

Spindle axes ELGC-BS-KF

FESTO



This drive is also available as a product unit as part of the
Simplified Motion Series
Spindle axis ELGS-BS-KF



Characteristics

At a glance



- Optimal installation space to working space ratio
- Protected against external influences by internal guide
- Unique assembly system
- Compact double bearing integrated in the axis to save space
- Stainless steel cover strip kept in place with magnetic strips
- Wide range of mounting options for optimum machine integration

Compact

Optimum dimensions thanks to the integrated compact coupling and a very short slide

Flexible

Adapterless combination of ELGC and EGSC using the innovative "one size down" assembly system

Integrated

Simple position sensing with proximity switch SMT-8M and integrated positioning magnet

Protected

The cover strip and the optional vacuum connection provide protection against particle immissions and emissions

Modular and flexible with motor, motor mounting kit and servo drive

Motor

Servo motor



Stepper motor



Servo drive

Servo drive



Motor controller for stepper motor

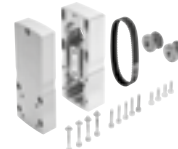


Motor mounting kit

Axial kit



Parallel kit



Simplicity in one unit

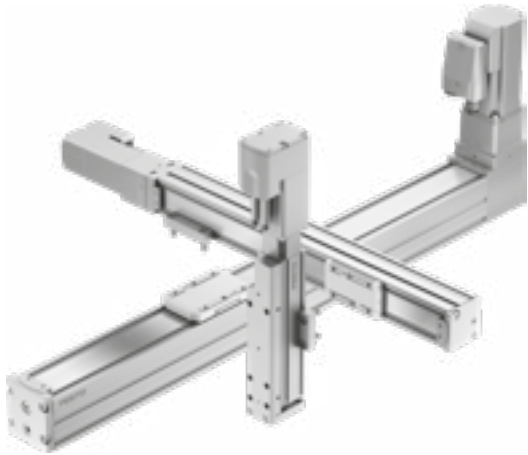
This product is also available as a product unit as part of the Simplified Motion Series:



- The Simplified Motion Series combines the simplicity of pneumatics with the benefits of electric automation. The perfect solution for all users who are looking for an electric alternative for very simple movement and positioning tasks, but don't want the commissioning process for traditional electric drive systems that can often be quite complex.
- Simplified functionality for simple movements between two end positions
- A variety of movements with different mechanical systems
- Integrated products eliminate the need for a control cabinet
- Quick and easy commissioning without software or special expertise
- Digital I/O and IO-Link integrated as standard

Characteristics

From the individual axis to the complete handling system



- The toothed belt and spindle axes ELGC and mini slide EGSC form a scalable modular system for compact automation
- The shared platform architecture creates a consistent range with matching interfaces. A large number of systems can be realised entirely without adapter plates
- Powerful drive and guide components ensure a long service life, as well as excellent load capacity and reliability
- The uniform and universal range of accessories reduces warehousing and design costs
- Two position sensing functions can be selected:
 - With magneto-resistive proximity switches (detection via integrated magnets)
 - With inductive proximity switches (detection via switch lug)

The products for the handling system

Spindle axis
ELGC-BS



Toothed belt axis
ELGC-TB



Guide axis
ELFC



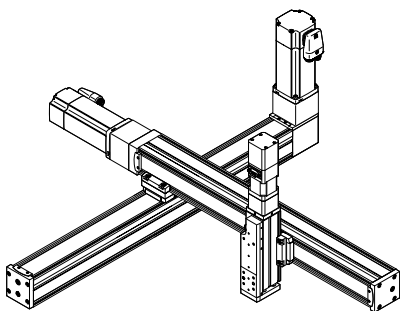
Mini slide
EGSC



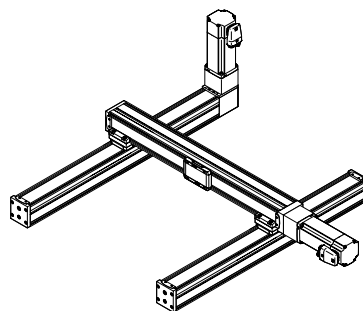
Typical handling systems

For applications where compact dimensions are essential, the axes ELGC can be combined into very space-saving handling systems that are suitable for assembly systems, test and inspection systems, small parts handling, the electronics industry and desktop applications. The very compact linear axes ELGC, mini slide EGSC and electric cylinder EPCC offer an optimal ratio between installation space and working space. They feature a common system approach and platform architecture and the connections are largely adapter-less.

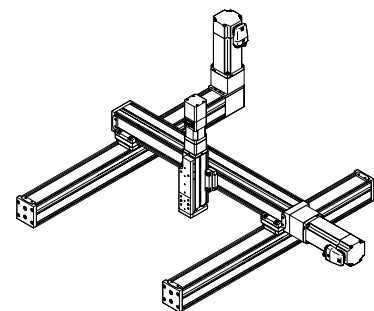
Cantilever system



Planar surface gantry



3-dimensional gantry



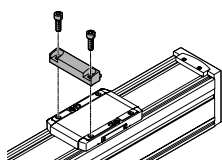
Characteristics

Matrix showing combinations between axis ELGC/ELGS-TB, ELGC/ELGS-BS, mini slide EGSC/EGSS-BS, electric cylinder EPCC/EPCS-BS and guide axis ELFC

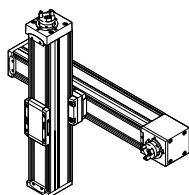
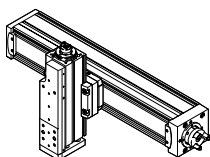
Mounting options with profile mounting and via angle kit

| | Size | Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS; EPCC-BS; ELGS-BS/-TB; EGSS-BS, EPCS-BS | | | |
|-----------------------------------|------|--|----|----|----|
| | | 25 | 32 | 45 | 60 |
| Base axis | 32 | ■ | – | – | – |
| ELGC-BS/-TB; ELFC; ELGS-BS/-TB | 45 | – | ■ | – | – |
| | 60 | – | – | ■ | – |
| | 80 | – | – | – | ■ |

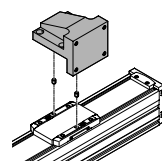
With profile mounting EAHF-L2-...-P-D...



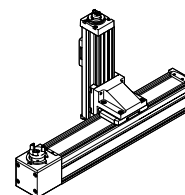
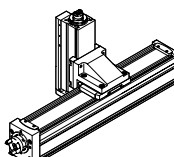
- Mounting option: base axis with one-size-down assembly axis



With angle kit EHAA-D-L2-...-AP



- Mounting option: base axis rotated through 90° with one-size-down assembly axis



Matrix showing combinations between axis ELGC/ELGS-TB, ELGC/ELGS-BS, mini slide EGSC/EGSS-BS, electric cylinder EPCC/EPCS-BS and guide axis ELFC

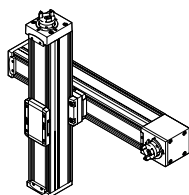
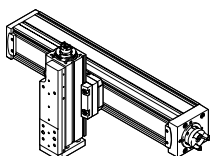
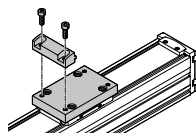
Assembly options with adapter kit or direct mounting

| | Size | Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS; EPCC-BS; ELGS-BS/-TB; EGSS-BS, EPCS-BS | | | | |
|-----------------------------------|------|--|----|----|----|----|
| | | 25 | 32 | 45 | 60 | 80 |
| Base axis | 32 | ■ | – | – | – | – |
| ELGC-BS/-TB; ELFC; ELGS-BS/-TB | 45 | – | ■ | – | – | – |
| | 60 | – | – | ■ | – | – |
| | 80 | – | – | – | ■ | – |

| | Size | Assembly axis EGSC-BS; EGSS-BS | | | |
|---------------------|------|--------------------------------|----|----|----|
| | | 25 | 32 | 45 | 60 |
| Base axis | 25 | ■ | – | – | – |
| EGSC-BS; EGSS-BS | 32 | – | ■ | – | – |
| | 45 | – | – | ■ | – |
| | 60 | – | – | – | ■ |

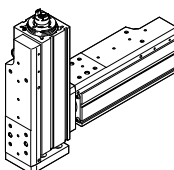
With adapter kit EHAA-D-L2

- Mounting option: base axis with the same size assembly axis
- Mounting option: base axis with height adjustment for one-size-down assembly axis
- When motors are mounted using parallel kits, this may lead to interfering contours. In this case, the adapter plate is required for height compensation



With direct mounting

- Mounting option: base axis with the same size assembly axis



Type codes

| 001 | Series |
|------|-------------|
| ELGC | Gantry axis |

| 002 | Drive system |
|-----|------------------|
| BS | Ball screw drive |

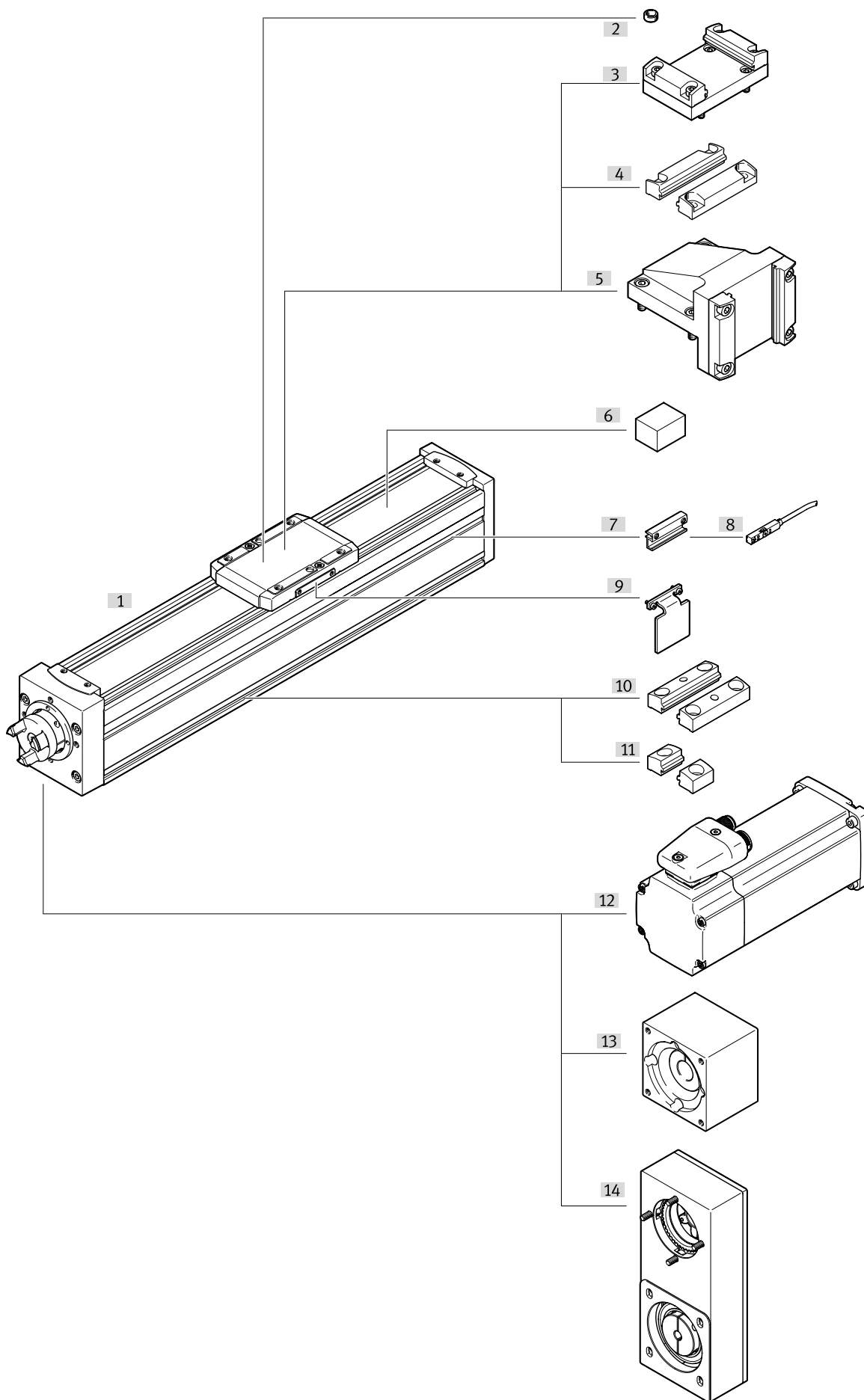
| 003 | Guide |
|-----|----------------------------------|
| KF | Recirculating ball bearing guide |

| 004 | Size |
|-----|------|
| 32 | 32 |
| 45 | 45 |
| 60 | 60 |
| 80 | 80 |

| 005 | Stroke |
|------|--------|
| 100 | 100 |
| 200 | 200 |
| 300 | 300 |
| 400 | 400 |
| 500 | 500 |
| 600 | 600 |
| 800 | 800 |
| 1000 | 1000 |

| 006 | Spindle pitch |
|-----|---------------|
| 8P | 8 mm |
| 10P | 10 mm |
| 12P | 12 mm |
| 16P | 16 mm |

Peripherals overview



Peripherals overview

| Accessories | | | |
|--|--|--|-----------------|
| Type | Description | | → Page/Internet |
| [1] Spindle axis ELGC-BS-KF | Electric drive | | 8 |
| [2] Centring pin/sleeve ZBS/ZBH | For centring loads and attachments on the slide | | 27 |
| [3] Adapter kit EHAA-D-L2 | <ul style="list-style-type: none"> For axis/axis mounting with adapter plate Mounting option: base axis with same size or one-size-down assembly axis (→ page 1) When motors are mounted using parallel kits, this may lead to interfering contours. In this case, the adapter plate is required for height compensation (download CAD data → www.festo.com) | | 24 |
| [4] Profile mounting EAHF-L2-...-P-D... | <ul style="list-style-type: none"> For axis/axis mounting without adapter plate Mounting option: base axis with one-size-down assembly axis (→ page 4) | | 23 |
| [5] Angle kit EHAA-D-L2-...-AP | For mounting one-size-down vertical axes (assembly axes) on base axes with mounting position "slide at top" (→ page 4) | | 25 |
| [6] Clamping element EADT-S-L5-32 | Tool for retensioning the cover strip | | 27 |
| [7] Sensor bracket EAPM-L2-SH | For mounting the proximity switches on the axis. The proximity switches can only be mounted using the sensor bracket | | 26 |
| [8] Proximity switches SIES-8M | Inductive proximity switches, for T-slot | | 27 |
| Proximity switches SMT-8M | Magnetic proximity switches, for T-slot | | 27 |
| [9] Switch lug EAPM-L2-...-SLS | For sensing the slide position in conjunction with inductive proximity switches SIES-8M | | 26 |
| [10] Profile mounting EAHF-L2-...-P | For mounting the axis on the side of the profile. The profile mounting can be attached to the mounting surface using the drilled hole in the centre | | 22 |
| [11] Profile mounting EAHF-L2-...-P-S | For mounting the axis on the side of the profile | | 21 |
| [12] Motor EMME-AS, EMMS-ST | Motors specially matched to the axis, with or without brake | | 19 |
| [13] Axial kit EAMM-A | For axial motor mounting | | 19 |
| [14] Parallel kit EAMM-U | For parallel motor mounting | | 20 |

Sealing air connection

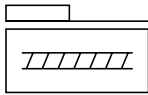
Air is exchanged between the interior of the cylinder and the environment via a sealing air connection. This prevents negative pressure or overpressure arising in the interior of the cylinder.




Additional functions of the connection:

- Application of slight negative pressure prevents emission of particles
- Application of slight overpressure prevents immission of particles

Suitable push-in fittings → page 27

Data sheet



-  - Size
32 ... 80
-  - Stroke length
100 ... 1000 mm
-  - www.festo.com



| General technical data | | | | | |
|-------------------------------------|---------------------|--|-----------------------------------|-----------------------------------|---|
| Size | | 32 | 45 | 60 | 80 |
| Design | | Electromechanical axis with ball screw drive | | | |
| Guide | | Recirculating ball bearing guide | | | |
| Mounting position | | Any | | | |
| Working stroke | [mm] | 100, 200, 300, 400, 500, 600, 800 | 100, 200, 300, 400, 500, 600, 800 | 100, 200, 300, 400, 500, 600, 800 | 100, 200, 300, 400, 500, 600, 800, 1000 |
| Max. feed force F_x | [N] | 40 | 100 | 200 | 350 |
| No-load torque at | [Nm] | 0.02 | 0.032 | 0.042 | 0.095 |
| Low travel speed | [m/s] | 0.05 | 0.05 | 0.05 | 0.05 |
| No-load torque at | [Nm] | 0.04 | 0.12 | 0.25 | 0.40 |
| Max. travel speed | [m/s] | 0.6 | 0.6 | 0.8 | 1 |
| Max. radial force ¹⁾ | [N] | 75 | 180 | 230 | 400 |
| Max. rotational speed ²⁾ | [rpm] | 4500 | 3600 | 4000 | 3750 |
| Max. acceleration | [m/s ²] | 15 | | | |
| Repetition accuracy | [mm] | ±0.015 | ±0.015 | ±0.01 | ±0.01 |
| Reversing backlash | [mm] | ≤ 0.15 | | | |
| Position sensing | | Magneto-resistive, inductive | | | |

- 1) At the driving shaft
2) Rotational speed and travel speed are stroke-dependent

| Operating and environmental conditions | | |
|--|------|----------------------------------|
| Ambient temperature ¹⁾ | [°C] | 0 ... +50 |
| Degree of protection | | IP40 |
| Duty cycle | [%] | 100 |
| Cleanroom class | | Class 7 according to ISO 14644-1 |
| Maintenance interval | | Life-time lubrication |

- 1) Note operating range of proximity switches

| Weight [g] | | | | | |
|---|--|-----|-----|------|------|
| Size | | 32 | 45 | 60 | 80 |
| Basic weight with 0 mm stroke ¹⁾ | | 296 | 724 | 1682 | 2942 |
| Additional weight per 10 mm stroke | | 18 | 36 | 51 | 88 |
| Moving mass | | 83 | 220 | 525 | 978 |

- 1) Incl. slide

Data sheet

| Spindle | | | | | |
|----------|----------|----|----|----|----|
| Size | | 32 | 45 | 60 | 80 |
| Diameter | [mm] | 8 | 10 | 12 | 16 |
| Pitch | [mm/rev] | 8 | 10 | 12 | 16 |

| Mass moment of inertia | | | | | |
|------------------------|--------------------------|-------|-------|--------|--------|
| Size | | 32 | 45 | 60 | 80 |
| J_0 | [kg mm ²] | 0.274 | 0.820 | 2.235 | 7.856 |
| J_H per metre stroke | [kg mm ² /m] | 2.218 | 5.056 | 10.779 | 35.257 |
| J_L per kg payload | [kg mm ² /kg] | 1.621 | 2.533 | 3.648 | 6.485 |

The mass moment of inertia J_{rot} of the rotating parts of the axis is calculated as follows:

$$J_{rot} = J_0 + J_H \times \text{working stroke [m]}$$

Homing

Homing can be carried out in two ways:

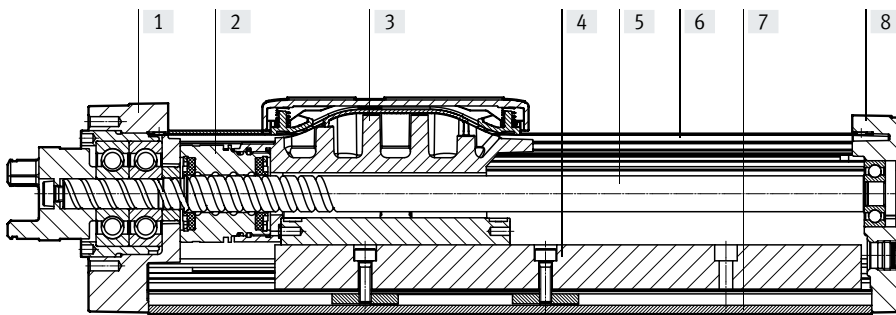
- Against a fixed stop
- Using a reference switch

The following values must be observed:

| | | | | | |
|----------------------|-------|-----------------------|----------------------|--------------------|--------------------|
| Size | | 32 | 45 | 60 | 80 |
| Max. impact energy | [J] | 0.25×10^{-3} | 0.5×10^{-3} | 1×10^{-3} | 2×10^{-3} |
| At max. homing speed | [m/s] | 0.01 | | | |

Materials

Sectional view

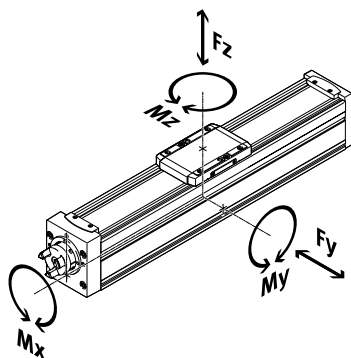


| Axis | |
|--|--|
| [1] Drive cover | Painted die-cast aluminium |
| [2] Spindle nut | Steel |
| [3] Slide | Die-cast aluminium |
| [4] Guide | Steel |
| [5] Spindle | Steel |
| [6] Cover strip | High-alloy stainless steel |
| [7] Profile | Anodised wrought aluminium alloy |
| [8] End cap | Painted die-cast aluminium |
| Note on materials | RoHS-compliant |
| PWIS conformity | VDMA24364 zone III |
| Suitable for the production of lithium-ion batteries | Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils |

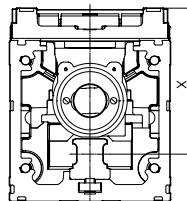
Data sheet

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



Max. permissible forces and torques on the slide (strength limits)

| Size | 32 | 45 | 60 | 80 |
|--------------------|-----|-----|------|------|
| $F_{y_{max}}$ [N] | 150 | 300 | 600 | 900 |
| $F_{z_{max}}$ [N] | 300 | 600 | 1800 | 2700 |
| $M_{x_{max}}$ [Nm] | 1.3 | 5.5 | 29.1 | 59.8 |
| $M_{y_{max}}$ [Nm] | 1.1 | 4.7 | 31.8 | 56.2 |
| $M_{z_{max}}$ [Nm] | 1.1 | 4.7 | 31.8 | 56.2 |

Distance from the slide surface to the centre of the guide

| Size | 32 | 45 | 60 | 80 |
|------------------|------|------|------|------|
| Dimension x [mm] | 31.4 | 42.8 | 54.6 | 72.5 |

Max. permissible forces and torques for the guide calculation, for a service life of 5000 km or 5x 10⁶ cycles

| Size | 32 | 45 | 60 | 80 |
|--------------------|-----|-----|------|------|
| $F_{y_{max}}$ [N] | 356 | 880 | 3641 | 5543 |
| $F_{z_{max}}$ [N] | 356 | 880 | 3641 | 5543 |
| $M_{x_{max}}$ [Nm] | 1.3 | 5.5 | 29.1 | 59.8 |
| $M_{y_{max}}$ [Nm] | 1.1 | 4.7 | 31.8 | 56.2 |
| $M_{z_{max}}$ [Nm] | 1.1 | 4.7 | 31.8 | 56.2 |

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.

This formula can be used to calculate a guide value.

The engineering software "Electric Motion Sizing" is available

for more precise calculations → www.festo.com/x/electric-motion-sizing

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

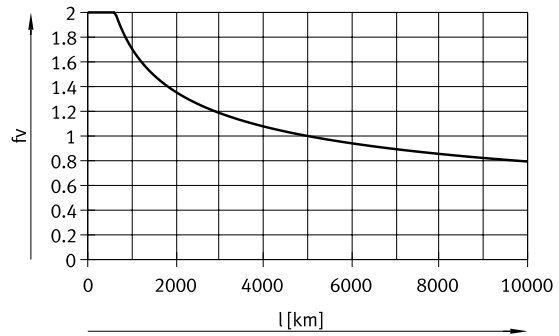
The service life of the guide depends on the load. To be able to make a statement as to the service life of the guide, the graph below plots the load comparison factor f_v against the service life.

These values are only theoretical. You must consult your local Festo contact for a load comparison factor f_v greater than 1.

Load comparison factor f_v as a function of service life l

Example:

A user wants to move an x kg load. Using the formula (→ page 10) 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. 1500 km. Reducing the acceleration reduces the M_y and M_z values. A load comparison factor f_v of 1 now gives a service life of 5000 km.



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

The characteristic load values of the 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 according to ISO or 50 km according 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 ELGC 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.

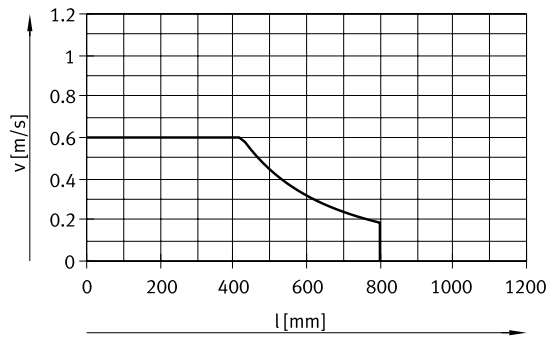
Max. permissible forces and torques for a theoretical service life of 100 km (from a guide perspective only)

| Size | | 32 | 45 | 60 | 80 |
|---------------|------|------|------|-------|-------|
| $F_{y_{max}}$ | [N] | 1310 | 3240 | 13400 | 20400 |
| $F_{z_{max}}$ | [N] | 1310 | 3240 | 13400 | 20400 |
| $M_{x_{max}}$ | [Nm] | 5 | 20 | 107 | 220 |
| $M_{y_{max}}$ | [Nm] | 4 | 17 | 117 | 207 |
| $M_{z_{max}}$ | [Nm] | 4 | 17 | 117 | 207 |

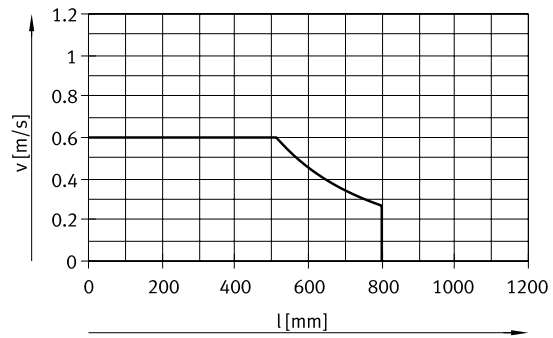
Data sheet

Speed v as a function of working stroke l

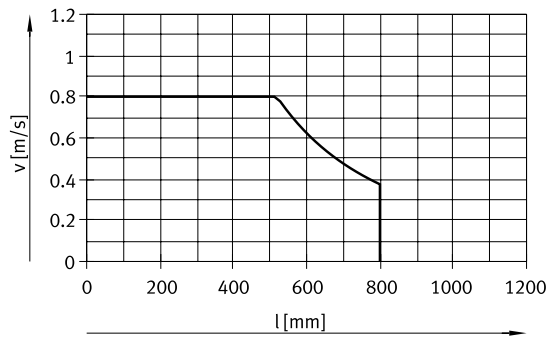
Size 32



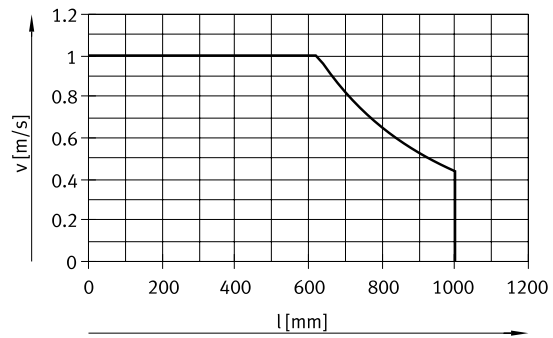
Size 45



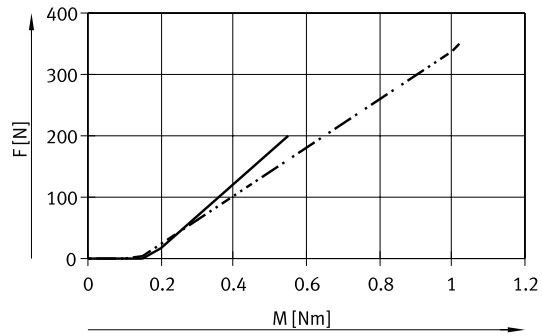
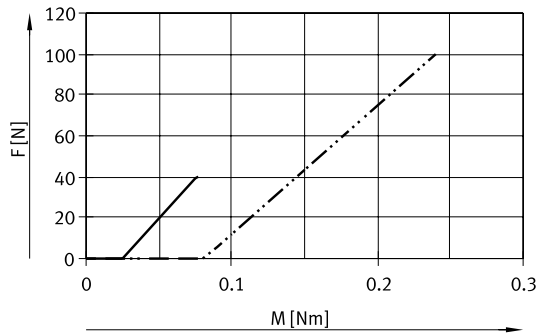
Size 60



Size 80



Feed force F as a function of input torque M

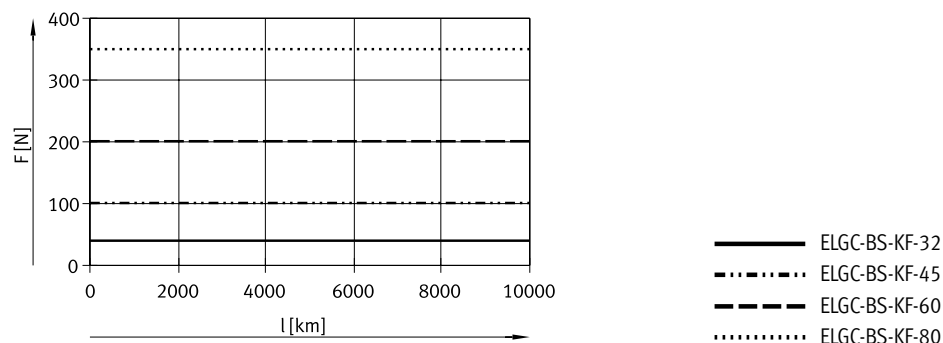


— ELGC-BS-KF-32
 - · - · - · ELGC-BS-KF-45

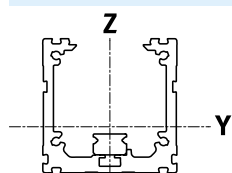
— ELGC-BS-KF-60
 - · - · - · ELGC-BS-KF-80

Data sheet

Feed force F as a function of service life l



2nd moments of area



| Size | | 32 | 45 | 60 | 80 |
|-------|--------------------|------------------|-------------------|-------------------|--------------------|
| I_y | [mm ⁴] | 38×10^3 | 140×10^3 | 441×10^3 | 1.37×10^6 |
| I_z | [mm ⁴] | 45×10^3 | 170×10^3 | 542×10^3 | 1.66×10^6 |

Recommended deflection limits

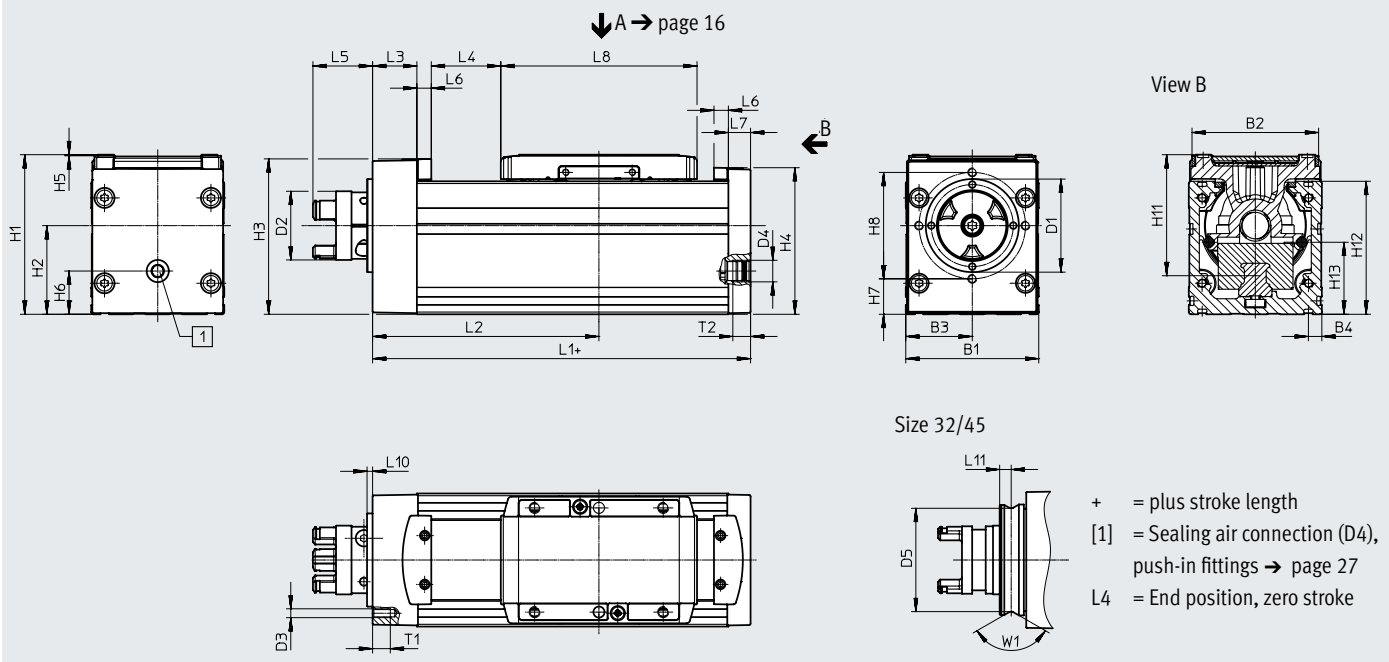
Adherence to the following deflection limits is recommended so as not to impair the functionality of the axes. Greater deformation can result in increased friction, greater wear and reduced service life.

| Size | Dynamic deflection (moving load) | Static deflection (stationary load) |
|-----------|---------------------------------------|--|
| 32 ... 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
 [1] = Sealing air connection (D4), push-in fittings → page 27
 L4 = End position, zero stroke

| Size | B1 | B2 | B3 | B4 | D1 ∅ | D2 ¹⁾ ∅ | D3 | D4 | D5 ∅ | H1 | H2 |
|------|----|------|------|-----|---------|-----------------------|----|------|---------|------|------|
| 32 | 32 | 29.6 | 16 | 4.9 | 25 | 15.5 | – | M5 | 23 | 38.5 | 20 |
| 45 | 45 | 42.6 | 22.5 | 6.1 | 32 | 16.3 | – | G1/8 | 29.6 | 54 | 27.9 |
| 60 | 60 | 57.1 | 30 | 6.1 | 42 | 31.4 | M4 | G1/8 | – | 72 | 40 |
| 80 | 80 | 77.1 | 40 | 6.1 | 46 | 31.4 | M6 | G1/8 | – | 96 | 50 |

| Size | H3 | H4 | H5 | H6 | H7 | H8 | H11 | H12 | H13 | L1 | L2 min. |
|------|------|------|-----|------|------|----|------|-----|------|-------|------------|
| 32 | 36.3 | 35.6 | 0.3 | 8 | – | – | 31.4 | 32 | 13.7 | 104.5 | 57.9 |
| 45 | 50.8 | 49.6 | 0.5 | 12.5 | – | – | 42.8 | 45 | 18.5 | 134.3 | 79.7 |
| 60 | 70.1 | 66.1 | 0.5 | 19.5 | 16 | 48 | 54.6 | 60 | 32.5 | 170.5 | 102.1 |
| 80 | 90.6 | 88.1 | 0.5 | 20 | 17.5 | 65 | 72.5 | 80 | 41.5 | 198.5 | 119.6 |

| Size | L3 | L4 | L5 | L6 | L7 | L8 | L10 | L11 | T1 | T2 | W1 |
|------|------|------|------|-----|----|------|-----|-----|----|-----|------|
| 32 | 10.5 | 13.4 | 19.9 | 4.5 | 5 | 59 | 6 | 2.6 | – | 5.5 | 120° |
| 45 | 14.8 | 24.6 | 19.9 | 6.5 | 7 | 67.5 | 6 | 2.9 | – | 8 | 90° |
| 60 | 20 | 31.4 | 26.9 | 6.5 | 10 | 88.5 | 2.5 | – | 8 | 8 | – |
| 80 | 21 | 39.1 | 25.9 | 6.5 | 12 | 106 | 2.5 | – | 15 | 8 | – |

1) Coupling diameter or interference diameter of locking screw

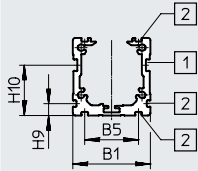
Data sheet

Dimensions

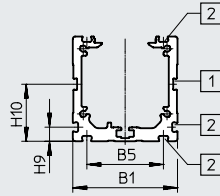
Download CAD data → www.festo.com

Profile

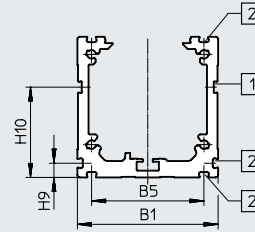
Size 32



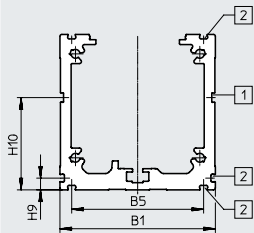
Size 45



Size 60



Size 80



[1] = Slot for sensor bracket
[2] = mounting slot

| Size | B1 | B5 | H9 | H10 |
|------|----|------|-----|------|
| 32 | 32 | 22.2 | 4.9 | 20.8 |
| 45 | 45 | 32.9 | 6.1 | 24.5 |
| 60 | 60 | 47.9 | 6.1 | 38.5 |
| 80 | 80 | 67.9 | 6.1 | 47.5 |

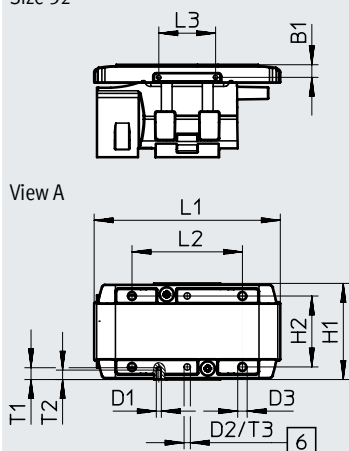
Data sheet

Dimensions

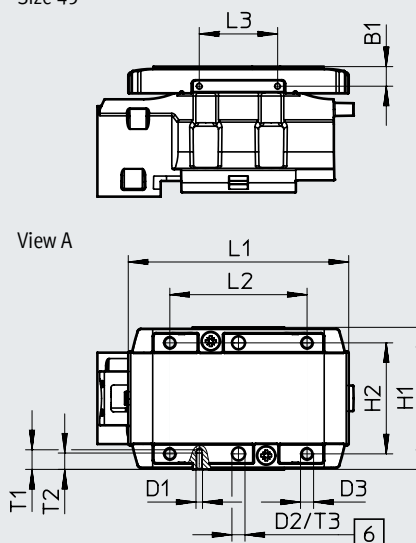
Download CAD data → www.festo.com

Slide

Size 32



Size 45



[6] Drill hole for centring pin ZBS

| Size | B1 | D1 | D2 ∅ H8 | D3 | H1 | H2 ±0.1 For D2 ±0.03 |
|------|-----------|------|---------------|----|--------------|----------------------------|
| 32 | ±0.1 4 | M1.6 | 2 | M3 | ±0.1 30.5 | 22.5 |
| 45 | 6 | M2 | 4 | M4 | 43.5 | 34 |

| Size | L1 | L2 | L3 | T1 | T2 | T3 | T4 ¹⁾ |
|------|------|------|------|-----|----|------|------------------|
| | | ±0.1 | ±0.1 | | | +0.1 | |
| 32 | 59 | 35 | 18 | 3.8 | 3 | 3.1 | 4 ... 5 |
| 45 | 67.5 | 42 | 24 | 6 | 5 | 3.1 | 6 ... 7.5 |

1) Recommended screw-in depth

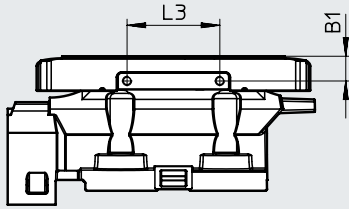
Data sheet

Dimensions

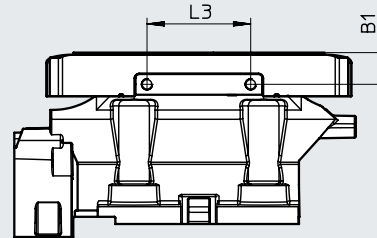
Download CAD data → www.festo.com

Slide

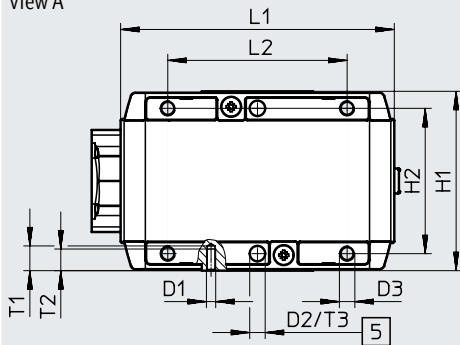
Size 60



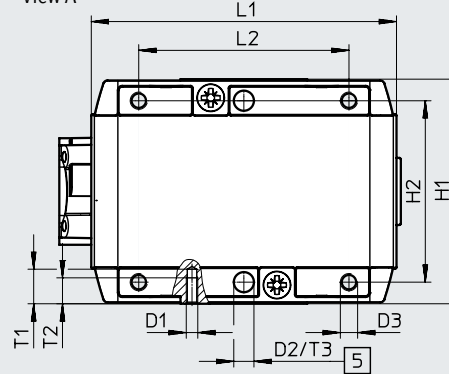
Size 80



View A



View A



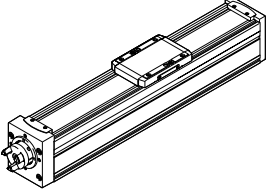
[5] Drilled hole for centring pin ZBH

| Size | B1 ±0.1 | D1 | D2 ∅ H8 | D3 | H1 ±0.1 | H2 ±0.1 For D2 ±0.03 |
|------|------------|----|---------------|----|------------|----------------------------|
| 60 | 8 | M3 | 5 | M5 | 58 | 47 |
| 80 | 11 | M4 | 7 | M6 | 78 | 63 |


| Size | L1 | L2 ±0.1 | L3 ±0.1 | T1 | T2 | T3 +0.1 | T4 ¹⁾ |
|------|------|------------|------------|----|----|------------|------------------|
| 60 | 88.5 | 58 | 30 | 9 | 7 | 1.3 | 8.5 ... 10 |
| 80 | 106 | 73 | 36 | 12 | 9 | 1.6 | 11 ... 14 |

1) Recommended screw-in depth

Data sheet

| Ordering data | Size | Pitch [mm/rev] | Stroke [mm] | Part no. | Type |
|--|------|-------------------|----------------|------------------------|-----------------------|
|  | 32 | 8 | 100 | 8061477 | ELGC-BS-KF-32-100-8P |
| | | | 200 | 8061478 | ELGC-BS-KF-32-200-8P |
| | | | 300 | 8061479 | ELGC-BS-KF-32-300-8P |
| | | | 400 | 8061480 | ELGC-BS-KF-32-400-8P |
| | | | 500 | 8061481 | ELGC-BS-KF-32-500-8P |
| | | | 600 | 8061482 | ELGC-BS-KF-32-600-8P |
| | | | 800 | 8061483 | ELGC-BS-KF-32-800-8P |
| | 45 | 10 | 100 | 8061484 | ELGC-BS-KF-45-100-10P |
| | | | 200 | 8061485 | ELGC-BS-KF-45-200-10P |
| | | | 300 | 8061486 | ELGC-BS-KF-45-300-10P |
| | | | 400 | 8061487 | ELGC-BS-KF-45-400-10P |
| | | | 500 | 8061488 | ELGC-BS-KF-45-500-10P |
| | | | 600 | 8061489 | ELGC-BS-KF-45-600-10P |
| | | | 800 | 8061490 | ELGC-BS-KF-45-800-10P |
| | 60 | 12 | 100 | 8061491 | ELGC-BS-KF-60-100-12P |
| | | | 200 | 8061492 | ELGC-BS-KF-60-200-12P |
| | | | 300 | 8061493 | ELGC-BS-KF-60-300-12P |
| | | | 400 | 8061494 | ELGC-BS-KF-60-400-12P |
| | | | 500 | 8061495 | ELGC-BS-KF-60-500-12P |
| | | | 600 | 8061496 | ELGC-BS-KF-60-600-12P |
| | | | 800 | 8061497 | ELGC-BS-KF-60-800-12P |
| | 80 | 16 | 100 | 8061498 | ELGC-BS-KF-80-100-16P |
| | | | 200 | 8061499 | ELGC-BS-KF-80-200-16P |
| | | | 300 | 8061500 | ELGC-BS-KF-80-300-16P |
| | | | 400 | 8061501 | ELGC-BS-KF-80-400-16P |
| | | | 500 | 8061502 | ELGC-BS-KF-80-500-16P |
| | | | 600 | 8061503 | ELGC-BS-KF-80-600-16P |
| | | | 800 | 8061504 | ELGC-BS-KF-80-800-16P |
| 1000 | | | 8061505 | ELGC-BS-KF-80-1000-16P | |

Accessories

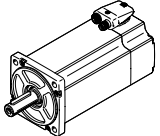
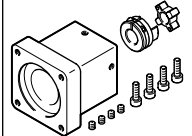
 -  - **Note**

Depending on the combination of motor and drive, it may not be possible to reach the maximum feed force of the drive.

When using parallel kits, the no-load driving torque of the particular kit must be taken into consideration.

Permissible axis/motor combinations with axial kit – Without gear unit

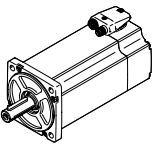
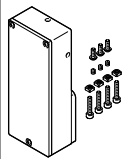
Data sheets → Internet: eamm-a

| Motor ¹⁾ | Axial kit | |
|---|---|--|
|  |  | • Kits for third-party motors → Internet: eamm-a |
| Type | Part no. | Type |
| ELGC-BS-KF-32 | | |
| With servo motor | | |
| EMME-AS-40-... | 4491059 | EAMM-A-V25-40P |
| With stepper motor | | |
| EMMS-ST-42-... | 4582608 | EAMM-A-V25-42A |
| ELGC-BS-KF-45 | | |
| With servo motor | | |
| EMME-AS-40-... | 4595742 | EAMM-A-V32-40P |
| EMME-AS-60-... | 4608750 | EAMM-A-V32-60P |
| With stepper motor | | |
| EMMS-ST-42-... | 4281142 | EAMM-A-V32-42A |
| EMMS-ST-57-... | 4597016 | EAMM-A-V32-57A |
| ELGC-BS-KF-60 | | |
| With servo motor | | |
| EMMT-AS-60-... | 4133487 | EAMM-A-T42-60P |
| EMME-AS-60-... | 4133487 | EAMM-A-T42-60P |
| EMMT-AS-80-... | 4623788 | EAMM-A-T42-80P |
| EMME-AS-80-... | 4623788 | EAMM-A-T42-80P |
| With stepper motor | | |
| EMMS-ST-57-... | 4327034 | EAMM-A-T42-57A |
| EMMS-ST-87-... | 4610008 | EAMM-A-T42-87A |
| ELGC-BS-KF-80 | | |
| With servo motor | | |
| EMMT-AS-60-... | 4824833 | EAMM-A-T46-60P |
| EMME-AS-60-... | 4824833 | EAMM-A-T46-60P |
| EMMT-AS-80-... | 4624170 | EAMM-A-T46-80P |
| EMME-AS-80-... | 4624170 | EAMM-A-T46-80P |
| EMMT-AS-100-... | 4624227 | EAMM-A-T46-100A |
| EMME-AS-100-... | 4624227 | EAMM-A-T46-100A |
| With stepper motor | | |
| EMMS-ST-87-... | 4048771 | EAMM-A-T46-87A |

1) The input torque must not exceed the max. permissible transferable torque of the axial kit.

Accessories

Data sheets → Internet: eamm-u

| Permissible axis/motor combinations with parallel kit | | | |
|--|---|--|--|
| Motor/gear unit ¹⁾ | Parallel kit | | |
|  |  | <ul style="list-style-type: none"> • The kit can be mounted in all directions • Kits for third-party motors → Internet: eamm-u | |
| Type | Part no. | Type | |
| ELGC-BS-KF-32 | | | |
| With servo motor | | | |
| EMME-AS-40-... | 4782056 | EAMM-U-45-V25-40P-63 | |
| With stepper motor | | | |
| EMMS-ST-42-... | 4825645 | EAMM-U-45-V25-42A-63 | |
| ELGC-BS-KF-45 | | | |
| With servo motor | | | |
| EMME-AS-40-... | 4718297 | EAMM-U-45-V32-40P-63 | |
| With stepper motor | | | |
| EMMS-ST-42-... | 4280674 | EAMM-U-45-V32-42A-63 | |
| ELGC-BS-KF-60 | | | |
| With servo motor | | | |
| EMMT-AS-60-... | 4784301 | EAMM-U-65-T42-60P-87 | |
| EMME-AS-60-... | 4784301 | EAMM-U-65-T42-60P-87 | |
| With stepper motor | | | |
| EMMS-ST-57-... | 4331535 | EAMM-U-65-T42-57A-87 | |
| ELGC-BS-KF-80 | | | |
| With servo motor | | | |
| EMMT-AS-60-... | 4824069 | EAMM-U-87-T46-60P-114 | |
| EMME-AS-60-... | 4824069 | EAMM-U-87-T46-60P-114 | |
| EMMT-AS-80-... | 4822696 | EAMM-U-87-T46-80P-114 | |
| EMME-AS-80-... | 4822696 | EAMM-U-87-T46-80P-114 | |
| With stepper motor | | | |
| EMMS-ST-87-... | 4819278 | EAMM-U-87-T46-87A-114 | |

1) The input torque must not exceed the max. permissible transferable torque of the parallel kit.

Accessories

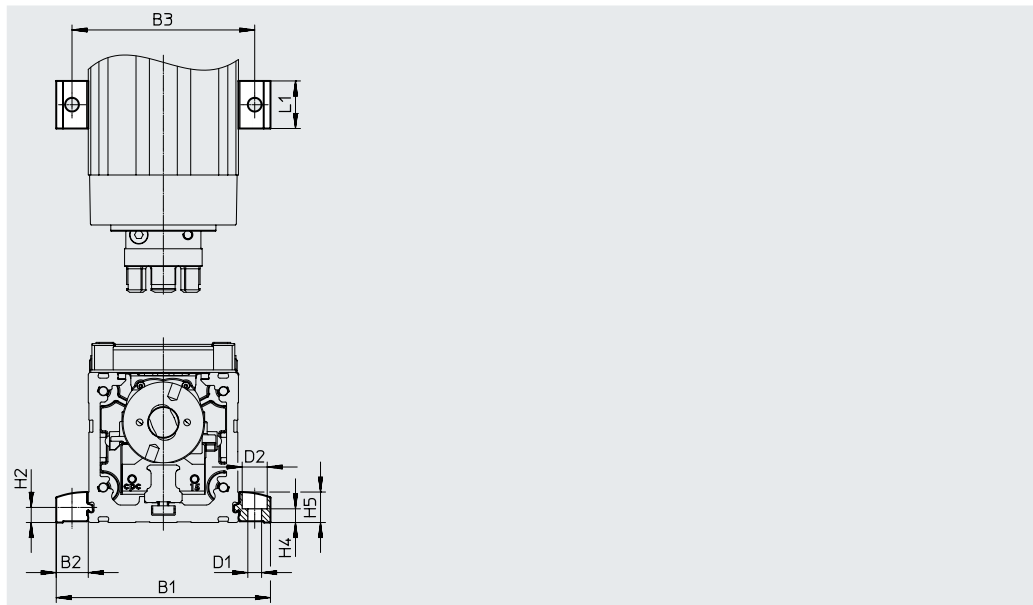
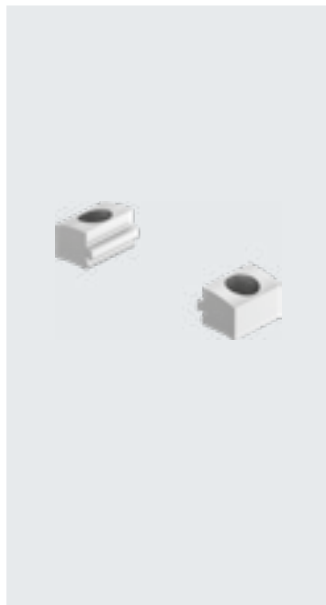
Profile mounting EAHF-L2-...-P-S

Material:

Anodised wrought aluminium alloy

RoHS-compliant

- For mounting the axis on the side of the profile



Dimensions and ordering data

| For size | B1 | B2 | B3 | D1 ∅ H13 | D2 ∅ H13 | H2 |
|----------|-------|------|----|----------------|----------------|-----|
| 32 | 51.4 | 9.7 | 42 | 4.5 | 8 | 4.9 |
| 45 | 70.6 | 12.8 | 58 | 5.5 | 10 | 6.1 |
| 60 | 85.6 | 12.8 | 73 | 5.5 | 10 | 6.1 |
| 80 | 105.6 | 12.8 | 93 | 5.5 | 10 | 6.1 |

| For size | H4 ±0.1 | H5 | L1 | Weight [g] | Part no. | Type |
|----------|------------|------|----|---------------|----------|----------------|
| 32 | 4.2 | 9 | 19 | 4 | 5183153 | EAHF-L2-25-P-S |
| 45 | 5.5 | 12.2 | 19 | 6 | 5184133 | EAHF-L2-45-P-S |
| 60 | 5.5 | 12.2 | 19 | 6 | 5184133 | EAHF-L2-45-P-S |
| 80 | 5.5 | 12.2 | 19 | 6 | 5184133 | EAHF-L2-45-P-S |

Accessories

Profile mounting EAHF-L2-...-P

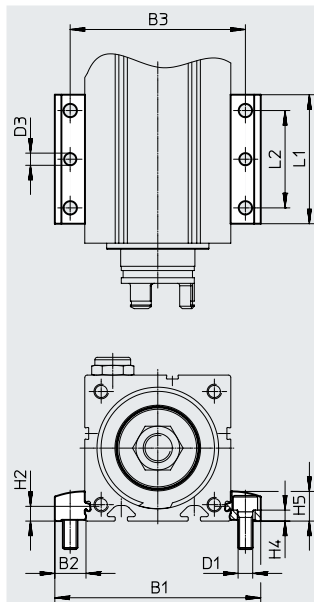
Material:

Anodised wrought aluminium alloy

RoHS-compliant

- For mounting the axis on the side of the profile.

The profile mounting can be attached to the mounting surface using the drill hole in the centre.



Dimensions and ordering data

| For size | B1 | B2 | B3 | D1 ∅ H13 | D2 ∅ H13 | D3 ∅ | H2 |
|----------|-------|------|----|----------------|----------------|---------|-----|
| 32 | 51.4 | 9.7 | 42 | 4.5 | 8 | 4 | 4.9 |
| 45 | 70.6 | 12.8 | 58 | 5.5 | 10 | 5 | 6.1 |
| 60 | 85.6 | 12.8 | 73 | 5.5 | 10 | 5 | 6.1 |
| 80 | 105.6 | 12.8 | 93 | 5.5 | 10 | 5 | 6.1 |

| For size | H4 ±0.1 | H5 | L1 | L2 | Weight [g] | Part no. | Type |
|----------|------------|------|----|----|---------------|----------|--------------|
| 32 | 4.2 | 9 | 53 | 40 | 19 | 4835684 | EAHF-L2-25-P |
| 45 | 5.5 | 12.2 | 53 | 40 | 35 | 4835728 | EAHF-L2-45-P |
| 60 | 5.5 | 12.2 | 53 | 40 | 35 | 4835728 | EAHF-L2-45-P |
| 80 | 5.5 | 12.2 | 53 | 40 | 35 | 4835728 | EAHF-L2-45-P |

Accessories

Profile mounting EAHF-L2-...-P-D...

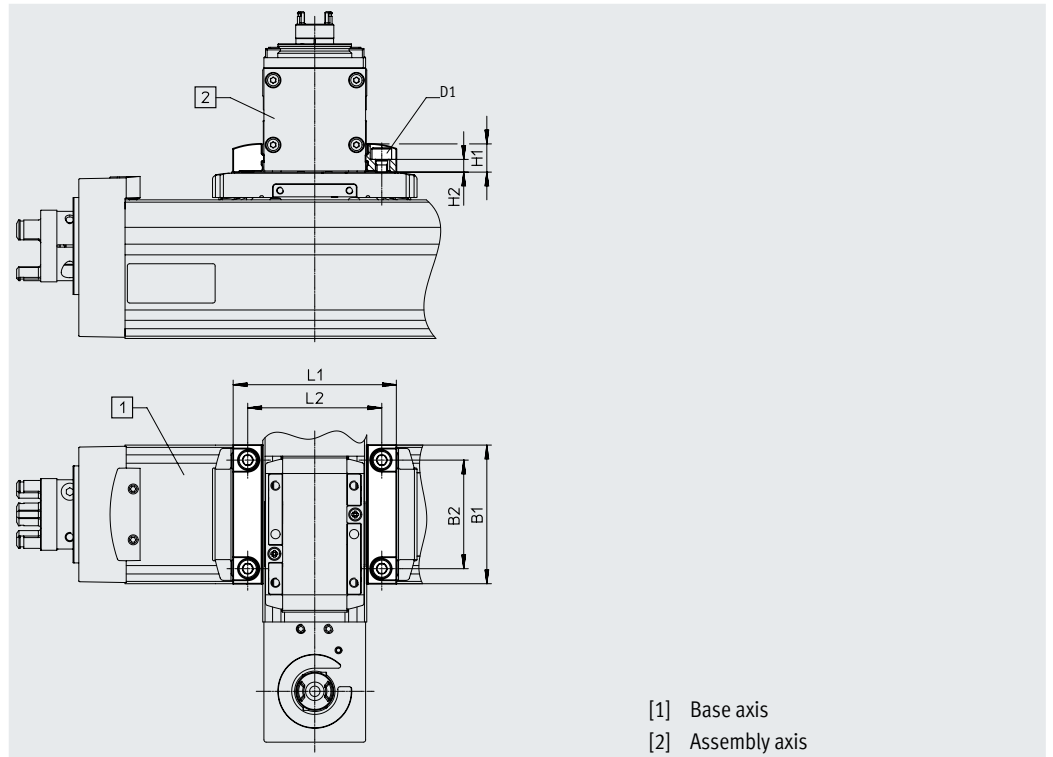
Material:

Anodised wrought aluminium alloy

RoHS-compliant

- For axis/axis mounting without adapter plate
- Mounting option: base axis with one-size-down assembly axis (→ page 4)

| Combination matrix | | [2] Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS | | | |
|------------------------------------|----|--|---------|---------|---------|
| | | Size | 25 | 32 | 45 |
| [1] Base axis ELGC-BS/-TB; ELFC | 32 | 4759753 | – | – | – |
| | 45 | – | 4759748 | – | – |
| | 60 | – | – | 4759739 | – |
| | 80 | – | – | – | 4759726 |



[1] Base axis
[2] Assembly axis

| Dimensions and ordering data | | | | |
|------------------------------|----|------|----|------|
| For combination (size) | B1 | B2 | D1 | H1 |
| 32/25 | 32 | 22.5 | M3 | 9 |
| 45/32 | 45 | 34 | M4 | 9 |
| 60/45 | 60 | 47 | M5 | 12.2 |
| 80/60 | 78 | 63 | M6 | 12.2 |

| For combination (size) | H2 ±0.1 | L1 | L2 | Weight [g] | Part no. | Type |
|------------------------|------------|------|----|------------|----------|-----------------|
| 32/25 | 5.1 | 44.4 | 35 | 16 | 4759753 | EAHF-L2-25-P-D1 |
| 45/32 | 3.7 | 51.4 | 42 | 24 | 4759748 | EAHF-L2-25-P-D2 |
| 60/45 | 5.5 | 70.6 | 58 | 56 | 4759739 | EAHF-L2-45-P-D3 |
| 80/60 | 4.5 | 85.6 | 73 | 77 | 4759726 | EAHF-L2-45-P-D4 |

Accessories

Adapter kit EHAA-D-L2

Material:

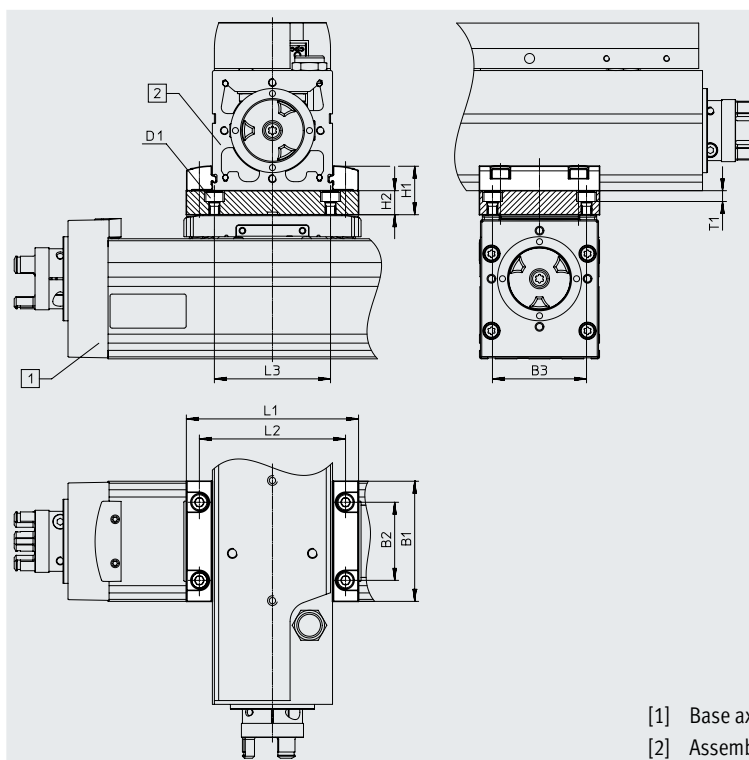
Anodised wrought aluminium alloy

RoHS-compliant

- For axis/axis mounting with adapter plate
- Mounting option: base axis with same size or one-size-down assembly axis (→ page 1)
- When motors are mounted using parallel kits, this may lead to interfering contours. In this case, the adapter plate is required for height compensation (download CAD data → www.festo.com)

Combination matrix

| [1] Base axis ELGC-BS/-TB; ELFC | Size | [2] Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS | | | | |
|------------------------------------|------|--|---------|---------|---------|----|
| | | 25 | 32 | 45 | 60 | 80 |
| 32 | 32 | 8066713 | | | | |
| 45 | 45 | | 8066714 | | | |
| 60 | 60 | | | 8066715 | | |
| 80 | 80 | | | | 8066716 | |



[1] Base axis
[2] Assembly axis

Dimensions and ordering data

| For combination (size) | B1 | B3 ±0.05 | D1 | H1 | H2 | L1 | L2 | L3 | T1 | Weight [g] | Part no. | Type |
|------------------------|----|----------|----|------|----|------|----|----|-----|------------|----------|--------------------|
| 32/25 | 32 | 22.5 | M3 | 19 | 10 | 44.4 | 35 | 35 | 4.2 | 60 | 8066713 | EHAA-D-L2-32-L2-32 |
| 45/32 | 45 | 34 | M4 | 19 | 10 | 51.4 | 42 | 42 | 5.4 | 136 | 8066714 | EHAA-D-L2-45-L2-45 |
| 60/45 | 60 | 47 | M5 | 24.2 | 12 | 70.6 | 58 | 58 | 5.4 | 205 | 8066715 | EHAA-D-L2-60-L2-60 |
| 80/60 | 78 | 63 | M6 | 24.2 | 12 | 85.6 | 73 | 73 | 6.4 | 315 | 8066716 | EHAA-D-L2-80-L2-80 |

| For combination (size) | B1 | B2 | B3 ±0.05 | D1 | H1 | H2 | L1 | L2 | L3 | T1 | Weight [g] | Part no. | Type |
|------------------------|----|------|----------|----|------|----|-----|----|----|-----|------------|----------|--------------------|
| 32/32 | 32 | 14.5 | 22.5 | M3 | 19 | 10 | 52 | 42 | 35 | 4.2 | 60 | 8066713 | EHAA-D-L2-32-L2-32 |
| 45/45 | 45 | 32 | 34 | M4 | 22.2 | 10 | 71 | 58 | 42 | 5.4 | 136 | 8066714 | EHAA-D-L2-45-L2-45 |
| 60/60 | 60 | 39 | 47 | M5 | 24.2 | 12 | 86 | 73 | 58 | 5.4 | 205 | 8066715 | EHAA-D-L2-60-L2-60 |
| 80/80 | 78 | 63 | 63 | M6 | 24.2 | 12 | 106 | 93 | 73 | 6.4 | 315 | 8066716 | EHAA-D-L2-80-L2-80 |

Accessories

Angle kit EHAA-D-L2-...-AP

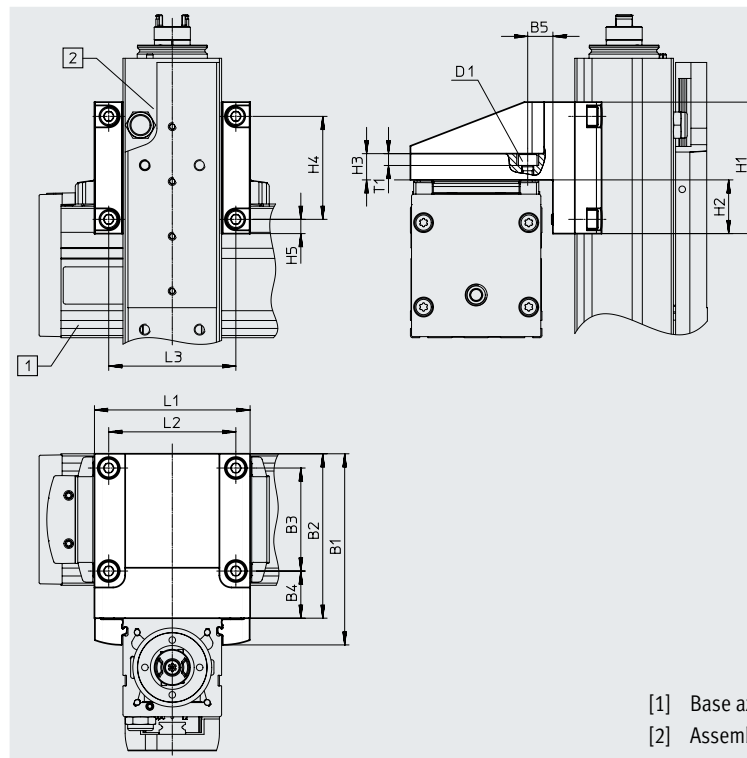
Material:

Anodised wrought aluminium alloy

RoHS-compliant

- For mounting one-size-down vertical axes (assembly axes) on base axes with mounting position "slide at top" (→ page 4)

| Combination matrix | | [2] Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS | | | |
|------------------------------------|----|--|---------|---------|---------|
| | | Size | 25 | 32 | 45 |
| [1] Base axis ELGC-BS/-TB; ELFC | 32 | 8066717 | – | – | – |
| | 45 | – | 8066718 | – | – |
| | 60 | – | – | 8066719 | – |
| | 80 | – | – | – | 8066720 |



[1] Base axis
[2] Assembly axis

| Dimensions and ordering data | | | | | | | | | | |
|------------------------------|-------|----|------|------|------|----|----|------|----|------|
| For combination (size) | B1 | B2 | B3 | B4 | B5 | D1 | H1 | H2 | H3 | H4 |
| 32/25 | 53 | 44 | 22.5 | 16.8 | 8.8 | M3 | 32 | 11 | 10 | 22.5 |
| 45/32 | 69 | 60 | 34 | 20.5 | 11.5 | M4 | 45 | 17.5 | 10 | 34 |
| 60/45 | 87.2 | 75 | 47 | 21.5 | 11.5 | M5 | 60 | 24.5 | 12 | 47 |
| 80/60 | 107.2 | 95 | 63 | 23.5 | 13.5 | M6 | 78 | 33.5 | 12 | 63 |

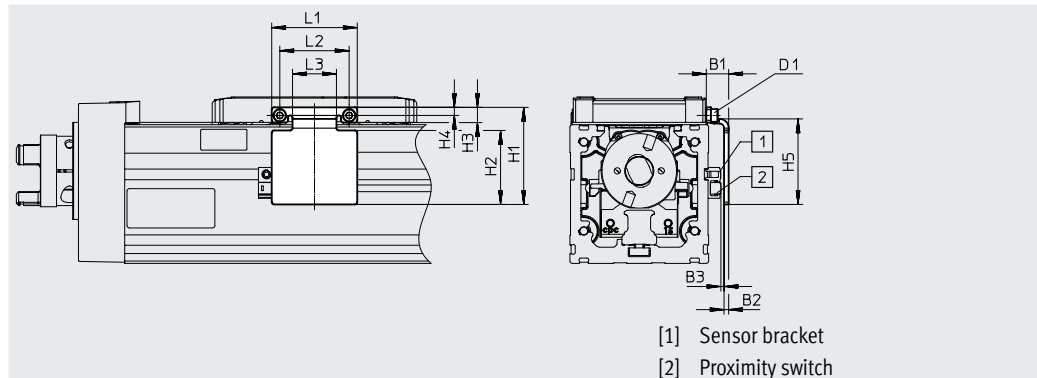
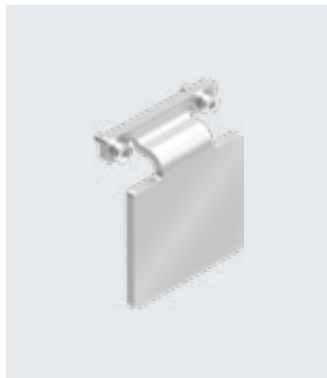
| For combination (size) | H5 | L1 | L2 | L3 | T1 | Weight [g] | Part no. | Type |
|------------------------|-----|----|----|----|-----|------------|----------|-----------------------|
| 32/25 | 4.8 | 45 | 35 | 35 | 4.2 | 107 | 8066717 | EHAA-D-L2-32-L2-25-AP |
| 45/32 | 5.5 | 52 | 42 | 42 | 5.4 | 222 | 8066718 | EHAA-D-L2-45-L2-32-AP |
| 60/45 | 6.5 | 71 | 58 | 58 | 5.4 | 433 | 8066719 | EHAA-D-L2-60-L2-45-AP |
| 80/60 | 7.5 | 86 | 73 | 73 | 6.4 | 768 | 8066720 | EHAA-D-L2-80-L2-60-AP |

Accessories

Switch lug EAPM-L2-SLS

For sensing using inductive proximity switches SIES-8M

Material:
Galvanised steel
RoHS-compliant



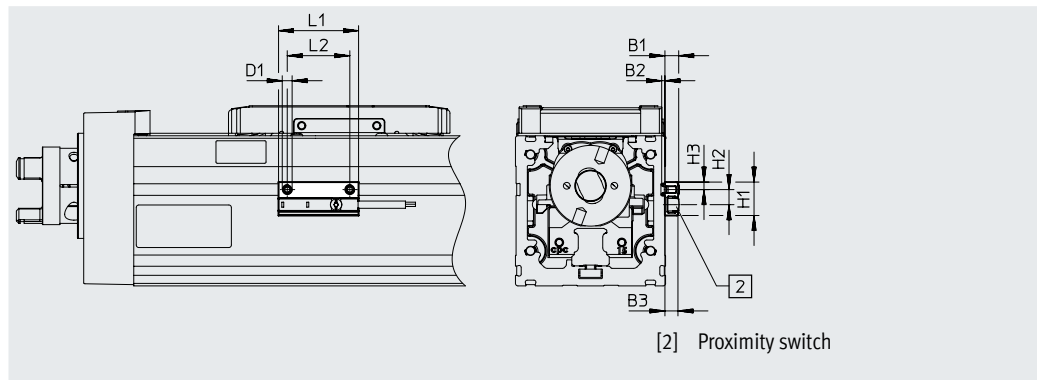
Dimensions and ordering data

| For size | B1 | B2 | B3 | D1 | H1 ±0.2 | H2 | H3 | H4 |
|----------|-----|----|----------|------|------------|----|-----|-----|
| 32 | 9.2 | 2 | 1.0±0.31 | M1.6 | 27 | 19 | 4.3 | 2.5 |
| 45 | 9.4 | 2 | 1.2±0.31 | M2 | 37 | 28 | 5.5 | 3.3 |
| 60 | 9.7 | 2 | 1.3±0.31 | M3 | 37 | 32 | 6.6 | 3.5 |
| 80 | 9.5 | 2 | 1.1±0.32 | M4 | 53.5 | 42 | 8.3 | 4.5 |

| For size | H5 ±0.2 | L1 ±0.2 | L2 ±0.15 | L3 | Weight [g] | Part no. | Type |
|----------|------------|------------|-------------|------|---------------|----------------|-----------------------|
| 32 | 24 | 22 | 18 | 10 | 10 | 8067259 | EAPM-L2-32-SLS |
| 45 | 33 | 30 | 24 | 14 | 18 | 8067260 | EAPM-L2-45-SLS |
| 60 | 37 | 42 | 30 | 19 | 27 | 8067261 | EAPM-L2-60-SLS |
| 80 | 47 | 44.6 | 36 | 23.4 | 42 | 8067262 | EAPM-L2-80-SLS |

Sensor bracket EAPM-L2-SH

Material:
Anodised wrought aluminium alloy
RoHS-compliant






Dimensions and ordering data

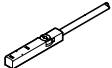
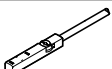
| For size | B1 | B2 | D1 | H1 | H2 |
|----------------|-----|-----|----|------|----|
| 32, 45, 60, 80 | 5.5 | 1.3 | M4 | 13.4 | 6 |

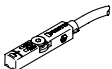
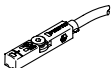
| For size | H3 | L1 | L2 | Weight [g] | Part no. | Type |
|----------------|----|----|----|---------------|----------------|-------------------|
| 32, 45, 60, 80 | 3 | 32 | 25 | 4 | 4759852 | EAPM-L2-SH |



Accessories

| Ordering data | | For size | Description | Part no. | Type | PU ¹⁾ |
|---|------------|---------------------------------------|-------------|----------|--------------|------------------|
| Centring pin ZBS/centring sleeve ZBH | | | | | | |
|  | 32 | For slide | | 525273 | ZBS-2 | 10 |
| | 45 | | | 562959 | ZBS-4 | |
| | 60 | | | 8146543 | ZBH-5-B | |
| | 80 | | | 8146544 | ZBH-7-B | |
| Clamping element EADT | | | | | | |
|  | 32, 45 | Tool for retensioning the cover strip | | 8065818 | EADT-S-L5-32 | 1 |
| | 60, 80 | | | 8058451 | EADT-S-L5-70 | |
| Push-in fitting | | | | | | |
|  | 32 | For sealing air connection | | 133003 | QSM-M5-3-I-R | 10 |
| | 45, 60, 80 | | | 133004 | QSM-M5-4-I-R | |
| | | | | 186266 | QSM-G1/8-4-I | |
| | | | | 186267 | QSM-G1/8-6-I | |

1) Packaging unit

| Ordering data – Proximity switches for T-slot, inductive | | Type of mounting | Switching output | Electrical connection | Cable length [m] | Part no. | Type | Data sheets → Internet: sies |
|---|--|------------------|------------------|-----------------------|------------------|----------|--------------------------|------------------------------|
| N/O contact | | | | | | | | |
|  | Insertable in the slot from above, flush with the cylinder profile | PNP | | Cable, 3-wire | 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 | |
| | | NPN | | Cable, 3-wire | 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 | | | | | | | | |
|  | Insertable in the slot from above, flush with the cylinder profile | PNP | | Cable, 3-wire | 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 | |
| | | NPN | | Cable, 3-wire | 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 switches for T-slot, magneto-resistive | | Type of mounting | Switching output | Electrical connection | Cable length [m] | Part no. | Type | Data sheets → Internet: smt |
|---|--|------------------|------------------|-----------------------|------------------|----------|---------------------------|-----------------------------|
| N/O contact | | | | | | | | |
|  | Insertable in the slot from above, flush with the cylinder profile, short design | PNP | | Cable, 3-wire | 2.5 | 574335 | SMT-8M-A-PS-24V-E-2.5-OE | |
| | | | | Plug M8x1, 3-pin | 0.3 | 574334 | SMT-8M-A-PS-24V-E-0.3-M8D | |
| N/C contact | | | | | | | | |
|  | Insertable in the slot from above, flush with the cylinder profile, short design | PNP | | Cable, 3-wire | 7.5 | 574340 | SMT-8M-A-PO-24V-E-7.5-OE | |

| Ordering data – Connecting cables | | Electrical connection, left | Electrical connection, right | Cable length [m] | Part no. | Type | Data sheets → Internet: nebu |
|---|------------------------------|-----------------------------|------------------------------|------------------|----------|---------------------|------------------------------|
|  | Straight socket, M8x1, 3-pin | | Cable, open end, 3-wire | 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 | |