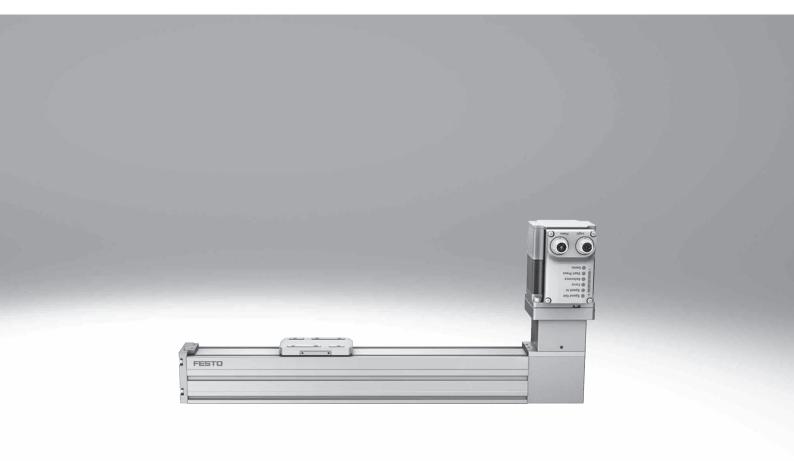
Toothed belt axis units ELGS-TB-KF







At a glance

Plug and work with the Simplified Motion Series



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

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

Integrated

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

Easy

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

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

Standardised

Electrical connection via M12 plug design

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

Connected

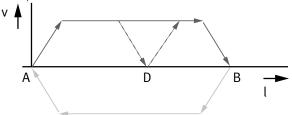
IO-Link

Use of extended functions possible via IO-Link:

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

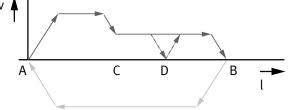
The functions of the Simplified Motion Series

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



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

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



At a glance



- Without external servo drive: all the necessary electronic components are combined in the integrated drive
- Two control options integrated as standard: digital I/O and IO-Link
- Complete solution for simple movements between mechanical end positions
- 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

The products in the Simplified Motion Series

Electric cylinder unit EPCE

Electric cylinder unit EPCS

Electric cylinder unit with parallel motor mounting EPCS



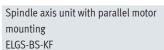
Mini slide unit EGSS-BS-KF



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



Spindle axis unit ELGS-BS-KF





Toothed belt axis unit ELGS-TB-KF



Toothed belt axis unit ELGE



Rotary drive unit ERMS







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

This product is also available as a modular mechanical system as toothed belt axis ELGC-TB-KF:



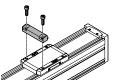
When compact dimensions and optimised installation space are important, e.g. for assembly systems, test and inspection systems, small parts handling, the electronics industry and desktop applications. Either as an individual axis or as a handling system.

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

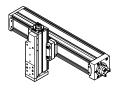
Combination matrix between axis ELGC-TB/ELGS-TB, ELGC-BS/ELGS-BS, mini slide EGSC-BS/EGSS-BS, electric cylinder EPCC-BS/EPCS-BS and guide axis ELFC Mounting options with profile mounting and with angle kit

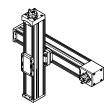
		Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS; EPCC-BS; ELGS-BS/-TB; EGSS-BS, EPCS-BS				
	Size	25	32	45	60	
Base axis	32	•	-	-	-	
ELGC-BS/-TB; ELFC;	45	-	•	-	-	
ELGS-BS/-TB	60	-	-		-	
	80	-	-	-	•	

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



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



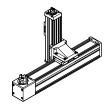


With angle kit EHAA-D-L2-...-AP



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





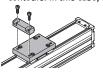
Combination matrix between axis ELGC/ELGS-TB, ELGC/ELGS-BS, mini slide EGSC/EGSS-BS, electric cylinder EPCC/EPCS-BS and guide axis ELFC Mounting options with adapter kit or direct fastening

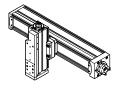
				BS/-TB; ELF S, EPCS-BS		; EPCC-BS;
	Size	25	32	45	60	80
Base axis	32			_	-	-
ELGC-BS/-TB; ELFC;	45	-		•	-	-
ELGS-BS/-TB	60	-	-			-
	80	_	_	_		

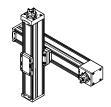
	Assembly axis EGSC-BS; EGSS-BS				
	Size	25	32	45	60
Base axis	25	•	-	-	-
EGSC-BS;	32	-	•	-	-
EGSS-BS	45	-	-	•	-
	60	-	-	-	•

With adapter kit EHAA-D-L2

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

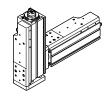






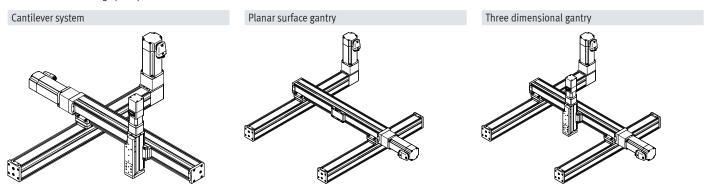
With direct mounting

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



Typical handling systems

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

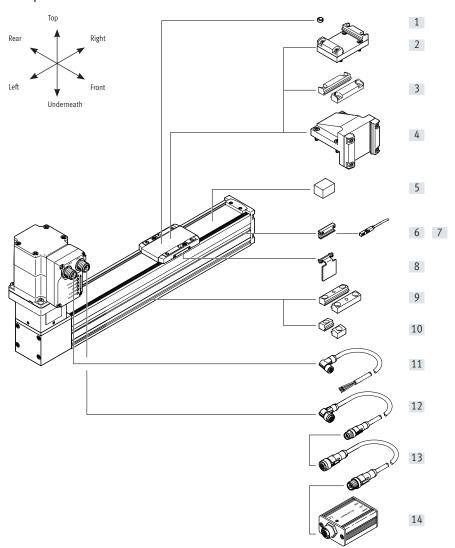


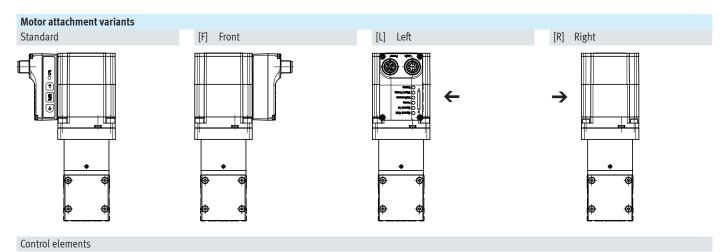
Type codes

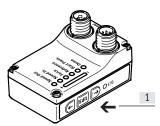
001	Series
ELGS	Gantry axis
002	Drive system
ТВ	Toothed belt
003	Guide
KF	Recirculating ball bearing guide
004	Size
45	45
60	60
005	Stroke
200	200
300	300
500	500
600	600
800	800
1000	1000
1200	1200
1500	1500
1800	1800
2000	2000
006	Motor type
ST	Stepper motor ST
007	Controller
M	Integrated

800	Control panel	
H1	Integrated	
009	Bus protocol/activation	
PLK	PNP and IO-Link®	
NLK	NPN and IO-Link®	
010	End-position sensing	
AA	With integrated end-position sensing	
011	Cable outlet direction	
	Standard	
L	Left	
R	Right	
F	Front	
012	Electrical accessories	
	None	
L1	Adapter for operation as IO-Link® device	
013	Operating instructions	
	With operating instructions	
DN	Without operating instructions	

Peripherals overview







[1] Pushbutton actuators for parameterisation and control

Peripherals overview

Acces	sories		
	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	 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-L2P-D	 For axis/axis mounting without adapter plate Mounting option: base axis with one-size-down assembly axis 	26
[4]	Angle kit EHAA-D-L2AP	 For mounting one-size-down vertical axes (assembly axes) on base axes with mounting position "slide at top" 	28
[5]	Clamping element EADT-S-L5-32	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 switches ¹⁾ SIES-8M	Inductive proximity switches, for T-slot	30
	Proximity switches ¹⁾ SMT-8M	Magnetic proximity switches, for T-slot	30
[8]	Switch lug ¹⁾ EAPMSLS	For sensing the slide position in conjunction with inductive proximity switches SIES-8M	29
[9]	Profile mounting EAHF-L2P	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	24
[10]	Profile mounting EAHF-L2	For mounting the axis on the side of the profile	25
[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 IO-Link master Only recommended for use with IO-Link port class A 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.



- **Ø** - Size

45 ... 60

Stroke length 200 ... 2000 mm



General technical data			
Size		45	60
Design		Electromechanical axis with toothed belt and integrated	d drive
Motor type		Stepper motor	
Guide		Recirculating ball bearing guide	
Mounting position		Horizontal	
Working stroke	[mm]	200, 300, 500, 600, 800, 1000, 1200, 1500	200, 300, 500, 600, 800, 1000, 1200, 1500, 1800, 2000
Stroke reserve	[mm]	0	
Additional functions		Built-in end-position sensing	
		User interface	
Display		LED	
Homing		Positive fixed stop block	
		Negative fixed stop block	
Type of mounting		With female thread	
		With accessories	
		With centring pin, centring sleeve	
Max. cable length			
Inputs/outputs	[m]	15	
IO-Link operation	[m]	20	

Mechanical data				
Size		45	60	
Max. payload	[kg]	2.5	4	
Max. feed force F _x	[N]	75	65	
Max. speed ¹⁾	[m/s]	1.2	1.3	
Speed "Speed Press" ²⁾	[m/s]	0.024	0.026	
Max. acceleration ²⁾	[m/s ²]	6	6	
Repetition accuracy	[mm]	±0.1	±0.1	
Position sensing		Via proximity switch	·	
		Via IO-Link		

Adjustable in increments of 10%
 Unchangeable parameter

Toothed belt			
Size		45	60
Pitch	[mm]	2	3
Elongation ¹⁾	[%]	0.187	0.124
Effective diameter	[mm]	19.1	24.83
Feed constant	[mm/rev]	60	78

1) At max. feed force

Electrical data				
Size		45	60	
Motor				
Nominal voltage DC	[V]	24 (±15%)		
Nominal current	[A]	5.3		
Max. current consumption (load)	[A]	5.3		
Max. current consumption (logic)	[mA]	300		
Encoder				
Rotor position sensor		Absolute encoder, single turn		
Rotor position sensor measuring principle		Magnetic		
Rotor position encoder resolution	[bit]	16		

Interfaces				
Size		45		60
Parameterisation interface				
IO-Link		Yes		
User interface		Yes		
Digital inputs				
Number		2		
Switching logic		PNP		
		NPN		
Characteristics		Not galvanically isolated		
		Configurable		
Specification		Based on IEC 61131-2, type 1		
Operating range	[V]	24		
Digital outputs				
_Number		2		
Switching logic		PNP		
		NPN		
Rotor position sensor		Absolute encoder, single turn		
Characteristics		Not galvanically isolated		
		Configurable		
Max. current	[mA]	100		

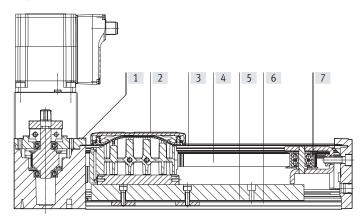
Technical data – IO-Link				
Size		45	60	
SIO mode support		Yes		
Communication mode		COM3 (230.4 kBd)		
Connection technology		Plug		
Port class		A		
No. of ports		1		
Process data width OUT	[byte]	2		
Process data content OUT	[bit]	1 (Move in)		
	[bit]	1 (Move out)		
	[bit]	1 (Move Intermediate)		
	[bit]	1 (Quit Error)		
Process data width IN	[byte]	2		
Process data content IN	[bit]	1 (State Device)		
	[bit]	1 (State Move)		
	[bit]	1 (State in)		
	[bit]	1 (State out)		
	[bit]	1 (State Intermediate)		
Service data content IN	[bit]	32 (Force)		
	[bit]	32 (Position)		
	[bit]	32 (Speed)		
Minimum cycle time	[ms]	1		
Data memory required	[kilobyte]	0.5		
Protocol version		Device V 1.1		

Operating and environmental conditions			
Size		45	60
Insulation class		В	
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 re	educed by 2% per K
Temperature monitoring		Switch-off for excessive temperature	
		Integrated precise CMOS temperature sensor with analogue o	output
Relative humidity	[%]	090	
Protection class			
Degree of protection		IP40	
Duty cycle	[%]	100	
CE marking (see declaration of conformity)		To EU EMC Directive for EMCS-ST → festo.com/sp	
		To EU RoHS Directive	
UKCA marking (see declaration of conformity)		To UK instructions for EMC	
		To UK RoHS instructions	
KC mark		KC EMC	
Certification		RCM	
Vibration resistance		Transport application test with severity level 1 to FN 942017-4 and EN 61800-2 and EN 61800-5-1	
Shock resistance		Shock test with severity level 1 to FN 942017-5 and EN 61800-2	
Maintenance interval		Lifetime lubrication	

Weight			
Size		45	60
Basic weight at 0 mm stroke	[g]	1790	2955
Additional weight per 10 mm stroke	[g]	23	43
Moving mass with 0 mm stroke	[g]	169	482

Materials

Sectional view



Axis		
[1]	Drive cover	Painted die-cast aluminium
[2]	Slide	Die-cast aluminium
[3]	Cover strip	High-alloy stainless steel
[4]	Toothed belt	Polychloroprene with glass filament and nylon
		coating
[5]	Guide	Steel
[6]	Profile	Anodised wrought aluminium alloy
[7]	Guide pulley	Aluminium
	PWIS conformity	VDMA24364 zone III
	Note on materials	RoHS-compliant

Pin allocation

Power supply

Plug

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



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

Logic interface

Plug

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

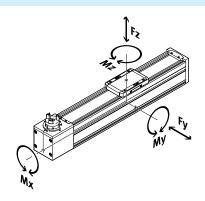


When used with digital I/O			
Pin	Function		
1	Logic voltage supply (24 V DC)		
2	Digital output 1 (State "In")		
3	Digital output 2 (State "Out")		
4	Reference potential, logic voltage supply (GND)		
5	Digital input 1 (Move "In")		
6	Digital input 2 (Move "Out")		
7	Reserved, do not connect		
8	Reference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

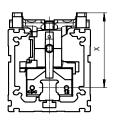
When used wit	When used with IO-Link				
Pin	Function				
1	L+ IO-Link power supply (24 V DC)				
2	Reserved, do not connect				
3	C/Q communication with the IO-Link master				
4	L – Reference potential, IO-Link power supply (0 V)				
5	Reserved, do not connect				
6	Reserved, do not connect				
7	Reserved,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

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		45	60	
Fy _{max} .	[N]	300	600	
Fz _{max} .	[N]	600	1800	
Mx _{max} .	[Nm]	5.5	29.1	
My _{max} .	[Nm]	4.7	31.8	
Mz _{max} .	[Nm]	4.7	31.8	

Distance from the slide surface to the centre of the guide			
Size		45	60
Dimension x	[mm]	42.8	54.6

Max. permissible forces and torques for the guide calculation, for a service life of 5000 km or 5x 10 ⁶ cycles				
Size		45	60	
Fy _{max} .	[N]	880	3641	
Fz _{max} .	[N]	880	3641	
Mx _{max} .	[Nm]	5.5	29.1	
My _{max} .	[Nm]	4.7	31.8	
Mz _{max} .	[Nm]	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 $fv \le 1$, 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 \rightarrow 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:

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

 $F_1/M_1 = dynamic value$

 $F_2/M_2 = maximum value$

Calculating the service life

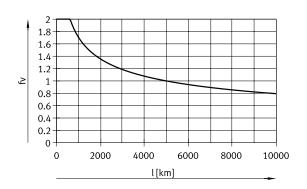
The service life of the guide depends on the load. To be able to make a statement as to the service life of the guide, the graph below plots the load comparison factor fv against the service life.

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

Load comparison factor fv as a function of service life l

Example:

A user wants to move an x kg load. Using the formula (\rightarrow page 14) gives a value of 1.5 for the load comparison factor fv. According to the graph, the guide would have a service life of approx. 1500 km. Reducing the acceleration reduces the My and Mz values. A load comparison factor fv of 1 now gives a service life of 5000 km.



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

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

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

To make it easier to compare the guide capacity of linear axes 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	_	45	60	
Fy _{max.}	[N]	3240	13400	
Fz _{max} .	[N]	3240	13400	
Mx _{max} .	[Nm]	20	107	
My _{max.}	[Nm]	17	117	
Mz _{max} .	[Nm]	17	117	

Service life of the motor

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

Sizing example

Application data:

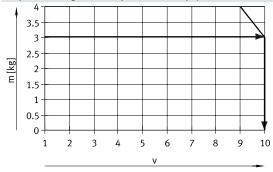
- Payload: 3 kg
- Mounting position: horizontal
- Stroke: 600 mm
- Max. permitted positioning time: 1 s (one direction)

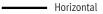
Step 1: Selecting the possible size from the table → page 10

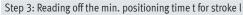
Mechanical data			
Size		45	60
Max. payload	[kg]	2.5	4

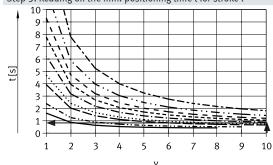
→ Smallest possible size: ELGS-TB-KF-60

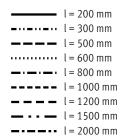
Step 2: Selecting the max. speed level v for payload m











→ Min. positioning time for 600 mm at level 10: 0.8 s

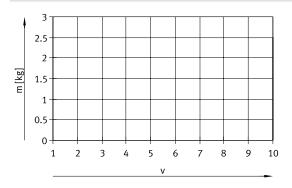
ightarrow Max. speed level for payload: level 10

Result

The application can be implemented using ELGS-TB-KF-60-600. A minimum positioning time (one direction) of 0.8 s is achieved. Longer positioning times can be selected at any time using a lower speed level.

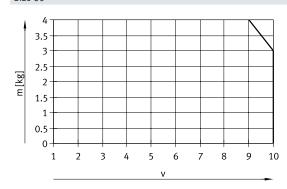
Mass m as a function of speed level v

Size 45



Horizontal

Size 60

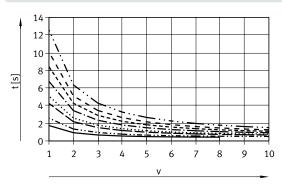


Note:

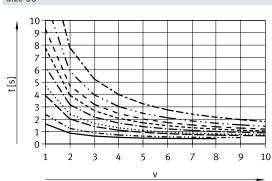
The lines represent the maximum values. The lower speed levels can be set at any time.

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

Size 45

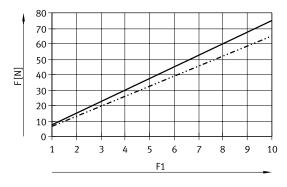


Size 60



l = 200 mm
l = 300 mm
l = 500 mm
l = 600 mm
l = 600 mm
l = 1000 mm
l = 1200 mm
l = 1200 mm
l = 1500 mm
l = 1500 mm

Feed force F as a function of force level F1



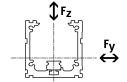
ELGS-TB-45
ELGS-TB-60

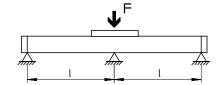
Maximum permissible support spacing L (without profile mounting) as a function of force F

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

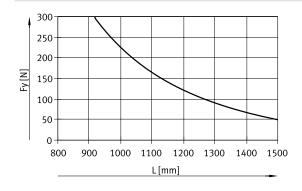
The following graphs can be used to determine the maximum permissible support spacing l as a function of force F acting on the axis.

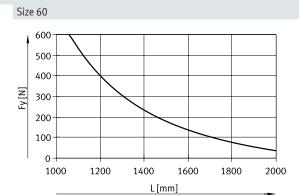
The deflection is f = 0.5 mm.



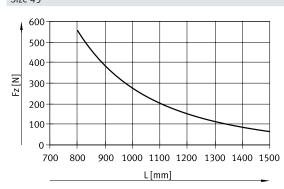


Force F_y Size 45

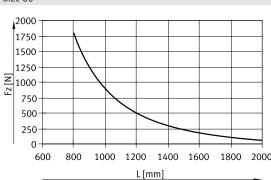




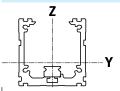
Force F_z Size 45



Size 60



2nd moments of area

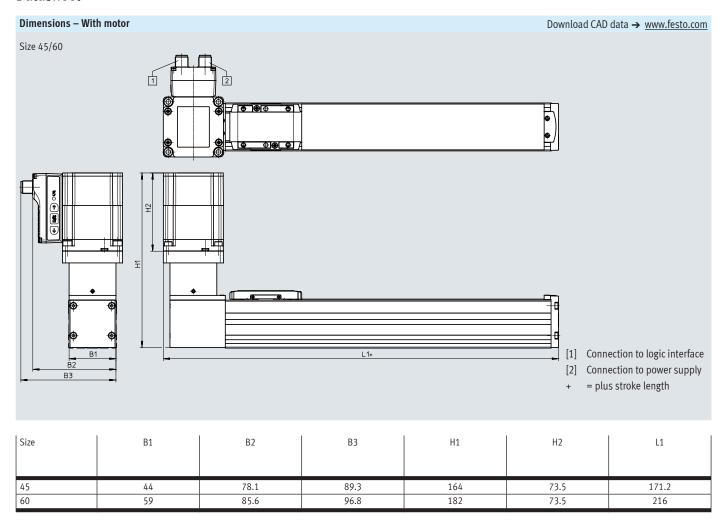


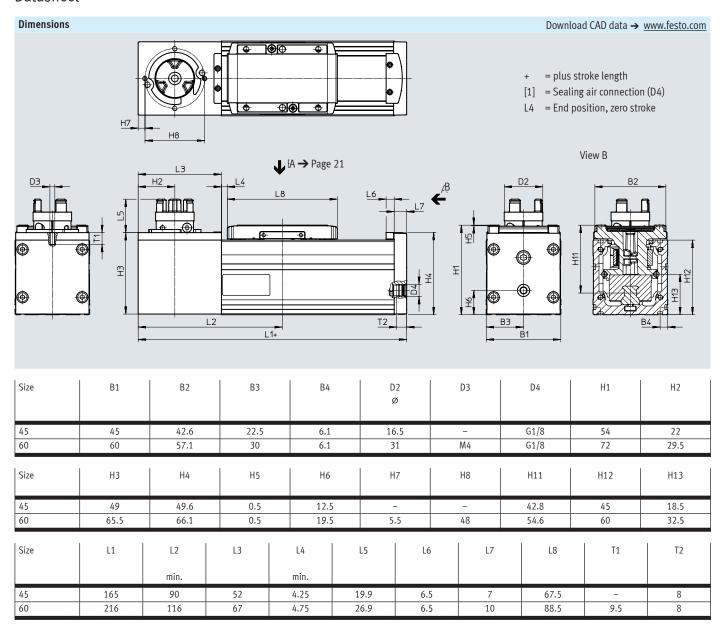
Size		45	60
ly [[mm ⁴]	140x10 ³	441x10 ³
Iz [[mm ⁴]	170x10 ³	542x10 ³

Recommended deflection limits

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

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





Profile Size 45 Size 60 [1] = Slot for sensor bracket [2] = Mounting slot Size B1 B5 H9 H10

6.1

6.1

45

60

45

60

24.5

38.5

32.9

47.9

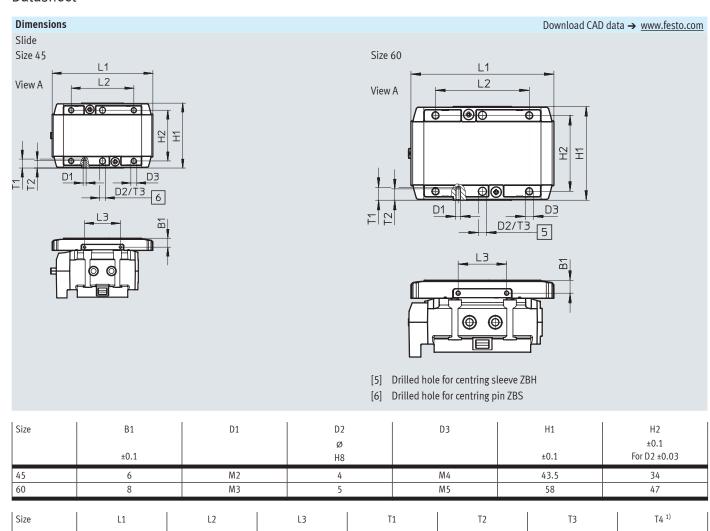
+0.1

3.1

1.3

6 ... 7.5 8.5 ... 10

Datasheet



67.5

88.5

45

60

±0.1

42

58

±0.1

24

30

6

9

5

¹⁾ Recommended screw-in depth

Ordering data

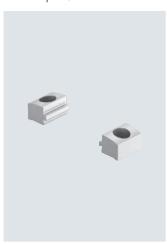
Ordering data				
	Size	Stroke	Part no.	Туре
	45	200	8083665	ELGS-TB-KF-45-200-ST-M-H1-PLK-AA
		300	8083666	ELGS-TB-KF-45-300-ST-M-H1-PLK-AA
		500	8083667	ELGS-TB-KF-45-500-ST-M-H1-PLK-AA
		600	8083668	ELGS-TB-KF-45-600-ST-M-H1-PLK-AA
		800	8083669	ELGS-TB-KF-45-800-ST-M-H1-PLK-AA
		1000	8083670	ELGS-TB-KF-45-1000-ST-M-H1-PLK-AA
		1200	8083671	ELGS-TB-KF-45-1200-ST-M-H1-PLK-AA
		1500	8083672	ELGS-TB-KF-45-1500-ST-M-H1-PLK-AA
	60	200	8083570	ELGS-TB-KF-60-200-ST-M-H1-PLK-AA
		300	8083571	ELGS-TB-KF-60-300-ST-M-H1-PLK-AA
		500	8083572	ELGS-TB-KF-60-500-ST-M-H1-PLK-AA
		600	8083573	ELGS-TB-KF-60-600-ST-M-H1-PLK-AA
		800	8083574	ELGS-TB-KF-60-800-ST-M-H1-PLK-AA
		1000	8083575	ELGS-TB-KF-60-1000-ST-M-H1-PLK-AA
		1200	8083576	ELGS-TB-KF-60-1200-ST-M-H1-PLK-AA
		1500	8083577	ELGS-TB-KF-60-1500-ST-M-H1-PLK-AA
		1800	8083578	ELGS-TB-KF-60-1800-ST-M-H1-PLK-AA
		2000	8083579	ELGS-TB-KF-60-2000-ST-M-H1-PLK-AA

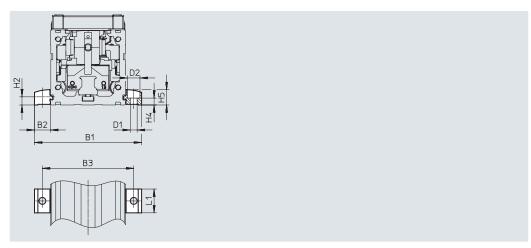
Ordering data – Modular product system

Ordering table					
Size	45	60	Conditions	Code	Enter code
Module no.	8083664	8083557			
Series	ELGS			ELGS	ELGS
Drive system	Toothed belt			-TB	-TB
Guide	Recirculating ball bearing guide			-KF	-KF
Size	45	60			
Stroke [mm]	200, 300, 500, 600, 800, 1000, 1200, 1500	200, 300, 500, 600, 800, 1000, 1200, 1500 200, 300, 500, 600, 800, 1000, 1200, 1500, 1800, 2000			
Motor type	Stepper motor ST		-ST	-ST	
Controller	Integrated		-M	-M	
Operator panel	Integrated	Integrated			
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	Rear				
	Front			-F	
	Left			-L	
	Right			-R	
Electrical accessories	None				
	Adapter for operation as IO device			+L1	
Operating instructions	With operating instructions				
	Without operating instructions			DN	

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

Material: Anodised wrought aluminium alloy RoHS-compliant • For mounting the axis on the side of the profile





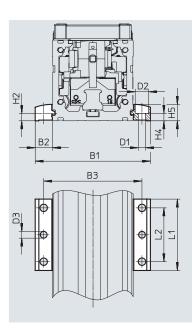
Dimensions and ord	ering data					
For size	B1	B2	В3	D1	D2	H2
				Ø	Ø	
				H13	H13	
45	70.6	12.8	58	5.5	10	6.1
60	85.6	12.8	73	5.5	10	6.1

For size	H4 ±0.1	Н5	L1	Weight [g]	Part no.	Туре
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

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 drilled hole in the centre.





Dimensions and ord	ering data						
For size	B1	B2	B3	D1	D2	D3	H2
				Ø	Ø	Ø	
				H13	H13		
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.	Туре
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

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

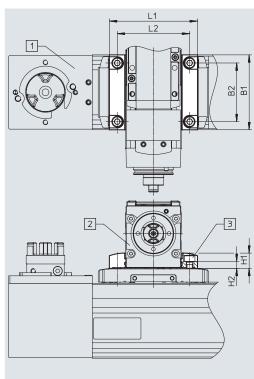
Material:

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	32	45	60				
[1] Base axis	45	4759748	-	-				
ELGC-BS/-TB, ELFC	60	_	4759739	_				





- [1] Base axis
- [2] Assembly axis

Dimensions and ordering	sions and ordering data											
For combination	B1	B2	D1	H1								
(size)												
60/45	60	47	M5	12.2								

For combination (size)	H2 ±0.1	L1	L2	Weight	Part no.	Туре
60/45	5.5	70.6	58	56	4759739	EAHF-L2-45-P-D3

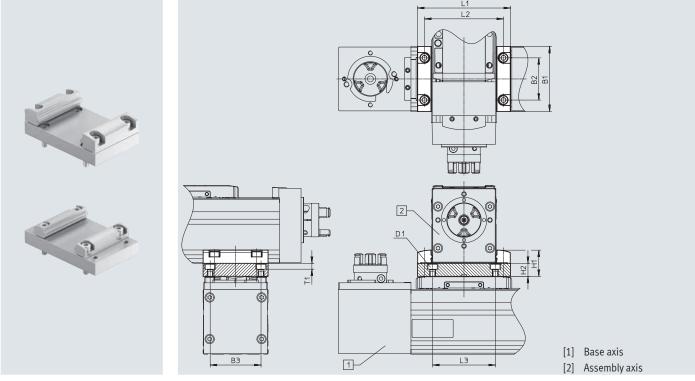
Adapter kit EHAA-D-L2

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	32	45	60	80		
[1] Base axis	45	8066714		-	-		
ELGC-BS/-TB; ELFC	60	_	8066715		-		



Dimensions and order	Dimensions and ordering data												
For combination (size)	B1	B3 ±0.05	D1	H1	Н	2	L1	L2	L3	T1	Weight [g]	Part no.	Туре
60/45	60	47	M5	24.	2 1	2	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.	Туре
60/60	60	39	47	M5	24.2	12	86	73	58	5.4	205	8066715	EHAA-D-L2-60-L2-60

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

Material:

Anodised wrought aluminium alloy

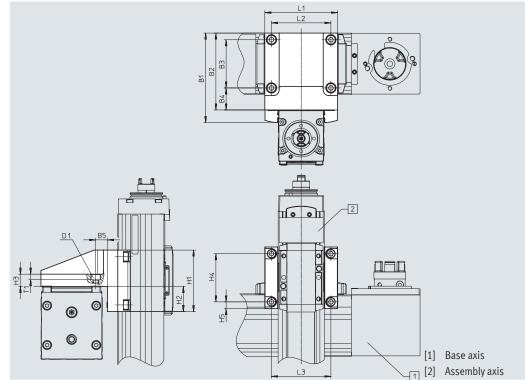
RoHS-compliant

• 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	32	45	60					
[1] Base axis	45	8066718	-	-					
ELGC-BS/-TB; ELFC	60	-	8066719	-					





Dimensions and ordering data										
For combination	B1	B2	В3	B4	B5	D1	H1	H2	Н3	H4
(size)										
60/45	87.2	75	47	21.5	21.5	M5	60	24.5	12	47

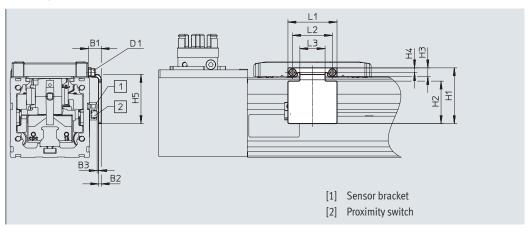
For combination (size)	H5	L1	L2	L3	T1	Weight [g]	Part no.	Туре
60/45	6.5	71	58	58	5.4	433	8066719	EHAA-D-L2-60-L2-45-AP

Switch lug EAPM-L2-SLS

For sensing using inductive proximity switches SIES-8M

Material: Galvanised steel RoHS-compliant





Dimensions and ord	Dimensions and ordering data									
For size	B1	B2	В3	D1	H1	H2	Н3	H4		
					±0.2					
45	9.4	2	1.2±0.31	M2	37	28	5.5	3.3		
60	9.7	2	1.3±0.31	M3	42	32	6.6	3.5		

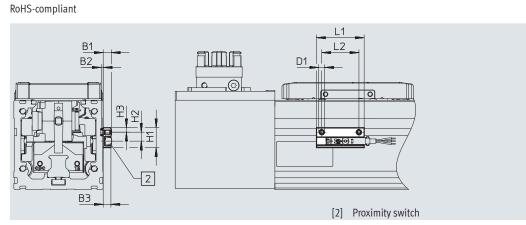
For size	H5 ±0.2	L1 ±0.2	L2 ±0.15	L3	Weight [g]	Part no.	Туре
45	33	30	24	14	18	8067260	EAPM-L2-45-SLS
60	37	37	30	19	27	8067261	EAPM-L2-60-SLS

Sensor bracket EAPM-L2-SH

Material:

Anodised wrought aluminium alloy





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

For size	Н3	L1	L2	Weight [g]	Part no.	Туре
45, 60	3	32	25	4	4759852	EAPM-L2-SH

Ordering data	a									
	For size	Description	Part no.	Туре	PU ¹⁾					
Centring pin Z	Centring pin ZBS/centring sleeve ZBH									
	45	For slide	562959	ZBS-4	10					
	60		8146543	ZBH-5-B						
Clamping eler	ment EADT									
	45	Tool for retensioning the cover strip	8065818	EADT-S-L5-32	1					
	60		8058451	EADT-S-L5-70						
Push-in fitting	g									
	45, 60	for sealing air connection	186266	QSM-G1/8-4-I	10					
			186267	QSM-G1/8-6-I						

1) Packaging unit

	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Туре
N/O						
	Inserted in the slot from above, flush with	PNP	Cable, 3-wire	7.5	551386	SIES-8M-PS-24V-K-7.5-OE
S	the cylinder profile		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-7.5-0E
			Plug M8x1, 3-pin	0.3	551397	SIES-8M-NS-24V-K-0.3-M8D
/C						
	Inserted in the slot from above, flush with	PNP	Cable, 3-wire	7.5	551391	SIES-8M-PO-24V-K-7.5-0E
	the cylinder profile		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
rdering da	ta — Proximity switch for T-slot, magneto-resist	ive				Datasheets → Internet: s
•	Type of mounting	Switching	Electrical connection	Cable length	Part no.	Туре
		output		[m]		,,
/0			·	<u> </u>		
/	Inserted in the slot from above,	PNP	Cable, 3-wire	2.5	574335	SMT-8M-A-PS-24V-E-2.5-0E
	flush with the cylinder profile, short design		Plug M8x1, 3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0.3-M8D
i/c	'		'			'

Ordering data –	Ordering data − Connecting cables Datasheets → Internet: ne								
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Туре				
	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				

Cable, 3-wire

574340

7.5

SMT-8M-A-PO-24V-E-7.5-0E



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

Inserted in the slot from above,

flush with the cylinder profile,

short design

PNP

31

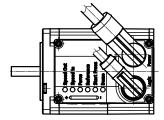
Accessories

Ordering data -	- Supply cables				Datasheets → Internet: nebl
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Туре
	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
30			5	8080791	NEBL-T12G4-E-5-N-LE4
			10	8080792	NEBL-T12G4-E-10-N-LE4
·			15	8080793	NEBL-T12G4-E-15-N-LE4

Ordering data –	Connecting cables				Datasheets → Internet: nebc
	Electrical connection, left	Electrical connection, right	Cable length	Part no.	Туре
			[m]		
	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
Market 1			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
Mark 1			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
(STEPLE)			5	8080783	NEBC-M12G8-E-5-N-M12G8
N N N			10	8080784	NEBC-M12G8-E-10-N-M12G8
			15	8080785	NEBC-M12G8-E-15-N-M12G8



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



Ordering data	Datasheets → Internet: cdsu			
	Description	Cable length [m]	Part no.	Туре
		[III]		
	For using the unit with IO-Link An external power supply plug is also required (not included in the scope of delivery)	0.3	8091509	CDSU-1

Ordering data –	Drdering data – Adapter Datasheets → Intern							
	Electrical connection, left	Electrical connection, right	Cable length	Part no.	Туре			
			[m]					
STATE OF THE PARTY	Straight socket, M12x1, 8-pin	Straight plug, M12x1, 5-pin Only recommended for use with IO-Link port class A master	0.3	8080777	NEFC-M12G8-0.3-M12G5-LK			

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