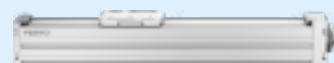


Spindle axis units ELGS-BS-KF

FESTO



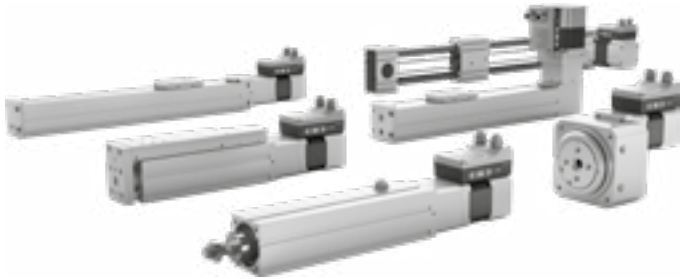
This product is also available as a modular mechanical system
Spindle axis ELGC-BS-KF



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.

IO-Link

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.

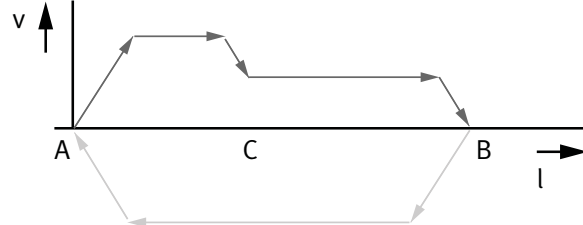
Integrated	Simple	Standardised	Connected
<p>The integrated electronics in the drive are at the core of the Simplified Motion Series.</p>	<p>For commissioning, simply set all relevant parameters directly on the drive:</p> <ul style="list-style-type: none"> • Speed and force • Reference end position and cushioning • Manual operation 	<p>Electrical connection via M12 plug design</p> <ul style="list-style-type: none"> • Power (4-pin): power supply for the motor • Logic (8-pin): control signal, sensor signal and power for the integrated electronics 	<p>Use of extended functions via IO-Link:</p> <ul style="list-style-type: none"> • Motion parameters can be set remotely • Copy and backup function for transferring parameters • Read function for extended process parameters

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.

The products in the Simplified Motion Series

Spindle axis unit
ELGS-BS-KF



Mini slide unit
EGSS-BS-KF



Electric cylinder unit
EPCS



Toothed belt axis unit
ELGS-TB-KF



Toothed belt axis unit
ELGE

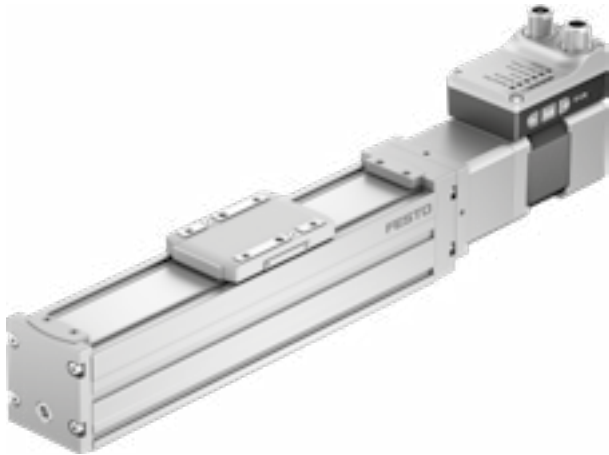


Rotary drive unit
ERMS



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 two mechanical end positions
- Protected against external influences by internal guide
- 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
- Clean Look design: easy to clean and less prone to contamination

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

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



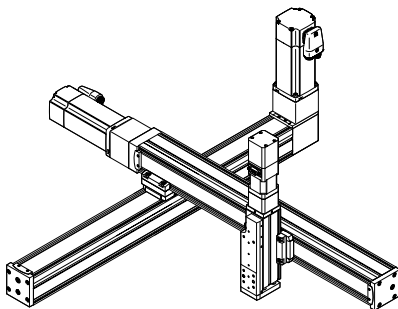
When compact dimensions and optimised installation space are important, e.g. in assembly systems, test and inspection systems, small parts handling, the electronics industry and desktop applications. Either as an individual axis or as a handling system.

- 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

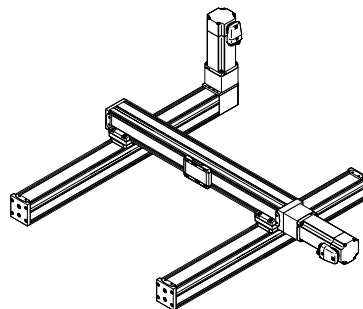
Typical handling systems

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

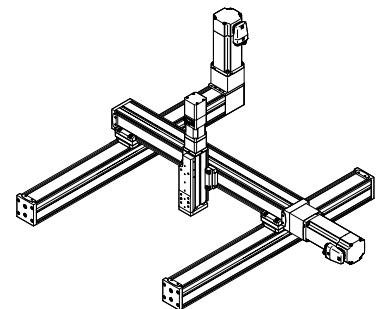
Cantilever system



Planar surface gantry



Three-dimensional gantry

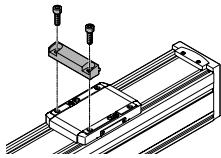


Key features

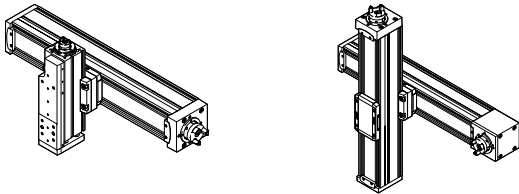
Matrix showing combinations between axis ELGC/ELGS-TB, ELGC/ELGS-BS, mini slide EGSC/EGSS-BS, electric cylinder EPCC/EPCS-BS and guide axis ELFC
 Mounting options with profile mounting and via angle kit

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

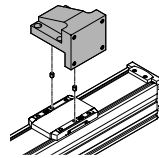
With profile mounting EAHF-L2-...-P-D...



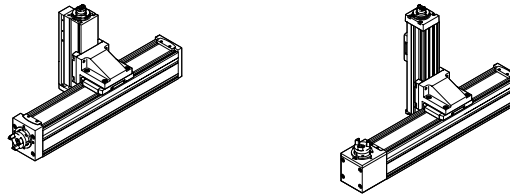
- Mounting option: base axis with one-size-down assembly axis



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



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



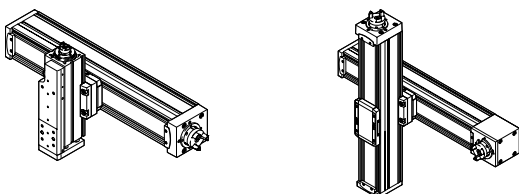
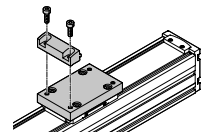
Matrix showing combinations between axis ELGC/ELGS-TB, ELGC/ELGS-BS, mini slide EGSC/EGSS-BS, electric cylinder EPCC/EPCS-BS and guide axis ELFC
 Assembly options with adapter kit or direct mounting

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

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

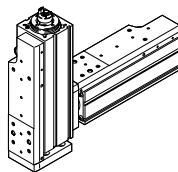
With adapter kit EHAA-D-L2

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



With direct mounting

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



Type codes

001	Series
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
100	100
200	200
300	300
400	400
500	500
600	600
800	800

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®

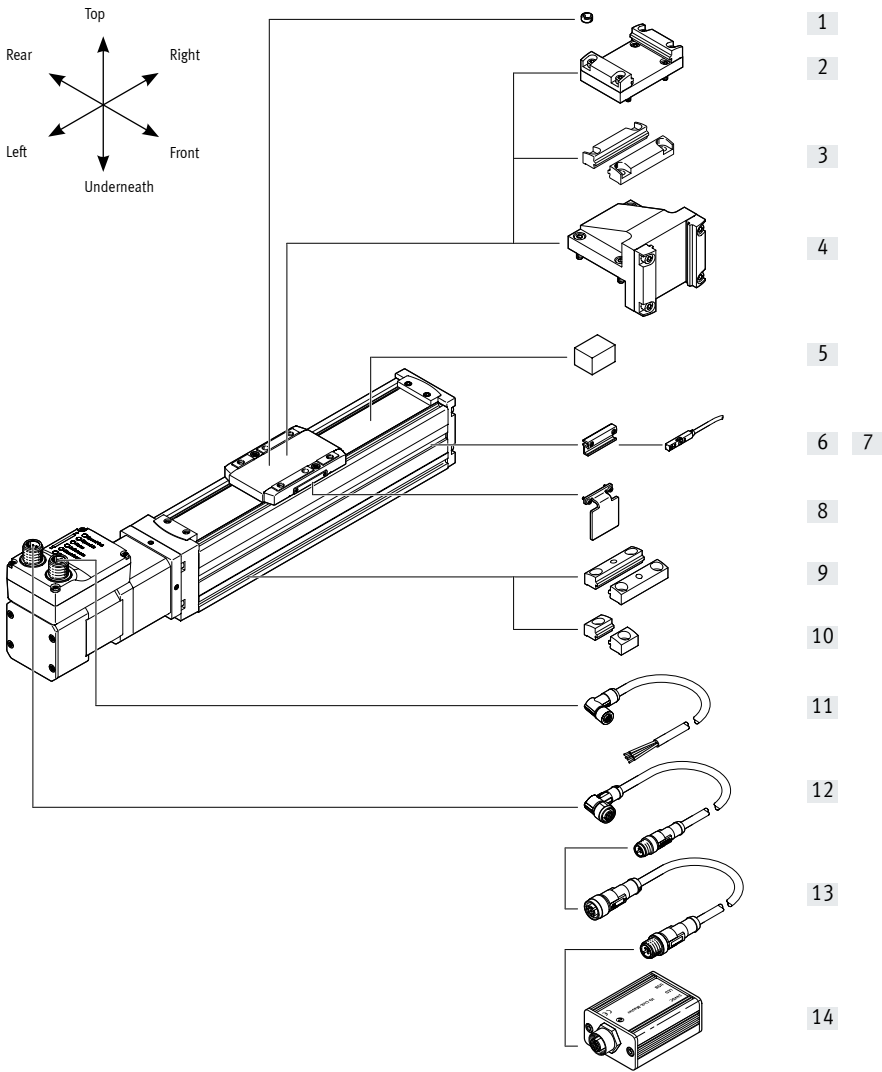
011	End-position sensing
AA	With integrated end-position sensing

012	Cable outlet direction
	Standard
D	Underneath
F	Front
B	Rear

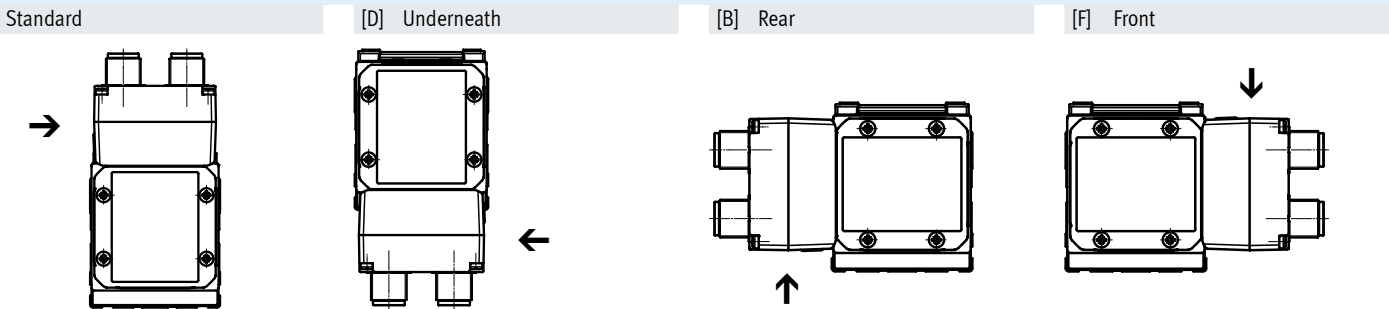
013	Electrical accessories
	None
L1	Adapter for operation as IO-Link® device

014	Operating instructions
	With operating instructions
DN	Without operating instructions

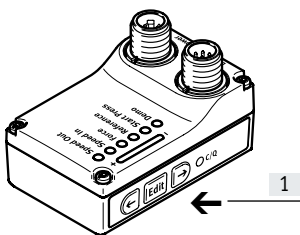
Peripherals overview



Motor attachment variants



Control elements



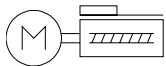
[1] Pushbutton actuators for parameterisation and control



Peripherals overview

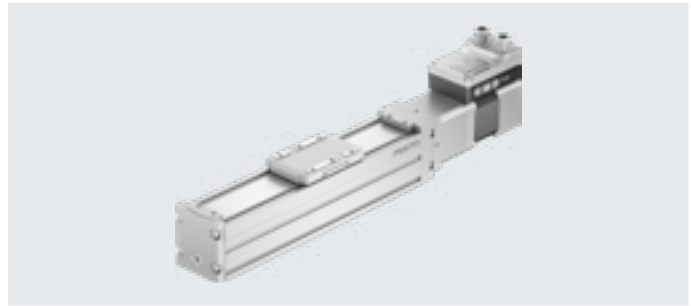
Accessories			
	Type/order code	Description	→ Page/Internet
[1]	Centring pin/sleeve ZBS, ZBH	For centring loads and attachments on the slide	30
[2]	Adapter kit EHAA-D-L2	<ul style="list-style-type: none"> For axis/axis mounting with adapter plate Mounting option: base axis with the same size or one-size-down 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 (download CAD data → www.festo.com) 	27
[3]	Profile mounting EAHF-L2-...-P-D	<ul style="list-style-type: none"> For axis/axis mounting without adapter plate Mounting option: base axis with one-size-down assembly axis 	26
[4]	Angle kit EHAA-D-L2-...-AP	<ul style="list-style-type: none"> For mounting one-size-down vertical axes (assembly axes) on base axes with mounting position "slide at top" 	28
[5]	Clamping component EADTS-L5-32	<ul style="list-style-type: none"> Tool for retensioning the cover strip 	30
[6]	Sensor bracket ¹⁾ EAPM-L2-SH	For mounting the proximity switches on the axis. The proximity switches can only be mounted using the sensor bracket	29
[7]	Proximity switch ¹⁾ SIES-8M	Inductive proximity switch, for T-slot	30
	Proximity switch ¹⁾ SMT-8M	Magnetic proximity switch, for T-slot	30
[8]	Switch lug ¹⁾ EAPM-...-SLS	For sensing the slide position in conjunction with inductive proximity switches SIES-8M	29
[9]	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	25
[10]	Profile mounting EAHF-L2-...-	For mounting the axis on the side of the profile	24
[11]	Supply cable NEBL-T12	For connecting load and logic supply	31
[12]	Connecting cable NEBC-M12	For connection to a controller	31
[13]	Adapter NEFC-M12G8	Connection between the motor and the and IO-Link master	31
[14]	IO-Link master USB CDSU-1	For straightforward use of the mini slide unit via IO-Link	31

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

Data sheet



-  - Size
32 ... 60
-  - Stroke length
100 ... 800 mm



General technical data			
Size	32	45	60
Design	Electromechanical axis with ball screw and integrated drive		
Motor type	Stepper motor		
Guide	Recirculating ball bearing guide		
Mounting position	Any		
Working stroke [mm]	100, 200, 300, 400, 500, 600, 800	100, 200, 300, 400, 500, 600, 800	100, 200, 300, 400, 500, 600, 800
Stroke reserve [mm]	0		
Additional functions	Integrated 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. line length			
Inputs/outputs [m]	15		
IO-Link operation [m]	20		

Mechanical data			
Size	32	45	60
Max. payload			
Horizontal [kg]	2	10	20
Vertical [kg]	2	5	13
Max. feed force F_x [N]	40	100	200
Max. speed ¹⁾ [m/s]	0.18	0.25	0.25
Speed press [m/s]	0.01		
Max. acceleration [m/s ²]	5		
Repetition accuracy [mm]	±0.015	±0.015	±0.01
Reversing backlash [mm]	≤ 0.15		
Position sensing	For proximity switch		
	Via IO-Link		

1) Rotational speed and speed are stroke-dependent

Data sheet

Spindle				
Size		32	45	60
Diameter	[mm]	8	10	12
Pitch	[mm/rev.]	8	10	12
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 encoder		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		
Properties		Not galvanically isolated Configurable		
Specification		Based on IEC 61131-2, type 1		
Working area	[V]	24		
Digital outputs				
Number		2		
Switching logic		PNP NPN		
Rotor position encoder		Absolute encoder, single turn		
Properties		Not galvanically isolated Configurable		
Max. current	[mA]	100		

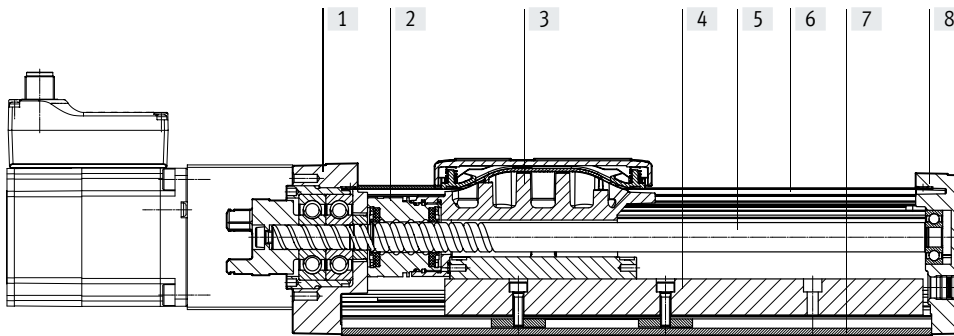
Data sheet

Technical data – IO-Link				
Size	32	45	60	
SIO-mode support	Yes			
Communication mode	COM3 (230.4 kBaud)			
Connection technology	Plug			
Port class	A			
Number of ports	1			
Process data width OUT	[bytes]	2		
Process data content OUT	[bit]	1 (Move in)		
	[bit]	1 (Move out)		
	[bit]	1 (Quit Error)		
Process data width IN	[bytes]	2		
Process data content IN	[bit]	1 (State Device)		
	[bit]	1 (State Move)		
	[bit]	1 (State in)		
	[bit]	1 (State out)		
Service data contents 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			
Operating and environmental conditions				
Size	32	45	60	
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	To EU EMC Directive			
	To EU RoHS Directive			
KC mark	KC-EMV			
Certification	RCM compliance mark			
Vibration resistance	Transport application check 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			
Maintenance interval	Life-time lubrication			
Weight				
Size	32	45	60	
Basic weight with 0 mm stroke	[g]	889	1354	2862
Additional weight per 10 mm stroke	[g]	18	36	51
Moving mass at 0 mm stroke	[g]	83.4	220	525

Data sheet

Materials

Sectional view



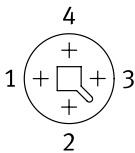
Axis	
[1] Drive cover	Painted die-cast aluminium
[2] Spindle nut	Steel
[3] Slide	Die-cast aluminium
[4] Guide	Steel
[5] Spindle	Steel
[6] Cover strip	High-alloy stainless steel
[7] Profile	Anodised wrought aluminium alloy
[8] End cap	Painted die-cast aluminium
Note on materials	RoHS-compliant
	Contains paint-wetting impairment substances

Pin allocation

Power supply

Plug

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

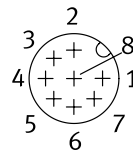


Pin	Function
1	Power supply (24 V DC)
2	Reference potential, power supply (GND)
3	Reserved, do not connect
4	Functional earth (FE)

Logic interface

Plug

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



When used with digital I/O

Pin	Function
1	Logic power supply (24 V DC)
2	Digital output 1 (State "In")
3	Digital output 2 (State "Out")
4	Reference potential, logic power supply (GND)
5	Digital input 1 (Move "In")
6	Digital input 2 (Move "Out")
7	Reserved, do not connect
8	Reference potential, logic power supply (GND)

When used with I/O-Link

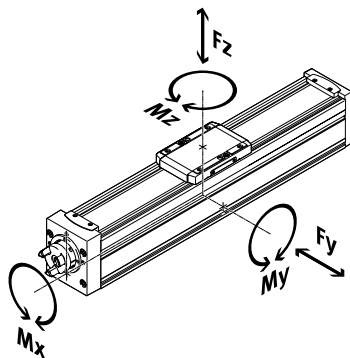
Pin	Function
1	L+ IO-Link power supply (24 V DC)
2	Reserved, do not connect
3	C/Q communication with the IO-Link master
4	L – Reference potential, IO-Link power supply (0 V)
5	Reserved, do not connect
6	Reserved, do not connect
7	Reserved, do not connect
8	L – Reference potential, IO-Link power supply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

Data sheet

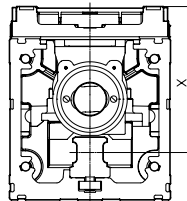
Characteristic load values

The indicated forces and torques refer to the centre of the guide. The point of application of force is the point where the centre of the guide and the longitudinal centre of the slide intersect.

These values must not be exceeded during dynamic operation. Special attention must be paid to the deceleration phase.



Distance from the slide surface to the centre of the guide



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

Size		32	45	60
$F_{y_{max}}$	[N]	150	300	600
$F_{z_{max}}$	[N]	300	600	1800
$M_{x_{max}}$	[Nm]	1.3	5.5	29.1
$M_{y_{max}}$	[Nm]	1.1	4.7	31.8
$M_{z_{max}}$	[Nm]	1.1	4.7	31.8

Distance from the slide surface to the centre of the guide

Size		32	45	60
Dimension x	[mm]	31.4	42.8	54.6

Max. permissible forces and torques for the bearing calculation, for a service life of 5000 km or 5×10^6 cycles

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

-  - Note

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

This formula can be used to calculate a guide value.

The engineering software "PositioningDrives" is available for more precise calculations → www.festo.com

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

Calculating the load comparison factor:

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

F_1/M_1 = dynamic value

F_2/M_2 = maximum value

Data sheet

Calculating the service life

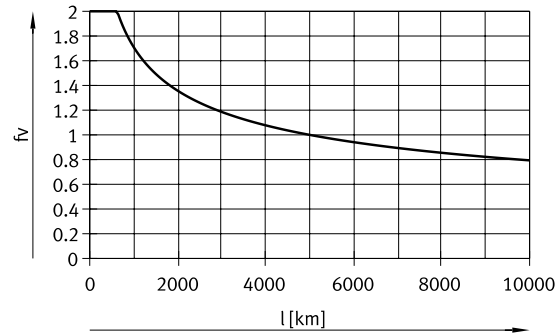
The service life of the guide depends on the load. To be able to make a statement as to the service life of the guide, the graph below plots the load comparison factor f_v against the service life.

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

Load comparison factor f_v as a function of service life l

Example:

A user wants to move an x kg load. Using the formula (→ page 12) 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. 1 500 km. Reducing the acceleration reduces the M_y and M_z values. A load comparison factor f_v of 1 now gives a service life of 5000 km.



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

The characteristic load values of bearing guides are standardised to ISO and JIS using dynamic and static forces and torques. These forces and torques are based on an expected service life of the guide system of 100 km according to ISO or 50 km according to JIS.

As the characteristic load values are dependent on the service life, the maximum permissible forces and torques for a 5000 km service life cannot be compared with the dynamic forces and torques of bearing guides to ISO/JIS.

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

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

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

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

Service life of the motor

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

Data sheet

Sizing example

Application data:

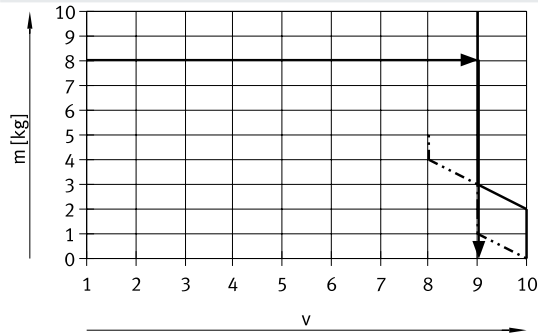
- Payload: 8 kg
- Mounting position: horizontal
- Stroke: 400 mm
- Max. permitted positioning time: 4 s (one direction)

Step 1: Selection of the possible size from the table → page 8

Mechanical data				
Size		32	45	60
Max. payload				
Horizontal	[kg]	2	10	20
Vertical	[kg]	2	5	13

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

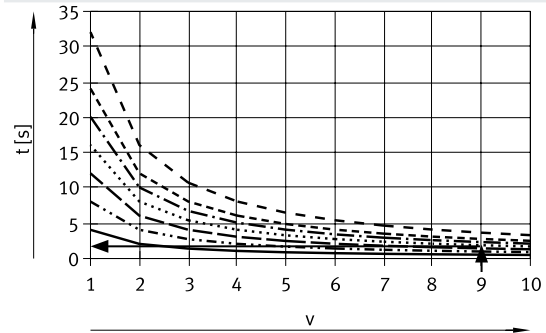
Step 2: Selection of max. speed level v for payload m



- Horizontal
- - - - - Vertical

→ Max. speed level for payload: level 9

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



- $l = 100$ mm
- · - · - $l = 200$ mm
- - - $l = 300$ mm
- · · · · $l = 400$ mm
- · - · - $l = 500$ mm
- - - $l = 600$ mm
- - - $l = 800$ mm

→ Min. positioning time for 400 mm at level 9: 2 s

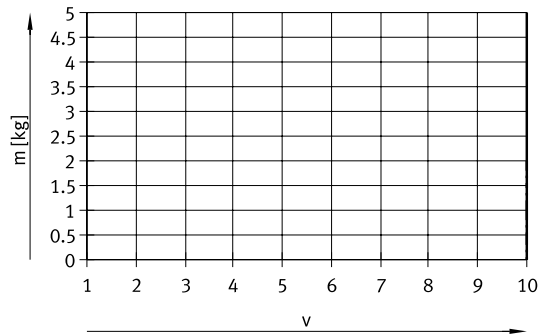
Result

The application can be implemented using 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 using a lower speed level.

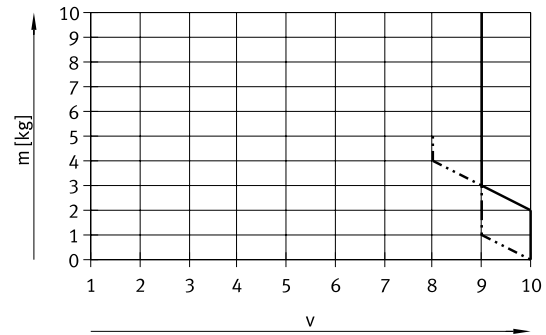
Data sheet

Mass m as a function of speed level v

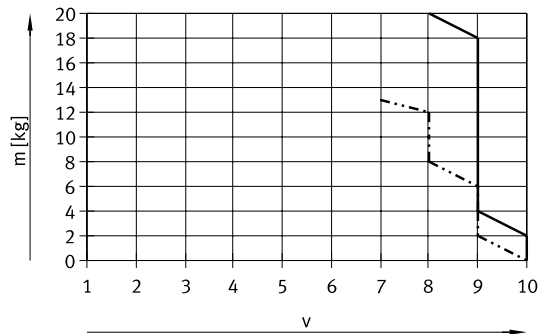
Size 32



Size 45



Size 60



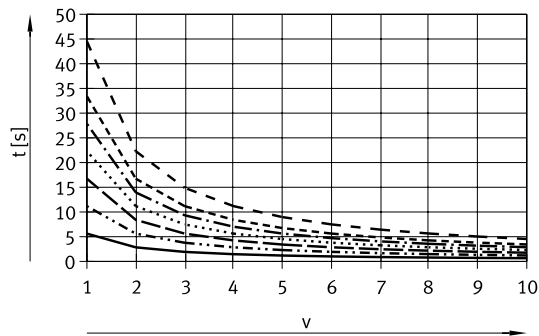
Note:

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

— Horizontal
 - - - - - Vertical

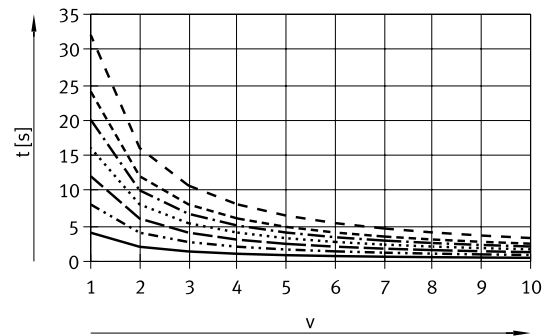
Positioning time t as a function of speed level v and stroke l

Size 32



— $l = 100$ mm
 - - - - - $l = 200$ mm
 - - - - - $l = 300$ mm
 ········ $l = 400$ mm
 - · - · - $l = 500$ mm
 - - - - - $l = 600$ mm
 - - - - - $l = 800$ mm

Size 45

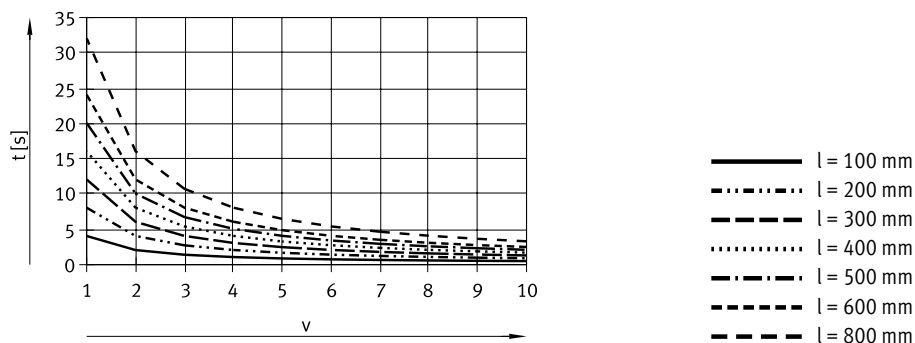


— $l = 100$ mm
 - - - - - $l = 200$ mm
 - - - - - $l = 300$ mm
 ········ $l = 400$ mm
 - · - · - $l = 500$ mm
 - - - - - $l = 600$ mm
 - - - - - $l = 800$ mm

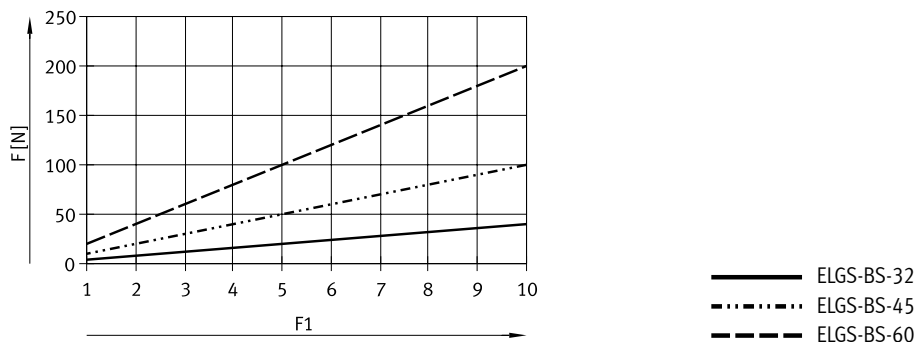
Data sheet

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

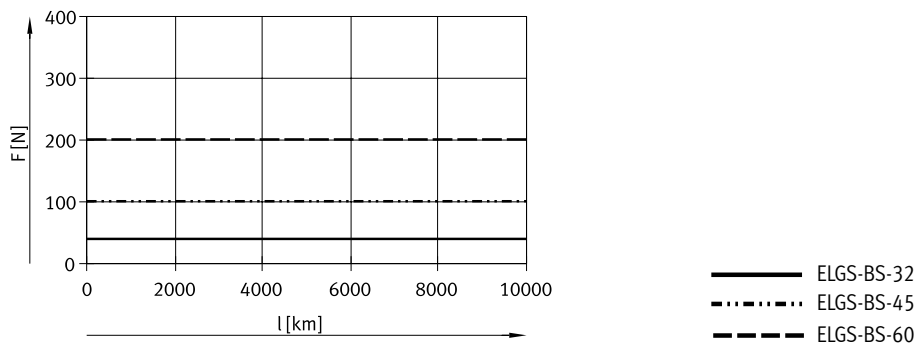
Size 60



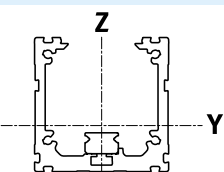
Feed force F as a function of force level F_1



Feed force F as a function of service life l



2nd moment of area



Size		32	45	60
I_y	[mm ⁴]	38×10^3	140×10^3	441×10^3
I_z	[mm ⁴]	45×10^3	170×10^3	542×10^3

Recommended deflection limits

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

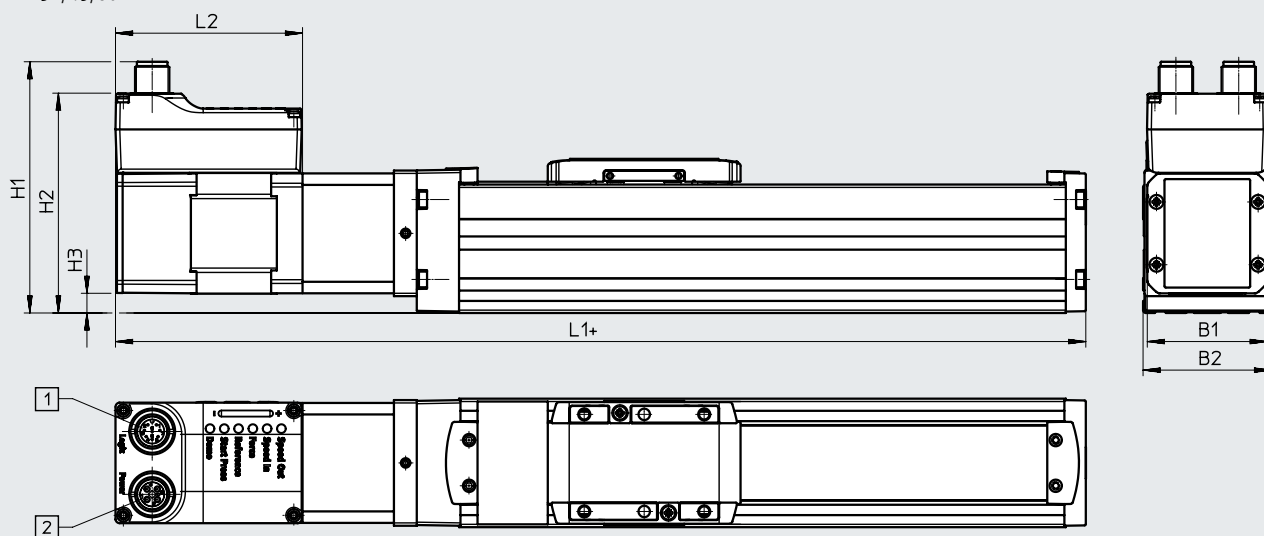
Size	Dynamic deflection (moving load)	Static deflection (stationary load)
32 ... 60	0.05% of the axis length, max. 0.5 mm	0.1% of the axis length

Data sheet

Dimensions – With motor

Download CAD data → www.festo.com

Size 32/45/60



- [1] Connection to logic interface
- [2] Connection to power supply
- + = plus stroke length

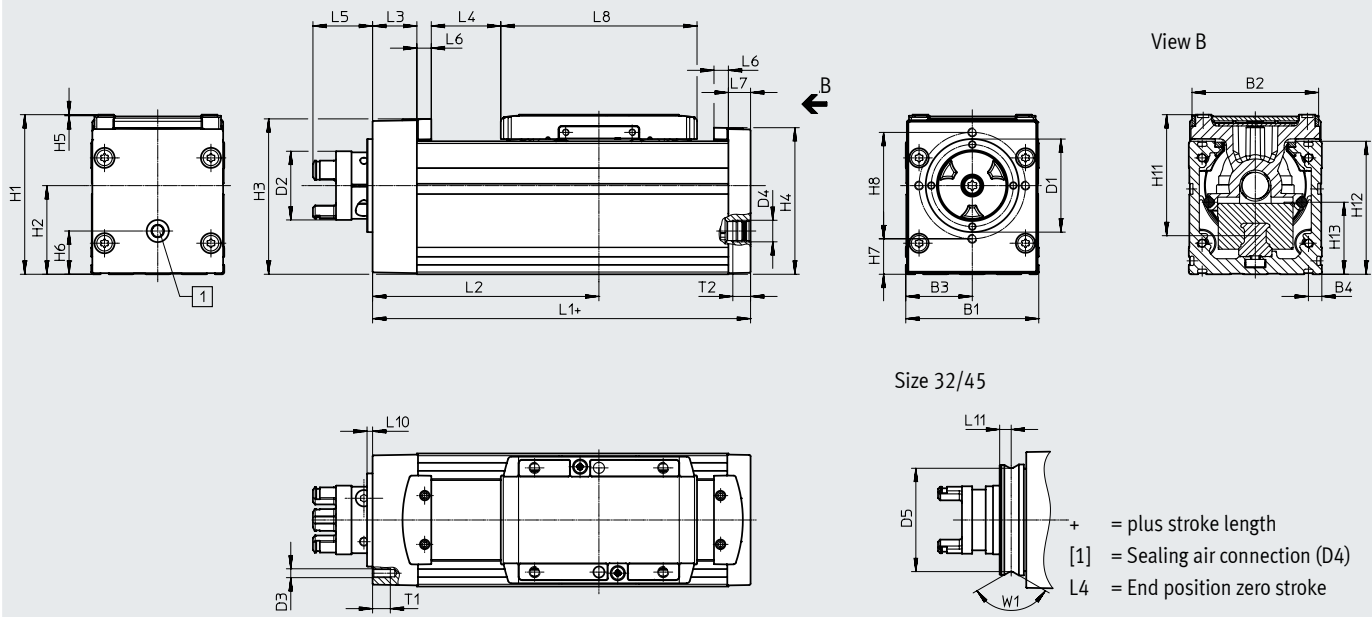
Size	B1	B2	H1	H2	H3	L1	L2
32	42.3	32	81.2	70	1.2	211	65
45	42.3	45	88	76.8	6.8	240.8	65
60	56.6	60	107.3	96.1	10.5	287	73.5

Data sheet

Dimensions

Download CAD data → www.festo.com

↓ A → page 20



Size 32/45

Size	B1	B2	B3	B4	D1 ∅	D2 ∅	D3	D4	D5 ∅	H1	H2
32	32	29.6	16	4.9	25	16.5	-	M5	23	38.5	20
45	45	42.6	22.5	6.1	32	16.5	-	G1/8	29.6	54	27.9
60	60	57.1	30	6.1	42	31	M4	G1/8	-	72	40

Size	H3	H4	H5	H6	H7	H8	H11	H12	H13	L1	L2 Min.
32	36.3	35.6	0.3	8	-	-	31.4	32	13.7	104.5	57.9
45	50.8	49.6	0.5	12.5	-	-	42.8	45	18.5	134.3	79.7
60	70.1	66.1	0.5	19.5	16	48	54.6	60	32.5	170.5	102.1

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

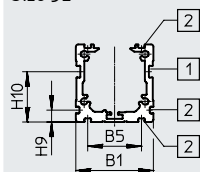
Data sheet

Dimensions

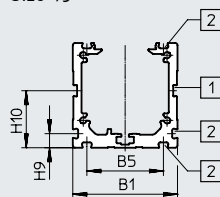
Download CAD data → www.festo.com

Profile

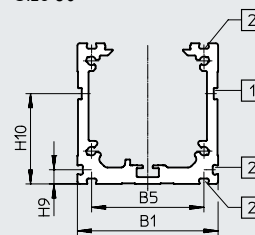
Size 32



Size 45



Size 60



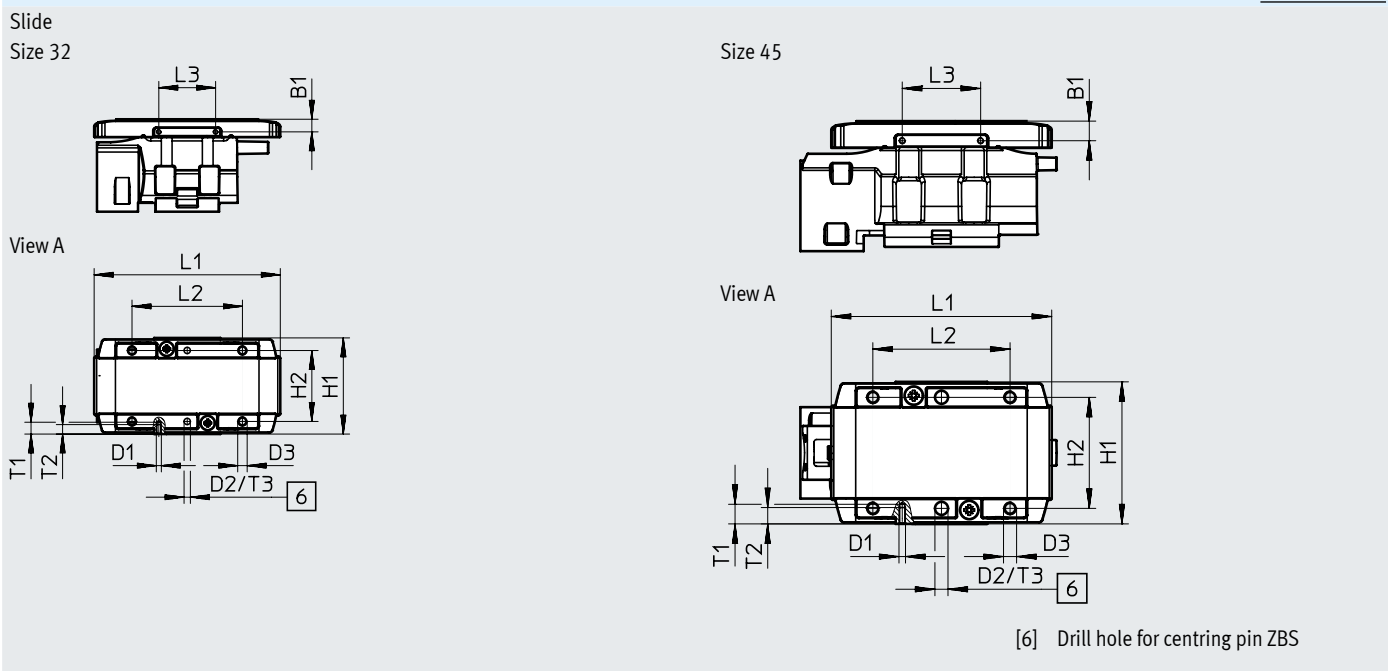
- [1] = Slot for sensor bracket
- [2] = Mounting slot

Size	B1	B5	H9	H10
32	32	22.2	4.9	20.8
45	45	32.9	6.1	24.5
60	60	47.9	6.1	38.5

Data sheet

Dimensions

Download CAD data → www.festo.com



[6] Drill hole for centring pin ZBS

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

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

1) Recommended screw-in depth

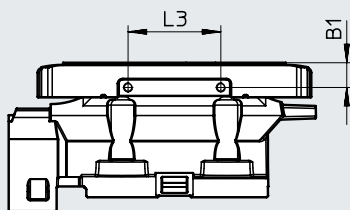
Data sheet

Dimensions

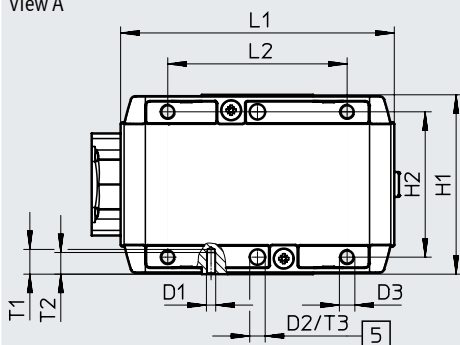
Download CAD data → www.festo.com

Slide

Size 60



View A

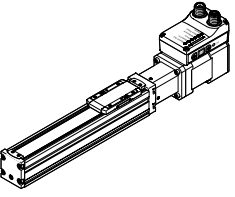


Size	B1	D1	D2 ∅ H8	D3	H1	H2 ±0.1 For D2 ±0.03
60	±0.1 8	M3	5	M5	±0.1 58	47

Size	L1	L2	L3	T1	T2	T3	T4 ¹⁾
60	88.5	±0.1 58	±0.1 30	9	7	+0.1 1.3	8.5 ... 10

1) Recommended screw-in depth

Technical data

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

Ordering data – Modular product system

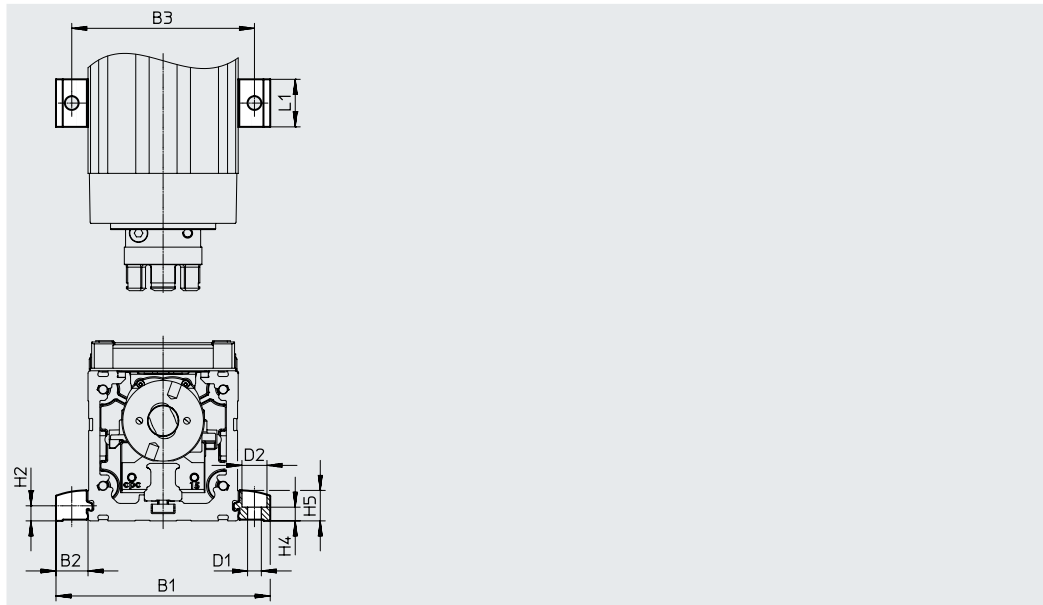
Ordering table						
Size	32	45	60	Conditions	Code	Enter code
Module no.	8083433	8083493	8083398			
Series	ELGS				ELGS	ELGS
Drive system	Ball screw drive				-BS	-BS
Guide	Recirculating ball bearing guide				-KF	-KF
Size	32	45	60		-...	
Stroke [mm]	100, 200, 300, 400, 500, 600, 800	100, 200, 300, 400, 500, 600, 800	100, 200, 300, 400, 500, 600, 800		-...	
Spindle pitch [mm]	8P	10P	12P		-...	
Motor type	Stepper motor ST				-ST	-ST
Controller	Integrated				-M	-M
Control 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					
	Underneath				-D	
	Rear				-B	
Electrical accessories	Front				-F	
	None					
	Adapter for operation as IO-Link device				+L1	
Operating instructions	With operating instructions					
	Without operating instructions				DN	

Accessories

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

Material:
Anodised wrought aluminium alloy
RoHS-compliant

- For mounting the axis on the side of the profile



Dimensions and ordering data

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

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

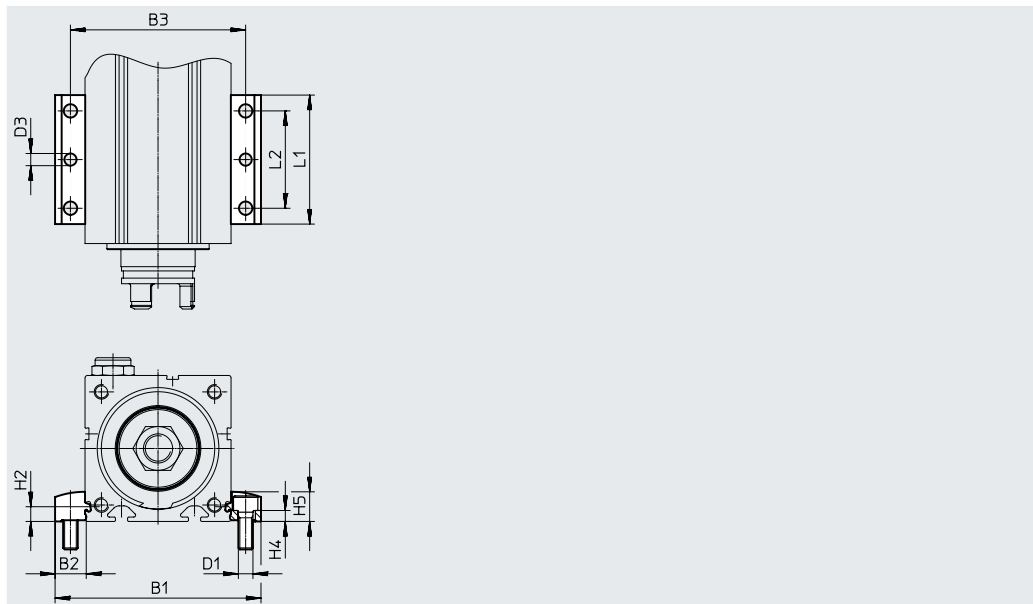
Material:

Anodised wrought aluminium alloy

RoHS-compliant

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

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



Dimensions and ordering data

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

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

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

Material:

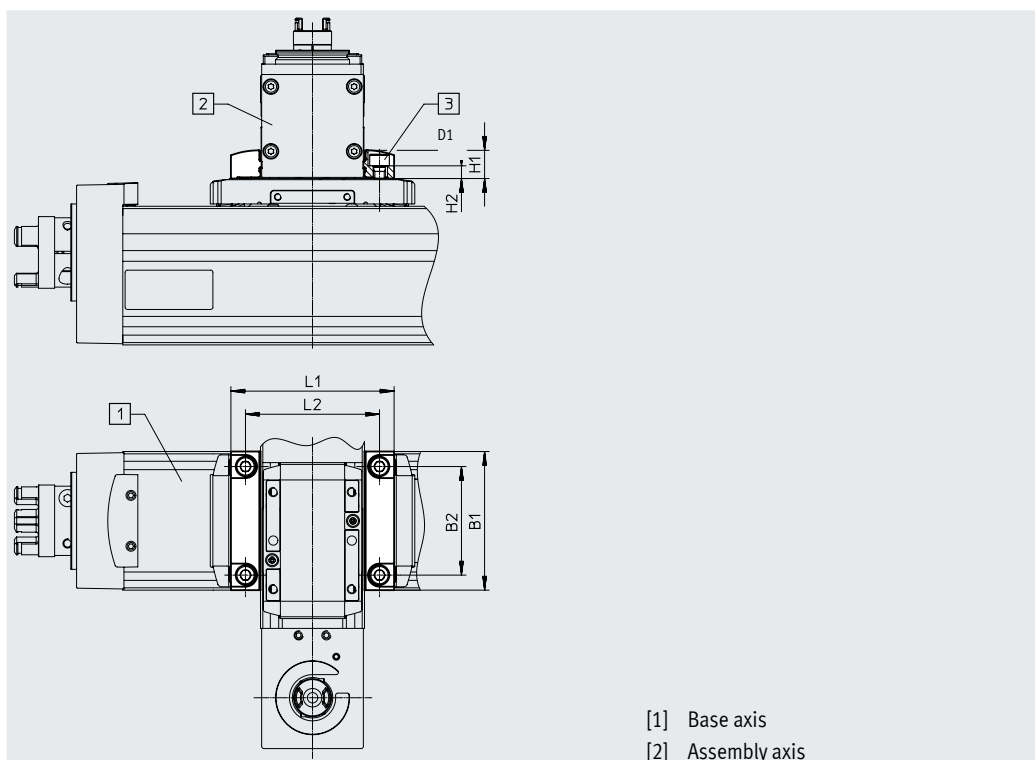
Anodised wrought aluminium alloy

RoHS-compliant

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

Combination matrix

		[2] Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS			
Size		25	32	45	60
[1] Base axis ELGC-BS/-TB; ELFC	32	4759753	-	-	-
	45	-	4759748	-	-
	60	-	-	4759739	-



[1] Base axis
[2] Assembly axis

Dimensions and ordering data

For combination (size)	B1	B2	D1	H1
45/32	45	34	M4	9
60/45	60	47	M5	12.2

For combination (size)	H2 ±0.1	L1	L2	Weight [g]	Part no.	Type
45/32	3.7	51.4	42	24	4759748	EAHF-L2-25-P-D2
60/45	5.5	70.6	58	56	4759739	EAHF-L2-45-P-D3

Accessories

Adapter kit EHAA-D-L2

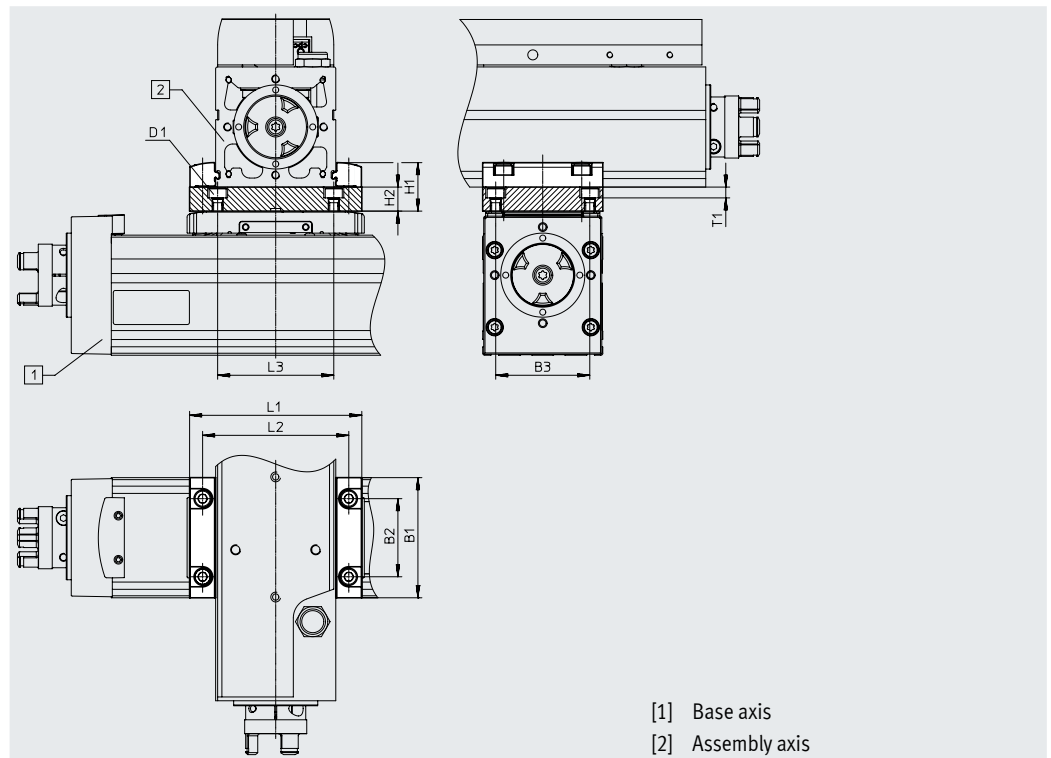
Material:

Anodised wrought aluminium alloy

RoHS-compliant

- For axis/axis mounting with adapter plate
- Mounting option: base axis with same size or one-size-down assembly axis (→ page 4)

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



[1] Base axis
[2] Assembly axis

Dimensions and ordering data												
For combination (size)	B1	B3 ±0.05	D1	H1	H2	L1	L2	L3	T1	Weight [g]	Part no.	Type
45/32	45	34	M4	19	10	51.4	42	42	5.4	136	8066714	EHAA-D-L2-45-L2-45
60/45	60	47	M5	24.2	12	70.6	58	58	5.4	205	8066715	EHAA-D-L2-60-L2-60

For combination (size)	B1	B2	B3 ±0.05	D1	H1	H2	L1	L2	L3	T1	Weight [g]	Part no.	Type
45/45	45	32	34	M4	22.2	10	71	58	42	5.4	136	8066714	EHAA-D-L2-45-L2-45
60/60	60	39	47	M5	24.2	12	86	73	58	5.4	205	8066715	EHAA-D-L2-60-L2-60

Accessories

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

Material:

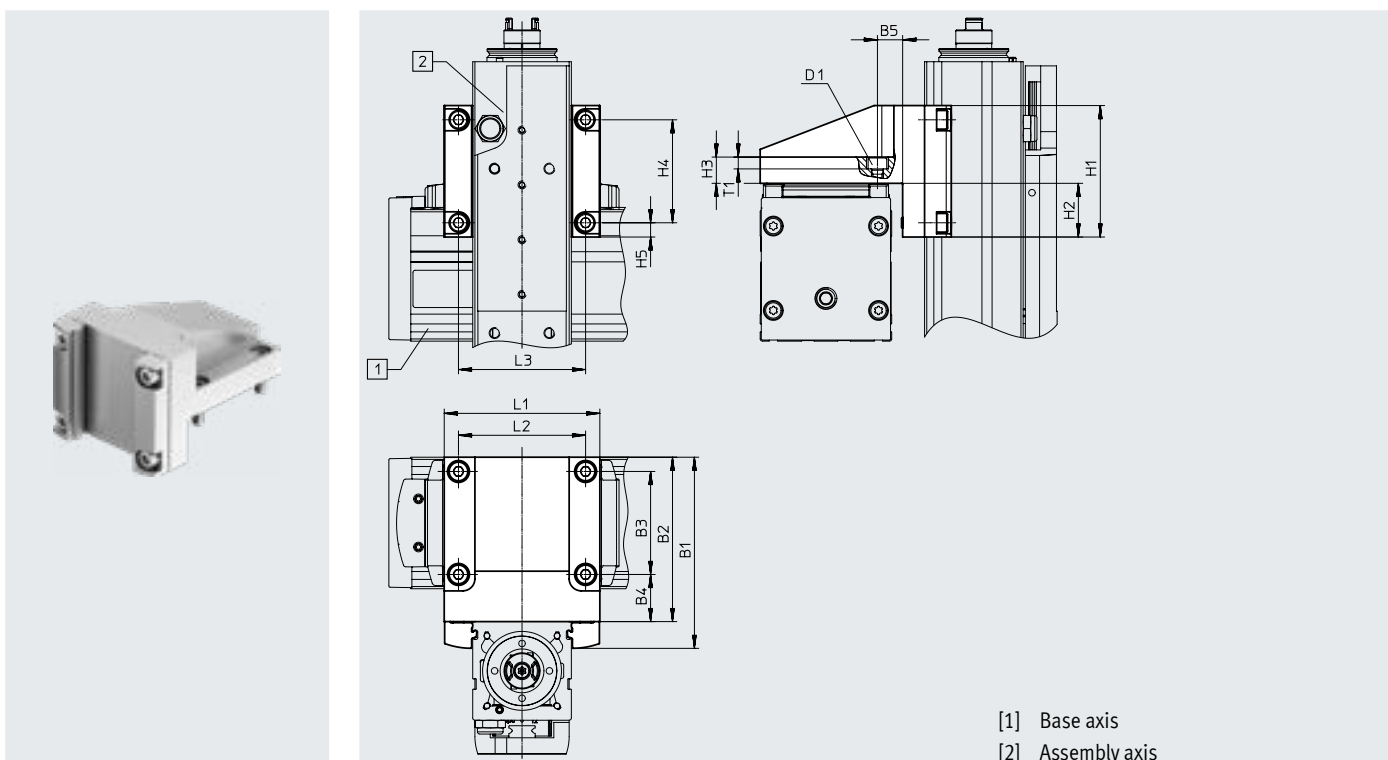
Anodised wrought aluminium alloy

RoHS-compliant

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

Combination matrix

		[2] Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS			
Size		25	32	45	60
[1] Base axis ELGC-BS/-TB; ELFC	32	8066717	-	-	-
	45	-	8066718	-	-
	60	-	-	8066719	-



Dimensions and ordering data

For combination (size)	B1	B2	B3	B4	B5	D1	H1	H2	H3	H4
45/32	69	60	34	20.5	11.5	M4	45	17.5	10	34
60/45	87.2	75	47	21.5	11.5	M5	60	24.5	12	47

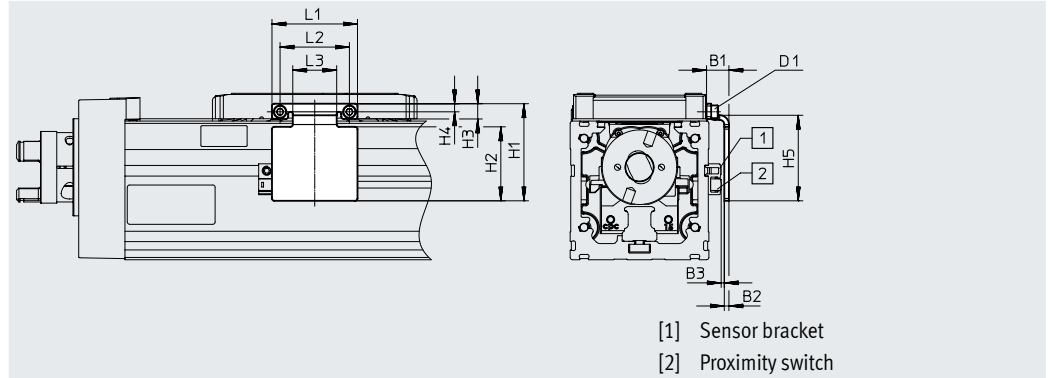
For combination (size)	H5	L1	L2	L3	T1	Weight [g]	Part no.	Type
45/32	5.5	52	42	42	5.4	222	8066718	EHAA-D-L2-45-L2-32-AP
60/45	6.5	71	58	58	5.4	433	8066719	EHAA-D-L2-60-L2-45-AP

Accessories

Switch lug EAPM-L2-SLS

For sensing using inductive proximity switches SIES-8M

Material:
Galvanised steel
RoHS-compliant

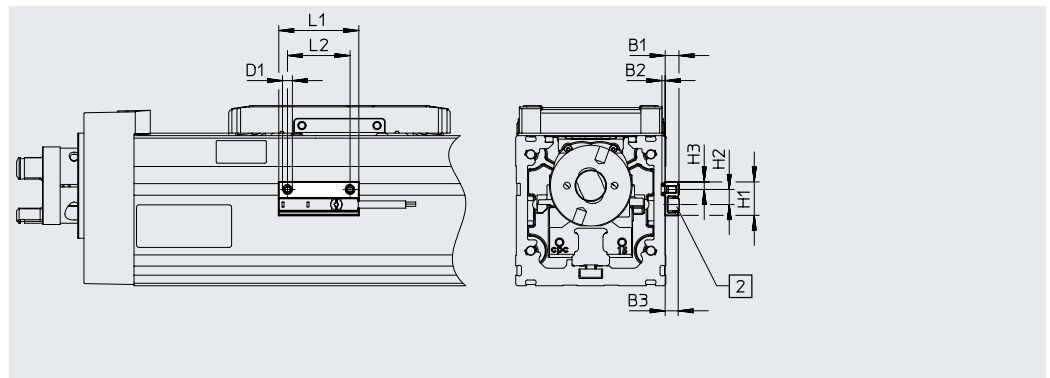


Dimensions and ordering data								
For size	B1	B2	B3	D1	H1 ±0.2	H2	H3	H4
32	9.2	2	1.0±0.31	M1.6	27	19	4.3	2.5
45	9.4	2	1.2±0.31	M2	37	28	5.5	3.3
60	9.7	2	1.3±0.31	M3	37	32	6.6	3.5

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

Sensor bracket EAPM-L2-SH



Material:
Anodised wrought aluminium alloy
RoHS-compliant



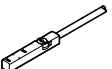
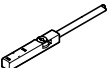
Dimensions and ordering data						
For size	B1	B2	D1	H1	H2	H3
32, 45, 60	5.5	1.3	M4	13.4	6	3

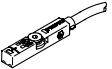
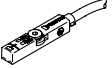
For size	H3	L1	L2	Weight [g]	Part no.	Type
32, 45, 60	3	32	25	4	4759852	EAPM-L2-SH



Accessories


Ordering data		For size	Description	Part no.	Type	PE ¹⁾
Centring pin ZBS/centring sleeve ZBH						
	32	For slide		525273	ZBS-2	10
	45			562959	ZBS-4	
	60			189652	ZBH-5	
Clamping component EADT						
	32, 45	Tool for retensioning the cover strip		8065818	EADT-S-L5-32	1
	60			8058451	EADT-S-L5-70	

1) Packaging unit

Ordering data – proximity switches for T-slot, inductive		Data sheets → Internet: sies				
Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type	
N/O contact						
	Insertable in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	7.5	551386	SIES-8M-PS-24V-K-7,5-OE
			Plug M8x1, 3-pin	0.3	551387	SIES-8M-PS-24V-K-0,3-M8D
		NPN	Cable, 3-wire	7.5	551396	SIES-8M-NS-24V-K-7,5-OE
			Plug M8x1, 3-pin	0.3	551397	SIES-8M-NS-24V-K-0,3-M8D
N/C contact						
	Insertable in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	7.5	551391	SIES-8M-PO-24V-K-7,5-OE
			Plug M8x1, 3-pin	0.3	551392	SIES-8M-PO-24V-K-0,3-M8D
		NPN	Cable, 3-wire	7.5	551401	SIES-8M-NO-24V-K-7,5-OE
			Plug M8x1, 3-pin	0.3	551402	SIES-8M-NO-24V-K-0,3-M8D


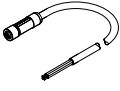
Ordering data – Proximity switch for T-slot, magneto-resistive		Data sheets → Internet: smt				
Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type	
N/O contact						
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	2.5	574335	SMT-8M-A-PS-24V-E-2,5-OE
			Plug M8x1, 3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0,3-M8D
N/C contact						
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	7.5	574340	SMT-8M-A-PO-24V-E-7,5-OE



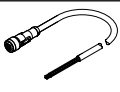
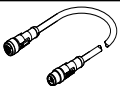
Ordering data – Connecting cables		Data sheets → Internet: nebu				
Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type		
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541333	NEBU-M8G3-K-2.5-LE3	
			5	541334	NEBU-M8G3-K-5-LE3	
	Angled socket, M8x1, 3-pin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

-  - Note

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

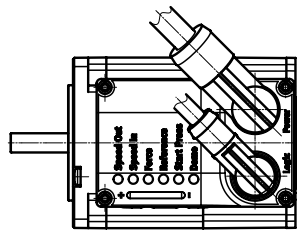
Accessories


Ordering data – Supply cables					Data sheets → 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					Data sheets → 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	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	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.



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

Ordering data – Adapter					Data sheets → 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	8080777	NEFC-M12G8-0.3-M12G5-LK