



- To increase force and torque capacity
- Greater torsional resistance
- Reduced vibrations with dynamic loads

Passive guide axes/Heavy-duty guides, without drive

Key features

FESTO

General

- Driveless linear guide unit with guide and freely movable slide
- Heavy-duty guides are designed to increase force and torque capacities in multi-axis applications
- Higher torsional resistance
- Reduced vibrations with dynamic loads
- Drive axes and passive guide axes/heavy-duty guides can be arranged adjacent to one another or above one another

Passive guide axis DGC-FA, can be combined with linear drive DGC

→ 4

Recirculating ball bearing guide



- Size 8 ... 63
- Stroke lengths of 1 ... 5,000 mm
- Load capacity to max. 6,890 N or 380 Nm
- Precision guidance, for DGC-KF
- Wide range of options for attaching drive units

Protected recirculating ball bearing guide



- Size 18 ... 40
- Stroke lengths of 1 ... 5,000 mm
- Load capacity to max. 6,890 N or 380 Nm
- Precision guidance, for DGC-KF
- Wide range of options for attaching drive units
- The protected guide cleans the guide rail and protects the recirculating ball bearing guide by means of an additional wiper seal and lubrication unit

Passive guide axis FDG, can be combined with toothed belt axis DGE-ZR-RF

→ 28

Roller bearing guide



- Size 25 ... 63
- Stroke lengths of 1 ... 5,000 mm, depending on the version
- Load capacity to max. 1,500 N or 600 Nm
- Precision, rigid guide, suitable for DGE-ZR-RF
- Standard slide or extended slide, depending on the version
- Wide range of options for attaching drive units
- System product for handling and assembly technology

Passive guide axis FDG, can be combined with linear drive DGPL/DGPIL or toothed belt axis DGE-ZR/spindle axis DGE-SP

→ 44

Recirculating ball bearing guide



- Size 18 ... 63
- Stroke lengths of 1 ... 5,100 mm, depending on the version
- Load capacity to max. 14,050 N or 1,820 Nm
- Precision, rigid guide, suitable for DGPL-KF and DGE-KF
- Standard slide or extended slide, depending on the version
- Wide range of options for attaching drive units
- System product for handling and assembly technology
- Optional with additional slide

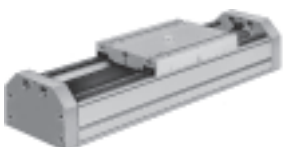
Protected version



- Sizes 25, 32, 40
- Stroke lengths of 1 ... 2,000 mm
- Load capacity to max. 7,300 N or 330 Nm
- Guide and slide are fitted with a cover to protect against the ingress of particles from above and from the side
- Wide range of options for attaching drive units
- System product for handling and assembly technology

Heavy-duty guide HD

→ 66

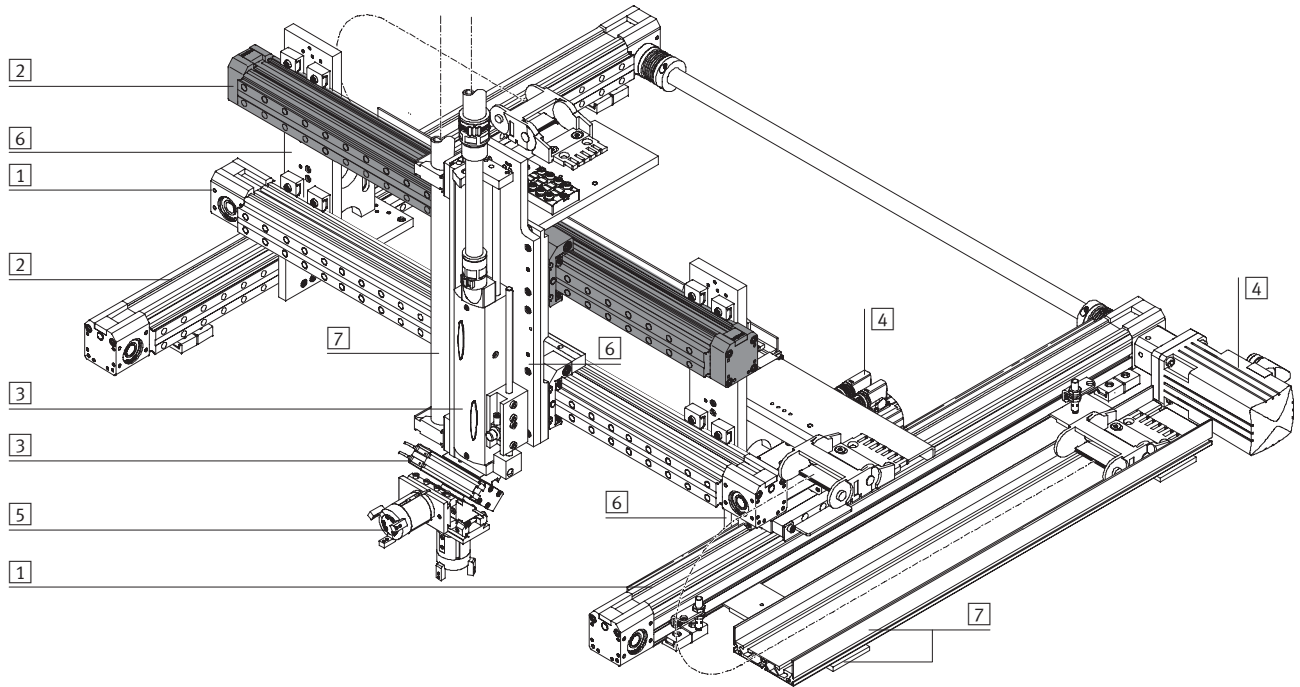


- Size HD8 ... HD40
- Stroke lengths of 10 ... 2,160 mm
- Load capacity to max. 5,600 N or 560 Nm
- Stable construction, greater rigidity
- High guide precision thanks to machined surfaces
- Wide range of options for attaching drive units

Passive guide axes/Heavy-duty guides, without drive

System example

System product for handling and assembly technology




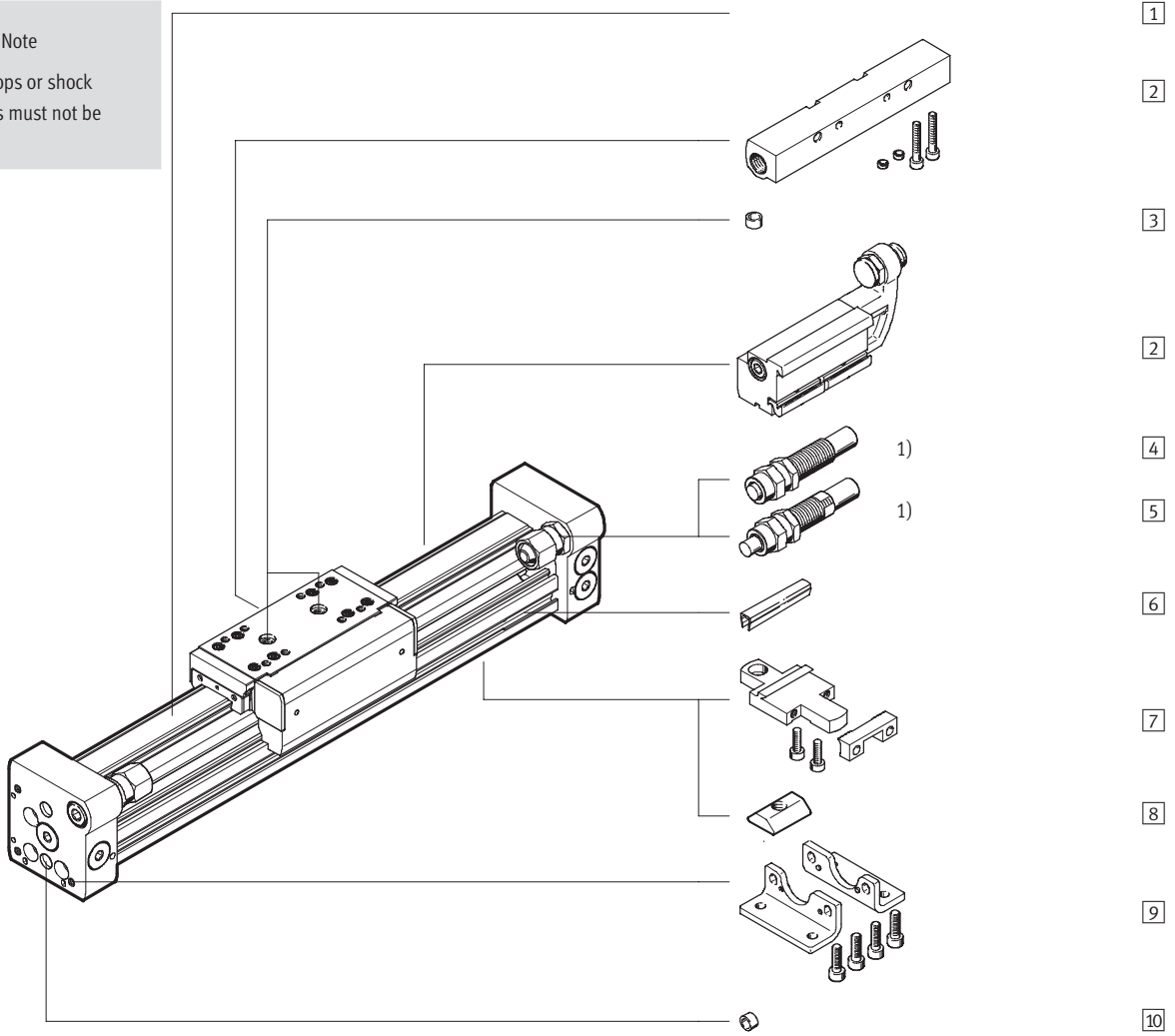
| System elements and accessories | | |
|---------------------------------|-------------------------|---|
| | Brief description | → Page/Internet |
| 1 | Axes | Wide range of combinations possible within handling and assembly technology axes |
| 2 | Passive guide axes | To increase force and torque capacity in multi-axis applications guide axes |
| 3 | Drive units | Wide range of combinations possible within handling and assembly technology drive |
| 4 | Motors | Servo and stepper motors, with or without gear unit motor |
| 5 | Grippers | Diverse variation options in handling and assembly technology gripper |
| 6 | Adapters | For drive/drive and drive/gripper combinations adapter kit |
| 7 | Installation components | For achieving a clear-cut, safe layout for electrical cables and tubing installation component |

Passive guide axes DGC-FA, without drive

Peripherals overview



-  - Note
 1) End stops or shock absorbers must not be removed.



Passive guide axes DGC-FA, without drive

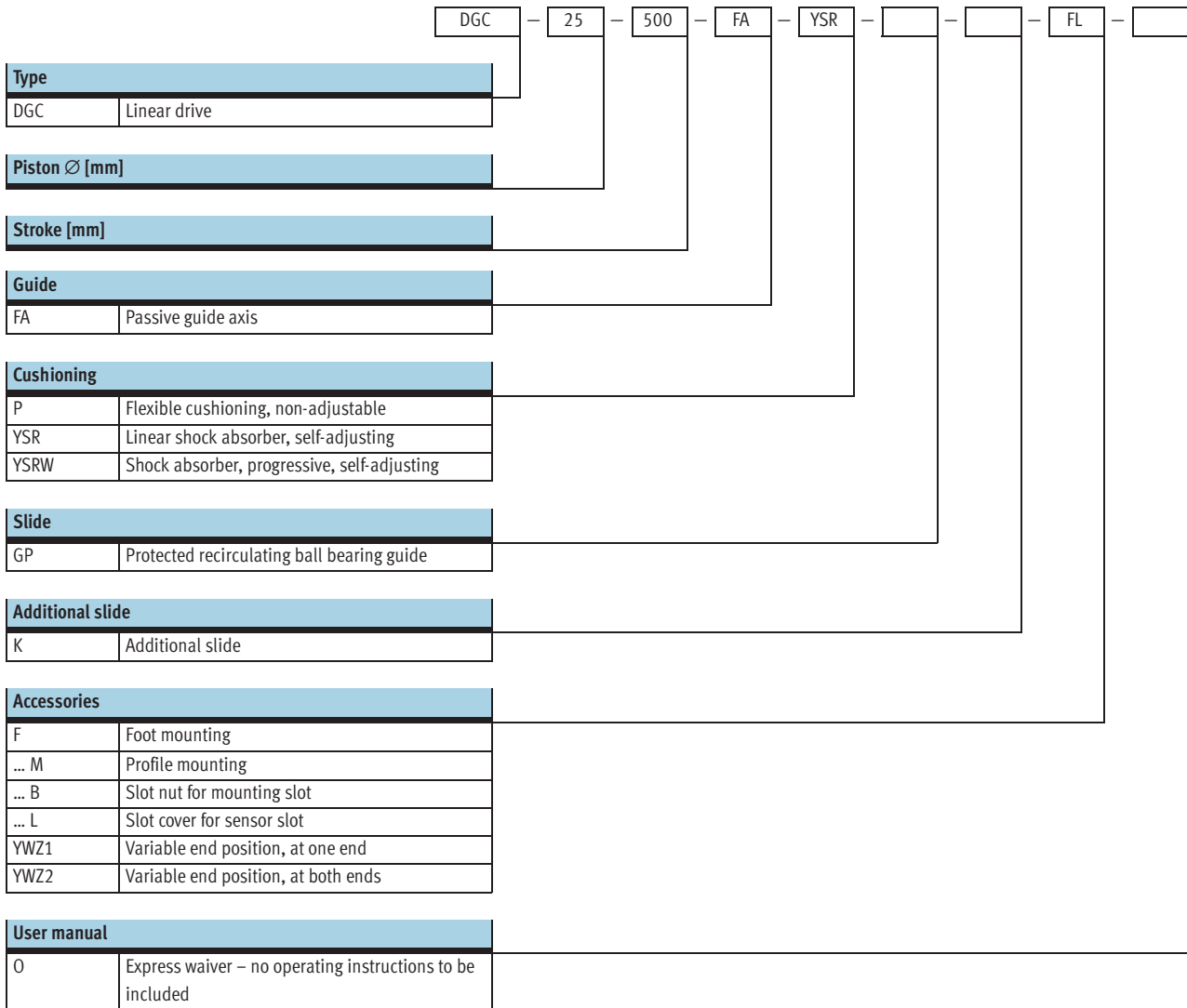
Peripherals overview

| Variants and accessories | | |
|--|--|-----------------|
| Type | Brief description | → Page/Internet |
| 1) Passive guide axes DGC-FA | Passive guide axis without accessories | 5 / 3.1-6 |
| 2) Mechanical end position limiter YWZ | For variable end position adjustment, e.g. for format adjustments | 25 |
| 3) Centring pin/sleeve ¹⁾ ZBS/ZBH | For centring loads and attachments on the slide | 27 |
| – Cushioning P | Non-adjustable, flexible cushioning. Only used for low speeds | 5 / 3.1-19 |
| 4) Shock absorber YSR | Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic | 5 / 3.1-19 |
| 5) Shock absorber YSRW | Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic | 5 / 3.1-19 |
| 6) Slot cover L | For protecting against ingress of dirt and securing proximity sensor cables | 27 |
| 7) Profile mounting M | Simple and precise mounting option via dovetail connection | 24 |
| 8) Slot nut B | For mounting attachments | 27 |
| 9) Foot mounting F | For mounting on end cap | 20 |
| 10) Centring pin/sleeve ¹⁾ ZBS/ZBH | For centring the drive DGC without foot mountings (user-specific) | 27 |

1) Included in the scope of delivery for the axis



Passive guide axes DGC-FA, without drive

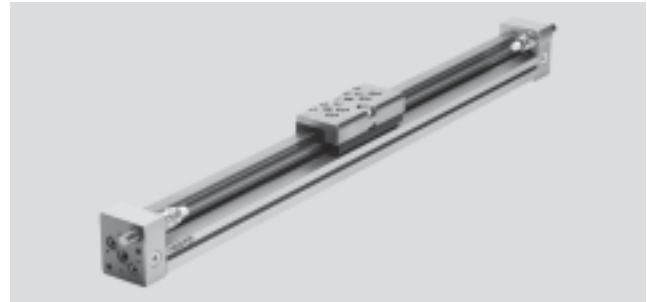
Type codes



Passive guide axes DGC-FA, without drive

Technical data

-  - Diameter
8 ... 63 mm
-  - Stroke length
1 ... 8,500 mm



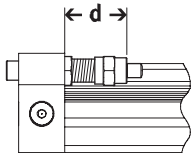
| General technical data | | | | | | | | |
|--------------------------|---|-------------|-------------|-------------|----|----|----|----|
| Piston \varnothing | 8 | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
| Stroke [mm] | 1 ... 1,300 | 1 ... 1,900 | 1 ... 3,000 | 1 ... 5,000 | | | | |
| Guide | External recirculating ball bearing guide | | | | | | | |
| Mounting position | Any | | | | | | | |
| Cushioning | Non-adjustable at either end | | | | | | | |
| →9 | Self-adjusting at both ends | | | | | | | |
| Type of mounting | Profile mounting | | | | | | | |
| | Foot mounting | | | | | | | |
| | Direct mounting | | | | | | | |
| Max. speed [m/s] | 1 | 1.2 | 3 | | | | | |
| Repetition accuracy [mm] | 0.02 (with shock absorber YSR/YSRW) | | | | | | | |

| Operating and environmental conditions | |
|--|-------------|
| Ambient temperature [°C] | -10 ... +60 |
| Corrosion resistance class CRC ¹⁾ | 1 |

1) Corrosion resistance class 1 to Festo standard 940 070
Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers

| Weights [g] | | | | | | | | |
|------------------------------------|-----|-----|-----|-------|-------|-------|--------|--------|
| Piston \varnothing | 8 | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
| Basic weight per 0 mm stroke | 225 | 391 | 975 | 2,113 | 2,837 | 6,996 | 13,342 | 22,220 |
| Additional weight per 10 mm stroke | 11 | 16 | 31 | 49 | 47 | 117 | 153 | 236 |
| Moving load | 77 | 149 | 331 | 732 | 1,146 | 2,330 | 4,511 | 8,225 |

Adjustable end position range d [mm]



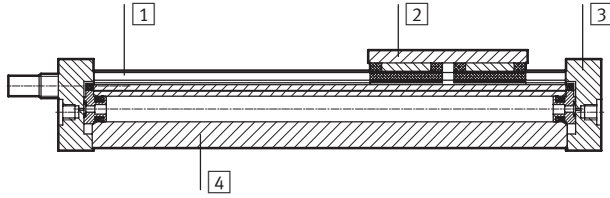
| | | | | | | | | |
|-----------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Piston \varnothing | 8 | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
| Cushioning P | 11.3 ... 16.3 | 12.7 ... 17.7 | 13.8 ... 15.8 | 21.1 ... 25.1 | 25.2 ... 30.2 | 28.7 ... 33.7 | 28.7 ... 33.7 | 38.8 ... 43.8 |
| Protected guide with cushioning P | - | - | 16.9 ... 18.9 | 23.6 ... 27.6 | 25.2 ... 30.2 | 34.7 ... 39.7 | - | - |
| Cushioning YSR/YSRW | 12.8 ... 22.8 | 14 ... 24 | 14.5 ... 34.5 | 22.5 ... 47.5 | 27.3 ... 37.3 | 31 ... 56 | 31 ... 56 | 41 ... 76 |

Passive guide axes DGC-FA, without drive

Technical data

Materials

Sectional view

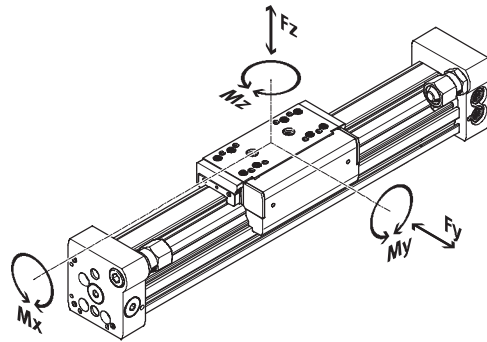


| Passive guide axes | | |
|--------------------|-----------------|--------------------|
| 1 | Guide rail | High-alloy steel |
| 2 | Slide | High-alloy steel |
| 3 | End cap | Anodised aluminium |
| 4 | Cylinder barrel | Anodised aluminium |
| - | Sealing band | Polyurethane |

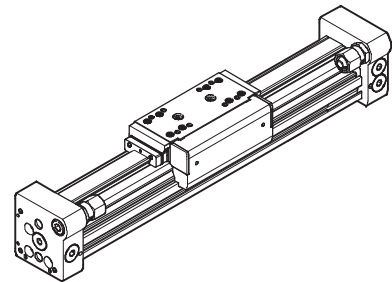
Characteristic load values

The indicated forces and torques refer to the centre of the slide surface.

They must not be exceeded in the dynamic range. Special attention must be paid to the cushioning phase.



GP – Protected guide



If the drive is subjected to more than two of the indicated forces and torques simultaneously, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} + \frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} \leq 1$$

Permissible forces and torques

| Piston Ø | 8 | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
|--------------------------|-----|-----|-------|-------|-------|-------|-------|--------|
| F _y max. [N] | 300 | 650 | 1,850 | 3,050 | 3,310 | 6,890 | 6,890 | 15,200 |
| F _z max. [N] | 300 | 650 | 1,850 | 3,050 | 3,310 | 6,890 | 6,890 | 15,200 |
| M _x max. [Nm] | 1.7 | 3.5 | 16 | 36 | 54 | 144 | 144 | 529 |
| M _y max. [Nm] | 4.5 | 10 | 51 | 97 | 150 | 380 | 634 | 1,157 |
| M _z max. [Nm] | 4.5 | 10 | 51 | 97 | 150 | 380 | 634 | 1,157 |

-  - Note

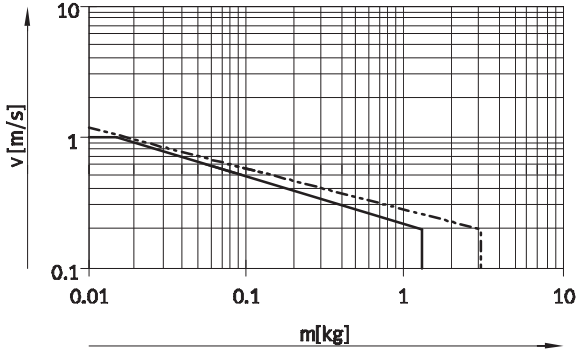
Sizing software
ProDrive
→ www.festo.com

Passive guide axes DGC-FA, without drive

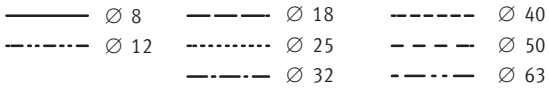
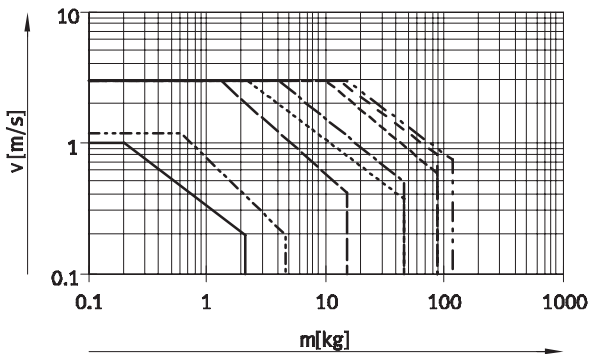
Technical data

Maximum permissible slide speed v as a function of effective load m

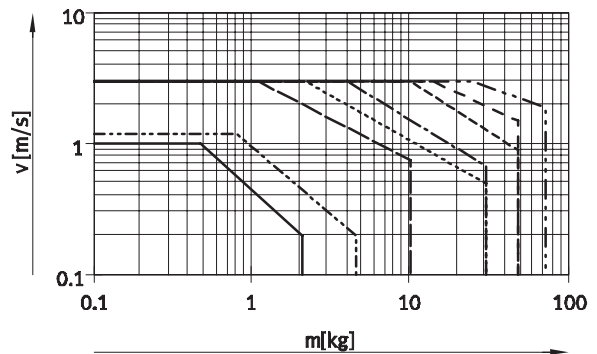
Piston \varnothing 8/12 with P cushioning



Piston \varnothing 8 ... 40 with YSR cushioning



Piston \varnothing 8 ... 40 with YSRW cushioning



Note

This data represents the maximum values that can be achieved. Values fluctuate in practice relative to the position of the effective load and mounting position.

Operating range of cushioning

The end position cushioning must be adjusted to ensure jerk-free operation. If the operating conditions are outside the permissible range, the

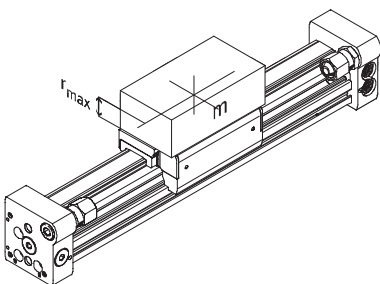
load to be moved must be cushioned using suitable equipment (shock absorbers, stops, etc.), preferably at the centre of gravity of the mass.

Note

To avoid distortion in the slide, the bearing surfaces of the attachments must maintain a flatness of 0.01 mm.

The data applies to a horizontal mounting position:

| Piston \varnothing | 8 | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
|-------------------------|----|----|----|----|----|----|----|----|
| Distance r_{max} [mm] | 25 | 35 | 35 | 50 | 50 | 50 | 50 | 50 |



Passive guide axes DGC-FA, without drive

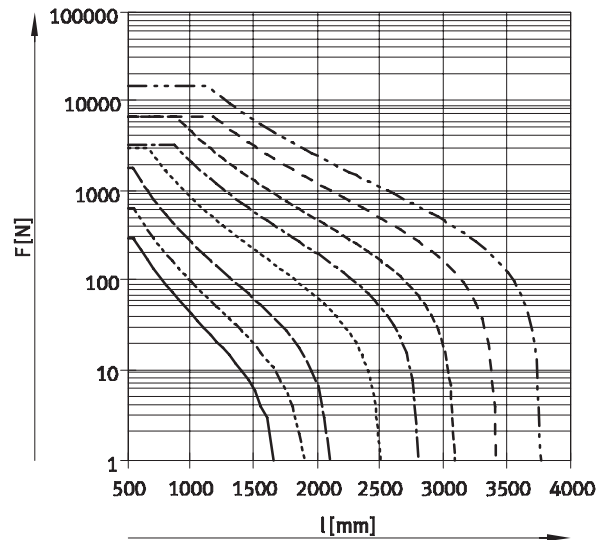
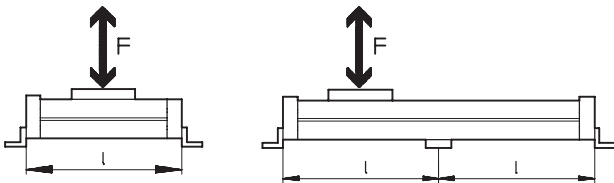
Technical data



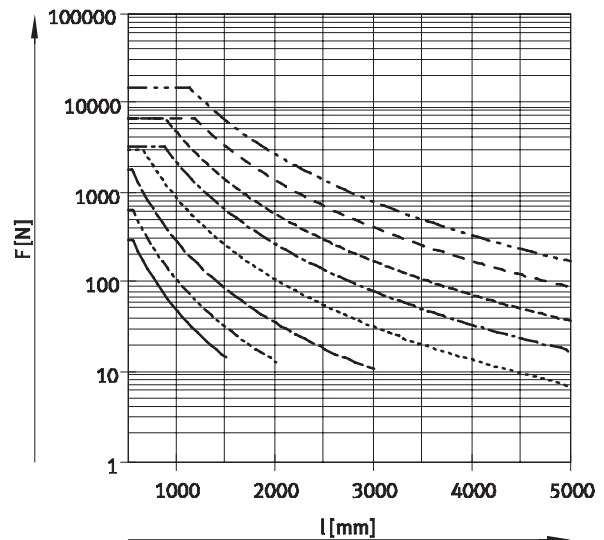
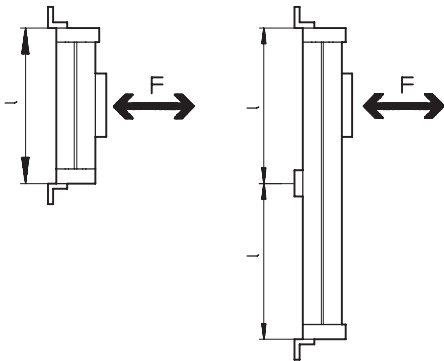
Number of profile mountings MUC dependent on force due to weight F and support span l

In order to limit deflection in the case of large strokes, the guide axis may need to be supported. The following diagrams serve to determine the maximum permissible support span as a function of the mounting position and the perpendicular force.

Horizontal mounting position



Vertical mounting position



Example:

The guide axis DGC-25-1500 is subjected to a force of 300 N in the horizontal mounting position.

The axis has an overall length of:
 $l = \text{stroke length} + L1$
 (see dimensions)
 $= 1,500 \text{ mm} + 200 \text{ mm}$
 $= 1,700 \text{ mm}$

According to the diagram, the max. support span is 1,300 mm for the axis DGC-25 with a force of 300 N.

In this example, profile mountings are required as the max. support span (1,300 mm) is smaller than the overall length of the axis (1,700 mm).

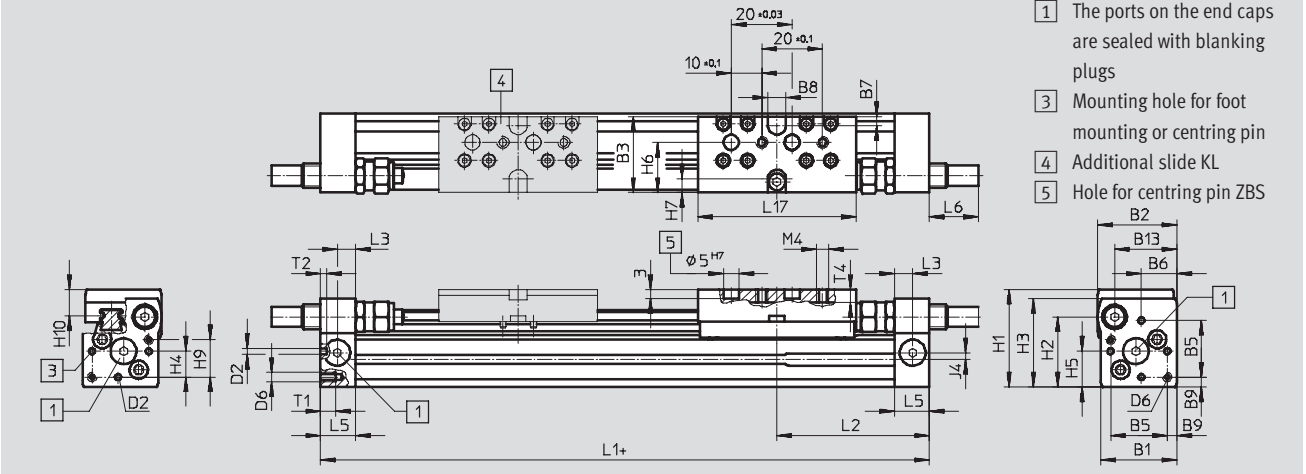
Passive guide axes DGC-FA, without drive

Technical data

Dimensions

Download CAD data → www.festo.com

∅ 8 and 12



- + plus stroke length
- 1 The ports on the end caps are sealed with blanking plugs
- 3 Mounting hole for foot mounting or centring pin
- 4 Additional slide KL
- 5 Hole for centring pin ZBS

| ∅ | B1 | B2 | B3 | B5 | B6 | B7 | B8 | B9 | B13 | D2 | D6 |
|------|------|----|----|------|------|----|-------|------|------|------|----|
| [mm] | | | | | | | ±0.05 | ±0.1 | | ∅ H8 | |
| 8 | 25 | 26 | 25 | 18.6 | 11.7 | 3 | 6 | 3.2 | 20.5 | 2 | M3 |
| 12 | 30.2 | 31 | 31 | 20.6 | 13.5 | 3 | 8 | 4.8 | 25 | 2 | M4 |

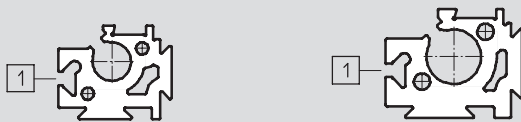
| ∅ | H1 | H2 | H3 | H4 | H5 | H6 | H7 | H9 | H10 | J4 | L1 |
|------|------|------|------|-----|------|------|-----|------|-----|-----|---------------|
| [mm] | | | | | | | | | | | +0.5/ -0.4 |
| 8 | 32 | 23 | 29 | 8.5 | 11.7 | 16.5 | 4.5 | 12.3 | 8.7 | 2.2 | 100 |
| 12 | 37.5 | 28.5 | 34.5 | 8.7 | 13.5 | 20.5 | 5 | 14.7 | 9.8 | 3 | 125 |

| ∅ | L2 | L3 | L5 | L6 | | | L17 | T1 | T2 | T4 | Stroke tolerance |
|------|------|----|------|----|------|------|-----|----|----|-----|------------------|
| | | | | P | YSR | YSRW | | | | | |
| [mm] | | | | | | | | | | | |
| 8 | 50.1 | 6 | 11.5 | 0 | 16 | 16.2 | 52 | 5 | 2 | 4.3 | 0 ... 1.7 |
| 12 | 62.1 | 8 | 16 | 0 | 11.3 | 12.3 | 65 | 6 | 2 | 5 | |

Profile barrel

∅ 8

∅ 12



1 Sensor slot for proximity sensor

Passive guide axes DGC-FA, without drive

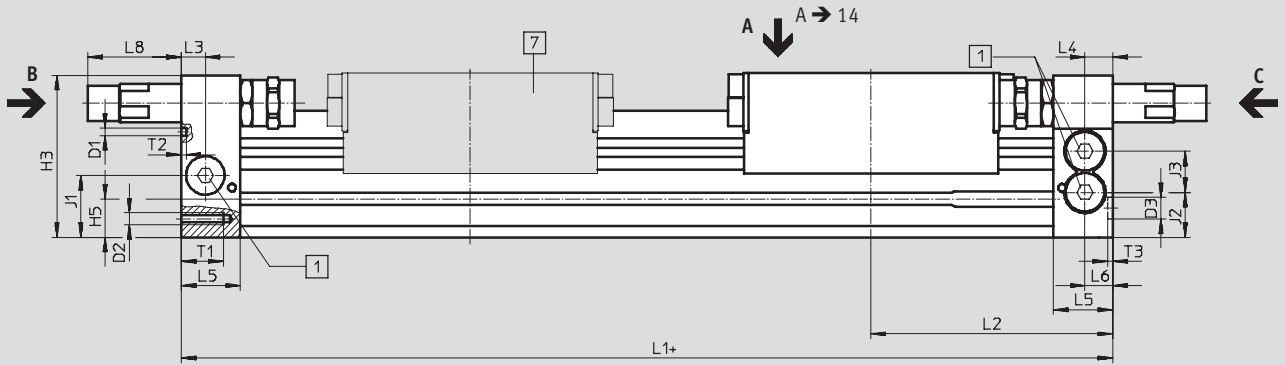
Technical data

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Dimensions

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Ø 18 ... 40



View C

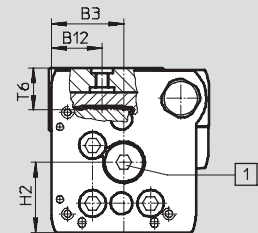
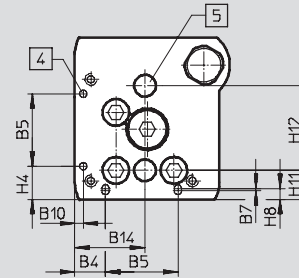
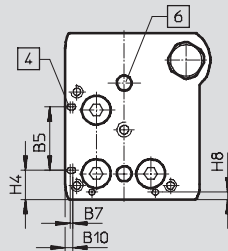
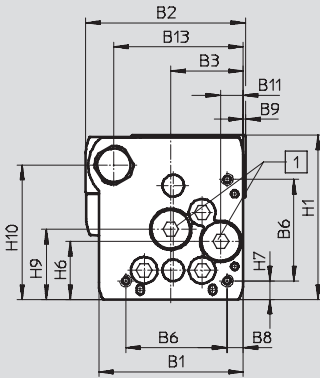
Ø 18 ... 40

View B

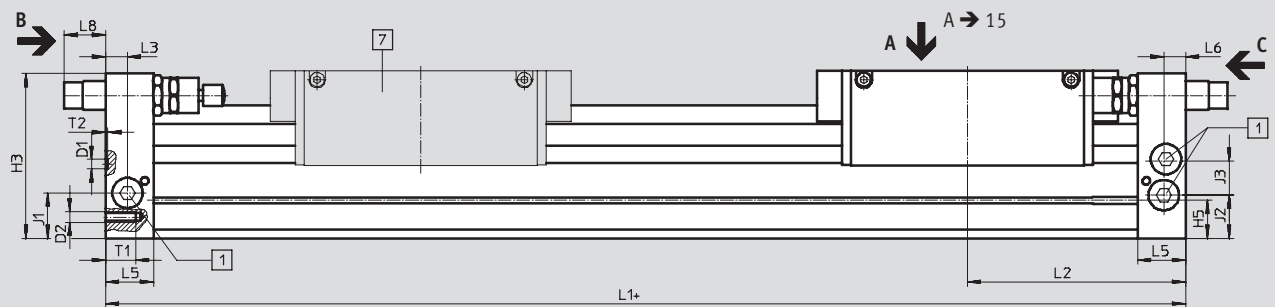
Ø 18

Ø 25 ... 40

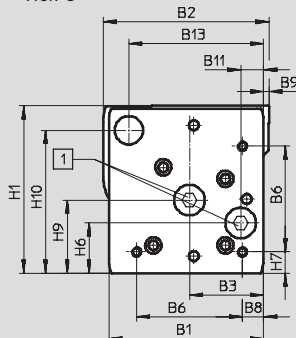
Ø 18 ... 40



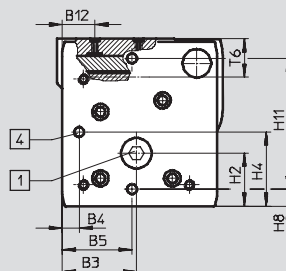
Ø 50/63



View C



View B



- + plus stroke length
- 1 The ports on the end caps are sealed with blanking plugs
- 4 Mounting hole for foot mounting HPC
- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS
- 7 Additional slide

Passive guide axes DGC-FA, without drive

Technical data

| ∅ [mm] | B1 | B2 | B3 | B4 | B5 ±0.05 | B6 | B7 | B8 | B9 | B10 | B11 | B12 |
|-----------|------|-------|------|-------|-------------|------|-----|------|-----|-----|------|------|
| 18 | 44.5 | 49.9 | 19.5 | 8.8 | 21 | 31 | 0.8 | 3.8 | 1 | 2.4 | 5.5 | 15.5 |
| 25 | 59.8 | 66 | 30 | 12.65 | 30 | 42 | 1 | 6.65 | 1 | 3.5 | 9.3 | 21 |
| 32 | 73 | 79 | 38.5 | 5.7 | 63.1 | 57.5 | – | 8.5 | 1.5 | 14 | 14.9 | 18 |
| 40 | 91 | 98.5 | 45 | 17.2 | 55 | 65 | – | 12.2 | 2 | 8 | 16.5 | 24.8 |
| 50 | 113 | 126.5 | 60 | 8 | 52.8 | 81.6 | – | 12 | 0 | – | 21 | 24 |
| 63 | 142 | 149 | 68 | 15.5 | 68 | 97 | – | 19.5 | 5 | – | 21 | 30 |

| ∅ [mm] | B13 | B14 | D1 ∅ ±0.05 | D2 | D3 ∅ H7 | H1 | H2 | H3 | H4 ±0.2 | H5 | H6 |
|-----------|-------|------|------------------|-----|---------------|-------|------|-------|------------|------|------|
| 18 | 39 | 19.5 | 2±0.05 | M4 | 5 | 56.3 | 23.1 | 55 | 9.6 | 13.4 | 20 |
| 25 | 53 | 30 | 3±0.05 | M5 | 9 | 68 | 29 | 67 | 13.65 | 15.8 | 24 |
| 32 | 65 | 38.5 | 3±0.05 | M6 | 9 | 78.5 | 30 | 77 | 5.7 | 17 | 27.7 |
| 40 | 80.5 | 45 | 4±0.05 | M6 | 9 | 99.5 | 41.5 | 97.5 | 17.2 | 25 | 36.5 |
| 50 | 97 | – | 9 ^{H7} | M8 | – | 124.5 | 38.5 | 122.5 | 52.8 | 29.3 | 36 |
| 63 | 123.5 | – | 9 ^{H7} | M10 | – | 153.5 | 48.5 | 151 | 68 | 34.8 | 46 |

| ∅ [mm] | H7 | H8 | H9 | H10 | H11 | H12 ±0.05 | J1 | J2 | J3 | L1 | |
|-----------|------|------|------|-------|------------|--------------|------|------|------|-----------------|--------------------|
| | | | | | | | | | | KF +0.9/–0.2 | KF-GP +0.9/–0.2 |
| 18 | 4.6 | 2.4 | 25.2 | 46 | 8.5±0.15 | 30 | 20 | 16.5 | 11 | 150 | 157 |
| 25 | 7.65 | 4.5 | 29 | 55.5 | 12±0.15 | 35 | 26.1 | 18.6 | 17 | 200 | 205 |
| 32 | 8.5 | 14 | 35.2 | 63.8 | 11.45±0.15 | 50 | 30 | 22 | 18.5 | 250 | 250 |
| 40 | 12.2 | 8 | 44 | 81.5 | 15±0.15 | 60 | 35 | 26 | 26 | 300 | 312 |
| 50 | 12 | 8 | 53 | 104.5 | 100±0.05 | – | 30.5 | 30.5 | 28 | 350 | – |
| 63 | 19.5 | 15.5 | 67 | 131 | 120±0.05 | – | 41.5 | 39.5 | 31.5 | 400 | – |

| ∅ [mm] | L2 | | L3 | L4 | L5 | L6 | L8 | | T1 | T2 | T3 +0.2 | T6 | Stroke tolerance |
|-----------|-------|-------|------|------|------|------|------|------|------|---------------------|------------|-------|------------------|
| | KF | KF-GP | | | | | YSR | YSRW | | | | | |
| 18 | 74.5 | 78 | 5.7 | 5.8 | 15 | 5.5 | 29.9 | 32.4 | 9 | 2 | 3.1 | 15 | 0 ... 2.5 |
| 25 | 100 | 102.5 | 10.5 | 10.6 | 24.5 | 10.6 | 35.6 | 38.6 | 17.5 | 2 | 2.1 | 17.3 | |
| 32 | 124.8 | 124.8 | 14.5 | 14.5 | 30.5 | 14.5 | 19.5 | 28 | 15 | 2 | 2.1 | 20 | |
| 40 | 150 | 156 | 14.6 | 14.6 | 33.5 | 14.6 | 38.5 | 43.5 | 20 | 3 | 2.1 | 25.7 | |
| 50 | 175 | – | 17 | – | 41 | 17 | 31 | 36.3 | 24 | 2.1 ^{+0.2} | – | 28.75 | |
| 63 | 200 | – | 20 | – | 44 | 20 | 38.3 | 48.3 | 27.5 | 2.1 ^{+0.2} | – | 36.1 | |

Passive guide axes DGC-FA, without drive

Technical data

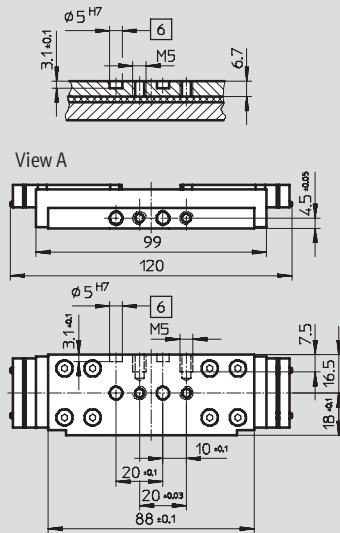
FESTO

Dimensions

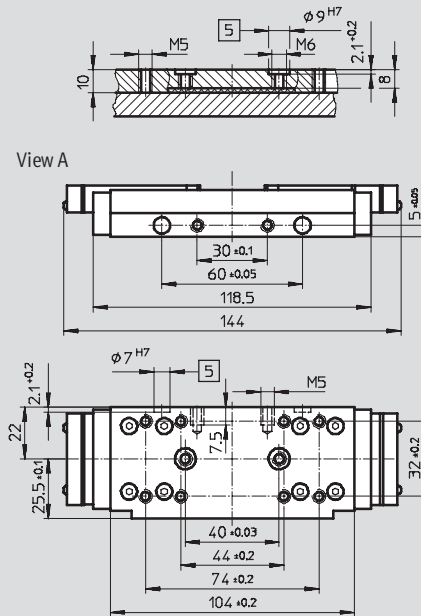
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Slide

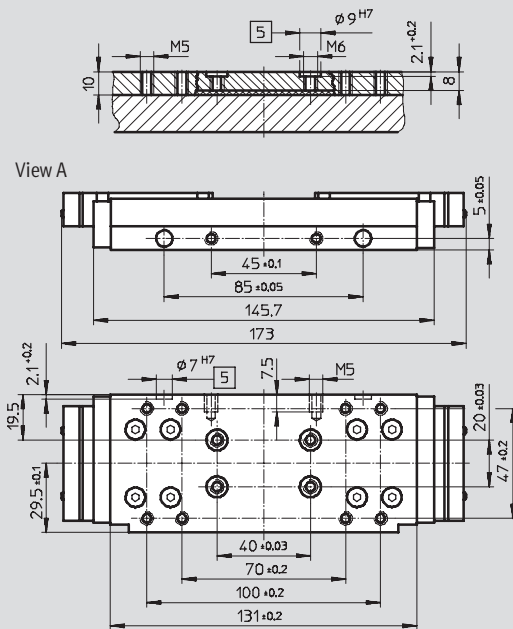
Ø 18



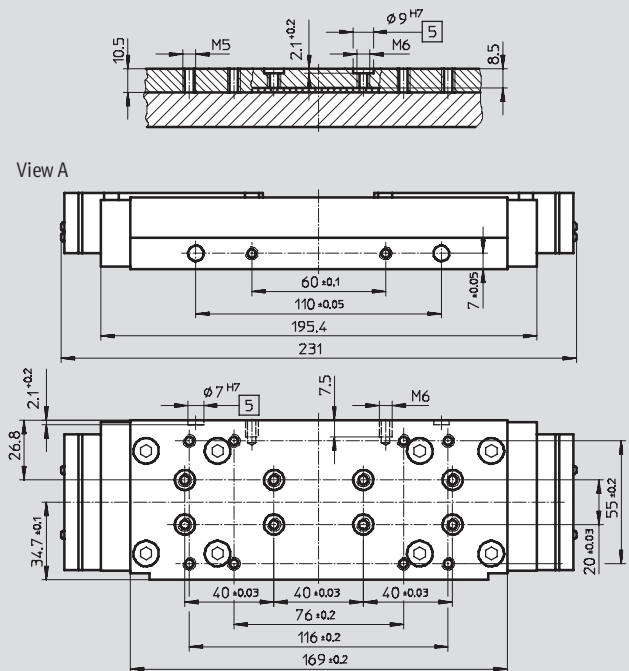
Ø 25



Ø 32



Ø 40



- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS

Passive guide axes DGC-FA, without drive

Technical data

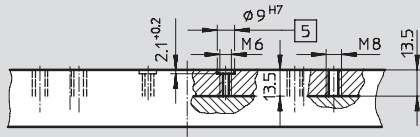
FESTO

Dimensions

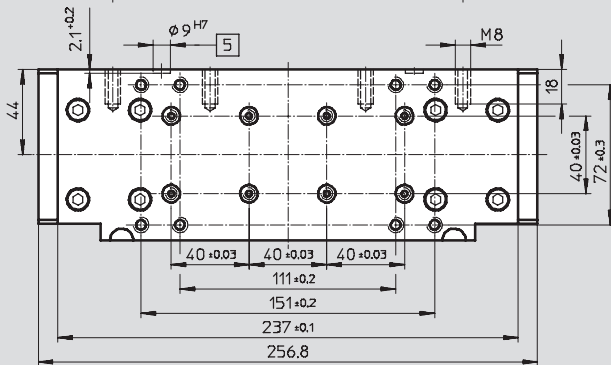
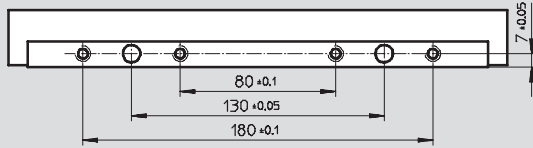
Download CAD data → www.festo.com

Slide

Ø 50

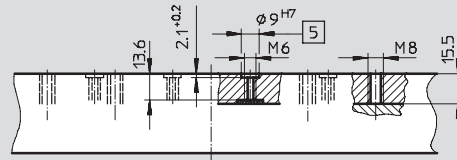


View A

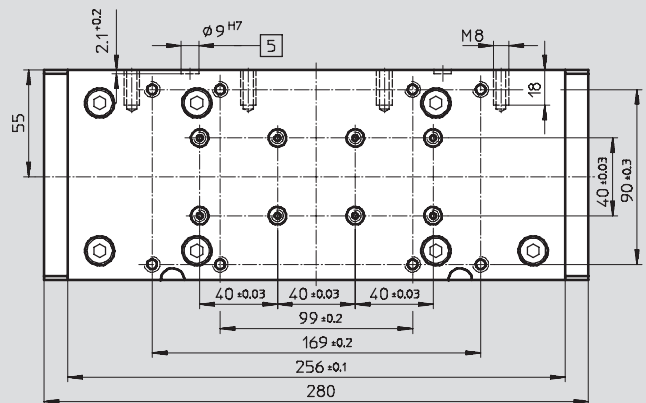
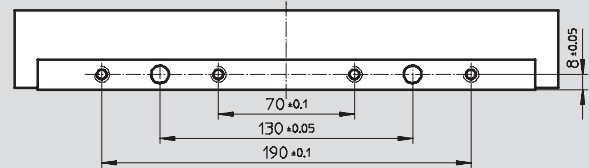


- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS

Ø 63



View A



Passive guide axes DGC-FA, without drive

Technical data

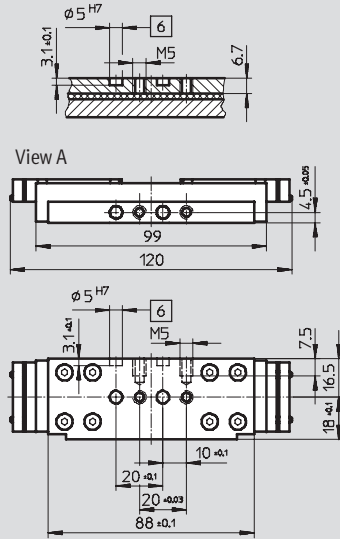
FESTO

Dimensions

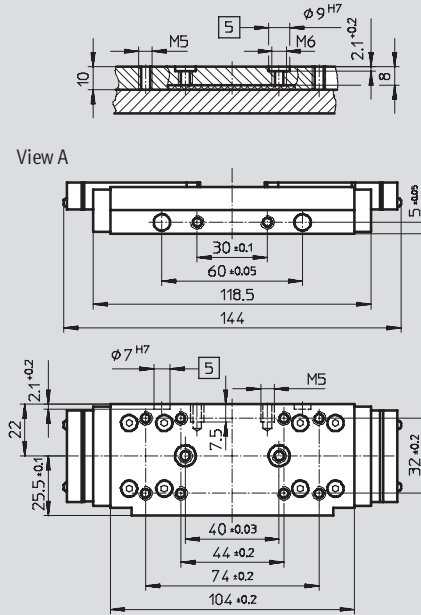
Download CAD data → www.festo.com

Slide, variant GP – Protected recirculating ball bearing guide

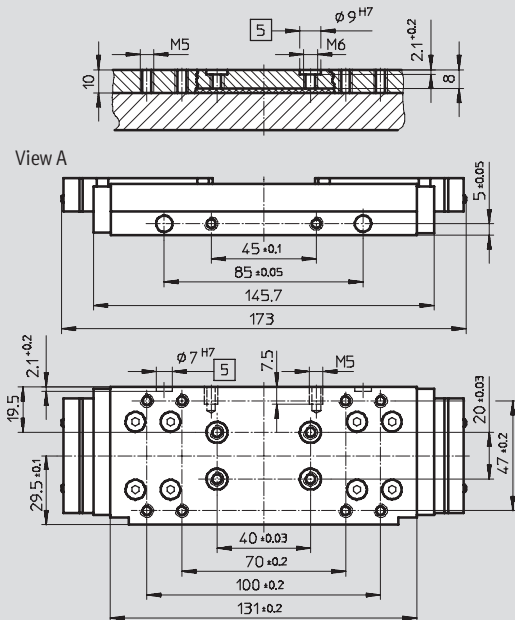
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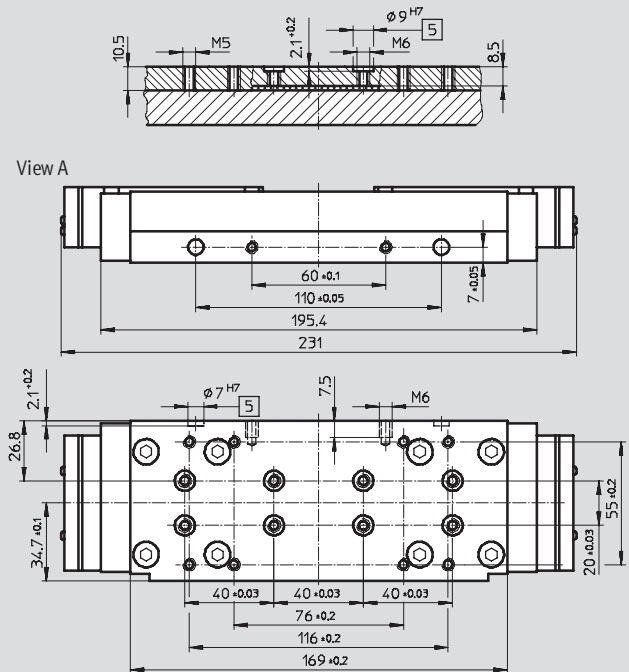
Ø 25



Ø 32



Ø 40



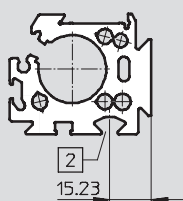
- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS

Passive guide axes DGC-FA, without drive

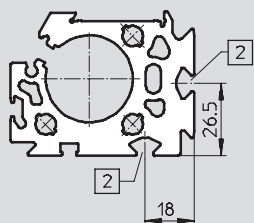
Technical data

Profile barrel

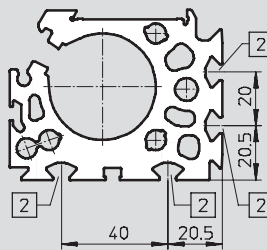
Ø 25



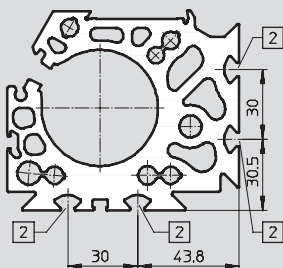
Ø 32



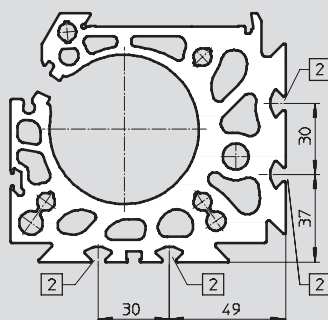
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


Ø 50



Ø 63



 Mounting slot for slot nut

Passive guide axes DGC-FA, without drive

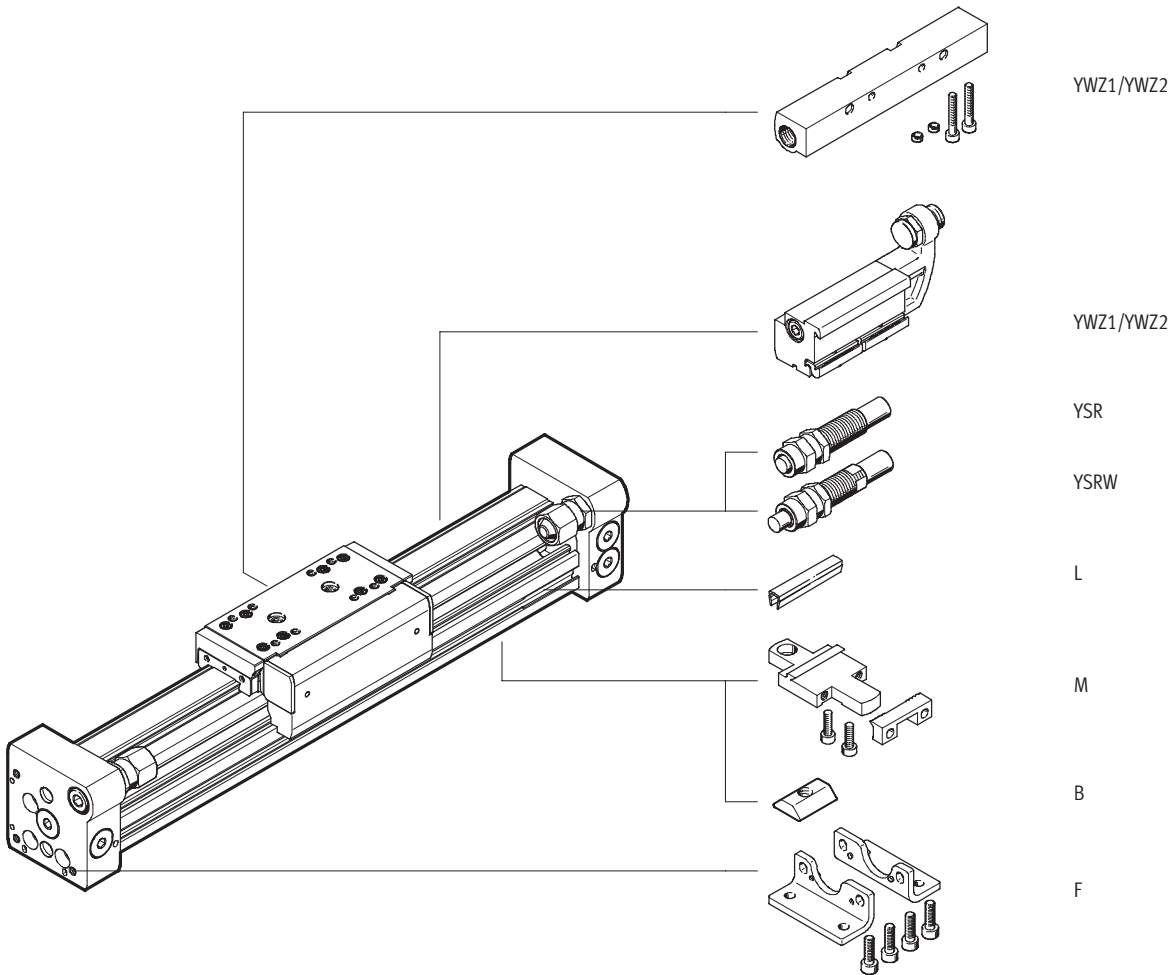
Ordering data – Modular products



System components
Passive guide axes

3.1

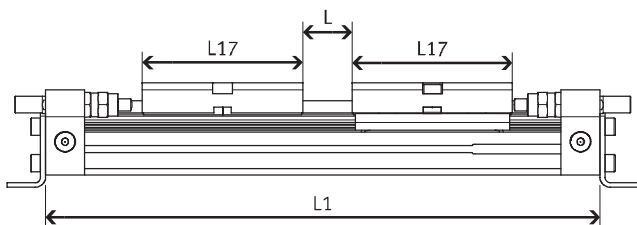
Order code Mandatory data/options



Effective stroke reduction when ordering an additional slide K

For a guide axis DGC with additional slide, the effective stroke is reduced by the length of the additional slide and the distance between both slides.

Given:
DGC-12-500-...
L = 20 mm
L17 = 65 mm



| ∅ [mm] | 8 | 12 | 18 | 25 | 32 | 40 | 50 | 63 |
|--------|----|----|----|-------|-------|-------|-------|-----|
| L17 | 52 | 65 | 99 | 118.5 | 145.7 | 195.4 | 256.8 | 280 |

The effective stroke is reduced to
415 mm = 500 mm – 20 mm – 65 mm

Passive guide axes DGC-FA, without drive

Ordering data – Modular products



| M Mandatory data | | | | O Options | | | | | | |
|----------------------|----------|--------|-------------|------------------|----------------------------|-------------|------|-------|-------|---|
| Module No. | Function | Stroke | Guide | Slide | Accessories | User manual | | | | |
| | Piston Ø | | Cushioning | Additional slide | Accessories supplied loose | | | | | |
| 530 906 | DGC | 8 | 1 ... 5 000 | FA | P | GP | ...K | F | 0 | |
| 530 907 | | 12 | | | YSR | | | ...M | | |
| 532 446 | | 18 | | | YSRW | | | ...B | | |
| 532 447 | | 25 | | | | | | ...L | | |
| 532 448 | | 32 | | | | | | YWZ1 | | |
| 532 449 | | 40 | | | | | | YWZ2 | | |
| 532 450 | | 50 | | | | | | | | |
| 532 451 | | 63 | | | | | | | | |
| Order example | | | | | | | | | | |
| 530 906 | DGC | - 8 | - 250 | - FA | - YSR | - | - 1K | - ZUB | - F3M | - |

| Ordering table | | | | | | | | | | | |
|---------------------------------|---|------------|--|------------|---------|---------|---------|---------|-------------|-------|------------|
| Size | 8 | 12 | 18 | 25 | 32 | 40 | 50 | 63 | Condi-tions | Code | Enter code |
| M Module No. | 530 906 | 530 907 | 532 446 | 532 447 | 532 448 | 532 449 | 532 450 | 532 451 | | | |
| Function | Driveless linear unit | | | | | | | | | DGC | DGC |
| Piston Ø [mm] | 8 | 12 | 18 | 25 | 32 | 40 | 50 | 63 | -... | | |
| Stroke [mm] | 1 ... 1300 | 1 ... 1900 | 1 ... 3000 | 1 ... 5000 | | | | | [1] | -... | |
| Guide | Passive guide axis without drive | | | | | | | | | -FA | -FA |
| Cushioning | Flexible cushioning rings/pads at both ends | | | | | | | | | -P | |
| | Shock absorber, self-adjusting | | | | | | | | | -YSR | |
| | Shock absorber, self-adjusting, progressive | | | | | | | | | -YSRW | |
| O Slide | - | - | Protected recirculating ball bearing guide | | | - | - | | [2] | -GP | |
| Additional slide | 1 ... 2 | | | | | | | | [3] | -...K | |
| Accessories | Supplied loose (can be retrofitted) | | | | | | | | | ZUB- | ZUB- |
| Foot mounting | 1 | | | | | | | | | F | |
| Profile mounting | 1 ... 9 | | | | | | | | | ...M | |
| Slot nut for mounting slot | - | - | - | 1 ... 9 | | | | | | ...B | |
| Slot cover for sensor slot | - | - | 1 ... 9 | | | | | | | ...L | |
| Mechanical end position limiter | Variable end position, at one end | | | | | | | | | [4] | YWZ1 |
| | Variable end position, at both ends | | | | | | | | | [4] | YWZ2 |
| User manual | Express waiver – no operating instructions to be included (already available) | | | | | | | | | -O | |

- [1] **Stroke** Size 25, 32, 40: Strokes up to 8,500 mm on request
- [2] **GP** Not with cushioning YSR and YSRW
Not with additional slide K
- [3] **K** For a guide axis DGC with additional slide, the effective stroke is reduced by the length of the additional slide and the distance between both slides.
Not with cushioning P
- [4] **YWZ1, YWZ2** Only with cushioning YSR or YSRW

Transfer order code

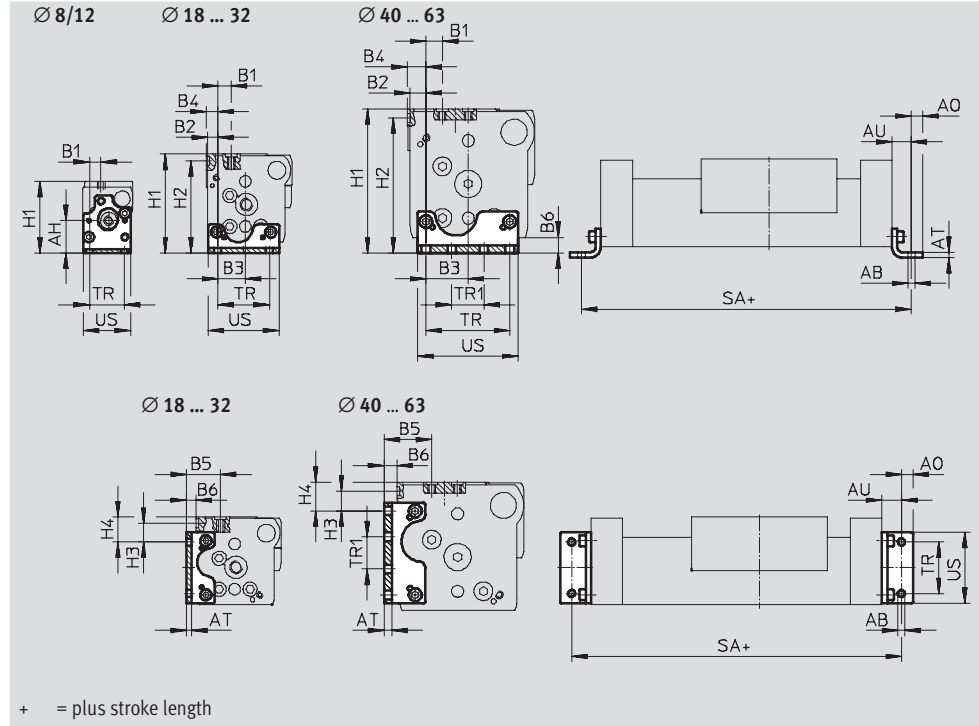
Passive guide axes DGC-FA, without drive

Accessories

FESTO

Foot mounting HPC
(order code: F)

Material:
Galvanised steel



| Dimensions and ordering data | | | | | | | | | | | | |
|------------------------------|-----|------|------|----|-------|-------|------|-------|------|------|-----|-------|
| For Ø | AB | AH | AO | AT | AU | B1 | B2 | B3 | B4 | B5 | B6 | H1 |
| [mm] | Ø | | | | | | | | | | | |
| 8 | 3.4 | 16.7 | 3 | 2 | 9 | 6 | - | - | - | - | - | 37 |
| 12 | 4.5 | 18.5 | 4.5 | 2 | 11.5 | 5.4 | - | - | - | - | - | 42.5 |
| 18 | 5.5 | - | 6.75 | 3 | 13.25 | 11.2 | 4.3 | 15.2 | 5.3 | 23.2 | 6.7 | 64 |
| 25 | 5.5 | - | 9 | 4 | 15 | 13.35 | 7.65 | 21.35 | 8.65 | 29.5 | 7.5 | 76.5 |
| 32 | 6.6 | - | 10 | 5 | 19 | 11.5 | 9 | 29.5 | 10.5 | 27 | 7.5 | 87.5 |
| 40 | 6.6 | - | 10 | 6 | 20 | 12.6 | 12.2 | 32.8 | 14.2 | 36.8 | 10 | 111.5 |
| 50 | 9 | - | 11 | 8 | 25 | 12.5 | 11.5 | 48.5 | 11.5 | 41 | 17 | 141.5 |
| 63 | 11 | - | 13.5 | 8 | 28 | 17.5 | 12.5 | 55.5 | 17.5 | 49 | 14 | 172.5 |

| For Ø | H2 | H3 | H4 | SA | TR | TR1 | US | Weight | Part No. | Type |
|-------|-------|-------|-------|-----------|------|------|------|--------|----------|--------|
| [mm] | | | | +0.9/-0.2 | ±0.1 | ±0.1 | | [g] | | |
| 8 | - | - | - | 118 | 18 | - | 24.4 | 26 | 526 385 | HPC-8 |
| 12 | - | - | - | 148 | 20 | - | 29.6 | 38 | 526 388 | HPC-12 |
| 18 | 59.5 | 16.7 | 21.5 | 176 | 30 | - | 38.6 | 58 | 533 667 | HPC-18 |
| 25 | 71.5 | 14.35 | 19.35 | 230 | 40 | - | 55 | 131 | 533 668 | HPC-25 |
| 32 | 82.5 | 8 | 13 | 288 | 56.5 | 19.5 | 68 | 239 | 533 669 | HPC-32 |
| 40 | 104.5 | 15.3 | 22.3 | 340 | 65 | 25 | 78 | 348 | 533 670 | HPC-40 |
| 50 | 134.5 | 23.4 | 30.4 | 400 | 82.6 | 47.4 | 102 | 754 | 545 236 | HPC-50 |
| 63 | 164.5 | 22 | 30 | 456 | 111 | 39 | 133 | 1,245 | 545 237 | HPC-63 |

Passive guide axes DGC-FA, without drive

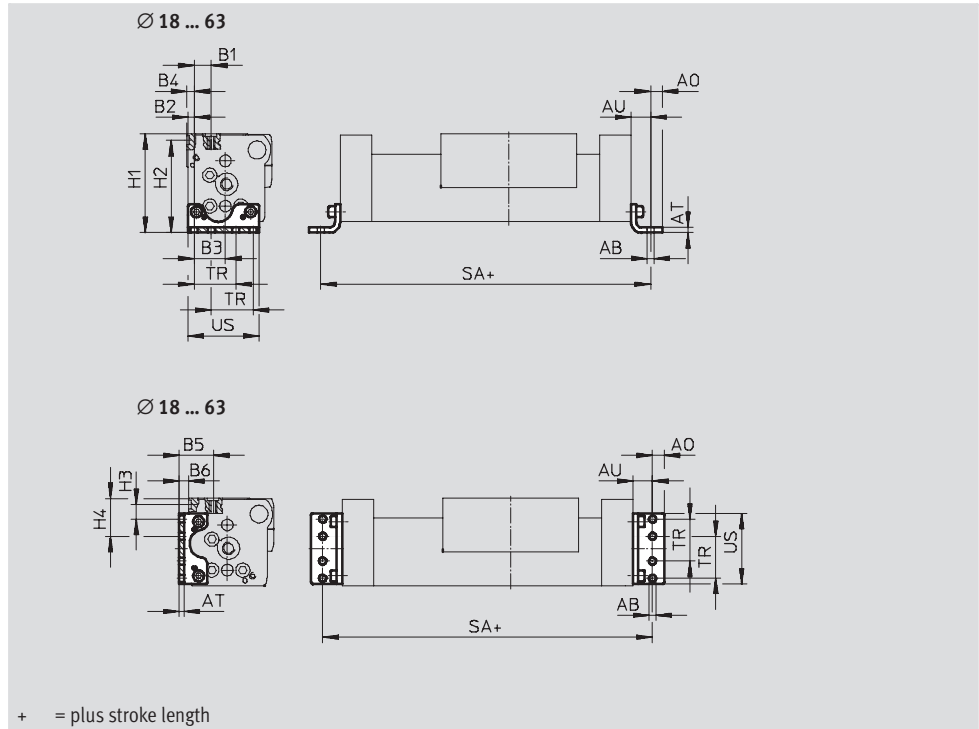
Accessories

Foot mounting HPC-S

(when replacing linear drive DGPL with linear drive DGC-GF/-KF)

Material:

Galvanised steel



| Dimensions and ordering data | | | | | | | | | | |
|------------------------------|-----|------|----|-------|-------|------|-------|------|------|-----|
| For Ø | AB | AO | AT | AU | B1 | B2 | B3 | B4 | B5 | B6 |
| [mm] | Ø | | | | | | | | | |
| 18 | 5.5 | 4.75 | 3 | 13.25 | 12 | 3.5 | 15.6 | 4.5 | 24 | 7.5 |
| 25 | 5.5 | 6 | 3 | 13 | 16.25 | 4.75 | 24.25 | 5.75 | 29.5 | 7.5 |
| 32 | 6.6 | 7 | 4 | 17 | 9 | 9 | 29.5 | 10.5 | 27 | 7.5 |
| 50 | 9 | 11 | 8 | 25 | 12.5 | 11.5 | 48.5 | 11.5 | 38 | 14 |
| 63 | 11 | 13.5 | 8 | 28 | 17.5 | 12.5 | 55.5 | 17.5 | 37 | 2 |

| For Ø | H1 | H2 | H3 | H4 | SA | TR | US | Weight | Part No. | Type |
|-------|-------|-------|-------|-------|----------------------------|------|-----|--------|----------|----------|
| [mm] | | | | | | ±0.1 | | [g] | | |
| 18 | 64 | 59.5 | 16.7 | 28 | 176.5 ^{+0.9/-0.2} | 24 | 40 | 54.5 | 535 600 | HPC-18-S |
| 25 | 75.5 | 70.5 | 11.45 | 29.75 | 226 ^{+0.9/-0.2} | 32.5 | 55 | 89.5 | 535 601 | HPC-25-S |
| 32 | 87.5 | 82.5 | 8 | 31.5 | 284 ^{+0.9/-0.2} | 38 | 68 | 180 | 538 413 | HPC-32-S |
| 50 | 138.5 | 131.5 | 23.4 | 48 | 400 ^{+1.7/-0.2} | 65 | 102 | 754 | 545 238 | HPC-50-S |
| 63 | 160.5 | 152.5 | 22 | 66 | 456 ^{+1.7/-0.2} | 75 | 133 | 1,138 | 545 239 | HPC-63-S |

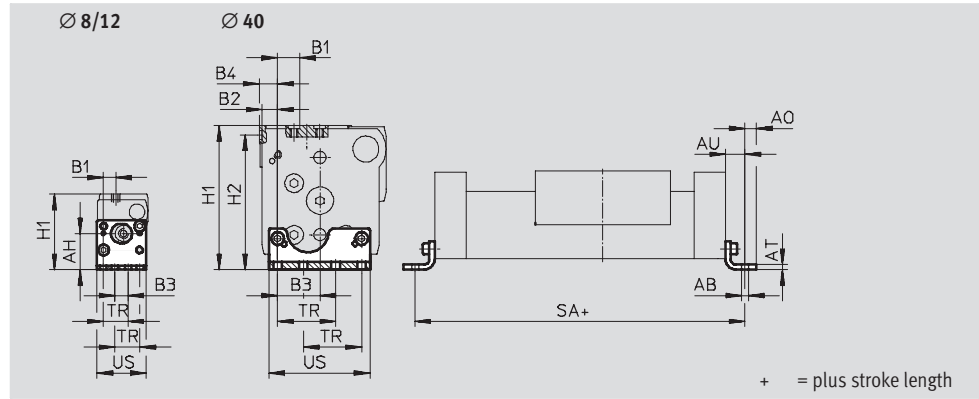
Passive guide axes DGC-FA, without drive

Accessories



Foot mounting HPC-SO
(when replacing linear drive DGPL
with linear drive DGC-GF/-KF)

Material:
Galvanised steel



| Dimensions and ordering data | | | | | | | | |
|------------------------------|-----|------|-----|----|------|------|------|------|
| For Ø | AB | AH | A0 | AT | AU | B1 | B2 | B3 |
| [mm] | Ø | | | | | | | |
| 8 | 3.4 | 18.7 | 3 | 2 | 9 | 6.5 | - | 7 |
| 12 | 3.4 | 23.5 | 3 | 2 | 9 | 9.3 | - | 9.4 |
| 40 | 6.6 | - | 8.5 | 5 | 17.5 | 12.5 | 12.3 | 32.7 |

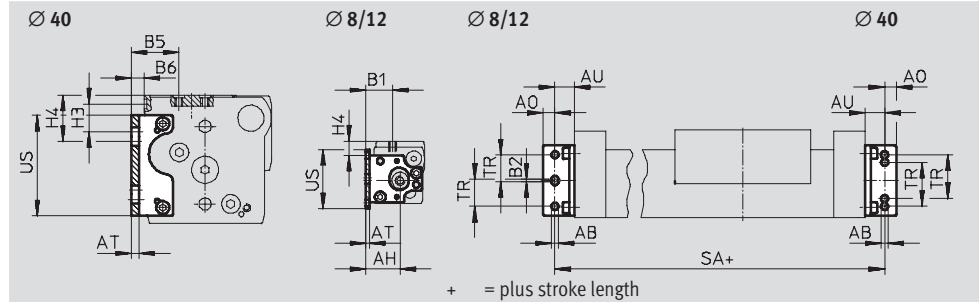
| For Ø | B4 | H1 | H2 | SA | TR | US | Weight | Part No. | Type |
|-------|------|-------|------|-----------|------|------|--------|----------|-----------|
| [mm] | | | | +0.9/-0.2 | ±0.1 | | [g] | | |
| 8 | - | 39 | - | 118 | 13 | 25.4 | 26 | 529 346 | HPC-8-SO |
| 12 | - | 47.5 | - | 143 | 18.6 | 33.8 | 42 | 529 348 | HPC-12-SO |
| 40 | 14.3 | 104.5 | 97.5 | 335 | 45 | 78 | 264 | 536 745 | HPC-40-SO |

Passive guide axes DGC-FA, without drive

Accessories

Foot mounting HPC-SH
(when replacing linear drive DGPL
with linear drive DGC-GF/-KF)

Material:
Galvanised steel



| Dimensions and ordering data | | | | | | | | |
|------------------------------|-----|------|-----|----|------|------|-----|----|
| For Ø | AB | AH | AO | AT | AU | B1 | B2 | B5 |
| [mm] | Ø | | | | | | | |
| 8 | 3.4 | 17.8 | 3 | 2 | 9 | 13.8 | 1.5 | - |
| 12 | 3.4 | 21.1 | 3 | 2 | 9 | 16.5 | 1.4 | - |
| 40 | 6.6 | - | 8.5 | 5 | 17.5 | - | - | 36 |

| For Ø | B6 | H3 | H4 | SA | TR | US | Weight | Part No. | Type |
|-------|-----|------|------|-----------|------|------|--------|----------|-----------|
| [mm] | | | | +0.9/-0.2 | ±0.1 | | [g] | | |
| 8 | - | - | 7.25 | 118 | 13 | 30.5 | 25 | 529 347 | HPC-8-SH |
| 12 | - | - | 4.5 | 143 | 18.6 | 41.8 | 41.5 | 529 349 | HPC-12-SH |
| 40 | 9.2 | 21.6 | 36 | 335 | 45 | 78 | 275 | 536 746 | HPC-40-SH |

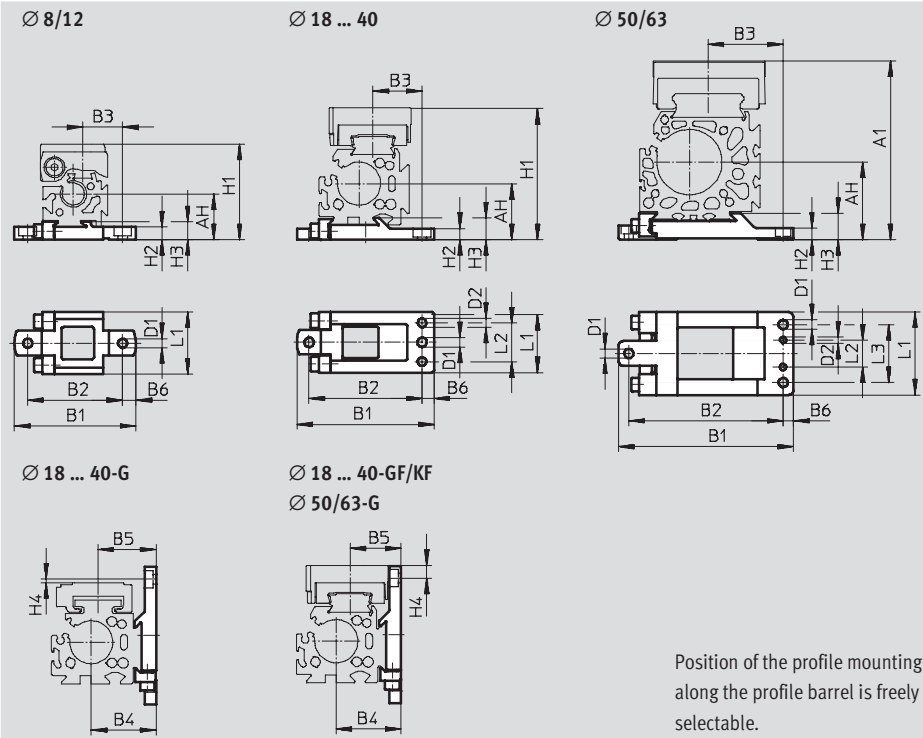
Passive guide axes DGC-FA, without drive

Accessories

FESTO

Profile mounting MUC
(order code: M)

Material:
High-alloy steel



Position of the profile mounting along the profile barrel is freely selectable.

| Dimensions and ordering data | | | | | | | | | |
|------------------------------|------|-------|------|-------|------|------|-----|-----|----|
| For Ø | AH | B1 | B2 | B3 | B4 | B5 | B6 | D1 | D2 |
| [mm] | | | ±0.2 | | | | | Ø | Ø |
| 8 | 17.7 | 47 | 36.7 | 15.35 | - | - | 5.1 | 3.5 | - |
| 12 | 18.5 | 52.5 | 42.2 | 16.5 | - | - | 5.1 | 3.5 | - |
| 18 | 27.2 | 67.8 | 56 | 28.7 | 27.2 | 28.7 | 5.7 | 5.5 | 5 |
| 25 | 32.5 | 79.5 | 65.5 | 28.5 | 37.5 | 29.5 | 7 | 5.5 | 5 |
| 32 | 37.5 | 94 | 80 | 35 | 47.5 | 37 | 7 | 5.5 | 5 |
| 40 | 47 | 110.5 | 96 | 43 | 57 | 46.8 | 7 | 6.5 | 6 |
| 50 | 61 | 145 | 125 | 56 | 77 | 61 | 7 | 9 | 6 |
| 63 | 75 | 169 | 149 | 72.5 | 87 | 69 | 10 | 9 | 6 |

| For Ø | H1 | H2 | H3 | H4 | L1 | L2 | L3 | Weight | Part No. | Type |
|-------|-------|-----|------|------|----|------|----|--------|----------|--------|
| [mm] | | | | | | | | [g] | | |
| 8 | 37 | 5 | 7 | - | 24 | - | - | 28 | 526 384 | MUC-8 |
| 12 | 42.5 | 4.5 | 7 | - | 24 | - | - | 32 | 526 387 | MUC-12 |
| 18 | 64 | 5.7 | 9.9 | 6.4 | 33 | 20.5 | - | 78 | 531 752 | MUC-18 |
| 25 | 76.5 | 6.5 | 12.5 | 7.43 | 35 | 22.5 | - | 113 | 531 753 | MUC-25 |
| 32 | 87.5 | 6.5 | 13 | 4 | 45 | 30 | - | 174 | 531 754 | MUC-32 |
| 40 | 111.5 | 8.5 | 16 | 11.3 | 60 | 44 | - | 346 | 531 755 | MUC-40 |
| 50 | 159 | 11 | 23.5 | 9.2 | 80 | 26 | 56 | 874 | 531 756 | MUC-50 |
| 63 | 172.5 | 11 | 23.5 | 15 | 80 | 26 | 56 | 1,080 | 531 757 | MUC-63 |

Passive guide axes DGC-FA, without drive

Accessories



Shock absorber retainer DADP

Stop KYC

(order code: YWZ1 or YWZ2)

Materials: Stop

Housing: Anodised aluminium

Stop bracket: Stainless steel casting

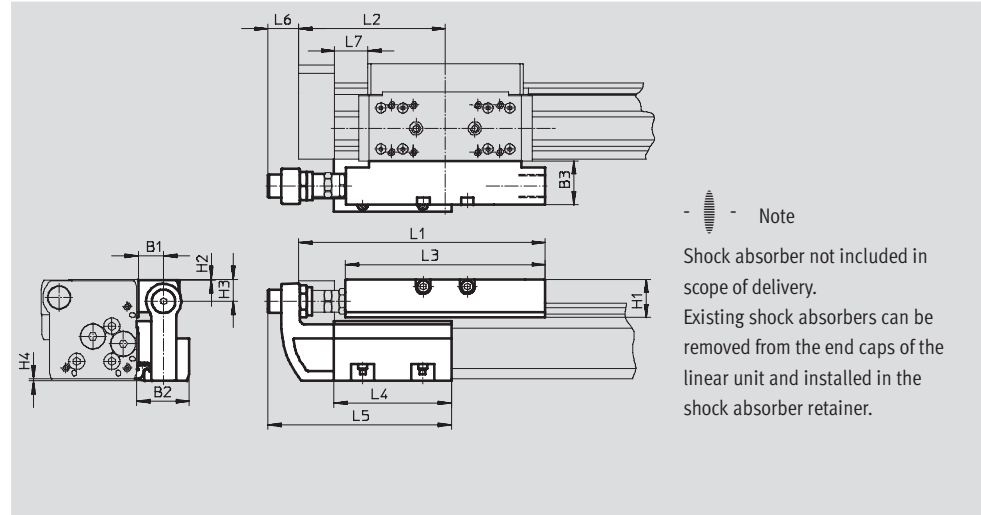
Clamp: High-alloy steel

Free of copper and PTFE

Materials: Shock absorber retainer

Housing: Anodised aluminium

Free of copper and PTFE



- - Note
Shock absorber not included in scope of delivery. Existing shock absorbers can be removed from the end caps of the linear unit and installed in the shock absorber retainer.

| Dimensions | | | | | | | |
|-------------------|------|------|----|------|-----|------|-----|
| For \varnothing | B1 | B2 | B3 | H1 | H2 | H3 | H4 |
| [mm] | | | | | | | |
| 18 | 16 | 34.5 | 29 | 20.7 | 0.2 | 12.5 | 0.7 |
| 25 | 16.5 | 35 | 30 | 25.5 | 0.5 | 15 | 1.4 |
| 32 | 16.5 | 35 | 30 | 25.5 | 0.5 | 15 | 1.7 |
| 40 | 16 | 35.7 | 35 | 37 | 0.5 | 21.5 | 2 |
| 50 | 25 | 50 | 41 | 40.5 | 0.5 | 24 | 0 |
| 63 | 25 | 50 | 40 | 51.5 | 1.5 | 33 | 0 |

| For \varnothing | L1 | L2 | L3 | L4 | L5 | L6 | L7 |
|-------------------|-------|-------|-----|-----|-------|------|------|
| [mm] | | | | | | | min. |
| 18 | 128 | 74.5 | 107 | 80 | 118.5 | 23.5 | 14.5 |
| 25 | 168 | 100 | 136 | 80 | 125 | 20.5 | 22.5 |
| 32 | 206.8 | 124.8 | 164 | 120 | 165 | 14.5 | 27.3 |
| 40 | 255 | 150 | 210 | 156 | 220.5 | 31 | 31 |
| 50 | 301 | 175 | 252 | 170 | 238 | 27 | 31 |
| 63 | 328 | 200 | 256 | 200 | 268 | 24 | 41 |

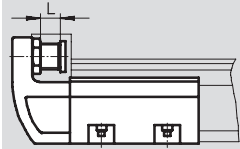
Passive guide axes DGC-FA, without drive

Accessories

FESTO

Technical data and ordering codes

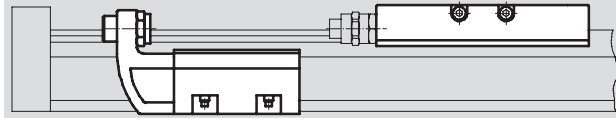
Precision adjustment



-  - Note

The stop KYC can be used in both directions.

Installation example



-  - Note

The end stop can be mounted at any position within the stroke.

| For \varnothing [mm] | Precision adjustment L [mm] | Ambient temperature [°C] | CRC ¹⁾ | Weight [g] | Part No. | Type |
|--------------------------------|--------------------------------|-----------------------------|-------------------|---------------|----------|----------------|
| Shock absorber retainer | | | | | | |
| 18 | 10 | -10 ... +80 | 2 | 130 | 541 729 | DADP-DGC-18-KF |
| 25 | 10 | | | 180 | 541 730 | DADP-DGC-25-KF |
| 32 | 10 | | | 215 | 541 731 | DADP-DGC-32-KF |
| 40 | 15 | | | 460 | 541 732 | DADP-DGC-40-KF |
| 50 | 15 | | | 890 | 545 244 | DADP-DGC-50 |
| 63 | 15 | | | 1,080 | 545 245 | DADP-DGC-63 |
| Stop | | | | | | |
| 18 | 10 | -10 ... +80 | 2 | 400 | 541 691 | KYC-18 |
| 25 | 10 | | | 560 | 541 692 | KYC-25 |
| 32 | 10 | | | 790 | 541 693 | KYC-32 |
| 40 | 15 | | | 1,525 | 541 694 | KYC-40 |
| 50 | 15 | | | 2,270 | 545 242 | KYC-50 |
| 63 | 15 | | | 2,950 | 545 243 | KYC-63 |




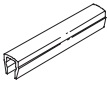
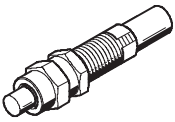
1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

Passive guide axes DGC-FA, without drive

Accessories

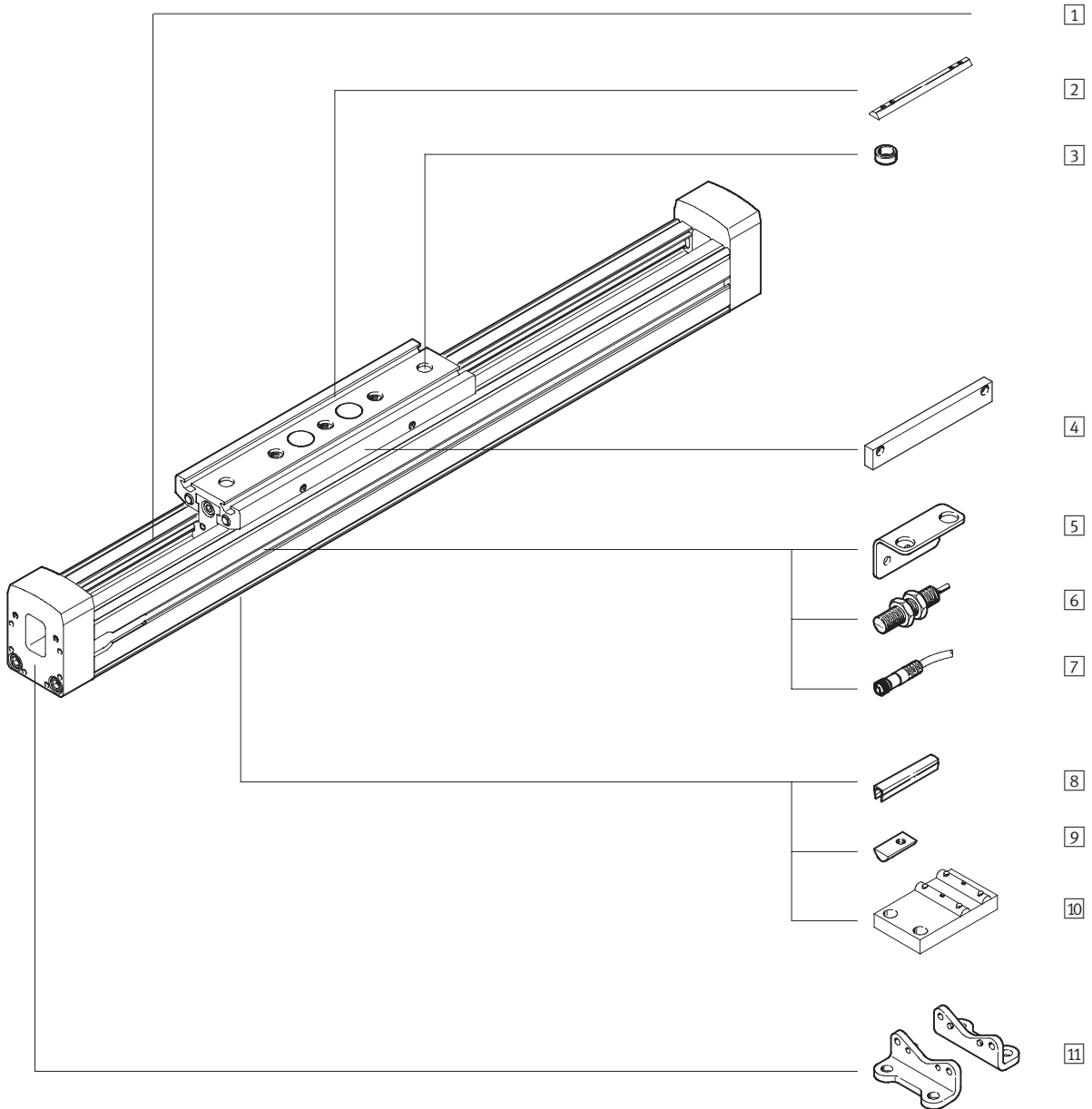
FESTO

| Ordering data | | | | | | |
|--|-----------|---|------------|----------|-------------------|------------------|
| | For Ø | Remarks | Order code | Part No. | Type | PU ¹⁾ |
| Slot nut NST Technical data → Internet: hmbn | | | | | | |
|  | 25 ... 40 | For mounting slot | B | 547 264 | HMBN-5-1M5 | 10 |
|  | 50, 63 | | | 186 566 | HMBN-5-2M5 | |
| Centring pin/sleeve ZBS/ZBH Technical data → Internet: zbs, zbh | | | | | | |
|  | 8 ... 18 | For slide | - | 150 928 | ZBS-5 | 10 |
| | 25 ... 63 | | | 150 927 | ZBH-9 | |
| | 8, 12 | For end cap | - | 525 273 | ZBS-2 | |
| | 18 | | | 150 928 | ZBS-5 | |
| | 25 ... 63 | | | 150 927 | ZBH-9 | |
| Slot cover ABP-S Technical data → Internet: abp | | | | | | |
|  | 18 ... 63 | For sensor slot each 0.5 m | L | 151 680 | ABP-5-S | 2 |
| Shock absorber Technical data → Internet: ysrw | | | | | | |
|  | 18 | For DGC-FA with recirculating ball bearing guide | YSRW | 540 347 | YSRW-DGC-18-KF | 1 |
| | 25 | | | 540 349 | YSRW-DGC-25-KF | |
| | 32 | | | 540 351 | YSRW-DGC-32-KF | |
| | 40 | | | 540 353 | YSRW-DGC-40-KF | |
| | 50 | | | 551 489 | YSRW-DGC-50-GF/KF | |
| | 63 | | | 543 069 | YSRW-DGC-63-GF/KF | |

1) Packaging unit quantity

Passive guide axes FDG-ZR-RF, without drive

Peripherals overview



Passive guide axes FDG-ZR-RF, without drive

Peripherals overview

| Variants and accessories | | |
|---|--|-----------------|
| Type | Brief description | → Page/Internet |
| 1 Passive guide axis FDG-ZR-RF | Guide without drive | 32 |
| 2 Slot nut for slide X | For mounting loads and attachments on the slide | 41 |
| 3 Centring sleeve Z | For centring loads and attachments on the slide | 41 |
| 4 Switching lug L | For sensing the slide position | 42 |
| 5 Mounting bracket T | Adapter for mounting the sensors on the axis | 42 |
| 6 Inductive proximity sensor O/P/W/R | For use as a proximity signal and safety monitor | 43 |
| 7 Cable with socket V | For proximity sensors | 43 |
| 8 Slot cover B | For protecting against ingress of dirt | 41 |
| 9 Slot nut for profile slot Y | For mounting attachments | 41 |
| 10 Central support M | For mounting the axis | 40 |
| 11 Foot mounting F | For mounting the axis | 40 |

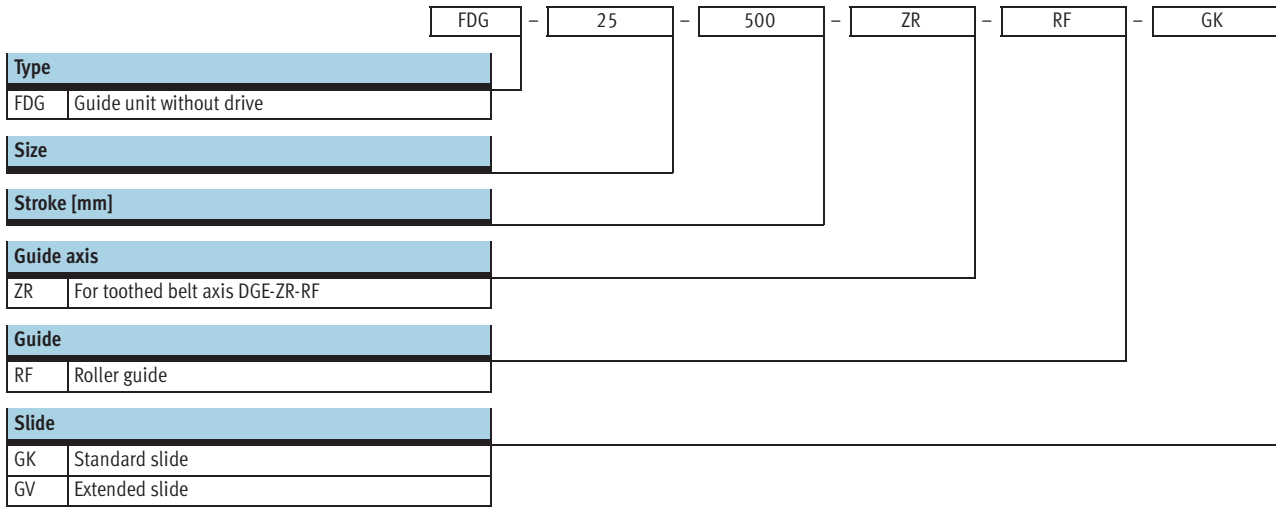
Passive guide axes FDG-ZR-RF, without drive

Type codes



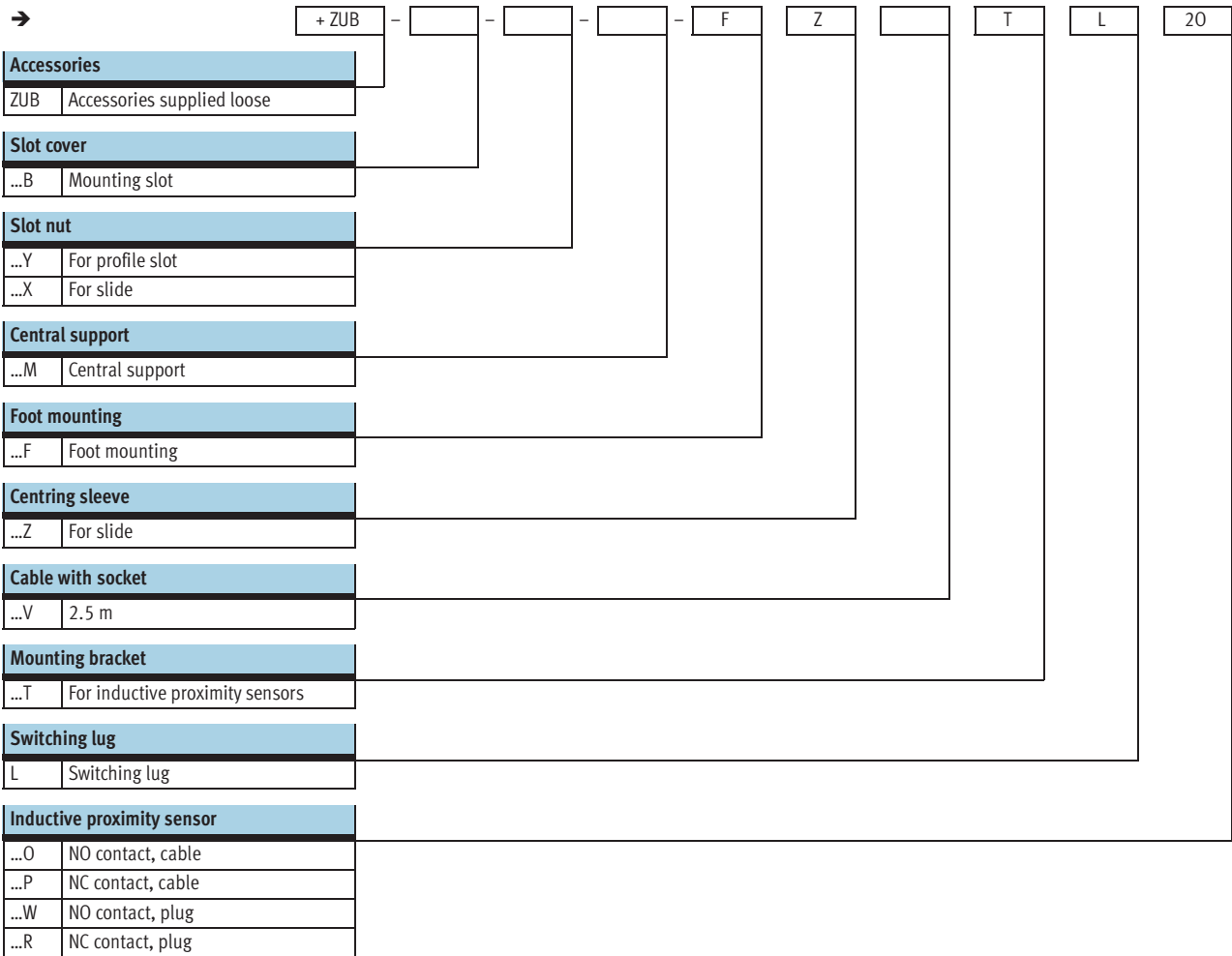
System components
Passive guide axes

3.1



Passive guide axes FDG-ZR-RF, without drive



Type codes



Passive guide axes FDG-ZR-RF, without drive

FESTO

Technical data

-  - Size
25 ... 63
-  - Stroke length
1 ... 5000 mm



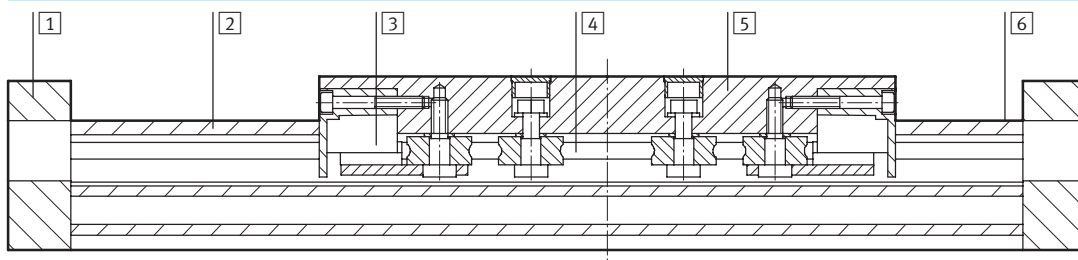
| General technical data | | 25 | 40 | 63 |
|-----------------------------------|---------------------|--------------------------|------------|--------------------------|
| Size | | 25 | 40 | 63 |
| Design | | Guide unit without drive | | |
| Guide | | Internal roller guide | | |
| Assembly position | | Any | | |
| Max. working stroke ¹⁾ | [mm] | 1 ... 5000 | 1 ... 5000 | 1 ... 5000 ²⁾ |
| Max. working load | [kg] | 15 | 30 | 60 |
| Thrust | [N] | 5 ... 12 | 5 ... 35 | 5 ... 30 |
| Max. speed | [m/s] | 10 | | |
| Max. acceleration | [m/s ²] | 50 | | |
| Ambient temperature | [°C] | 0 ... +60 | | |

- 1) Total stroke = working stroke + 2x stroke reserve
 2) The max. working stroke for the variant with extended slide (GV) is 4,800 mm.

| Weights [kg] | | 25 | | 40 | | 63 | |
|-------------------------------------|--|------|-----|------|-----|------|------|
| Slide design | | GK | GV | GK | GV | GK | GV |
| Basic weight with 0 mm stroke | | 2.0 | 2.5 | 6.1 | 7.6 | 20.4 | 25.4 |
| Additional weight per 100 mm stroke | | 0.29 | | 0.59 | | 1.38 | |
| Moving load | | 0.5 | 0.8 | 1.8 | 2.5 | 4.6 | 6.4 |

Materials

Sectional view



| Axis | | |
|----------|-------------------|-----------------------------------|
| 1 | End cap | Anodised aluminium |
| 2 | Housing | Anodised aluminium |
| 3 | Cover cap | Polyamide |
| 4 | Guide rail | Steel |
| 5 | Slide | Anodised aluminium |
| 6 | Guide element | Steel |
| - | Note on materials | Free of copper, PTFE and silicone |

Passive guide axes FDG-ZR-RF, without drive

Technical data

Stroke reserve

L9 The stroke reserve is a safety distance available on both sides of the axis in addition to the stroke.

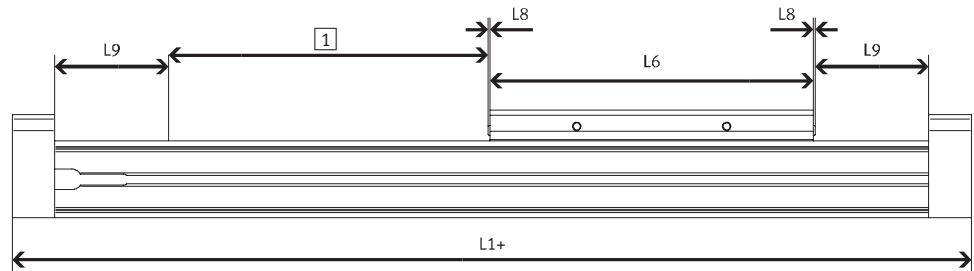
The indicated values only apply in combination with the toothed belt axis DGE-ZR-RF.

L6 Slide length

L8 Stop element

L1+ Overall length of axis

1 Working stroke



Example:

Type FDG-25-500-ZR-RF

Working stroke = 500 mm
 Stroke reserve = (2x 86 mm) = 172 mm
 Total stroke = 500 mm + 172 mm = 672 mm

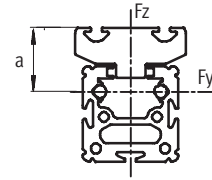
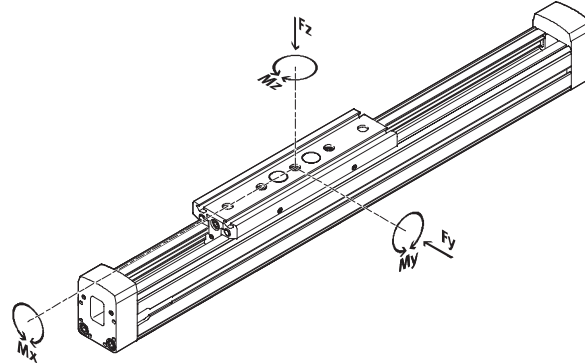
| Size | 25 | 40 | 63 |
|--------------------------|----|-----|-----|
| L9 per end position [mm] | 86 | 136 | 244 |

Passive guide axes FDG-ZR-RF, without drive

Technical data

Characteristic load values

The indicated forces and torques refer to the centre of the guide. They must not be exceeded in the dynamic range. Special attention must be paid to the cushioning phase.



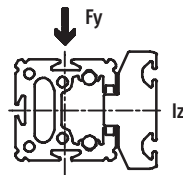
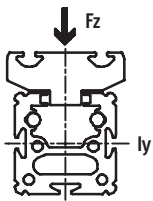
| Size | a in [mm] |
|------|-----------|
| 25 | 30 |
| 40 | 37 |
| 63 | 44.6 |

If the drive is subjected to more than two of the indicated forces and torques simultaneously, the following equations must be satisfied in addition to the indicated maximum loads:

$$\frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} + \frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} \leq 1$$

| Permissible forces and torques | | | | | | | |
|--------------------------------|--------------|-----|----|-----|-----|-----|-----|
| Size | Slide design | 25 | | 40 | | 63 | |
| | | GK | GV | GK | GV | GK | GV |
| F _y _{max.} | [N] | 150 | | 300 | | 600 | |
| F _z _{max.} | [N] | 150 | | 300 | | 600 | |
| M _x _{max.} | [Nm] | 7 | | 18 | | 65 | |
| M _y _{max.} | [Nm] | 15 | 30 | 60 | 120 | 170 | 340 |
| M _z _{max.} | [Nm] | 15 | 30 | 90 | 180 | 300 | 600 |

2nd moment of area



| Size | | 25 | 40 | 63 |
|----------------|--------------------|-----------------------|-----------------------|-----------------------|
| l _y | [mm ⁴] | 5.947x10 ⁵ | 2.479x10 ⁶ | 1.664x10 ⁷ |
| l _z | [mm ⁴] | 2.372x10 ⁵ | 9.463x10 ⁵ | 5.997x10 ⁶ |

Passive guide axes FDG-ZR-RF, without drive

Technical data

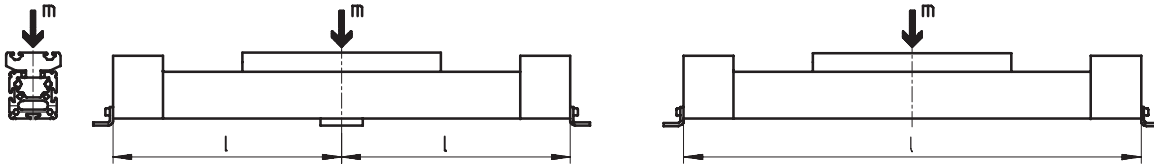
Maximum permissible support span l as a function of the applied load m

The axis may need to be supported with central supports MUP in order to limit deflection in the case of large strokes. The following diagrams serve

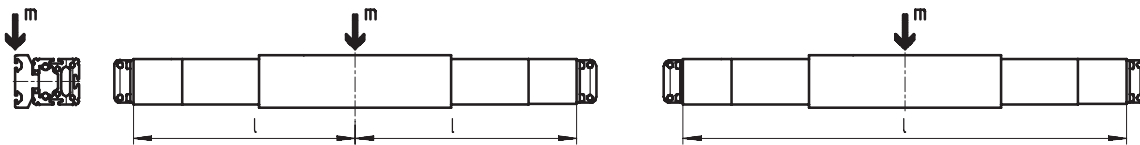
to determine the maximum permissible support span as a function of the applied load acting upon the axis.

A distinction is made here between forces acting upon the surface of the slide and forces acting upon the front of the slide.

1 Load on the surface of the slide

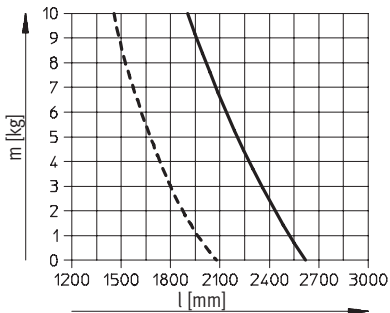


2 Load on the front of the slide

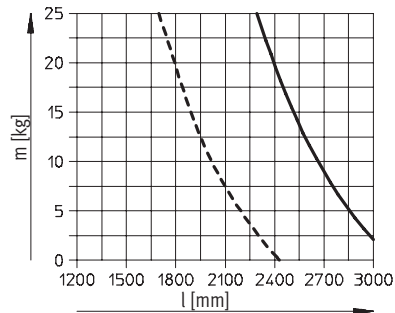


Maximum support span l (without central support) as a function of the applied load m

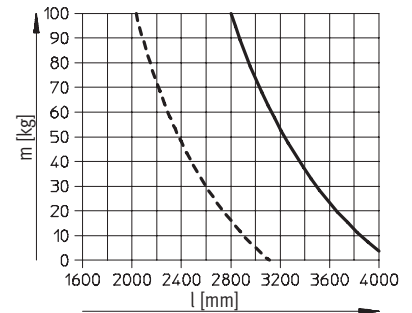
FDG-25



FDG-40



FDG-63



- 1
- - - 2

Passive guide axes FDG-ZR-RF, without drive

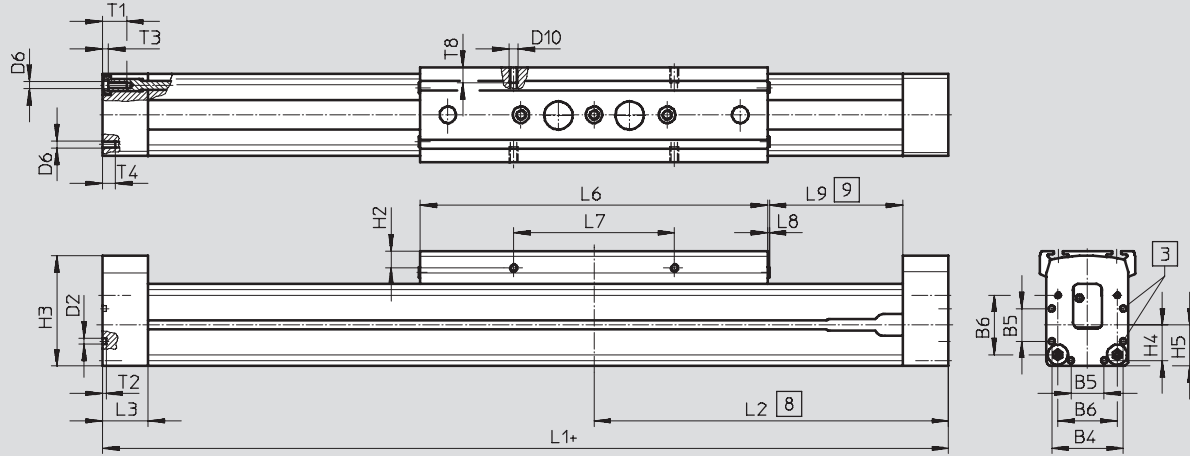
Technical data

FESTO

Dimensions

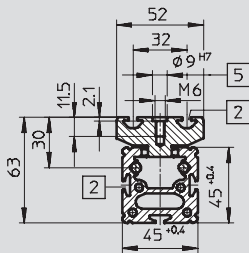
Download CAD data → www.festo.com

FDG-25/-40/-63



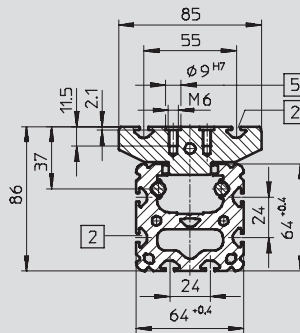
- 3 Centring hole for foot mounting
- 8 Driver in end position of the working stroke (including L9)
- 9 Recommended stroke reserve
- + = plus stroke length

FDG-25

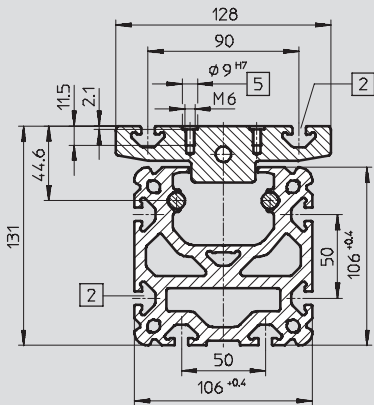


- 2 Slot for slot nuts
- 5 Hole for centring sleeve ZBH-9 and mounting thread

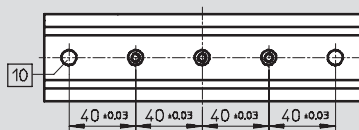
FDG-40



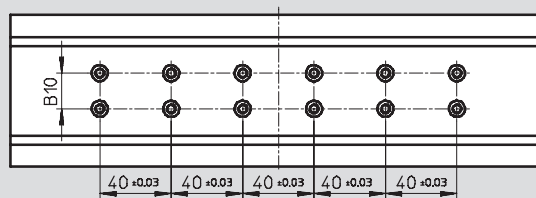
FDG-63



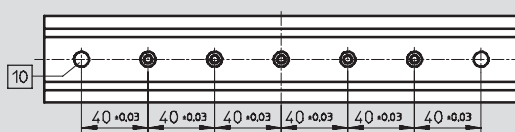
FDG-25-GK



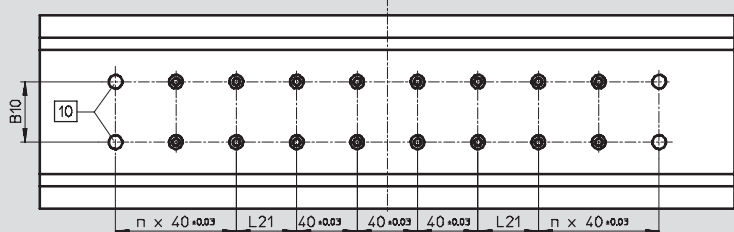
FDG-40-GK



FDG-25-GV



FDG-40-GV, FDG-63-GK

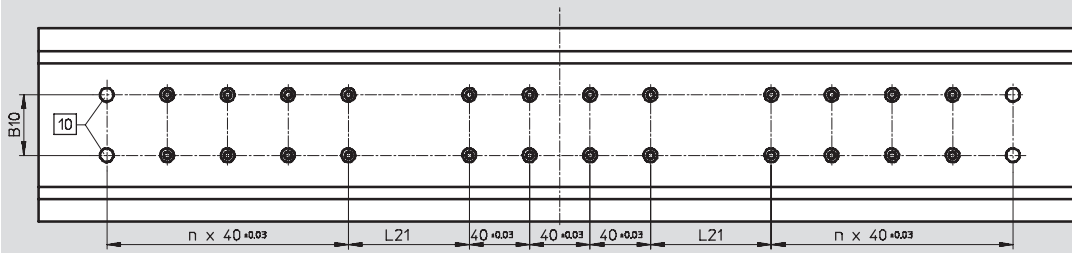


- 10 Hole for centring sleeve ZBH-9

Passive guide axes FDG-ZR-RF, without drive

Technical data

FDG-63-GV



| Size | | B4 | B5 | B6 | B10 ±0.03 | D2 | D6 | D10 | H2 | H3 |
|------|----|------|----|------|--------------|---------------------|----|-----|------|-------|
| 25 | GK | 39.1 | 18 | 32.5 | - | 3.3 _{+0.1} | M4 | M5 | 9.3 | 60.4 |
| | GV | | | | | | | | | |
| 40 | GK | 53 | 28 | 49 | 20 | 4.4 _{H13} | M5 | M5 | 9.5 | 83.8 |
| | GV | | | | | | | | | |
| 63 | GK | 89 | 44 | 83 | 40 | 6.4 _{+0.1} | M8 | M8 | 10.5 | 129.3 |
| | GV | | | | | | | | | |

| Size | | H4 | H5 | L1 | L2 | L3 | L6 | L7 | L8 |
|------|----|------|------|------|-------|----|-----|--------------------|----|
| 25 | GK | 19.6 | 22.5 | 414 | 207 | 25 | 190 | 88 _{±0.2} | 1 |
| | GV | | | 509 | 254.5 | | 285 | | |
| 40 | GK | 26.5 | 32 | 638 | 319 | 31 | 300 | 58 _{±0.1} | 2 |
| | GV | | | 778 | 389 | | 440 | | |
| 63 | GK | 44.5 | 52.8 | 1020 | 510 | 34 | 460 | 72 _{±0.1} | 2 |
| | GV | | | 1250 | 625 | | 690 | | |

| Size | | L9 | L21 ±0.03 | n | T1 | T2 | T3 | T4 | T8 |
|------|----|-----|--------------|----|----|----|----|----|-----|
| 25 | GK | 86 | - | - | 13 | 2 | 3 | 8 | 8.5 |
| | GV | | | | | | | | |
| 40 | GK | 136 | 40 | - | 13 | 3 | 5 | 12 | 8.5 |
| | GV | | | 2 | | | | | |
| 63 | GK | 244 | 40 | 2 | 21 | 4 | 6 | - | 12 |
| | GV | | | 80 | | | | | |

Passive guide axes FDG-ZR-RF, without drive

Ordering data – Modular products



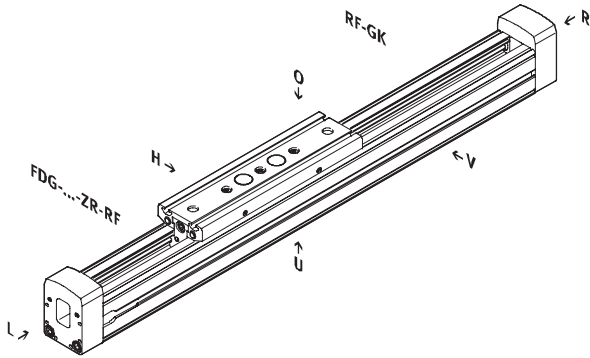
System components
Passive guide axes

3.1

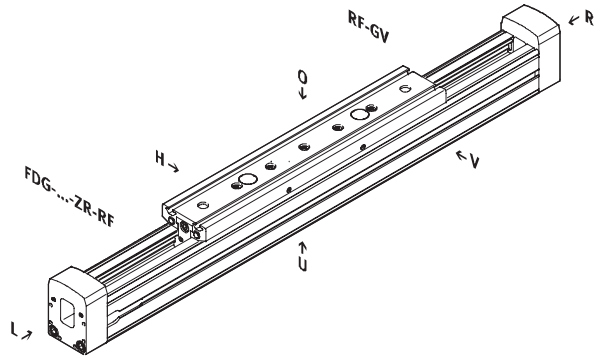
Ordering code

Mandatory data

GK Standard slide

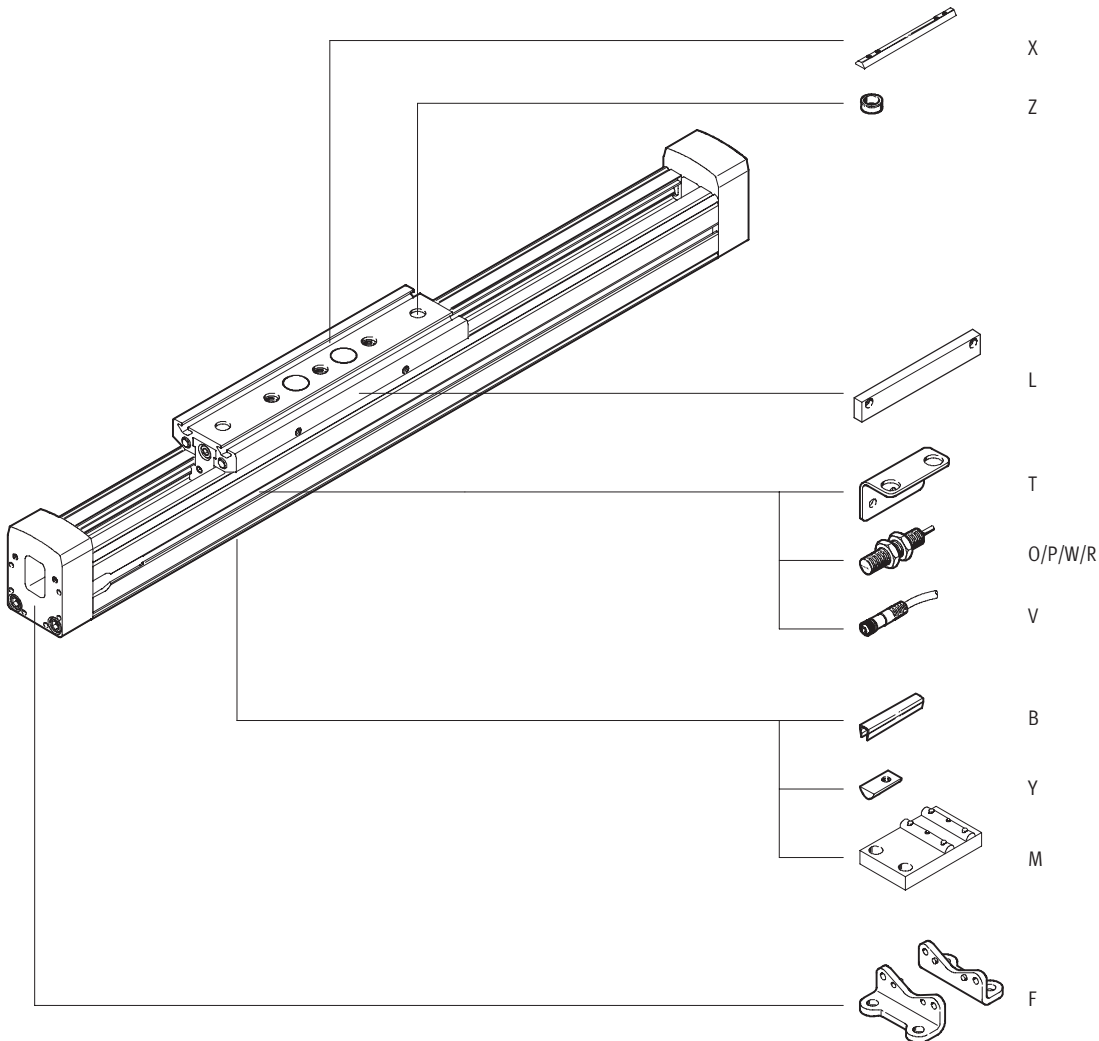


GV Extended slide



Ordering code

Options



Passive guide axes FDG-ZR-RF, without drive

Ordering data – Modular products

| M Mandatory data | | | | | | | O Options | |
|-------------------------|----------|------|-------------|------------|-------|-------|---|------|
| Module No. | Function | Size | Stroke | Guide axis | Guide | Slide | Accessories | |
| 538 791 | FDG | 25 | 1 ... 5 000 | ZR | RF | GK | ...B, ...Y, ...X, ...M, ...F, ...Z, ...V, ...T, L, ...O, ...P, ...W, ...R | |
| 538 792 | | 40 | | | | GV | | |
| 538 793 | | 63 | | | | | | |
| Ordering example | | | | | | | | |
| 538 791 | FDG | - 25 | - 300 | - ZR | - RF | - GK | - ZUB | - 2B |

| Ordering table | | | | | | | |
|--|------------------------------------|----------|---------|-----------------|-------|---------------|--|
| Size | 25 | 40 | 63 | Condi- tions | Code | Enter code | |
| M Module No. | 538 791 | 538 792 | 538 793 | | | | |
| Function | Guide axis without drive | | | | FDG | FDG | |
| Size | 25 | 40 | 63 | | -... | | |
| Stroke [mm] | 1 ... 5 000 | | | | -... | | |
| Guide axis | for DGE-ZR-RF | | | | -ZR | -ZR | |
| Guide | Roller guide | | | | -RF | -RF | |
| Slide | Standard slide | | | | -GK | | |
| | Extended slide | | | 1 | -GV | | |
| O Accessories | Accessories supplied loose | | | | -ZUB- | -ZUB- | |
| Slot cover for mounting slot | 1 ... 10 | | | | ...B | | |
| Slot nut | Mounting slot | 1 ... 10 | | | ...Y | | |
| | For slide | 1 ... 10 | | | ...X | | |
| Central support | 1 ... 10 | | | | ...M | | |
| Foot mounting | 1 ... 10 | | | | ...F | | |
| Centring sleeve (pack of 10) | 10, 20, 30, 40, 50, 60, 70, 80, 90 | | | | ...Z | | |
| Cable with socket, M8, 2.5 m | 1 ... 10 | | | | ...V | | |
| Mounting bracket for inductive proximity sensors | 1 ... 5 | | | | ...T | | |
| Switching lug | 1 | | | | L | | |
| Inductive proximity sensor | NO contact, cable 2.5 m | 1 ... 5 | | | ...O | | |
| | NC cable, cable 2.5 m | 1 ... 5 | | | ...P | | |
| sensor | NO contact, plug M8 | 1 ... 5 | | | ...W | | |
| | NC contact, plug M8 | 1 ... 5 | | | ...R | | |

1 GV Maximum stroke Size 25: 4 905 mm
Size 40: 4 860 mm
Size 63: 4 770 mm

Passive guide axes FDG-ZR-RF, without drive

Accessories

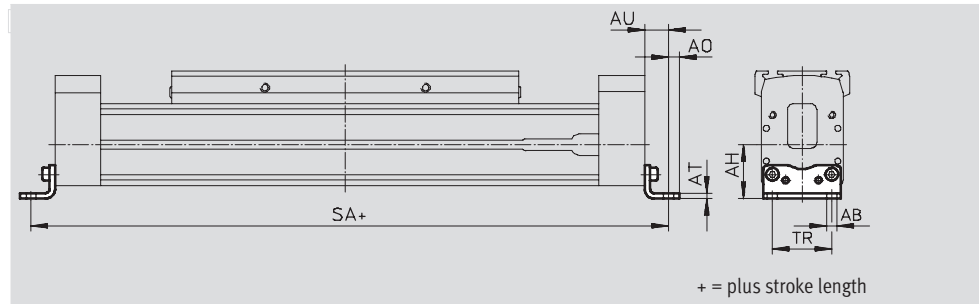


Foot mounting HP (order code: F)

Material:
Galvanised steel
Free of copper, PTFE and silicone



HP-25



| Dimensions and ordering data | | | | | |
|------------------------------|---------|------|------|----|------|
| for size | AB ∅ | AH | AO | AT | AU |
| 25 | 5.5 | 29.5 | 6 | 3 | 13 |
| 40 | 6.6 | 46 | 8.5 | 5 | 17.5 |
| 63 | 11 | 69 | 13.5 | 6 | 28 |

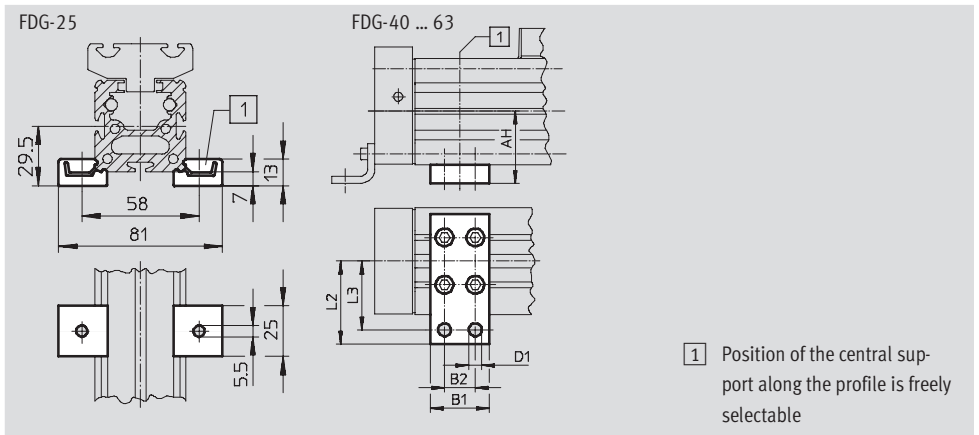
| for size | SA | | TR | Weight [g] | Part No. | Type |
|----------|------|------|------|---------------|----------|-------|
| | GK | GV | | | | |
| 25 | 440 | 535 | 32.5 | 61 | 150 731 | HP-25 |
| 40 | 673 | 813 | 45 | 188 | 150 733 | HP-40 |
| 63 | 1076 | 1306 | 75 | 305 | 150 735 | HP-63 |

Central support MUP (order code: M)

Material:
Galvanised steel
Free of copper, PTFE and silicone




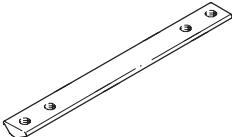

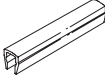
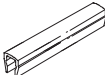
MUP-40



| Dimensions and ordering data | | | | | | | | | |
|------------------------------|----|----|----|---------|----|----|---------------|----------|-----------|
| for size | AH | B1 | B2 | D1 ∅ | L2 | L3 | Weight [g] | Part No. | Type |
| 25 | - | - | - | - | - | - | 33 | 150 736 | MUP-18/25 |
| 40 | 46 | 35 | 22 | 6.6 | 47 | 40 | 126 | 150 738 | MUP-40 |
| 63 | 69 | 50 | 26 | 11 | 77 | 65 | 340 | 150 800 | MUP-63 |

Passive guide axes FDG-ZR-RF, without drive

Accessories

| Ordering data | | | | | | |
|---|------------|--------------------------------|---------------|----------------|-------------------|------------------|
| | for size | Remarks | Ordering code | Part No. | Type | PU ¹⁾ |
| Slot nut NST Technical data → Internet: nst | | | | | | |
|  | 25 | For mounting slot/profile slot | Y | 526 091 | NST-HMV-M4 | 1 |
| | 40 | | | 150 914 | NST-5-M5 | 1 |
| | 63 | | | 150 915 | NST-8-M6 | 1 |
| Slot nut NSTL Technical data → Internet: nstl | | | | | | |
|  | 25 | For slide | X | 158 410 | NSTL-25 | 1 |
| | 40 | | | 158 412 | NSTL-40 | 1 |
| | 63 | | | 158 414 | NSTL-63 | 1 |
| Centring pin/sleeve ZBH Technical data → Internet: zbh | | | | | | |
|  | 25, 40, 63 | For slide | Z | 150 927 | ZBH-9 | 10 |
| Slot cover ABP-S Technical data → Internet: abp | | | | | | |
|  | 25 | For mounting slot every 0.5 m | B | 151 680 | ABP-5-S | 2 |
| Slot cover ABP Technical data → Internet: abp | | | | | | |
|  | 40 | For mounting slot every 0.5 m | B | 151 681 | ABP-5 | 2 |
| | 63 | | | 151 682 | ABP-8 | |

1) Packaging unit quantity

Passive guide axes FDG-ZR-RF, without drive

Accessories



Sensor bracket HWS

for inductive proximity sensors

(order code: T)

Material:

Galvanised steel



Switching lug SF

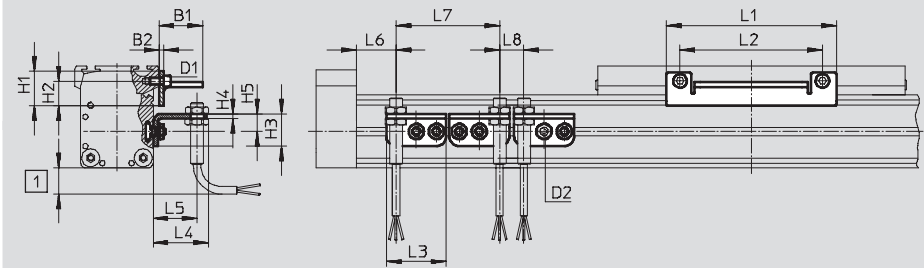
(order code: L)

Material:

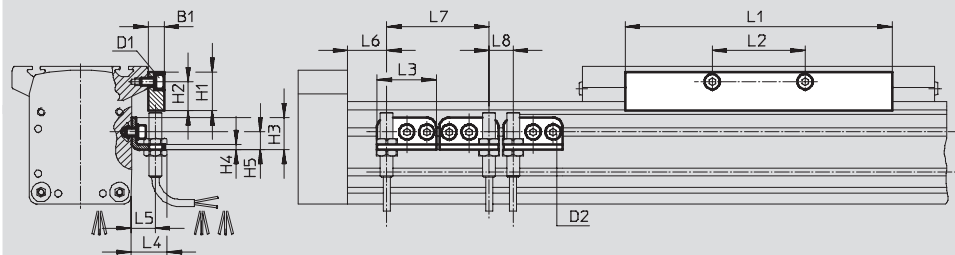
Galvanised steel



FDG-25



FDG-40 ... 63



1 Protruding sensor cable, ensure sufficient installation space

Dimensions and ordering data





| for size | D1 | D2 | B1 | B2 | H1 | H2 | H3 | H4 | H5 | L1 | L2 | L3 | L4 | L5 |
|----------|----|----|----|----|------|------|----|----|----|-----|----|----|------|----|
| 25 | M5 | M5 | 27 | 3 | 20.5 | 15.3 | 20 | 3 | 11 | 105 | 88 | 37 | 34.5 | 27 |
| 40 | M5 | M5 | 10 | - | 24 | 18 | 20 | 3 | 11 | 167 | 58 | 37 | 22.5 | 15 |
| 63 | M8 | M5 | 10 | - | 35 | 25 | 20 | 3 | 11 | 230 | 72 | 37 | 22.5 | 15 |



| for size | L6 | | L7 | L8 | Weight | Part No. | Type |
|----------|------|-------|----|----|--------|----------|---------------|
| | GK | GV | | | | | |
| 25 | 43.5 | 91 | 64 | 15 | 30 | 540 780 | HWS-25-MAB-M8 |
| | | | | | 80 | 540 430 | SF-25-MAB |
| 40 | 68.5 | 138.5 | 64 | 15 | 40 | 188 969 | HWS-40-M8 |
| | | | | | 310 | 188 966 | SF-40 |
| 63 | 117 | 232 | 64 | 15 | 40 | 188 970 | HWS-63-M8 |
| | | | | | 630 | 188 967 | SF-63 |

Passive guide axes FDG-ZR-RF, without drive

Accessories

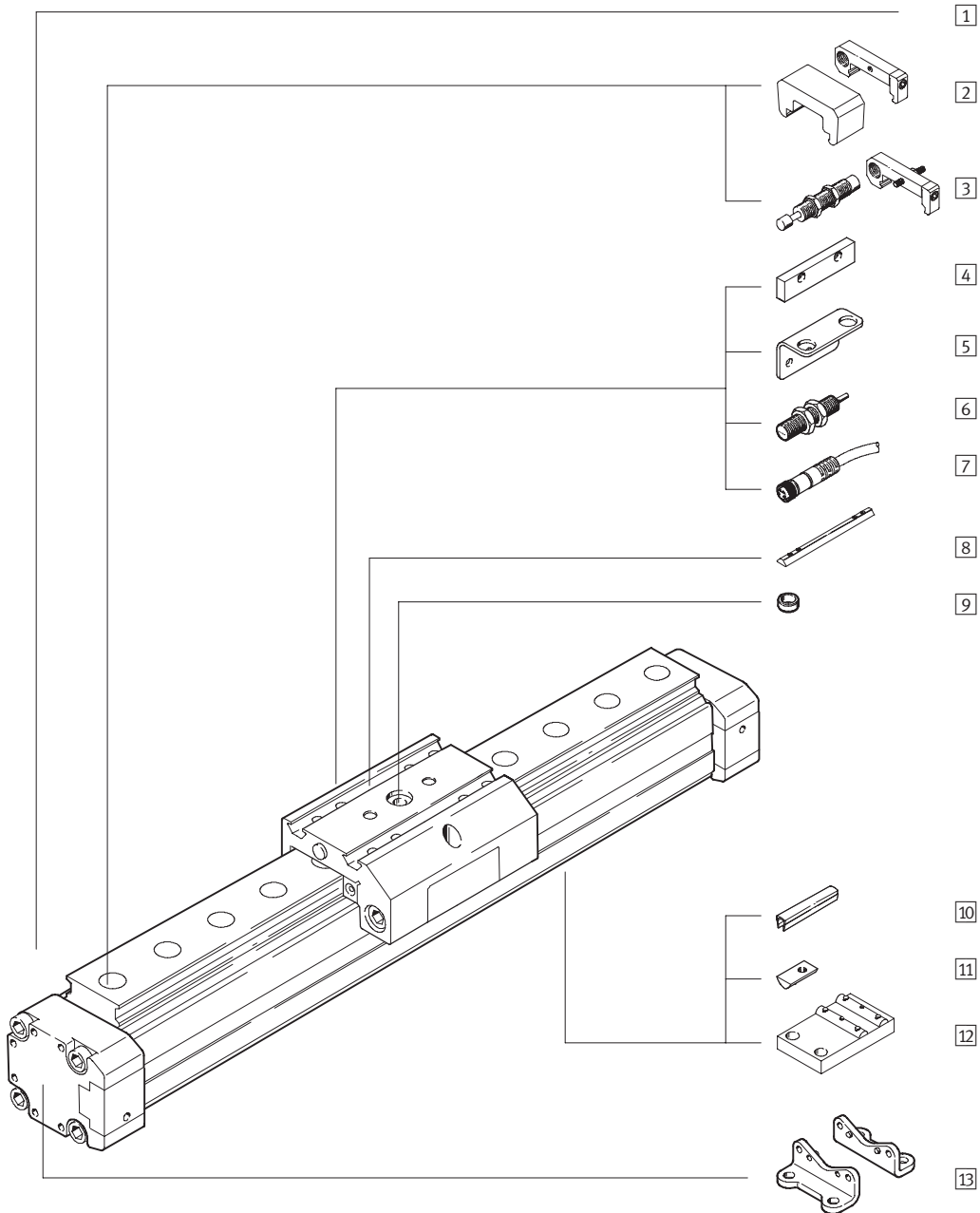
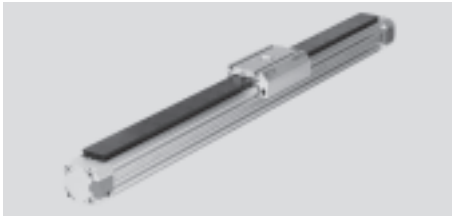
FESTO

| Ordering data – Inductive proximity sensors M8 | | | | | | Technical data → Internet: sien | |
|---|-----------------------|---------|---------------|-----|------------------|---------------------------------|-----------------|
| | Electrical connection | | Switch output | LED | Cable length [m] | Part No. | Type |
| | Cable | Plug M8 | | | | | |
| NO contact | | | | | | | |
|  | 3-core | – | PNP | ■ | 2.5 | 150 386 | SIEN-M8B-PS-K-L |
|  | – | 3-pin | PNP | ■ | | 150 387 | SIEN-M8B-PS-S-L |
| NC contact | | | | | | | |
|  | 3-core | – | PNP | ■ | 2.5 | 150 390 | SIEN-M8B-PO-K-L |
|  | – | 3-pin | PNP | ■ | | 150 391 | SIEN-M8B-PO-S-L |

| 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 | |
|  | 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 | |

Passive guide axes FDG, without drive

Peripherals overview



Passive guide axes FDG, without drive

Peripherals overview

| Variants and accessories | | |
|---------------------------------------|--|-----------------|
| Type | Brief description | → Page/Internet |
| 1 Passive guide axis FDG | Guide without drive | 5 / 3.1-46 |
| 2 Emergency buffer with retainer A | Absorbs the energy created by the movement of the slide when it reaches the end position | 62 |
| 3 Shock absorber kits C/E | Absorbs the energy created by the movement of the slide when it reaches the end position | 61 |
| 4 Switching lug L | For sensing the slide position | 63 |
| 5 Sensor bracket T | Adapter for mounting the SIEN proximity sensor on the axis | 63 |
| 6 Proximity sensors O/P/R/W | For providing a proximity signal or safety check | 65 |
| 7 Cable with socket V | For proximity sensor | 65 |
| 8 Slot nut for slide X | For mounting loads and attachments on the slide | 64 |
| 9 Centring sleeve Z | For centring loads and attachments on the slide | 64 |
| 10 Slot cover B/S | To protect against the ingress of dirt | 64 |
| 11 Slot nut for mounting slot Y | For mounting attachments | 64 |
| 12 Central support M | To mount the axis | 60 |
| 13 Foot mounting F | To mount the axis | 60 |

Passive guide axes FDG, without drive

Type codes



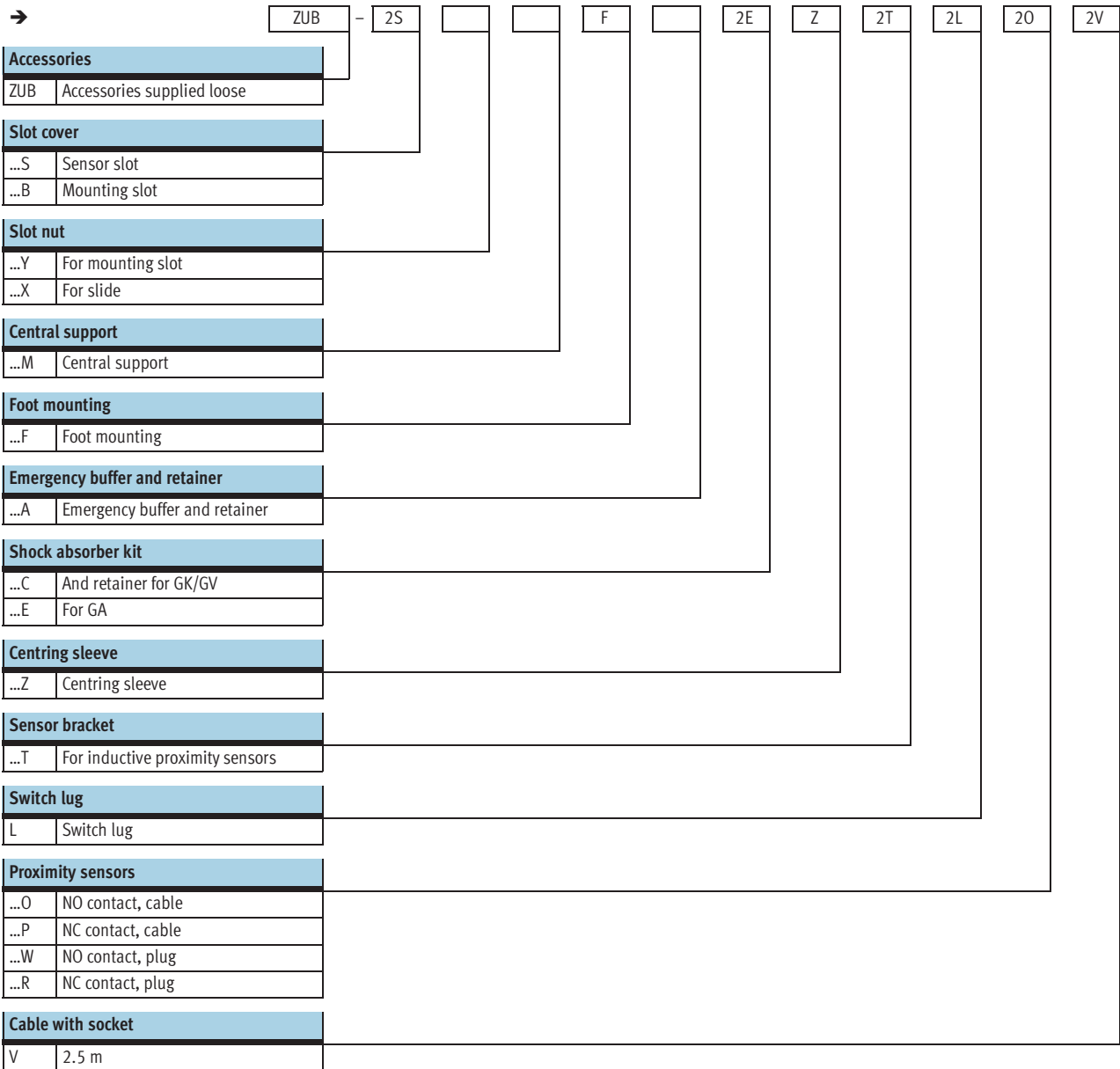
System components
Passive guide axes

3.1

| | | | | | | | | | | | | | |
|---------------------------|----------------------------------|---|----|---|-----|---|----|---|----|---|----|---|--|
| | FDG | - | 25 | - | 500 | - | ZR | - | KF | - | GK | - | |
| Type | | | | | | | | | | | | | |
| FDG | Guide unit without drive | | | | | | | | | | | | |
| Size | | | | | | | | | | | | | |
| Stroke [mm] | | | | | | | | | | | | | |
| Passive guide axis | | | | | | | | | | | | | |
| ZR | For toothed belt axis DGE-ZR-KF | | | | | | | | | | | | |
| SP | For spindle drive DGE-SP-KF | | | | | | | | | | | | |
| P | For pneumatic linear drive DGPL | | | | | | | | | | | | |
| Guide | | | | | | | | | | | | | |
| KF | Recirculating ball bearing guide | | | | | | | | | | | | |
| Slide | | | | | | | | | | | | | |
| GK | Standard slide | | | | | | | | | | | | |
| GV | Extended slide | | | | | | | | | | | | |
| GA | Protected version | | | | | | | | | | | | |
| Additional slide | | | | | | | | | | | | | |
| KL | Left | | | | | | | | | | | | |
| KR | Right | | | | | | | | | | | | |



Passive guide axes FDG, without drive

Type codes

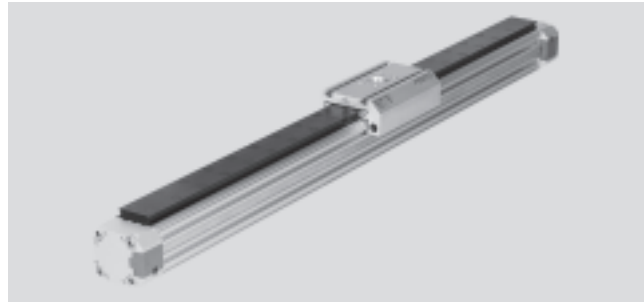


Passive guide axes FDG, without drive

Technical data

-  Size
18 ... 63
-  Stroke length
100 ... 5,100 mm

 www.festo.com



| General technical data | | | 18 | 25 | 32 | 40 | 50 | 63 |
|----------------------------------|---|------|--------------|--------------|--------------|--------------|--------------|--------------|
| Size | | | 18 | 25 | 32 | 40 | 50 | 63 |
| Max. stroke | FDG-ZR | [mm] | 1 ... 1,000 | 1 ... 5,100 | – | 1 ... 4,900 | – | 1 ... 4,700 |
| | FDG-SP | [mm] | 1 ... 500 | 1 ... 1,000 | – | 1 ... 1,500 | – | 1 ... 2,000 |
| | FDG-P | [mm] | 10 ... 1,800 | 10 ... 3,000 | 10 ... 3,000 | 10 ... 3,000 | 10 ... 3,000 | 10 ... 3,000 |
| Design | Driveless linear guide unit with slide | | | | | | | |
| Guide | External recirculating ball bearing guide | | | | | | | |
| Fitting position | Any | | | | | | | |
| Cushioning | Not adjustable at either end | | | | | | | |
| | Self-adjusting at both ends | | | | | | | |
| Type of mounting | Profile mounting | | | | | | | |
| | Foot mounting | | | | | | | |
| | Direct mounting | | | | | | | |
| Increase in no-load drive torque | for DGE-...-ZR by | [Nm] | 0.005 | 0.02 | – | 0.03 | – | 0.085 |
| | for DGE-SP by | [Nm] | 0.04 | 0.1 | – | 0.15 | – | 0.45 |
| Thrust ¹⁾ | | [N] | 5 | 10 | 7 | 9 | 12 | 16 |
| Ambient temperature | | [°C] | –10 ... +60 | | | | | |

1) Measured at FDG-18 = 0.05 m/s; FDG-25... 63 = 0.2m/s

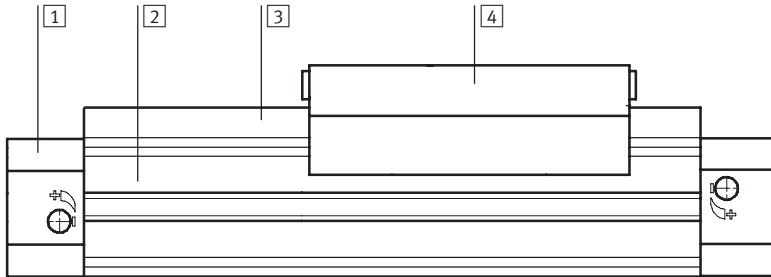
| Weights [kg] | | | 18 | 25 | 32 | 40 | 50 | 63 |
|-------------------------------------|----|--|-------|-------|-------|-------|--------|--------|
| FDG-ZR | | | | | | | | |
| Basic weight at 0 mm stroke | GK | | 0.879 | 2.022 | – | 6.055 | – | 21.493 |
| | GV | | 1.341 | 2.927 | – | 7.939 | – | 31.464 |
| | GA | | – | 2.931 | – | 8.128 | – | – |
| Additional weight per 100 mm stroke | GK | | 0.274 | 0.479 | – | 0.968 | – | 2.423 |
| | GV | | 0.274 | 0.479 | – | 0.968 | – | 2.423 |
| | GA | | – | 0.570 | – | 1.092 | – | – |
| FDG-SP | | | | | | | | |
| Basic weight at 0 mm stroke | GK | | 0.743 | 1.482 | – | 4.296 | – | 13.454 |
| | GV | | 1.232 | 2.530 | – | 7.678 | – | 25.847 |
| | GA | | – | 2.459 | – | 6.798 | – | – |
| Additional weight per 100 mm stroke | GK | | 0.274 | 0.479 | – | 0.968 | – | 2.423 |
| | GV | | 0.274 | 0.479 | – | 0.968 | – | 2.423 |
| | GA | | – | 0.570 | – | 1.092 | – | – |
| FDG-P | | | | | | | | |
| Basic weight at 0 mm stroke | GK | | 0.685 | 1.416 | 2.449 | 4.160 | 8.445 | 13.328 |
| | GV | | 1.147 | 2.321 | 3.784 | 6.961 | 13.491 | 23.3 |
| | GA | | – | 2.211 | 3.282 | 5.989 | – | – |
| Additional weight per 100 mm stroke | GK | | 0.274 | 0.479 | 0.705 | 0.968 | 1.8 | 2.423 |
| | GV | | 0.274 | 0.479 | 0.705 | 0.968 | 1.8 | 2.423 |
| | GA | | – | 0.570 | 0.808 | 1.092 | – | – |

Passive guide axes FDG, without drive

Technical data

Materials

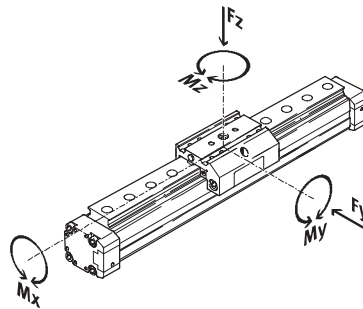
Sectional view



| Axis | | |
|------------------|------------|---|
| 1 | End cap | Anodised aluminium |
| 2 | Profile | Anodised aluminium |
| 3 | Guide rail | ∅ 18 |
| | | ∅ 25 ... 63 |
| | | Hardened steel |
| | | Hardened steel with corrosion resistant coating |
| 4 | Slide | Anodised aluminium |
| Note on material | | Free of copper, PTFE and silicone |

Characteristic load values

The forces and torques specified refer to the centre of the guide rails. They must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



If the axis is simultaneously subjected to several of the forces and torques listed below, the following equations must be satisfied in addition to the indicated maximum loads.

$$\frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} + \frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} \leq 1$$

| Permissible forces and torques | | | | | | | |
|--|------|-----|-------|-------|-------|-------|--------|
| Size | | 18 | 25 | 32 | 40 | 50 | 63 |
| GK/GA – standard slide/protected slide | | | | | | | |
| F _y _{max.} | [N] | 930 | 3,080 | 3,080 | 7,300 | 7,300 | 14,050 |
| F _z _{max.} | [N] | 930 | 3,080 | 3,080 | 7,300 | 7,300 | 14,050 |
| M _x _{max.} | [Nm] | 7 | 45 | 63 | 170 | 240 | 580 |
| M _y _{max.} | [Nm] | 23 | 85 | 127 | 330 | 460 | 910 |
| M _z _{max.} | [Nm] | 23 | 85 | 127 | 330 | 460 | 910 |
| GV – extended slide | | | | | | | |
| F _y _{max.} | [N] | 930 | 3,080 | 3,080 | 7,300 | 7,300 | 14,050 |
| F _z _{max.} | [N] | 930 | 3,080 | 3,080 | 7,300 | 7,300 | 14,050 |
| M _x _{max.} | [Nm] | 7 | 45 | 63 | 170 | 240 | 580 |
| M _y _{max.} | [Nm] | 45 | 170 | 250 | 660 | 920 | 1,820 |
| M _z _{max.} | [Nm] | 45 | 170 | 250 | 660 | 920 | 1,820 |

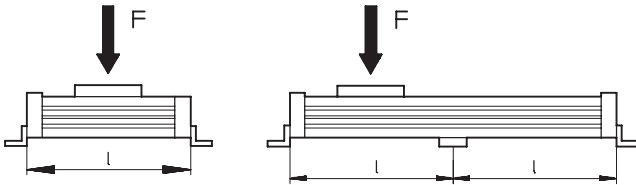
Passive guide axes FDG, without drive

Technical data

Maximum permissible support span l as a function of the force F

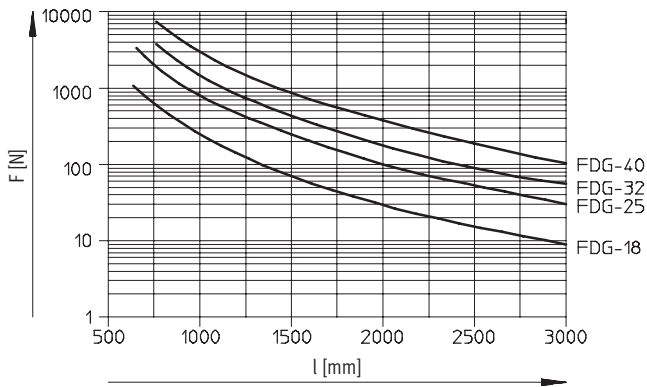
The axis may need to be supported with central supports MUP in order to limit deflection in the case of large strokes. The following diagrams serve to determine the maximum permissible support span l as a function of the force F .

Force on the surface of the slide

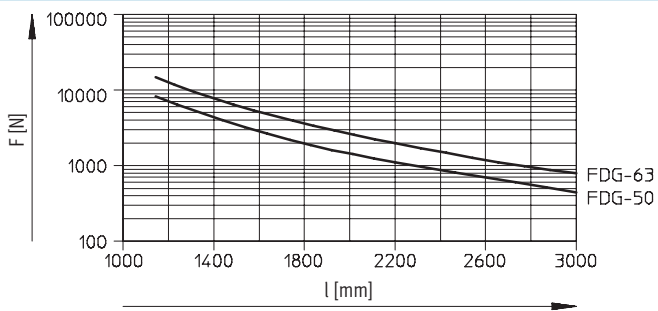


Maximum permissible support span l (without central support) as a function of the force F

Size 18...40



Size 50...63



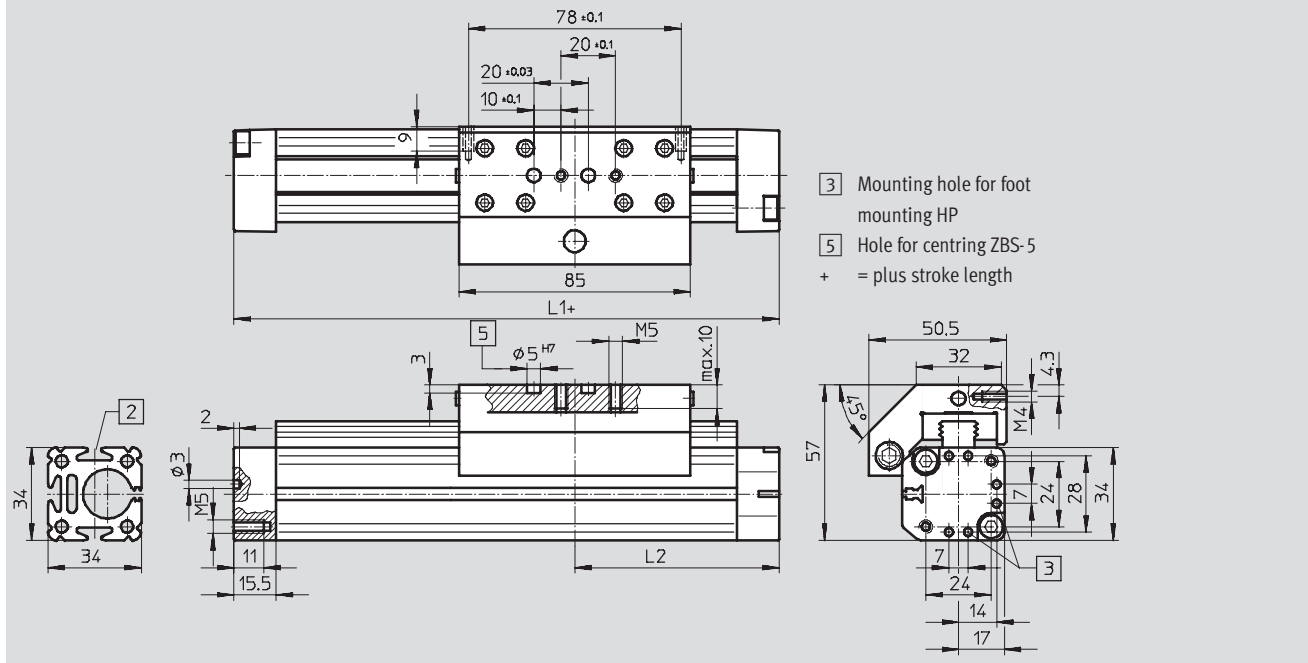
Passive guide axes FDG, without drive

Technical data

Dimensions Download CAD data → www.festo.com

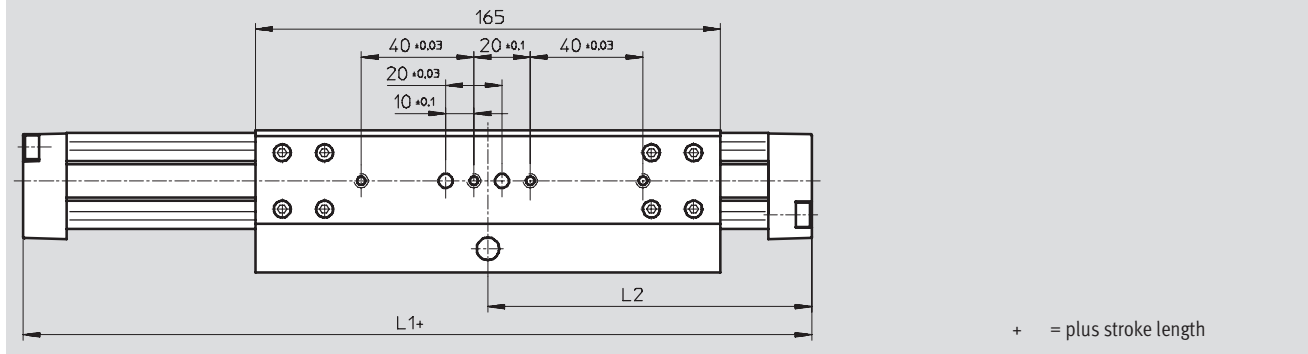
Standard slide GK

Size 18-...



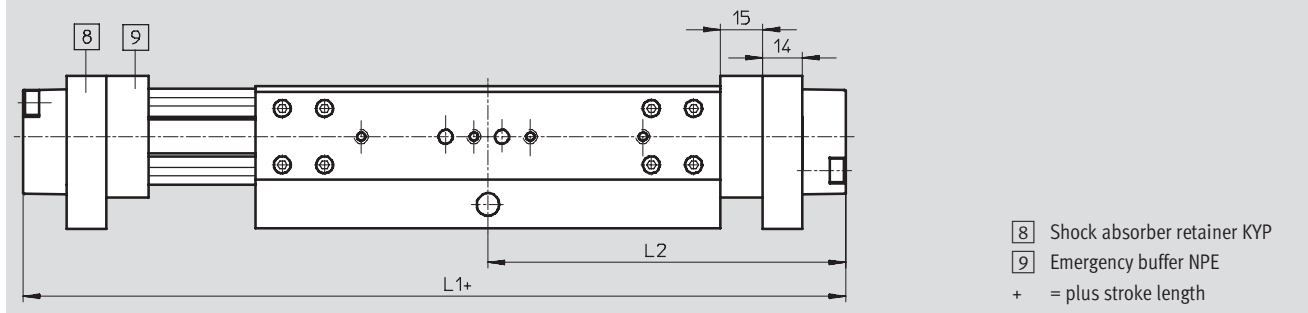
Extended slide GV

Size 18-P-GV



Extended slide GV

Size 18-ZR/-SP



| Size | L1 | | L2 | |
|-------------------|-----|-----|-------|-------|
| | GK | GV | GK | GV |
| FDG-18-...-P-... | 150 | 230 | 75 | 115 |
| FDG-18-...-ZR-... | 221 | 301 | 110.5 | 150.5 |
| FDG-18-...-SP-... | 171 | 261 | 92 | 132 |

Passive guide axes FDG, without drive

Technical data

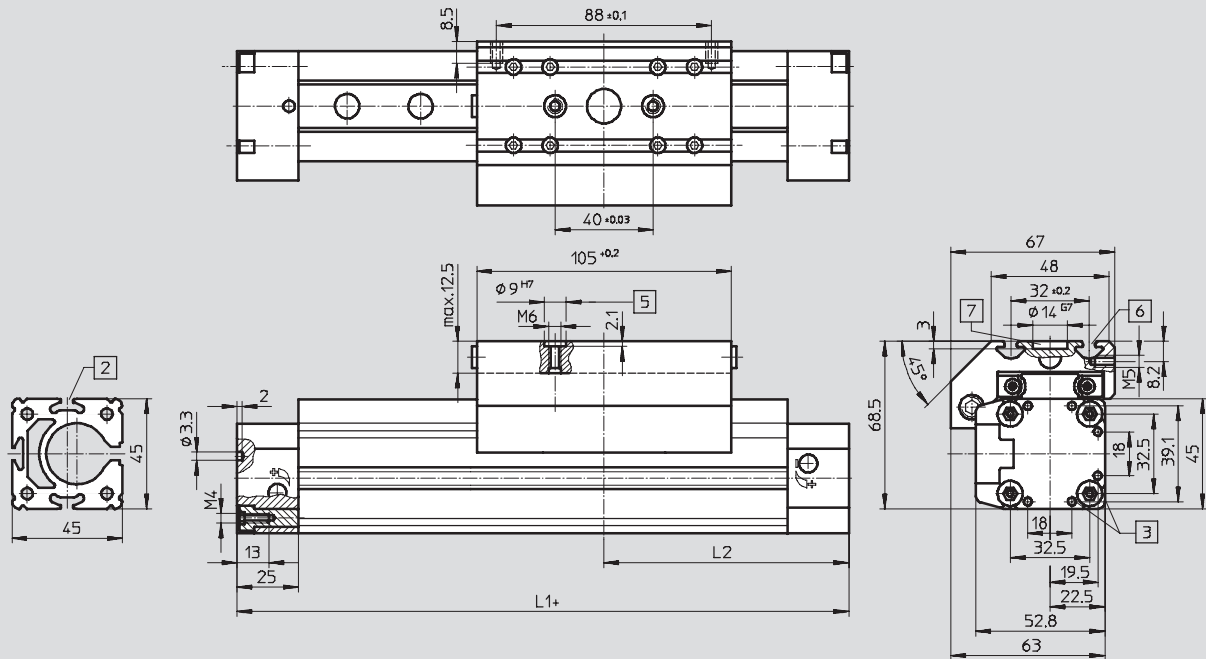
FESTO

Dimensions

Standard slide GK

Download CAD data → www.festo.com

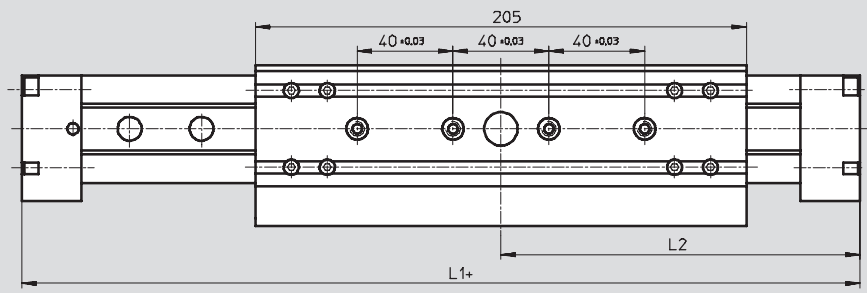
Size 25-...



- 3 Mounting hole for foot mounting HP
- 5 Hole for centring sleeve ZBH-9
- 6 Mounting slot for slot nut NSTL + = plus stroke length
- 7 Drilled hole for central mounting SLZZ

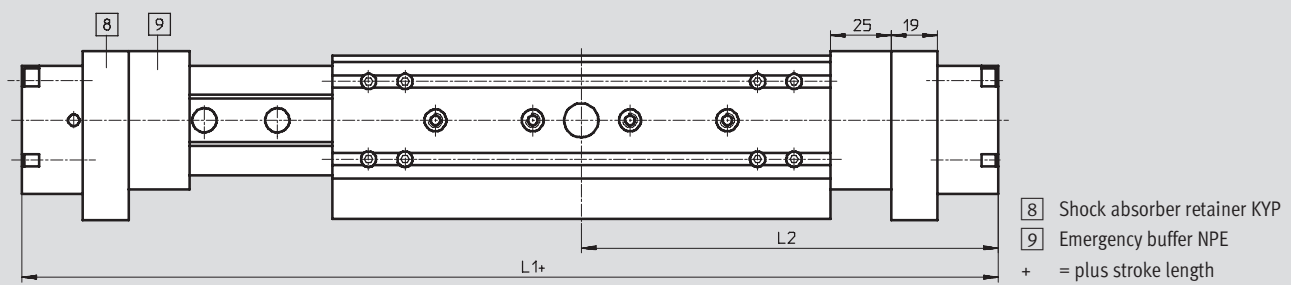
Extended slide GV

Size 25-P



Extended slide GV

Size 25-ZR/-SP



- 8 Shock absorber retainer KYP
- 9 Emergency buffer NPE
- + = plus stroke length

Passive guide axes FDG, without drive

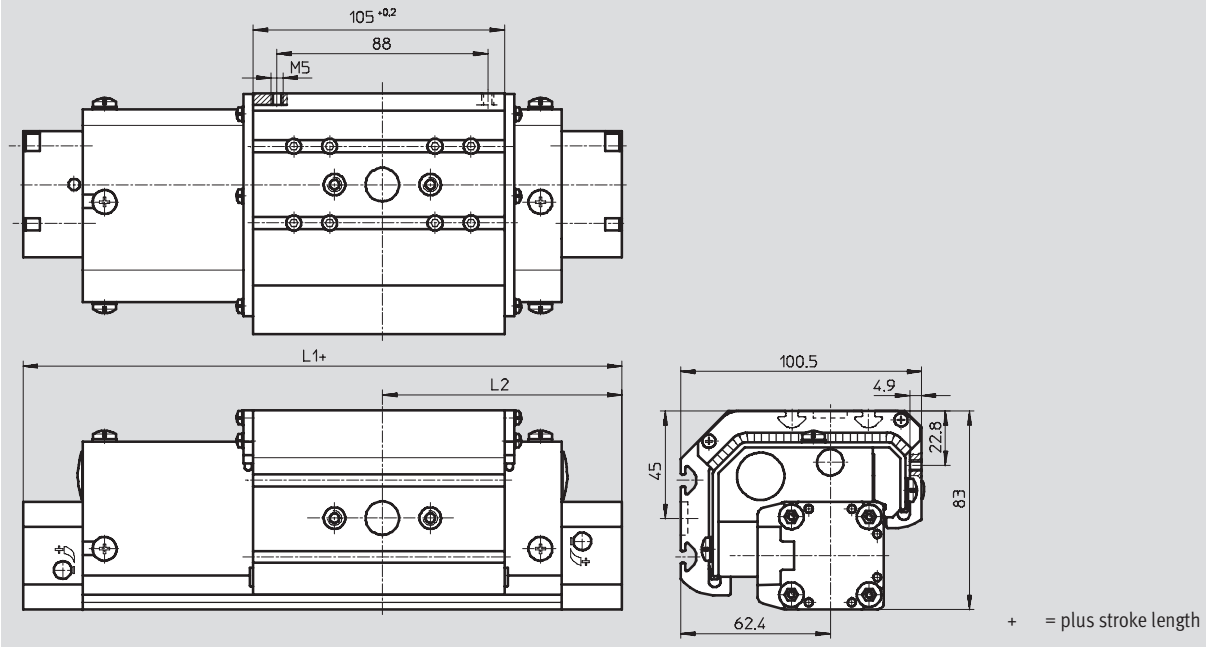
Technical data

Dimensions

Download CAD data → www.festo.com

Protected version GA

Size 25-...GA



| Size | L1 | | | L2 | | |
|-------------------|-----|-----|-----|-------|-------|-------|
| | GK | GV | GA | GK | GV | GA |
| FDG-25-...-P-... | 200 | 300 | 200 | 100 | 150 | 100 |
| FDG-25-...-ZR-... | 326 | 426 | 326 | 163 | 213 | 163 |
| FDG-25-...-SP-... | 213 | 343 | 243 | 101.5 | 171.5 | 121.5 |

Passive guide axes FDG, without drive

Technical data

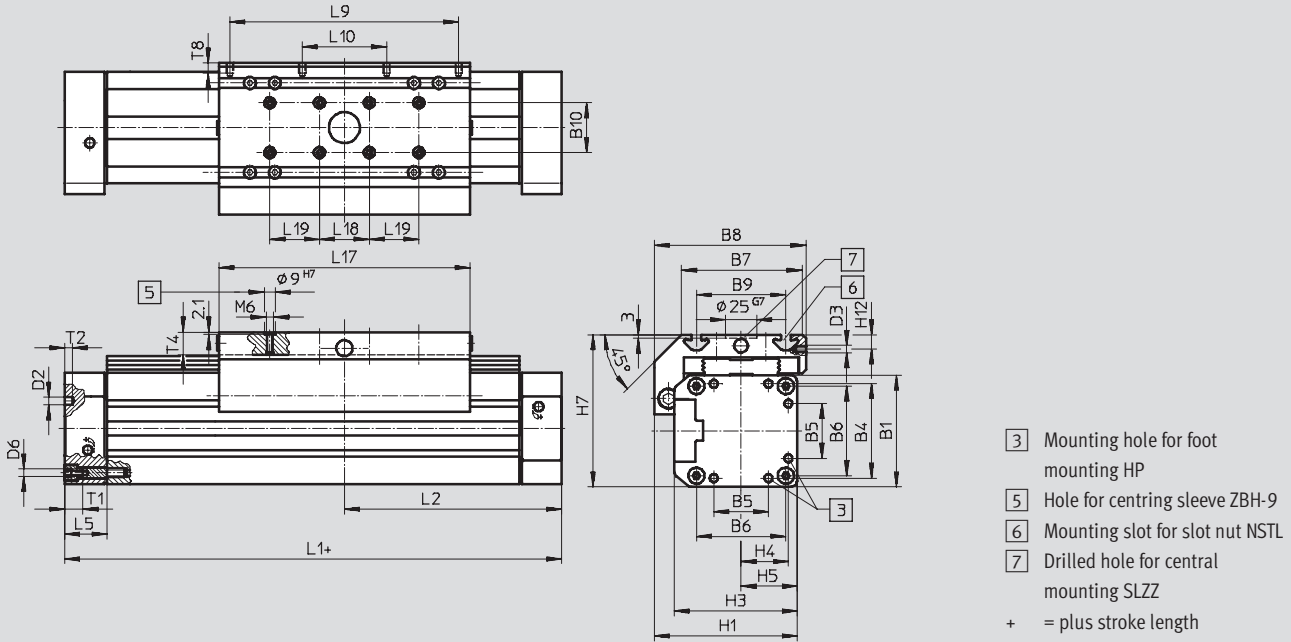
FESTO

Dimensions

Download CAD data → www.festo.com

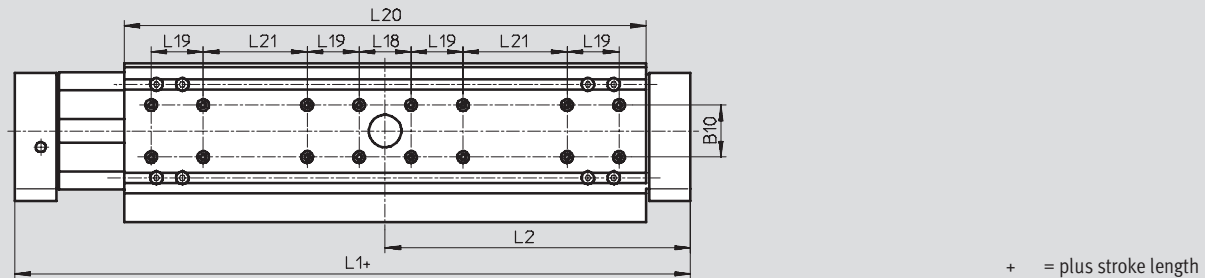
Standard slide GK

Size 32...63-...



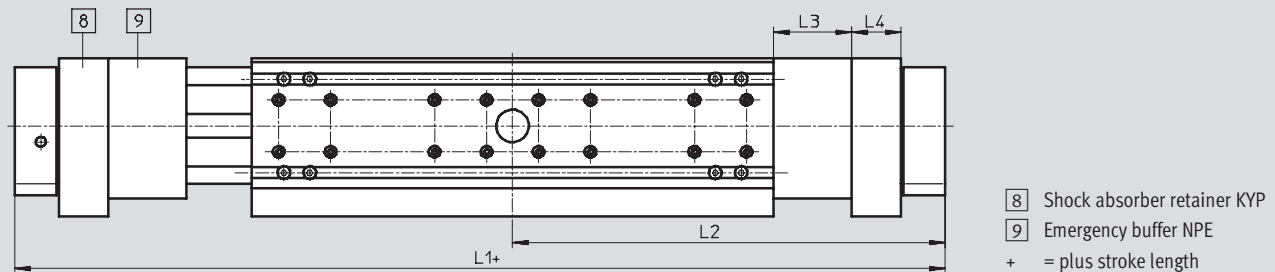
Extended slide GV

Size 32...63-P



Extended slide GV

Size 40/63-ZR/-SP



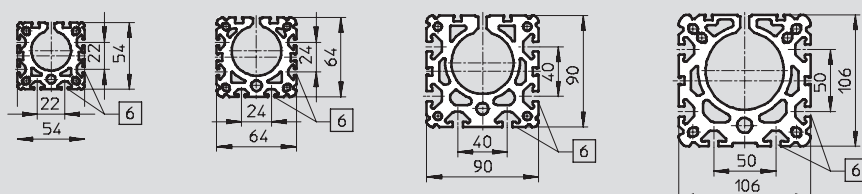
Profile barrel

Size 32

Size 40

Size 50

Size 63



Passive guide axes FDG, without drive

Technical data

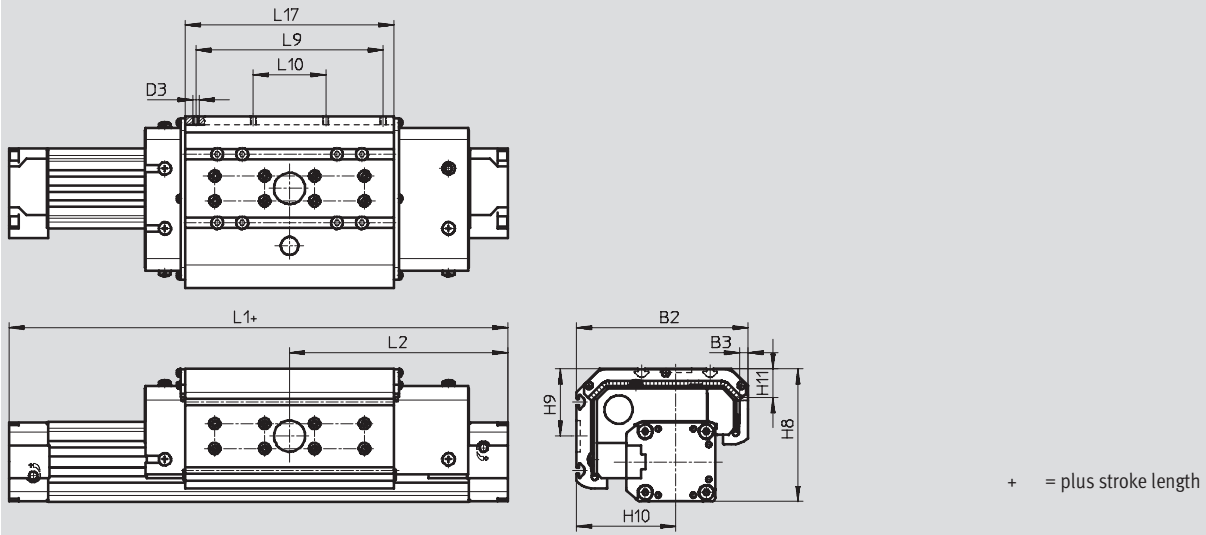
FESTO

Dimensions

Download CAD data → www.festo.com

Dust-proof version

Size 32/40-...GA



| Size | L1 | | | L2 | | |
|--------------------|-----|-----|-----|-------|-------|-------|
| | GK | GV | GA | GK | GV | GA |
| FDG-32-...-P-...- | 250 | 380 | 250 | 125 | 190 | 125 |
| FDG-40-...-P-...- | 300 | 470 | 300 | 150 | 235 | 150 |
| FDG-50-...-P-...- | 350 | 550 | - | 175 | 275 | - |
| FDG-63-...-P-...- | 400 | 650 | - | 200 | 325 | - |
| FDG-40-...-ZR-...- | 497 | 667 | 497 | 248.5 | 333.5 | 248.5 |
| FDG-63-...-ZR-...- | 738 | 988 | - | 369 | 494 | - |
| FDG-40-...-SP-...- | 315 | 545 | 375 | 153 | 271.5 | 186.5 |
| FDG-63-...-SP-...- | 406 | 756 | - | 198 | 378 | - |

| Size | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 | B9 | B10 | D2 | D3 |
|------|-----|-------|----|----|----|----|------|------|------|-----|-----|----|
| | | | | | | | | | ±0.2 | | ∅ | |
| 32 | 54 | 112.1 | - | 46 | 21 | 40 | 63 | 79 | 47 | 20 | 4.3 | M5 |
| 40 | 64 | 137.6 | 7 | 53 | 28 | 49 | 78.5 | 96.5 | 55 | 20 | 4.3 | M5 |
| 50 | 90 | - | - | 76 | 44 | 72 | 97 | 122 | 72 | 40 | 6.3 | M6 |
| 63 | 106 | - | - | 89 | 44 | 83 | 121 | 142 | 90 | 40 | 6.3 | M8 |

| Size | D6 | H1 | H2 | H3 | H4 | H5 | H7 | H8 | H9 | H10 | H11 | H12 | L3 |
|------|----|-----|-----|------|------|----|-------|-------|------|------|------|------|----|
| 32 | M5 | 72 | 66 | 62 | 23 | 27 | 77.5 | 93.1 | 49.5 | 64.5 | - | 8.3 | - |
| 40 | M5 | 86 | 78 | 71.8 | 26.5 | 32 | 90.5 | 106.6 | 54 | 79.6 | 23.1 | 7 | 40 |
| 50 | M6 | 115 | 106 | 99 | 36 | 45 | 122.5 | - | - | - | - | 11.5 | - |
| 63 | M8 | 131 | 122 | 115 | 44.5 | 53 | 144.5 | - | - | - | 39.5 | 12.5 | 63 |

| Size | L4 | L5 | L9 | L10 | L17 | L18 | L19 | L20 | L21 | T1 | T2 | T4 | T8 |
|------|----|----|------|------|------|-------|-------|-----|------|------|----|------|------|
| | | | ±0.1 | ±0.1 | ±0.2 | ±0.03 | ±0.03 | | ±0.1 | | | | |
| 32 | - | 31 | 112 | - | 131 | 40 | - | 261 | 40 | 13.2 | 3 | 12.5 | 8.5 |
| 40 | 32 | 31 | 150 | 58 | 167 | 40 | 40 | 337 | 40 | 13.2 | 4 | 12.5 | 8.5 |
| 50 | - | 34 | 184 | 68 | 202 | 40 | 40 | 402 | 80 | 15.2 | 6 | 18.5 | 8 |
| 63 | 44 | 34 | 200 | 72 | 230 | 40 | 40 | 480 | 120 | 21.2 | 6 | 20.5 | 10.5 |

Passive guide axes FDG, without drive

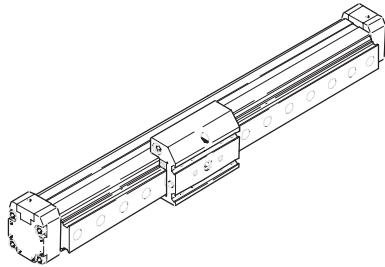
Ordering data – Modular product system



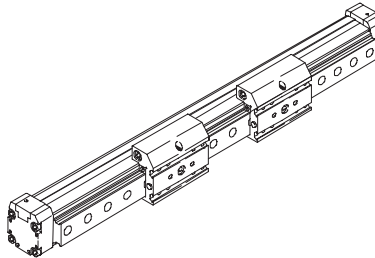
Order code

Mandatory data/Options

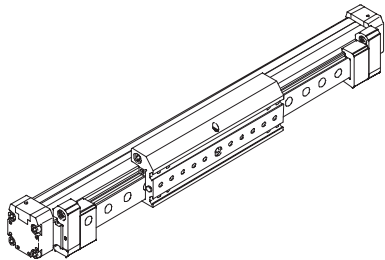
Standard slide GK



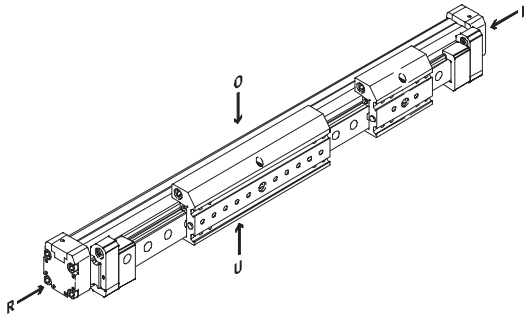
Standard slide plus additional slide GK-KL/-KR



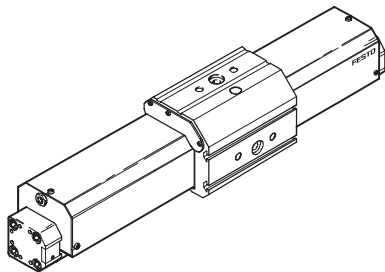
Extended slide GV




Extended slide plus additional slide GK-KL/-KR



Dust-proof version GA



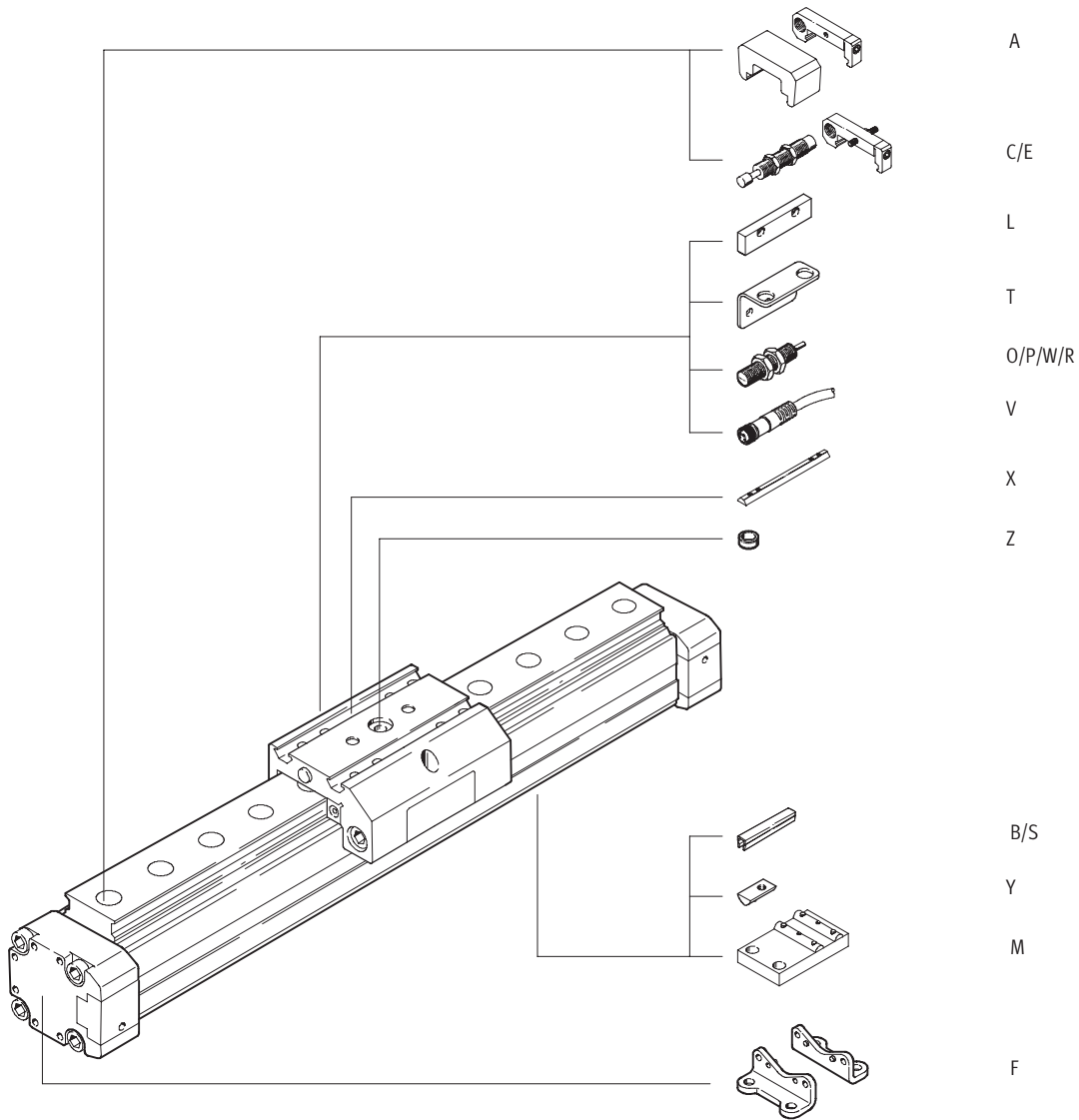
-  - Note
 O = top
 R = right
 U = underneath
 L = left

Passive guide axes FDG, without drive

Ordering data – Modular product system

Order code

Options



Passive guide axes FDG, without drive

Ordering data – Modular product system



| M Mandatory data | | | | | | | Options → |
|-------------------------|----------------|------|-------------|--------------------|-------|----------------|------------------|
| Module No. | Drive function | Size | Stroke | Passive guide axis | Guide | Slide | Additional slide |
| 192 850 | FDG | 18 | 1 ... 5 100 | ZR SP P | KF | GK GV GA | KL KR |
| 192 851 | | 25 | | | | | |
| 192 852 | | 32 | | | | | |
| 192 853 | | 40 | | | | | |
| 192 854 | | 50 | | | | | |
| 192 855 | | 63 | | | | | |
| Ordering example | | | | | | | |
| 192 853 | FDG | - 40 | - 500 | - ZR | - KF | - GK | - |

| Ordering table | | | | | | | | | | |
|---|----------------------------------|--------------|--------------|--------------|--------------|--------------|-----------------|------|---------------|-----|
| Size | 18 | 25 | 32 | 40 | 50 | 63 | Condi- tions | Code | Enter code | |
| M Module No. | 192 850 | 192 851 | 192 852 | 192 853 | 192 854 | 192 855 | | | | |
| Drive function | Guide unit without drive | | | | | | | | FDG | FDG |
| Size | 18 | 25 | 32 | 40 | 50 | 63 | | -... | | |
| Stroke [mm] (as for corresponding drive axis) | with ZR | 1 ... 1 000 | 1 ... 1 100 | - | 1 ... 4 900 | - | 1 ... 4 700 | | -... | |
| | with SP | 1 ... 500 | 1 ... 1 000 | - | 1 ... 1 500 | - | 1 ... 2 000 | | | |
| | with P | 10 ... 1 800 | 10 ... 3 000 | 10 ... 3 000 | 10 ... 3 000 | 10 ... 3 000 | 10 ... 3 000 | | | |
| Passive guide axis | for | DGE-ZR | DGE-ZR | - | DGE-ZR | - | DGE-ZR | | -ZR | |
| | for | DGE-SP | DGE-SP | - | DGE-SP | - | DGE-SP | | -SP | |
| | for | DGP | DGP | DGP | DGP | DGP | DGP | | -P | |
| Guide | Recirculating ball bearing guide | | | | | | | | -KF | -KF |
| Slide | Standard | | | | | | | | -GK | |
| | Extended | | | | | | | | -GV | |
| | Maximum stroke [mm] | | | | | | | | | |
| | with ZR | (920) | (5 000) | - | (4 730) | - | (4 450) | | | |
| | with SP | (410) | (870) | - | (1 270) | - | (1 650) | | | |
| | Protected version | | | | | | | | | |
| | Maximum stroke [mm] | | | | | | | | | |
| with ZR | - | (1 800) | - | (1 800) | - | - | | | | |
| with SP | - | (970) | - | (1 440) | - | - | | | | |
| with P | - | (2 000) | (2 000) | (2 000) | - | - | | | | |
| O Additional slide | Standard slide left | | | | | | | 2 | -KL | |
| ↓ | Standard slide right | | | | | | | 2 | -KR | |

1 GA Not with accessories T, L, O, P, W, R.

2 KL, KR Only with slide GK or GV.

Transfer order code

Passive guide axes FDG, without drive

Ordering data – Modular product system



| Options | | | | | | | | | | | |
|-------------|--------------|--------------|-----------------|---------------|-------------------------------|----------------|-----------------|----------------|---------------|------------------------------|-------------|
| Accessories | Slot cover | Slot nut | Central support | Foot mounting | Emergency buffer and retainer | Shock absorber | Centring sleeve | Sensor bracket | Switching lug | Proximity sensors | Plug socket |
| ZUB | ...S ...B | ...Y ...X | ...M | ...F | ...A | ...C ...E | ...Z | ...T | L | ...O ...P ...W ...R | ...V |
| ZUB | SB | 4Y2X | | F | | 2C | 10Z | | | 20 | |

| Ordering table | | | | | | | | | | | |
|----------------|-------------------------------|--|----------|----------|----------|---------|---------|-----------------|------|---------------|------|
| Size | | 18 | 25 | 32 | 40 | 50 | 63 | Condi- tions | Code | Enter code | |
| ↓ | Accessories | Supplied separately | | | | | | | | ZUB- | ZUB- |
| 0 | Slot cover | Sensor slot | 1 ... 10 | | | | | | ...S | | |
| | | Mounting slot | – | – | 1 ... 10 | | | | ...B | | |
| | Slot nut | for mounting slot | 1 ... 10 | | | | | | ...Y | | |
| | | for slide | – | 1 ... 10 | | | | | | ...X | |
| | Central support | 1 ... 10 | | | | | | | ...M | | |
| | Foot mounting (kit) | 1 ... 10 | | | | | | | ...F | | |
| | Emergency buffer and retainer | 1 ... 2 | 1 ... 2 | – | 1 ... 2 | – | 1 ... 2 | [3] | ...A | | |
| | | Effective stroke reduction [mm] with emergency buffer at both ends | | | | | | | | | |
| | | (10) | (30) | – | (60) | – | (100) | | | | |
| | Shock absorber and retainer | 1 ... 2 | | | | | | [4] | ...C | | |
| | | for dust-proof version | – | 1 ... 2 | | – | – | [5] | ...E | | |
| | Centring sleeve (pack of 10) | 10, 20, 30, 40, 50, 60, 70, 80, 90 | | | | | | | ...Z | | |
| | Sensor bracket | 1 ... 5 | | – | 1 ... 5 | – | 1 ... 5 | | ...T | | |
| | Switching lug | 1 | – | 1 | – | 1 | | | L | | |
| | Inductive proximity sensor | NO contact, cable | 1 ... 5 | | – | 1 ... 5 | – | 1 ... 5 | ...O | | |
| | | NC contact, cable | 1 ... 5 | | – | 1 ... 5 | – | 1 ... 5 | ...P | | |
| | | NO contact, plug | 1 ... 5 | | – | 1 ... 5 | – | 1 ... 5 | ...W | | |
| | | NC contact, plug | 1 ... 5 | | – | 1 ... 5 | – | 1 ... 5 | ...R | | |
| | Cable with socket, 2.5 m | 1 ... 5 | | – | 1 ... 5 | – | 1 ... 5 | | ...V | | |

- [3] A Not with passive guide axis P.
Mounted as standard for slides GV, GA.
- [4] C Only with slides GK and GV.

- [5] E Only with slide GA

Transfer order code

ZUB –

Passive guide axes FDG, without drive

Accessories



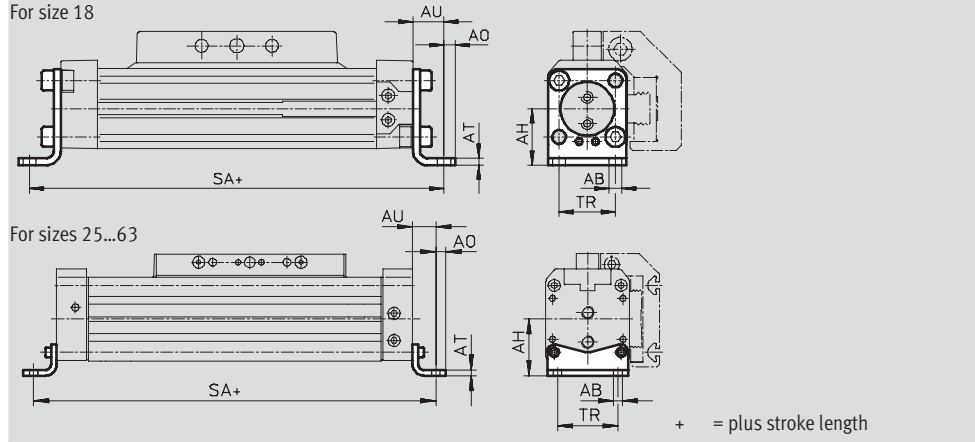
Foot mounting HP (Order code: F)

Material:
Galvanised steel

Free of copper, PTFE and silicone



HP-25



Dimensions and ordering data

| For size | AB ∅ | AH | AO | AT | AU | SA | TR | Weight [g] | Part No. | Type |
|----------|---------|------|------|----|------|-----|------|---------------|----------|-------|
| 18 | 5.5 | 24 | 4.8 | 3 | 13.2 | 176 | 24 | 70 | 158 472 | HP-18 |
| 25 | 5.5 | 29.5 | 6 | 3 | 13 | 226 | 32.5 | 61 | 150 731 | HP-25 |
| 32 | 6.6 | 37 | 7 | 4 | 17 | 284 | 38 | 117 | 150 732 | HP-32 |
| 40 | 6.6 | 46 | 8.5 | 5 | 17.5 | 335 | 45 | 188 | 150 733 | HP-40 |
| 50 | 9 | 61 | 11 | 6 | 25 | 400 | 65 | 243 | 150 734 | HP-50 |
| 63 | 11 | 69 | 13.5 | 6 | 28 | 456 | 75 | 305 | 150 735 | HP-63 |

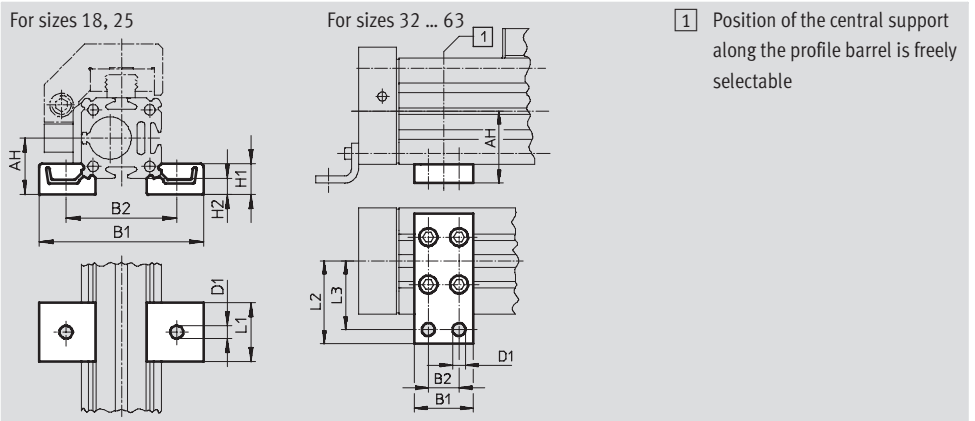
Central support MUP (Order code: M)

Material:
Galvanised steel

Free of copper, PTFE and silicone



MUP-40



Dimensions and ordering data

| For size | AH | B1 | B2 | D1 ∅ | H1 | H2 | L1 | L2 | L3 | Weight [g] | Part No. | Type |
|----------|------|------|----|---------|----|----|----|------|----|---------------|----------|-----------|
| 18 | 24 | 70.5 | 47 | 5.5 | 13 | 7 | 25 | - | - | 33 | 150 736 | MUP-18/25 |
| 25 | 29.5 | 81 | 58 | 5.5 | 13 | 7 | 25 | - | - | 33 | 150 736 | MUP-18/25 |
| 32 | 37 | 35 | 22 | 6.6 | - | - | - | 41.5 | 35 | 89 | 150 737 | MUP-32 |
| 40 | 46 | 35 | 22 | 6.6 | - | - | - | 47 | 40 | 126 | 150 738 | MUP-40 |
| 50 | 61 | 50 | 26 | 11 | - | - | - | 70 | 58 | 241 | 150 739 | MUP-50 |
| 63 | 69 | 50 | 26 | 11 | - | - | - | 77 | 65 | 340 | 150 800 | MUP-63 |

Passive guide axes FDG, without drive

Accessories

FESTO


Shock absorber YSR-...-C

(Order code: C)

Material:

Housing: Galvanised steel; piston rod: high-alloy steel,
Seals: Perbunan, polyurethane
Free of copper, PTFE and silicone



 Note

Shock absorber YSRW with progressive characteristic
→ Internet: ysrw

| Ordering data | | Part No. | Type |
|---------------|------------|----------|-------------|
| For size | Weight [g] | | |
| 18 | 30 | 34 571 | YSR-8-8-C |
| 25 | 70 | 34 572 | YSR-12-12-C |
| 32 | 70 | 34 572 | YSR-12-12-C |
| 40 | 140 | 34 573 | YSR-16-20-C |
| 50 | 140 | 34 573 | YSR-16-20-C |
| 63 | 240 | 34 574 | YSR-20-25-C |

Shock absorber retainer KYP

(Order code: C)

Material:

Retainer: Aluminium
Sleeve: Steel, corrosion resistant



1 Shock absorber retainer KYP (if the retainer is in contact with the front cap, i.e. cap serves to secure the position, the entire stroke length can be utilised)

2 Shock absorber YSR-...-C

3 Position retainer (included in scope of delivery) either behind or underneath the shock absorber retainer KYP

| Dimensions and ordering data | | | | | | | |
|------------------------------|----|---------|-----|-------|------|------------|----------------|
| For size | B8 | D1 | D5 | H2 | H4 | Weight [g] | Part No. Type |
| 18 | 14 | M12x1 | M4 | 50.5 | 4.5 | 66 | 158 907 KYP-18 |
| 25 | 19 | M16x1 | M5 | 69.5 | 6 | 95 | 158 908 KYP-25 |
| 32 | 25 | M16x1 | M5 | 80 | 8 | 130 | 158 909 KYP-32 |
| 40 | 32 | M22x1.5 | M5 | 102 | 8 | 209 | 158 910 KYP-40 |
| 50 | 35 | M22x1.5 | M8 | 124 | 10 | 415 | 158 911 KYP-50 |
| 63 | 44 | M26x1.5 | M10 | 152.5 | 11.5 | 609 | 158 912 KYP-63 |

Passive guide axes FDG, without drive

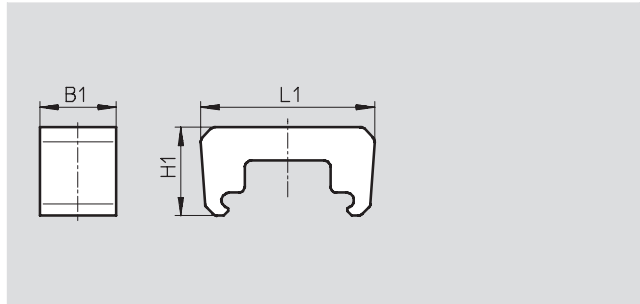
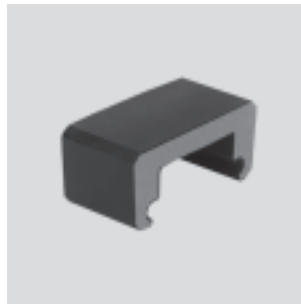
Accessories

FESTO


Emergency buffer NPE

(Order code: A)

Material:
Polyurethane



| Dimensions and ordering data | | | | | | |
|------------------------------|----|-------|------|------------|----------|--------|
| For size | B1 | L1 | H1 | Weight [g] | Part No. | Type |
| 18 | 15 | 43.1 | 28.5 | 6 | 193 901 | NPE-18 |
| 25 | 25 | 57 | 29 | 12 | 193 902 | NPE-25 |
| 40 | 40 | 80.5 | 36 | 41 | 193 904 | NPE-40 |
| 63 | 60 | 128.6 | 55 | 152 | 193 906 | NPE-63 |

 Note
The emergency buffer can only be used in conjunction with shock absorber retainer KYP. →61 (A threaded pin and nut are not required.)

Shock absorber DG-GA

for protected version GA

(Order code: E)

Material:
Housing: Galvanised steel; piston rod: high-alloy steel
Seals: Perbunan, polyurethane
Free of copper, PTFE and silicone



| Ordering data | | | |
|---------------|------------|----------|--------------|
| For size | Weight [g] | Part No. | Type |
| 25 | 70 | 192 875 | DG-GA-25-YSR |
| 40 | 140 | 192 877 | DG-GA-40-YSR |

Passive guide axes FDG, without drive

Accessories

Sensor bracket HWS

For inductive proximity sensors

(Order code: T)

Material:

Galvanised steel

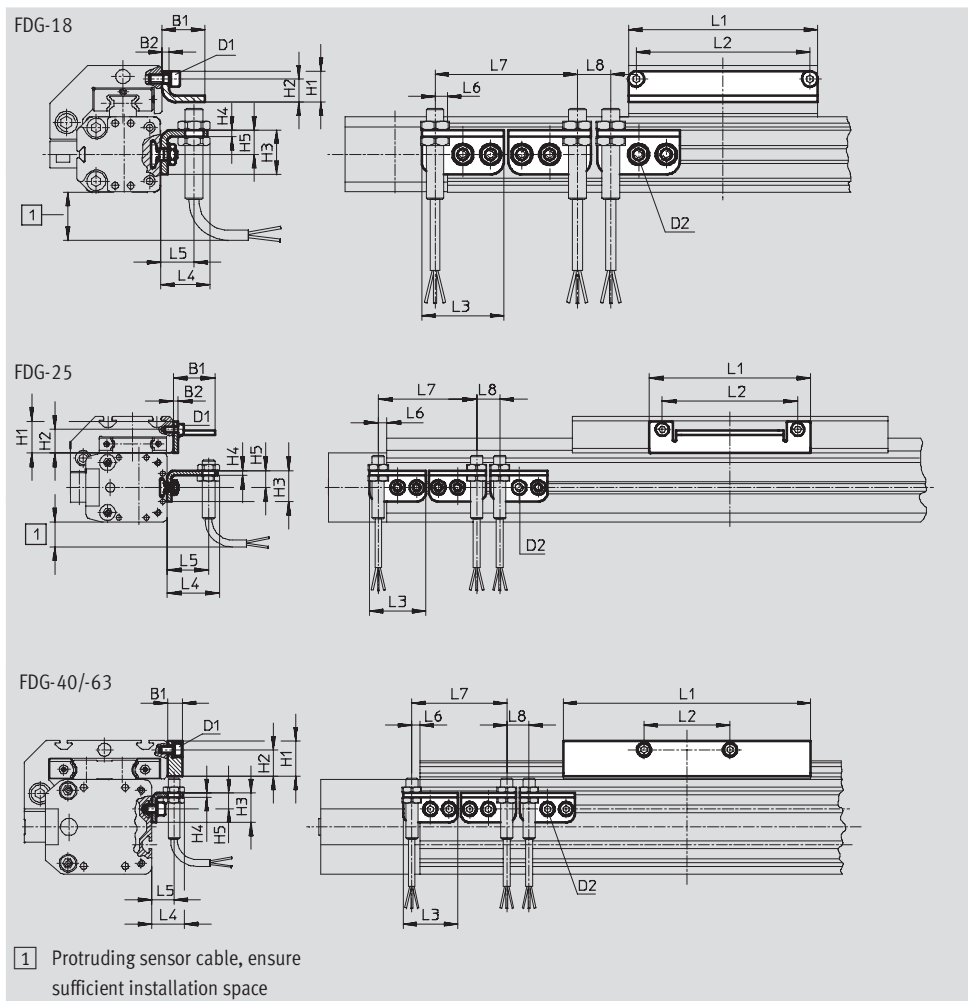


Switching lug SF

(Order code: L)

Material:

Galvanised steel




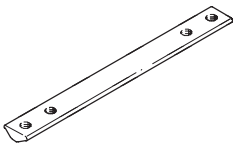

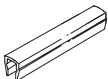
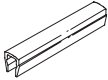
| Dimensions and ordering data | | | | | | | | | | | |
|------------------------------|----|----|----|----|------|------|----|----|----|-----|----|
| For size | D1 | D2 | B1 | B2 | H1 | H2 | H3 | H4 | H5 | L1 | L2 |
| 18 | M4 | M5 | 19 | 3 | 14 | 10.5 | 20 | 3 | 11 | 85 | 78 |
| 25 | M5 | M5 | 27 | 3 | 20.5 | 15.3 | 20 | 3 | 11 | 105 | 88 |
| 40 | M5 | M5 | 10 | - | 24 | 18 | 20 | 3 | 11 | 167 | 58 |
| 63 | M8 | M5 | 10 | - | 35 | 25 | 20 | 3 | 11 | 230 | 72 |

| For size | L3 | L4 | L5 | L6 max. | L7 min. | L8 min. | Weight [g] | Part No. | Type |
|----------|----|------|----|---------|---------|---------|------------|----------|---------------|
| 18 | 37 | 22.5 | 15 | 5.5 | 64 | 15 | 30 | 188 968 | HWS-18/25-M8 |
| | | | | | | | 60 | 188 964 | SF-18 |
| 25 | 37 | 34.5 | 27 | 5.5 | 64 | 15 | 30 | 540 780 | HWS-25-MAB-M8 |
| | | | | | | | 80 | 540 430 | SF-25-MAB |
| 40 | 37 | 22.5 | 15 | 5.5 | 64 | 15 | 40 | 188 969 | HWS-40-M8 |
| | | | | | | | 310 | 188 966 | SF-40 |
| 63 | 37 | 22.5 | 15 | 5.5 | 64 | 15 | 40 | 188 970 | HWS-63-M8 |
| | | | | | | | 630 | 188 967 | SF-63 |

Passive guide axes FDG, without drive

Accessories

FESTO





| Ordering data | | | | | | |
|--|-----------|---------------------------------|------------|----------------|-------------------|------------------|
| | For size | Remarks | Order code | Part No. | Type | PU ¹⁾ |
| Slot nut NST Technical data → Internet: nst | | | | | | |
|  | 18, 25 | For mounting slot | Y | 526 091 | NST-HMV-M4 | 1 |
| | 32, 40 | | | 150 914 | NST-5-M5 | 1 |
| | 50, 63 | | | 150 915 | NST-8-M6 | 1 |
| Slot nut NSTL Technical data → Internet: nstl | | | | | | |
|  | 25 | For slide | X | 158 410 | NSTL-25 | 1 |
| | 32 | | | 158 411 | NSTL-32 | 1 |
| | 40 | | | 158 412 | NSTL-40 | 1 |
| | 50 | | | 158 413 | NSTL-50 | 1 |
| | 63 | | | 158 414 | NSTL-63 | 1 |
| Centring pin/sleeve ZBS/ZBH Technical data → Internet: zbs, zbh | | | | | | |
|  | 18 | For slide | Z | 150 928 | ZBS-5 | 10 |
| | 25 ... 63 | | | 150 927 | ZBH-9 | 10 |
| Slot cover ABP Technical data → Internet: abp | | | | | | |
|  | 32, 40 | For mounting slot 0.5 m each | B | 151 681 | ABP-5 | 2 |
| | 50, 63 | | | 151 682 | ABP-8 | |
| Slot cover ABP-S Technical data → Internet: abp | | | | | | |
|  | 18 ... 63 | For sensor slot 0.5 m each | S | 151 680 | ABP-5-S | 2 |



1) Packaging unit quantity

Passive guide axes FDG, without drive

Accessories

FESTO

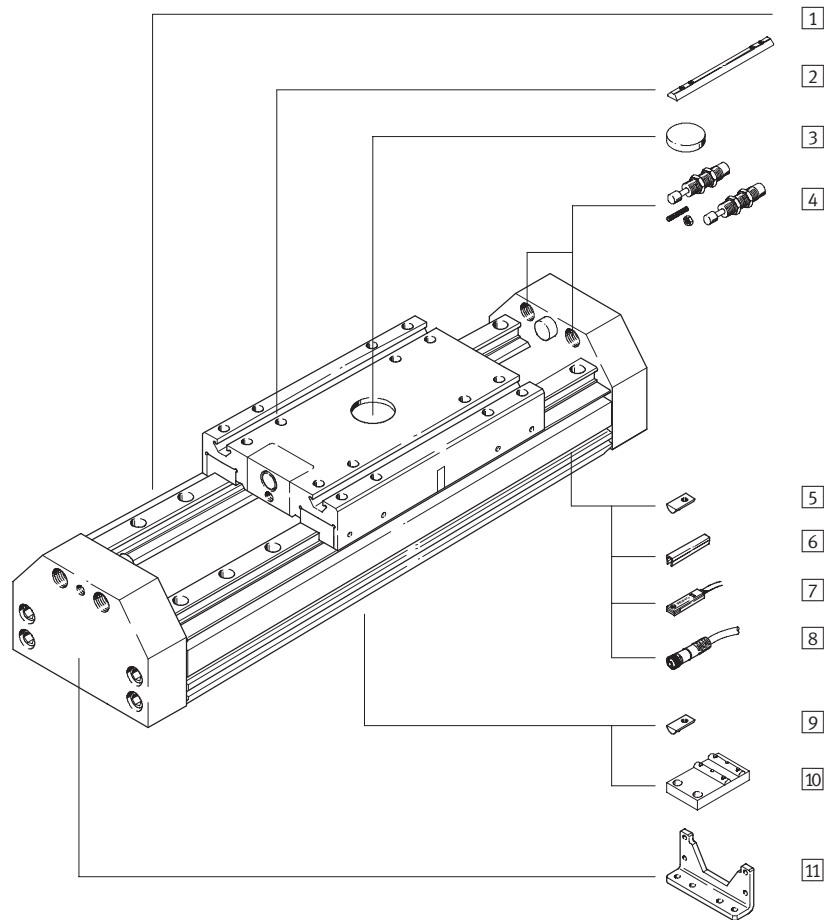
| Ordering data – Inductive proximity sensors M8 | | | | | | Technical data → Internet: sien | |
|---|-----------------------|---------|---------------|-----|------------------|---------------------------------|-----------------|
| | Electrical connection | | Switch output | LED | Cable length [m] | Part No. | Type |
| | Cables | M8 plug | | | | | |
| NO contact | | | | | | | |
|  | 3-wire | – | PNP | ■ | 2.5 | 150 386 | SIEN-M8B-PS-K-L |
|  | – | 3-pin | PNP | ■ | | 150 387 | SIEN-M8B-PS-S-L |
| NC contact | | | | | | | |
|  | 3-wire | – | PNP | ■ | 2.5 | 150 390 | SIEN-M8B-PO-K-L |
|  | – | 3-pin | PNP | ■ | | 150 391 | SIEN-M8B-PO-S-L |

| 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 | | | |
| | | | | | 5 | 541 334 | NEBU-M8G3-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 |

Heavy-duty guides HD, without drive

Peripherals overview

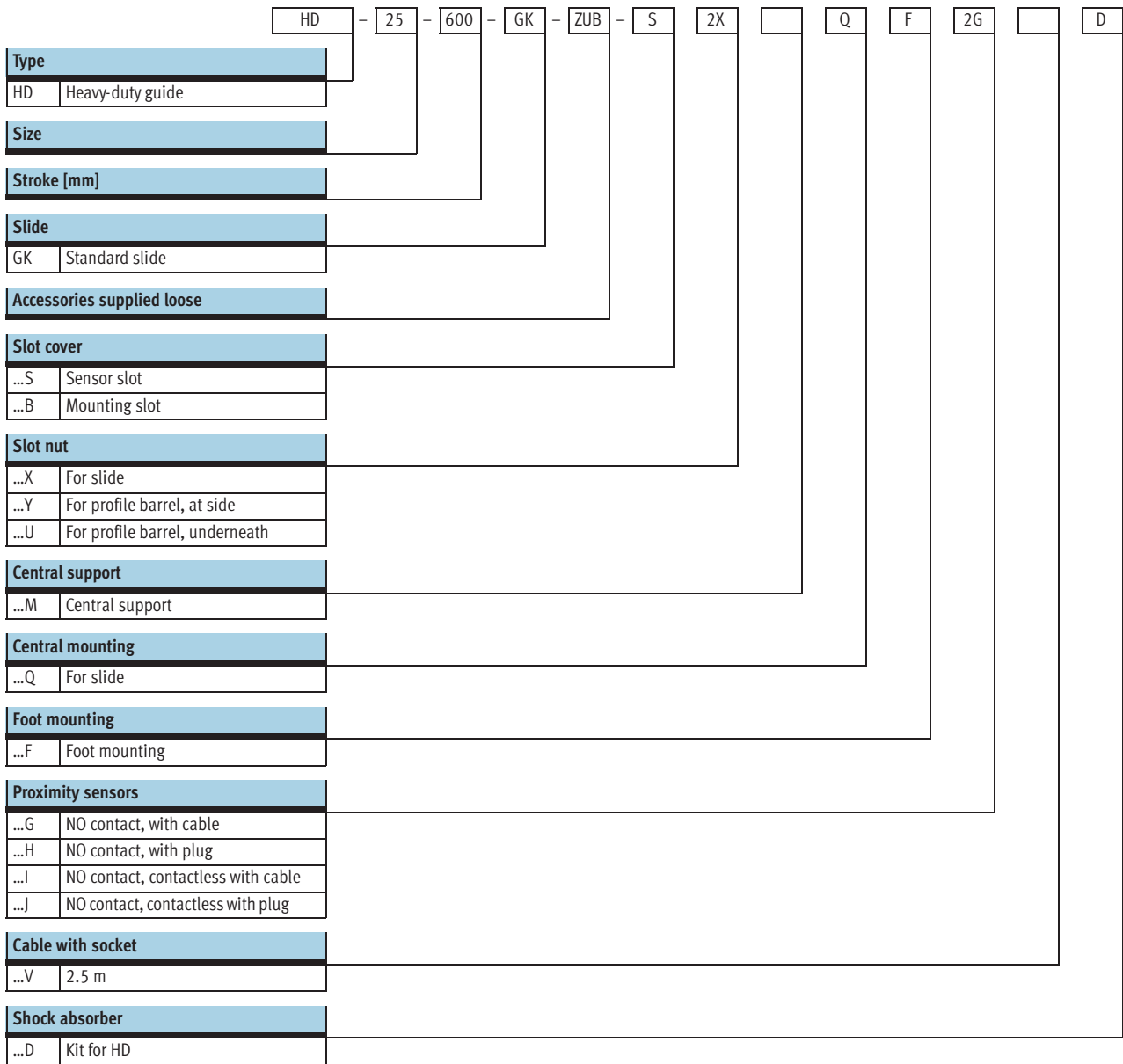
FESTO



| Variants and accessories | | |
|--|--|-----------------|
| Type | Brief description | → Page/Internet |
| 1 Heavy-duty guide HD | Guide without drive | 5 / 3.1-67 |
| 2 Slot nut for slide X | For mounting loads and attachments on the slide | 75 |
| 3 Central mounting Q | For centring loads and attachments on the slide | 75 |
| 4 Shock absorber kit D | Absorbs the energy created by the movement of the slide when it reaches the end position | 75 |
| 5 Slot nut for profile barrel at side Y | For mounting attachments | 75 |
| 6 Slot cover B/S | To protect against the ingress of dirt | 75 |
| 7 Proximity sensors G/H/I/J/N | For providing a proximity signal or safety check | 76 |
| 8 Cable with socket V | For proximity sensor | 76 |
| 9 Slot nut for profile barrel underneath U | For mounting attachments | 75 |
| 10 Central support M | To mount the axis | 74 |
| 11 Foot mounting F | To mount the axis | 74 |



Heavy-duty guides HD, without drive

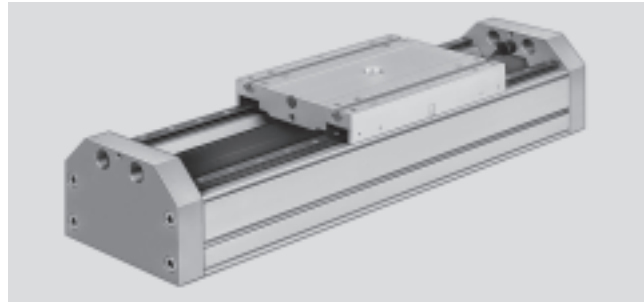
Type codes



Heavy-duty guides HD, without drive

Technical data

-  - Size
8 ... 40
-  - Stroke length
10 ... 2,110 mm

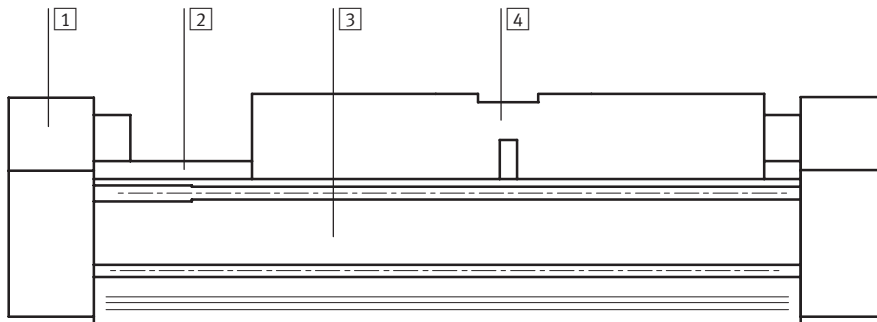


| General technical data | | | | | | |
|------------------------|-------|---|--------------|--------------|--------------|--------------|
| Size | | HD8 | HD12 | HD18 | HD25 | HD40 |
| Max. stroke | [mm] | 10 ... 1,080 | 10 ... 1,550 | 10 ... 1,810 | 10 ... 2,160 | 10 ... 2,110 |
| Guide | | External recirculating ball bearing guide | | | | |
| Fitting position | | Any | | | | |
| Cushioning | | Not adjustable at either end | | | | |
| | | Self-adjusting at both ends | | | | |
| Type of mounting | | Profile mounting | | | | |
| | | Foot mounting | | | | |
| Max. speed | [m/s] | 3 | | | | |
| Ambient temperature | [°C] | -10 ... +60 | | | | |

| Weights [kg] | | | | | | |
|-------------------------------------|--|-------|------|------|------|------|
| Size | | HD8 | HD12 | HD18 | HD25 | HD40 |
| Basic weight at 0 mm stroke | | 0.86 | 1.37 | 2.95 | 3.6 | 11.8 |
| Additional weight per 100 mm stroke | | 0.33 | 0.46 | 0.72 | 1.16 | 1.76 |
| Moving load | | 0.195 | 0.33 | 0.45 | 1.78 | 3.3 |

Materials

Sectional view



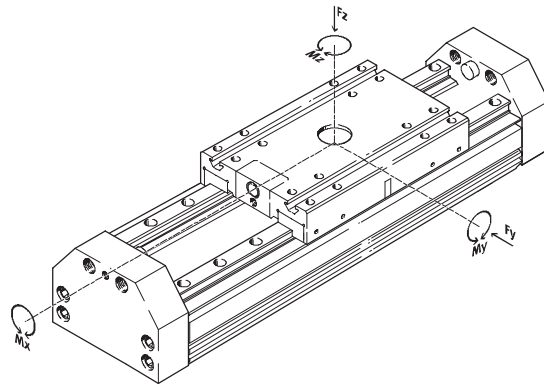
| Axis | |
|------|-------------------------------|
| 1 | End cap Anodised aluminium |
| 2 | Guide Rolled steel |
| 3 | Profile Anodised aluminium |
| 4 | Slide Anodised aluminium |

Heavy-duty guides HD, without drive

Technical data

Characteristic load values

The forces and torques specified refer to the centre of the guide rails. They must not be exceeded during dynamic operation.



If the heavy-duty guide is simultaneously subjected to several of the forces and torques listed below, the following equations must be satisfied in addition to the indicated maximum loads.

$$\frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} + \frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} \leq 1$$

| Permissible forces and torques | | | | | | |
|--------------------------------|------|------|-------|-------|-------|-------|
| Size | | HD8 | HD12 | HD18 | HD25 | HD40 |
| F _y _{max.} | [N] | 518 | 1 120 | 1 820 | 5 400 | 5 400 |
| F _z _{max.} | [N] | 518 | 1 120 | 1 820 | 5 600 | 5 600 |
| M _x _{max.} | [Nm] | 12.6 | 33.6 | 70 | 260 | 375 |
| M _y _{max.} | [Nm] | 16.8 | 50.4 | 115 | 415 | 560 |
| M _z _{max.} | [Nm] | 16.8 | 49 | 112 | 400 | 540 |

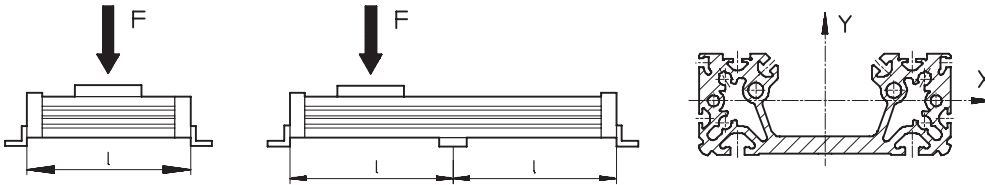
Heavy-duty guides HD, without drive

Technical data

Maximum permissible support span l as a function of the force F

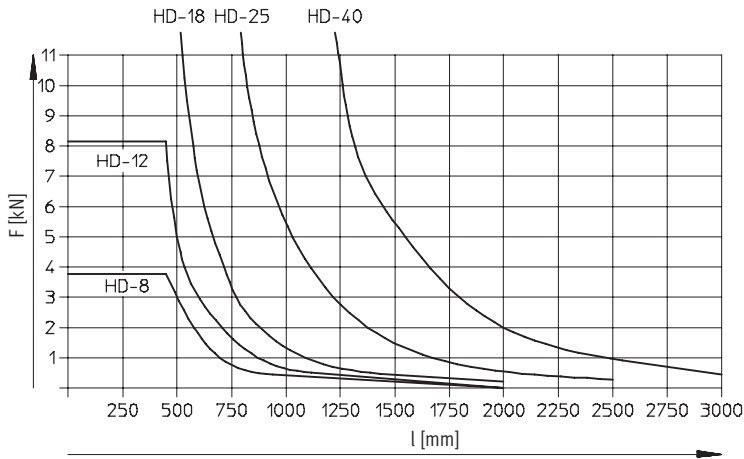
The drive may need to be supported with central supports MUP in order to limit deflection in the case of large strokes. The following diagrams serve to determine the maximum permissible support span l as a function of the force F .

Load on the surface of the slide

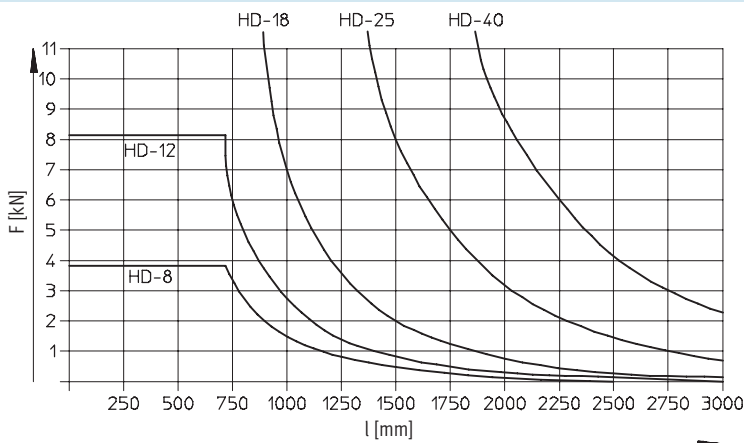


Maximum permissible support span l (without central support) as a function of the force F

Deflection around the X axis



Deflection around the Y axis

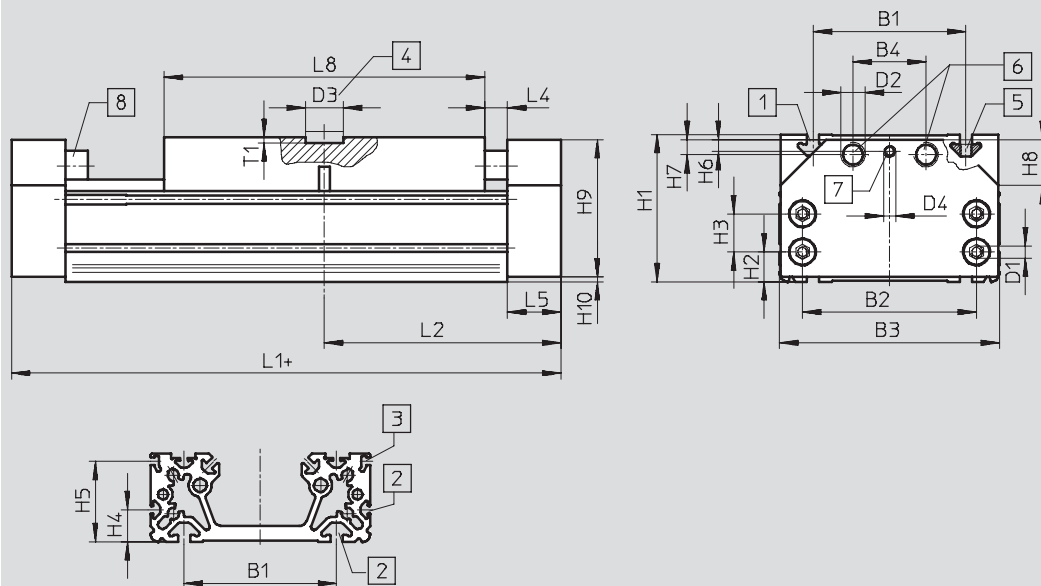


Heavy-duty guides HD, without drive

Technical data

Dimensions

Download CAD data → www.festo.com



- 1 Mounting slot for slot nut NSTH
 - 2 Mounting slot for slot nut NST
 - 3 Sensor slot for proximity sensor SME/SMT-8
 - 4 Central mounting SLZZ
 - 5 Slot nut NSTH
 - 6 Thread for shock absorber YHD or YSR-...-C
 - 7 Thread for threaded pin (shock absorber kit)
 - 8 Rubber buffer
- + = plus stroke length

| Size | B1 | B2 | B3 | B4 | D1 | D2 | D3 ∅ G7 | D4 | H1 | H2 | H3 | H4 |
|------|-----------|----------|-----|----|----|---------|---------------|-------|------|---------|-----------|-----|
| 8 | 50 ±0.2 | 46 ±0.1 | 75 | 26 | M5 | M10x1 | - | M3 | 48.2 | 9.5 | 14 ±0,1 | 8.5 |
| 12 | 60 ±0.3 | 65 ±0.1 | 89 | 30 | | M12x1 | | M4 | 59.5 | 11 | 19 ±0,1 | 12 |
| 18 | 80 ±0.3 | 85 ±0.2 | 116 | 40 | | | | M6 | 69.9 | 12.8 | 19,5 ±0,1 | 14 |
| 25 | 100 ±0.3 | 114 ±0.2 | 144 | 48 | M8 | M16x1 | - | M8 | 93.5 | 18.5 | 25 ±0,2 | 21 |
| 40 | 140 ±0.35 | 156 ±0.2 | 185 | 54 | | M22x1.5 | | 124.5 | 21 | 48 ±0,2 | 35 | |

| Size | H5 | H6 | H7 | H8 | H9 | H10 | L1 | L2 | L4 | L5 | L8 | T1 |
|------|------|-----|------|--------|-----|-----|-----|-----|----|-----|-----|-----|
| 8 | 29.3 | 2.4 | 8 | 15x45° | 47 | 0.5 | 160 | 80 | 15 | 20 | 90 | - |
| 12 | 35.3 | 4 | 6.5 | 18x45° | 58 | | 190 | 95 | | | 120 | |
| 18 | 42.3 | 5.9 | 8.7 | 20x45° | 68 | | 240 | 120 | | | 160 | |
| 25 | 52.8 | 9 | 9.75 | 30x45° | 90 | 2.0 | 310 | 155 | 35 | 210 | 4 | |
| 40 | 82.8 | 5.5 | 15.5 | 35x45° | 120 | | 354 | 177 | | | | 260 |

Heavy-duty guides HD, without drive

Ordering data – Modular product system



System components
Passive guide axes

3.1

M Mandatory data →

| Module No. | Guide | Size | Stroke | Basic variant |
|-------------------------|-------|------|--------------|---------------|
| 170 023 | HD | 8 | 10 ... 2,160 | GK |
| 170 024 | | 12 | | |
| 170 025 | | 18 | | |
| 170 026 | | 25 | | |
| 170 027 | | 40 | | |
| Ordering example | | | | |
| 170 026 | HD | - 25 | - 500 | - GK |

| Ordering table | | | | | | | | |
|---------------------|------------------|--------------|--------------|--------------|--------------|-----------------|------|---------------|
| Size | 8 | 12 | 18 | 25 | 40 | Condi- tions | Code | Enter code |
| M Module No. | 170 023 | 170 024 | 170 025 | 170 026 | 170 027 | | | |
| Guide | Heavy-duty guide | | | | | | HD | HD |
| Size | 8 | 12 | 18 | 25 | 40 | | -... | |
| Stroke [mm] | 10 ... 1,080 | 10 ... 1,550 | 10 ... 1,810 | 10 ... 2,160 | 10 ... 2,110 | | -... | |
| ↓ Basic variant | Standard slide | | | | | | -GK | -GK |

Transfer order code

Heavy-duty guide HD, without drive

Ordering data – Modular product system



Options

| Accessories | Slot cover | Slot nut | Central support | Central mounting | Foot mounting | Proximity sensors | Plug socket | Shock absorber kit |
|-------------|--------------|----------------------|-----------------|------------------|---------------|------------------------------|-------------|--------------------|
| ZUB | ...S ...B | ...X ...Y ...U | ...M | ...Q | ...F | ...G ...H ...I ...J | ...V | ...D |
| ZUB | - 2S2B | 2X | | Q | F | | | 2D |

Ordering table

| Size | 8 | 12 | 18 | 25 | 40 | Condi- tions | Code | Enter code |
|------------------------------|----------------------------------|----------|----------|----------|----|-----------------|------|---------------|
| 0 Accessories | Supplied separately | | | | | | ZUB- | ZUB- |
| Slot cover (x2, 0.5 m) | Sensor slot | 1 ... 10 | | | | | ...S | |
| | Mounting slot underneath | - | 1 ... 10 | | | | ...B | |
| Slot nut for | slide | 1 ... 10 | | | | | ...X | |
| | profile barrel, side | - | - | 1 ... 10 | | | ...Y | |
| | profile barrel, bottom | - | 1 ... 10 | | | | ...U | |
| Central support | 1 ... 10 | | | | | ...M | | |
| Central mounting for | slide | - | 1 ... 10 | | | | ...Q | |
| Foot mounting (kit) | 1 ... 10 | | | | | ...F | | |
| Magnetic proximity sensor | with cable 2.5 m | 1 ... 10 | | | | | ...G | |
| | with plug | 1 ... 10 | | | | | ...H | |
| | Contactless, with cable 2.5 m | 1 ... 10 | | | | | ...I | |
| | Contactless, with plug | 1 ... 10 | | | | | ...J | |
| Cable with socket 2.5 m | 1 ... 10 | | | | | ...V | | |
| Shock absorber kit | 1 ... 10 | | | | | ...D | | |

Transfer order code

ZUB - [] [] [] [] [] [] [] [] []

Heavy-duty guides HD, without drive

Accessories



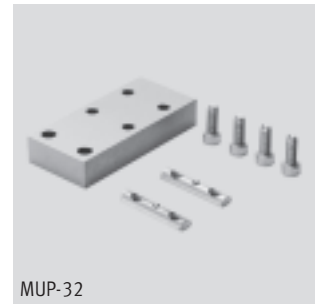
Foot mounting HHP
(Order code: F)

Material:
Galvanised steel
Free of copper, PTFE and silicone

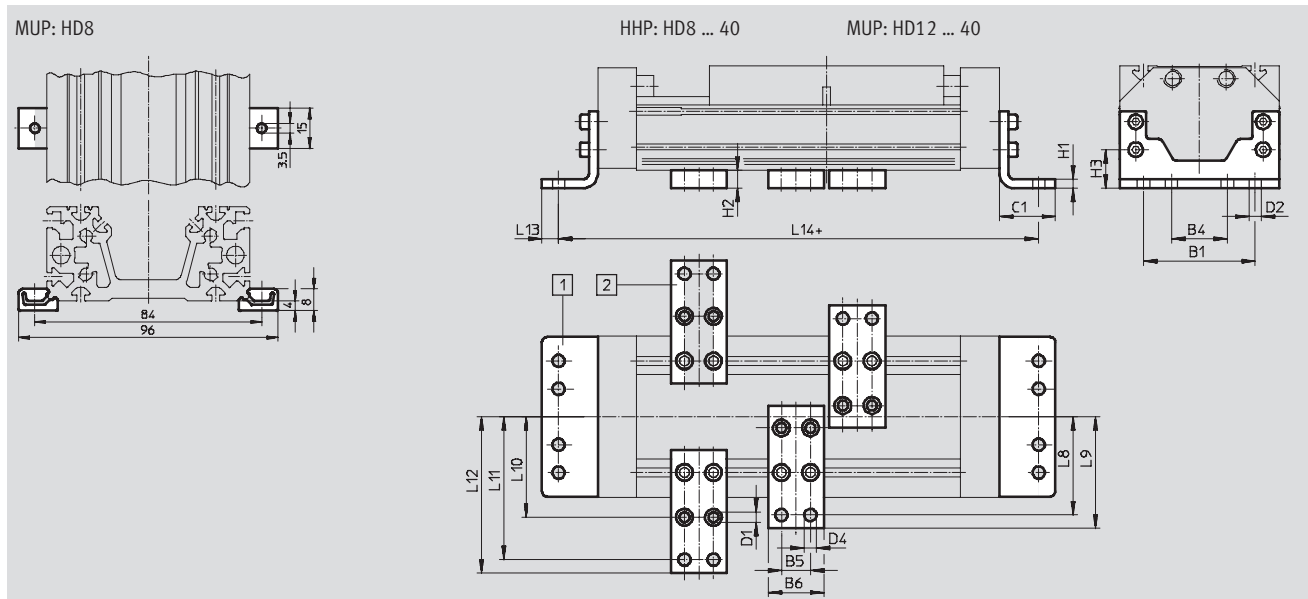


Central support MUP
(Order code: M)

Material:
Galvanised steel
Free of copper, PTFE and silicone



MUP-32



| Dimensions and ordering data | | | | | | | | | | | |
|------------------------------|-----|----|----|----|----|---------|---------|---------|----|----|------|
| For size | B1 | B4 | B5 | B6 | C1 | D1 Ø | D2 Ø | D4 Ø | H1 | H2 | H3 |
| 8 | 50 | 25 | - | - | 23 | - | 5.5 | - | 5 | - | 13.5 |
| 12 | 60 | 30 | 22 | 35 | 28 | 5.5 | 6.6 | 6.6 | 6 | 10 | 21 |
| 18 | 80 | 40 | 22 | 35 | 34 | 5.5 | 6.6 | 6.6 | 8 | 14 | 26.8 |
| 25 | 100 | 50 | 26 | 50 | 50 | 9 | 11 | 11 | 8 | 16 | 34.5 |
| 40 | 140 | 70 | 26 | 50 | 50 | 9 | 11 | 11 | 10 | 16 | 37 |

| For size | L8 | L9 | L10 | L11 | L12 | L13 | L14 | Weight [g] | Part No. | Type |
|----------|-----|------|-----|-----|------|-----|-----|---------------|----------|----------|
| 8 | - | - | - | - | - | 6 | 194 | 105 | 161 991 | HHP-8 |
| | | | | | | | | 8 | 160 909 | MUP-8/12 |
| 12 | 54 | 60.5 | 52 | 76 | 82.5 | 8 | 230 | 186 | 161 992 | HHP-12 |
| | | | | | | | | 89 | 150 737 | MUP-32 |
| 18 | 68 | 75 | 64 | 92 | 99 | 9 | 290 | 357 | 161 993 | HHP-18 |
| | | | | | | | | 126 | 150 738 | MUP-40 |
| 25 | 88 | 100 | 90 | 128 | 140 | 15 | 380 | 794 | 161 994 | HHP-25 |
| | | | | | | | | 347 | 150 739 | MUP-50 |
| 40 | 108 | 120 | 110 | 148 | 160 | 15 | 424 | 1,318 | 161 995 | HHP-40 |
| | | | | | | | | 347 | 150 739 | MUP-50 |

Heavy-duty guides HD, without drive

Accessories

FESTO

Shock absorber kit YHD

(Order code: D)

Material:


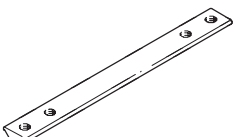



Galvanised steel housing

TPE-U(PU) NBR seals

Free of copper, PTFE and silicone



| Ordering data | | | | | | |
|---------------|------------|--|--|----------|--------|--|
| For size | Weight [g] | | | Part No. | Type | |
| 8 | 168 | | | 174 542 | YHD-8 | |
| 12 | 170 | | | 174 543 | YHD-12 | |
| 18 | 203 | | | 174 544 | YHD-18 | |
| 25 | 293 | | | 174 545 | YHD-25 | |
| 40 | 515 | | | 174 546 | YHD-40 | |



| Ordering data | | | | | | |
|--|---------------|--|------------|----------|------------|------------------|
| | For size | Remarks | Order code | Part No. | Type | PU ¹⁾ |
| Slot nut NST Technical data → Internet: nst | | | | | | |
|  | 18 | For profile barrel, at side | Y | 150 914 | NST-5-M5 | 1 |
| | 25 | | | 150 914 | NST-5-M5 | 1 |
| | 40 | | | 150 915 | NST-8-M6 | 1 |
| | 12 | For profile barrel, underneath | U | 150 914 | NST-5-M5 | 1 |
| | 18 | | | 150 914 | NST-5-M5 | 1 |
| | 25 | | | 150 915 | NST-8-M6 | 1 |
| 40 | 150 915 | | | NST-8-M6 | 1 | |
| Slot nut NSTH Technical data → Internet: nstl | | | | | | |
|  | 8 | For slide | X | 161 018 | NSTH-8 | 1 |
| | 12 | | | 161 019 | NSTH-12 | 1 |
| | 18 | | | 161 020 | NSTH-18 | 1 |
| | 25 | | | 161 021 | NSTH-25 | 1 |
| | 40 | | | 161 022 | NSTH-40 | 1 |
| Central mounting SLZZ Technical data → Internet: slzz | | | | | | |
|  | 12 ... 40 | For slide | Q | 150 901 | SLZZ-25/16 | 1 |
| Slot cover ABP Technical data → Internet: abp | | | | | | |
|  | 12 | For mounting slot, side and underneath | B | 151 681 | ABP-5 | 2 |
| | 18 | | | 151 681 | ABP-5 | |
| | 25 underneath | 0.5 m each | | 151 681 | ABP-5 | |
| | 25 lateral | 151 682 | | ABP-8 | | |
| | 40 | 151 682 | | ABP-8 | | |
| Slot cover ABP-S Technical data → Internet: abp | | | | | | |
|  | 8 ... 40 | For sensor slot 0.5 m each | S | 151 680 | ABP-5-S | 2 |



1) Packaging unit quantity



Heavy-duty guides HD, without drive

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 lengthwise, flush with the cylinder profile | PNP | Cable, 3-wire | 2.5 | 175 436 | SMT-8-PS-K-LED-24-B |
| | | | Plug M8x1, 3-pin | 0.3 | 175 484 | SMT-8-PS-S-LED-24-B |
| 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 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-O-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 |
|  | 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 |

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