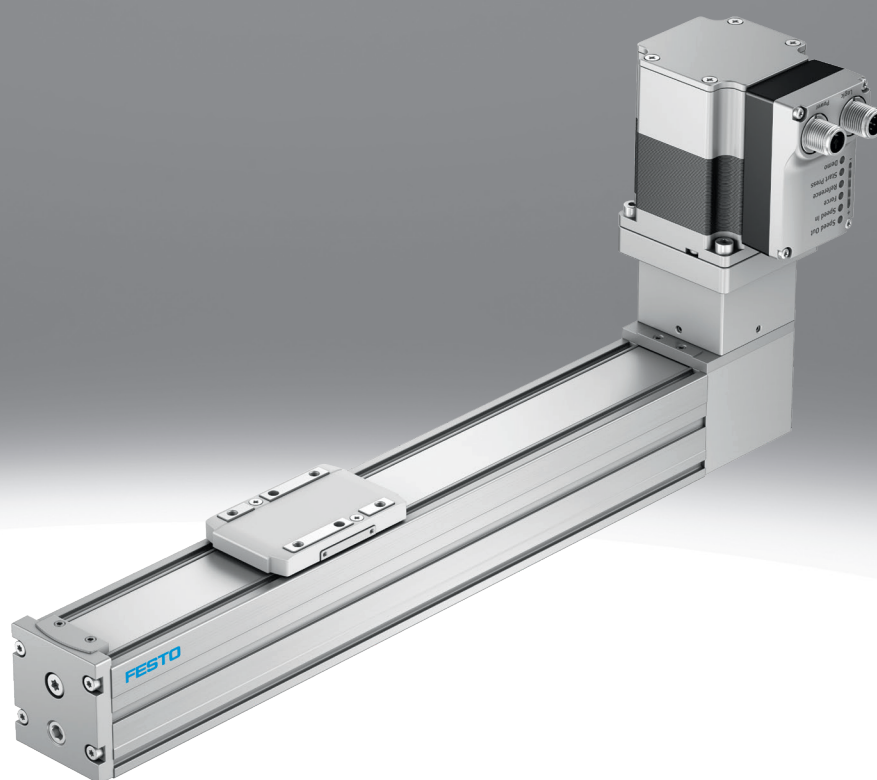


Toothed belt axis unit ELGS-TB

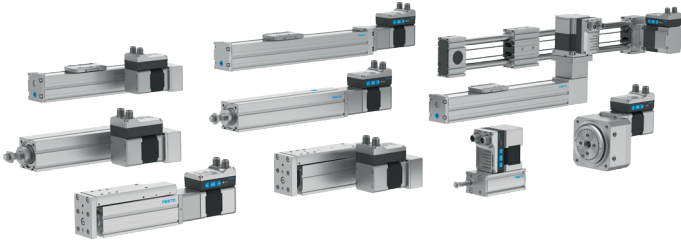
FESTO



Characteristics

At a glance

Further information → [elgs-tb](#)

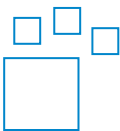


The simplicity of pneumatics is now combined for the first time with the advantages of electric automation thanks to the Simplified Motion Series. These integrated drives are the perfect solution for users who are looking for an electric alternative for very simple motion and positioning tasks between 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-tb](#)



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-tb](#)



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

Drive system

[TB] Toothed belt

- For applications where a high dynamic response and short positioning times are required
- For long strokes
- For lower loads
- Low noise

Characteristics

Motor type

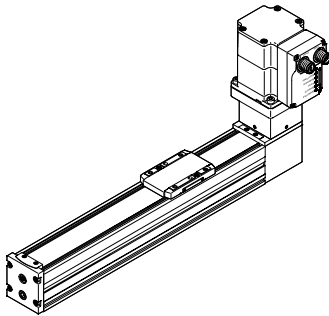
IO-Link

- 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.

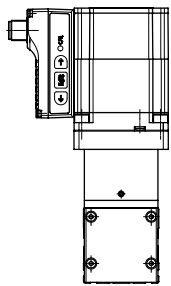
End-position sensing

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

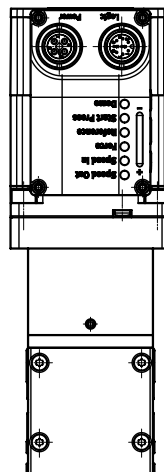
Cable outlet direction

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

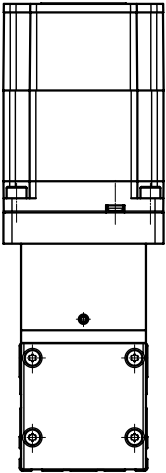


[L] Left

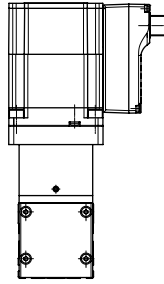


Characteristics

[R] Right



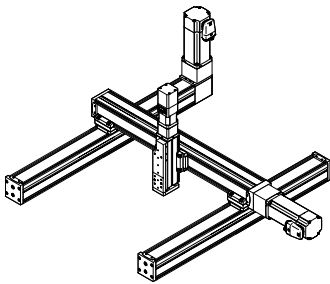
[F] Front



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		006	Motor type	
ELGS	Gantry axis		ST	Stepper motor ST	
002	Drive system		007	Controller	
TB	Toothed belt		M	Integrated	
003	Guide		008	Control panel	
KF	Recirculating ball bearing guide		H1	Integrated	
004	Size		009	Bus protocol/activation	
45	45		PLK	PNP and IO-Link®	
60	60		NLK	NPN and IO-Link®	
005	Stroke [mm]		010	End-position sensing	
200	200		AA	With integrated end-position sensing	
300	300		011	Cable outlet direction	
500	500			Standard	
600	600		L	Left	
800	800		R	Right	
1000	1000		F	Front	
1200	1200		012	Electrical accessories	
1500	1500			None	
1800	1800		L1	Adapter for operation as IO-Link® device	
2000	2000				

Datasheet

General technical data		
Size	45	60
Design	Electromechanical linear axis, With toothed belt, With integrated drive	
Guide	Recirculating ball bearing guide	
Type of motor	Stepper motor	
Working stroke	50 mm; 200 mm; 300 mm; 500 mm; 600 mm; 800 mm; 1,000 mm; 1,200 mm; 1,500 mm	50 mm; 200 mm; 300 mm; 500 mm; 600 mm; 800 mm; 1,000 mm; 1,200 mm; 1,500 mm; 1,800 mm; 2,000 mm
Stroke reserve	0 mm	
Additional functions	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	Horizontal	
Max. cable length	15 m outputs 15 m inputs 20 m with IO-Link® operation	

Mechanical data		
Size	45	60
Reference value effective load, horizontal	2.5 kg	4 kg
Max. feed force F _x	75 N	65 N
Max. speed ¹⁾	1.2 m/s	1.3 m/s
Speed "Speed press"	0.024 m/s	0.026 m/s
Max. acceleration ²⁾	6 m/s ²	
Repetition accuracy	±0.1 mm	
Position detection	Motor encoder, Via proximity switch	

1) Adjustable in steps of 10%.

2) Parameter cannot be changed.

Toothed belt		
Size	45	60
Toothed-belt pitch	2 mm	3 mm
Toothed-belt stretch ¹⁾	0.187%	0.124%
Effective diameter of drive pinion	19.1 mm	24.83 mm
Feed constant	60 mm/U	78 mm/U

1) At max. feed force

Electrical data		
Size	45	60
Nominal voltage DC	24 V	
Permissible voltage fluctuations	+/- 15%	
Nominal current	5.3 A	
Max. current consumption	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	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	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	State In 1 bit State Out 1 bit State Move 1 bit 1-bit (state out) 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	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) ¹⁾	To EU EMC Directive In accordance with EU RoHS Directive	
CE marking (see declaration of conformity) ²⁾	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/... → Support/Downloads.

2) Further information www.festo.com/catalogue/... → Support/Downloads.

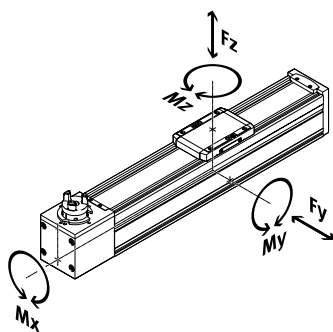
Weight

Size	45	60
Basic weight for 0 mm stroke	1,790 g	2,955 g
Additional weight per 10 mm stroke	23 g	43 g
Moving mass	169	482

Materials

Size	45	60
Material profile	Anodised wrought aluminium alloy	
Material end cap	Painted die cast aluminium	
Material slide	Die-cast aluminium	
Material guide rail	Tempered steel	
Material toothed belt	Polychloroprene with glass fibre	
LABS (PWIS) conformity	VDMA24364 zone III	
Note on materials	RoHS-compliant	

Load parameters



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

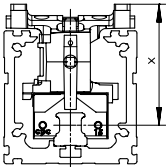
Permissible forces and torques on the overall axis (strength limits)

Size	45	60
Max. force F _y total axis	300 N	600 N
Max. force F _z total axis	600 N	1,800 N
Max. moment M _x total axis	5.5 Nm	29.1 Nm
Max. moment M _y total axis	4.7 Nm	31.8 Nm
Max. moment M _z total axis	4.7 Nm	31.8 Nm

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

Size	45	60
Reference service life	5,000 km	
Max. force F _y	880 N	3,641 N
Max. force F _z	880 N	3,641 N
Max. moment M _x	5.5 Nm	29.1 Nm
Max. moment M _y	4.7 Nm	31.8 Nm
Max. moment M _z	4.7 Nm	31.8 Nm

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



Distance x:

Size: 45 / 60

Dimension x: 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

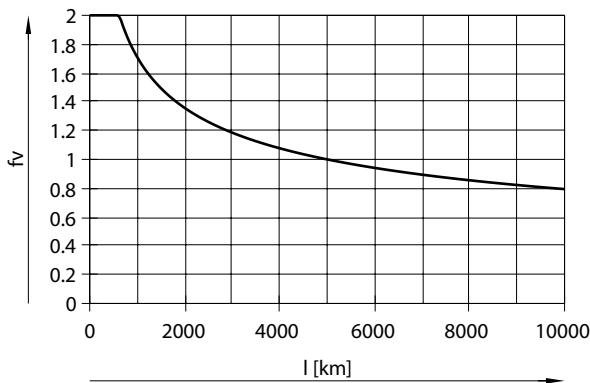
Calculating the service life of the guide

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.

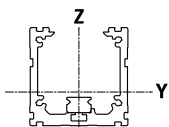
Permissible forces and torques at a theoretical service life of 100 km (pure guide load)

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

2nd moment of area



Size	45	60
2nd moment of area I_y	140,000 mm ⁴	441,000 mm ⁴
2nd moment of area I_z	170,000 mm ⁴	542,000 mm ⁴

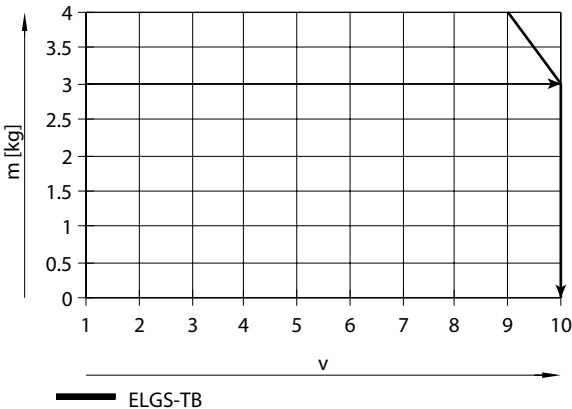
Recommended deflection limits

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

Step 1:

Smallest possible size from the table "Mechanical data": ELGS-TB-KF-60

Step 2:

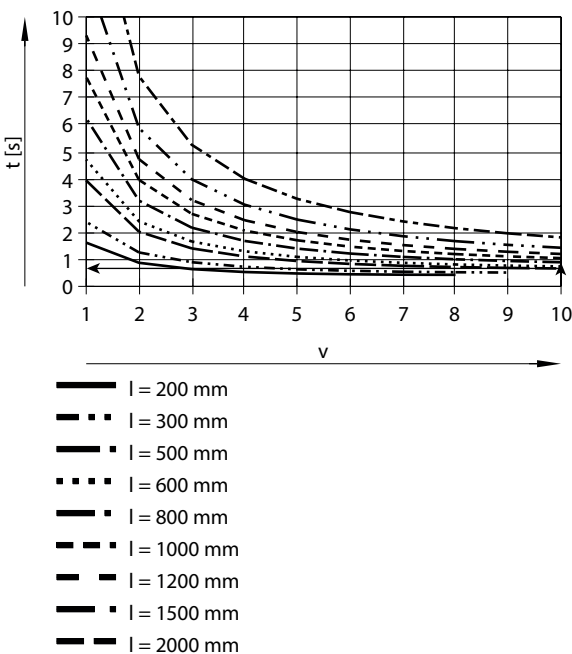
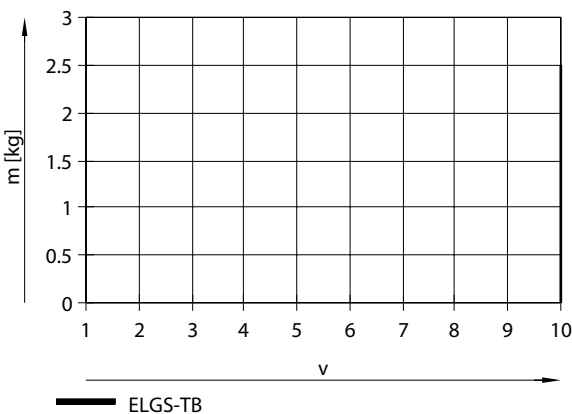
Selecting the max. speed level v for payload m (see diagram on the left)

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-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 by using a lower speed setting.

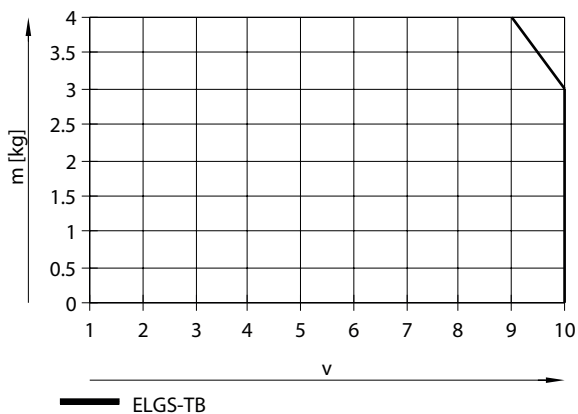
Mass m as a function of speed level v , horizontal mounting position for ELGS-TB-45

Note:

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

Datasheet

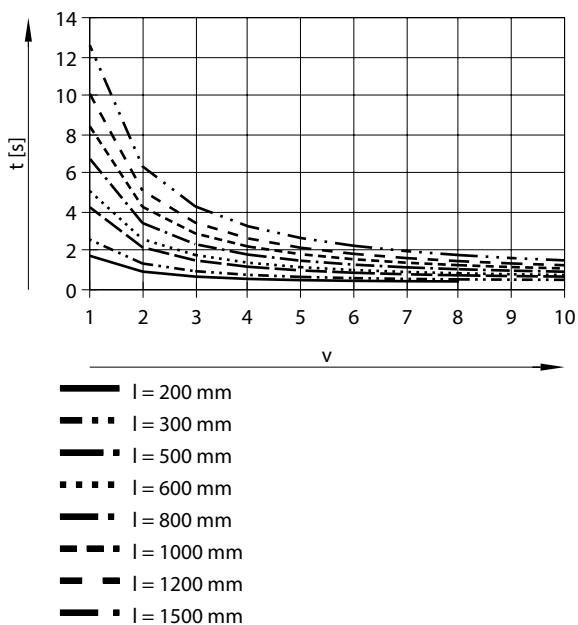
Mass m as a function of speed level v , horizontal mounting position for ELGS-TB-60



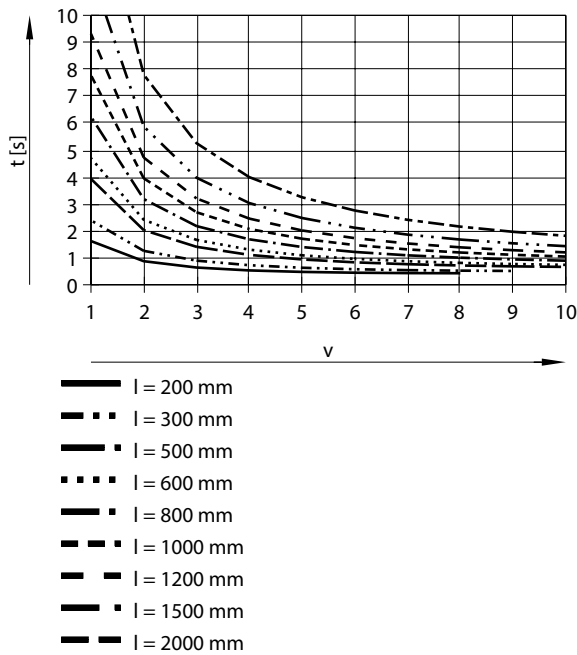
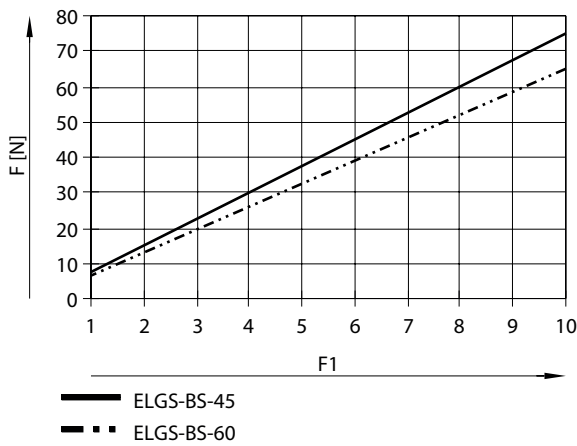
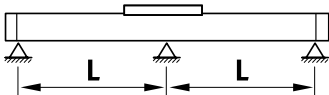
Note:

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 for ELGS-TB-45



Datasheet

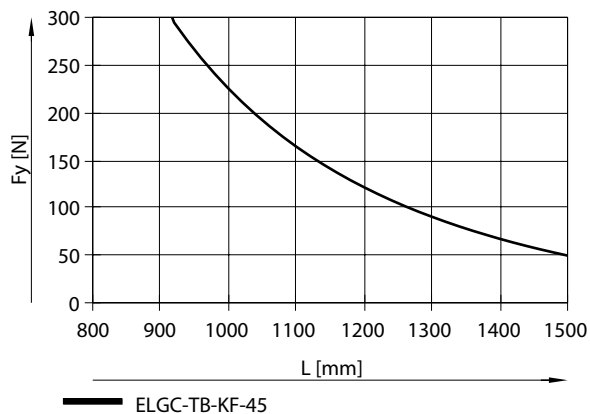
Positioning time t as a function of speed level v and stroke l for ELGS-TB-60Feed force F as a function of force level F_1 Max. permissible support spacing L (without profile mounting) as a function of force

The axis may need to be supported in order to limit deflection in the case of long strokes.

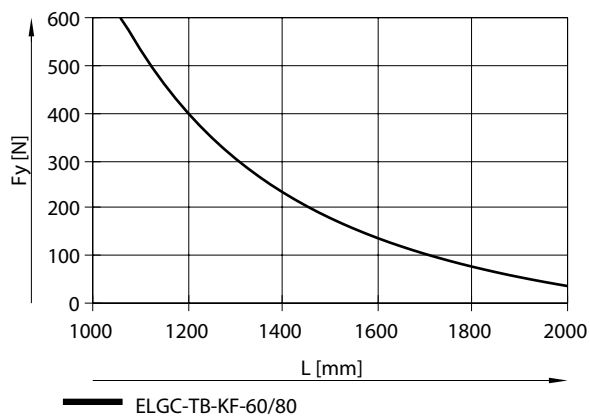
The following graphs can be used to determine the maximum permissible support spacing l as a function of force F acting on the axis. The deflection is $f = 0.5$ mm.

Datasheet

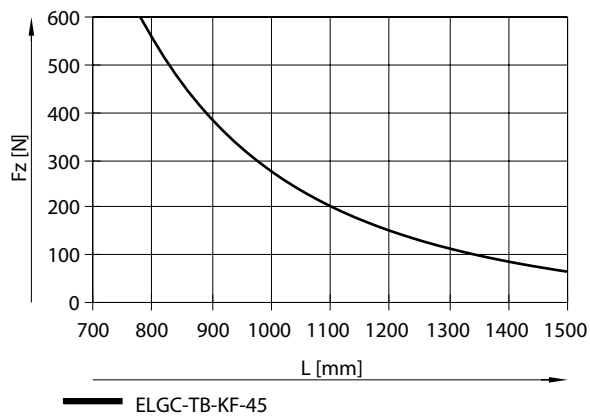
Max. permissible support spacing L (without profile mounting) as a function of force F_y for size 45



Max. permissible support spacing L (without profile mounting) as a function of force F_y for size 60/80

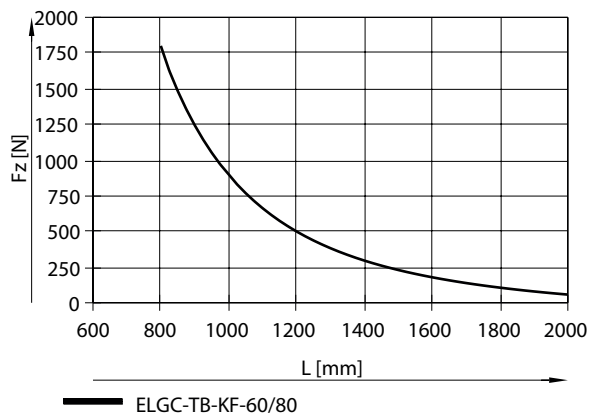


Max. permissible support spacing L (without profile mounting) as a function of force F_z for size 45

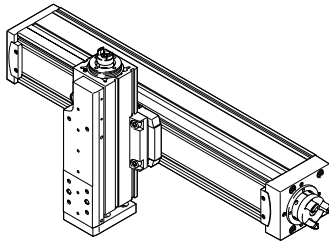


Datasheet

Max. permissible support spacing L (without profile mounting) as a function of force Fz for sizes 60/80



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

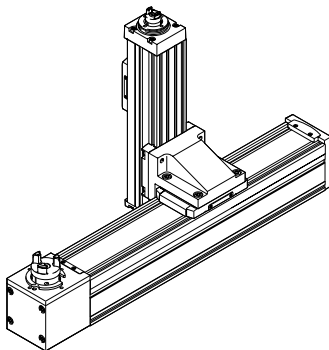


Mounting options with profile mounting EAHF-L2-...-P-D

- 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



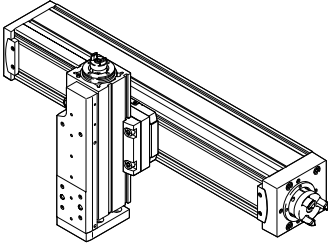
Mounting options with angle kit EHAA-D-L2-...-AP

- 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

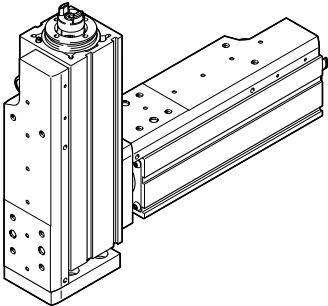
Size 32, 45, 60, 80

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

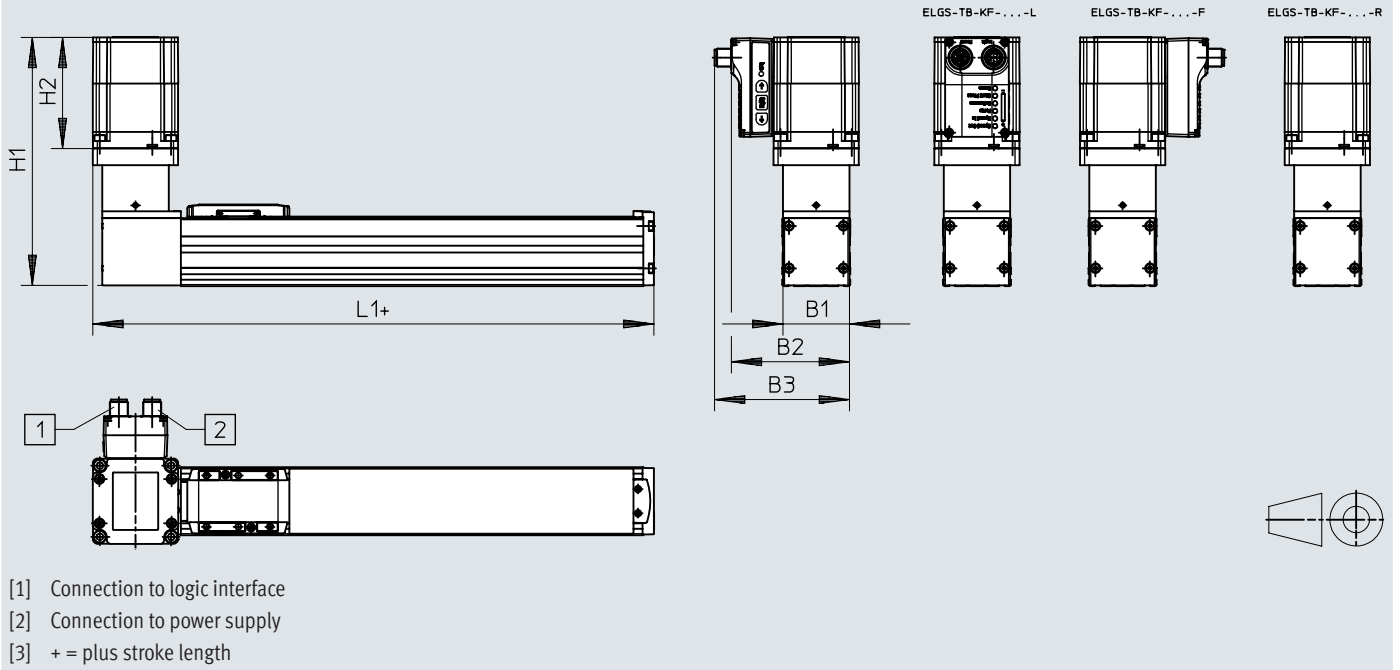
2. Assembly axis:

Product: EGSC, EGSS

Size 25, 32, 45, 60

Dimensions

Dimensions – With motor

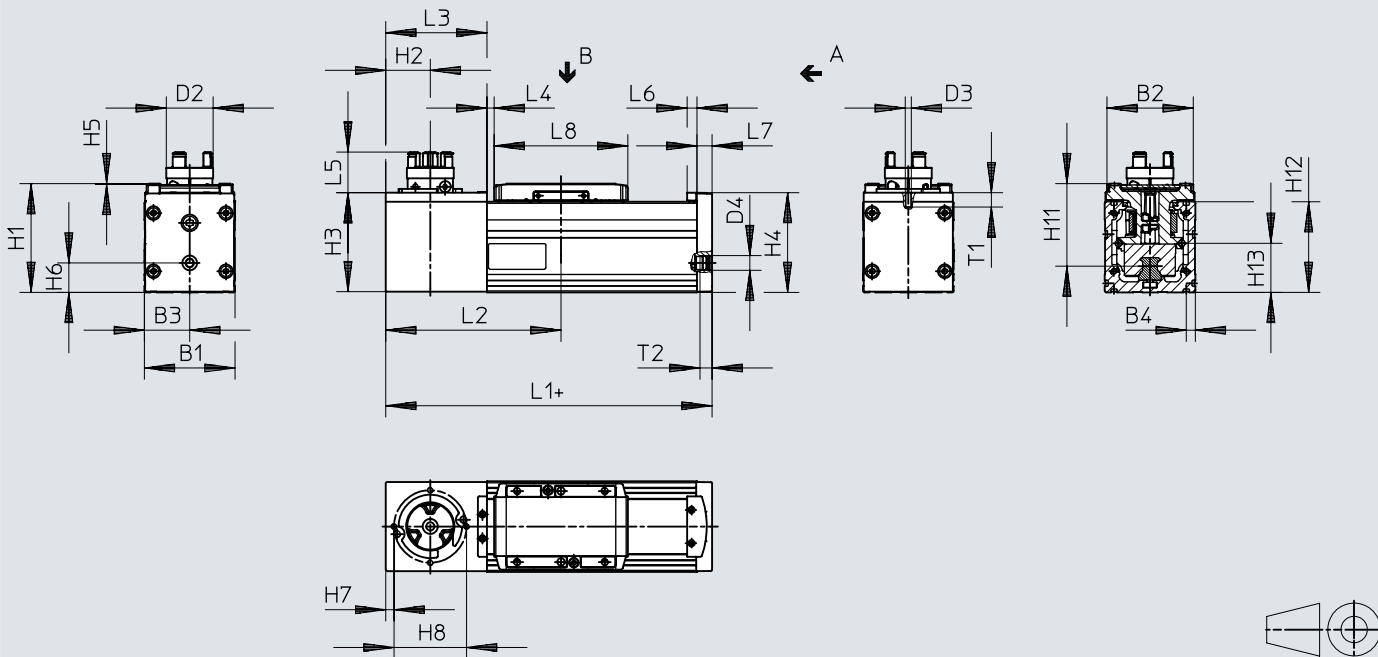
Download CAD data → www.festo.com

	B1	B2	B3	H1	H2	L1
ELGS-TB-KF-45	44	78,1	89,3	164	73,5	171,2
ELGS-TB-KF 60	59	85,6	96,8	182	73,5	216

Dimensions

Dimensions – Toothed belt axis units ELGS-TB-KF, size 45/60

Download CAD data → www.festo.com



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

	B1	B2	B3	B4	D2 ∅	D3	D4	H1	H2
ELGS-TB-KF-45	45	42,6	22,5	6,1	16,5	–	G1/8	54	22
ELGS-TB-KF 60	60	57,1	30	6,1	31	M4	G1/8	72	29,5

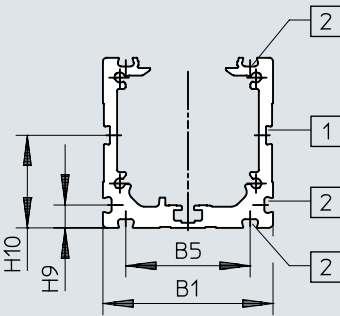
	H3	H4	H5	H6	H7	H8	H11	H12	H13
ELGS-TB-KF-45	49	49,6	0,5	12,5	–	–	42,8	45	18,5
ELGS-TB-KF 60	65,5	66,1	0,5	19,5	5,5	48	54,6	60	32,5

	L1	L2	L3	L4	L5	L6	L7	L8	T1	T2
		min.		min.						
ELGS-TB-KF-45	165	90	52	4,25	19,9	6,5	7	67,5	–	8
ELGS-TB-KF 60	216	116	67	4,75	26,9	6,5	10	88,5	9,5	8

Dimensions

Dimensions – Profile, size 45

Download CAD data → www.festo.com



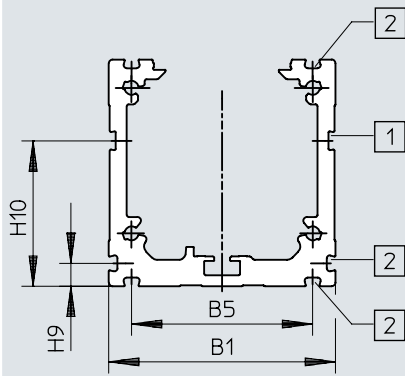
- [1] = Slot for sensor bracket
- [2] = Mounting slot

	B1	B5	H9	H10
ELGS-TB-KF-45	45	32,9	6,1	24,5

Dimensions

Dimensions – Profile, size 60

Download CAD data → www.festo.com

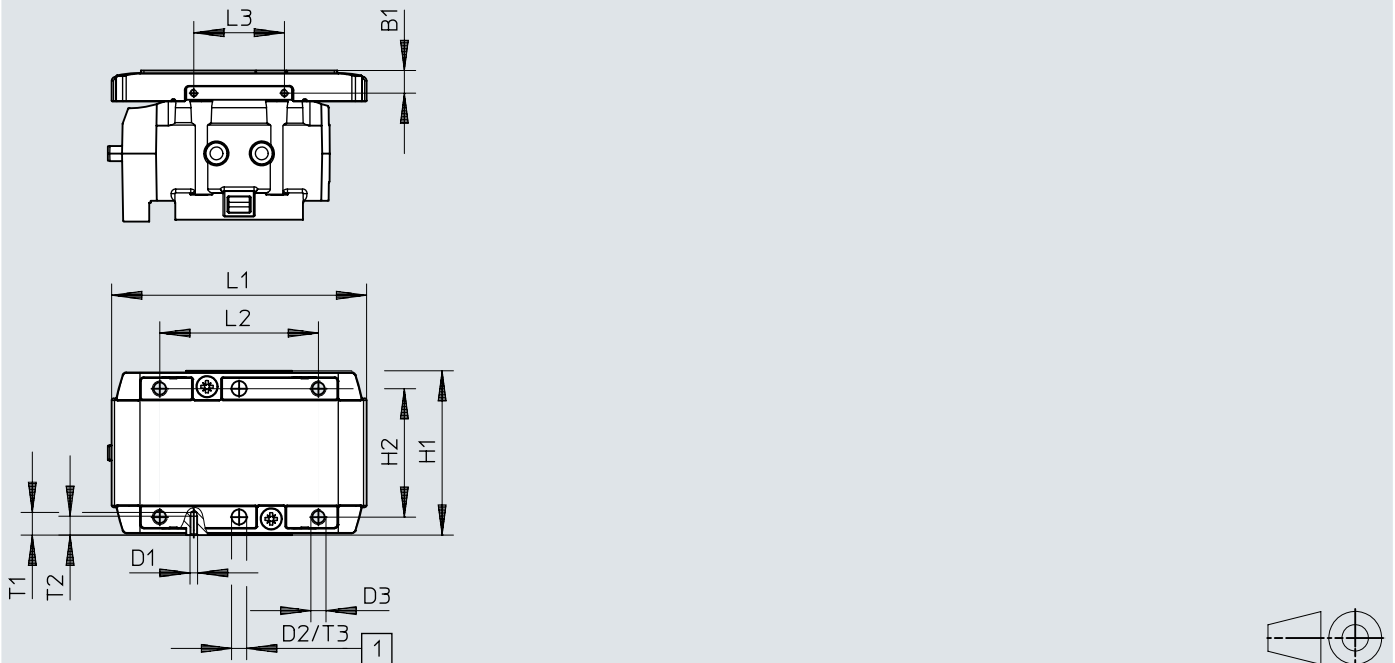


- [1] = Slot for sensor bracket
- [2] = Mounting slot

	B1	B5	H9	H10
ELGS-TB-KF 60	60	47,9	6,1	38,5

Dimensions

Dimensions – Slide, size 45

Download CAD data → www.festo.com

[1] Drilled hole for centring pin ZBS

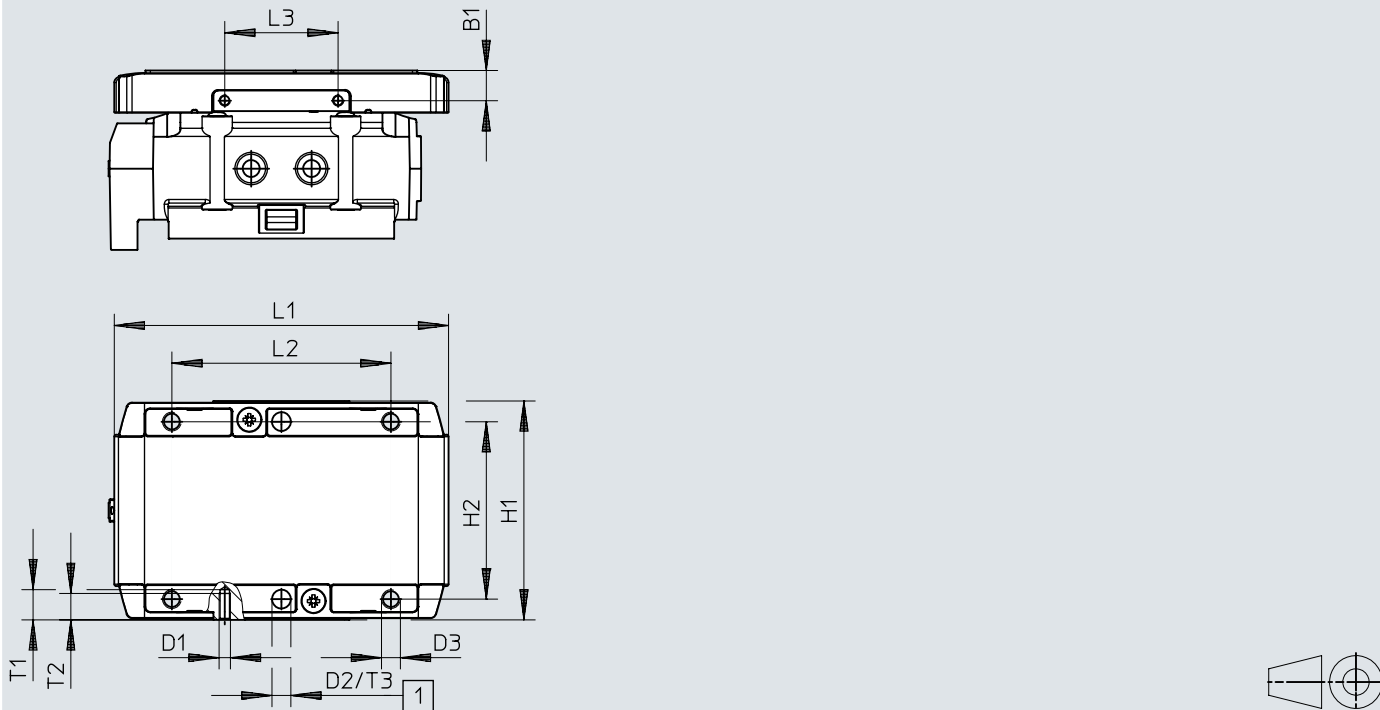
	B1	D1	D2 ∅ H8	D3	H1	H2 ±0,1 D2 ±0,03	L1	L2	L3	T1	T2	T3	T4 ¹⁾
ELGS-TB-KF-45	±0,1 6	M2	4	M4	±0,1 43,5	34	67,5	±0,1 42	±0,1 24	6	5	±0,1 3,1	6 ... 7,5

1) Recommended screw-in depth

Dimensions

Dimensions – Slide, size 60

Download CAD data → www.festo.com



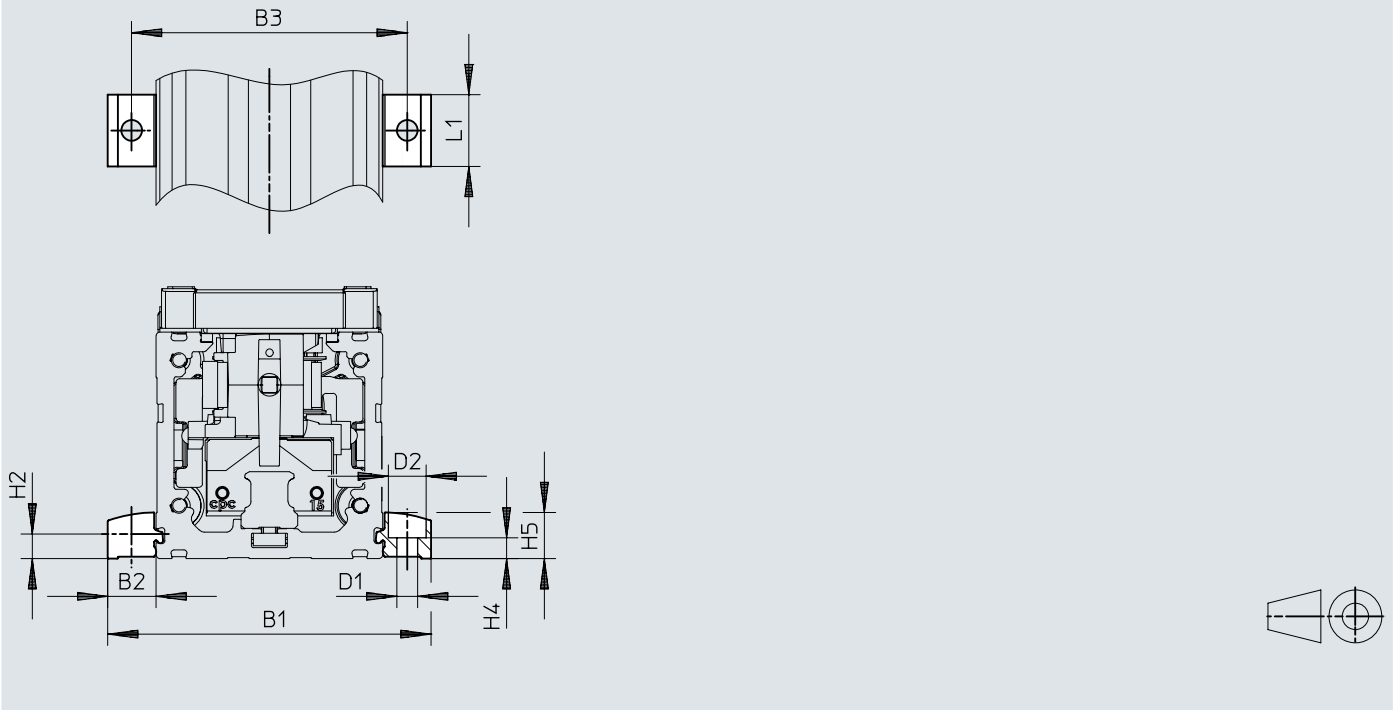
[1] Hole for centring sleeve ZBH

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

1) Recommended screw-in depth

Dimensions

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

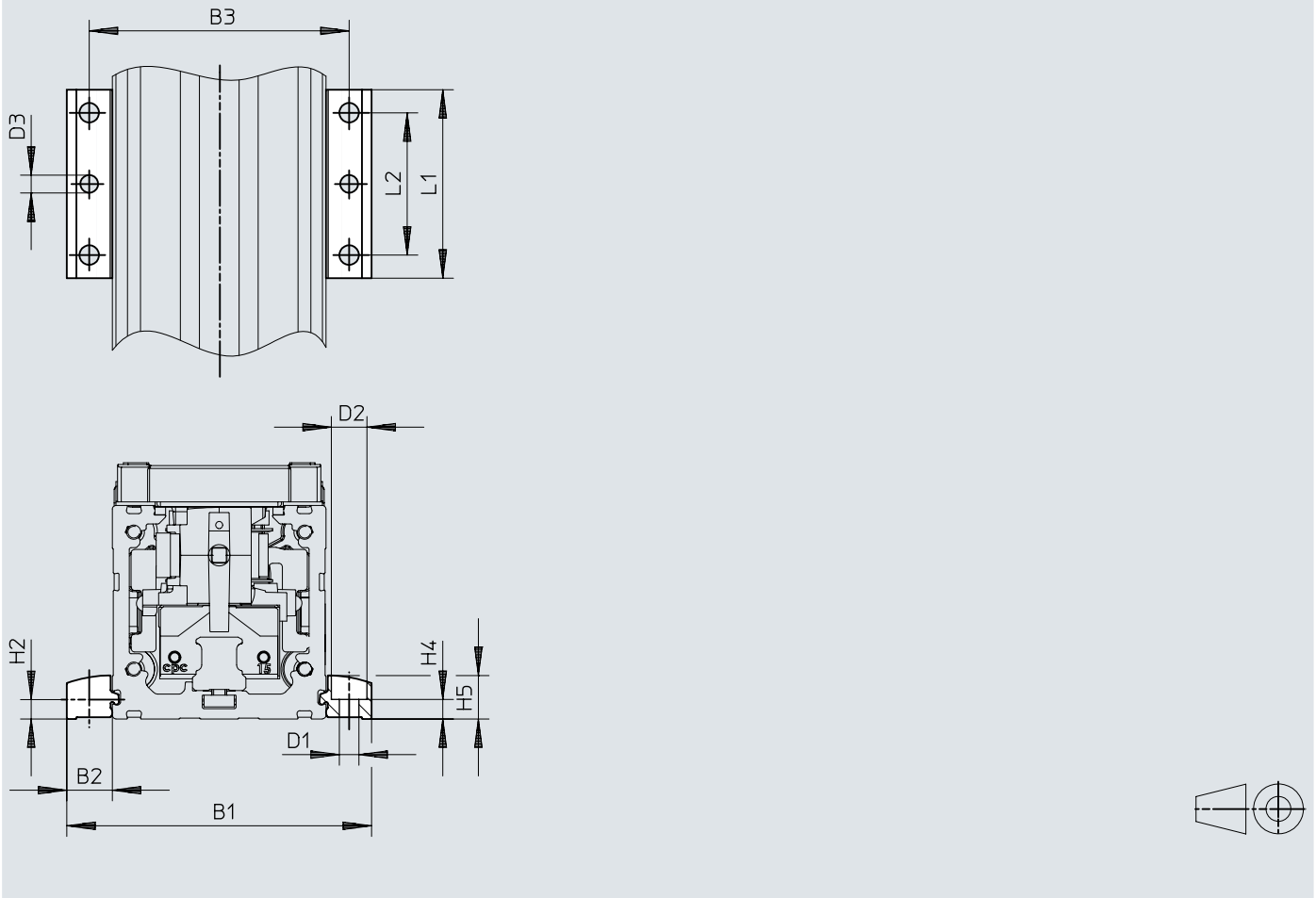
Download CAD data → www.festo.com

		B1	B2	B3	D1 ∅ H13	D2 ∅ H13	H2	H4	H5	L1
EAHF-L2-45-P-S	ELGS-TB-KF-45	70,6	12,8	58	5,5	10	6,1	5,5	12,2	19
EAHF-L2-45-P-S	ELGS-TB-KF-60	85,6	12,8	73	5,5	10	6,1	5,5	12,2	19

Dimensions

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

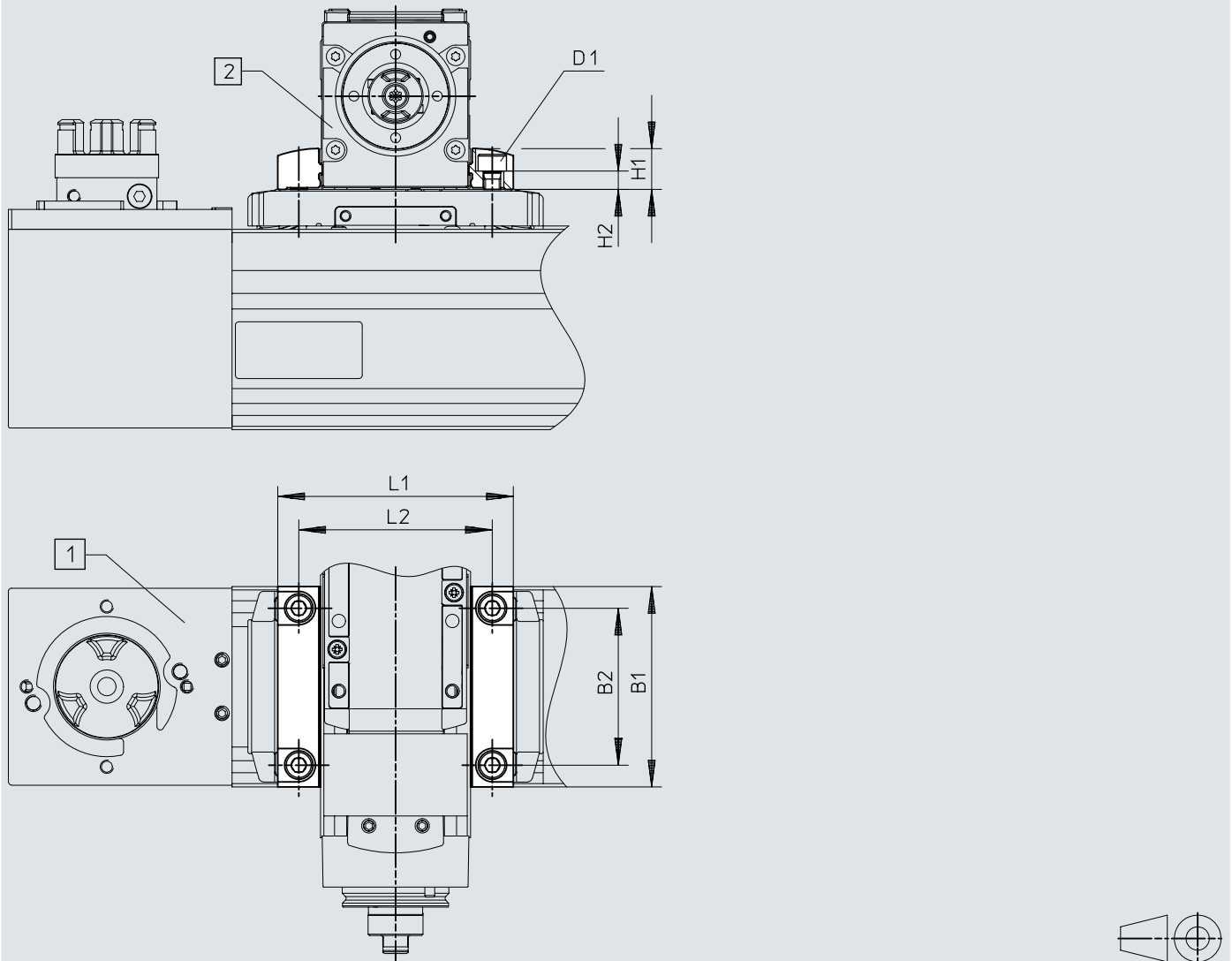
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		B1	B2	B3	D1 ∅ H13	D2 ∅ H13	D3 ∅	H2	H4 ±0,1	H5	L1	L2
EAHF-L2-45-P	ELGS-TB-KF-45	70,6	12,8	58	5,5	10	5	6,1	5,5	12,2	53	40
EAHF-L2-45-P	ELGS-TB-KF-60	85,6	12,8	73	5,5	10	5	6,1	5,5	12,2	53	40

Dimensions

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

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[1] Base axis ELGC/ELGS/ELFC

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

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

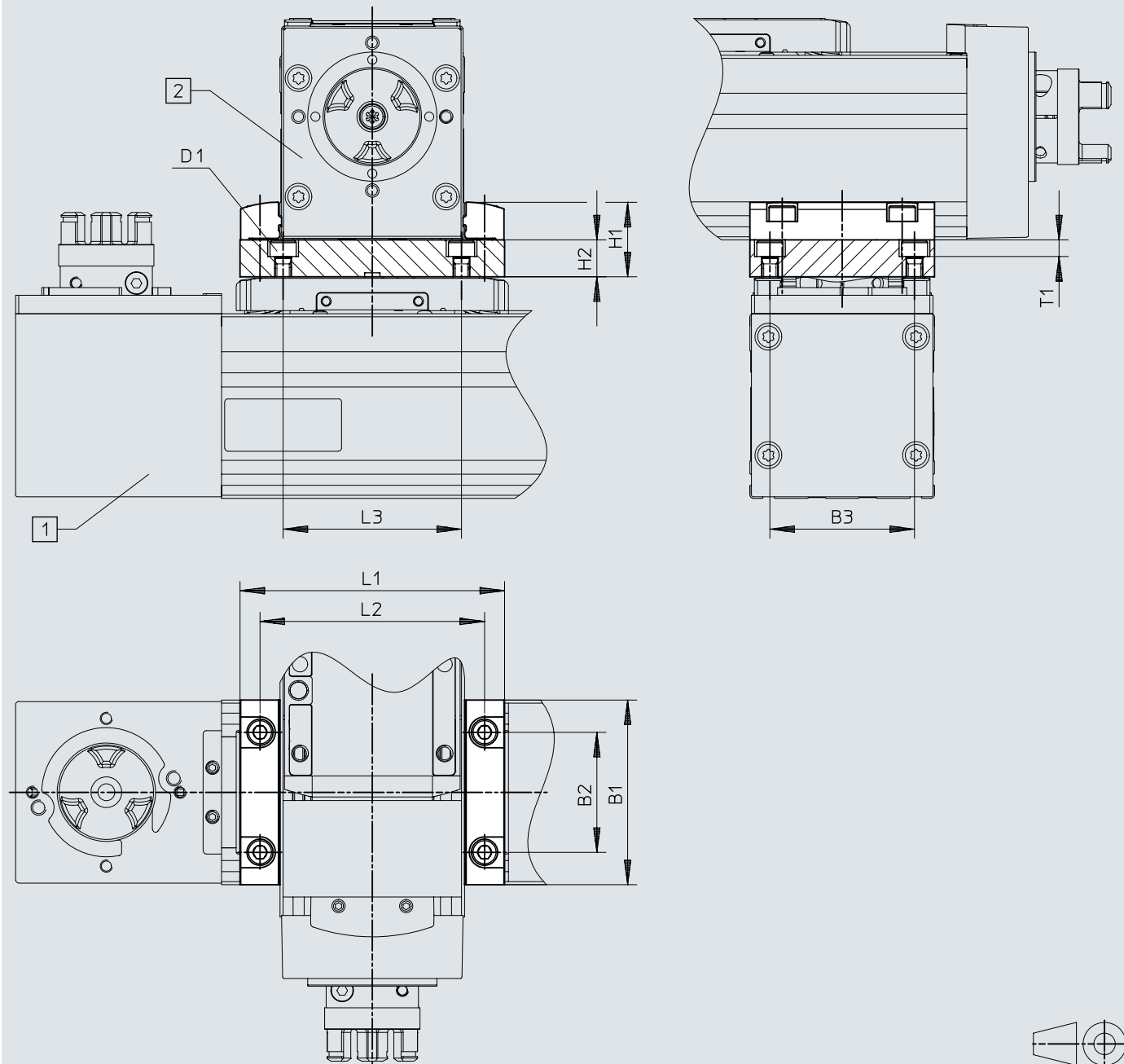
	1)	B1	B2	D1	H1	H2 ±0,1	L1	L2
EAHF-L2-45-P-D3	60/45	60	47	M5	12,2	5,5	70,6	58

1) Base axis/assembly axis

Dimensions

Dimensions – Adapter kit EHAA-D-L2

Download CAD data → www.festo.com



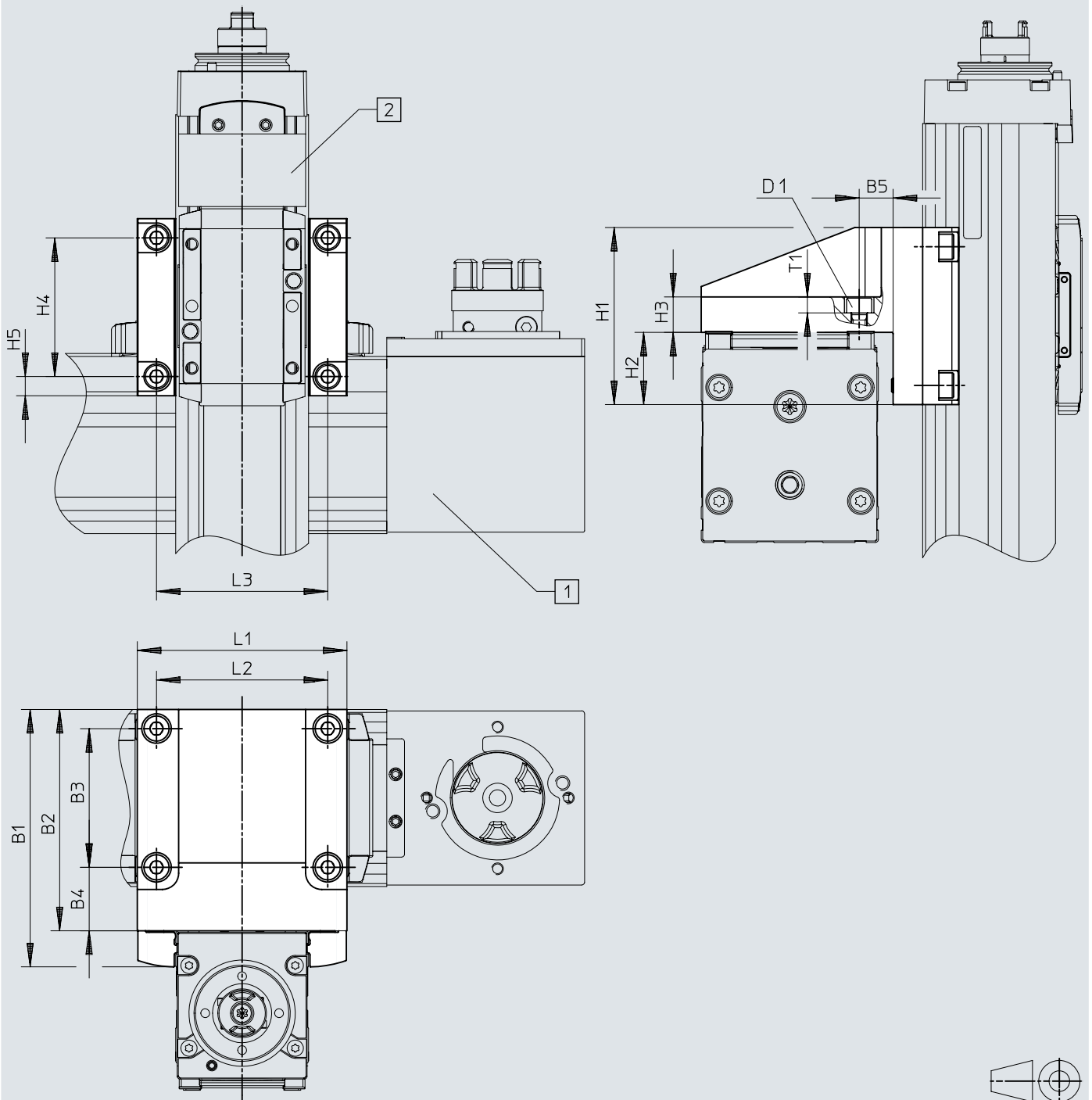
- [1] Base axis ELGC/ELGS/ELFC
- [2] Assembly axis ELGC/ELGS/ELFC/EGSC

	1)	B1	B3 ±0,05	D1	H1	H2	L1	L2	L3	T1	
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-L2-60-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

[1] Base axis ELGC/ELGS/ELFC

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

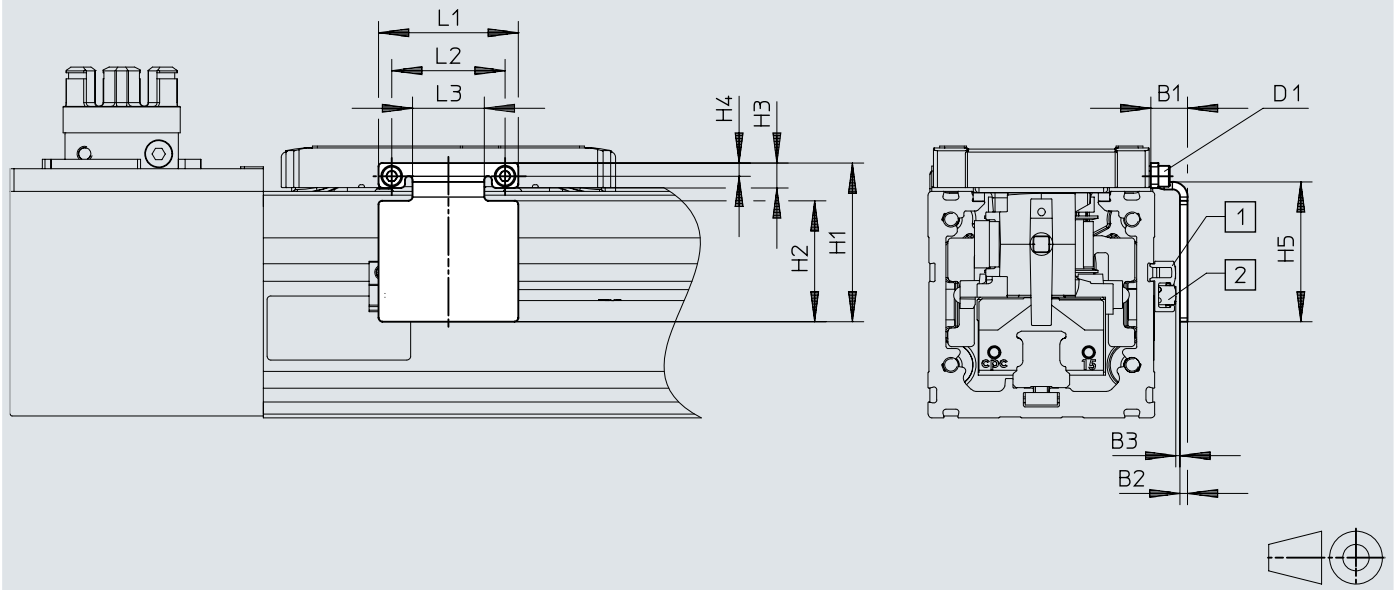
	1)	B1	B2	B3	B4	B5	D1	H1	H2	H3	H4	H5	L1	L2	L3	T1
EHAA-D-L2-60-L2-45-AP	60/45	87,2	75	47	21,5	21,5	M5	60	24,5	12	47	6,5	71	58	58	5,4

1) Base axis/assembly axis

Dimensions

Dimensions – Switch lug EAPM-L2-SLS

Download CAD data → www.festo.com



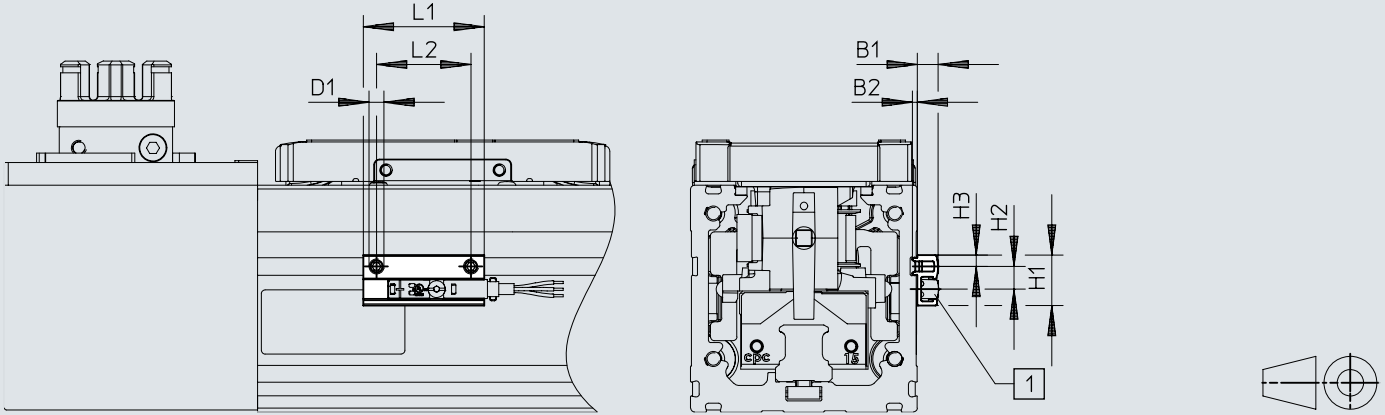
- [1] Sensor bracket
- [2] Proximity switch

		B1	B2	B3	D1	H1 ±0,2	H2	H3	H4	H5 ±0,2	L1 ±0,2	L2 ±0,15	L3
EAPM-L2-45-SLS	ELGS-TB-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-TB-KF-60	9,7	2	1,3±0,31	M3	42	32	6,6	3,5	37	37	30	19

Dimensions

Dimensions – Sensor bracket EAPM-L2-SH


Download CAD data → www.festo.com




[1] Proximity switch

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

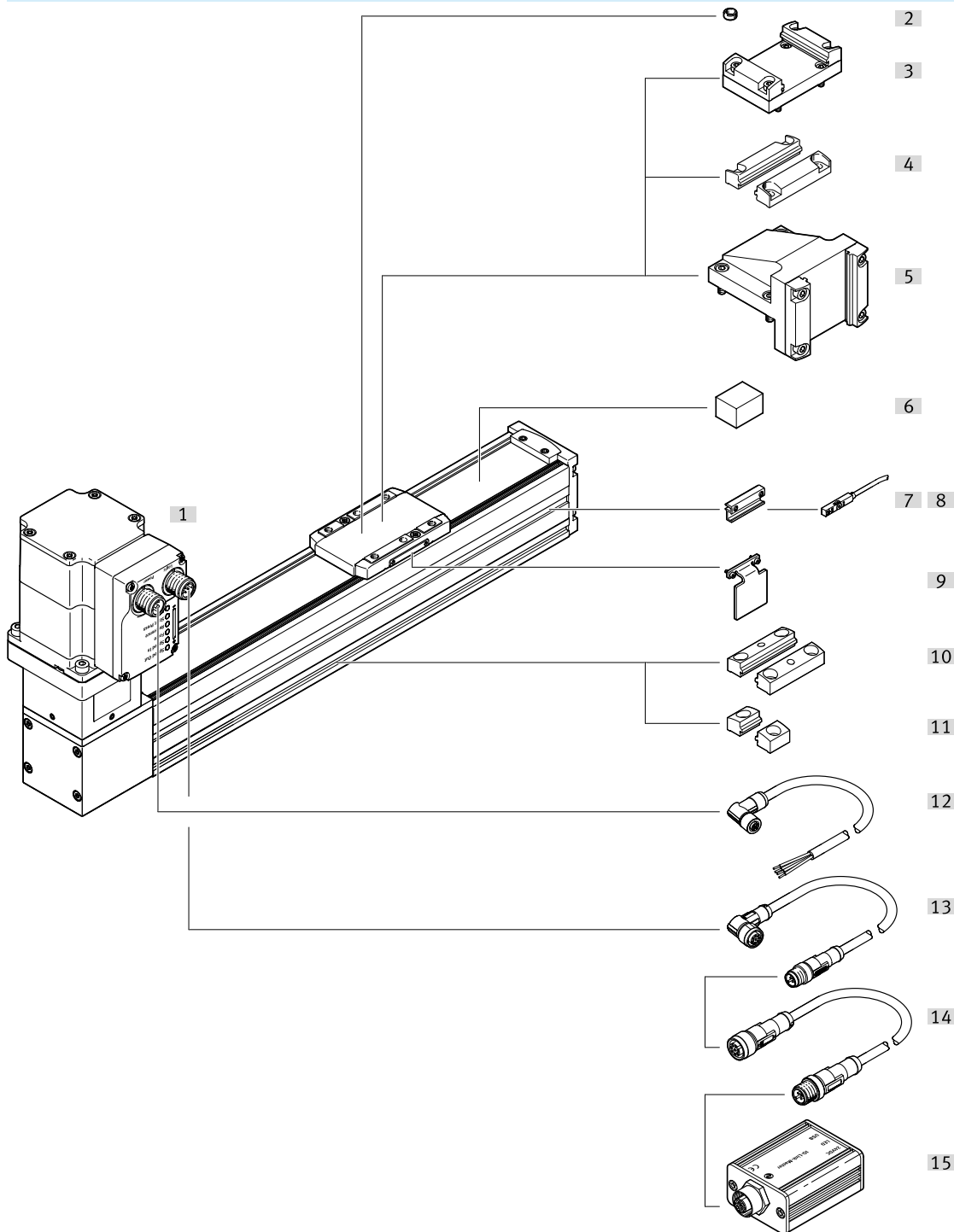
Ordering data

Ordering data				
	Size	Working stroke	Part no.	Type
	45	200 mm	8083665	ELGS-TB-KF-45-200-ST-M-H1-PLK-AA
		300 mm	8083666	ELGS-TB-KF-45-300-ST-M-H1-PLK-AA
		500 mm	8083667	ELGS-TB-KF-45-500-ST-M-H1-PLK-AA
		600 mm	8083668	ELGS-TB-KF-45-600-ST-M-H1-PLK-AA
		800 mm	8083669	ELGS-TB-KF-45-800-ST-M-H1-PLK-AA
		1,000 mm	8083670	ELGS-TB-KF-45-1000-ST-M-H1-PLK-AA
		1,200 mm	8083671	ELGS-TB-KF-45-1200-ST-M-H1-PLK-AA
		1,500 mm	8083672	ELGS-TB-KF-45-1500-ST-M-H1-PLK-AA
	60	200 mm	8083570	ELGS-TB-KF-60-200-ST-M-H1-PLK-AA
		300 mm	8083571	ELGS-TB-KF-60-300-ST-M-H1-PLK-AA
		500 mm	8083572	ELGS-TB-KF-60-500-ST-M-H1-PLK-AA
		600 mm	8083573	ELGS-TB-KF-60-600-ST-M-H1-PLK-AA
		800 mm	8083574	ELGS-TB-KF-60-800-ST-M-H1-PLK-AA
		1,000 mm	8083575	ELGS-TB-KF-60-1000-ST-M-H1-PLK-AA
		1,200 mm	8083576	ELGS-TB-KF-60-1200-ST-M-H1-PLK-AA
		1,500 mm	8083577	ELGS-TB-KF-60-1500-ST-M-H1-PLK-AA
		1,800 mm	8083578	ELGS-TB-KF-60-1800-ST-M-H1-PLK-AA
		2,000 mm	8083579	ELGS-TB-KF-60-2000-ST-M-H1-PLK-AA

Ordering information – Modular product system				
	Size	Working stroke	Part no.	Type
	45	50 ... 1500 mm	8083664	ELGS-TB-KF-45-
	60	50 ... 2000 mm	8083557	ELGS-TB-KF-60-

Peripherals

Peripherals overview

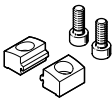


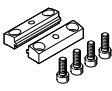
Accessories		→ Page/Internet
Type/order code	Description	
[1] Toothed belt axis unit ELGS-TB-KF	Electric drive	elgs-tb
[2] Centring sleeve ZBH	For centring loads and attachments on the slide	34
[2] Centring pin ZBS	For centring loads and attachments on the slide	34
[3] Adapter kit EHAA-D-L2	<ul style="list-style-type: 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 	33
[4] Profile mounting EAHF-L2-...-P-D	<ul style="list-style-type: none"> • For axis/axis mounting without adapter plate • Mounting option: base axis with one-size-down assembly axis 	33

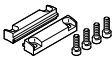
Peripherals

Accessories		→ Page/Internet
Type/order code	Description	
[5] 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 on top” 	33
[6] Clamping element EADTS-L5-32	Tool for retensioning the cover strip	34
[7] Sensor bracket EAPM-L2-SH	For mounting the proximity switches on the axis. The proximity switches can only be mounted using the sensor bracket	33
[8] Proximity switch SIES-8M	<ul style="list-style-type: none"> • Inductive proximity sensors, for T-slot • Proximity switches are optional and only required in order to sense any intermediate positions 	34
[8] Proximity switch SMT-8M	<ul style="list-style-type: none"> • Magnetic proximity switches, for T-slot • Proximity switches are optional and only required in order to sense any intermediate positions 	35
[9] Switch lug EAPM-...-SLS	For sensing the slide position in conjunction with inductive proximity sensors SIES-8M	33
[10] Profile mounting EAHF-L2-...-P	For mounting the axis on the side of the profile. The profile mounting can be attached to the mounting surface using the drilled hole in the centre	33
[11] Profile mounting EAHF-L2-...-P-S	For mounting the axis on the side of the profile	33
[12] Connecting cable NEBC-M12	For connection to a controller	36
[13] Supply cable NEBL-T12	For connecting the load and logic supply	35
[14] Adapter NEFC-M12G8	<ul style="list-style-type: none"> • Connection between the motor and the IO-Link® master 	35
[15] IO-Link® master USB CDSU-1	For straightforward use of the mini slide unit with IO-Link	35

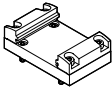
Accessories

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

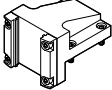
Profile mounting EAHF-L2-...-P						
	Description	Material plate	Note on materials	Product weight	Part no.	Type
	For size 45, 60	Anodised wrought aluminium alloy	RoHS-compliant	35 g	4835728	EAHF-L2-45-P

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

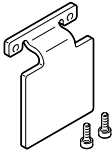
1) Base axis/assembly axis

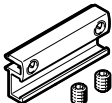
Adapter kit EHAA-D-L2						
	Description ¹⁾	Note on materials	Product weight	Part no.	Type	
	For size 60/45	RoHS-compliant	205 g	8066715	EHAA-D-L2-60-L2-60	

1) Base axis/assembly axis

Angle kit EHAA-D-L2-...-AP						
	Description ¹⁾	Note on materials	Product weight	Part no.	Type	
	For size 60/45	RoHS-compliant	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 45	RoHS-compliant	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 45, 60	Anodised wrought aluminium alloy	RoHS-compliant	4 g	★ 4759852	EAPM-L2-SH

Accessories

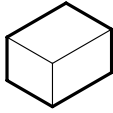
Centring pin ZBS-4

	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

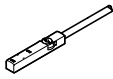
Clamping element EADT

	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

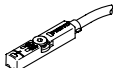
	Description	Material housing	Note on materials	Product weight	Part no.	Type
	For size 45, 60, For sealing air connection	Brass, nickel-plated	RoHS-compliant	8.9 g	★ 186266	QSM-G1/8-4-I
				9.5 g	★ 186267	QSM-G1/8-6-I

Proximity switch SIES for T-slot, inductive

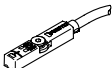
	Switching output	Switching element function	Electrical connection 1, connector system	Cable length ¹⁾	Part no.	Type
	NPN	N/C contact	M8x1, A-coded, to EN 61076-2-104	0.3 m	★ 551402	SIES-8M-NO-24V-K-0,3-M8D
			Open end	7.5 m	★ 551401	SIES-8M-NO-24V-K-7,5-OE
		N/O contact	M8x1, A-coded, to EN 61076-2-104	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		

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


Proximity switch SMT for T-slot, magneto-resistive

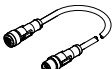
	Type of mounting	Switching output	Electrical connection	Cable length ¹⁾	Part no.	Type
	Screw-clamped, Insertable in the slot from above	3-wire PNP N/C contact	Open end	7.5 m	★ 574340	SMT-8M-A-PO-24V-E-7,5-OE

Accessories

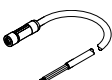
Proximity switch SMT for T-slot, magneto-resistive						
	Type of mounting	Switching output	Electrical connection	Cable length ¹⁾	Part no.	Type
	Screw-clamped, Insertable in the slot from above	3-wire PNP N/O contact	Open end	2.5 m	★ 574335	SMT-8M-A-PS-24V-E-2,5-OE
			Plug M8, A-coded	0.3 m	★ 574334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


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

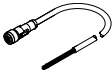
IO-Link® master USB			
	Description	Part no.	Type
	For using the unit with IO-Link®, an external power supply plug is also required (not included in the scope of delivery)	8091509	CDSU-1

Adapter NEFC						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length ¹⁾	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) Connection between the motor and the IO-Link® master

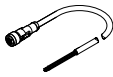
Supply cables NEBL, straight						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M12x1, T-coded according to EN 61076-2-111	Open end	4	2 m	8080790	NEBL-T12G4-E-2-N-LE4
				5 m	8080791	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	NEBC-M12G8-E-2-N-B-LE8	
			5 m	8094477	NEBC-M12G8-E-5-N-B-LE8	

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	10 m	8094482	NEBC-M12G8-E-10-N-B-LE8
				15 m	8094475	NEBC-M12G8-E-15-N-B-LE8

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	8080786	NEBC-M12W8-E-2-N-M12G8
				5 m	8080787	NEBC-M12W8-E-5-N-M12G8
				10 m	8080788	NEBC-M12W8-E-10-N-M12G8
				15 m	8080789	NEBC-M12W8-E-15-N-M12G8
		Open end	2 m	8094476	NEBC-M12W8-E-2-N-B-LE8	
			5 m	8094478	NEBC-M12W8-E-5-N-B-LE8	
			10 m	8094481	NEBC-M12W8-E-10-N-B-LE8	
			15 m	8094479	NEBC-M12W8-E-15-N-B-LE8	