

## Mini slide units EGSS-BS

**FESTO**



This product is also available as a modular mechanical system  
Mini slide EGSC-BS



## Key features

### At a glance

#### Plug and work with the Simplified Motion Series



The simplicity of pneumatics is now combined for the first time with the advantages of electric automation thanks to the Simplified Motion Series. These integrated drives are the perfect solution for all users who are looking for an electric alternative for very simple movement and positioning tasks between two mechanical end positions, but don't want the commissioning process for traditional electric drive systems that can often be quite complex.

There is no need for any software since operation is simply based on the "plug and work" principle. Digital I/O (DIO) and IO-Link are always automatically included – a product with two types of control as standard.

#### Integrated

The integrated electronics in the drive are at the heart of the Simplified Motion Series.

#### Easy

For commissioning, simply set all relevant parameters directly on the drive:

- Speed and force
- Reference end position and cushioning
- Manual operation

#### Standardised

Electrical connection via M12 plug design

- Power (4-pin): power supply for the motor
- Logic (8-pin): control signal, sensor signal and power for the integrated electronics

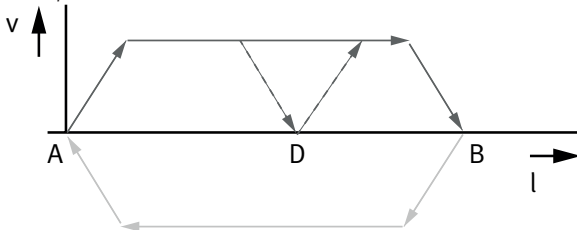
#### Connected

Use of extended functions possible via IO-Link:

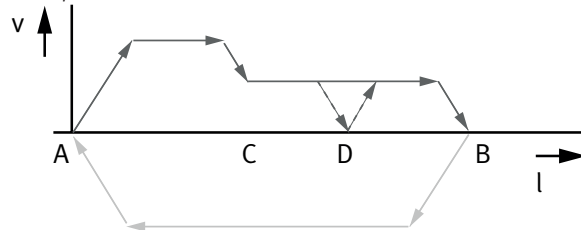
- Remote configuration of motion parameters
- Copy and backup function for transferring parameters
- Read function for extended process parameters
- Freely definable intermediate position
- Firmware update

### The functions of the Simplified Motion Series

Basic profile for movement between two end positions: with speed control



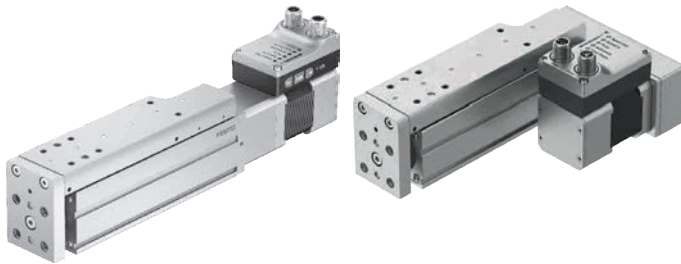
Extended motion profile for simplified press-fitting and clamping functions: with speed and force control



- These drives are designed for simple movements between two end positions.
- Proximity switches are required in order to implement any intermediate positions.
- With the intermediate position that can be freely configured via IO-Link, movements can be stopped at a freely defined point between the end positions, without the need for proximity switches or external stops

## Key features

## At a glance



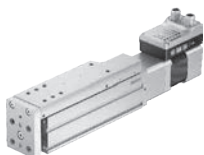
- Without external servo drive: all the necessary electronic components are combined in the integrated drive
- Two control options integrated as standard: digital I/O and IO-Link
- Complete solution for simple movements between mechanical end positions
- Simplified commissioning: all parameters can be manually set directly on the drive
- No special expertise required for commissioning
- End-position feedback similar to that of a conventional proximity switch is integrated as standard
- Very high-quality ball screw with low internal friction
- Rigid, high load-bearing and precise linear guide for absorbing lateral forces and increased anti-twist protection

## The products in the Simplified Motion Series

Electric cylinder unit  
EPCE



Mini slide unit  
EGSS-BS-KF



Toothed belt axis unit  
ELGS-TB-KF



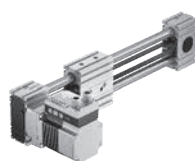
Electric cylinder unit  
EPCS



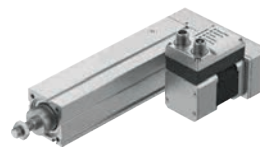
Mini slide unit with parallel motor mounting  
EGSS-BS-KF



Toothed belt axis unit  
ELGE



Electric cylinder unit with parallel motor mounting  
EPCS



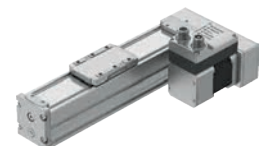
Spindle axis unit  
ELGS-BS-KF



Rotary drive unit  
ERMS



Spindle axis unit with parallel motor mounting  
ELGS-BS-KF



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

This product is also available as a modular mechanical system as spindle axis EGSC-BS:



When compact dimensions and optimised installation space are important, e.g. for assembly systems, test and inspection systems, small parts handling, the electronics industry and desktop applications. Either as an individual axis or as a handling system.

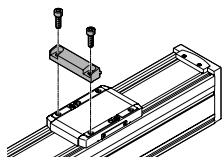
- Compact: optimum ratio of installation space to working space
- Unique: "one-size-down" mounting system
- Modular: individual combinations with motor, motor mounting kit and servo drive
- Flexible: wide range of mounting options for optimum machine integration

### Key features

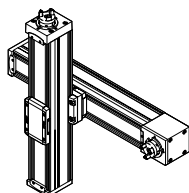
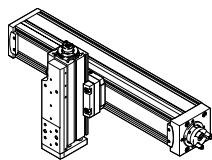
**Combination matrix between axis ELGC-TB/ELGS-TB, ELGC-BS/ELGS-BS, mini slide EGSC-BS/EGSS-BS, electric cylinder EPCC-BS/EPCS-BS and guide axis ELFC**  
 Mounting options with profile mounting and with angle kit

	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;	45	–	■	–	–
ELGS-BS/-TB	60	–	–	■	–
	80	–	–	–	■

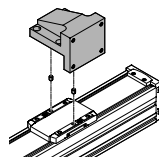
With profile mounting EAHF-L2-...-P-D...



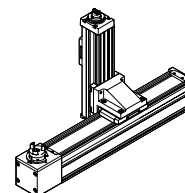
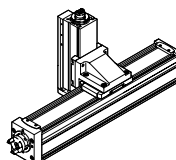
- Mounting option: base axis with one-size-down assembly axis



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



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



## Key features

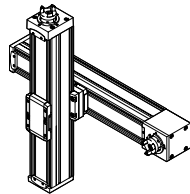
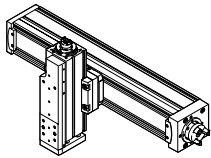
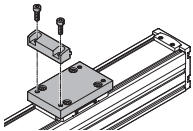
**Combination matrix between axis ELGC-TB/ELGS-TB, ELGC-BS/ELGS-BS, mini slide EGSC-BS/EGSS-BS, electric cylinder EPCC-BS/EPCS-BS and guide axis ELFC**  
 Mounting options with adapter kit or direct fastening

	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	-	-	-	

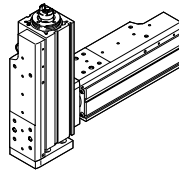
### With adapter kit EHAA-D-L2

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

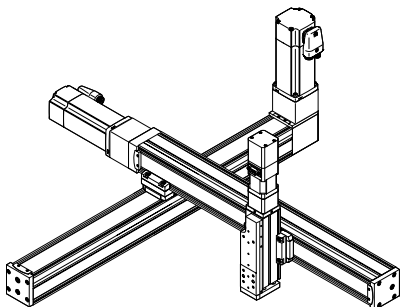


## Key features

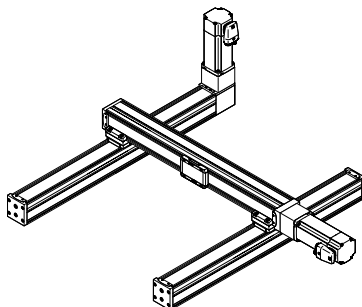
### Typical handling systems

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. Combining the very compact linear axes ELGC, mini slide EGSC and electric cylinder EPCC offers an optimum ratio of installation space to working space. These feature a common system approach and platform architecture and the connections are largely adapterless.

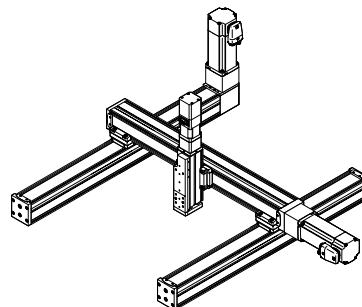
Cantilever system



Planar surface gantry



Three dimensional gantry

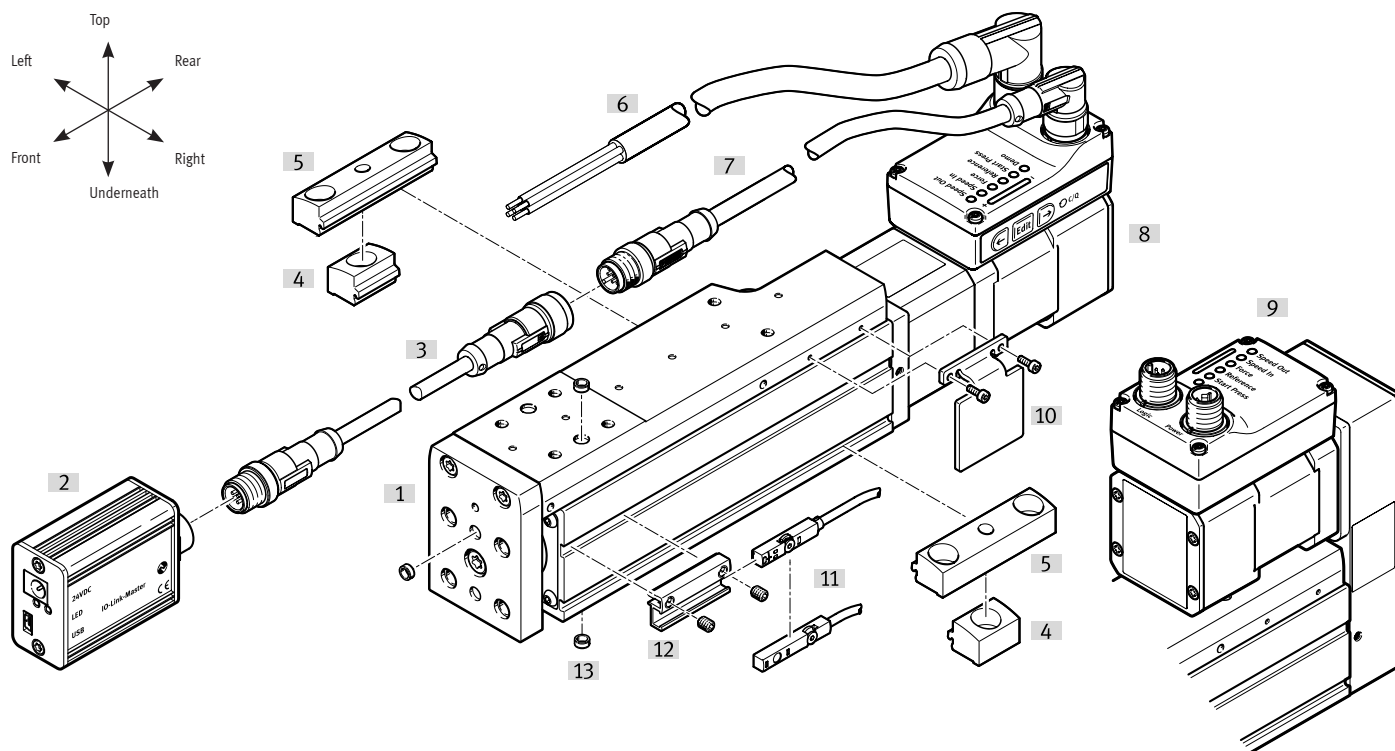


## Type codes

001	Series
EGSS	Electric slide drive
002	Drive system
BS	Ball screw drive
003	Guide
KF	Recirculating ball bearing guide
004	Size
32	32
45	45
60	60
005	Stroke [mm]
25	25
50	50
75	75
100	100
125	125
150	150
200	200
006	Spindle pitch
8P	8 mm
10P	10 mm
12P	12 mm
007	Motor type
ST	Stepper motor ST

008	Controller
M	Integrated
009	Control panel
H1	Integrated
010	Bus protocol/activation
PLK	PNP and IO-Link®
NLK	NPN and IO-Link®
011	End-position sensing
AA	With integrated end-position sensing
012	Cable outlet direction
	Standard
D	Underneath
L	Left
R	Right
013	Motor attachment position
	Standard
PL	Parallel, left
PR	Parallel, right
PD	Parallel, bottom
PT	Parallel, top
014	Electrical accessories
	None
L1	Adapter for operation as IO-Link® device

Peripherals overview



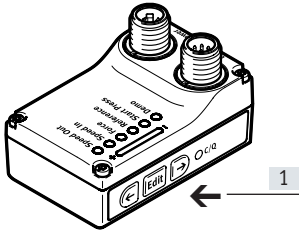
Accessories			
Type/order code	Description		→ Page/Internet
[1] Mini slide unit EGSS-BS	Electric drive		9
[2] IO-Link master USB CDSU-1	For straightforward use of the mini slide unit via IO-Link		34
[3] Adapter NEFC-M12G8	Connection between the motor and the IO-Link master		34
[4] Profile mounting EAHF-L2-...-PS	For mounting the axis on the side of the profile		31
[5] 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 drill hole in the centre		30
[6] Supply cable NEBL-T12	For connecting load and logic supply		35
[7] Connecting cable NEBC-M12	For connection to a controller		35
[8] Axial kit	For axial motor mounting (included in the scope of delivery)		9
[9] Parallel kit	For parallel motor mounting (included in the scope of delivery)		9
[10] Switch lug <sup>1)</sup> EAPM-...-SLS	For sensing the slide position in conjunction with inductive proximity switches SIES-8M		32
[11] Proximity switches <sup>1)</sup> SIES-8M	Inductive proximity switches, for T-slot		33
[11] Proximity switches <sup>1)</sup> SMT-8M	Magnetic proximity switches, for T-slot		33
[12] Sensor bracket <sup>1)</sup> EAPM-L2	For mounting the proximity switches on the axis. The proximity switches can only be mounted using the sensor bracket		32
[13] Centring pin/sleeve ZBS, ZBH	For centring loads and attachments		33

1) Proximity switches are optional and only required in order to sense any intermediate positions.



## Peripherals overview

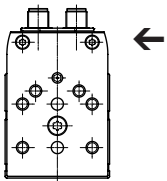
### Control elements



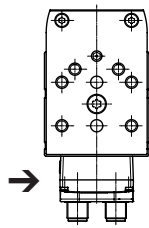
[1] Pushbutton actuators for parameterisation and control

### Cable outlet direction

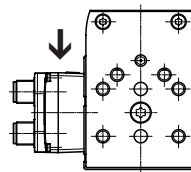
Standard



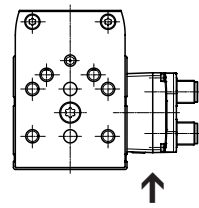
[D] Underneath



[L] Left

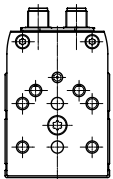


[R] Right

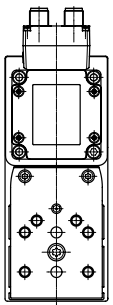


### Motor mounting variants

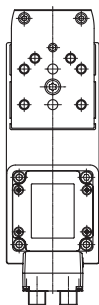
Standard



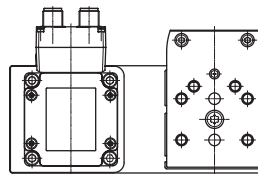
[PT] Top



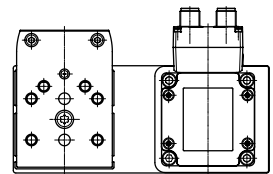
[PD] Underneath



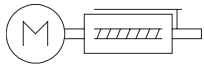
[PL] Left





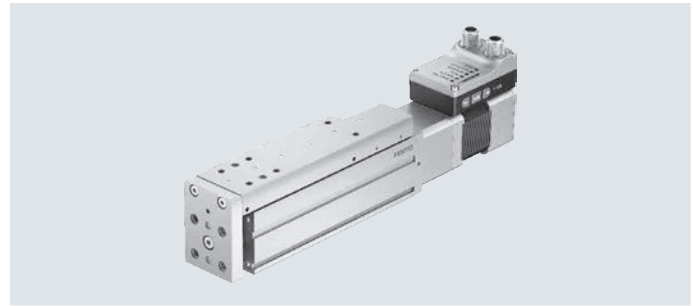
[PR] Right



## Datasheet



-  - Size  
32 ... 60
-  - Stroke length  
25 ... 200 mm



General technical data		32	45	60
Size		32	45	60
Design		Electric mini slide with ball screw and integrated drive		
Motor type		Stepper motor		
Guide		Recirculating ball bearing guide		
Mounting position		Any		
Working stroke	[mm]	25, 50, 75, 100	25, 50, 75, 100, 125, 150	50, 75, 100, 125, 150, 200
Stroke reserve	[mm]	0		
Additional functions		Built-in end-position sensing User interface		
Display		LED		
Homing		Positive fixed stop block Negative fixed stop block		
Type of mounting		With female thread With accessories With centring pin, centring sleeve		
Max. cable length				
Inputs/outputs	[m]	15		
IO-Link operation	[m]	20		

Mechanical data		32	45	60
Size		32	45	60
Max. payload				
Horizontal	[kg]	2	6	10
Vertical	[kg]	2	6	10
Max. feed force $F_x$	[N]	60	120	250
Max. radial force <sup>1)</sup>	[N]	140	340	420
Repetition accuracy	[mm]	±0.015		
Reversing backlash	[µm]	150		
Position sensing		Via proximity switch Via IO-Link		
With axial motor mounting				
Max. speed <sup>2)</sup>	[m/s]	0.19	0.25	0.24
Speed "Speed Press" <sup>3)</sup>	[m/s]	0.01		
Max. acceleration <sup>3)</sup>	[m/s <sup>2</sup> ]	5		
With parallel motor mounting				
Max. speed <sup>2)</sup>	[m/s]	0.19	0.235	0.205
Speed "Speed Press" <sup>3)</sup>	[m/s]	0.01		
Max. acceleration <sup>3)</sup>	[m/s <sup>2</sup> ]	3		

- 1) At the drive shaft
- 2) Adjustable in increments of 10%
- 3) Unchangeable parameter

Spindle		32	45	60
Size		32	45	60
Diameter	[mm]	8	10	12
Pitch	[mm/rev]	8	10	12

## Datasheet

Electrical data			
Size		32	45   60
Motor			
Nominal voltage DC	[V]	24 (±15%)	
Nominal current	[A]	3	3   5.3
Max. current consumption (load)	[A]	3	3   5.3
Max. current consumption (logic)	[mA]	300	
Encoder			
Rotor position sensor		Absolute encoder, single turn	
Rotor position sensor measuring principle		Magnetic	
Rotor position encoder resolution	[bit]	16	
Interfaces			
Size		32	45   60
Parameterisation interface			
IO-Link		Yes	
User interface		Yes	
Digital inputs			
Number		2	
Switching logic		PNP NPN	
Characteristics		Not galvanically isolated Configurable	
Specification		Based on IEC 61131-2, type 1	
Operating range	[V]	24	
Digital outputs			
Number		2	
Switching logic		PNP NPN	
Rotor position sensor		Absolute encoder, single turn	
Characteristics		Not galvanically isolated Configurable	
Max. current	[mA]	100	
Technical data – IO-Link			
Size		32	45   60
SIO mode support		Yes	
Communication mode		COM3 (230.4 kBd)	
Connection technology		Plug	
Port class		A	
No. of ports		1	
Process data width OUT	[byte]	2	
Process data content OUT	[bit]	1 (Move in)	
	[bit]	1 (Move out)	
	[bit]	1 (Move Intermediate)	
	[bit]	1 (Quit Error)	
Process data width IN	[byte]	2	
Process data content IN	[bit]	1 (State Device)	
	[bit]	1 (State Move)	
	[bit]	1 (State in)	
	[bit]	1 (State out)	
	[bit]	1 (State Intermediate)	
Service data content IN	[bit]	32 (Force)	
	[bit]	32 (Position)	
	[bit]	32 (Speed)	
Minimum cycle time	[ms]	1	
Data memory required	[kilobyte]	0.5	
Protocol version		Device V 1.1	

## Datasheet

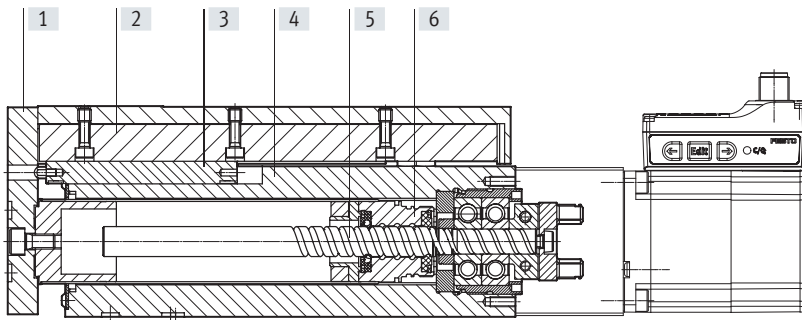
Operating and environmental conditions		32	45	60
Size				
Insulation class		B		
Ambient temperature	[°C]	0 ... +50		
Storage temperature	[°C]	-20 ... +60		
Note on ambient temperature		Above an ambient temperature of 30°C, the power must be reduced by 2% per K		
Temperature monitoring		Switch-off for excessive temperature Integrated precise CMOS temperature sensor with analogue output		
Relative humidity	[%]	0 ... 90		
Protection class		III		
Degree of protection		IP40		
Duty cycle	[%]	100		
CE marking (see declaration of conformity)		To EU EMC Directive for EMCS-ST → festo.com/sp To EU RoHS Directive		
UKCA marking (see declaration of conformity)		To UK instructions for EMC To UK RoHS instructions		
KC mark		KC EMC		
Certification		RCM		
Vibration resistance		Transport application test with severity level 1 to FN 942017-4 and EN 61800-2 and EN 61800-5-1		
Shock resistance		Shock test with severity level 1 to FN 942017-5 and EN 61800-2		
Cleanroom class		Class 9 according to ISO 14644-1		
Maintenance interval		Lifetime lubrication		

Weight		32	45	60
Size				
With axial motor mounting				
Basic weight at 0 mm stroke	[g]	924	1238	2735
Additional weight per 10 mm stroke	[g]	30	63	95
Moving mass with 0 mm stroke	[g]	149	212	675
Additional moving mass per 10 mm stroke	[g]	12	30	40
With parallel motor mounting				
Basic weight at 0 mm stroke	[g]	1088	1361	2999
Additional weight per 10 mm stroke	[g]	30	63	95
Moving mass with 0 mm stroke	[g]	149	212	675
Additional moving mass per 10 mm stroke	[g]	12	30	40

Datasheet

Materials

Sectional view

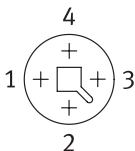


Axis		
[1]	Yoke plate	Anodised wrought aluminium alloy
[2]	Slide	Anodised wrought aluminium alloy
[3]	Guide rail	Rolling bearing steel
[4]	Housing	Anodised wrought aluminium alloy
[5]	Spindle	Rolling bearing steel
[6]	Spindle nut	Rolling bearing steel
	PWS conformity	VDMA24364 zone III
	Note on materials	RoHS-compliant

Pin allocation

Power supply

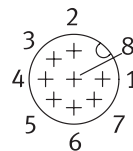
Plug  
M12x1, 4-pin, T-coded to EN 61076-2-111



Pin	Function
1	Power voltage supply (24 V DC)
2	Reference potential, power voltage supply (GND)
3	Reserved, do not connect
4	Functional earth (FE)

Logic interface

Plug  
M12x1, 8-pin, A-coded to EN 61076-2-101



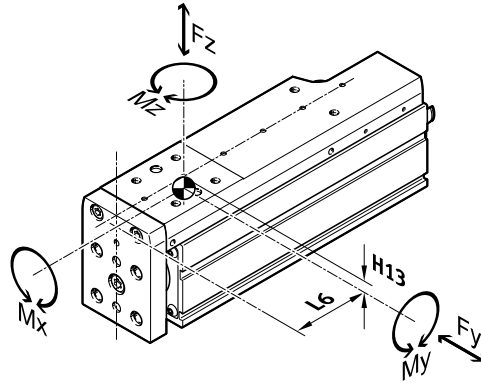
When used with digital I/O	
Pin	Function
1	Logic voltage supply (24 V DC)
2	Digital output 1 (State "In")
3	Digital output 2 (State "Out")
4	Reference potential, logic voltage supply (GND)
5	Digital input 1 (Move "In")
6	Digital input 2 (Move "Out")
7	Reserved, do not connect
8	Reference potential, logic voltage supply (GND)

When used with IO-Link	
Pin	Function
1	L+ IO-Link power supply (24 V DC)
2	Reserved, do not connect
3	C/Q communication with the IO-Link master
4	L – Reference potential, IO-Link power supply (0 V)
5	Reserved, do not connect
6	Reserved, do not connect
7	Reserved, do not connect
8	L – Reference potential, IO-Link power supply (0 V)

Datasheet

**Dynamic characteristic load values**

The indicated forces and torques refer to the centre of the guide. These values must not be exceeded during dynamic operation.



**Distance from the centre of the guide**

Size	32	45	60
Dimension H13 [mm]	7.9	10.2	15.9
Dimension L6 <sup>1)</sup> [mm]	31.8	37.3	53.4

1) The dimension relates to the retracted position of the slide. In the advanced position, the dimension must be extended accordingly.

**Max. permissible forces and torques for the guide calculation, for a service life of 5 x 10<sup>6</sup> cycles and max. stroke**

Size	32	45	60
F <sub>y</sub> max. [N]	991	1314	4937
F <sub>z</sub> max. [N]	991	1314	4937
M <sub>x</sub> max. [Nm]	3.4	8.1	20
M <sub>y</sub> max. [Nm]	3.2	7	30
M <sub>z</sub> max. [Nm]	3.2	7	30

**Basic load ratings**

Size	32	45	60
<b>Dynamic</b>			
Ball screw [N]	2000	3200	4600
Linear guide [N]	2135	3240	13400
Fixed bearing [N]	3795	7413	13321
<b>Static</b>			
Ball screw [N]	3700	5900	8500
Linear guide [N]	3880	5630	26900
Fixed bearing [N]	1792	3966	7000

**Note**  
 For a guide system to have a service life of 5x 10<sup>6</sup> cycles, the load comparison factor must have a value of f<sub>v</sub> ≤ 1, based on the maximum permissible forces and torques for a service life of 5x 10<sup>6</sup> cycles. 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](http://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:

$$f_v = \frac{|F_{y1}|}{F_{y1max}} + \frac{|F_{z1}|}{F_{z1max}} + \frac{|M_{x1}|}{M_{x1max}} + \frac{|M_{y1}|}{M_{y1max}} + \frac{|M_{z1}|}{M_{z1max}} \leq 1$$

F<sub>2</sub>/M<sub>2</sub> = maximum value

## Datasheet

### Calculating the service life

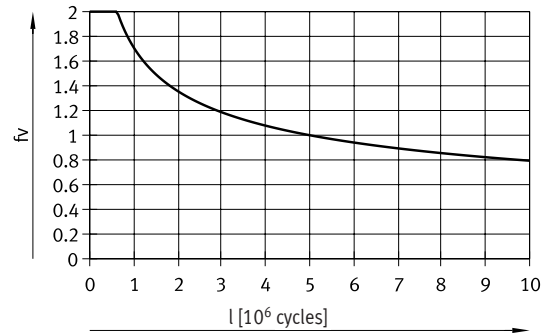
The service life of the guide depends on the load. To be able to make a statement as to the service life of the guide, the graph below plots the load comparison factor  $f_v$  against the service life.

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 14) gives a value of 1.5 for the load comparison factor  $f_v$ . According to the graph, the guide has a service life of approx.  $1.5 \times 10^6$  cycles. 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  $5 \times 10^6$  cycles.



### Comparison of the characteristic load values for $5 \times 10^6$ cycles 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 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 mini slides EGSC 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)

Application: mass  $m$  on the slide

Size		25	32	45	60
$F_{y_{max}}$	[N]	1310	2135	3240	13400
$F_{z_{max}}$	[N]	1310	2135	3240	13400
$M_{x_{max}}$	[Nm]	5	10	20	107
$M_{y_{max}}$	[Nm]	4	7	17	117
$M_{z_{max}}$	[Nm]	4	7	17	117

### Service life of the motor

The service life of the motor at nominal power is 20000 h.

## Datasheet

### Sizing example

Application data:

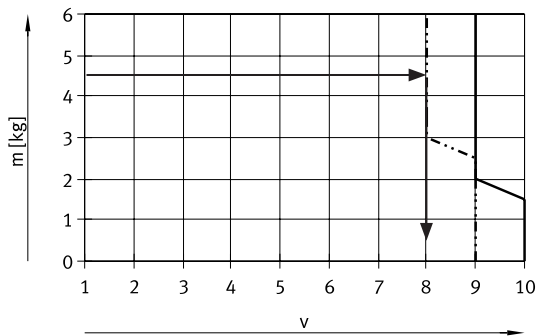
- Payload: 4 kg
- Mounting position: vertical
- Motor mounting position: axial
- Stroke: 100 mm
- Max. permitted positioning time: 1 s (one direction)

Step 1: Selecting the smallest possible size from the table → page 10

Mechanical data				
Size		32	45	60
Max. payload				
Horizontal	[kg]	2	6	10
Vertical	[kg]	2	6	10

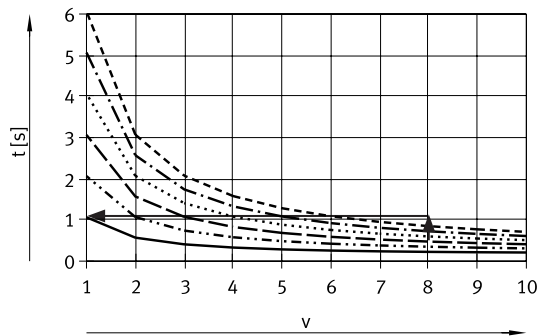
→ Smallest possible size: EGSS-BS-KF-45

Step 2: Selecting the max. speed level v for payload m



— Horizontal  
- - - Vertical

Step 3: Reading off the min. positioning time t for stroke l



— l = 25 mm  
..... l = 50 mm  
- - - l = 75 mm  
- · - · l = 100 mm  
- - - - l = 125 mm  
- - - - l = 150 mm

→ Max. speed level for payload: level 8

→ Min. positioning time for 100 mm at level 8: 0.6 s

### Result

The application can be implemented using EGSS-BS-KF-45-100. A minimum positioning time (one direction) of 0.6 s is achieved. Longer positioning times can be selected at any time using a lower speed level.



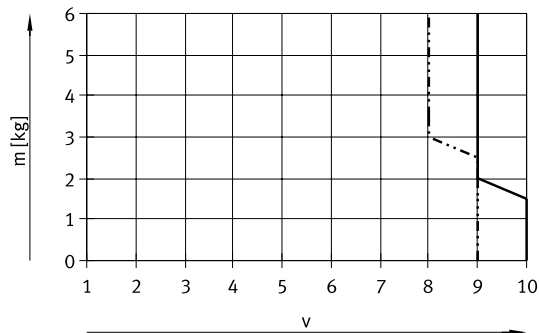
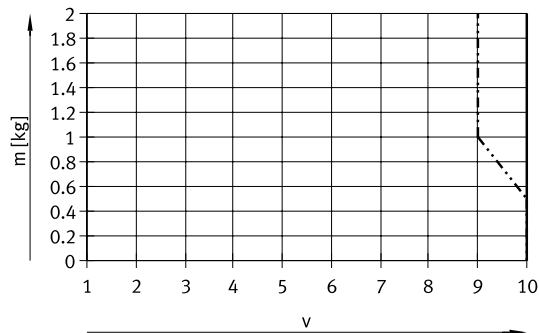
Datasheet

Mass  $m$  as a function of speed level  $v$

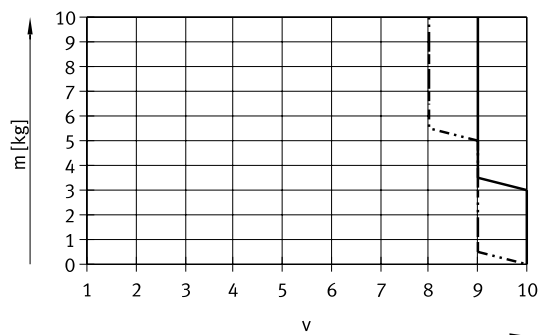
With axial kit

Size 32

Size 45



Size 60



Note:

The lines represent the maximum values. The lower speed levels can be set at any time.

— Horizontal  
 - - - - - Vertical

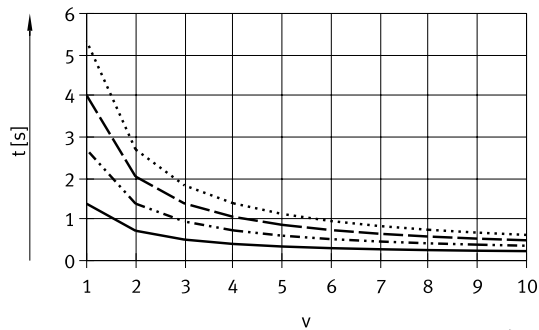
Datasheet

Positioning time  $t$  as a function of speed level  $v$  and stroke  $l$

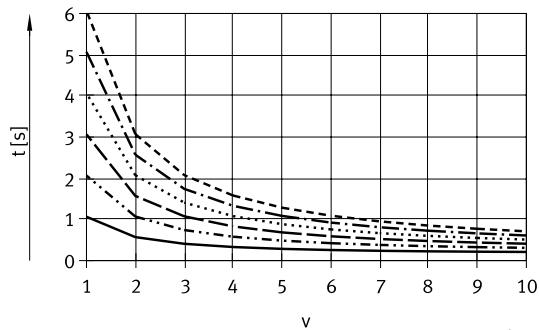
With axial kit

Size 32

Size 45

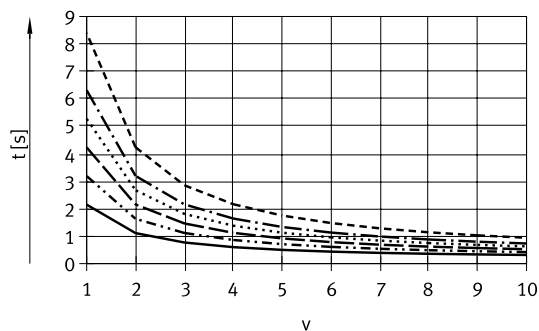


- $l = 25$  mm
- .....  $l = 50$  mm
- - -  $l = 75$  mm
- · - ·  $l = 100$  mm



- $l = 25$  mm
- .....  $l = 50$  mm
- - -  $l = 75$  mm
- · - ·  $l = 100$  mm
- - - -  $l = 125$  mm
- · - · - ·  $l = 150$  mm

Size 60



- $l = 50$  mm
- .....  $l = 75$  mm
- - -  $l = 100$  mm
- · - ·  $l = 125$  mm
- - - -  $l = 150$  mm
- · - · - ·  $l = 200$  mm

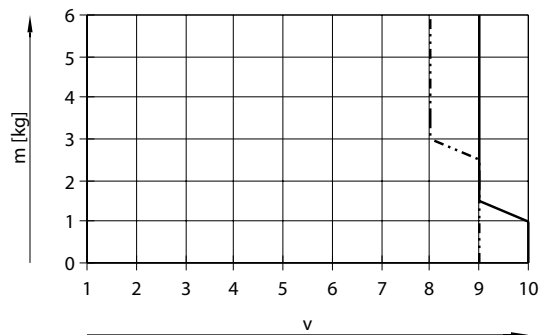
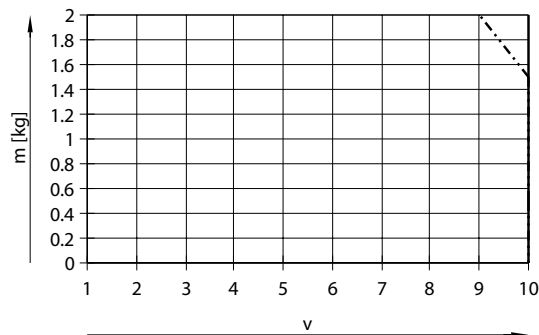
Datasheet

Mass  $m$  as a function of speed level  $v$

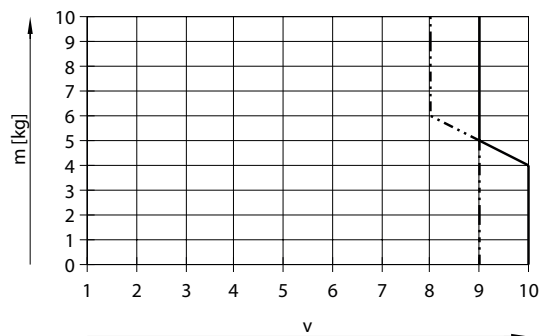
With parallel kit

Size 32

Size 45



Size 60



Note:

The lines represent the maximum values. The lower speed levels can be set at any time.

— Horizontal  
 - - - - - Vertical

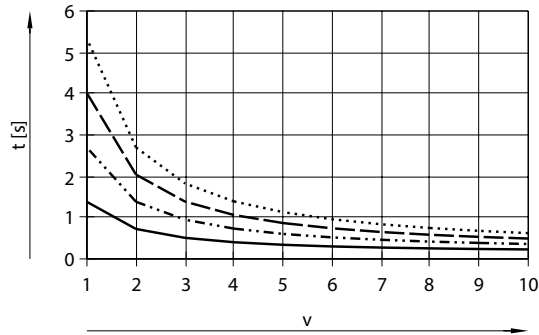
Datasheet

Positioning time  $t$  as a function of speed level  $v$  and stroke  $l$

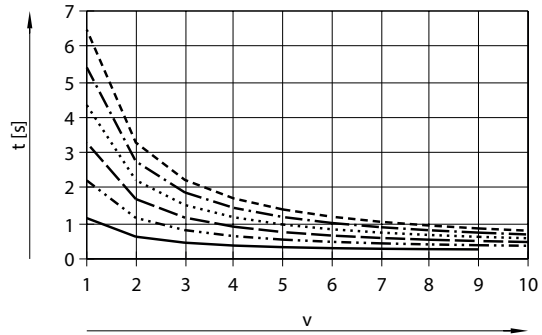
With parallel kit

Size 32

Size 45

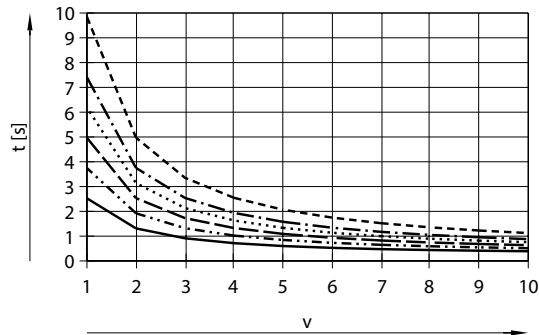


- $l = 25$  mm
- .....  $l = 50$  mm
- - -  $l = 75$  mm
- · - ·  $l = 100$  mm



- $l = 25$  mm
- .....  $l = 50$  mm
- - -  $l = 75$  mm
- · - ·  $l = 100$  mm
- - - -  $l = 125$  mm
- · - · - ·  $l = 150$  mm

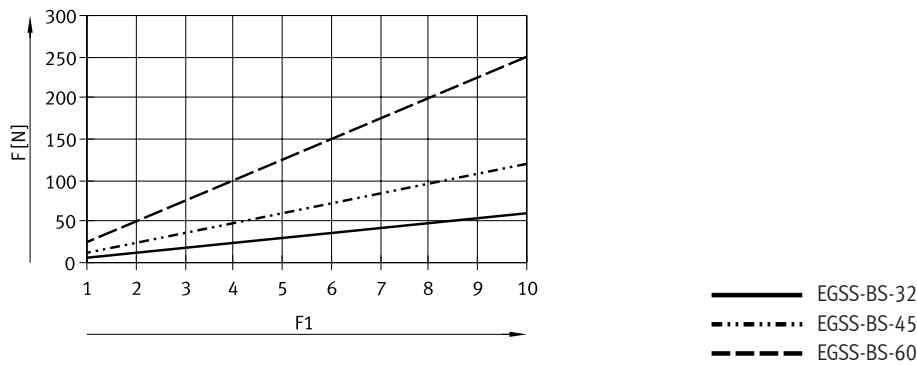
Size 60



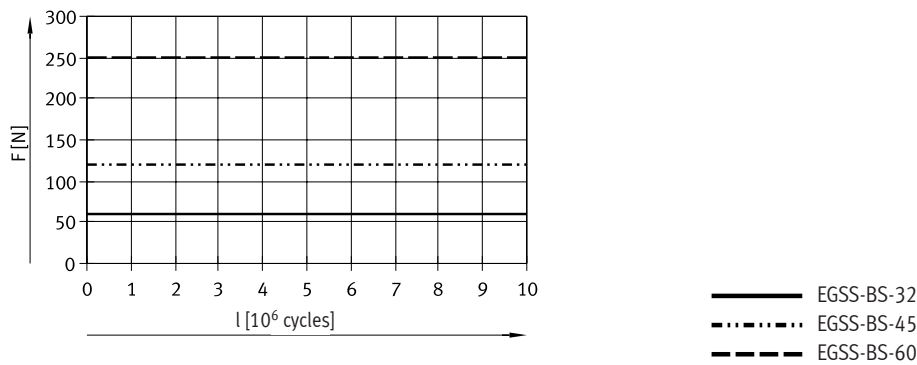
- $l = 50$  mm
- .....  $l = 75$  mm
- - -  $l = 100$  mm
- · - ·  $l = 125$  mm
- - - -  $l = 150$  mm
- · - · - ·  $l = 200$  mm

Datasheet

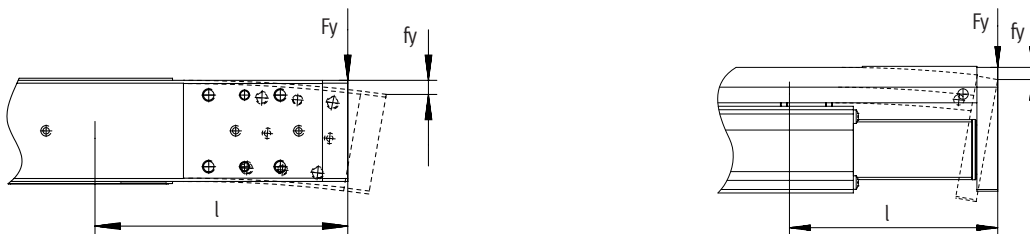
Feed force F as a function of force level F1



Feed force F as a function of service life l



Deflection f of the guide rail as a function of stroke l



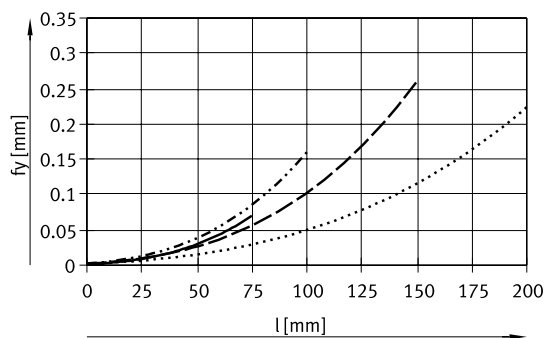
F<sub>y</sub>/F<sub>z</sub> at which the characteristic curves were determined

EGSS-BS-32: 10 N

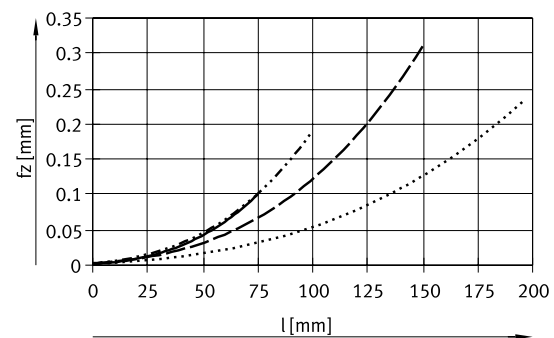
EGSS-BS-45: 10 N

EGSS-BS-60: 10 N

Deflection f<sub>y</sub>



Deflection f<sub>z</sub>



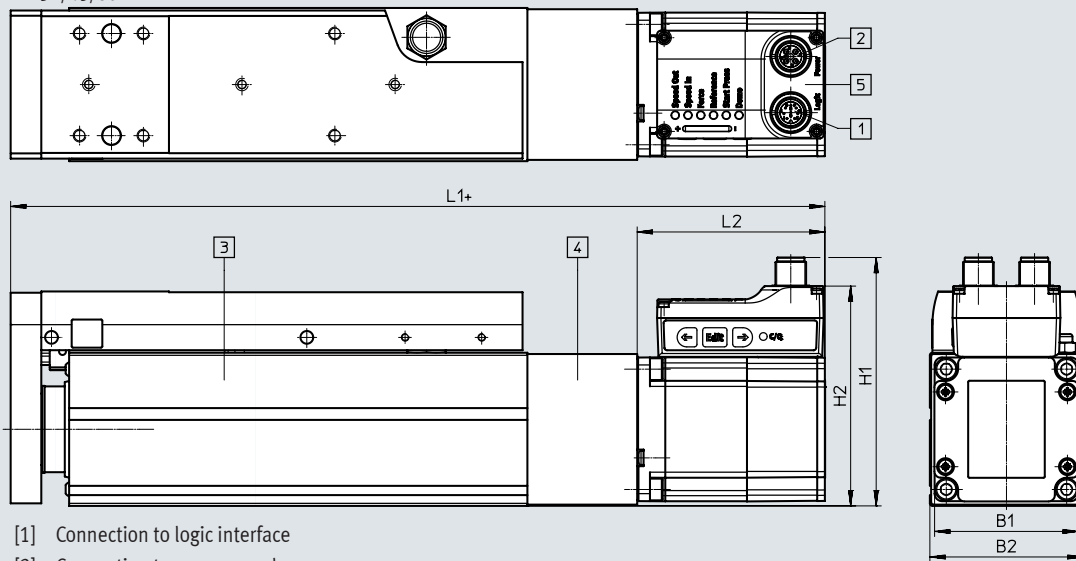
- ..... EGSS-BS-32
- EGSS-BS-45
- ..... EGSS-BS-60

Datasheet

Dimensions – With axial motor mounting

Download CAD data → [www.festo.com](http://www.festo.com)

Size 32/45/60



- [1] Connection to logic interface
- [2] Connection to power supply
- [3] Mini slides
- [4] Axial kit
- [5] Motor
- + = plus stroke length

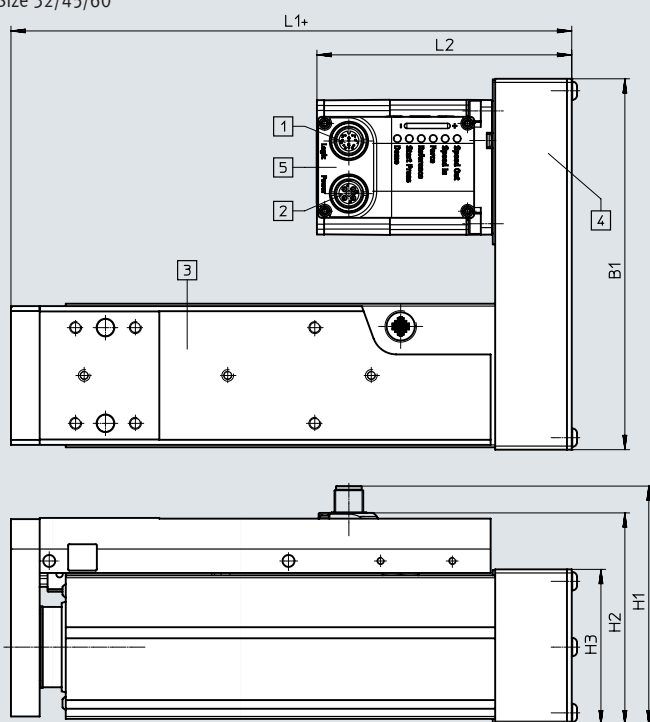
Size	B1	B2	H1	H2	L1	L2
32	42.3	32	81.1	69.9	167	65
45	42.3	45	82.6	71.4	178.8	65
60	56.6	60	97.3	86.1	218.9	73.5

Datasheet

Dimensions – With parallel motor mounting

Download CAD data → [www.festo.com](http://www.festo.com)

Size 32/45/60



- [1] Connection to logic interface
- [2] Connection to power supply
- [3] Mini slides
- [4] Parallel kit
- [5] Motor
- + = plus stroke length

Dimensions for other motor mounting variants → CAD data.

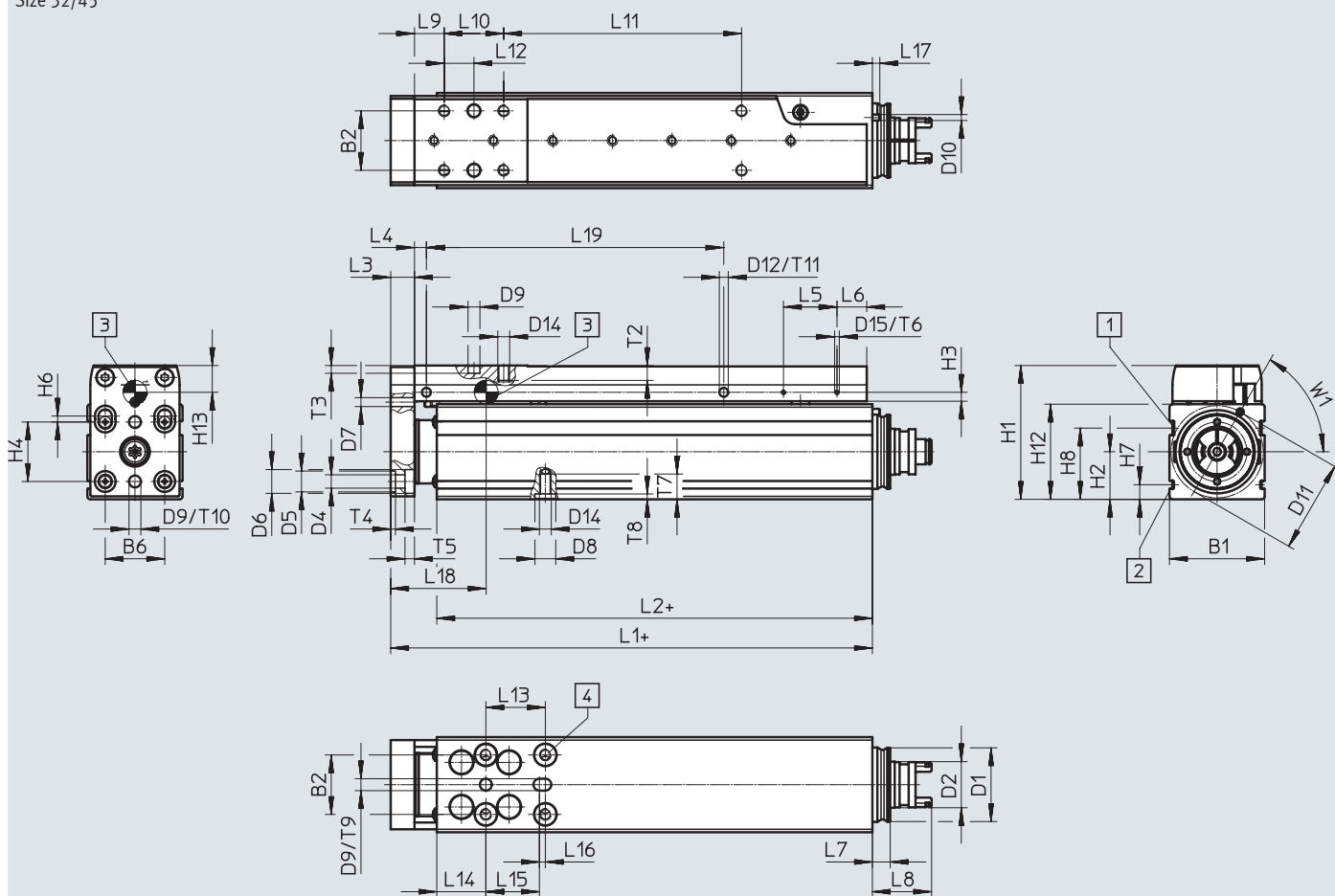
Size	B1	H1	H2	H3	L1	L2
32	111	83	72	45	86	93
45	111	83	72	45	97.8	93
60	155	100	90	65	134.4	106.5

Datasheet

Dimensions – Mechanical system

Download CAD-Daten → [www.festo.com](http://www.festo.com)

Size 32/45



- [1] Slot for sensor bracket
- [2] Mounting slot
- [3] Guide centre
- [4] Mounting thread sealed on delivery



## Datasheet

Size	B1 ±0.15	B2	B5	B6	D1 ∅	D2 ∅	D3 ∅	D4 ∅ H13	D5 ∅ H7	D6 ∅ H13	D7 ∅	D8 ∅ H7	D9 ∅ H8	D10 ∅	D11 ∅
32	32	20	–	20	25	16.5	–	4.5	7	8	3	7	4	2	31
45	45	25	–	25	32	16.5	–	5.5	7	10	3	7	5	3	41

Size	D12 ∅	D13	D14	D15	D16	H1	H2	H3	H4	H5	H6	H7	H8	H12 ±0.15	H13
32	3	–	M4	M1.6	–	45	16	3	20	–	2	4.9	24	32	8.4
45	3	–	M5	M2	–	60.5	22.5	3	25	–	–	6.1	28.5	45	10.7

Size	L1	L2	L3 +0.2	L4	L5 ±0.1	L6	L7	L8	L9	L10	L12	L13	L14	L15	L16
32	62	46.5	8	4	18	10	6	19.9	10	20	10	20	16.5	18	2
45	73.8	54.5	10	4	24	12	6	19.9	15	25	12.5	25	17.5	24	2

Size	L17	L18	T1	T2	T3 +0.1	T4 +0.1	T5	T6	T7	T8 +0.1	T9 +0.1	T10 +0.1	T11 –0.2	W1	≈ $\ominus$ 1
32	2.5	31.8	–	5	2.6	1.6	3.2	1.5	8.5	1.8	2.6	2.6	1.5	60°	6
45	2	37.3	–	6	1.3	1.6	5.4	4	7	1.8	1.3	1.3	5	60°	12

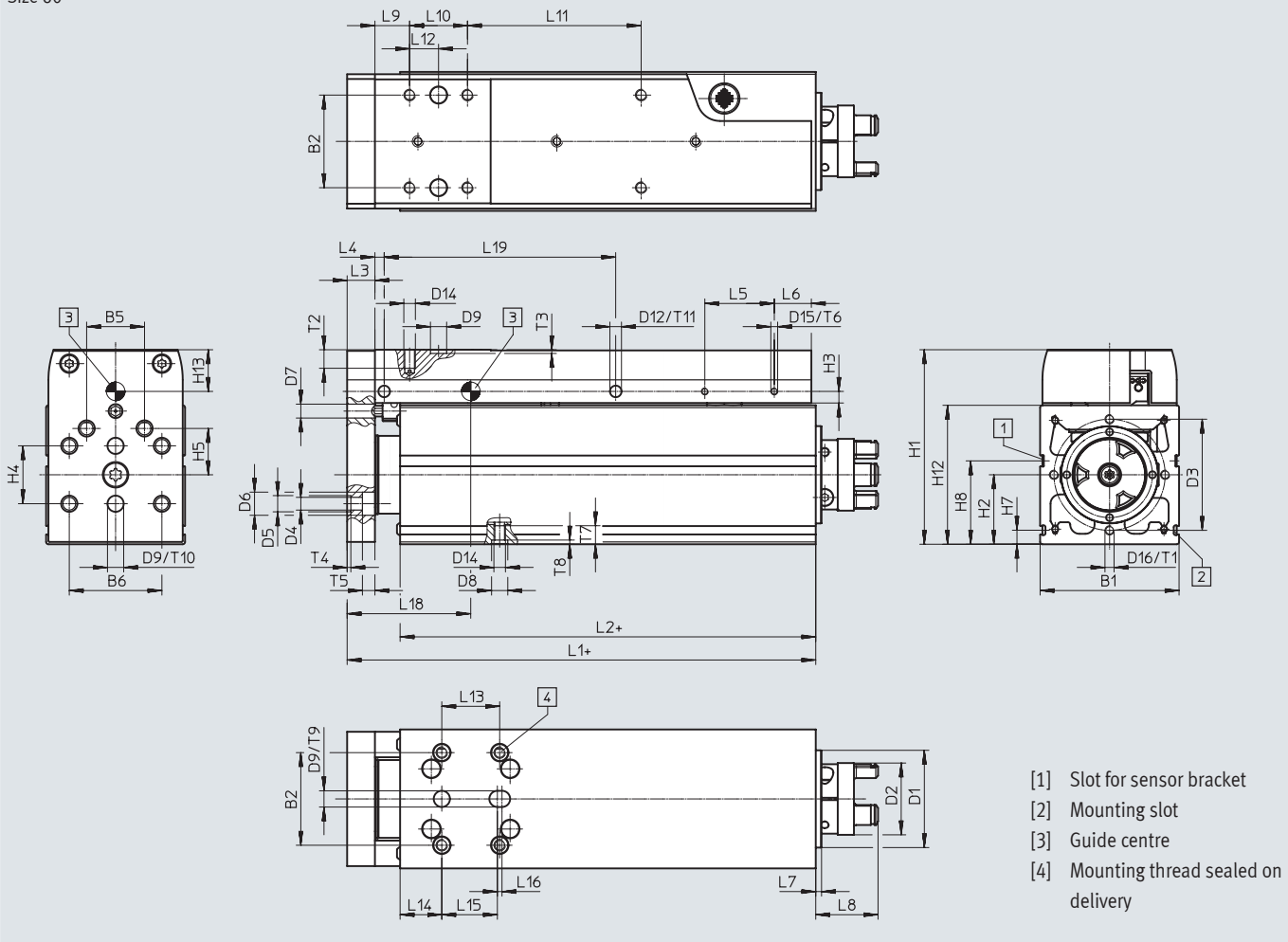
Size	Stroke [mm]	L19	L11
32	25	25	0
	50	50	30
	75	75	55
	100	100	80
45	25	25	0
	50	50	25
	75	75	50
	100	100	75
	125	125	100
	150	150	125

Datasheet

Dimensions – Mechanical system

Download CAD-Daten → [www.festo.com](http://www.festo.com)

Size 60



## Datasheet

Size	B1 ±0.15	B2	B5	B6	D1 ∅	D2 ∅	D3 ∅	D4 ∅ H13	D5 ∅ H7	D6 ∅ H13	D7 ∅	D8 ∅ H7	D9 ∅ H8	D10 ∅	D11 ∅
60	60	40	25	40	42	31	48	5.5	7	10	6	7	7	–	–

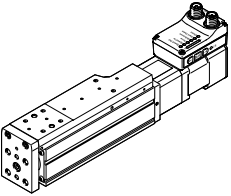
Size	D12 ∅	D13	D14	D15	D16	H1	H2	H3	H4	H5	H6	H7	H8	H12 ±0.15	H13
60	5	M4	M5	M3	M4	84	30	5	25	20	–	6.1	36	60	16.4

Size	L1	L2	L3 +0.2	L4	L5 ±0.1	L6	L7	L8	L9	L10	L12	L13	L14	L15	L16
60	102.4	79.5	12	4	30	16	2.5	26.9	15	25	12.5	25	30	24	2

Size	L17	L18	T1	T2	T3 +0.1	T4 +0.1	T5	T6	T7	T8 +0.1	T9 +0.1	T10 +0.1	T11 –0.2	W1	– $\ominus$ 1
60	–	53.4	10	8	1.6	1.6	5.4	6	8	1.8	1.6	1.6	5	–	15

Size	Stroke [mm]	L19	L11
60	50	50	25
	75	75	50
	100	100	75
	125	125	100
	150	150	125
	200	200	175

## Ordering data

Ordering data	Size	Spindle pitch	Stroke	Part no.	Type
	32	8	25	8083801	EGSS-BS-KF-32-25-8P-ST-M-H1-PLK-AA
			50	8083802	EGSS-BS-KF-32-50-8P-ST-M-H1-PLK-AA
			75	8083803	EGSS-BS-KF-32-75-8P-ST-M-H1-PLK-AA
			100	8083804	EGSS-BS-KF-32-100-8P-ST-M-H1-PLK-AA
	45	10	25	8083814	EGSS-BS-KF-45-25-10P-ST-M-H1-PLK-AA
			50	8083815	EGSS-BS-KF-45-50-10P-ST-M-H1-PLK-AA
			75	8083816	EGSS-BS-KF-45-75-10P-ST-M-H1-PLK-AA
			100	8083817	EGSS-BS-KF-45-100-10P-ST-M-H1-PLK-AA
			125	8083818	EGSS-BS-KF-45-125-10P-ST-M-H1-PLK-AA
			150	8083819	EGSS-BS-KF-45-150-10P-ST-M-H1-PLK-AA
	60	12	50	8083716	EGSS-BS-KF-60-50-12P-ST-M-H1-PLK-AA
			75	8083717	EGSS-BS-KF-60-75-12P-ST-M-H1-PLK-AA
			100	8083718	EGSS-BS-KF-60-100-12P-ST-M-H1-PLK-AA
			125	8083719	EGSS-BS-KF-60-125-12P-ST-M-H1-PLK-AA
			150	8083720	EGSS-BS-KF-60-150-12P-ST-M-H1-PLK-AA
			200	8083721	EGSS-BS-KF-60-200-12P-ST-M-H1-PLK-AA

## Ordering data – Modular product system

Ordering table						
Size	32	45	60	Conditions	Code	Enter code
Module no.	8083800	8083813	8083713			
Series	EGSS				EGSS	EGSS
Drive system	Ball screw				-BS	-BS
Guide	Recirculating ball bearing guide				-KF	-KF
Size	32	45	60		-...	
Stroke [mm]	25, 50, 75, 100	25, 50, 75, 100, 125, 150	50, 75, 100, 125, 150, 200		-...	
Spindle pitch [mm]	8P	10P	12P		-...	
Motor type	Stepper motor ST				-ST	-ST
Controllers	Integrated				-M	-M
Operator panel	Integrated				-H1	-H1
Bus protocol/control	NPN and IO-Link				-NLK	
	PNP and IO-Link				-PLK	
End-position sensing	With integrated end-position sensing				-AA	-AA
Cable outlet direction	Standard			[1]		
	Left			[2]	-L	
	Underneath			[3]	-D	
	Right			[4]	-R	
Motor attachment position	Axial (standard)					
	Parallel, left			[5]	-PL	
	Parallel, right			[6]	-PR	
	Parallel, underneath			[7]	-PD	
	Parallel, top			[8]	-PT	
Electrical accessories	None					
	Adapter for operation as IO device				+L1	

[1] Not with motor mounting position PR; PD

[2] Not with motor mounting position PR

[3] Not with motor mounting position PT

[4] Not with motor mounting position PL

[5] Not in combination with cable outlet direction R

[6] Not in combination with cable outlet direction standard or L

[7] Not in combination with cable outlet direction standard

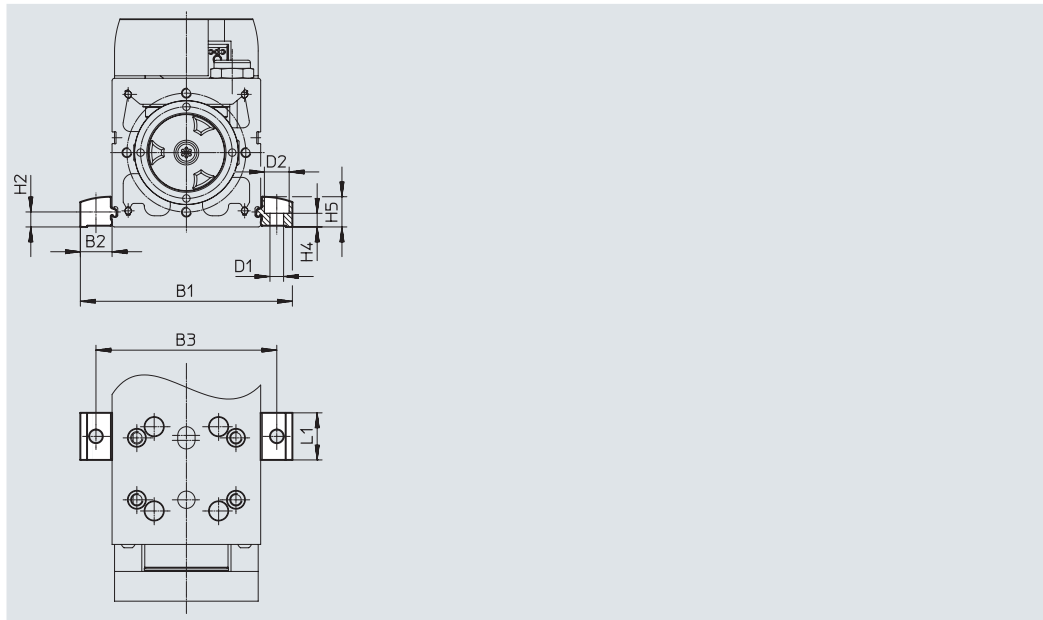
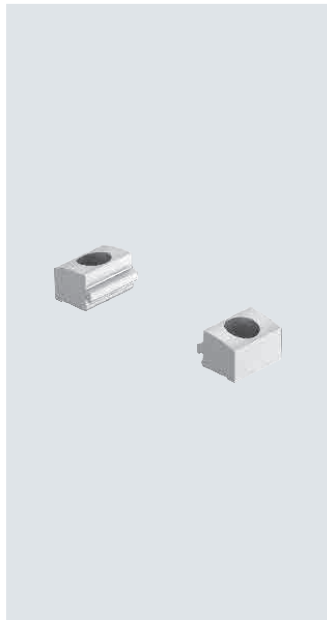
[8] Not in combination with cable outlet direction D

Accessories

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

Material:  
Anodised wrought aluminium alloy  
RoHS-compliant

- For mounting the slide 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

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

## Accessories

### Profile mounting EAHF-L2-...-P

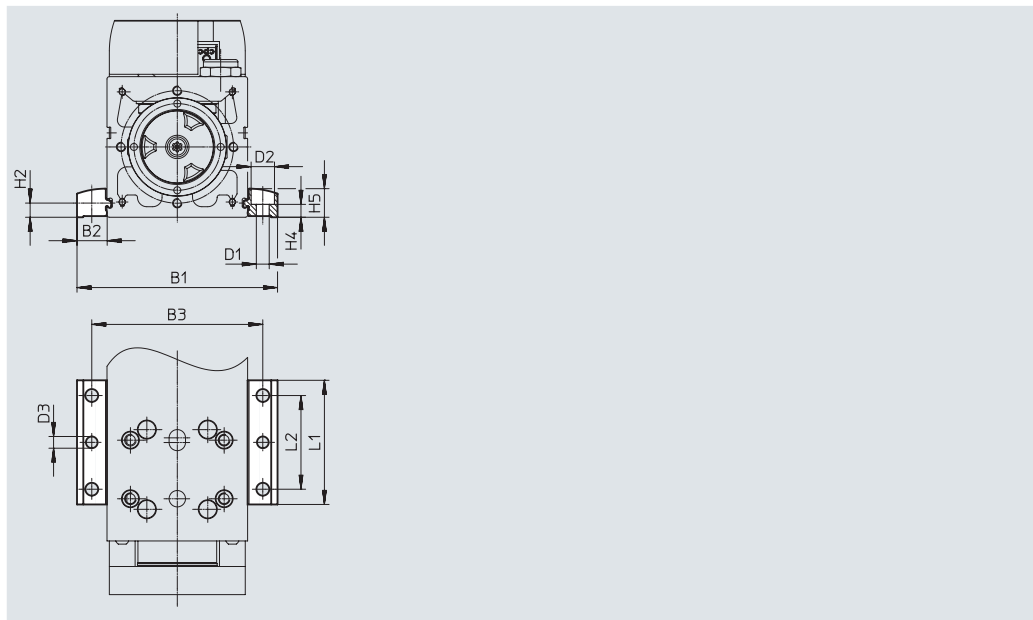
Material:

Anodised wrought aluminium alloy

RoHS-compliant

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

The profile mounting can be attached to the mounting surface using the drilled 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

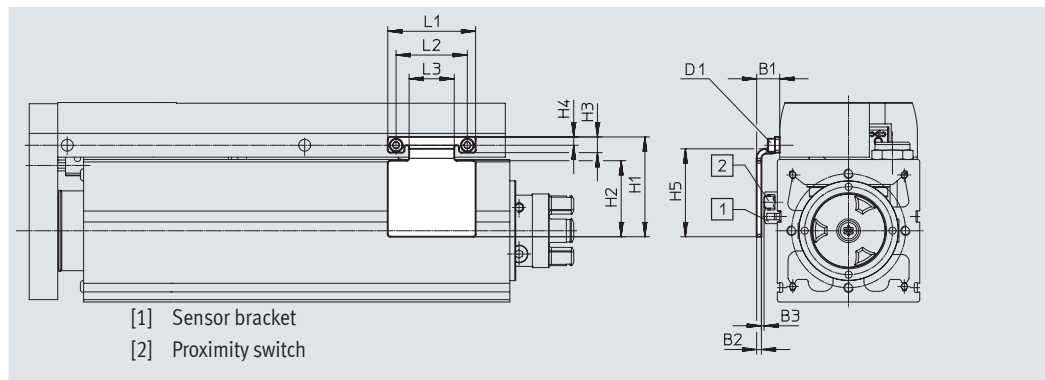
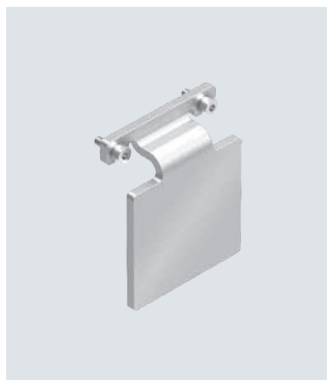
For size	H4 ±0.1	H5	L1	L2	Weight [g]	Part no.	Type
32	4.2	9	53	40	19	4835684	EAHF-L2-25-P
45	5.5	12.2	53	40	35	4835728	EAHF-L2-45-P
60	5.5	12.2	53	40	35	4835728	EAHF-L2-45-P

### Accessories

#### Switch lug EAPM-...-SLS

For sensing using inductive proximity switches SIES-8M

Material:  
Galvanised steel  
RoHS-compliant

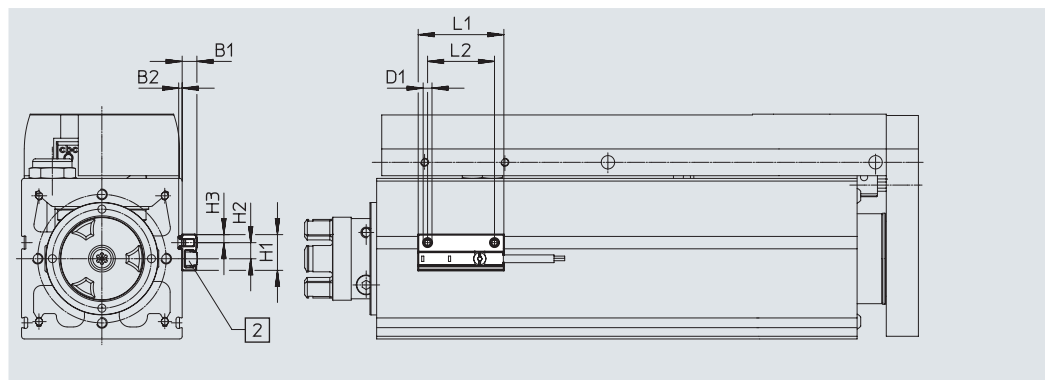
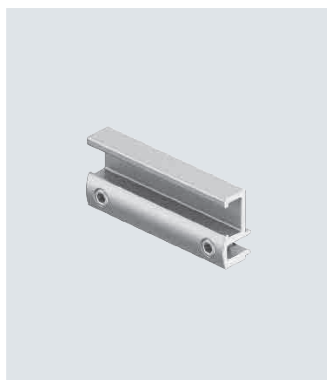


Dimensions and ordering data									
For size	B1	B2	B3	D1	H1	H2	H3	H4	
32	9.2	2	1.0±0.26	M1.6	27	19	4.3	2.5	
45	9.4	2	0.7±0.26	M2	37	28	5.5	3.3	
60	9.7	2	0.7±0.31	M3	42	32	6.6	3.5	

For size	H5	L1	L2	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	37	30	19	27	8067261	EAPM-L2-60-SLS

#### Sensor bracket EAPM-L2

Material:  
Anodised wrought aluminium alloy  
RoHS-compliant



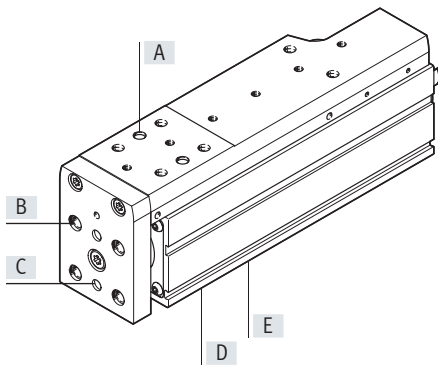
Dimensions and ordering data						
For size	B1	B2	D1	H1	H2	
32, 45, 60	5.5	1.3	M4	13.4	6	

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



Accessories

Ordering data – Centring sleeve



For size	Position	Part no.	Type	PU <sup>1)</sup>
32	A	562959	ZBS-4	10
	B	8146544	ZBH-7-B	
	C	562959	ZBS-4	
	D	8146544	ZBH-7-B	
	E	562959	ZBS-4	
45	A	8146543	ZBH-5-B	
	B	8146544	ZBH-7-B	
	C	8146543	ZBH-5-B	
	D	8146544	ZBH-7-B	
	E	8146543	ZBH-5-B	
60	A	8146544	ZBH-7-B	
	B	8146544	ZBH-7-B	
	C	8146544	ZBH-7-B	
	D	8146544	ZBH-7-B	
	E	8146544	ZBH-7-B	

1) Packaging unit

Ordering data – Push-in fitting for sealing air connection

For size	Part no.	Type	PU <sup>1)</sup>
32	133003	QSM-M5-3-I-R	10
	133004	QSM-M5-4-I-R	
45	186266	QSM-G1/8-4-I	
	186267	QSM-G1/8-6-I	
60	186108	QS-G1/4-6-I	
	186110	QS-G1/4-8-I	

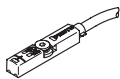
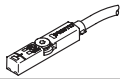
1) Packaging unit



Ordering data – Proximity switches for T-slot, inductive

Datasheets → Internet: [sies](#)


Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type
 Inserted 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
 Inserted 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


### Accessories

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


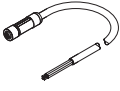
Ordering data – Connecting cables						Datasheets → Internet: nebu
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type	
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	<b>541333</b>	<b>NEBU-M8G3-K-2.5-LE3</b>	
			5	<b>541334</b>	<b>NEBU-M8G3-K-5-LE3</b>	
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	<b>541338</b>	<b>NEBU-M8W3-K-2.5-LE3</b>	
			5	<b>541341</b>	<b>NEBU-M8W3-K-5-LE3</b>	


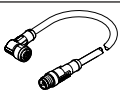

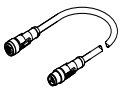
**Note**  
 For sizes 45 and 60, inductive proximity switches SIES-8M must be used for strokes greater than 100 mm.  
 Proximity switches are optional and only required in order to sense any intermediate positions.


Ordering data – IO-Link master USB					Datasheets → Internet: cdsu
	Description	Cable length [m]	Part no.	Type	
	<ul style="list-style-type: none"> <li>For using the unit with IO-Link</li> <li>An external power supply plug is also required (not included in the scope of delivery)</li> </ul>	0.3	<b>8091509</b>	<b>CDSU-1</b>	

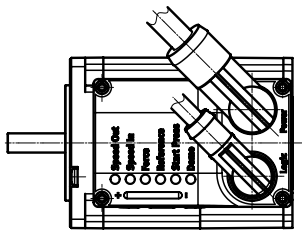
Ordering data – Adapter						Datasheets → Internet: nefc
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type	
	Straight socket, M12x1, 8-pin	Straight plug, M12x1, 5-pin	0.3	<b>8080777</b>	<b>NEFC-M12G8-0.3-M12G5-LK</b>	

Accessories

Ordering data – Supply cables					Datasheets → Internet: nebl
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type
	Angled socket, M12x1, 4-pin	Cable, open end, 4-wire	2	8080778	NEBL-T12W4-E-2-N-LE4
			5	8080779	NEBL-T12W4-E-5-N-LE4
			10	8080780	NEBL-T12W4-E-10-N-LE4
			15	8080781	NEBL-T12W4-E-15-N-LE4
	Straight socket, M12x1, 4-pin	Cable, open end, 4-wire	2	8080790	NEBL-T12G4-E-2-N-LE4
			5	8080791	NEBL-T12G4-E-5-N-LE4
			10	8080792	NEBL-T12G4-E-10-N-LE4
			15	8080793	NEBL-T12G4-E-15-N-LE4

Ordering data – Connecting cables					Datasheets → Internet: nebc
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type
	Angled socket, M12x1, 8-pin	Cable, open end, 8-wire	2	8094476	NEBC-M12W8-E-2-N-B-LE8
			5	8094478	NEBC-M12W8-E-5-N-B-LE8
			10	8094481	NEBC-M12W8-E-10-N-B-LE8
			15	8094479	NEBC-M12W8-E-15-N-B-LE8
	Straight plug, M12x1, 8-pin	Cable, open end, 8-wire	2	8080786	NEBC-M12W8-E-2-N-M12G8
			5	8080787	NEBC-M12W8-E-5-N-M12G8
			10	8080788	NEBC-M12W8-E-10-N-M12G8
			15	8080789	NEBC-M12W8-E-15-N-M12G8
	Straight socket, M12x1, 8-pin	Cable, open end, 8-wire	2	8094480	NEBC-M12G8-E-2-N-B-LE8
			5	8094477	NEBC-M12G8-E-5-N-B-LE8
			10	8094482	NEBC-M12G8-E-10-N-B-LE8
			15	8094475	NEBC-M12G8-E-15-N-B-LE8
	Straight plug, M12x1, 8-pin	Cable, open end, 8-wire	2	8080782	NEBC-M12G8-E-2-N-M12G8
			5	8080783	NEBC-M12G8-E-5-N-M12G8
			10	8080784	NEBC-M12G8-E-10-N-M12G8
			15	8080785	NEBC-M12G8-E-15-N-M12G8

 **Note**  
The cables are positioned at a 45° angle to the axis.



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