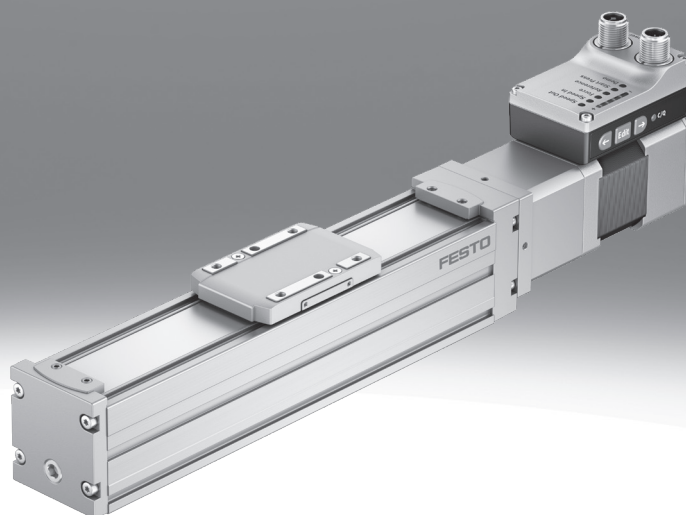


## Spindle axis unit ELGS-BS

**FESTO**



## Characteristics

### At a glance

Further information → [elgs-bs](#)

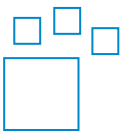


The simplicity of pneumatics is now combined for the first time with the advantages of electric automation thanks to the Simplified Motion Series. These integrated drives are the perfect solution for users who are looking for an electric alternative for very simple motion and positioning tasks between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

- No external servo drive: all necessary electronic components 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 knowledge required for commissioning
- Minimal zero stroke and extremely compact design make this product the perfect choice for applications where space is at a premium
- Protected against external influences by internal guide
- Clean look design: easy to clean and less prone to contamination

### Ordering data - modular system

Further information → [elgs-bs](#)



Configurable product

This product and all its product options can be ordered online via the configurator.

### Engineering tools

Further information → [engineering tools](#)



Save time with engineering tools Smart Engineering for the optimal solution. Our goal is to increase your productivity. Our engineering tools play an integral part in this. They help you size your system correctly, tap into unimagined productivity reserves and generate additional productivity along the entire value chain. In every phase of your project, from the initial contact to the modernisation of your machine, you will come across a number of different tools which will be of use to you.

Simplified Motion Series - Solution Finder

- Selection tool for simple electric drive solutions from the Simplified Motion Series: This Solution Finder makes finding solutions for electric motion tasks child's play. All you have to do is enter the main application parameters like stroke, payload and motion type, and the system suggests the best solution for your simple motion task in seconds. Then you can simply add it to your shopping basket with just one click and order it online.

### Diagrams

Further information → [elgs-bs](#)



The diagrams shown in this document are also available online. These can be used to display precise values.

### Drive system

[BS] Ball screw drive

- For applications that require precision
- High reliability and long service life
- For large loads

## Characteristics

### Spindle pitch

The spindle pitch describes the distance travelled by the spindle nut per revolution of the spindle in millimetres.

### Motor type

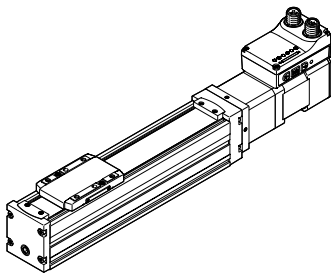
#### IO-Link

- The motor is integrated into the drive and can be easily commissioned according to the “plug and work” principle. The relevant parameters can be set directly on the drive. Control is via digital I/O or IO-Link.
- The service life of the motor at nominal power is 20000 h.

### Control panel

When aligning the motor, make sure that the buttons (for parameterisation and control) can be used.

[H1] Integrated



### Bus protocol/activation

PNP or NPN switching outputs can be selected for actuation.

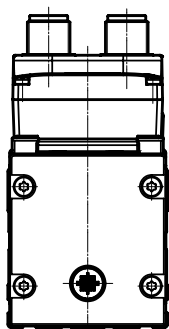
### End-position sensing

End position feedback similar to a conventional proximity switch, integrated as standard

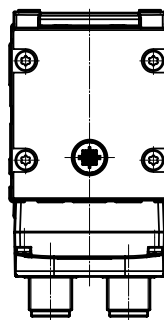
### Cable outlet direction

Describes the alignment of the motor on the drive. Depending on the alignment, the connecting cables can be routed according to the customer's specifications. The cables are positioned at a 45° angle to the axis.

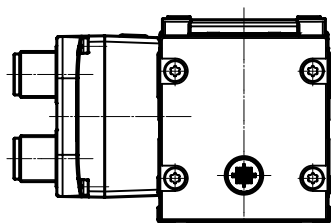
[ ] Standard



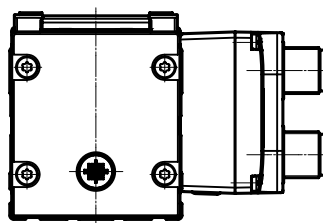
[D] Underneath



[F] Front



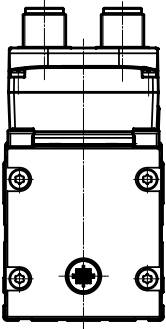
[B] Rear



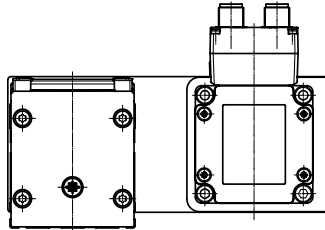
## Characteristics

### Motor attachment position

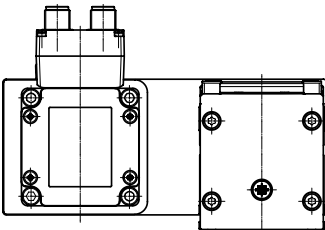
[L] Standard



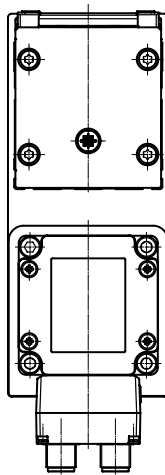
[PB] Parallel, rear



[PF] Parallel, front



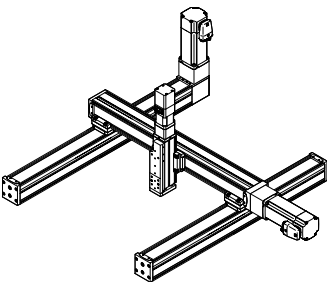
[PD] Parallel, bottom



### Electrical accessories

Connecting cable between the motor and IO-Link master

### Overview



- From the individual axis to the handling system, such as a cantilever system, planar surface gantry or three-dimensional gantry
- The toothed belt and spindle axes ELGC and mini slides EGSC form a scalable modular system for compact automation systems
- The common platform architecture provides an integrated range with matching interfaces. A large number of systems can be implemented completely without adapter plates
- High-performance drive and guide elements ensure a long service life as well as excellent load-bearing capacity and reliability
- The uniform and universal range of accessories reduces warehousing and design costs

## Type code

001	Series	
ELGS	Gantry axis	
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]	
100	100	
200	200	
300	300	
400	400	
500	500	
600	600	
800	800	
006	Spindle pitch	
	Standard	
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	
F	Front	
B	Rear	
013	Motor attachment position	
	Standard	
PB	Parallel, rear	
PF	Parallel, front	
PD	Parallel, bottom	
014	Electrical accessories	
	None	
L1	Adapter for operation as IO-Link® device	

## Datasheet

General technical data			
Size	32	45	60
Design	Electromechanical linear axis, With ball screw, With integrated drive		
Guide	Recirculating ball bearing guide		
Type of motor	Stepper motor		
Working stroke	100 mm; 200 mm; 300 mm; 400 mm; 500 mm; 600 mm; 800 mm		
Stroke reserve	0 mm		
Additional functions	User interface Integrated end-position sensing	User interface Built-in end-position sensing Integrated end-position sensing	User interface Integrated end-position sensing
Display	LED		
Referencing	Positive fixed stop block Negative fixed stop block		
Type of mounting	Via female thread Via centring sleeve and pin With accessories		
Mounting position	optional		
Max. cable length	15 m outputs 15 m inputs 20 m with IO-Link® operation		

Mechanical data			
Size	32	45	60
Reference value effective load, horizontal	2 kg	10 kg	20 kg
Reference value effective load, vertical	2 kg	5 kg	13 kg
Max. feed force F <sub>x</sub>	40 N	100 N	200 N
Max. speed <sup>1)</sup>	0.18 m/s	0.235 m/s; 0.25 m/s	0.215 m/s; 0.25 m/s
Speed "Speed press"	0.01 m/s		
Max. acceleration <sup>2)</sup>	3 m/s <sup>2</sup> ; 5 m/s <sup>2</sup>		
Repetition accuracy	±0.015 mm		±0.01 mm
Position detection	Motor encoder, Via proximity switch		

1) Adjustable in steps of 10%.

Rotational speed and speed are stroke-dependent.

For parallel motor mounting / for axial motor mounting

2) Parameter cannot be changed.

For parallel motor mounting / for axial motor mounting

Spindle			
Size	32	45	60
Spindle diameter	8 mm	10 mm	12 mm
Spindle pitch	8 mm/U	10 mm/U	12 mm/U

Electrical data			
Size	32	45	60
Nominal voltage DC	24 V		
Permissible voltage fluctuations	+/- 15%		
Nominal current	3 A		5.3 A
Max. current consumption	3 A		5.3 A
Max. current consumption, logic	0.3 A		
Rotor position sensor	Absolute single-turn encoder		
Rotor position sensor, encoder measuring principle	Magnetic		
Rotor position transducer resolution	16 bit		

## Datasheet

Interfaces			
Size	32	45	60
Parameterisation interface	IO-Link, User interface		
Working range of logic input	24 V		
Number of digital logic inputs	2		
Features of logic input	Configurable Not galvanically isolated		
Switching logic for inputs	NPN (negative switching) PNP (positive switching)		
Specification logic input	Based on IEC 61131-2, type 1		
Max. current digital logic outputs	100 mA		
Number of digital logic outputs 24 V DC	2		
Features of digital logic outputs	Configurable Not galvanically isolated		
Switching logic for outputs	NPN (negative switching) PNP (positive switching)		

Technical data IO-Link®			
Size	32	45	60
IO-Link, SIO-Mode support	Yes		
IO-Link, communication mode	COM3 (230.4 kBaud)		
IO-Link, Port class	A		
IO-Link, Number of ports	1		
IO-Link, Process data length OUT	2 bytes		
IO-Link, Process data content OUT	Move in 1 bit Move out 1 bit Quit Error 1 bit Move intermediate 1 bit		
IO-Link, Process data length IN	2 bytes		
IO-Link, Process data content IN	State In 1 bit State Out 1 bit State Move 1 bit State Device 1 bit State Intermediate 1 bit		
IO-Link, Service data IN	32-bit force 32-bit position 32-bit speed		
IO-Link, Min. cycle time	1 ms		
IO-Link, Data storage required	0.5 KB		
IO-Link, Protocol version	Device V 1.1		

## Datasheet

### Operating and ambient conditions

Size	32	45	60
Ambient temperature	0 ... 50°C		
Storage temperature	-20 ... 60°C		
Temperature monitoring	Switch-off for excessive temperature Integrated precise CMOS temperature sensor with analogue output		
Relative air humidity	0 - 90%		
Insulation protection class	B		
Protection class	III		
Degree of protection	IP40		
Duty cycle	100%		
CE mark (see declaration of conformity) <sup>1)</sup>	To EU EMC Directive In accordance with EU RoHS Directive		
CE marking (see declaration of conformity) <sup>2)</sup>	To UK instructions for EMC To UK RoHS instructions		
KC mark	KC-EMV		
Approval	RCM trademark		
Vibration resistance	Transport application test with severity level 1 to FN 942017-4 and EN 60068-2-6		
Shock resistance	Shock test with severity level 1 to FN 942017-5 and EN 60068-2-27		
Cleanroom class	Class 7 according to ISO 14644-1		
Maintenance interval	Life-time lubrication		

1) Further information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

2) Further information [www.festo.com/catalogue/...](http://www.festo.com/catalogue/...) → Support/Downloads.

### Weight

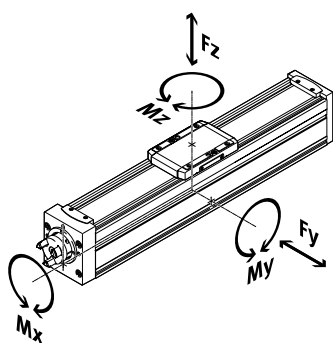
Size	32	45	60
Basic weight for 0 mm stroke <sup>1)</sup>	889 g; 1,053 g	1,354 g; 1,477 g	2,862 g; 3,126 g
Additional weight per 10 mm stroke	18 g	36 g	51 g
Moving mass	83.4 g	220 g	525 g

1) For axial motor mounting / for parallel motor mounting

### Materials

Size	32	45	60
Material profile	Anodised wrought aluminium alloy		
Material end cap	Painted die cast aluminium		
Material slide	Die-cast aluminium		
Material guide rail	Steel		
Material spindle	Steel		
Material spindle nut	Steel		
LABS (PWIS) conformity	VDMA24364 zone III		
Note on materials	RoHS-compliant		

### Permissible forces and torques



The indicated forces and torques refer to the centre of the guide. The point of application is the intersection of the centre of the guide and the centre of the length of the slide. They must not be exceeded in dynamic operation. Special attention must be paid to the deceleration process.



## Datasheet

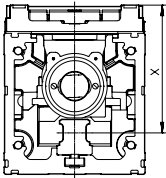
### Permissible forces and torques on the overall axis (strength limits)

Size	32	45	60
Max. force F <sub>y</sub> total axis	150 N	300 N	600 N
Max. force F <sub>z</sub> total axis	300 N	600 N	1,800 N
Max. moment M <sub>x</sub> total axis	1.3 Nm	5.5 Nm	29.1 Nm
Max. moment M <sub>y</sub> total axis	1.1 Nm	4.7 Nm	31.8 Nm
Max. moment M <sub>z</sub> total axis	1.1 Nm	4.7 Nm	31.8 Nm

### Permissible forces and torques for the guide calculation with reference service life

Size	32	45	60
Reference service life	5,000 km		
Max. force F <sub>y</sub>	356 N	880 N	3,641 N
Max. force F <sub>z</sub>	356 N	880 N	3,641 N
Max. moment M <sub>x</sub>	1.3 Nm	5.5 Nm	29.1 Nm
Max. moment M <sub>y</sub>	1.1 Nm	4.7 Nm	31.8 Nm
Max. moment M <sub>z</sub>	1.1 Nm	4.7 Nm	31.8 Nm

### Distance x from the slide surface to the centre of the guide



Distance x:

Size 32/45/60

Dimension x: 31.4 mm / 42.8 mm / 54.6 mm

### Calculating the load comparison factor

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

If the axis is subjected to several of the indicated forces and torques at the same time, the following equation must be satisfied in addition to the indicated maximum loads.

For a guide system to have a service life of 5000 km, the load comparison factor must have a value of  $f_v < 1$ , 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.

F1 / M1 = dynamic value

F2 / M2 = maximum value

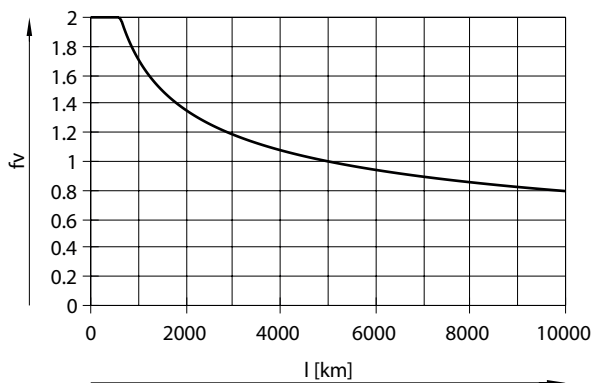
### Calculating the service life of the guide

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

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

## Datasheet

### Load comparison factor $f_v$ as a function of service life $l$



Example:

A user wants to move a X kg load. The calculation 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 results in a service life of 5000 km.

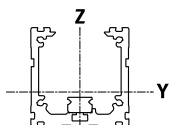
### Permissible forces and torques at a theoretical service life of 100 km (pure guide load)

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 roller 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 moments 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.

Size	32	45	60
$F_y$ at theoretical life value of 100 km (only guide consideration)	1,310 N	3,240 N	13,400 N
$F_z$ at theoretical life value of 100 km (only guide consideration)	1,310 N	3,240 N	13,400 N
$M_x$ at theoretical life value of 100 km (only guide consideration)	5 Nm	20 Nm	107 Nm
$M_y$ at theoretical life value of 100 km (only guide consideration)	4 Nm	17 Nm	117 Nm
$M_z$ at theoretical life value of 100 km (only guide consideration)	4 Nm	17 Nm	117 Nm

### 2nd moment of area



Size	32	45	60
2nd moment of area $I_y$	38,000 mm <sup>4</sup>	140,000 mm <sup>4</sup>	441,000 mm <sup>4</sup>
2nd moment of area $I_z$	45,000 mm <sup>4</sup>	170,000 mm <sup>4</sup>	542,000 mm <sup>4</sup>

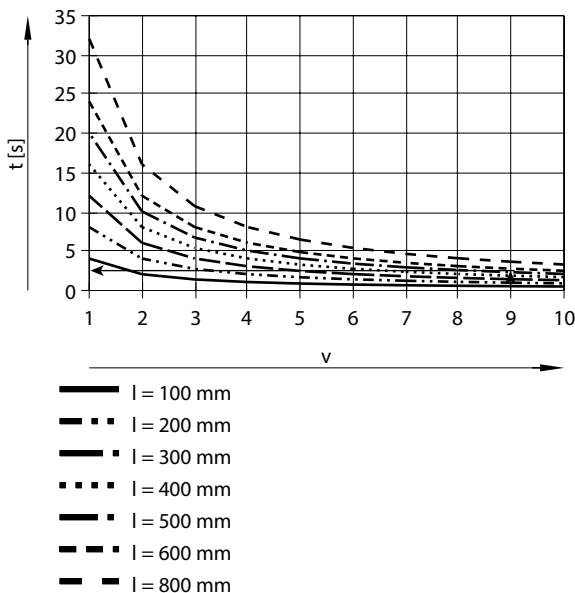
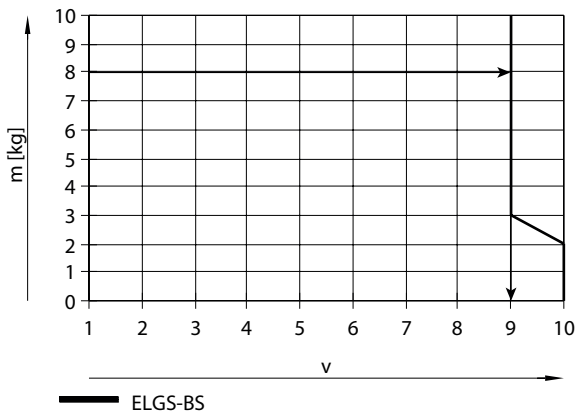
### Recommended deflection limits

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, more wear and reduced service life.

Size	32	45	60
Dynamic deflection (moving load)	0.05% of the axis length, max. 0.5 mm		
Static deflection (load in standstill)	0.1% of the axis length		

## Datasheet

### Sizing example



Application data:

- Payload: 8 kg
- Mounting position: horizontal
- Motor mounting position: axial
- Stroke: 400 mm
- Max. permissible positioning time: 4 s (one direction)

Step 1:

Smallest possible size from the table “Mechanical data”: ELGS-BS-KF-45

Step 2:

Selecting the max. speed level  $v$  for payload  $m$  (see diagram on the left)

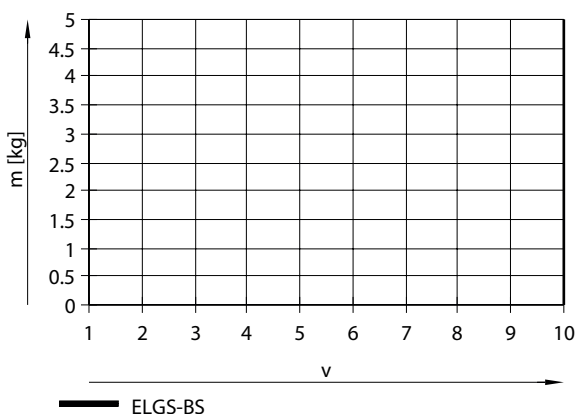
Step 3:

Reading off the min. positioning time  $t$  for stroke  $l$  (see diagram on the left)

Result: the application can be realised with ELGS-BS-KF-45-400. A minimum positioning time (one direction) of 2 s is achieved.

Longer positioning times can be selected at any time by using a lower speed setting.

### Mass $m$ as a function of speed level $v$ , with axial kit, horizontal mounting position for ELGS-BS-32

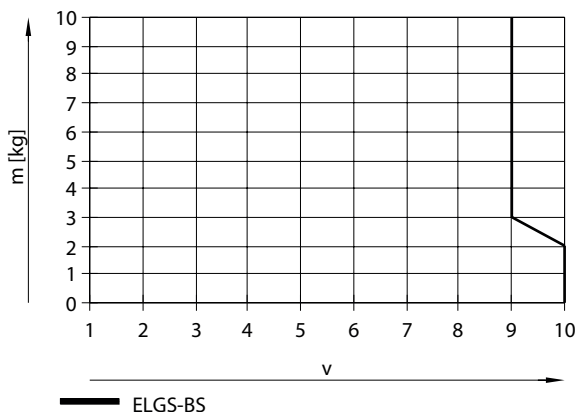


Note:

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

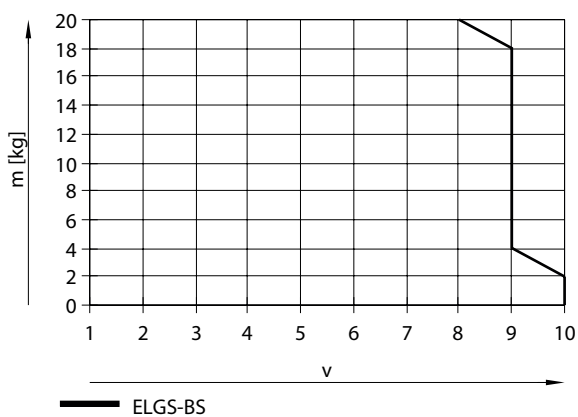
## Datasheet

Mass m as a function of speed level v, with axial kit, horizontal mounting position for ELGS-BS-45



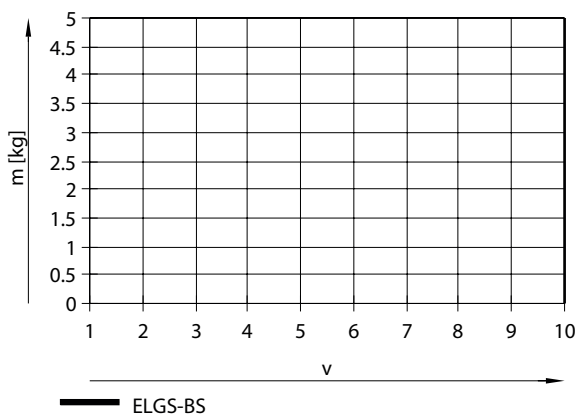
Note:  
The lines represent the maximum values. The lower speed settings can be set at any time.

Mass m as a function of speed level v, with axial kit, horizontal mounting position for ELGS-BS-60



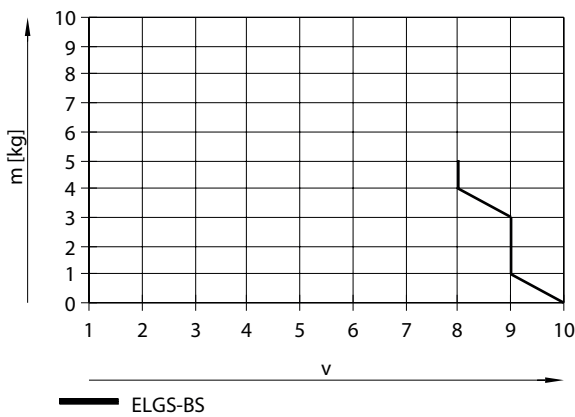
Note:  
The lines represent the maximum values. The lower speed settings can be set at any time.

Mass m as a function of speed level v with axial kit, vertical mounting position for ELGS-BS-32



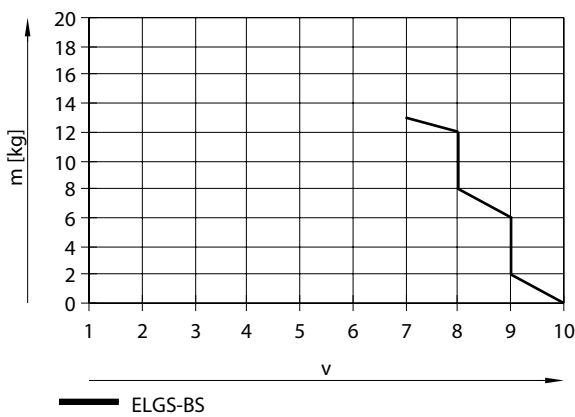
Note:  
The lines represent the maximum values. The lower speed settings can be set at any time.

## Datasheet

Mass  $m$  as a function of speed level  $v$  with axial kit, vertical mounting position for ELGS-BS-45

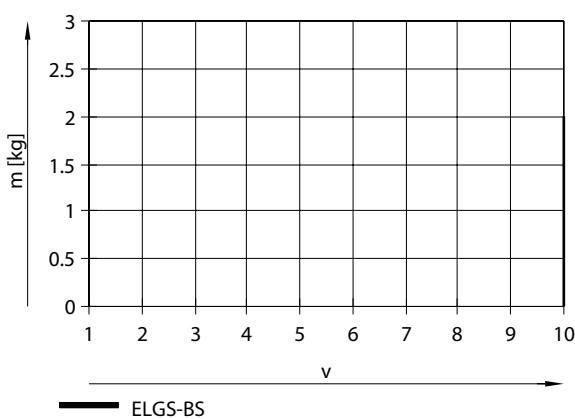
Note:

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

Mass  $m$  as a function of speed level  $v$  with axial kit, vertical mounting position for ELGS-BS-60

Note:

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

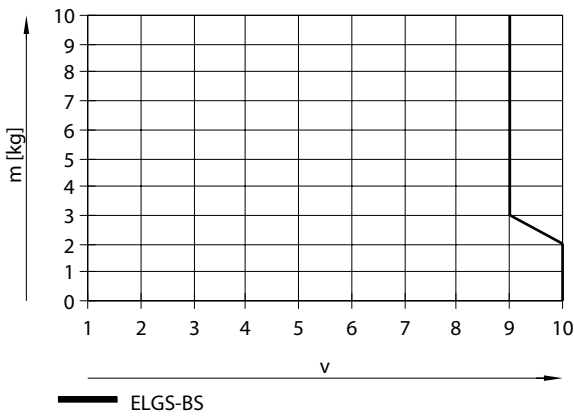
Mass  $m$  as a function of speed level  $v$  with parallel kit, horizontal mounting position for ELGS-BS-32

Note:

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

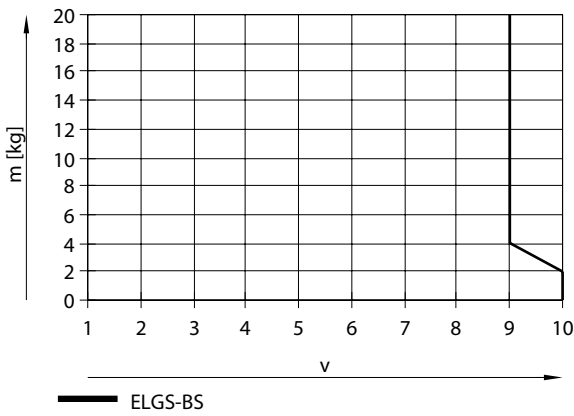
Datasheet

Mass m as a function of speed level v with parallel kit, horizontal mounting position for ELGS-BS-45



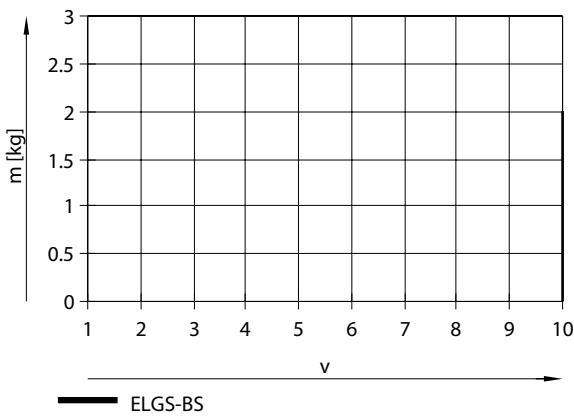
Note:  
The lines represent the maximum values. The lower speed settings can be set at any time.

Mass m as a function of speed level v with parallel kit, horizontal mounting position for ELGS-BS-60



Note:  
The lines represent the maximum values. The lower speed settings can be set at any time.

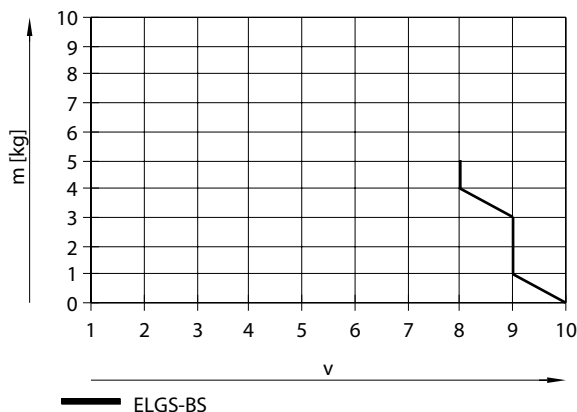
Mass m as a function of speed level v with parallel kit, vertical mounting position for ELGS-BS-32



Note:  
The lines represent the maximum values. The lower speed settings can be set at any time.

## Datasheet

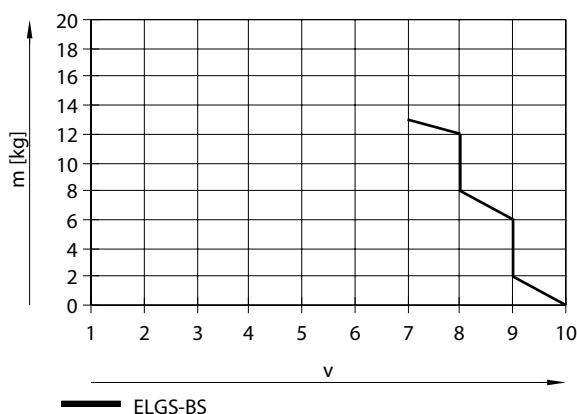
Mass  $m$  as a function of speed level  $v$  with parallel kit, vertical mounting position for ELGS-BS-45



Note:

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

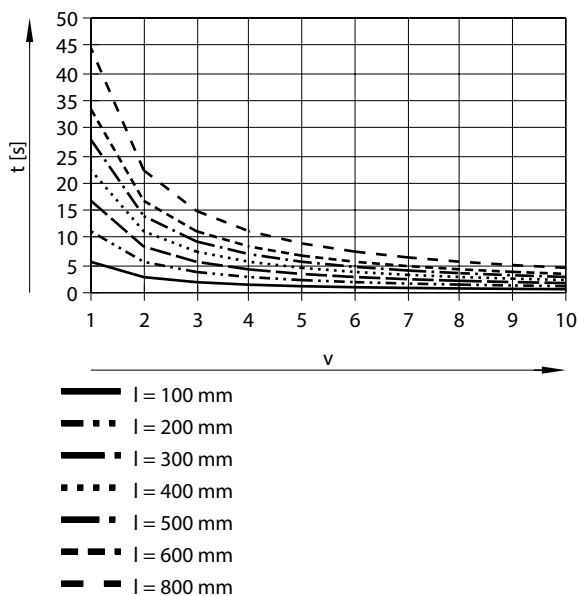
Mass  $m$  as a function of speed level  $v$  with parallel kit, vertical mounting position for ELGS-BS-60



Note:

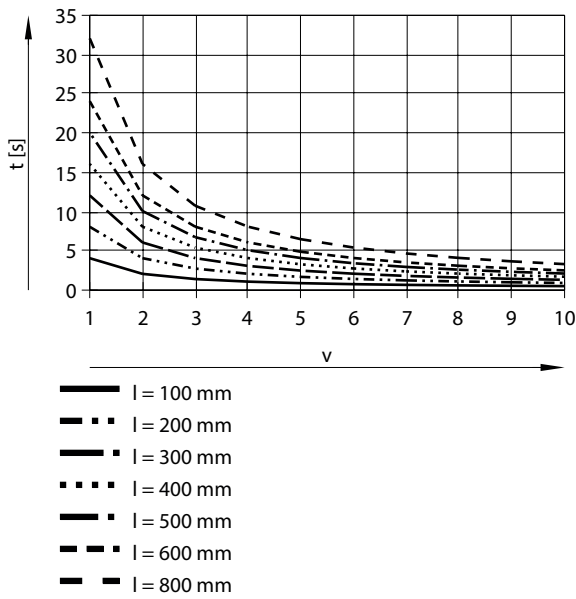
The lines represent the maximum values. The lower speed settings can be set at any time.

Positioning time  $t$  as a function of speed level  $v$  and stroke  $l$  with axial kit for ELGS-BS-32

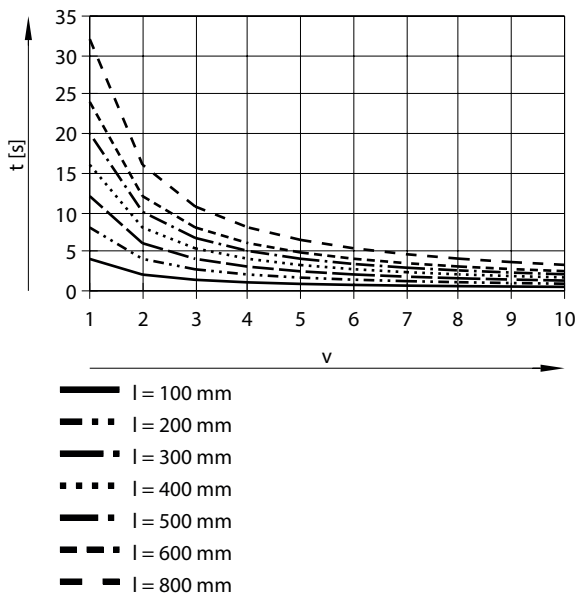


Datasheet

Positioning time  $t$  as a function of speed level  $v$  and stroke  $l$  with axial kit for ELGS-BS-45



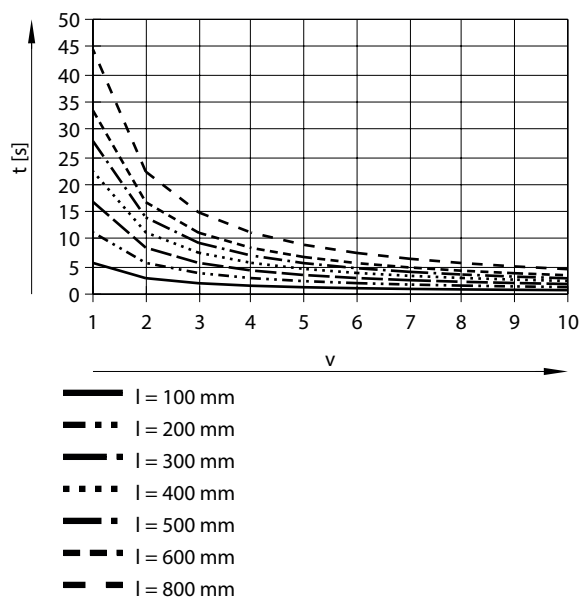
Positioning time  $t$  as a function of speed level  $v$  and stroke  $l$  with axial kit for ELGS-BS-60



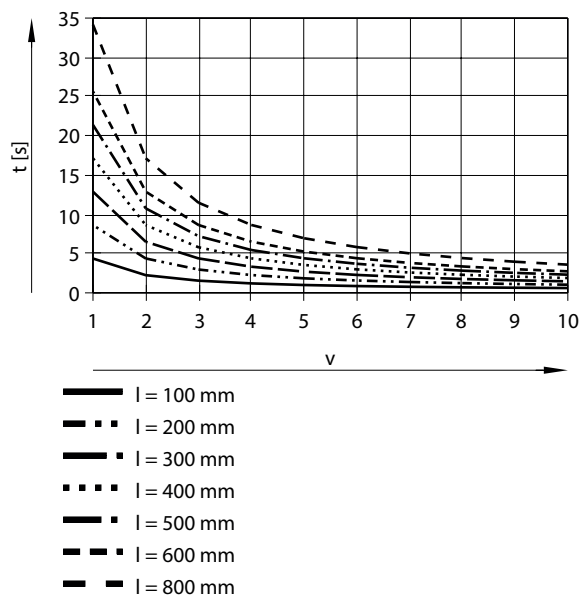


## Datasheet

Positioning time  $t$  as a function of speed level  $v$  and stroke  $l$  with parallel kit for ELGS-BS-32

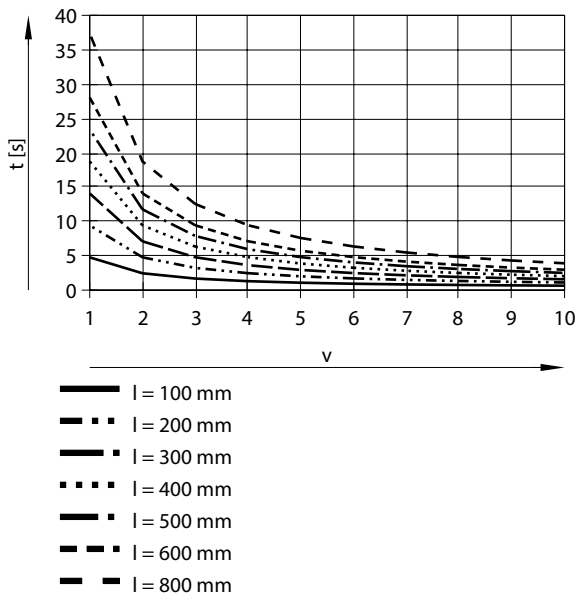


Positioning time  $t$  as a function of speed level  $v$  and stroke  $l$  with parallel kit for ELGS-BS-45

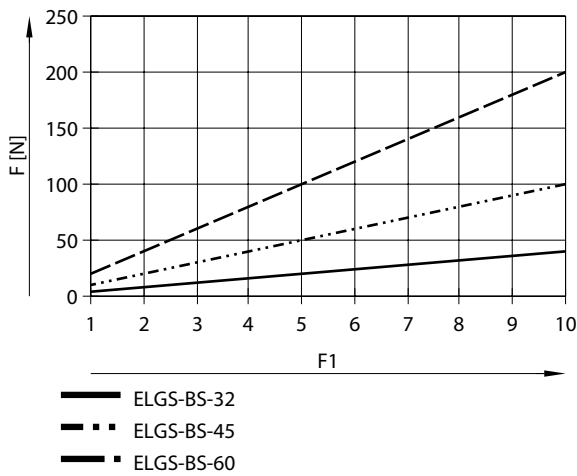


Datasheet

Positioning time  $t$  as a function of speed level  $v$  and stroke  $l$  with parallel kit for ELGS-BS-60

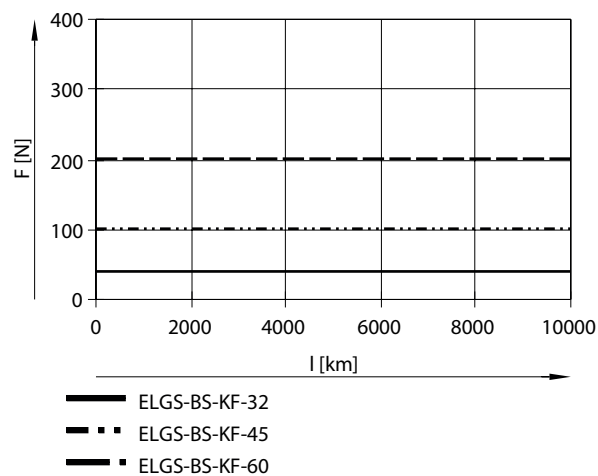


Feed force  $F$  as a function of force level  $F_1$

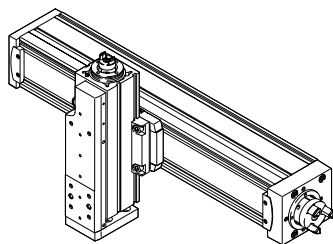


## Datasheet

### Feed force F as a function of service life l



### Combinations between axis ELGC, ELGS, mini slide EGSC-BS, EGSS-BS, electric cylinder EPCC, EPCS and guide axis ELFC

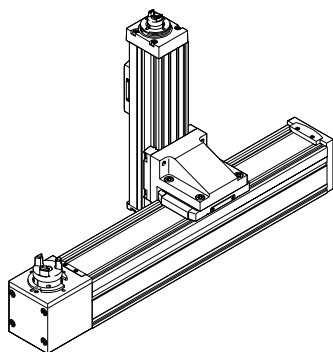


Mounting options with profile mounting EAHF-L2-...-P-D

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

1. Base axis:  
Product: ELGC, ELGS, ELFC  
Size 32, 45, 60, 80
2. Assembly axis:  
Product: ELGC, ELGS, EGSC, EGSS, EPCC, EPCS, ELFC  
Size 25, 32, 45, 60

### Combinations between axis ELGC, ELGS, mini slide EGSC-BS, EGSS-BS, electric cylinder EPCC, EPCS and guide axis ELFC



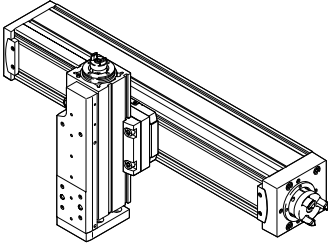
Mounting options with angle kit EHAA-D-L2-...-AP

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

1. Base axis:  
Product: ELGC, ELGS, ELFC  
Size 32, 45, 60, 80
2. Assembly axis:  
Product: ELGC, ELGS, EGSC, EGSS, EPCC, EPCS, ELFC  
Size 25, 32, 45, 60

## Datasheet

### Combinations between axis ELGC, ELGS, mini slide EGSC-BS, EGSS-BS, electric cylinder EPCC, EPCS and guide axis ELFC



Mounting options with adapter kit EHAA-D-L2

- Mounting option: base axis with 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

1. Base axis:

Product: ELGC, ELGS, ELFC

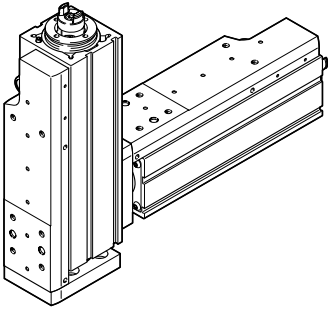
Size 32, 45, 60, 80

2. Assembly axis:

Product: ELGC, ELGS, EGSC, EGSS, EPCC, EPCS, ELFC

Size 25, 32, 45, 60, 80

### Combinations between mini slides EGSC-BS, EGSS-BS



Mounting options with direct mounting

- Mounting option: base axis with same size assembly axis

1. Base axis:

Product: EGSC, EGSS

Size 25, 32, 45, 60

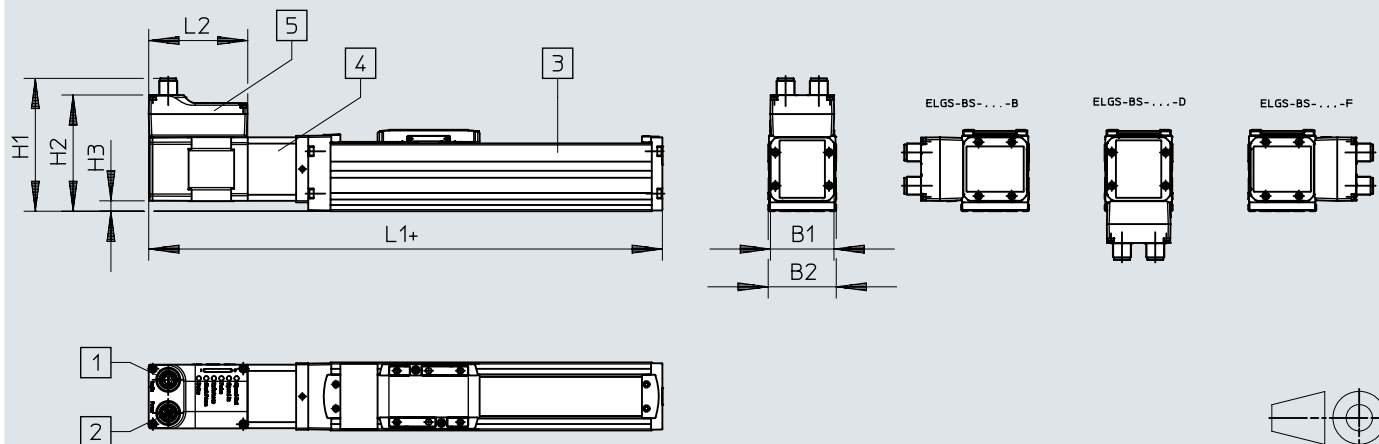
2. Assembly axis:

Product: EGSC, EGSS

Size 25, 32, 45, 60

## Dimensions

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



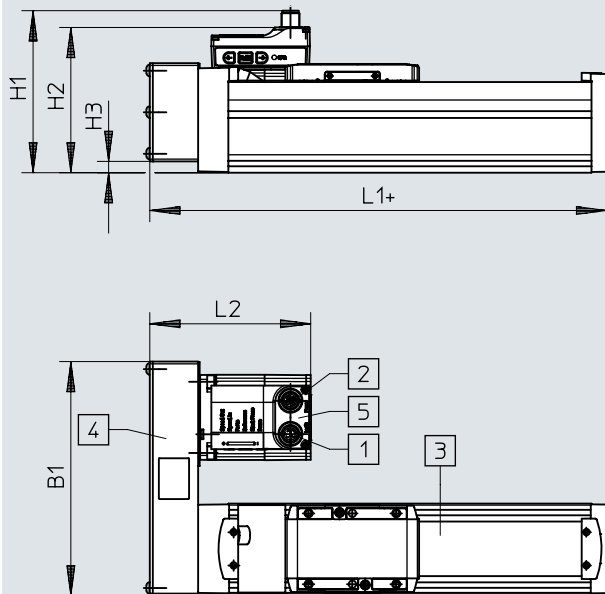
- [1] Connection to logic interface
- [2] Connection to power supply
- [3] Axis
- [4] Axial kit
- [5] Motor
- [6] + = plus stroke length

	B1	B2	H1	H2	H3	L1	L2
ELGS-BS-KF-32	42,3	32	81,2	70	1,2	209,5	65
ELGS-BS-KF-45	42,3	45	88	76,8	6,8	239,3	65
ELGS-BS-KF-60	56,6	60	107,3	96,1	10,5	287	73,5

## Dimensions

Dimensions – With parallel motor mounting, size 32/45/60

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



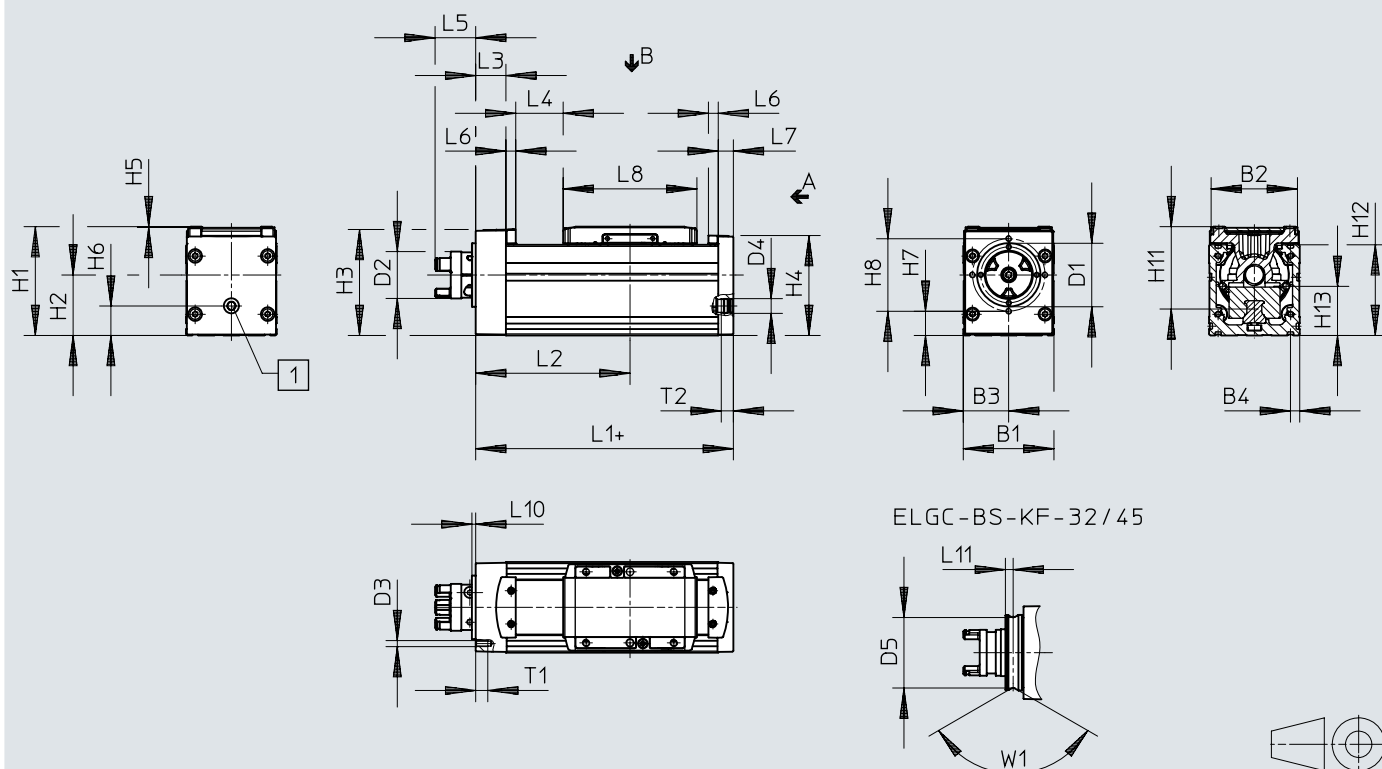
- [1] Connection to logic interface
- [2] Connection to power supply
- [3] Axis
- [4] Parallel kit
- [5] Motor
- [6] + = plus stroke length

	B1	H1	H2	H3	L1	L2
ELGS-BS-KF-32	111	80	69	-2,5	128,5	93
ELGS-BS-KF-45	111	88	76	5,4	158,3	93
ELGS-BS-KF-60	155	107	96	7,5	202,5	106,5

## Dimensions

Dimensions – Spindle axis units ELGS-BS, size 32/45/60

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



- [1] Sealing air connection (D4)
- [2] L4 = End position zero stroke
- [3] + = plus stroke length

	B1	B2	B3	B4	D1 ∅	D2 ∅	D3	D4	D5 ∅	H1	H2
ELGS-BS-KF-32	32	29,6	16	4,9	25	16,5	–	M5	23	38,5	20
ELGS-BS-KF-45	45	42,6	22,5	6,1	32	16,5	–	G1/8	29,6	54	27,9
ELGS-BS-KF-60	60	57,1	30	6,1	42	31	M4	G1/8	–	72	40

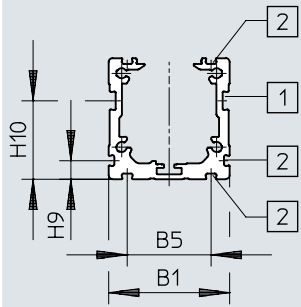
	H3	H4	H5	H6	H7	H8	H11	H12	H13	L1	L2 min.
ELGS-BS-KF-32	36,3	35,6	0,3	8	–	–	31,4	32	13,7	104,5	57,9
ELGS-BS-KF-45	50,8	49,6	0,5	12,5	–	–	42,8	45	18,5	134,3	79,7
ELGS-BS-KF-60	70,1	66,1	0,5	19,5	16	48	54,6	60	32,5	170,5	102,1

	L3	L4	L5	L6	L7	L8	L10	L11	T1	T2	W1
ELGS-BS-KF-32	10,5	13,4	19,9	4,5	5	59	6	2,6	–	5,5	120°
ELGS-BS-KF-45	14,8	24,6	19,9	6,5	7	67,5	6	2,9	–	8	90°
ELGS-BS-KF-60	20	31,4	26,9	6,5	10	88,5	2,5	–	8	8	–

## Dimensions

### Dimensions – Profile, size 32

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



- [1] = Slot for sensor bracket
- [2] = Mounting slot

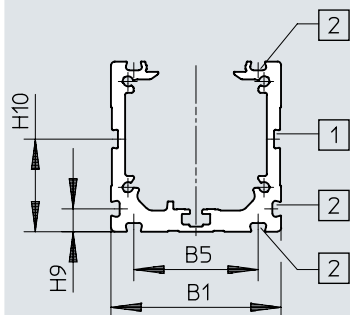
	B1	B2	B3	B4
ELGS-BS-KF-32	32	22,2	4,9	20,8



## Dimensions

### Dimensions – Profile, size 45

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



[1] = Slot for sensor bracket

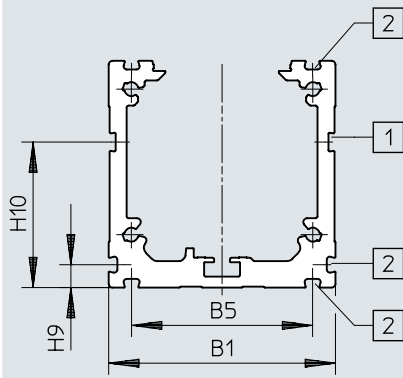
[2] = Mounting slot

	B1	B2	B3	B4
ELGS-BS-KF-45	45	32,9	6,1	24,5

## Dimensions

### Dimensions – Profile, size 60

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



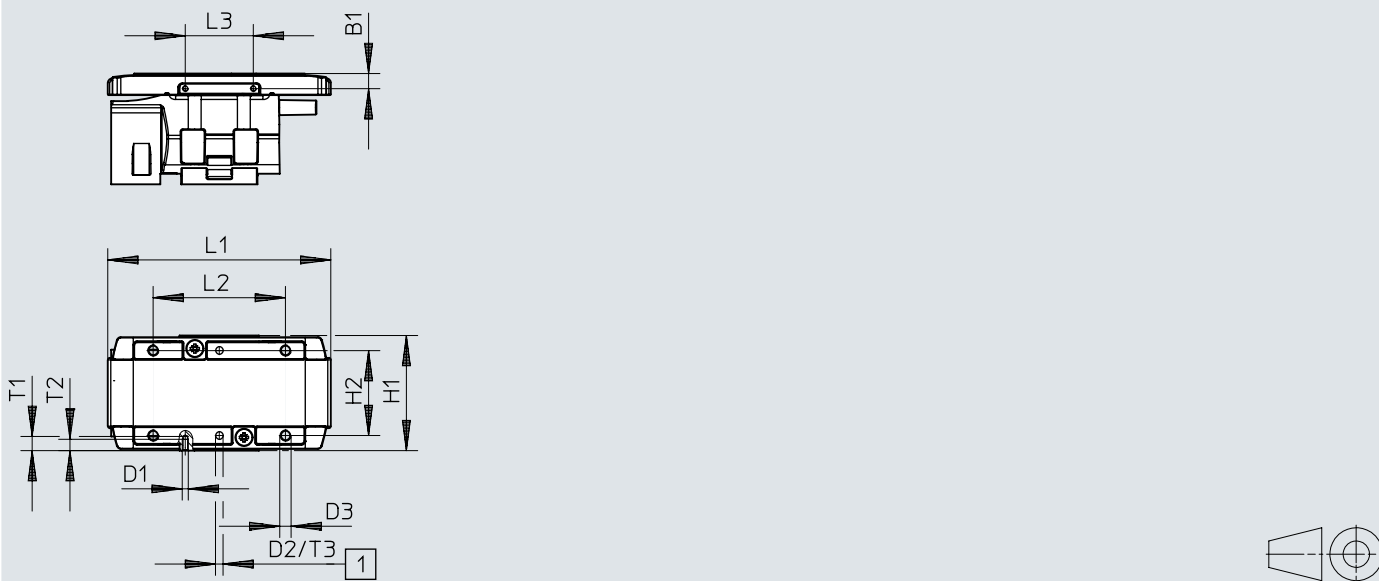
- [1] = Slot for sensor bracket
- [2] = Mounting slot

	B1	B2	B3	B4
ELGS-BS-KF-60	60	47,9	6,1	38,5

## Dimensions

### Dimensions – Slide, size 32

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



[1] Drilled hole for centring pin ZBS

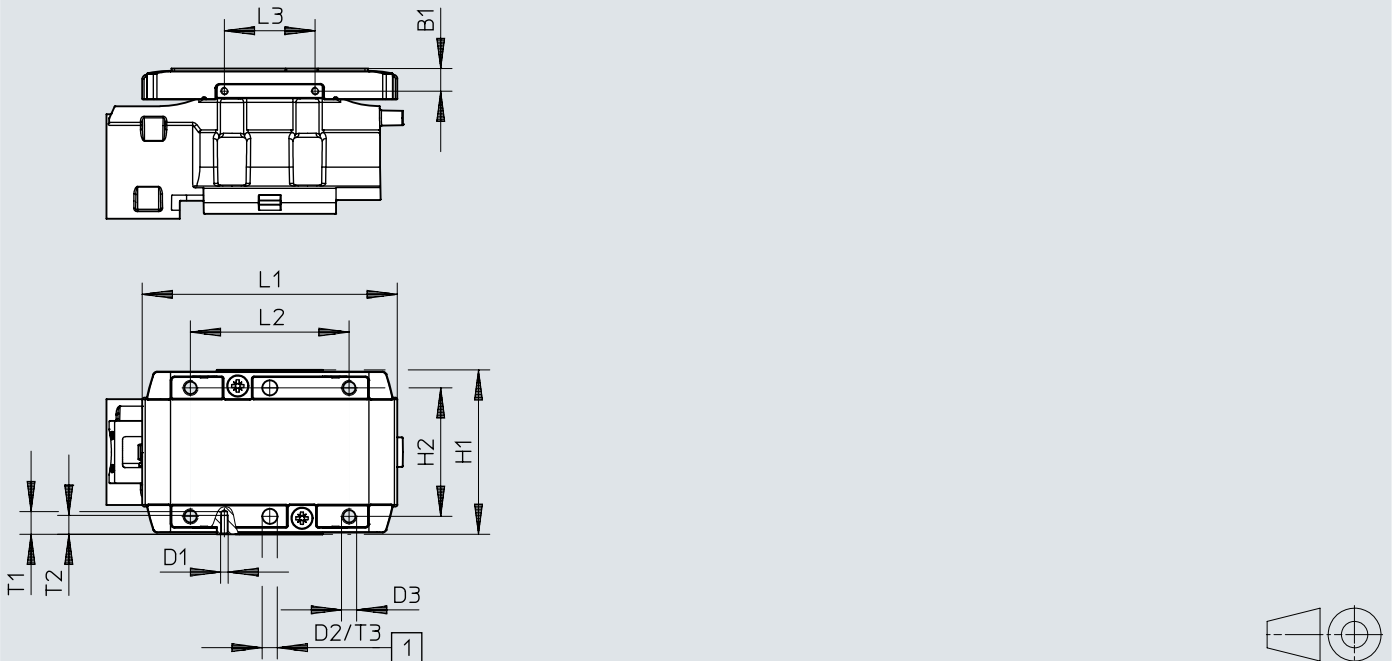
	B1	D1	D2 ∅ H8	D3	H1	H2 ±0,1 D2 ±0,03	L1	L2	L3	T1	T2	T3	T4 <sup>1)</sup>
ELGS-BS-KF-32	±0,1 4	M1,6	2	M3	±0,1 30,5	±0,1 22,5	59	±0,1 35	±0,1 18	3,8	3	+0,1 3,1	4 ... 5

1) Recommended screw-in depth

## Dimensions

Dimensions – Slide, size 45

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



[1] Drilled hole for centring pin ZBS

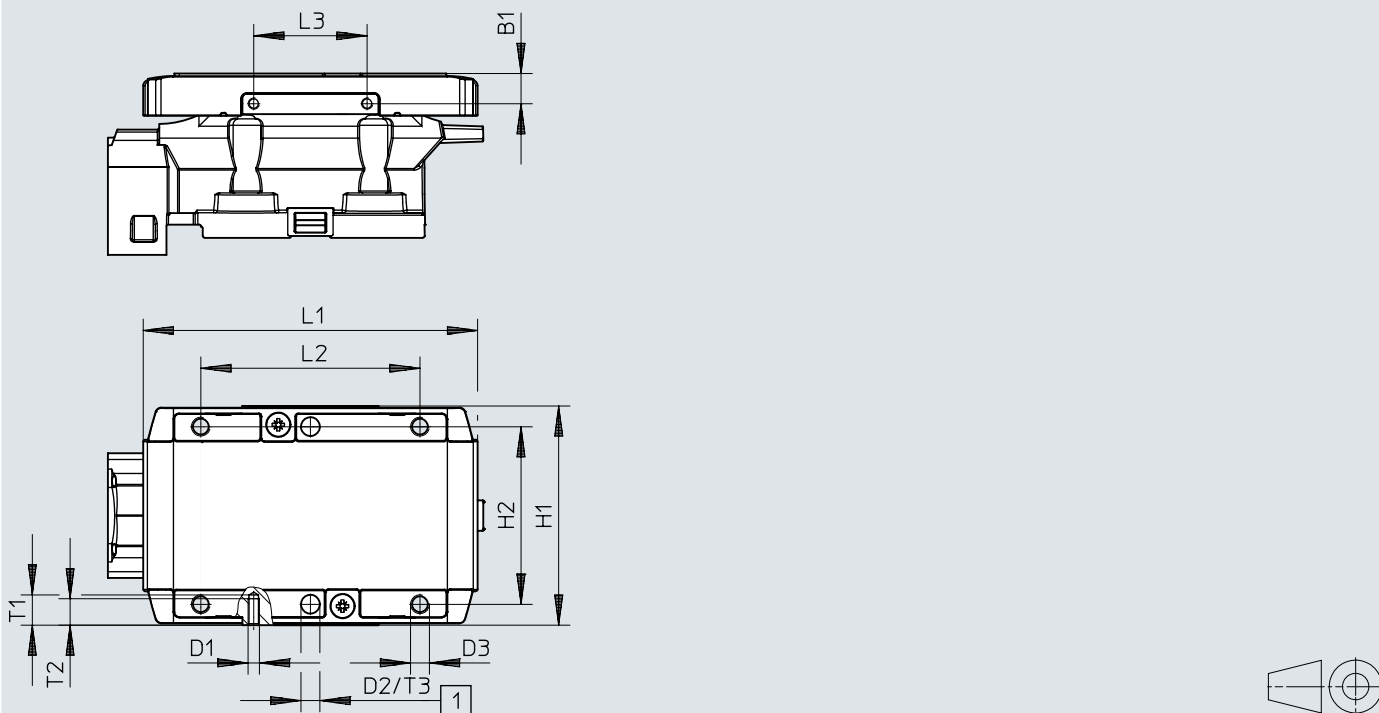
	B1	D1	D2 ∅ H8	D3	H1	H2 ±0,1 D2 ±0,03	L1	L2	L3	T1	T2	T3	T4 <sup>1)</sup>
ELGS-BS-KF-45	±0,1 6	M2	4	M4	±0,1 43,5	34	67,5	±0,1 42	±0,1 24	6	5	±0,1 3,1	6 ... 7,5

1) Recommended screw-in depth

## Dimensions

### Dimensions – Slide, size 60

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



[1] Hole for centring sleeve ZBH

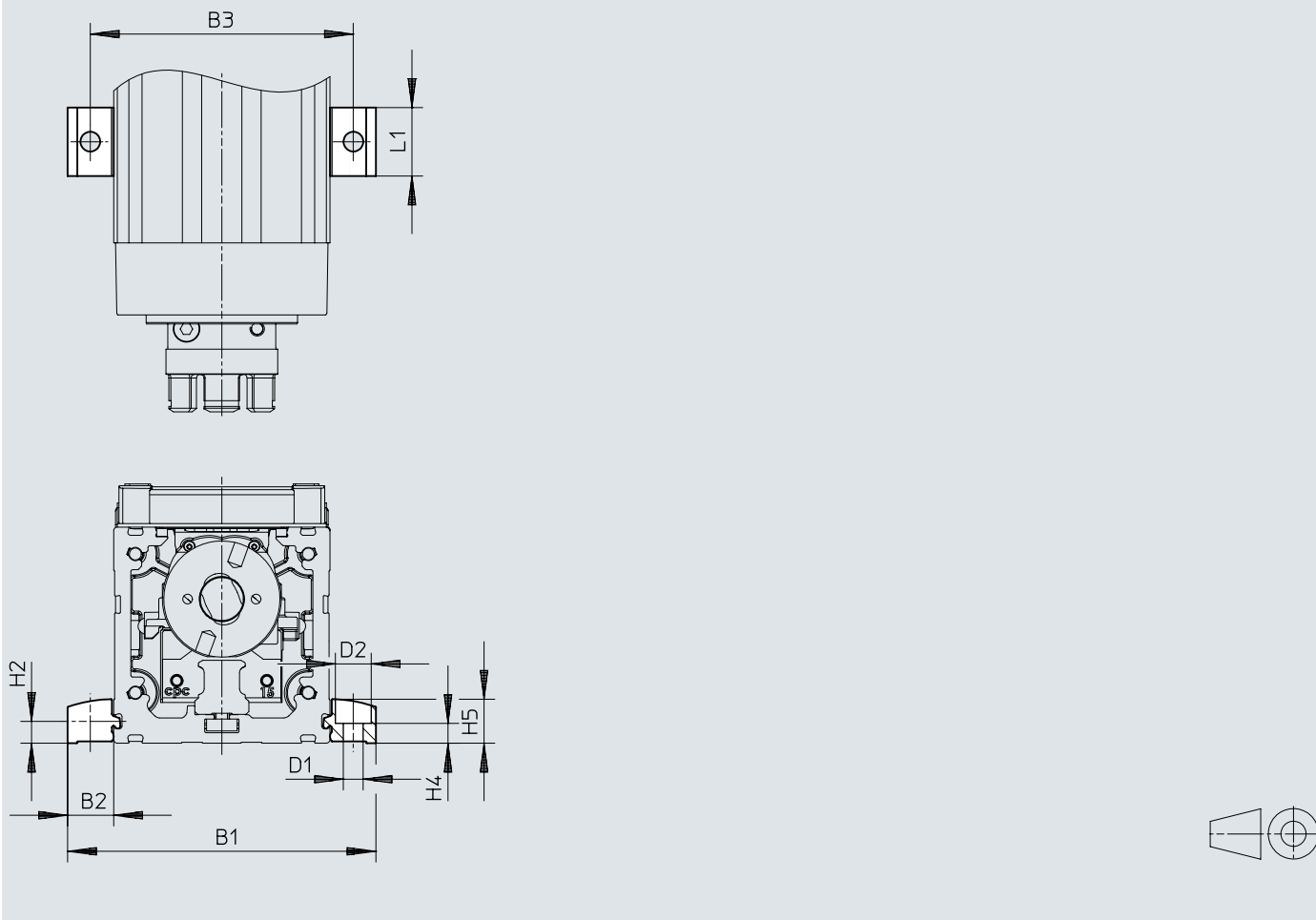
	B1	D1	D2 ∅ H8	D3	H1	H2 ±0,1 D2 ±0,03	L1	L2	L3	T1	T2	T3	T4 <sup>1)</sup>
ELGS-BS-KF-60	±0,1 8	M3	5	M5	±0,1 58	47	88,5	±0,1 58	±0,1 30	9	7	±0,1 1,3	8,5 ... 10

1) Recommended screw-in depth

## Dimensions

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

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

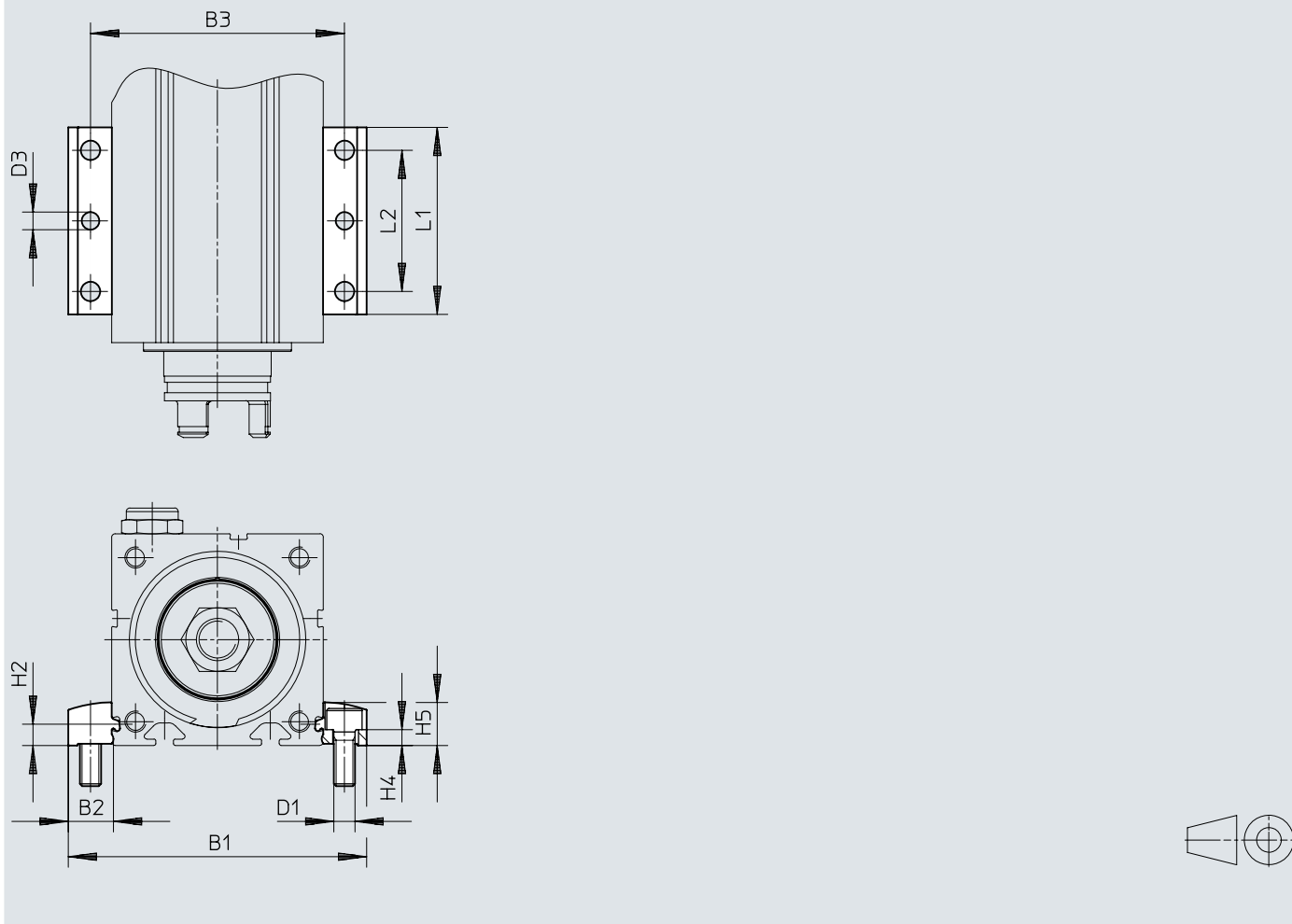


		B1	B2	B3	D1 ∅ H13	D2 ∅ H13	H2	H4 ±0,1	H5	L1
EAHF-L2-25-P-S	ELGS-BS-KF-32	51,4	9,7	42	4,5	8	4,9	4,2	9	19
EAHF-L2-45-P-S	ELGS-BS-KF-45	70,6	12,8	58	5,5	10	6,1	5,5	12,2	19
	ELGS-BS-KF-60	85,6	12,8	73	5,5	10	6,1	5,5	12,2	19

## Dimensions

Dimensions – Profile mounting EAHF-L2-...-P

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

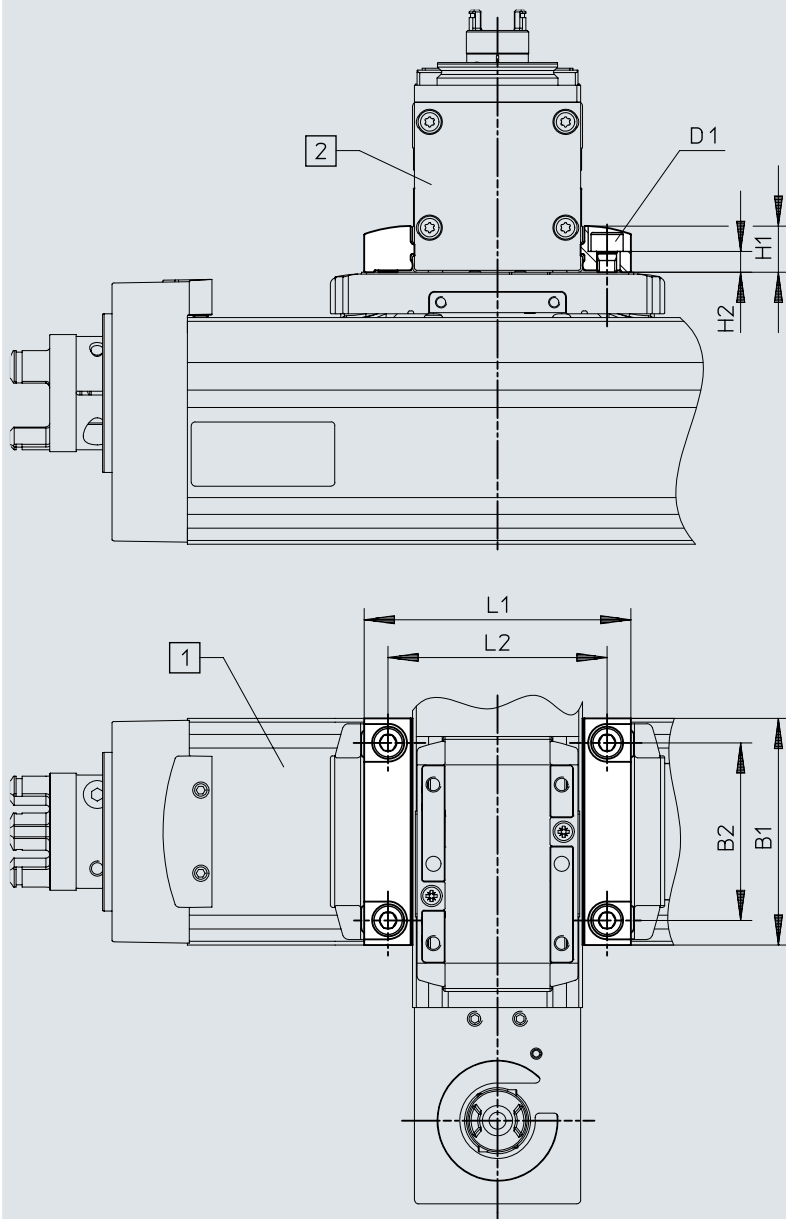


		B1	B2	B3	D1 ∅ H13	D2 ∅ H13	D3 ∅	H2	H4 ±0,1	H5	L1	L2
EAHF-L2-25-P	ELGS-BS-KF-32	51,4	9,7	42	4,5	8	4	4,9	4,2	9	53	40
EAHF-L2-45-P	ELGS-BS-KF-45	70,6	12,8	58	5,5	10	5	6,1	5,5	12,2	53	40
	ELGS-BS-KF-60	85,6	12,8	73	5,5	10	5	6,1	5,5	12,2	53	40

## Dimensions

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

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



[1] Base axis ELGC/ELGS/ELFC

[2] Assembly axis ELGC/ELGS/ELFC/EGSC

[3] Screw: size 32 – ISO 4762-M3x10-10.9; size 45 – ISO 4762-M4x10-8.8; size 60 – ISO 4762-M5x16-10.9; size 80 – ISO 4762-M6x16-10.9

	1)	B1	B2	D1	H1	H2 ±0,1	L1	L2
EAHF-L2-25-P-D2	45/32	45	34	M4	9	3,7	51,4	42
EAHF-L2-45-P-D3	60/45	60	47	M5	12,2	5,5	70,6	58

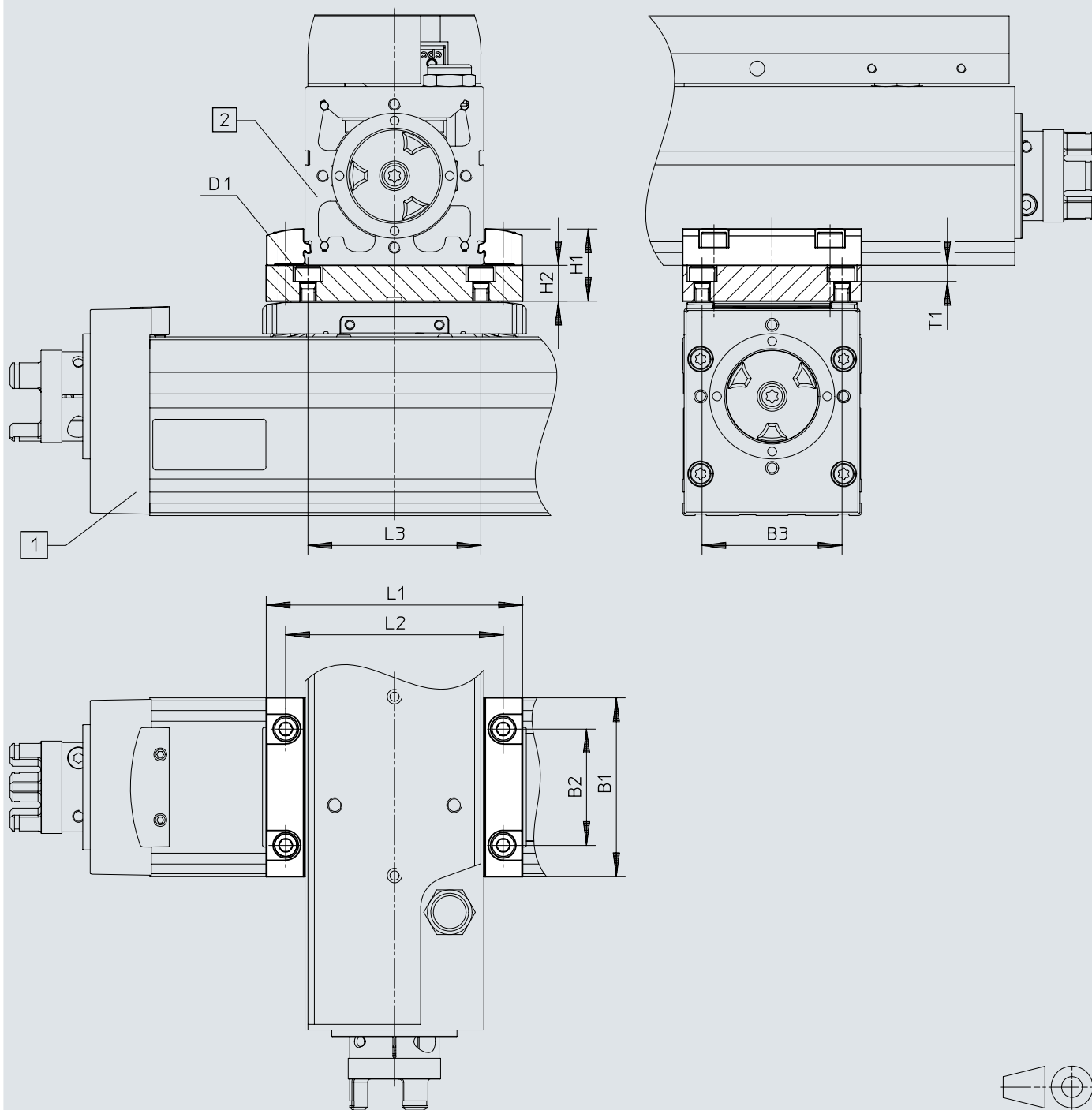
1) Base axis/assembly axis



## Dimensions

Dimensions – Adapter kit EHAA-D-L2

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



- [1] Base axis ELGC/ELGS/ELFC
- [2] Assembly axis ELGC/ELGS/ELFC/EGSC

## Dimensions

	1)	B1	B3 ±0,05	D1	H1	H2	L1	L2	L3	T1
EHAA-D-L2-45-L2-45	45/32	45	34	M4	19	10	51,4	42	42	5,4
EHAA-D-L2-60-L2-60	60/45	60	47	M5	24,2	12	70,6	58	58	5,4

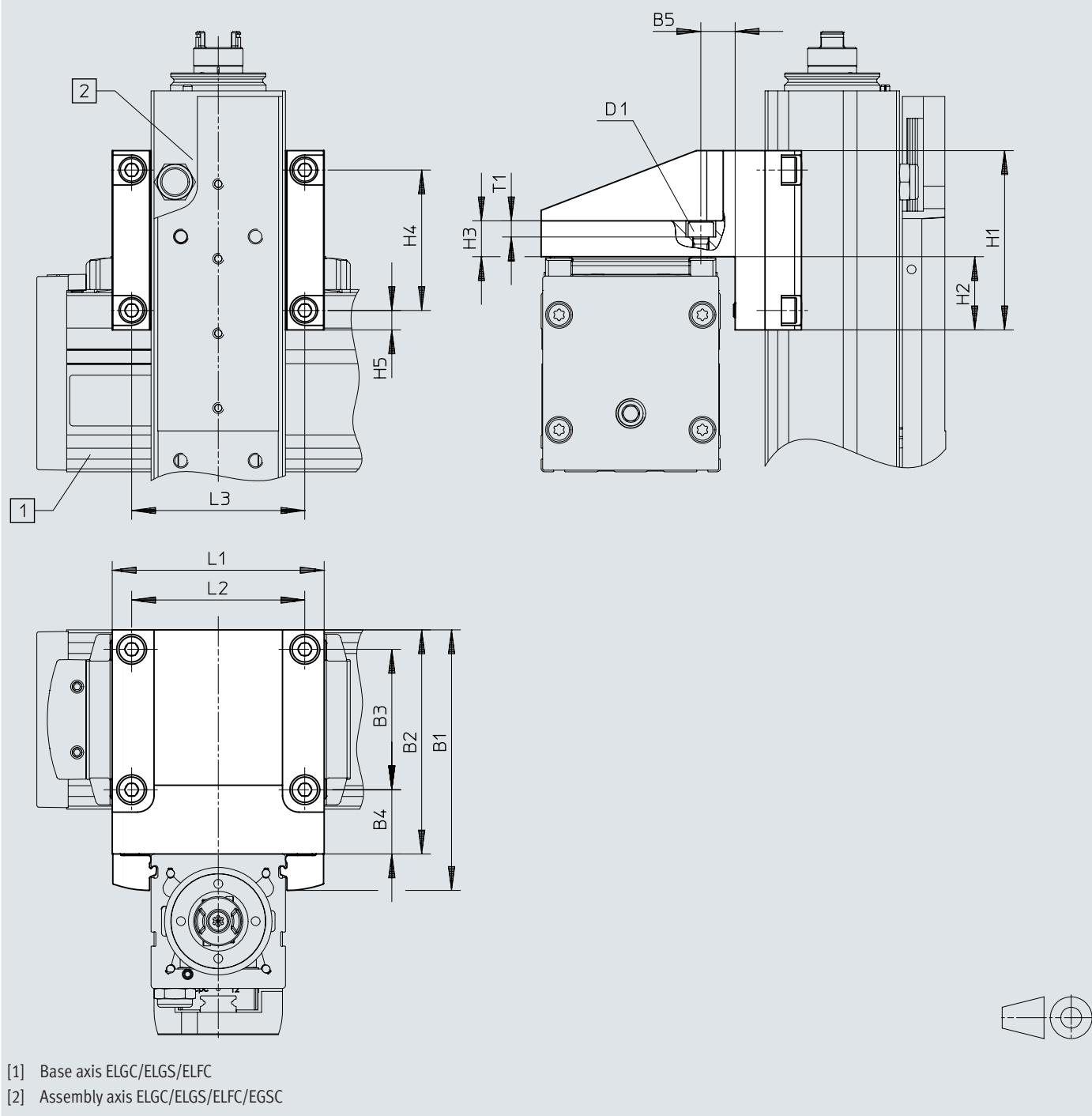
	1)	B1	B2	B3 ±0,05	D1	H1	H2	L1	L2	L3	T1
EHAA-D-L2-45-L2-45	45/45	45	32	34	M4	22,2	10	71	58	42	5,4
EHAA-D-L2-60-L2-60	60/60	60	39	47	M5	24,2	12	86	73	58	5,4

1) Base axis/assembly axis

## Dimensions

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

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



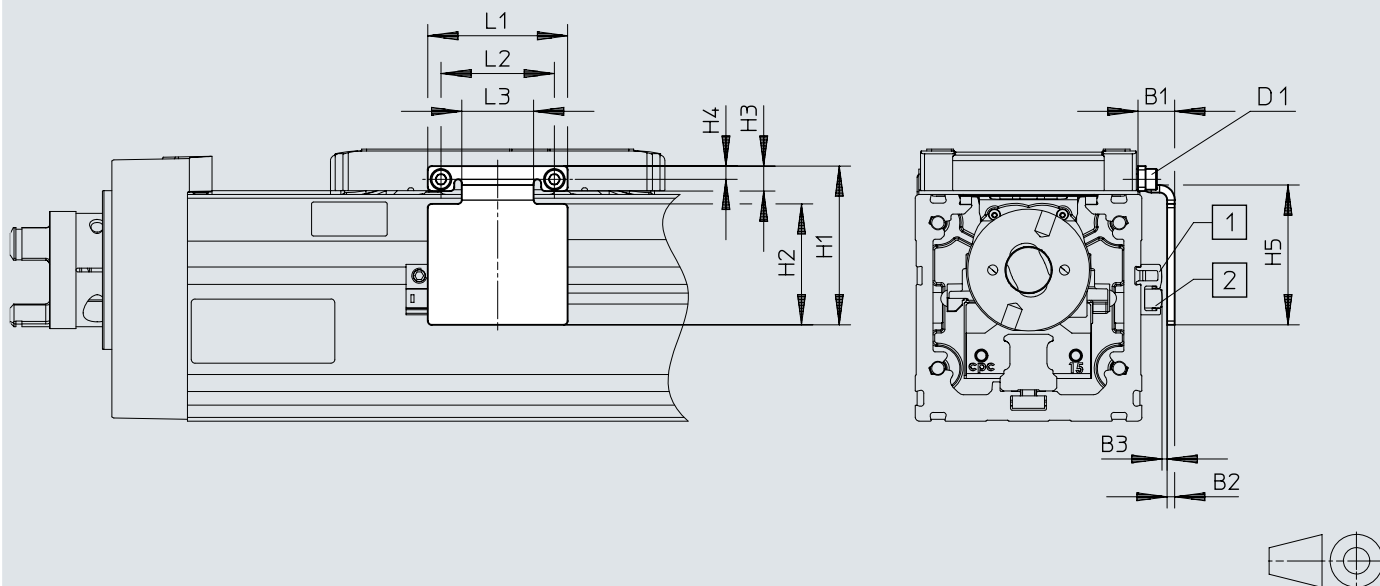
	1)	B1	B2	B3	B4	B5	D1	H1	H2	H3	H4	H5	L1	L2	L3	T1
EHAA-D-L2-45-L2-32-AP	45/32	69	60	34	20,5	11,5	M4	45	17,5	10	34	5,5	52	42	42	5,4
EHAA-D-L2-60-L2-45-AP	60/45	87,2	75	47	21,5	11,5	M5	60	24,5	12	47	6,5	71	58	58	5,4

1) Base axis/assembly axis

## Dimensions

Dimensions – Switch lug EAPM-L2-SLS

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



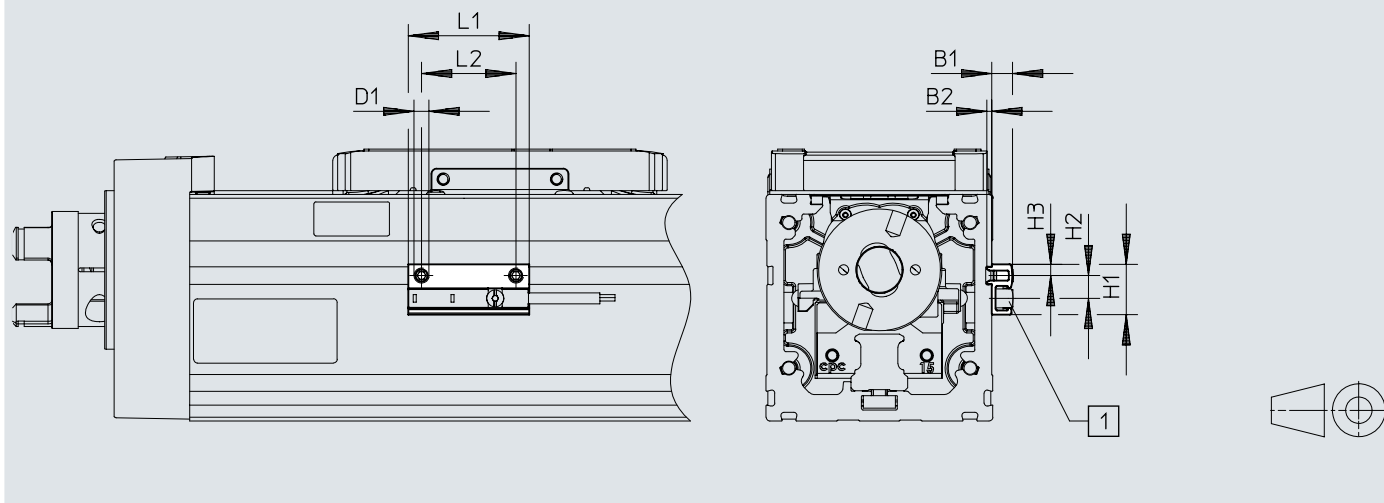
- [1] Sensor bracket
- [2] Proximity switch

		B1	B2	B3	D1	H1 ±0,2	H2	H3	H4	H5 ±0,2	L1 ±0,2	L2 ±0,15	L3
EAPM-L2-32-SLS	ELGS-BS-KF-32	9,2	2	1,0±0,31	M1,6	27	19	4,3	2,5	24	22	18	10
EAPM-L2-45-SLS	ELGS-BS-KF-45	9,4	2	1,2±0,31	M2	37	28	5,5	3,3	33	30	24	14
EAPM-L2-60-SLS	ELGS-BS-KF-60	9,7	2	1,3±0,31	M3	37	32	6,6	3,5	37	42	30	19

## Dimensions

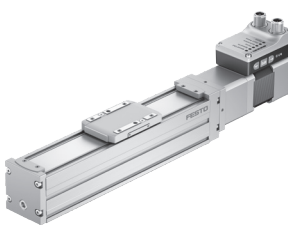
### Dimensions – Sensor bracket EAPM-L2-SH


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



		B1	B2	D1	H1	H2	H3	L1	L2
EAPM-L2-SH	ELGS-BS-KF-32	5,5	1,3	M4	13,4	6	3	32	25
	ELGS-BS-KF-45								
	ELGS-BS-KF-60								

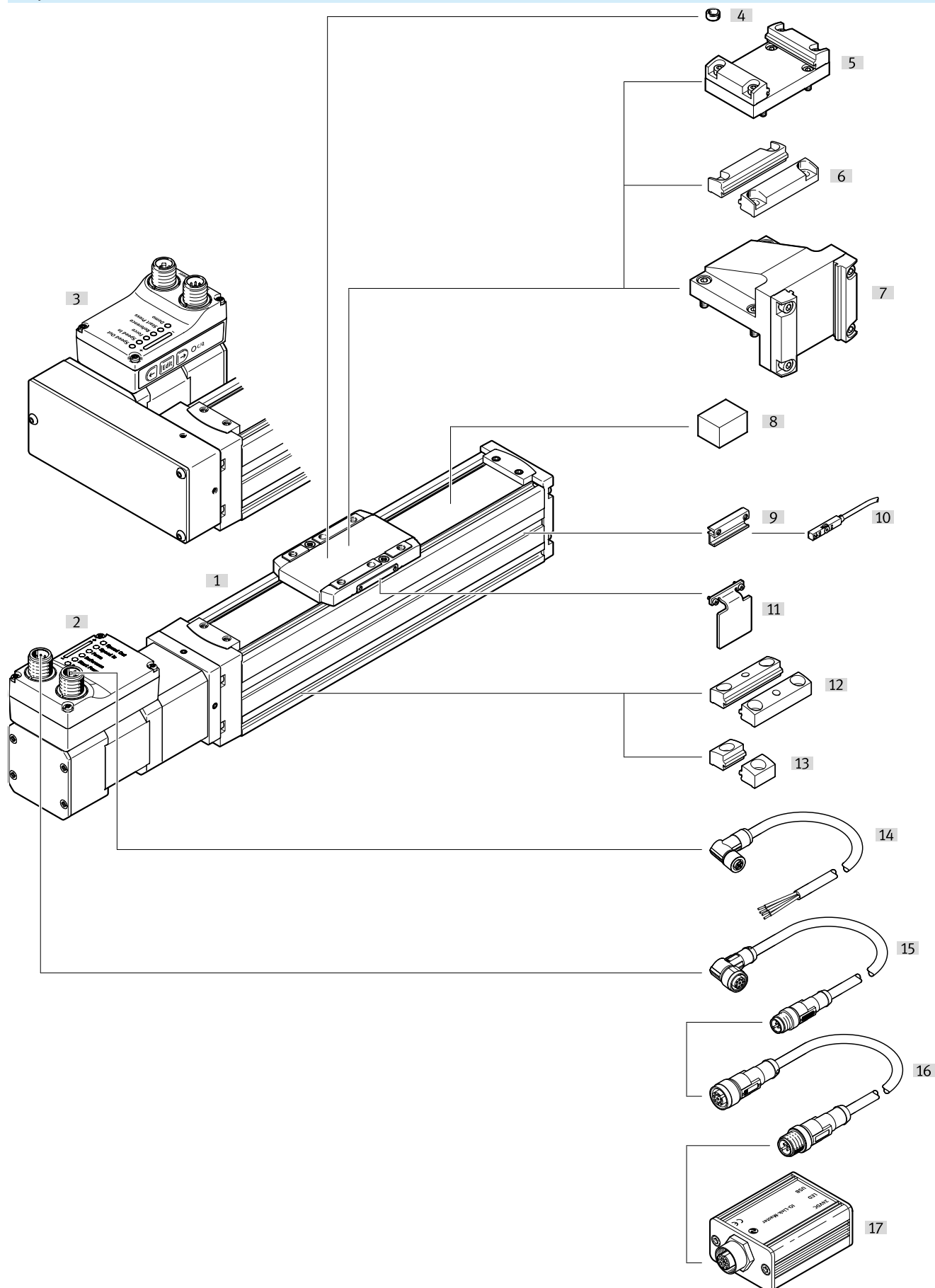
Ordering data

With ball screw					
	Size	Spindle pitch	Working stroke	Part no.	Type
	32	8 mm/U	100 mm	8083424	ELGS-BS-KF-32-100-8P-ST-M-H1-PLK-AA
			200 mm	8083425	ELGS-BS-KF-32-200-8P-ST-M-H1-PLK-AA
			300 mm	8083426	ELGS-BS-KF-32-300-8P-ST-M-H1-PLK-AA
			400 mm	8083427	ELGS-BS-KF-32-400-8P-ST-M-H1-PLK-AA
			500 mm	8083428	ELGS-BS-KF-32-500-8P-ST-M-H1-PLK-AA
			600 mm	8083429	ELGS-BS-KF-32-600-8P-ST-M-H1-PLK-AA
			800 mm	8083430	ELGS-BS-KF-32-800-8P-ST-M-H1-PLK-AA
	45	10 mm/U	100 mm	8083470	ELGS-BS-KF-45-100-10P-ST-M-H1-PLK-AA
			200 mm	8083471	ELGS-BS-KF-45-200-10P-ST-M-H1-PLK-AA
			300 mm	8083472	ELGS-BS-KF-45-300-10P-ST-M-H1-PLK-AA
			400 mm	8083473	ELGS-BS-KF-45-400-10P-ST-M-H1-PLK-AA
			500 mm	8083474	ELGS-BS-KF-45-500-10P-ST-M-H1-PLK-AA
			600 mm	8083475	ELGS-BS-KF-45-600-10P-ST-M-H1-PLK-AA
			800 mm	8083476	ELGS-BS-KF-45-800-10P-ST-M-H1-PLK-AA
	60	12 mm/U	100 mm	8083383	ELGS-BS-KF-60-100-12P-ST-M-H1-PLK-AA
			200 mm	8083384	ELGS-BS-KF-60-200-12P-ST-M-H1-PLK-AA
			300 mm	8083385	ELGS-BS-KF-60-300-12P-ST-M-H1-PLK-AA
			400 mm	8083386	ELGS-BS-KF-60-400-12P-ST-M-H1-PLK-AA
			500 mm	8083387	ELGS-BS-KF-60-500-12P-ST-M-H1-PLK-AA
			600 mm	8083388	ELGS-BS-KF-60-600-12P-ST-M-H1-PLK-AA
			800 mm	8083389	ELGS-BS-KF-60-800-12P-ST-M-H1-PLK-AA

Ordering information – Modular product system				
	Size	Spindle pitch	Part no.	Type
	32	8 mm/U	8083433	ELGS-BS-KF-32-
	45	10 mm/U	8083493	ELGS-BS-KF-45-
	60	12 mm/U	8083398	ELGS-BS-KF-60-

# Peripherals

## Peripherals overview

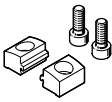


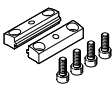
## Peripherals

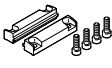
Accessories		→ Page/Internet
Type/order code	Description	
[1] Spindle axis ELGS-BS-KF	Electric drive	elgs-bs
[2] Axial kit EAMM-A	For axial motor mounting (included in the scope of delivery)	-
[3] Parallel kit EAMM-U	For parallel motor mounting (included in the scope of delivery)	-
[4] Centring pin ZBS	For centring loads and attachments on the slide	42
[4] Centring sleeve ZBH	For centring loads and attachments on the slide	42
[5] Adapter kit EHAA-D-L2	<ul style="list-style-type: none"> <li>For axis/axis mounting with adapter plate</li> <li>Mounting option: base axis with the same size or one-size-down assembly axis</li> <li>When motors are mounted using parallel kits, this may lead to interfering contours. In this case, the adapter plate is required for height compensation</li> </ul>	41
[6] Profile mounting EAHF-L2-...-P-D	<ul style="list-style-type: none"> <li>For axis/axis mounting without adapter plate</li> <li>Mounting option: base axis with one-size-down assembly axis</li> </ul>	41
[7] Angle kit EHAA-D-L2-...-AP	For mounting one-size-down vertical axes (assembly axes) on base axes with mounting position "slide at top"	41
[8] Clamping element EADTS-L5	Tool for retensioning the cover strip	42
[9] Sensor bracket EAPM-L2-SH	For mounting the proximity switches on the axis. The proximity switches can only be mounted using the sensor bracket	41
[10] Proximity switch SIES-8M	<ul style="list-style-type: none"> <li>Inductive proximity sensors, for T-slot</li> <li>Proximity switches are optional and are only required for sensing any intermediate positions</li> </ul>	42
[10] Proximity switch SMT-8M	<ul style="list-style-type: none"> <li>Magnetic proximity switches, for T-slot</li> <li>Proximity switches are optional and are only required for sensing any intermediate positions</li> </ul>	43
[11] Switch lug EAPM-L2-...-SLS	For sensing the slide position in conjunction with inductive proximity switches SIES-8M	41
[12] 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	41
[13] Profile mounting EAHF-L2-...-P-S	For mounting the axis on the side of the profile	41
[14] Supply cable NEBL-T12	For connecting the load and logic supply	43
[15] Connecting cable NEBC-M12	For connection to a controller	44
[16] Adapter NEFC-M12G8	<ul style="list-style-type: none"> <li>Connection between motor and IO-Link® master</li> <li>Only recommended for use with IO-Link® Port class A master</li> </ul>	43
[17] IO-Link® master USB CDSU-1	For easy use of the electric cylinder unit with IO-Link®	43



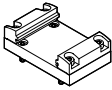
## Accessories

Profile mounting EAHF-L2-...-P-S						
	Description	Material plate	Note on materials	Product weight	Part no.	Type
	For size 32	Anodised wrought aluminium alloy	RoHS-compliant	4 g	5183153	EAHF-L2-25-P-S
	For size 45, 60			6 g	5184133	EAHF-L2-45-P-S

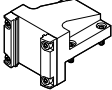
Profile mounting EAHF-L2-...-P						
	Description	Material plate	Note on materials	Product weight	Part no.	Type
	For size 32	Anodised wrought aluminium alloy	RoHS-compliant	19 g	4835684	EAHF-L2-25-P
	For size 45, 60			35 g	4835728	EAHF-L2-45-P

Profile mounting EAHF-L2-...-P-D...						
	Description <sup>1)</sup>	Material plate	Note on materials	Product weight	Part no.	Type
	For size 45/32	Anodised wrought aluminium alloy	RoHS-compliant	24 g	4759748	EAHF-L2-25-P-D2
	For size 60/45			56 g	4759739	EAHF-L2-45-P-D3

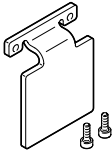
1) Base axis/assembly axis

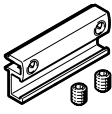
Adapter kit EHAA-D-L2						
	Description <sup>1)</sup>	Note on materials	Product weight	Part no.	Type	
	For size 45/32	RoHS-compliant	136 g	8066714	EHAA-D-L2-45-L2-45	
	For size 60/45		205 g	8066715	EHAA-D-L2-60-L2-60	

1) Base axis/assembly axis


Angle kit EHAA-D-L2-...-AP						
	Description <sup>1)</sup>	Note on materials	Product weight	Part no.	Type	
	For size 45/32	RoHS-compliant	222 g	8066718	EHAA-D-L2-45-L2-32-AP	
	For size 60/45		433 g	8066719	EHAA-D-L2-60-L2-45-AP	


1) Base axis/assembly axis


Switch lug EAPM-L2-SLS						
	Description	Note on materials	Product weight	Part no.	Type	
	For size 32	RoHS-compliant	10 g	8067259	EAPM-L2-32-SLS	
	For size 45		18 g	8067260	EAPM-L2-45-SLS	
	For size 60		27 g	8067261	EAPM-L2-60-SLS	

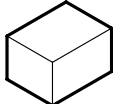
Sensor bracket EAPM-L2-SH						
	Description	Material sensor bracket	Note on materials	Product weight	Part no.	Type
	For sizes 32, 45, 60	Anodised wrought aluminium alloy	RoHS-compliant	4 g	★ 4759852	EAPM-L2-SH


## Accessories

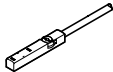
Centring pin ZBS-2						
	Description	Material sleeve	Size of pack	Product weight	Part no.	Type
	For size 32	Steel	10	1 g	525273	ZBS-2

Centring pin ZBS-4						
	Description	Material sleeve	Size of pack	Product weight	Part no.	Type
	For size 45	High-alloy stainless steel	10	0.5 g	562959	ZBS-4

Centring sleeve ZBH-5						
	Description	Material sleeve	Size of pack	Product weight	Part no.	Type
	For size 60	Steel	10	1 g	8146543	ZBH-5-B

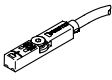
Clamping element EADT						
	Description	Material clamping element	Note on materials	Product weight	Part no.	Type
	For size 32, 45, Tool for retensioning the cover strip	NBR	RoHS-compliant	12 g	8065818	EADT-S-L5-32
	for size 60, Tool for retensioning the cover strip			50 g	8058451	EADT-S-L5-70

Push-in fitting QSM						
	Description	Material housing	Size of pack	Product weight	Part no.	Type
	For size 32, For sealing air connection	Brass, nickel-plated	10	3 g	133004	QSM-M5-4-I-R
				3.2 g	133003	QSM-M5-3-I-R
	For size 45, 60, For sealing air connection			8.9 g	★ 186266	QSM-G1/8-4-I
				9.5 g	★ 186267	QSM-G1/8-6-I


Proximity switch SIES for T-slot, inductive						
	Switching output	Switching element function	Electrical connection 1, connector system	Cable length <sup>1)</sup>	Part no.	Type
	NPN	N/C contact	M8x1, A-coded, to EN 61076-2-104	0.3 m	★ 551402	SIES-8M-NO-24V-K-0,3-M8D
			Open end	7.5 m	★ 551401	SIES-8M-NO-24V-K-7,5-OE
		N/O contact	M8x1, A-coded, to EN 61076-2-104	0.3 m	551397	SIES-8M-NS-24V-K-0,3-M8D
			Open end	7.5 m	551396	SIES-8M-NS-24V-K-7,5-OE
	PNP	N/C contact	M8x1, A-coded, to EN 61076-2-104	0.3 m	★ 551392	SIES-8M-PO-24V-K-0,3-M8D
			Open end	7.5 m	★ 551391	SIES-8M-PO-24V-K-7,5-OE
		N/O contact	M8x1, A-coded, to EN 61076-2-104	0.3 m	551387	SIES-8M-PS-24V-K-0,3-M8D
			Open end	7.5 m	551386	SIES-8M-PS-24V-K-7,5-OE

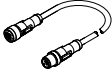
<sup>1)</sup> Proximity switches are optional and are only required for sensing any intermediate positions.

## Accessories

Proximity switch SMT for T-slot, magneto-resistive						
	Type of mounting	Switching output	Electrical connection	Cable length <sup>1)</sup>	Part no.	Type
	Screw-clamped, Insertable in the slot from above	3-wire PNP N/C contact	Open end	7.5 m	★ 574340	SMT-8M-A-PO-24V-E-7,5-OE
		3-wire PNP N/O contact		2.5 m	★ 574335	SMT-8M-A-PS-24V-E-2,5-OE
			Plug M8, A-coded	0.3 m	★ 574334	SMT-8M-A-PS-24V-E-0,3-M8D

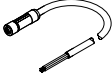
1) Proximity switches are optional and are only required for sensing any intermediate positions.


IO-Link® master USB			
	Description	Part no.	Type
	For using the unit with IO-Link®, an external power supply plug is also required (not included in the scope of delivery)	8091509	CDSU-1


Adapter NEFC						
	Electrical connection 1, connector system	Electrical connection 2, connector system <sup>1)</sup>	Electrical connection 2, number of connections/cores	Cable length <sup>2)</sup>	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	M12x1, A-coded to EN 61076-2-101	5	0.3 m	8080777	NEFC-M12G8-0.3-M12G5-LK

1) Only recommended for use with IO-Link® Port class A master

2) Connection between the motor and the IO-Link® master

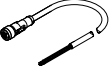
Supply cables NEBL, straight						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M12x1, T-coded according to EN 61076-2-111	Open end	4	2 m	8080790	NEBL-T12G4-E-2-N-LE4
				5 m	8080791	NEBL-T12G4-E-5-N-LE4
				10 m	8080792	NEBL-T12G4-E-10-N-LE4
				15 m	8080793	NEBL-T12G4-E-15-N-LE4

Supply cables NEBL, angled						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M12x1, T-coded according to EN 61076-2-111	Open end	4	2 m	8080778	NEBL-T12W4-E-2-N-LE4
				5 m	8080779	NEBL-T12W4-E-5-N-LE4
				10 m	8080780	NEBL-T12W4-E-10-N-LE4
				15 m	8080781	NEBL-T12W4-E-15-N-LE4


Connecting cables NEBC, straight						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	M12x1, A-coded to EN 61076-2-101	8	2 m	8080782	NEBC-M12G8-E-2-N-M12G8
				5 m	8080783	NEBC-M12G8-E-5-N-M12G8
				10 m	8080784	NEBC-M12G8-E-10-N-M12G8
				15 m	8080785	NEBC-M12G8-E-15-N-M12G8
			Open end		2 m	8094480

## Accessories

### Connecting cables NEBC, straight

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	Open end	8	5 m	<b>8094477</b>	<b>NEBC-M12G8-E-5-N-B-LE8</b>
				10 m	<b>8094482</b>	<b>NEBC-M12G8-E-10-N-B-LE8</b>
				15 m	<b>8094475</b>	<b>NEBC-M12G8-E-15-N-B-LE8</b>

### Connecting cables NEBC, angled

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	M12x1, A-coded to EN 61076-2-101	8	2 m	<b>8080786</b>	<b>NEBC-M12W8-E-2-N-M12G8</b>
				5 m	<b>8080787</b>	<b>NEBC-M12W8-E-5-N-M12G8</b>
				10 m	<b>8080788</b>	<b>NEBC-M12W8-E-10-N-M12G8</b>
				15 m	<b>8080789</b>	<b>NEBC-M12W8-E-15-N-M12G8</b>
		Open end	2 m	<b>8094476</b>	<b>NEBC-M12W8-E-2-N-B-LE8</b>	
			5 m	<b>8094478</b>	<b>NEBC-M12W8-E-5-N-B-LE8</b>	
			10 m	<b>8094481</b>	<b>NEBC-M12W8-E-10-N-B-LE8</b>	
			15 m	<b>8094479</b>	<b>NEBC-M12W8-E-15-N-B-LE8</b>	