | 60 | 151 935 | HZB-20 |
| 25 | 5.5 | 23 | 5 | - | - | 30 | 10 | - | 104.5 | 30.5 | 40 | - | 119 | 2 | 80 | 151 934 | HZB-25 |
| 32 | 7 | 26 | 8 | 4 | 24 | - | - | 142 | - | 32 | 48 | 144 | - | 2 | 130 | 14 875 | HZB-32 |
| 40 | 9 | 29 | 10 | 5 | 28 | - | - | 161 | - | 46 | 62 | 163 | - | 2 | 235 | 14 876 | HZB-40 |
| 50 | 9 | 34 | 10 | 6 | 32 | - | - | 170 | - | 62 | 78 | 175.5 | - | 2 | 410 | 14 877 | HZB-50 |
| 63 | 9 | 38 | 15 | 6 | 35 | - | - | 185 | - | 88 | 104 | 190 | - | 2 | 640 | 14 878 | HZB-63 |

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

Swivel flange SZSB, narrow/wide for piston \varnothing 16 ... 25 mm

Material:
High-alloy stainless steel



| Dimensions and ordering data | | | | | | | | |
|------------------------------|---------------------------|----|----|----|-----|---------------|----------|---------|
| For \varnothing | CD \varnothing H8 | EW | FL | L | XC | Weight [g] | Part No. | Type |
| 16 | 4 | 8 | 14 | 8 | 110 | 10 | 151 927 | SZSB-16 |
| 20 | 6 | 12 | 16 | 10 | 125 | 20 | 151 926 | SZSB-20 |
| 25 | 8 | 16 | 20 | 14 | 133 | 40 | 151 925 | SZSB-25 |

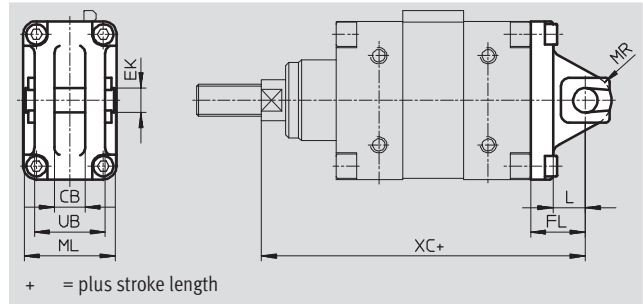
Flat cylinders DZH

Accessories



Swivel flange SZS, narrow for piston \varnothing 32 ... 63 mm

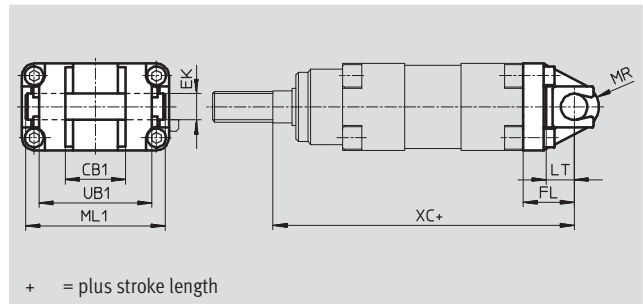
Material:
Die-cast aluminium



| Dimensions and ordering data | | | | | | | | | | | |
|------------------------------|------|---------------------|----|------|------|----|-----------------|-------|---------------|----------|--------|
| For \varnothing | CB | EK \varnothing | FL | L | ML | MR | UB ± 0.1 | XC | Weight [g] | Part No. | Type |
| 32 | 9.4 | 10 | 22 | 13.5 | 35.6 | 11 | 25.8 | 142 | 80 | 14 883 | SZS-32 |
| 40 | 12.4 | 12 | 25 | 15.5 | 39.6 | 13 | 28.8 | 160 | 120 | 14 884 | SZS-40 |
| 50 | 14.4 | 12 | 27 | 15.5 | 45.6 | 13 | 34.8 | 170.5 | 170 | 14 885 | SZS-50 |
| 63 | 16.4 | 16 | 35 | 22.4 | 53.6 | 17 | 40.8 | 190 | 320 | 14 886 | SZS-63 |

Swivel flange SZB, wide for piston \varnothing 32 ... 63 mm

Material:
High-alloy stainless steel



| Dimensions and ordering data | | | | | | | | | | | |
|------------------------------|-----|---------------------|----|------|-----|----|--------------------|-------|---------------|----------|--------|
| For \varnothing | CB1 | EK \varnothing | FL | LT | ML1 | MR | UB1 | XC | Weight [g] | Part No. | Type |
| 32 | 16 | 10 | 22 | 14 | 47 | 11 | 36 _{-0.7} | 142 | 170 | 30 798 | SZB-32 |
| 40 | 28 | 12 | 25 | 15.5 | 61 | 13 | 52 ₋₁ | 160 | 280 | 30 799 | SZB-40 |
| 50 | 32 | 12 | 27 | 16 | 77 | 13 | 60 ₋₁ | 170.5 | 410 | 30 629 | SZB-50 |
| 63 | 40 | 16 | 35 | 23 | 103 | 17 | 70 ₋₁ | 190 | 660 | 30 630 | SZB-63 |

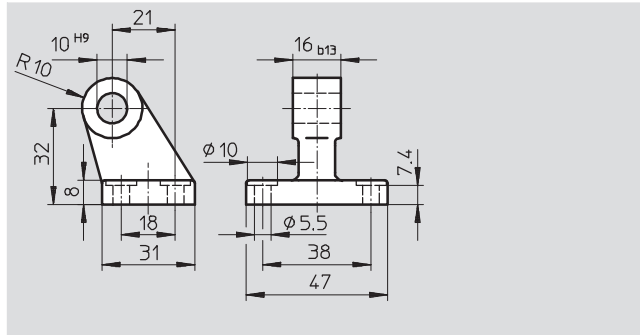
Flat cylinders DZH

Accessories

FESTO

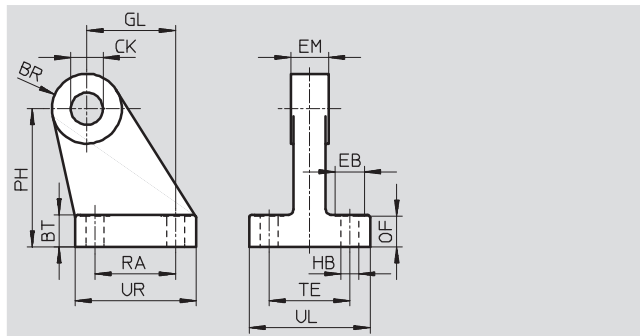
Clevis foot LBZB for piston \varnothing 32 mm

Material:
High-alloy stainless steel



Clevis foot LBZS for piston \varnothing 32 ... 63 mm

Material:
High-alloy stainless steel

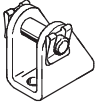

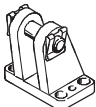
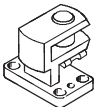






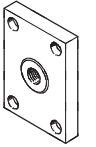

| Dimensions and ordering data | | | | | | | | | | | | | | | Part No. | Type |
|------------------------------|--------------------------|----|---------------------------|---------------------|-----------|----|---------------------|------|------|----|----|----|----|---------------|----------|---------|
| For \varnothing | BR | BT | CK \varnothing H9 | EB \varnothing | EM b13 | GL | HB \varnothing | OF | PH | RA | TE | UL | UR | Weight [g] | | |
| LBZB | | | | | | | | | | | | | | | | |
| 32 | Dimensions → shown above | | | | | | | | | | | | | | 33 842 | LBZB-32 |
| LBZS | | | | | | | | | | | | | | | | |
| 32 | 10 | 8 | 10 | 10 | 9 | 21 | 5.5 | 7.4 | 33.5 | 18 | 24 | 35 | 31 | 90 | 33 843 | LBZS-32 |
| 40 | 11 | 10 | 12 | 10 | 12 | 24 | 5.5 | 9.4 | 40 | 22 | 28 | 39 | 35 | 135 | 33 844 | LBZS-40 |
| 50 | 13 | 12 | 12 | 11 | 14 | 33 | 6.6 | 11.4 | 51.5 | 30 | 30 | 45 | 45 | 235 | 33 845 | LBZS-50 |
| 63 | 15 | 12 | 16 | 11 | 16 | 37 | 6.6 | 11.3 | 62 | 35 | 38 | 53 | 51 | 305 | 33 846 | LBZS-63 |

Flat cylinders DZH

Accessories

FESTO


| Ordering data – Mounting attachments | | | | Technical data → Internet: clevis foot | | | |
|---|-------|----------|-----------|---|-------|----------|--------|
| Designation | For Ø | Part No. | Type | Designation | For Ø | Part No. | Type |
| Clevis foot LBN | | | | Clevis foot LN | | | |
|  | 16 | 6 058 | LBN-12/16 |  | 32 | 5 147 | LN-32 |
| | 20 | 6 059 | LBN-20/25 | | 40 | 5 148 | LN-40 |
| | 25 | | | | 50 | 5 149 | LN-50 |
| | | | 63 | | 5 150 | LN-63 | |
| Clevis foot LBG | | | | Right-angle clevis foot LQG | | | |
|  | 32 | 31 761 | LBG-32 |  | 32 | 31 768 | LQG-32 |
| | 40 | 31 762 | LBG-40 | | 40 | 31 769 | LQG-40 |
| | 50 | 31 763 | LBG-50 | | 50 | 31 770 | LQG-50 |
| | 63 | 31 764 | LBG-63 | | 63 | 31 771 | LQG-63 |


| Ordering data – Piston rod attachments | | | | Technical data → Internet: piston-rod attachment | | | |
|---|-------|----------|--------------|---|---------|-----------|-----------------|
| Designation | For Ø | Part No. | Type | Designation | For Ø | Part No. | Type |
| Rod eye SGS | | | | Rod clevis SGA | | | |
|  | 16 | 9 254 | SGS-M6 |  | 16 | – | – |
| | 20 | 9 255 | SGS-M8 | | 20 | – | – |
| | 25 | 9 261 | SGS-M10x1,25 | | 25 | 32 954 | SGA-M10x1,25 |
| | 32 | | | | 32 | | |
| | 40 | 9 262 | SGS-M12x1,25 | | 40 | 10 767 | SGA-M12x1,25 |
| | 50 | 9 263 | SGS-M16x1,5 | | 50 | 10 768 | SGA-M16x1,5 |
| 63 | | | 63 | | | | |
| Rod clevis SG | | | | Self-aligning rod coupler FK | | | |
|  | 16 | 3 110 | SG-M6 |  | 16 | 2 061 | FK-M6 |
| | 20 | 3 111 | SG-M8 | | 20 | 2 062 | FK-M8 |
| | 25 | 6 144 | SG-M10x1,25 | | 25 | 6 140 | FK-M10x1,25 |
| | 32 | | | | 32 | | |
| | 40 | 6 145 | SG-M12x1,25 | | 40 | 6 141 | FK-M12x1,25 |
| | 50 | 6 146 | SG-M16x1,5 | | 50 | 6 142 | FK-M16x1,5 |
| 63 | | | 63 | | | | |
| Coupling piece KSZ | | | | Adapter AD | | | |
|  | 16 | 36 123 | KSZ-M6 |  | 16 | 157 328 | AD-M6-M5 |
| | 20 | 36 124 | KSZ-M8 | | 157 329 | AD-M6-1/8 | |
| | 25 | 36 125 | KSZ-M10x1,25 | | 157 330 | AD-M6-1/4 | |
| | 32 | | | | 20 | 157 331 | AD-M8-1/8 |
| | 40 | 36 126 | KSZ-M12x1,25 | | 157 332 | AD-M8-1/4 | |
| | 50 | 36 127 | KSZ-M16x1,5 | | 25 | 157 333 | AD-M10x1,25-1/8 |
| 63 | | | 157 334 | AD-M10x1,25-1/4 | | | |


Flat cylinders DZH


Accessories

FESTO

| Ordering data – Block-shaped proximity sensors, magneto-resistive | | | | | | Technical data → Internet: smto | |
|---|------------------|-----------------------|---------|------------------|----------|---------------------------------|----------------------|
| Mounting | Switch output | Electrical connection | | Cable length [m] | Part No. | Type | |
| | | Cables | M8 plug | | | | |
| NO contact | | | | | | | |
|  | With accessories | PNP | 3 wires | – | 2.5 | 151 683 | SMTO-1-PS-K-LED-24-C |
| | | | – | 3-pin | – | 151 685 | SMTO-1-PS-S-LED-24-C |
| | | NPN | 3 wires | – | 2.5 | 151 684 | SMTO-1-NS-K-LED-24-C |
| | | | – | 3-pin | – | 151 686 | SMTO-1-NS-S-LED-24-C |

| Ordering data – Block-shaped proximity sensors, magnetic reed | | | | | | Technical data → Internet: smeo | |
|---|-----------------------|---------|---------|------------------|----------|---------------------------------|------------|
| Mounting | Electrical connection | Cables | M8 plug | Cable length [m] | Part No. | Type | |
| | | | | | | | NO contact |
|  | With accessories | 3 wires | – | 2.5 | 30 459 | SMEO-1-LED-24-B | |
| | | 3 wires | – | 5.0 | 151 672 | SMEO-1-LED-24-K5-B | |
| | | – | 3-pin | – | 150 848 | SMEO-1-S-LED-24-B | |

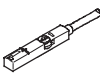

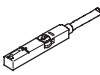
| Ordering data – Block-shaped proximity sensor, pneumatic | | | | | Technical data → Internet: smpo | |
|--|----------------------|--------------------------------------|--------|------------|---------------------------------|--|
| Mounting | Pneumatic connection | Part No. | Type | | | |
| 3/2-way valve, normally closed | | | | | | |
|  | With accessories | Barbed fitting for tubing ID of 3 mm | 31 008 | SMPO-1-H-B | | |

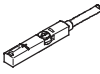


| Ordering data – Mounting kit | | | Technical data → Internet: smb | |
|---|---|--------|--------------------------------|--|
| Mounting | Part No. | Type | | |
|  | for cylinder with tie rod \varnothing 6 mm or DUO rail mounting profile | 11 886 | SMB-1 | |



Flat cylinders EZH/DZF/DZH

Accessories

FESTO

| Ordering data – Proximity sensors for T-slot, magneto-resistive | | | | | Technical data → Internet: smt | |
|---|--|---------------|-----------------------|------------------|--------------------------------|-------------------------|
| | Type of mounting | Switch output | Electrical connection | Cable length [m] | Part No. | Type |
| N/O contact | | | | | | |
|  | Insertable in the slot from above, flush with cylinder profile | PNP | Cable, 3-wire | 2.5 | 543 867 | SMT-8M-PS-24V-K-2,5-OE |
| | | | Plug M8x1, 3-pin | 0.3 | 543 866 | SMT-8M-PS-24V-K-0,3-M8D |
| | | | Plug M12x1, 3-pin | 0.3 | 543 869 | SMT-8M-PS-24V-K-0,3-M12 |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | PNP | Cable, 3-wire | 2.5 | 543 870 | SMT-8M-NS-24V-K-2,5-OE |
| | | | Plug M8x1, 3-pin | 0.3 | 543 871 | SMT-8M-NS-24V-K-0,3-M8D |
| N/C contact | | | | | | |
|  | Insertable in the slot from above, flush with cylinder profile | PNP | Cable, 3-wire | 7.5 | 543 873 | SMT-8M-PO-24V-K7,5-OE |

| Ordering data – Proximity sensors for T-slot, magnetic reed | | | | | Technical data → Internet: sme | |
|---|--|---------------|-----------------------|------------------|--------------------------------|-------------------------|
| | Type of mounting | Switch output | Electrical connection | Cable length [m] | Part No. | Type |
| N/O contact | | | | | | |
|  | Insertable in the slot from above, flush with cylinder profile | Contacting | Cable, 3-wire | 2.5 | 543 862 | SME-8M-DS-24V-K-2,5-OE |
| | | | | 5.0 | 543 863 | SME-8M-DS-24V-K-5,0-OE |
| | | | Plug M8x1, 3-pin | 2.5 | 543 872 | SME-8M-ZS-24V-K-2,5-OE |
| | | | | 0.3 | 543 861 | SME-8M-DS-24V-K-0,3-M8D |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | Contacting | Cable, 3-wire | 2.5 | 150 855 | SME-8-K-LED-24 |
| | | | Plug M8x1, 3-pin | 0.3 | 150 857 | SME-8-S-LED-24 |
| N/C contact | | | | | | |
|  | Insertable in the slot lengthwise, flush with the cylinder profile | Contacting | Cable, 3-wire | 7.5 | 160 251 | SME-8-0-K-LED-24 |



| Ordering data – Connecting cables | | | | Technical data → Internet: nebu | |
|---|-------------------------------|------------------------------|------------------|---------------------------------|----------------------|
| | Electrical connection, left | Electrical connection, right | Cable length [m] | Part No. | Type |
|  | Straight socket, M8x1, 3-pin | Cable, open end, 3-wire | 2.5 | 541 333 | NEBU-M8G3-K-2.5-LE3 |
| | | | 5 | 541 334 | NEBU-M8G3-K-5-LE3 |
| | Straight socket, M12x1, 5-pin | Cable, open end, 3-wire | 2.5 | 541 363 | NEBU-M12G5-K-2.5-LE3 |
| | | | 5 | 541 364 | NEBU-M12G5-K-5-LE3 |
|  | Angled socket, M8x1, 3-pin | Cable, open end, 3-wire | 2.5 | 541 338 | NEBU-M8W3-K-2.5-LE3 |
| | | | 5 | 541 341 | NEBU-M8W3-K-5-LE3 |
| | Angled socket, M12x1, 5-pin | Cable, open end, 3-wire | 2.5 | 541 367 | NEBU-M12W5-K-2.5-LE3 |
| | | | 5 | 541 370 | NEBU-M12W5-K-5-LE3 |

| Ordering data – Slot cover for T-slot | | | Part No. | Type |
|---|---------------------|----------|----------|---------|
| | Mounting | Length | | |
|  | inserted from above | 2x 0.5 m | 151 680 | ABP-5-S |

Flat cylinders EZH/DZF/DZH

Accessories

FESTO

| Ordering data – One-way flow control valves | | | | Technical data → Internet: grl | | | |
|---|--|---------------|--------------|--------------------------------|------------------|---------|----------------|
| | Connection | | Material | Part No. | Type | | |
| | Thread | For tubing OD | | | | | |
| for exhaust air | | | | | | | |
|  | M5 | 3 | Metal design | 193 137 | GRLA-M5-QS-3-D | | |
| | | 4 | | 193 138 | GRLA-M5-QS-4-D | | |
| | | 6 | | 193 139 | GRLA-M5-QS-6-D | | |
| | G1/8 | 3 | | 193 142 | GRLA-1/8-QS-3-D | | |
| | | 4 | | 193 143 | GRLA-1/8-QS-4-D | | |
| | | 6 | | 193 144 | GRLA-1/8-QS-6-D | | |
| | | 8 | | 193 145 | GRLA-1/8-QS-8-D | | |
| | G1/4 | 6 | | 193 146 | GRLA-1/4-QS-6-D | | |
| | | 8 | | 193 147 | GRLA-1/4-QS-8-D | | |
| | | 10 | | 193 148 | GRLA-1/4-QS-10-D | | |
| | G3/8 | 6 | | 193 149 | GRLA-3/8-QS-6-D | | |
| | | 8 | | 193 150 | GRLA-3/8-QS-8-D | | |
| | | 10 | | 193 151 | GRLA-3/8-QS-10-D | | |
| | for supply air | | | | | | |
| |  | M5 | | 3 | Metal design | 193 153 | GRLZ-M5-QS-3-D |
| 4 | | | 193 154 | GRLZ-M5-QS-4-D | | | |
| 6 | | | 193 155 | GRLZ-M5-QS-6-D | | | |
| G1/8 | | 3 | 193 156 | GRLZ-1/8-QS-3-D | | | |
| | | 4 | 193 157 | GRLZ-1/8-QS-4-D | | | |
| | | 6 | 193 158 | GRLZ-1/8-QS-6-D | | | |
| | | 8 | 193 159 | GRLZ-1/8-QS-8-D | | | |