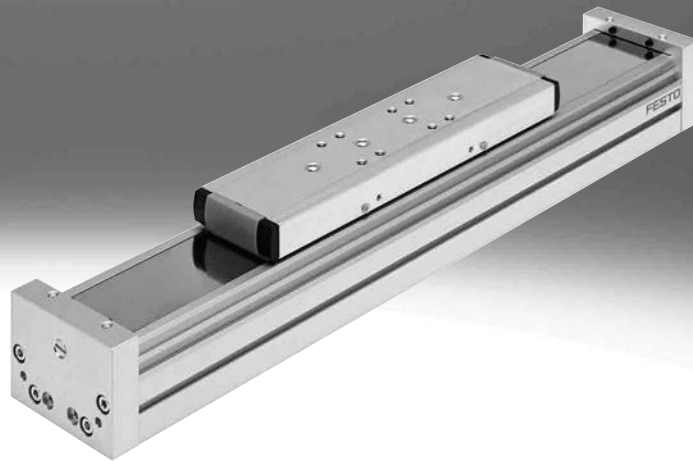


Guide axes ELFA, without drive

FESTO

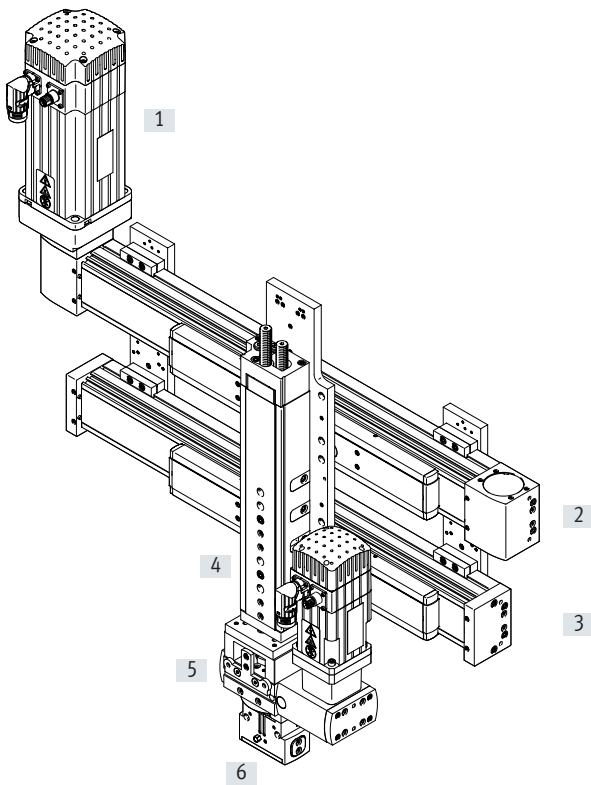


Key features

At a glance

- Driveless linear guide units with guide and freely movable slide
- The guide axis is designed to support force and torque capacity in multi-axis applications
- Stainless steel cover strip with magnetic seal provides basic protection for guide and spindle. This also makes it possible to reduce particulate emissions for use in clean environments
- The optional magnetic reversal in the slide guides the stainless steel cover strip through the slide and back onto the profile. The magnets ensure there is no friction on the visible surface of the cover strip
- The magnetic belt reversal minimises particulate emissions for use in clean rooms
- High torsional resistance
- Reduced vibrations with dynamic loads
- Drive axis and guide axis can be placed adjacent to or above one another

System product for handling and assembly technology



System components and accessories

| | Description | → Internet |
|----------------|---|------------|
| [1] Motors | Servo and stepper motors, with or without gear unit | motor |
| [2] Axes | Wide range of combinations possible within handling and assembly technology | axis |
| [3] Guide axes | To support force and torque capacity in multi-axis applications | guide axis |
| [4] Drives | Wide range of combinations possible within handling and assembly technology | drive |
| [5] Adapter | For drive/drive and drive/gripper connections | gripper |
| [6] Gripper | Wide range of variations possible within handling and assembly technology | gripper |

Overview

Guide axes and the corresponding axes

Guide axis EGC-FA



- Can be combined with:
 - Toothed belt axis EGC-TB
 - Spindle axis EGC-BS
- For size 70 ... 185
- Load capacity up to max. 15200 N or 1157 Nm

Guide axis DGC-FA



- Can be combined with:
 - Linear drive DGC-KF
- For size 8 ... 63
- Load capacity up to max. 15200 N or 1157 Nm

Guide axis ELFR



- Can be combined with:
 - Toothed belt axis ELGR
- For size 35 ... 55
- Load capacity up to max. 300 N or 124 Nm

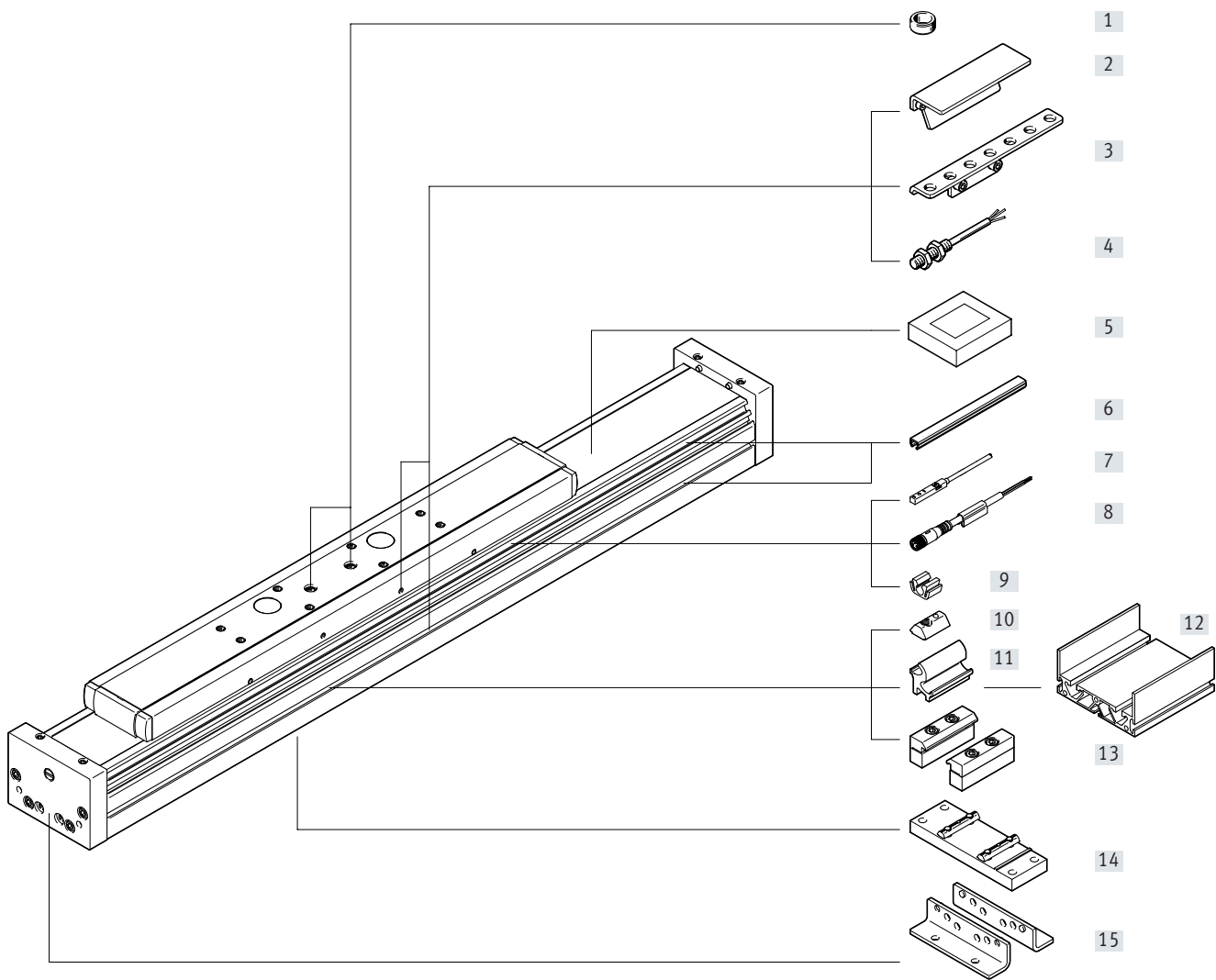
| Design | Can be combined with | Size | Working stroke [mm] | Speed [m/s] | Guide characteristics Forces and torques | | | | | → Page/ Internet |
|---|---|------|------------------------|----------------|---|-----------------------|------------------------|------------------------|------------------------|---------------------|
| | | | | | F _y [N] | F _z [N] | M _x [Nm] | M _y [Nm] | M _z [Nm] | |
| ELFA-KF – Recirculating ball bearing guide | | | | | | | | | | |
| | <ul style="list-style-type: none"> • Toothed belt axis ELGA-TB-KF • Spindle axis ELGA-BS-KF | 70 | 50 ... 5000 | 5 | 1500 | 1850 | 16 | 132 | 132 | 4 |
| | | 80 | 50 ... 8500 | 5 | 2500 | 3050 | 36 | 228 | 228 | |
| | | 120 | 50 ... 8500 | 5 | 5500 | 6890 | 104 | 680 | 680 | |
| ELFA-RF – Roller bearing guide | | | | | | | | | | |
| | Toothed belt axis ELGA-TB-RF | 70 | 50 ... 7000 | 10 | 500 | 500 | 11 | 20 | 20 | 20 |
| | | 80 | 50 ... 7000 | 10 | 800 | 800 | 30 | 90 | 90 | |

Sealing air connections



- [1] Sealing air connections
- Application of negative pressure minimises the dispersal of abraded particles into the environment
 - Application of gauge pressure prevents dirt from getting into the axis

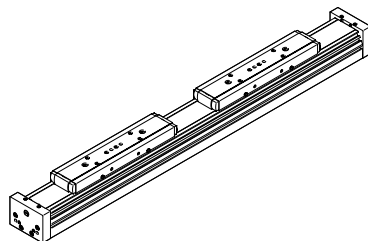
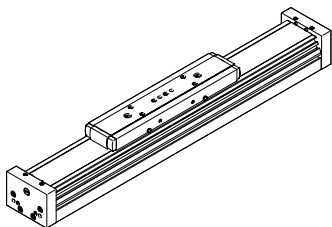
Peripherals overview



Slide variants

ELFA-...
Standard slide

ELFA-...-ZL/-ZR
Additional slide, left or right



Peripherals overview

| Variants and accessories | | | |
|--------------------------|--|--|-----------------|
| | Type | Description | → Page/Internet |
| [1] | Centring sleeve/centring pins ZBH/ZBS | <ul style="list-style-type: none"> For centring loads and attachments on the slide Included in the scope of delivery: <ul style="list-style-type: none"> With size 70: 2x ZBS-5 With size 80, 120: 2x ZBH-9 | 39 |
| [2] | Switch lug SF-EGC | For sensing the slide position | 38 |
| [3] | Sensor bracket HWS-EGC | Adapter for mounting the inductive proximity sensors (round design) on the axis | 38 |
| [4] | Proximity sensor, M8 SIEN-M8 | Inductive proximity sensor, round design | 41 |
| [5] | Clamping element EADT | Tool for retensioning the cover strip | 39 |
| [6] | Slot cover ABP | For protection against contamination | 39 |
| [7] | Proximity sensor, T-slot SIES-8M | Inductive proximity sensor, for T-slot | 41 |
| [8] | Connecting cable NEBU | For proximity sensor | 41 |
| [9] | Clip SMBK | For mounting the proximity sensor cable in the slot | 39 |
| [10] | Slot nut NST | For mounting attachments | 39 |
| [11] | Adapter kit DHAM | For mounting the support profile on the axis | 40 |
| [12] | Support profile HMIA | For guiding an energy chain | 40 |
| [13] | Profile mounting MUE | For mounting the axis on the side of the profile | 35 |
| [14] | Central support EAHF-L5 | For mounting the axis on the profile from underneath | 36 |
| [15] | Foot mounting HPE | <ul style="list-style-type: none"> For mounting the axis on the end cap. With higher forces and torques, the axis should be mounted using the profile | 34 |

Guide axes ELFA-KF, without drive, with recirculating ball bearing guide




Type codes

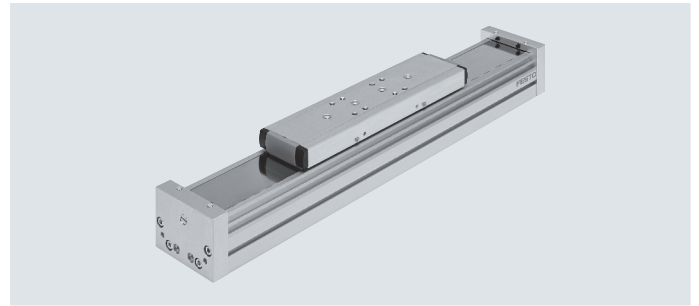
| 001 | Series |
|------|----------------------------------|
| ELFA | Guide axis |
| 002 | Guide |
| KF | Recirculating ball bearing guide |
| 003 | Size |
| 70 | 70 |
| 80 | 80 |
| 120 | 120 |
| 004 | Stroke [mm] |
| ... | 50 ... 8500 |

| 005 | Stroke reserve |
|------|--------------------------------------|
| OH | None |
| ...H | 0 ... 999 mm |
| 006 | Additional slide |
| | None |
| ZL | 1 slide left |
| ZR | 1 slide right |
| 007 | Protection against particles |
| | Standard |
| P11 | Cover strip with magnetic deflection |
| 008 | Operating instructions |
| | With operating instructions |
| DN | Without operating instructions |

Data sheet



-  - Size
70, 80, 120
-  - Stroke length
50 ... 8500 mm
-  - www.festo.com



| General technical data | | | |
|-------------------------------------|---------------------|----------------------------------|-------------|
| Size | | 70 | 80 120 |
| Design | | Guide | |
| Guide | | Recirculating ball bearing guide | |
| Mounting position | | Any | |
| Working stroke | [mm] | 50 ... 5000 | 50 ... 8500 |
| Max. no-load resistance to shifting | [N] | 11 | 12 23 |
| Max. speed | [m/s] | 5 | |
| Max. acceleration | [m/s ²] | 50 | |

| Operating and environmental conditions | | |
|--|------|-------------|
| Ambient temperature ¹⁾ | [°C] | -10 ... +60 |
| Degree of protection | | IP40 |

1) Note operating range of proximity sensors

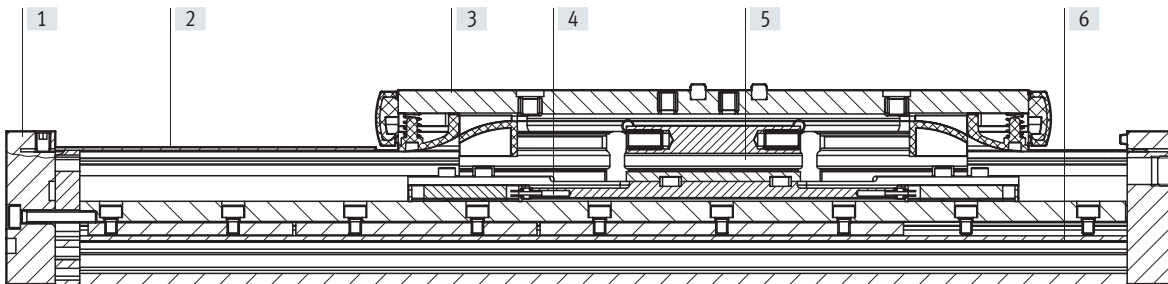
| Weight [kg] | | | |
|---|--|------|--------------|
| Size | | 70 | 80 120 |
| Product weight with 0 mm stroke ¹⁾ | | 2.22 | 3.74 8.5 |
| Additional weight per 1000 mm stroke | | 3.84 | 4.89 10.32 |
| Moving mass | | 0.77 | 1.57 3.35 |

1) Including slide

Data sheet

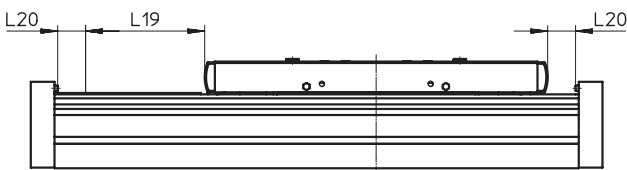
Materials

Sectional view



| Axis | | |
|-------------------|-----------------|--|
| [1] | End cap | Anodised wrought aluminium alloy |
| [2] | Cover strip | Stainless steel |
| [3] | Slide | Anodised wrought aluminium alloy |
| [4] | Roller carriage | Stainless steel, tempered steel |
| [5] | Guide rail | Stainless steel, corrotect-coated tempered steel |
| [6] | Profile | Anodised wrought aluminium alloy |
| Note on materials | | RoHS-compliant |
| | | Contains paint-wetting impairment substances |

Stroke reserve



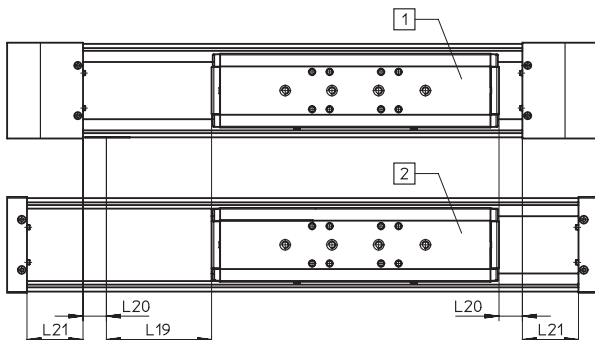
L19 = Nominal stroke
L20 = Stroke reserve

- The stroke reserve is a safety distance from the mechanical end position and is not used in normal operation
- The sum of the nominal stroke and 2x stroke reserve must not exceed the maximum permissible working stroke
- The stroke reserve length can be freely selected
- The stroke reserve is defined via the "stroke reserve" characteristic in the modular product system.

Example:
Type ELFA-KF-70-500-20H-...
Nominal stroke = 500 mm
2x stroke reserve = 40 mm
Working stroke = 540 mm
(540 mm = 500 mm + 2x 20 mm)

Identical installation length between toothed belt axis ELGA-TB-KF and guide axis ELFA-KF

The different end cap lengths result in different overall lengths despite the nominal stroke and stroke reserve being the same.
To achieve the same overall length between two axes, the compensation dimension L21 must be added to the stroke reserve in the case of the guide axis ELFA-KF.



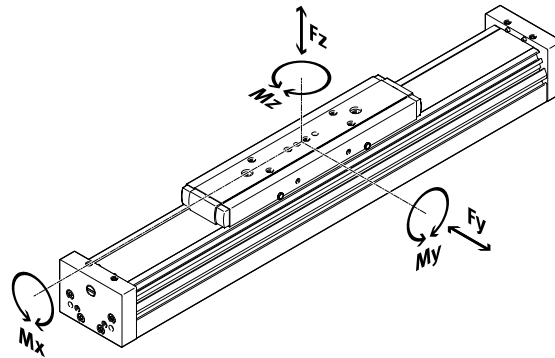
[1] ELGA-TB-KF
[2] ELFA-KF
L19 = Nominal stroke
L20 = Stroke reserve
L21 = Compensation dimension

| | | | | |
|------------------------|------|------|----|-----|
| Size | | 70 | 80 | 120 |
| Compensation dimension | [mm] | 41.5 | 48 | 75 |

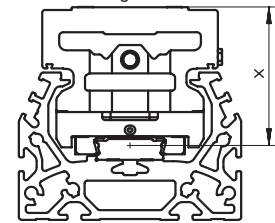
Data sheet

Characteristic load values

The indicated forces and torques refer to the centre of the guide. The point of application of force is the point where the centre of the guide and the longitudinal centre of the slide intersect. These values must not be exceeded during dynamic operation. Special attention must be paid to the deceleration phase.



Distance from the slide surface to the centre of the guide



Distance from the slide surface to the centre of the guide

| | | | |
|------------------|----|----|-----|
| Size | 70 | 80 | 120 |
| Dimension x [mm] | 37 | 50 | 70 |

Max. permissible forces and torques for a service life of 5000 km

| | | | |
|-------------|------|------|------|
| Size | 70 | 80 | 120 |
| $F_{y\max}$ | 1500 | 2500 | 5500 |
| $F_{z\max}$ | 1850 | 3050 | 6890 |
| $M_{x\max}$ | 16 | 36 | 104 |
| $M_{y\max}$ | 132 | 228 | 680 |
| $M_{z\max}$ | 132 | 228 | 680 |



Note

For a guide system to have a service life of 5000 km, the load comparison factor must have a value of $f_v \leq 1$, based on the maximum permissible forces and torques for a service life of 5000 km

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

Calculating the load comparison factor:

$$f_v = \frac{|F_{y1}|}{F_{y2}} + \frac{|F_{z1}|}{F_{z2}} + \frac{|M_{x1}|}{M_{x2}} + \frac{|M_{y1}|}{M_{y2}} + \frac{|M_{z1}|}{M_{z2}} \leq 1$$

F_1/M_1 = dynamic value

F_2/M_2 = maximum value

Data sheet

Calculating the service life

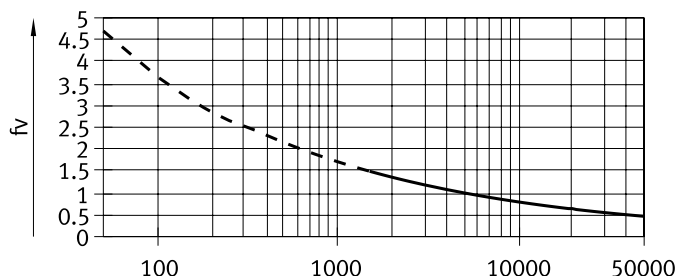
The service life of the guide depends on the load. To provide a rough indication of the service life of the guide, the graph below plots the load comparison factor f_v against the service life.

These values are only theoretical. You must consult your local contact person at Festo for load comparison factors f_v greater than 1.5.

Load comparison factor f_v as a function of service life

Example:

A user wants to move an X kg load. Using the formula (→ page 9) gives a value of 1.5 for the load comparison factor f_v . According to the graph, the guide would have a service life of approx. 3000 km. Reducing the acceleration reduces the M_z and M_y values. A load comparison factor f_v of 1 now gives a service life of 10000 km.



Note

The engineering software can be used to calculate the guide workload for a service life of 10000 km.

$f_v > 1.5$ are only theoretical comparison values for the roller bearing guide.

Comparison of the characteristic load values for 5000 km with dynamic forces and torques of recirculating ball bearing guides

The characteristic load values of bearing guides are standardised to ISO and JIS using dynamic and static forces and torques. These forces and torques are based on an expected service life of the guide system of 100 km to ISO or 50 km to JIS. As the characteristic load values are dependent on the service life, the maximum permissible forces and torques for a 5000 km service life cannot be compared with the dynamic forces and torques of bearing guides to ISO/JIS.

To make it easier to compare the guide capacity of linear axes ELGA with bearing guides, the table below lists the theoretically permissible forces and torques for a calculated service life of 100 km. This corresponds to the dynamic forces and torques to ISO.

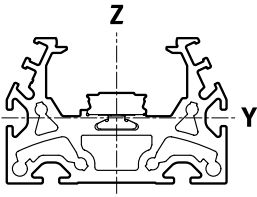
These 100 km values have been calculated mathematically and are only to be used for comparing with dynamic forces and torques to ISO. The drives must not be loaded with these characteristic values as this could damage the axes.

Max. permissible forces and torques for a theoretical service life of 100 km (from a guide perspective only)

| Size | | 70 | 80 | 120 |
|---------------|------|------|-------|-------|
| $F_{y_{max}}$ | [N] | 5520 | 9200 | 20240 |
| $F_{z_{max}}$ | [N] | 6808 | 11224 | 25355 |
| $M_{x_{max}}$ | [Nm] | 59 | 132 | 383 |
| $M_{y_{max}}$ | [Nm] | 486 | 839 | 2502 |
| $M_{z_{max}}$ | [Nm] | 486 | 839 | 2502 |

Data sheet

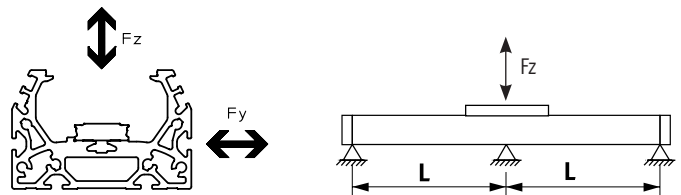
Second moment of area



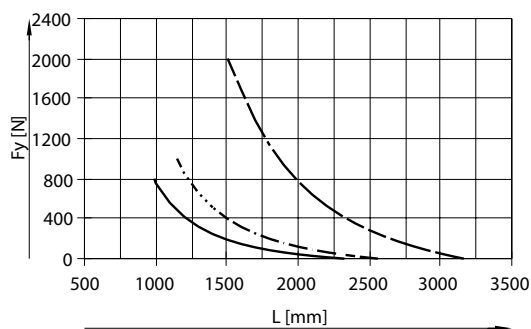
| Size | | 70 | 80 | 120 |
|-------|--------------------|--------------------|--------------------|--------------------|
| I_y | [mm ⁴] | 1.46×10^5 | 2.57×10^5 | 1.26×10^5 |
| I_z | [mm ⁴] | 4.59×10^5 | 9.14×10^6 | 4.37×10^6 |

Maximum permissible support spacing L (without profile mounting MUE/central support EAHF) as a function of force F

In order to limit deflection in the case of large strokes, the axis may need to be supported.
The following graphs can be used to determine the maximum permissible support spacing L as a function of force F acting on the axis. The deflection is $f = 0.5$ mm.

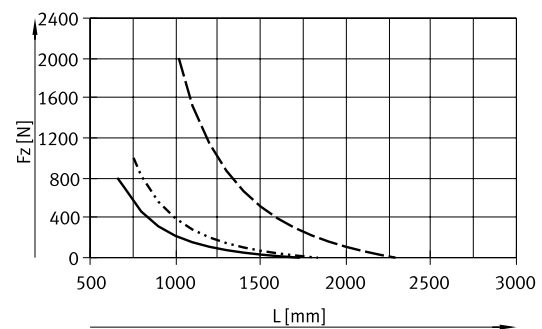


Force Fy



- ELFA-KF-70
- · - · - ELFA-KF-80
- - - ELFA-KF-120

Force Fz



Recommended deflection limits

Adherence to the following deflection limits is recommended so as not to impair the functionality of the axes. Greater deformation can result in increased friction, greater wear and reduced service life.

| Size | Dynamic deflection (moving mass) | Static deflection (stationary load) |
|------------|---------------------------------------|--|
| 70 ... 120 | 0.05% of the axis length, max. 0.5 mm | 0.1% of the axis length |

Data sheet

Central lubrication

The lubrication connections enable the guide of the guide axis ELFA-KF to be permanently lubricated in applications in humid or wet ambient conditions using semi- or fully automatic relubrication devices.

- The axes are suitable for oils and greases
- The connection options are already available in the standard design of the axes
- There is a dedicated lubrication connection for the spindle nut and the two ball cassettes

Slide dimensions

→ Page 15

Structure of a central lubrication system

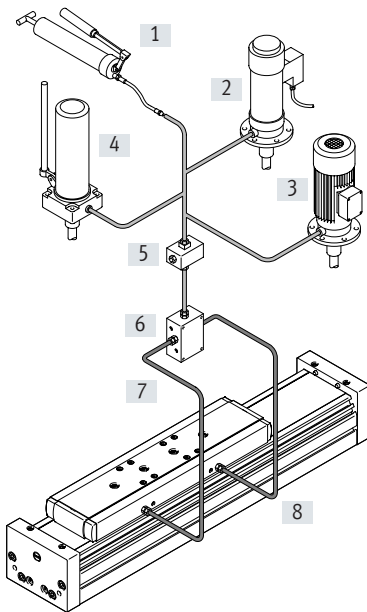
A central lubrication system requires various additional components. The illustration shows different options (using a hand pump, pneumatic container pump or electric container pump) required as a minimum for designing a central lubrication system.

Festo does not sell these additional components; however, they can be obtained from the following companies:

- Lincoln
- Bielomatik
- SKF (Vogel)

Festo recommends these companies because they can supply all the necessary components.

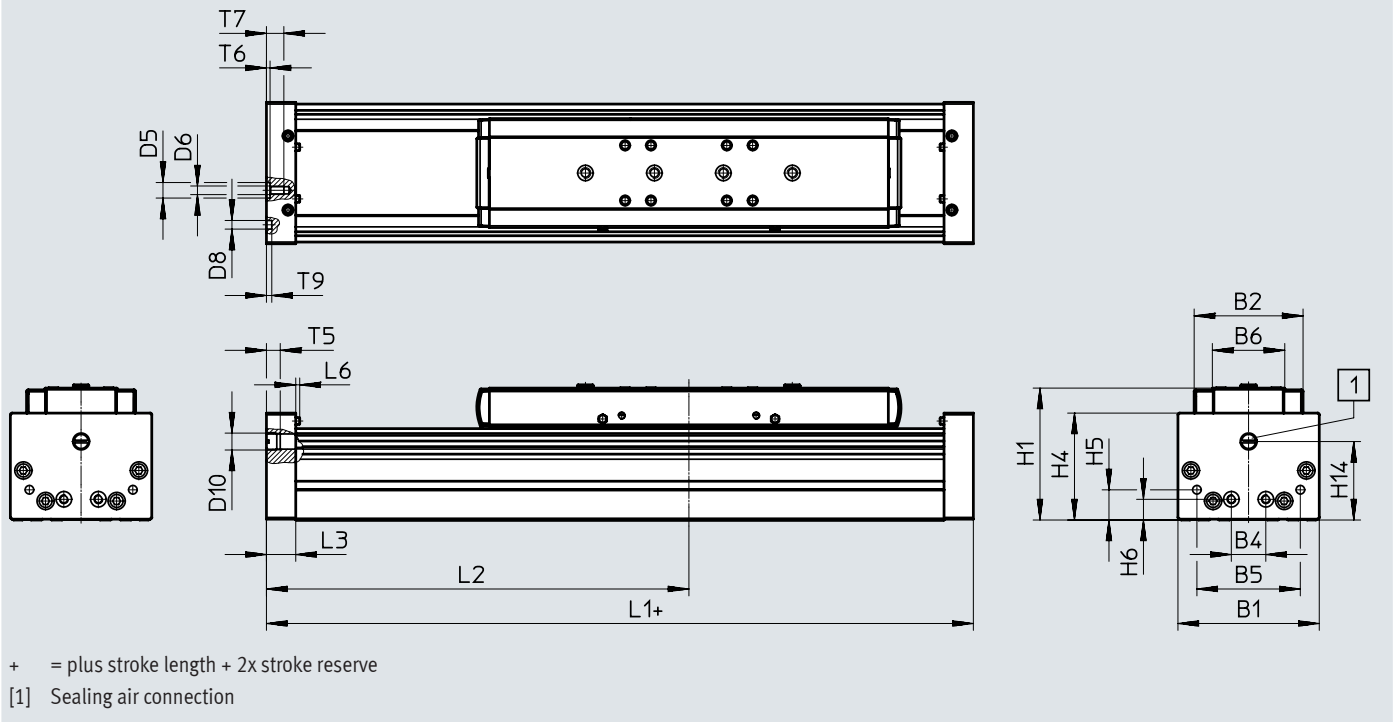
- [1] Hand pump
- [2] Pneumatic container pump
- [3] Electric container pump
- [4] Manually operated container pump
- [5] Nipple block
- [6] Distributor block
- [7] Tubing or piping
- [8] Fittings



Data sheet

Dimensions

Download CAD data → www.festo.com



| Size | B1 | B2 | B4 | B5 | B6 | D5 ∅ H7 | D6 | D8 ∅ H7 | D10 | H1 | H4 |
|------|-----|------|----|----|----|---------------|----|---------------|------|-------|------|
| 70 | 69 | 48.2 | 30 | 45 | 30 | – | M5 | 5 | G1/8 | 64 | 50.5 |
| 80 | 82 | 63.2 | 20 | 60 | 42 | 9 | M5 | 5 | G1/8 | 76.5 | 62 |
| 120 | 120 | 95 | 40 | 80 | 68 | – | M8 | 9 | G1/8 | 111.5 | 89 |

| Size | H5 | H6 | H14 | L1 | L2 | L3 | L6 | T5 | T6 | T7 | T9 |
|------|------|----|-----|-----|-------|----|-----|----|-----|------|-----|
| | | | | | min. | | | | | | |
| 70 | 13 | 13 | 32 | 263 | 136.5 | 16 | 2.3 | 8 | – | 10 | 3.1 |
| 80 | 17.5 | 12 | 40 | 290 | 145 | 17 | 2.3 | 8 | 2.1 | 10.1 | 3.1 |
| 120 | 22 | 22 | 65 | 396 | 198 | 25 | 2.5 | 8 | – | 16 | 2.1 |

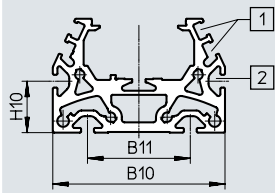
Data sheet

Dimensions

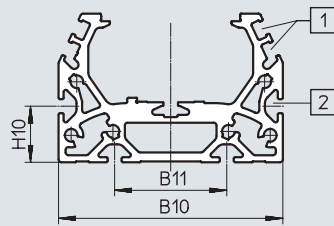
Download CAD data → www.festo.com

Profile

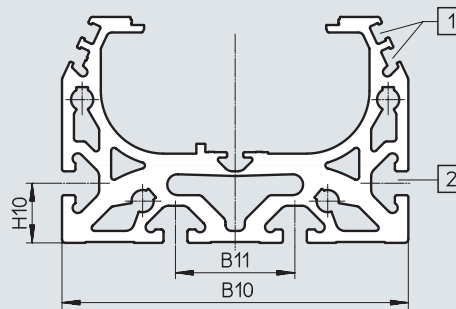
Size 70



Size 80



Size 120



[1] Sensor slot for proximity sensor

[2] Mounting slot for slot nut

| Size | B10 | B11 | H10 |
|------|-----|-----|-----|
| 70 | 67 | 40 | 20 |
| 80 | 80 | 40 | 20 |
| 120 | 116 | 40 | 20 |

Note

Requirements for the flatness of the bearing surface and of attachments as well as for use in parallel structures

→ www.festo.com/sp

User documentation

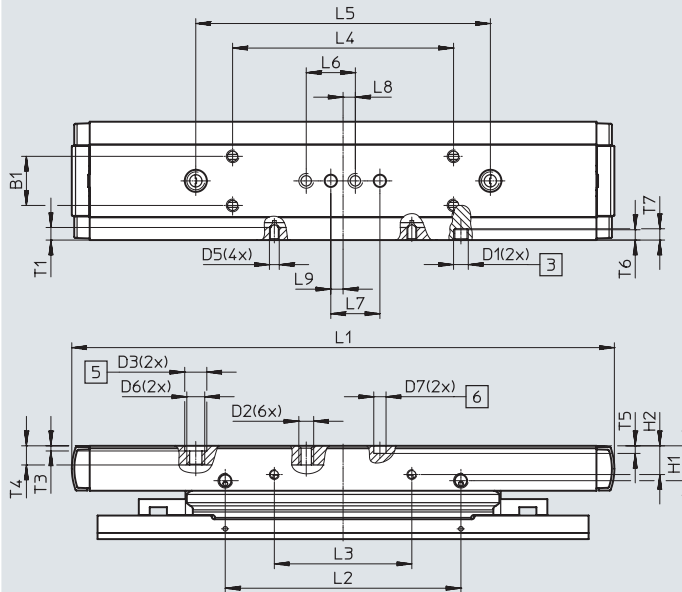
Data sheet

Dimensions

Download CAD data → www.festo.com

Slide

Size 70



- [3] Lubrication connections
- [5] Drilled hole for centring sleeve ZBH
- [6] Drilled hole for centring pin ZBS

| Size | B1 | D1 | D2 | D3 ∅ H7 | D5 | D6 | D7 ∅ H7 | H1 | H2 | L1 | L2 | L3 |
|------|------------|----|----|---------------|----|----|---------------|--------------|--------------|-----|------------|------------|
| 70 | ±0.1 20 | M6 | M5 | 9 | M4 | M6 | 5 | ±0.1 14.2 | ±0.1 11.7 | 221 | ±0.1 96 | ±0.1 56 |

| Size | L4 | L5 | L6 | L7 | L8 | L9 | T1 | T3 | T4 | T5 | T6 | T7 |
|------|------------|-----|------------|-------------|----|----|-----|-------------|-----|-------------|-------------|-------------|
| 70 | ±0.1 90 | 120 | ±0.1 20 | ±0.03 20 | 5 | 5 | 5.1 | +0.1 2.1 | 7.5 | ±0.1 3.1 | min. 4.2 | -0.1 4.6 |

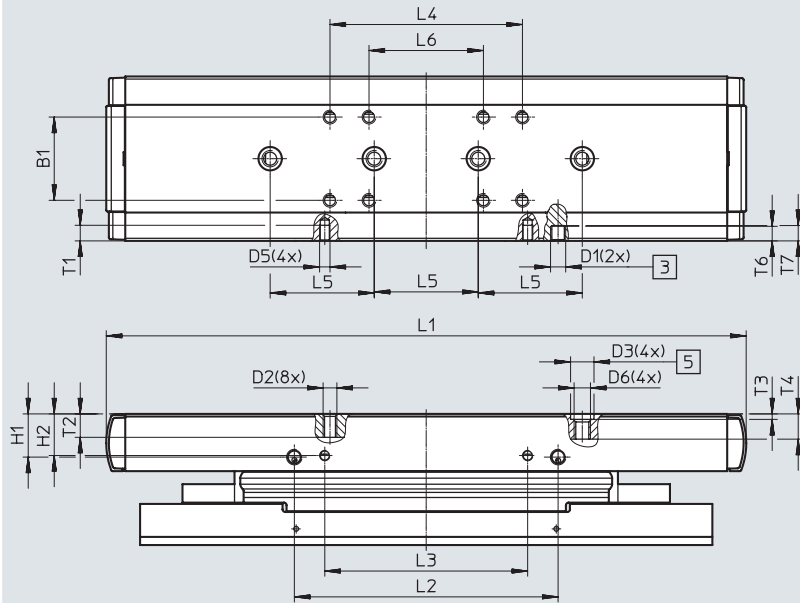
Data sheet

Dimensions

Download CAD data → www.festo.com

Slide

Size 80



[3] Lubrication connections

[5] Drilled hole for centring sleeve ZBH

| Size | B1 | D1 | D2 | D3 ∅ H7 | D5 | D6 | H1 | H2 | L1 | L2 |
|------|------|----|----|---------------|----|----|------|------|-----|------|
| 80 | ±0.1 | M6 | M5 | 9 | M4 | M6 | ±0.1 | ±0.1 | 246 | ±0.1 |

| Size | L3 | L4 | L5 | L6 | T1 | T2 | T3 | T4 | T6 | T7 |
|------|------|------|-------|------|----|----|------|------|------|------|
| 80 | ±0.1 | ±0.1 | ±0.03 | ±0.1 | | | +0.1 | -0.2 | min. | -0.1 |
| 80 | 78 | 74 | 40 | 44 | 6 | 9 | 2.1 | 9.7 | 5.6 | 5.9 |

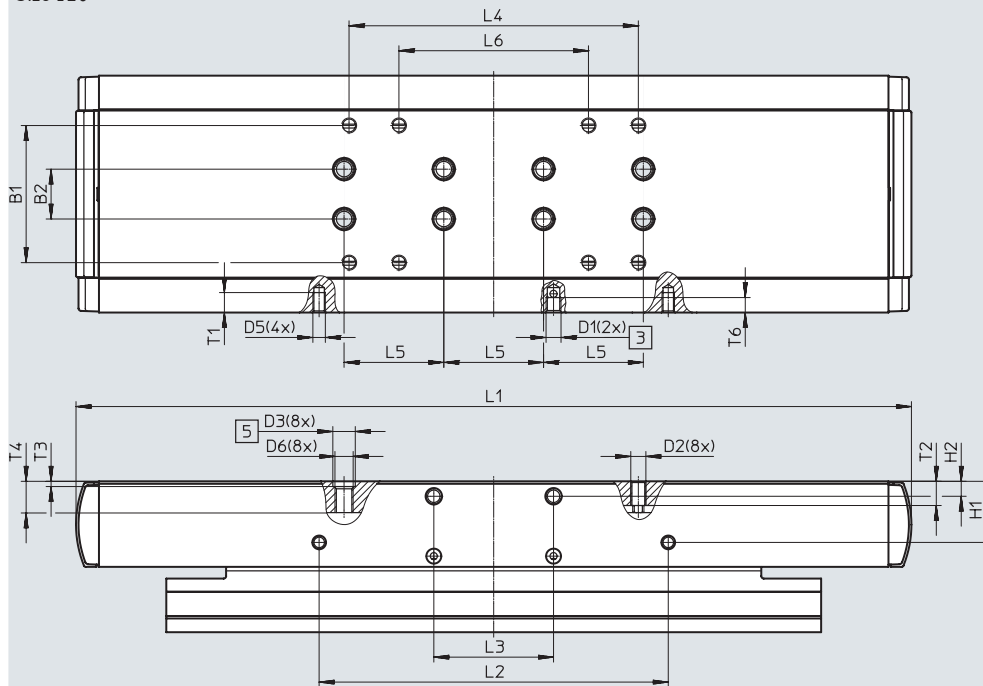
Data sheet

Dimensions

Download CAD data → www.festo.com

Slide

Size 120



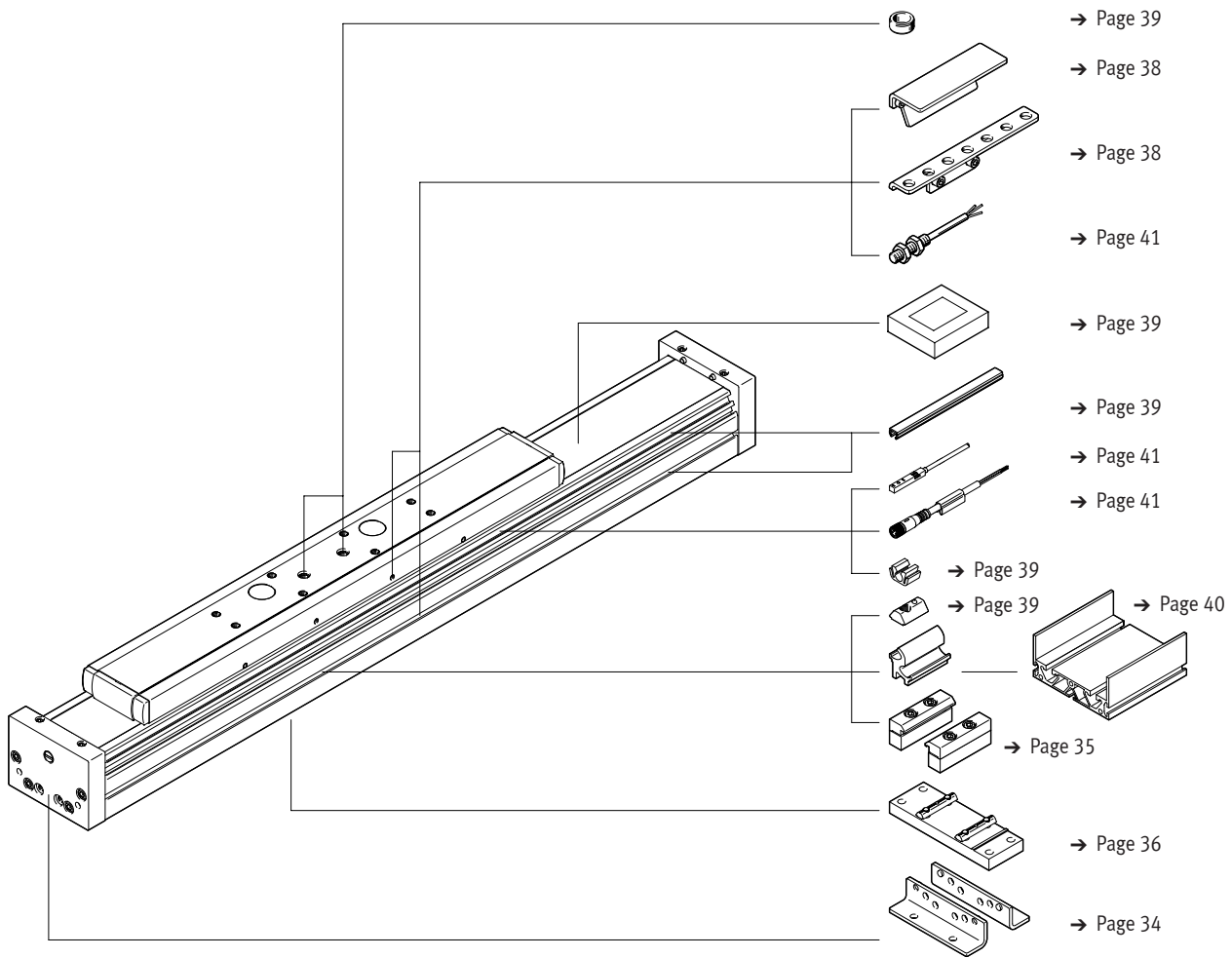
[3] Lubrication connections

[5] Drilled hole for centring sleeve ZBH

| Size | B1 | B2 | D1 | D2 | D3 ∅ H7 | D5 | D6 | H1 | H2 | L1 |
|------|------|-------|----|----|---------------|----|----|------|----|-----|
| | ±0.1 | ±0.03 | | | | | | ±0.1 | | |
| 120 | 55 | 20 | M6 | M5 | 9 | M5 | M6 | 24.5 | 6 | 335 |

| Size | L2 | L3 | L4 | L5 | L6 | T1 | T2 | T3 | T4 | T6 |
|------|------|------|------|-------|------|----|-----|------|------|----|
| | ±0.1 | ±0.1 | ±0.1 | ±0.03 | ±0.1 | | | +0.1 | -0.3 | |
| 120 | 140 | 48 | 116 | 40 | 76 | 8 | 9.7 | 2.1 | 12.6 | 6 |

Ordering data – Modular product system

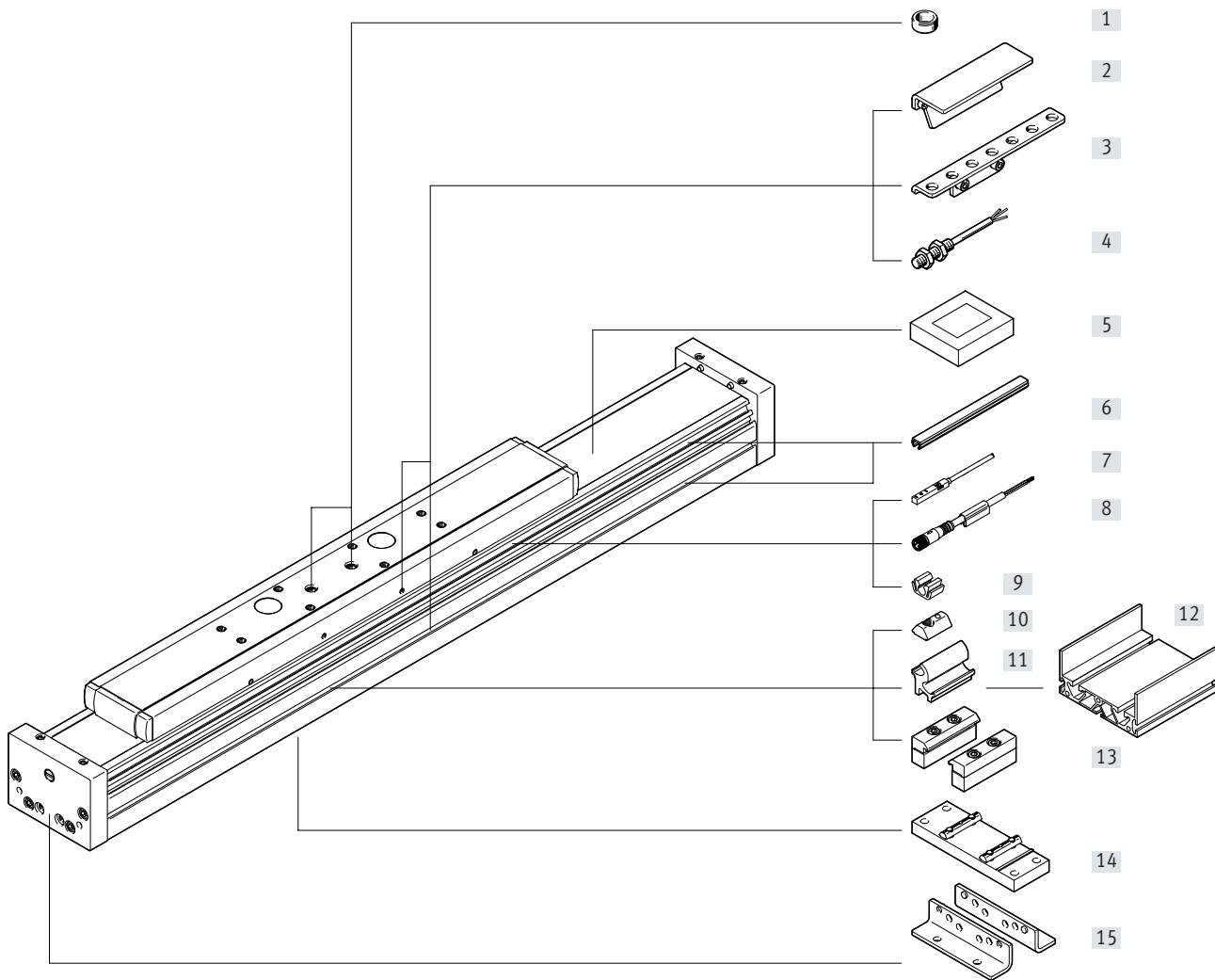


Ordering data – Modular product system

| Ordering table | | | | | | |
|------------------------------|--------------------------------------|----------------|----------------|------------|--------------|------------|
| Size | 70 | 80 | 120 | Conditions | Code | Enter code |
| Module no. | 8037970 | 8037971 | 8037972 | | | |
| Design | Guide axis | | | | ELFA | ELFA |
| Guide | Recirculating ball bearing guide | | | | -KF | -KF |
| Size [mm] | 70 | 80 | 120 | | -... | -... |
| Stroke length [mm] | 50 ... 5000 | 50 ... 8500 | | | -... | -... |
| Stroke reserve [mm] | 0 ... 999 (0 = no stroke reserve) | | | [1] | -...H | |
| Slide design | Standard slide | | | | | |
| | 1 slide on left | | | | -ZL | |
| | 1 slide on right | | | | -ZR | |
| Protection against particles | Standard | | | | | |
| | Cover strip with magnetic deflection | | | | P11 | |
| Operating instructions | With operating instructions | | | | | |
| | Without operating instructions | | | | -DN | |

[1] ... The sum of the nominal stroke and 2x stroke reserve must be at least 50 mm and must not exceed the maximum stroke length.

Peripherals overview

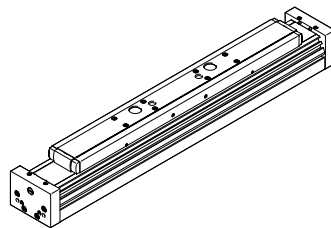
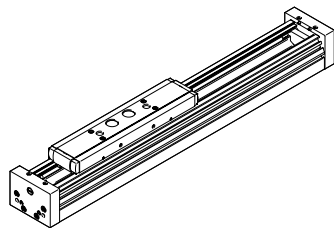
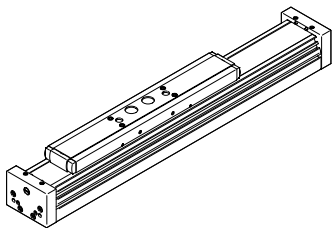


Slide variants

ELFA-...
Standard slide

ELFA-...-S
Short slide

ELFA-...-L
Long slide



This variant is only available without cover strip.

Peripherals overview

| Variants and accessories | | |
|---|---|-----------------|
| Type | Description | → Page/Internet |
| [1] Centring sleeve ZBH | <ul style="list-style-type: none"> For centring loads and attachments on the slide Included in the scope of delivery: <ul style="list-style-type: none"> With size 70, 80: 2x ZBH-9 | 39 |
| [2] Switch lug SF-EGC | For sensing the slide position | 38 |
| [3] Sensor bracket HWS-EGC | Adapter for mounting the inductive proximity sensors (round design) on the axis | 38 |
| [4] Proximity sensor, M8 SIEN-M8 | Inductive proximity sensor, round design | 41 |
| [5] Clamping element EADT | Tool for retensioning the cover strip | 39 |
| [6] Slot cover ABP | For protection against contamination | 39 |
| [7] Proximity sensor, T-slot SIES-8M | Inductive proximity sensor, for T-slot | 41 |
| [8] Connecting cable NEBU | For proximity sensor | 41 |
| [9] Clip SMBK | For mounting the proximity sensor cable in the slot | 39 |
| [10] Slot nut NST | For mounting attachments | 39 |
| [11] Adapter kit DHAM | For mounting the support profile on the axis | 40 |
| [12] Support profile HMIA | For guiding an energy chain | 40 |
| [13] Profile mounting MUE | For mounting the axis on the side of the profile | 35 |
| [14] Central support EAHF-L5 | For mounting the axis on the profile from underneath | 36 |
| [15] Foot mounting HPE | <ul style="list-style-type: none"> For mounting the axis on the end cap. With higher forces and torques, the axis should be mounted using the profile | 34 |

Type codes

| | | |
|------|------------|--|
| 001 | Series | |
| ELFA | Guide axis | |

| | | |
|-----|----------------|--|
| 002 | Guide | |
| RF | Roller bearing | |

| | | |
|-----|------|--|
| 003 | Size | |
| 70 | 70 | |
| 80 | 80 | |

| | | |
|-----|-------------|--|
| 004 | Stroke | |
| ... | 50 ... 7000 | |

| | | |
|------|----------------|--|
| 005 | Stroke reserve | |
| OH | None | |
| ...H | 0 ... 999 mm | |




| | | |
|-----|--------------|--|
| 006 | Slide design | |
| | Standard | |
| S | Slide, short | |
| L | Slide, long | |

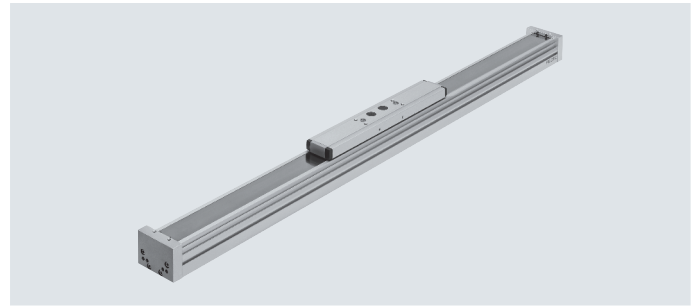
| | | |
|-----|------------------------------|--|
| 007 | Protection against particles | |
| | Standard | |
| P0 | Without strip cover | |

| | | |
|-----|--------------------------------|--|
| 008 | Operating instructions | |
| | With operating instructions | |
| DN | Without operating instructions | |

Data sheet



-  Size
70, 80
-  Stroke length
50 ... 7000 mm
-  www.festo.com



| General technical data | | | |
|-------------------------------------|---------------------|----------------------|-------------|
| Size | | 70 | 80 |
| Design | | Guide | |
| Guide | | Roller bearing guide | |
| Mounting position | | Any | |
| Working stroke | | | |
| ELFA-... | [mm] | 50 ... 7000 | 50 ... 7000 |
| ELFA-...-S | [mm] | 50 ... 7000 | 50 ... 7000 |
| ELFA-...-L | [mm] | 50 ... 6900 | 50 ... 6900 |
| Max. no-load resistance to shifting | [N] | 25 | 40 |
| Max. speed | [m/s] | 10 | 10 |
| Max. acceleration | [m/s ²] | 50 | 50 |

| Operating and environmental conditions | | | |
|--|------|-------------|--|
| Ambient temperature ¹⁾ | [°C] | -10 ... +60 | |
| Degree of protection | | | |
| ELFA-... | | IP40 | |
| ELFA-...-P0 | | IP00 | |

1) Note operating range of proximity sensors

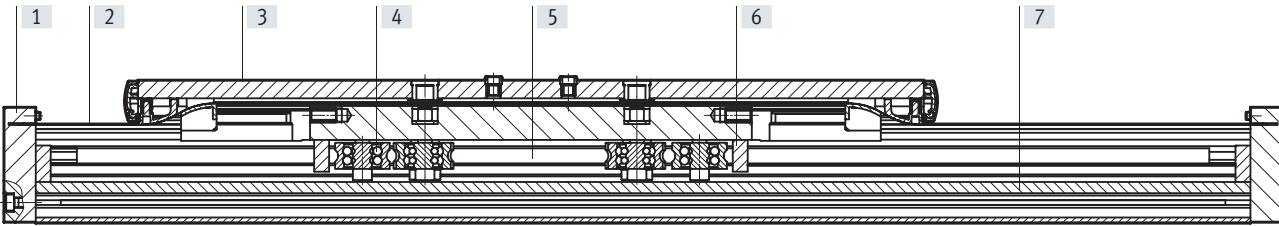
| Weight [kg] | | | |
|---|--|------|------|
| Size | | 70 | 80 |
| Product weight with 0 mm stroke ¹⁾ | | | |
| ELFA-... | | 1.92 | 4.28 |
| ELFA-...-S | | 1.56 | 3.67 |
| ELFA-...-L | | 2.45 | 5.45 |
| Additional weight per 1000 mm stroke | | | |
| ELFA-... | | 3.05 | 4.71 |
| ELFA-...-P0 | | 2.96 | 4.61 |
| Moving mass | | | |
| ELFA-... | | 0.66 | 1.65 |
| ELFA-...-S | | 0.56 | 1.48 |
| ELFA-...-L | | 0.89 | 2.16 |

1) Including slide

Data sheet

Materials

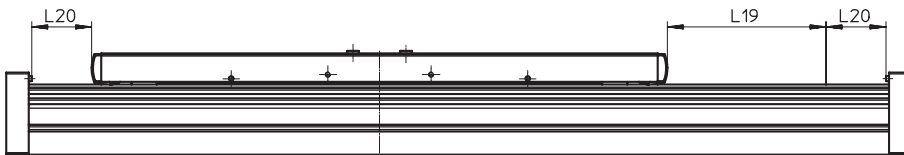
Sectional view



Axis

| | |
|-------------------|--|
| [1] End cap | Anodised wrought aluminium alloy |
| [2] Cover strip | Stainless steel |
| [3] Slide | Anodised wrought aluminium alloy |
| [4] Castor | Hardened rolled steel |
| [5] Guide rod | Hardened tempered steel |
| [6] Wiper seal | Oil-impregnated felt |
| [7] Profile | Anodised wrought aluminium alloy |
| Note on materials | RoHS-compliant |
| | Contains paint-wetting impairment substances |

Stroke reserve



L19 = Nominal stroke
L20 = Stroke reserve

- The stroke reserve is a safety distance from the mechanical end position and is not used in normal operation
- The sum of the nominal stroke and 2x stroke reserve must not exceed the maximum permissible working stroke
- The stroke reserve length can be freely selected
- The stroke reserve is defined via the "stroke reserve" characteristic in the modular product system

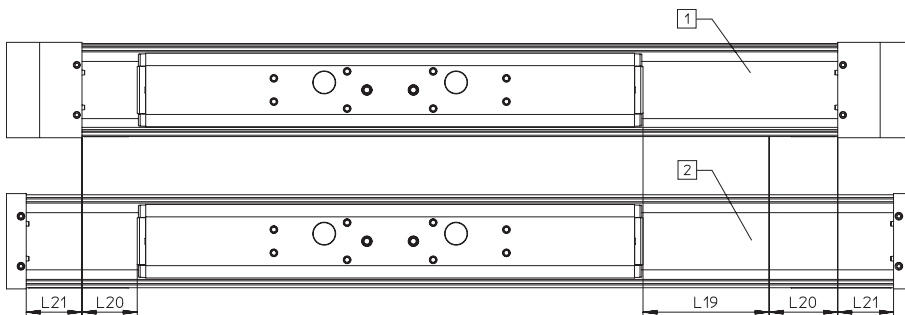
Example:

Type ELFA-RF-70-500-20H-...
 Nominal stroke = 500 mm
 2x stroke reserve = 40 mm
 Working stroke = 540 mm
 (540 mm = 500 mm + 2x 20 mm)

Identical installation length between toothed belt axis ELGA-TB-RF and guide axis ELFA-RF

The different end cap lengths result in different overall lengths despite the nominal stroke and stroke reserve being the same.

To achieve the same overall length between two axes, the compensation dimension L21 must be added to the stroke reserve in the case of the guide axis ELFA-RF.



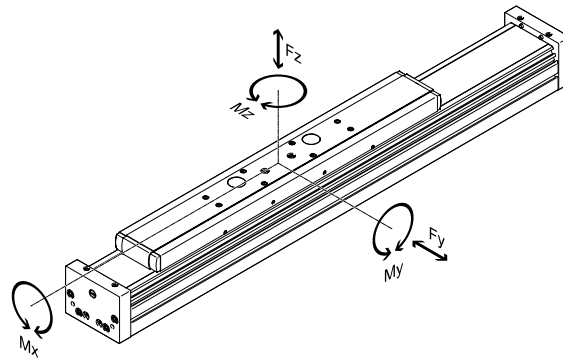
[1] ELGA-TB-RF
 [2] ELFA-RF
 L19 = Nominal stroke
 L20 = Stroke reserve
 L21 = Compensation dimension

| | | |
|-----------------------------|------|----|
| Size | 70 | 80 |
| Compensation dimension [mm] | 41.5 | 48 |

Data sheet

Characteristic load values

The indicated forces and torques refer to the slide surface. The point of application of force is the point where the centre of the guide and the longitudinal centre of the slide intersect. These values must not be exceeded during dynamic operation. Special attention must be paid to the deceleration phase.



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

Calculating the load comparison factor:

$$f_v = \frac{|F_{y1}|}{F_{y2}} + \frac{|F_{z1}|}{F_{z2}} + \frac{|M_{x1}|}{M_{x2}} + \frac{|M_{y1}|}{M_{y2}} + \frac{|M_{z1}|}{M_{z2}} \leq 1$$

F_1/M_1 = dynamic value

F_2/M_2 = maximum value

Permissible forces and torques for a service life of 10000 km

| | | |
|---------------|-----|-----|
| Size | 70 | 80 |
| $F_{y_{max}}$ | 500 | 800 |
| $F_{z_{max}}$ | 500 | 800 |
| $M_{x_{max}}$ | 11 | 30 |
| $M_{y_{max}}$ | | |
| ELFA-... | 20 | 90 |
| ELFA-...-S | 20 | 90 |
| ELFA-...-L | 40 | 180 |
| $M_{z_{max}}$ | | |
| ELFA-... | 20 | 90 |
| ELFA-...-S | 20 | 90 |
| ELFA-...-L | 40 | 180 |

Calculating the service life

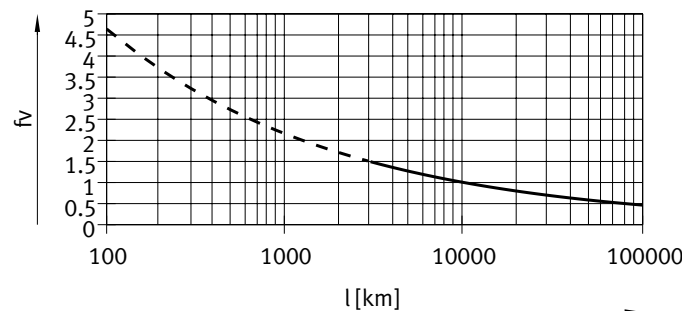
The service life of the guide depends on the load. To provide a rough indication of the service life of the guide, the graph below shows the load comparison factor f_v as a characteristic in relation to the service life.

These values are only theoretical. You must consult your local contact person at Festo for load comparison factors f_v greater than 1.5.

Load comparison factor f_v as a function of service life

Example:

A user wants to move an X kg load. Using the formula (→ page 25) gives a value of 1.5 for the load comparison factor f_v . According to the graph, the guide would have a service life of approx. 3000 km. Reducing the acceleration reduces the M_z and M_y values. A load comparison factor f_v of 1 now gives a service life of 10000 km.



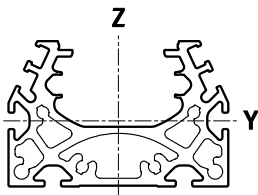
Note

The engineering software can be used to calculate the guide workload for a service life of 10000 km.

$f_v > 1.5$ are only theoretical comparison values for the roller bearing guide.

Data sheet

Second moment of area

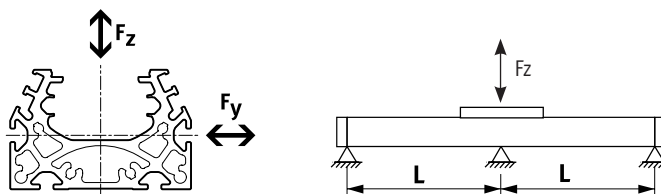


| Size | | 70 | 80 |
|-------|--------------------|--------------------|--------------------|
| I_y | [mm ⁴] | 1.39×10^5 | 2.70×10^5 |
| I_z | [mm ⁴] | 4.33×10^5 | 1.02×10^6 |

Maximum permissible support spacing L (without profile mounting MUE/central support EAHF) as a function of force F

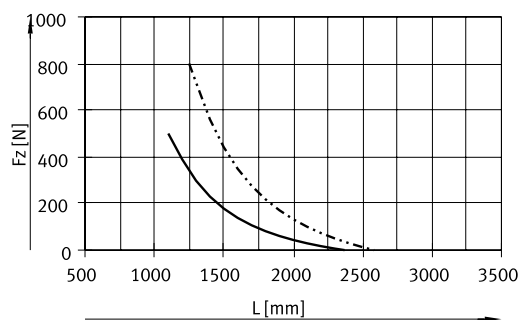
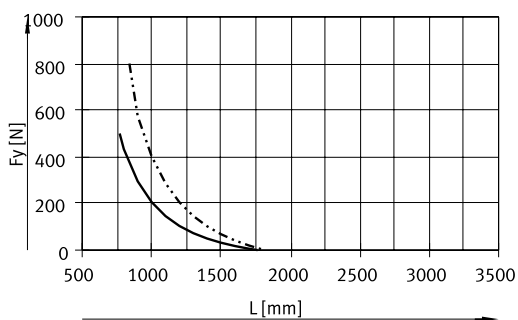
In order to limit deflection in the case of large strokes, the axis may need to be supported.

The following graphs can be used to determine the maximum permissible support spacing L as a function of force F acting on the axis. The deflection is $f = 0.5$ mm.



Force F_y

Force F_z



- ELFA-RF-70
- - - ELFA-RF-80

Recommended deflection limits

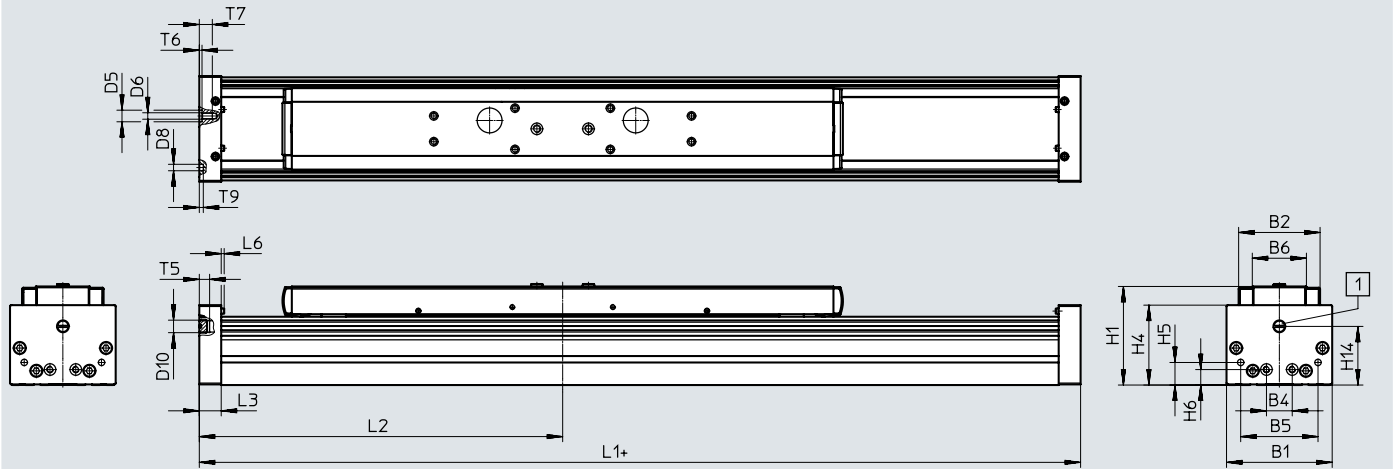
Adherence to the following deflection limits is recommended so as not to impair the functionality of the axes. Greater deformation can result in increased friction, greater wear and reduced service life.

| Size | Dynamic deflection (moving mass) | Static deflection (stationary load) |
|--------|---------------------------------------|--|
| 70, 80 | 0.05% of the axis length, max. 0.5 mm | 0.1% of the axis length |

Data sheet

Dimensions

Download CAD data → www.festo.com



+ = plus stroke length + 2x stroke reserve

[1] Sealing air connection

| Size | B1 | B2 | B4 | B5 | B6 | D5 ∅ H7 | D6 | D8 ∅ H7 | D10 | H1 |
|------|----|------|----|----|----|---------------|----|---------------|------|------|
| 70 | 69 | 48.2 | 30 | 45 | 30 | – | M5 | 5 | G1/8 | 64 |
| 80 | 82 | 63.2 | 20 | 60 | 42 | 9 | M5 | 5 | G1/8 | 76.5 |

| Size | H4 | H5 | H6 | H14 | L3 | L6 | T5 | T6 | T7 | T9 |
|------|------|------|----|------|----|-----|----|-----|------|-----|
| 70 | 50.5 | 13 | 13 | 37.5 | 16 | 2.3 | 8 | – | 10 | 3.1 |
| 80 | 62 | 17.5 | 12 | 45.5 | 17 | 2.3 | 8 | 2.1 | 10.1 | 3.1 |

| Size | L1 | | | L2 | | |
|------|----------|-----|-----|----------|-------|-------|
| | ELFA-... | -S | -L | ELFA-... | -S | -L |
| | | | | min. | min. | min. |
| 70 | 337 | 259 | 437 | 168.5 | 129.5 | 218.5 |
| 80 | 484 | 400 | 624 | 242 | 200 | 312 |

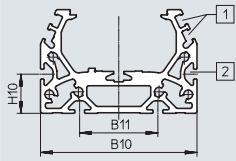
Data sheet

Dimensions

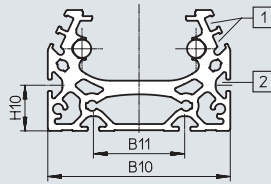
Download CAD data → www.festo.com

Profile

Size 70



Size 80



[1] Sensor slot for proximity sensor

[2] Mounting slot for slot nut

| Size | B10 | B11 | H10 |
|------|-----|-----|-----|
| 70 | 67 | 40 | 20 |
| 80 | 80 | 40 | 20 |



Note

Requirements for the flatness of the bearing surface and of attachments as well as for use in parallel structures

→ www.festo.com/sp

User documentation

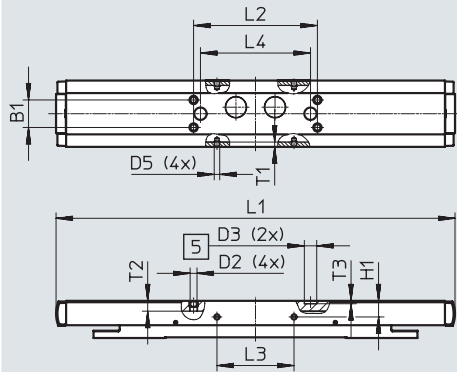
Data sheet

Dimensions

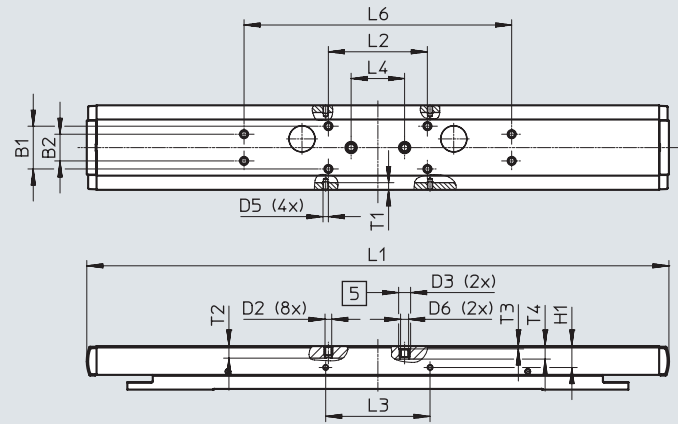
Download CAD data → www.festo.com

ELFA... – Standard slide

Size 70



Size 80



[5] Drilled hole for centring sleeve ZBH

| Size | B1 | B2 | D2 | D3 ∅ H7 | D5 | D6 | H1 | L1 |
|------|------|------|----|---------------|----|----|------|-----|
| | ±0.1 | ±0.1 | | | | | ±0.1 | |
| 70 | 20 | – | M5 | 9 | M4 | – | 11.7 | 290 |
| 80 | 32 | 20 | M5 | 9 | M4 | M6 | 16 | 435 |

| Size | L2 | L3 | L4 | L6 | T1 | T2 | T3 | T4 |
|------|------|------|-------|------|-----|-----|-----|-----|
| | ±0.2 | ±0.1 | ±0.03 | ±0.2 | | | | |
| 70 | 90 | 56 | 80 | – | 3.5 | 7.5 | 2.1 | – |
| 80 | 74 | 78 | 40 | 200 | 5.1 | 9 | 2.1 | 9.7 |

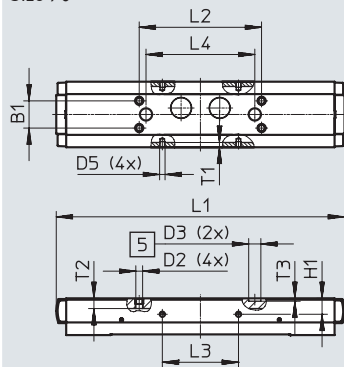
Data sheet

Dimensions

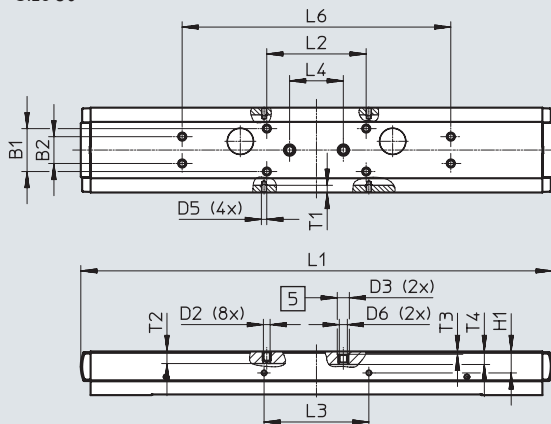
Download CAD data → www.festo.com

ELFA-...S – Short slide

Size 70



Size 80



[5] Drilled hole for centring sleeve ZBH

| Size | B1 | B2 | D2 | D3 ∅ H7 | D5 | D6 | H1 | L1 |
|------|------|------|----|---------------|----|----|------|-----|
| 70 | ±0.1 | ±0.1 | M5 | 9 | M4 | – | ±0.1 | 212 |
| 80 | 32 | 20 | M5 | 9 | M4 | M6 | 16 | 351 |

| Size | L2 | L3 | L4 | L6 | T1 | T2 | T3 | T4 |
|------|------|------|-------|------|-----|-----|-----|-----|
| | ±0.2 | ±0.1 | ±0.03 | ±0.2 | | | | |
| 70 | 90 | 56 | 80 | – | 3.5 | 7.5 | 2.1 | – |
| 80 | 74 | 78 | 40 | 200 | 5.1 | 9 | 2.1 | 9.7 |

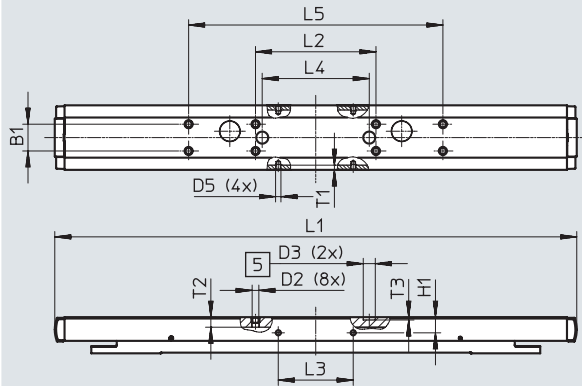
Data sheet

Dimensions

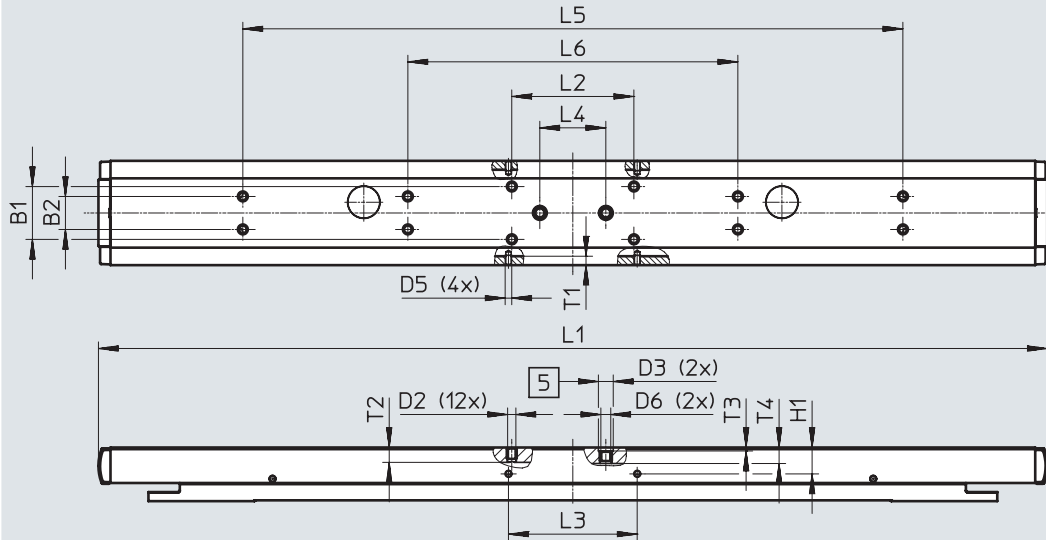
Download CAD data → www.festo.com

ELFA...-L – Long slide

Size 70



Size 80



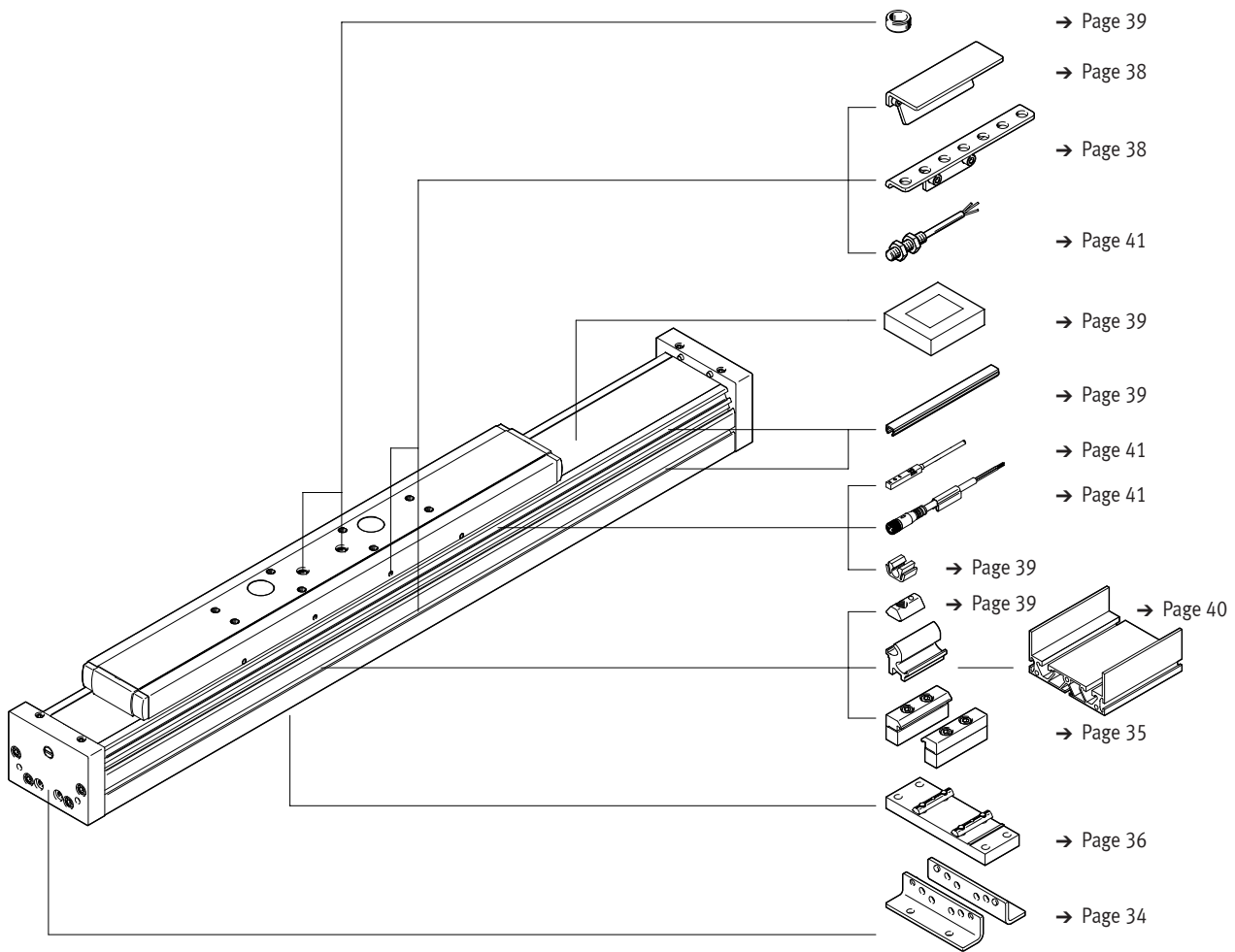
[5] Drilled hole for centring sleeve ZBH

| Size | B1 | B2 | D2 | D3 ∅ H7 | D5 |
|------|------|------|----|---------------|----|
| | ±0.1 | ±0.1 | | | |
| 70 | 20 | – | M5 | 9 | M4 |
| 80 | 32 | 20 | M5 | 9 | M4 |

| Size | D6 | H1 | L1 | L2 | L3 | L4 |
|------|----|------|-----|------|------|-------|
| | | ±0.1 | | ±0.2 | ±0.1 | ±0.03 |
| 70 | – | 11.7 | 390 | 90 | 56 | 80 |
| 80 | M6 | 16 | 575 | 74 | 78 | 40 |

| Size | L5 | L6 | T1 | T2 | T3 | T4 |
|------|------|------|-----|-----|-----|-----|
| | ±0.2 | ±0.2 | | | | |
| 70 | 190 | – | 3.5 | 7.5 | 2.1 | – |
| 80 | 400 | 200 | 5.1 | 9 | 2.1 | 9.7 |

Ordering data – Modular product system



Ordering data – Modular product system

| Ordering table | | | | | |
|------------------------------|-----------------------------------|----------------|------------|--------------|------------|
| Size | 70 | 80 | Conditions | Code | Enter code |
| Module no. | 8037967 | 8037968 | | | |
| Design | Guide axis | | | ELFA | ELFA |
| Guide | Roller bearing guide | | | -RF | -RF |
| Size [mm] | 70 | 80 | | -... | -... |
| Stroke length [mm] | 50 ... 7000 | | | -... | -... |
| Stroke reserve [mm] | 0 ... 999 (0 = no stroke reserve) | | [1] | -...H | |
| Slide design | Standard slide 50 ... 7000 | | | | |
| | Short slide 50 ... 7000 | | [2] | -S | |
| | Long slide 50 ... 6900 | | | -L | |
| Protection against particles | Standard | | | | |
| | Without cover strip | | | -P0 | |
| Operating instructions | With operating instructions | | | | |
| | Without operating instructions | | | -DN | |

[1] ... The sum of the nominal stroke and 2x stroke reserve must be at least 50 mm and must not exceed the maximum stroke length.

[2] S Only with P0.

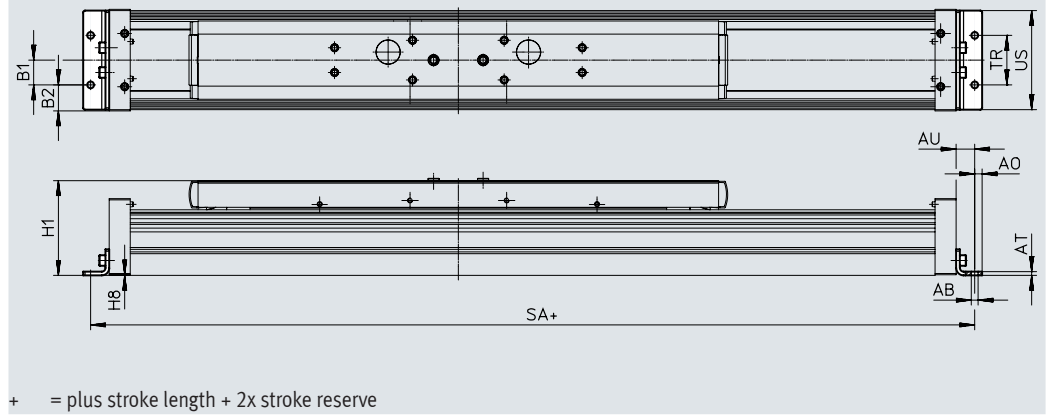
Accessories

Foot mounting HPE

Material:

Galvanised steel

RoHS-compliant



Dimensions and ordering data

| For size | AB ∅ | A0 | AT | AU | B1 | B2 | H1 |
|----------|---------|----|----|----|----|------|-------|
| 70 | 5.5 | 6 | 3 | 13 | 20 | 14.5 | 64 |
| 80 | 5.5 | 6 | 3 | 15 | 20 | 21 | 76.5 |
| 120 | 9 | 8 | 6 | 22 | 40 | 20 | 111.5 |

| For size | H8 | SA | TR | US |
|----------|-----|-----|----|-----|
| 70 | 0.5 | 289 | 40 | 67 |
| 80 | 0.5 | 320 | 40 | 80 |
| 120 | 0.5 | 440 | 80 | 116 |

| For size | Weight [g] | Part no. | Type |
|----------|---------------|----------|---------|
| 70 | 115 | 558321 | HPE-70 |
| 80 | 150 | 558322 | HPE-80 |
| 120 | 578 | 558323 | HPE-120 |

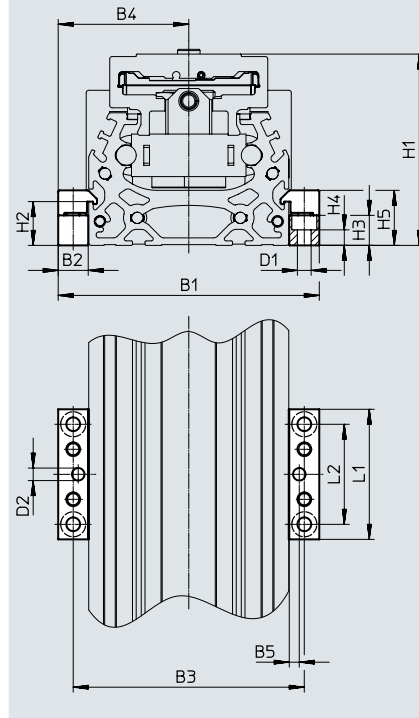
Accessories

Profile mounting MUE

Material:

Anodised aluminium

RoHS-compliant



Dimensions and ordering data

| For size | B1 | B2 | B3 | B4 | B5 | D1 ∅ | D2 ∅ H7 | H1 | H2 |
|----------|-----|----|-----|------|----|---------|---------------|-------|------|
| 70 | 91 | 12 | 79 | 39.5 | 4 | 5.5 | 5 | 64 | 17.5 |
| 80 | 104 | 12 | 92 | 46 | 4 | 5.5 | 5 | 76.5 | 17.5 |
| 120 | 154 | 19 | 135 | 67.5 | 4 | 9 | 5 | 111.5 | 16 |

| For size | H3 | H4 | H5 | L1 | L2 | Weight [g] | Part no. | Type |
|----------|----|-----|------|----|----|---------------|----------|-------------|
| 70 | 12 | 6.2 | 22 | 52 | 40 | 80 | 558043 | MUE-70/80 |
| 80 | 12 | 6.2 | 22 | 52 | 40 | 80 | 558043 | MUE-70/80 |
| 120 | 14 | 5.5 | 29.5 | 90 | 40 | 290 | 558044 | MUE-120/185 |

Accessories

Central support EAHF

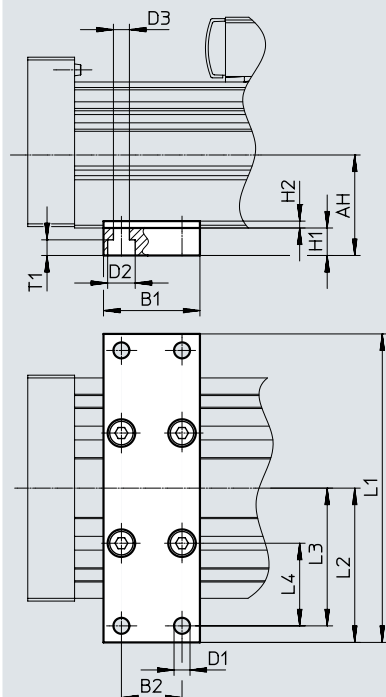
Material:

Anodised aluminium

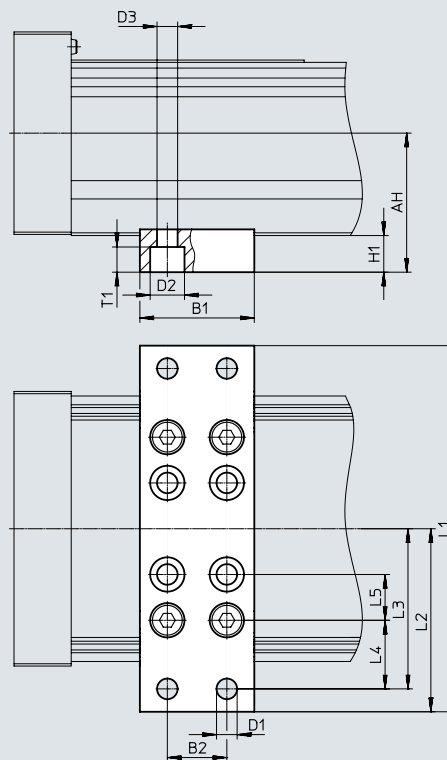
RoHS-compliant



Size 70, 80



Size 120



Dimensions and ordering data

| For size | AH | B1 | B2 | D1 ø | D2 ø | D3 ø | H1 | L1 |
|----------|------|----|----|---------|---------|---------|----|-----|
| 70 | 32.2 | 35 | 22 | 5.8 | 10 | 5.8 | 10 | 102 |
| 80 | 36.5 | | | | | | | 112 |
| 120 | 74.6 | 50 | 26 | 9 | 15 | 9 | 16 | 160 |

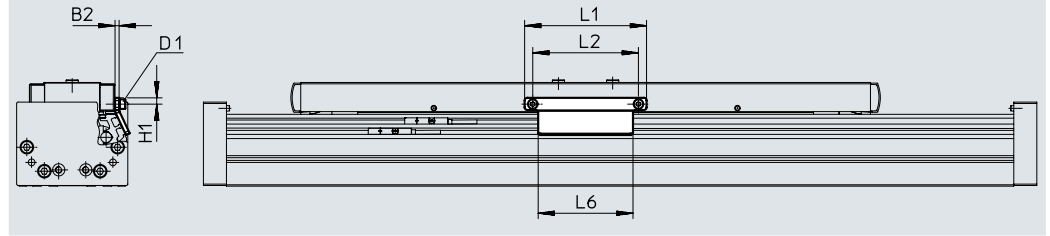
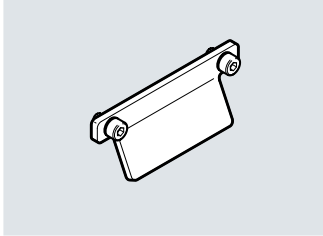
| For size | L2 | L3 | L4 | L5 | T1 | Weight [g] | Part no. | Type |
|----------|----|----|----|----|-----|---------------|----------------|----------------------|
| 70 | 51 | 45 | 25 | - | 5.7 | 113 | 2349256 | EAHF-L5-70-P |
| 80 | 56 | 50 | 30 | | | 123 | 3535188 | EAHF-L5-80-P |
| 120 | 80 | 70 | 30 | 20 | 11 | 384 | 2410274 | EAHF-L5-120-P |

Accessories

Switch lug SF-EGC-1

For sensing via proximity sensor
SIES-8M

Material:
Galvanised steel
RoHS-compliant



Dimensions and ordering data

| For size | B2 | D1 | H1 | L1 | L2 | L6 | Weight [g] | Part no. | Type |
|----------|----|----|------|-----|-----|-----|------------|----------|--------------|
| 70 | 3 | M4 | 4.65 | 70 | 56 | 50 | 50 | 558047 | SF-EGC-1-70 |
| 80 | 3 | M4 | 4.65 | 90 | 78 | 70 | 60 | 558048 | SF-EGC-1-80 |
| 120 | 3 | M5 | 8 | 170 | 140 | 170 | 147 | 558049 | SF-EGC-1-120 |

Accessories

Switch lug SF-EGC-2

For sensing via proximity sensor
SIEN-M8B/SIES-8M

Material:

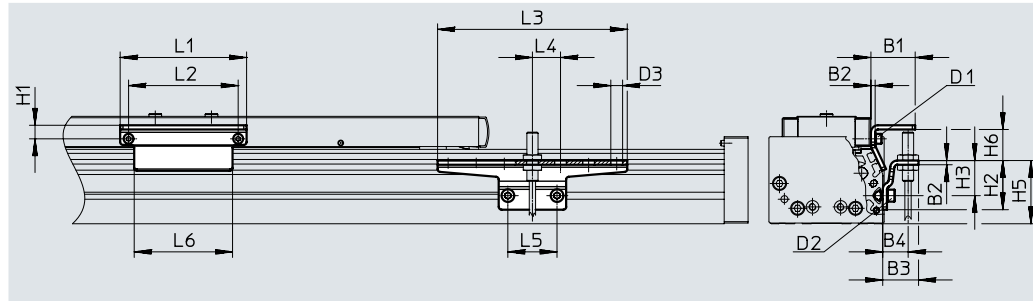
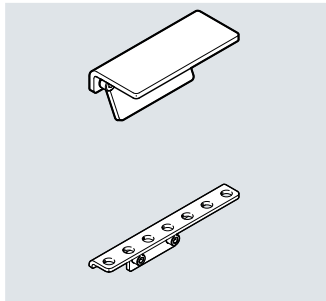
Galvanised steel
RoHS-compliant

Sensor bracket HWS-EGC

For proximity sensor SIEN-M8B

Material:

Galvanised steel
RoHS-compliant



Dimensions and ordering data







| For size | B1 | B2 | B3 | B4 | D1 | D2 | D3 ∅ | H1 | H2 |
|----------|------|----|------|----|----|----|---------|------|----|
| 70 | 31.5 | 3 | 25.5 | 18 | M4 | M5 | 8.4 | 9.5 | 35 |
| 80 | 31.5 | 3 | 25.5 | 18 | M4 | M5 | 8.4 | 9.5 | 35 |
| 120 | 32 | 3 | 25.5 | 18 | M5 | M5 | 8.4 | 13.2 | 65 |

| For size | H3 | H5 | H6 max. | L1 | L2 | L3 | L4 | L5 | L6 |
|----------|----|----|------------|-----|-----|-----|----|----|-----|
| 70 | 25 | 45 | 13.5 | 70 | 56 | 135 | 20 | 35 | 50 |
| 80 | 25 | 45 | 23.5 | 90 | 78 | 135 | 20 | 35 | 70 |
| 120 | 55 | 75 | 24 | 170 | 140 | 215 | 20 | 35 | 170 |

| For size | Weight [g] | Part no. | Type |
|-------------------|---------------|----------|--------------|
| Switch lug | | | |
| 70 | 100 | 558052 | SF-EGC-2-70 |
| 80 | 130 | 558053 | SF-EGC-2-80 |
| 120 | 277 | 558054 | SF-EGC-2-120 |

| For size | Weight [g] | Part no. | Type |
|-----------------------|---------------|----------|--------------|
| Sensor bracket | | | |
| 70 | 110 | 558057 | HWS-EGC-M5 |
| 80 | 110 | 558057 | HWS-EGC-M5 |
| 120 | 217 | 570365 | HWS-EGC-M8-B |

Accessories

| Ordering data | | | Part no. | Type | PU ¹⁾ |
|---|-------------|---|----------|---------------|------------------|
| | For size | Comment | | | |
| Slot nut NST | | | | | |
|  | 70, 80 | For mounting slot | 150914 | NST-5-M5 | 1 |
| | | | 8047843 | NST-5-M5-10 | 10 |
| | | | 8047878 | NST-5-M5-50 | 50 |
| | 120 | | 150915 | NST-8-M6 | 1 |
| | | | 8047868 | NST-8-M6-10 | 10 |
| | | | 8047869 | NST-8-M6-50 | 50 |
| Centring pin/sleeve ZBS/ZBH | | | | | |
|  | 70 | For slide | 150928 | ZBS-5 | 10 |
| | 70, 80, 120 | | 8137184 | ZBH-9-B | |
| Slot cover ABP | | | | | |
|  | 70, 80 | <ul style="list-style-type: none"> For mounting slot Each 0.5 m | 151681 | ABP-5 | 2 |
| | 120 | | 151682 | ABP-8 | |
| Slot cover ABP-S | | | | | |
|  | 70, 80, 120 | <ul style="list-style-type: none"> For sensor slot Each 0.5 m | 563360 | ABP-S-S1 | 2 |
| Clip SMBK | | | | | |
|  | 70, 80, 120 | For sensor slot, for mounting the proximity sensor cables | 534254 | SMBK-8 | 10 |
| Clamping element EADT | | | | | |
|  | 70, 80 | Tool for retensioning the cover strip | 8058451 | EADT-S-L5-70 | 1 |
| | 120 | | 8058450 | EADT-S-L5-120 | |




1) Packaging unit

Accessories

Mounting options between axis and support profile







Depending on the adapter kit, the spacing between the axis and the support profile is:
x = 20 mm or 50 mm

The support profile must be mounted using at least 2 adapter kits. For longer strokes, an adapter kit must be used every 500 mm.

| Ordering data | | For size | Comment | Part no. | Type | PU ¹⁾ |
|--|-------------|---|---------|----------|------------------|------------------|
| Adapter kit DHAM | | | | | | |
|  | 80 | • For mounting the support profile on the axis • Spacing between axis and profile is 20 mm | | 562241 | DHAM-ME-N1-CL | 1 |
| | 120 | | | 562242 | DHAM-ME-N2-CL | |
|  | 70, 80 | • For mounting the support profile on the axis • Spacing between axis and profile is 50 mm | | 574560 | DHAM-ME-N1-50-CL | 1 |
| | 120 | | | 574561 | DHAM-ME-N2-50-CL | |
| Support profile HMIA | | | | | | |
|  | 70, 80, 120 | For guiding an energy chain | | 539379 | HMIA-E07- | 1 |

1) Packaging unit

Accessories

| Ordering data – Proximity sensors for T-slot, inductive | | | | | | Data sheets → Internet: sies |
|---|--|------------------------------|------------------|------------------|---------------------|------------------------------|
| | Type of mounting | Electrical connection | Switching output | Cable length [m] | Part no. | Type |
| N/O contact | | | | | | |
|  | Inserted in the slot from above, flush with the cylinder profile | Cable, 3-wire | PNP | 7.5 | 551386 | SIES-8M-PS-24V-K-7.5-OE |
| | | Plug M8x1, 3-pin | | 0.3 | 551387 | SIES-8M-PS-24V-K-0.3-M8D |
| | | Cable, 3-wire | NPN | 7.5 | 551396 | SIES-8M-NS-24V-K-7.5-OE |
| | | Plug M8x1, 3-pin | | 0.3 | 551397 | SIES-8M-NS-24V-K-0.3-M8D |
| N/C contact | | | | | | |
|  | Inserted in the slot from above, flush with the cylinder profile | Cable, 3-wire | PNP | 7.5 | 551391 | SIES-8M-PO-24V-K-7.5-OE |
| | | Plug M8x1, 3-pin | | 0.3 | 551392 | SIES-8M-PO-24V-K-0.3-M8D |
| | | Cable, 3-wire | NPN | 7.5 | 551401 | SIES-8M-NO-24V-K-7.5-OE |
| | | Plug M8x1, 3-pin | | 0.3 | 551402 | SIES-8M-NO-24V-K-0.3-M8D |
| Ordering data – Proximity sensor M8 (round design), inductive | | | | | | Data sheets → Internet: sien |
| | Electrical connection | LED | Switching output | Cable length [m] | Part no. | Type |
| N/O contact | | | | | | |
|  | Cable, 3-wire | ■ | PNP | 2.5 | 150386 | SIEN-M8B-PS-K-L |
| | Plug M8x1, 3-pin | ■ | PNP | – | 150387 | SIEN-M8B-PS-S-L |
| N/C contact | | | | | | |
|  | Cable, 3-wire | ■ | PNP | 2.5 | 150390 | SIEN-M8B-PO-K-L |
| | Plug M8x1, 3-pin | ■ | PNP | – | 150391 | SIEN-M8B-PO-S-L |
| Ordering data – Connecting cables | | | | | | Data sheets → 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 | 159420 | SIM-M8-3GD-2.5-PU | |
| | | | 2.5 | 541333 | NEBU-M8G3-K-2.5-LE3 | |
| | | | 5 | 541334 | NEBU-M8G3-K-5-LE3 | |
|  | Angled socket, M8x1, 3-pin | Cable, open end, 3-wire | 2.5 | 541338 | NEBU-M8W3-K-2.5-LE3 | |
| | | | 5 | 541341 | NEBU-M8W3-K-5-LE3 | |

Festo - Your Partner in Automation



1 Festo Inc.
5300 Explorer Drive
Mississauga, ON L4W 5G4
Canada

Festo Customer Interaction Center
Tel: 1 877 463 3786
Fax: 1 877 393 3786
Email: customer.service.ca@festo.com



2 Festo Pneumatic
Av. Ceylán 3,
Col. Tequesquináhuac
54020 Tlalnepantla,
Estado de México

Multinational Contact Center
01 800 337 8669
ventas.mexico@festo.com



3 Festo Corporation
1377 Motor Parkway
Suite 310
Islandia, NY 11749

Festo Customer Interaction Center
1 800 993 3786
1 800 963 3786
customer.service.us@festo.com



4 Regional Service Center
7777 Columbia Road
Mason, OH 45040

Connect with us



www.festo.com/socialmedia



www.festo.com

Subject to change