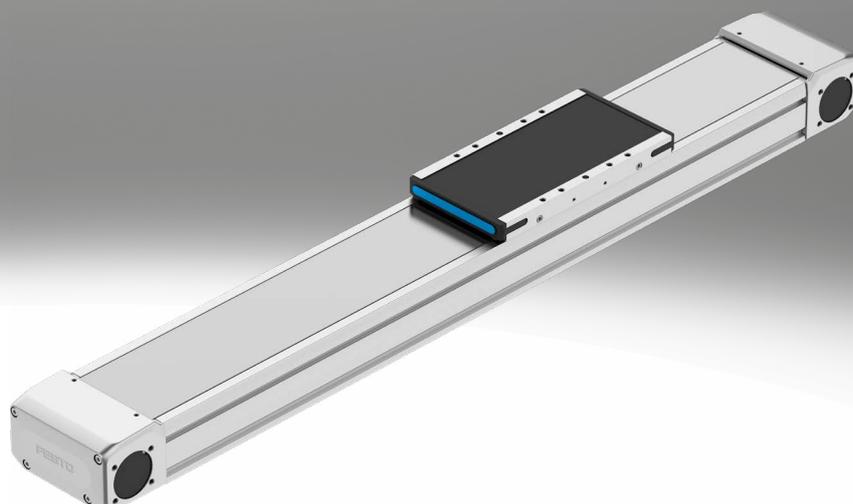


## Toothed belt axes ELGD-TB-WD

**FESTO**



## Key features

### At a glance

#### ELGD-TB (standard design)

- Profile with a square cross-section and sturdy drive elements for high feed forces
- With NSF-H1 lubricant for the food zone
- Suitable for the production of Li-ion batteries

#### ELGD-TB-WD (wide design)

- Reduced profile height offers smaller installation dimensions for handling systems and applications that do not require such high feed forces
- 30% lighter, while rigidity and guide load capacity are still similar to the axis in the standard design
- With NSF-H1 lubricant for the food zone
- Suitable for the production of Li-ion batteries

#### Innovative guide technology

- Excellent rigidity and load capacity of the guide for greater loads in the same installation space
- Less vibration and smoother slide movement protect sensitive workpieces
- High speeds ensure short cycle times and a very long service life minimises downtime

#### Powerful drive elements

- High feed forces and acceleration for shorter process times
- Long service life and increased reliability reduce TCO

#### Innovative stainless steel cover strip solution

- Abrasion-free and clean surface protects workpieces from particles
- Minimised number of particles for use in cleanrooms
- Reduced ingress of dirt for use in harsh ambient conditions

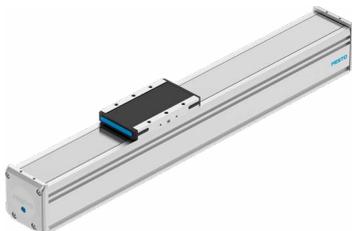
#### Options:

- Extended or additional slide for higher axial and lateral torques and higher loads
- Two freely selectable motor positions at one end of the axis

#### Sealing air connection:

- Air is exchanged between the interior of the cylinder and the environment via the sealing air connection. This prevents negative pressure or excess pressure from building up inside the cylinder.
- Application of slight negative pressure prevents the emission of particles
- Application of slight excess pressure prevents the ingress of particles

### Guide axis ELFD



- Driveless linear guide units with guide and freely movable slide
- The guide axis is designed to support forces and torques in multi-axis applications

## Key features

### Engineering tools

More information → [electric-motion-sizing](#)



Save time with smart engineering tools for the optimal solution. Our goal is to increase your productivity. Our engineering tools play an integral part in achieving this goal. 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 and useful tools.

#### Electric Motion Sizing

- Create the optimum drive package quickly and reliably. Electric Motion Sizing calculates suitable combinations of electric axis, electric motor and servo drive using just a few application details. It provides you with all the relevant data including the bill of materials and documentation for the selected combination. This avoids design errors and results in significantly improved energy efficiency for the system. A smooth connection to the Festo Automation Suite also makes commissioning easier for you.

### Graphs

More information → [elgd-tb](#)



The graphs shown in this document are also available online. There, precise values can be displayed.

### Drive system

[TB] Toothed belt

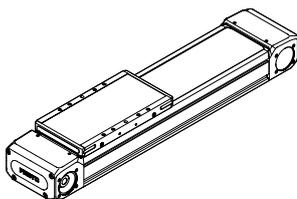
- For applications requiring a high dynamic response and short positioning times
- For long strokes

### Stroke reserve

- The stroke reserve is a safety distance from the mechanical end position and is not used in normal operation.
- The sum of the stroke length and 2x stroke reserve must not exceed the maximum working stroke.

### Slide design

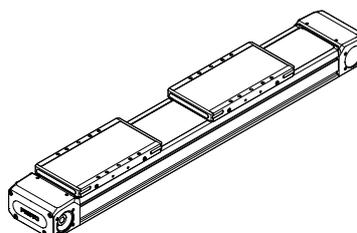
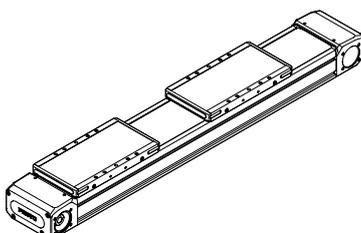
[L] Long



### Additional slide

[ZL] Left

[ZR] Right



The side on which the labelling is applied is defined as the front.

## Key features

### Lubrication

[ ] Standard

- Lubricated for life (the specification applies under standard conditions. For special applications, please refer to the operating manual for the maintenance intervals)
- Supplied without lubrication nipple

[GN] Lubrication nipple

- The lubrication adapters enable the guide to be permanently lubricated using semi- or fully automatic relubrication devices
- The adapters are suitable for oils and greases

### Type of mounting

[M] Direct fastening

- If direct mounting is selected, the Axis is supplied with threads in the underside of the profile. This means that it can be installed in a space-saving manner without Profile mounting
- Additional centre holes allow the Axis to be positioned in the machine with Simplicity

### Measurement system

[M3] With displacement encoder

The position of the slide can be sensed directly when using the incremental displacement encoder. This means that all elasticities of the drivetrain can be detected and corrected by the motor controller.

### Toothed belt material

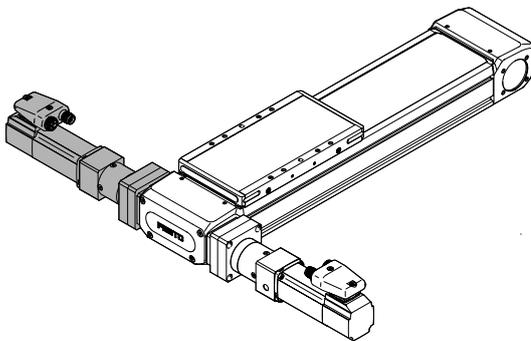
[PU2] Coated PU

- With steel reinforcements for high rigidity
- Fabric coating for a long service life and low abrasion
- Polyurethane material for resistance to many cooling lubricants

[PU1] Uncoated PU, FDA-conform

- With steel reinforcements for high rigidity
- Blue, FDA-conform polyurethane for use in the food industry

### Motor attachment



- The motor can be attached to the left end of the axis at the front or rear.
- The position of the motor does not have to be specified when ordering and can be changed later
- Note: Unlike other axes from Festo, the motor cannot be mounted on both ends of the axis. However, the axis has a symmetrical design so that the left end can also be rotated to the right

## Type codes

001	Series	
ELGD	Gantry axis	
002	Drive system	
TB	Toothed belt	
003	Guide	
KF	Recirculating ball bearing guide	
004	Design type	
WD	Wide	
005	Size	
100	100	
120	120	
006	Stroke [mm]	
200	200	
300	300	
500	500	
600	600	
800	800	
1000	1000	
1200	1200	
1500	1500	
1800	1800	
2000	2000	
...	50 ... 8500	
007	Stroke reserve	
OH	None	
...H	0 ... 999 mm	

008	Slide design	
L	Slide, long	
009	Additional slide	
	None	
ZL	1 slide left	
ZR	1 slide right	
010	Lubrication	
	Standard	
GN	Lubrication nipple	
011	Type of mounting	
	Profile slots with clamping jaws	
M	Direct mounting	
012	Displacement encoder	
	None	
M3	With displacement encoder, incremental, resolution 2.5 µm, 10... 30 V	
013	Displacement encoder attachment position	
	None	
B	Rear	
F	Front	
014	Material of toothed belt	
PU1	Uncoated PU, FDA-compliant	
PU2	Coated PU	

## Datasheet

General technical data			
Size		100	120
Design	Electromechanical axis with toothed belt		
Guide	Recirculating ball bearing guide		
Mounting position	Any		
Working stroke			
ELGD-...	[mm]	50 ... 8500	50 ... 8500
ELGD-...-M	[mm]	50 ... 1400	50 ... 1370
Max. feed force $F_x$	[N]	240	500
Max. no-load torque <sup>1)</sup>			
ELGD-...-PU1	[Nm]	0.4	1.4
ELGD-...-PU2	[Nm]	0.4	1.38
Max. no-load resistance to shifting <sup>1)</sup>	[N]	29.9	71.2
Max. driving torque	[Nm]	3.2	9.55
Max. speed	[m/s]	3	
Max. acceleration	[m/s <sup>2</sup> ]	50	
Repetition accuracy	[mm]	±0.04	
Position sensing	For inductive sensors		

1) At 0.2 m/s

Operating and environmental conditions			
Ambient temperature <sup>1)</sup>	[°C]	0 ... +60	
Storage temperature	[°C]	-20 ... ++60	
Degree of protection		IP40	
Duty cycle	[%]	100	
Maintenance interval <sup>2)</sup>		Lifetime lubrication	

1) Note operating range of proximity switches

2) The specification applies under standard conditions. For special applications, please refer to the operating manual for the maintenance intervals.

Weight [g]			
Size		100	120
Basic weight with 0 mm stroke <sup>1)</sup>		3864	6495
Additional weight per 10 mm stroke		55	78
Moving mass		1360	1957

1) Including slide

Toothed belt			
Size		100	120
Pitch	[mm]	3	5
Effective diameter	[mm]	26.74	38.2
Feed constant	[mm/rev]	84	120

Mass moments of inertia			
Size		100	120
$J_o$	[kg mm <sup>2</sup> ]	295.42	916.87
$J_H$ per metre stroke	[kg mm <sup>2</sup> /m]	22.52	87.6
$J_L$ per kg payload	[kg mm <sup>2</sup> /kg]	178.76	364.8

The mass moment of inertia  $J_A$  of the entire axis is calculated as follows:

$$J_A = J_o + J_H \times \text{working stroke [m]} + J_L \times m_{\text{payload [kg]}}$$

## Datasheet

### Homing

Homing can be carried out in two ways:

- Against a fixed stop
- Using a reference switch

The following values must be observed:

Size	100	120
Max. impact energy [mJ]	0.75	1
Note on the impact energy in the end positions [m/s]	At maximum homing speed of 0.01 m/s	

### Materials

Axis	
Drive cover	Gravity die-cast aluminium, painted
Slide	Wrought aluminium alloy
Cover strip	High-alloy stainless steel
Toothed belt	
ELGD-...-PU2	Polyurethane with steel cord and nylon cover
ELGD-...-PU1	Polyurethane with steel cord
Guide	Steel
Profile	Anodised wrought aluminium alloy
Belt pulley	High-alloy stainless steel
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364 zone III
Suitable for the production of Li-ion batteries	Suitable for battery production with reduced Cu/Zn/Ni values (F1a)

### Technical data – Displacement encoder

Type		ELGD-...-M3
Resolution [µm]		2.5
Max. travel speed with displacement encoder [m/s]		7
Supply voltage [VDC]		10 - 30 (±10%)
Current [mA]		Max. 150
Encoder signal		5 V TTL; A/A, B/B; reference signal (N/N) cyclically every 5 mm (zero pulse)
Signal output		Line driver, alternating, resistant to sustained short circuit
Electrical connection		8-pin plug connector, round design, M12
Cable length [mm]		160

### Operating and environmental conditions – Displacement encoder

Ambient temperature [°C]	-10 ... +70
Degree of protection	IP64
CE marking (see declaration of conformity)	To EMC Directive <sup>1)</sup>

1) For information about the area of use, see the EC declaration of conformity at: [www.festo.com/sp](http://www.festo.com/sp) →Certificates.

If the devices are subject to usage restrictions in residential, commercial or light industrial environments, further measures for reducing the emitted interference may be necessary.

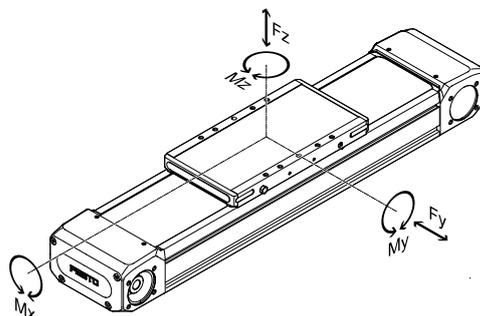
# Datasheet

## Load values

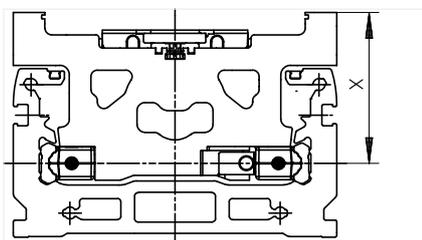
The indicated forces and torques refer to the centre of the guide.  
 The point of application of force is the point where the centre of the guide and the longitudinal centre of the slide intersect.

The appropriate size is selected using the following three steps:

1. Check the maximum permissible values (must not be exceeded)
2. Calculate the load comparison factor
3. Determine the service life



Distance from the slide surface to the centre of the guide



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

Size	100	120
Dimension x [mm]	47	51

## 1. Check the maximum permissible values

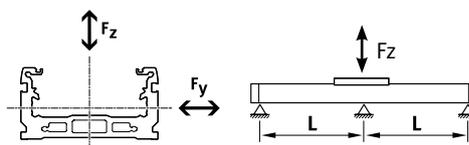
### Max. permissible forces and torques for the overall axis (strength limits)

Size	100	120
Max. force Fy, overall axis [N]	4092	5914
Max. force Fz, overall axis [N]	2250	9071
Max. torque Mx, overall axis [Nm]	160	356
Max. torque My, overall axis [Nm]	191	563
Max. torque Mz, overall axis [Nm]	270	527

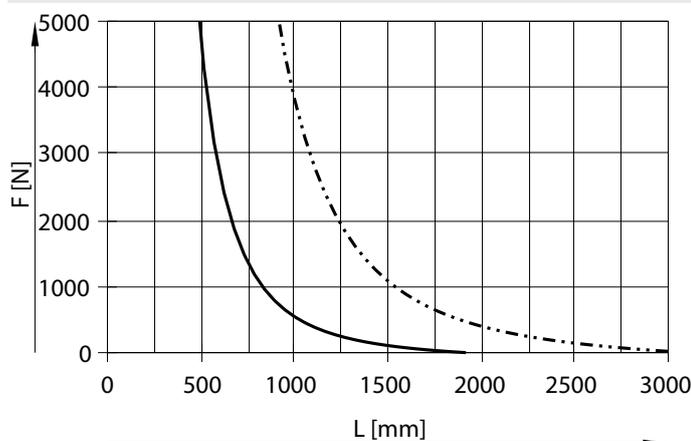
### Maximum permissible support spacing L as a function of force F

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<sub>y</sub> as a function of force F acting on the axis. The deflection is f = 0.5 mm.

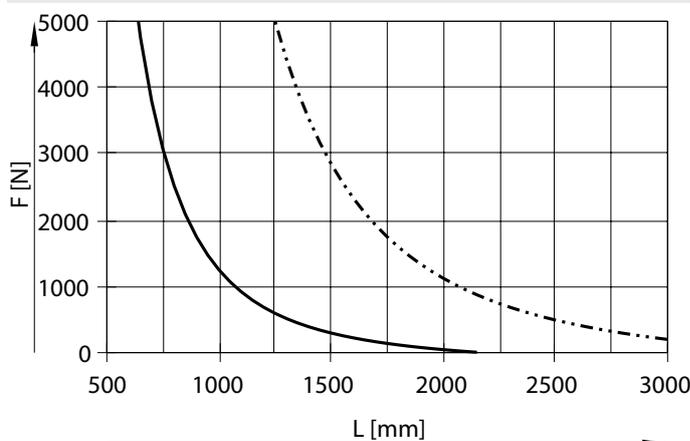


Size 100



— Fy  
 - - - Fz

Size 120



— Fy  
 - - - Fz

Datasheet

2. Calculate the load comparison factor

**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 "Electric Motion Sizing" is available for more precise calculations → [www.festo.com/x/electric-motion-sizing](http://www.festo.com/x/electric-motion-sizing)

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

Calculating the load comparison factor:

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

$F_1/M_1$  = values occurring in the application

$F_2$  = Permissible values at 5000 km from the graph "support spacing over load"

$M_2$  = maximum permissible values (see table)

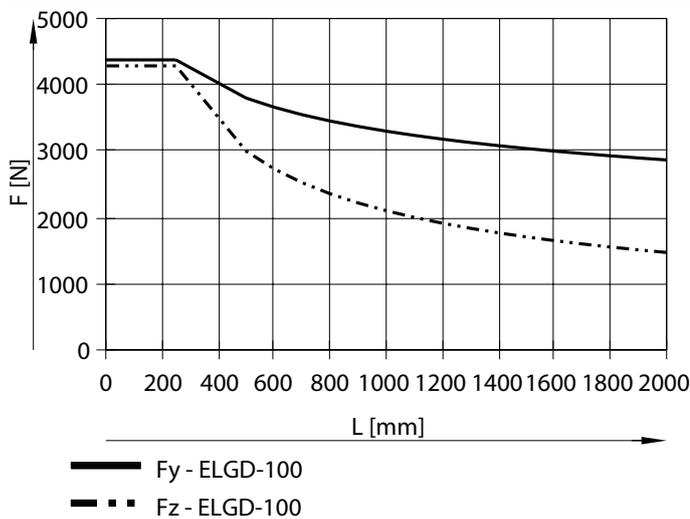
Max. permissible torques for the guide calculation with reference service life

Size	100	120
Reference service life	[km]	5000
Max. torque Mx	[Nm]	130
Max. torque My	[Nm]	200
Max. torque Mz	[Nm]	200
		330
		600
		540

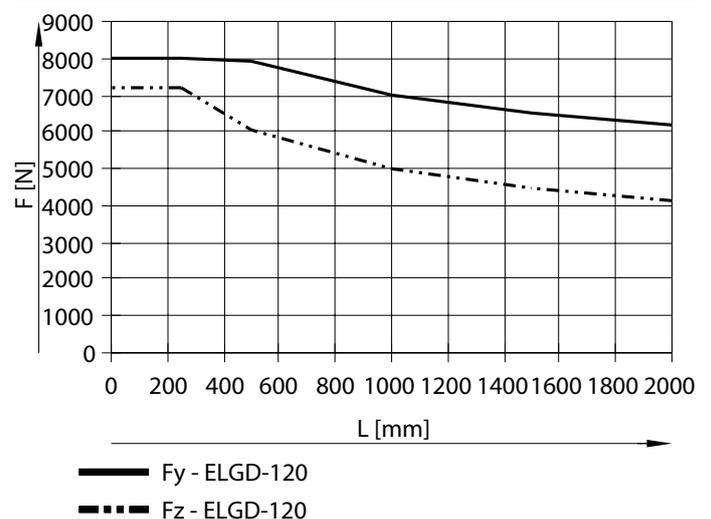
Max. permissible support spacing L as a function of the force F

Depending on how firmly the axis is supported, the maximum permissible forces vary due to the design of the guide system. If the axis is used as a cantilever or in yoke operation, the values for a support spacing of 2000 mm can be selected.

Size 100



Size 120



## Datasheet

### 3. Determine the service life

The service life of the guide depends on the load. To be able to provide an indication of the service life, 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 1.3.

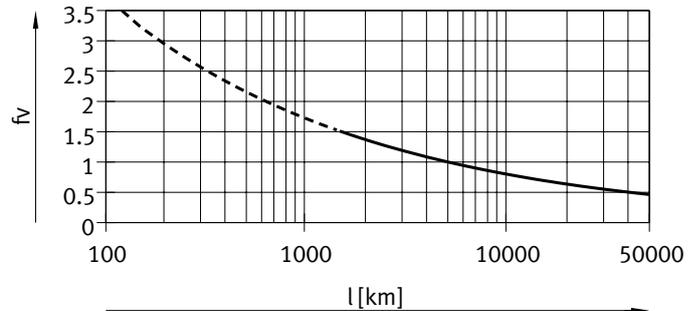
Load comparison factor  $f_v$  as a function of service life  $l$

Example:

A user wants to move an  $x$  kg load. Using the formula (→ page 9) gives a value of 1.3 for the load comparison factor  $f_v$ . According to the graph, the guide has a service life of approx. 2500 km. Reducing the acceleration reduces the  $M_z$  and  $M_y$  values. A load comparison factor  $f_v$  of 1 now gives a service life of 5000 km.

Note:

If the application has been calculated using “Electric Motion Sizing”, the average guide comparison index represents the workload of the guide. (100% average guide comparison index corresponds to  $f_v = 1$ ). With this value, the service life can be estimated using the service life graph



### Comparison of the characteristic load values for 100 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 ELGD 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.

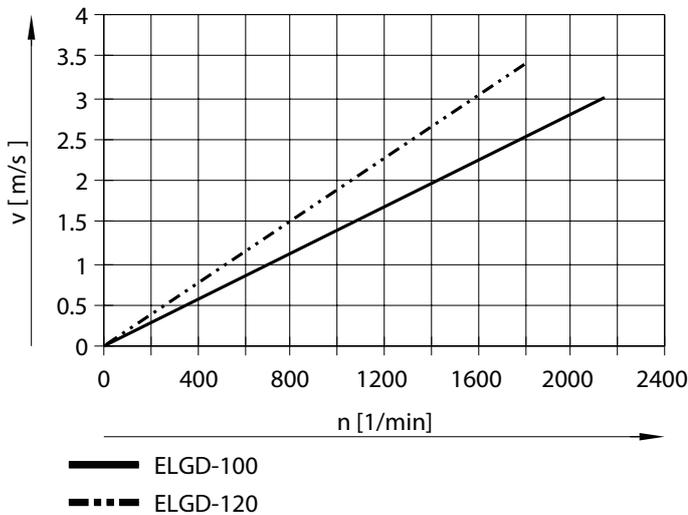
These 100 km values have been calculated mathematically and are only to be used for comparing with dynamic forces and torques to ISO. The drives must not be loaded with these characteristic values as this could damage the axes.

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

Size		100	120
$F_{y_{max}}$	[N]	18415	35153
$F_{z_{max}}$	[N]	18415	35153
$M_{x_{max}}$	[Nm]	645	1459
$M_{y_{max}}$	[Nm]	720	1920
$M_{z_{max}}$	[Nm]	720	1920

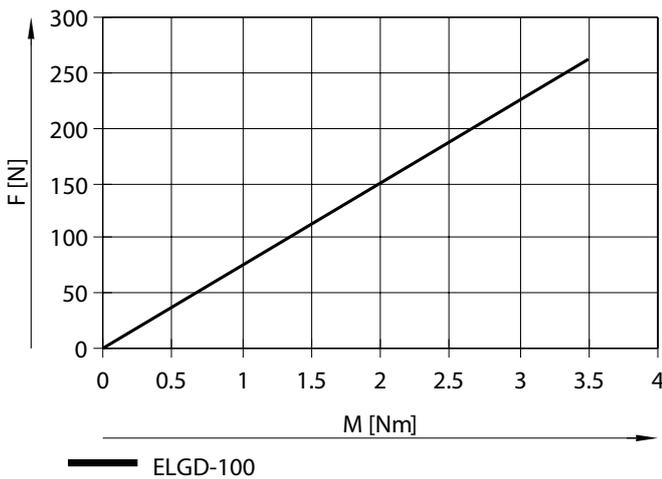
Datasheet

Speed  $v$  as a function of rotational speed  $n$

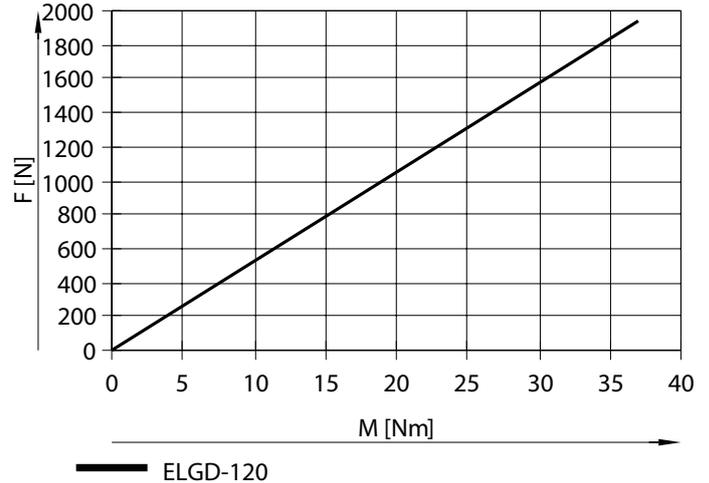


Feed force  $F$  as a function of input torque  $M$

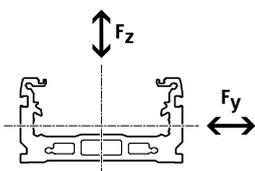
Size 100



Size 120



2nd moment of area Degrees



Size		100	120
$I_y$	[mm <sup>4</sup> ]	$0.347 \times 10^6$	$0.77 \times 10^6$
$I_z$	[mm <sup>4</sup> ]	$2.268 \times 10^6$	$5.801 \times 10^6$

Recommended deflection limits

Compliance with the following critical limits for deflection is recommended to ensure the continuing functionality of the axes. Greater deformation can result in increased friction, greater wear and reduced service life.

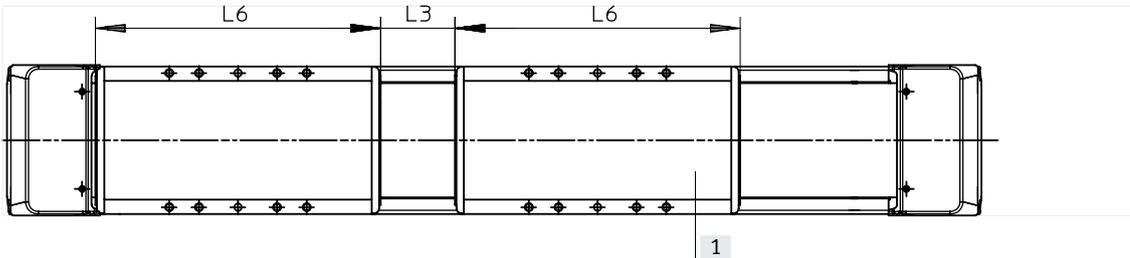
Size	Dynamic deflection (load moves)	Stat. Deflection (stationary load)
100, 120	0.05% of the axis length, max. 0.5 mm	0.1% of the axis length

## Datasheet

**Working stroke reduction**

For axis ELGD with additional slide ZL/ZR

For a toothed belt axis with additional slide, the working stroke is reduced by the length of the additional slide and the distance between both slides



L6 = Slide length

L6 = Additional slide length

L3 = Distance between the two slides

[1] Additional slide

**Example:**

Type ELGD-BS-KF-WD-100-500-...-ZR

Working stroke without additional slide = 500 mm

L3 = 50 mm

L6 = 192 mm

Working stroke with additional slide = 332 mm

(500 mm – 50 mm – 118 mm)

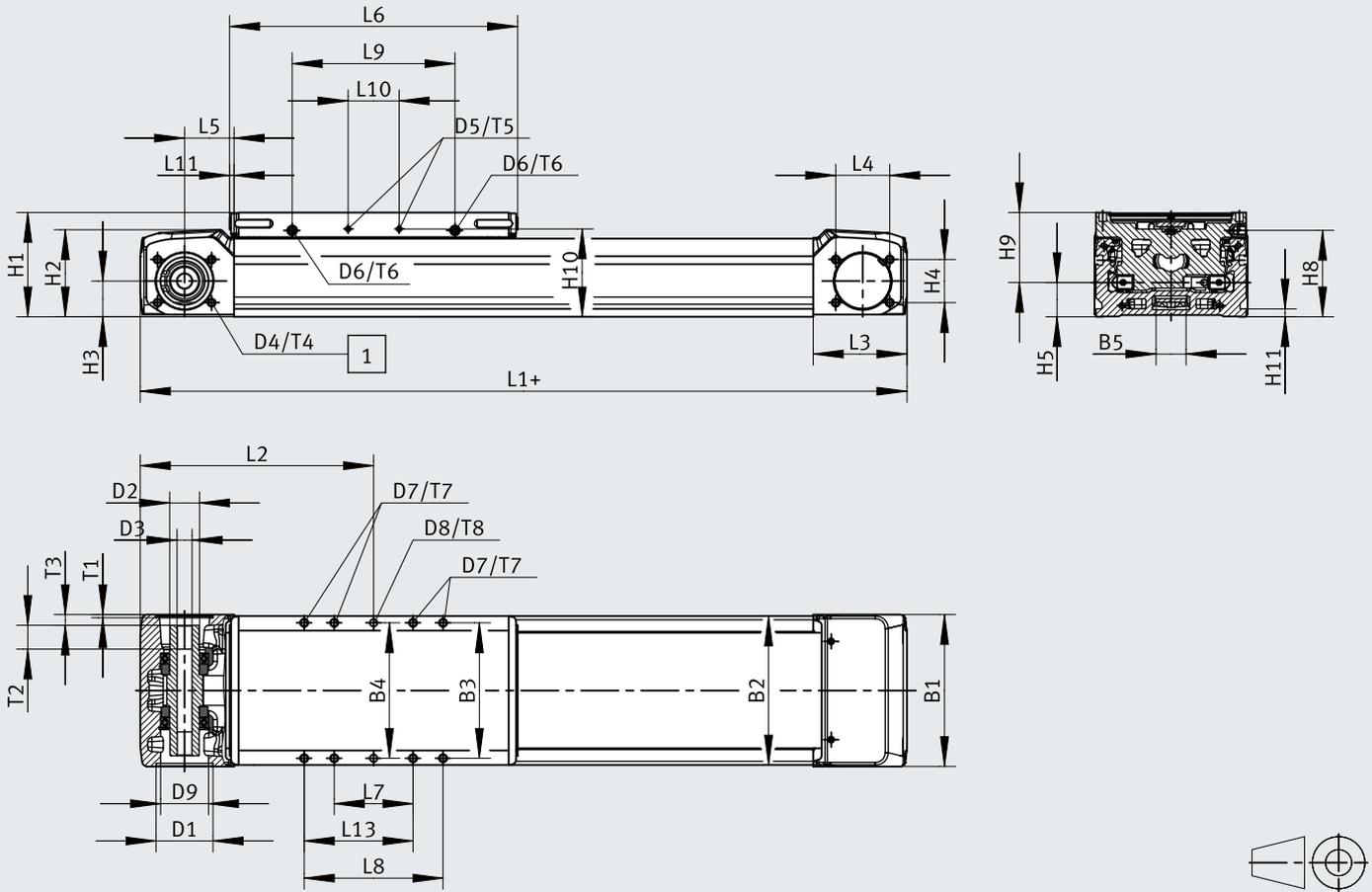
**Dimensions – Additional slide**

Size		100	120
Length L6	[mm]	192	263
Min. distance between the slides L3	[mm]	≥ 50	≥ 50

Datasheet

Dimensions – ELGD-TB-...

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



[1] Sealing air connection

+ = plus stroke length + 2x stroke reserve

	B1	B2	B3	B4	B5	D1	D2	D3	D4	D5	D6	D7	D8	D9	H1
				±0.03		∅ H7	∅ H7	∅					∅ H7	∅	
ELGD-TB-100	102	100	91	91	20	38	10	20k5	M5	M6	M3	M5	5	27.5	70
ELGD-TB-120	123	120	107	107	30	48	16	25k6	M6	M6	M3	M6	6	42.8	82

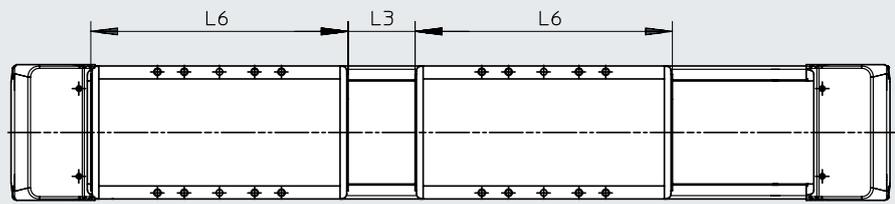
	H2	H3	H4	H5	H8	H9	H10	H11	L1	L2	L3	L4	L5	L6
										min.				
ELGD-TB-100	58.5	24	29	23	58	47	59	5.3	311	155.5	62.5	36	33	192
ELGD-TB-120	68.5	29.6	26	31	68.5	33.5	69.5	5.3	395	197.5	69	51	36	263

	L7	L8	L9	L10	L11		L13	T1	T2	T3	T4	T5	T6	T7	T8
	±0.1	±0.1			min.	max.									
ELGD-TB-100	52.5	92.5	108.5	34	3	6	72.5	2.2	16	7.2	12	6	7	16.5	6 ±0.05
ELGD-TB-120	92.5	132.5	161	34	3	6	112.5	2.2	29	4	12	6	7	17.5	8 ±0.1

Datasheet

**Dimensions – ELGD-TB-...-ZL/-ZR (with additional slide)**

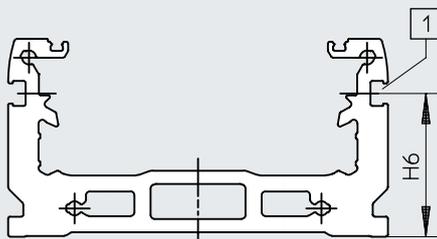
Download CAD data → [www.festo.com](http://www.festo.com)



	L3 (Minimum distance)	L6
ELGD-TB-100	50	192
ELGD-TB-120	50	263

**Dimensions – ELGD-TB-...- (profile)**

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

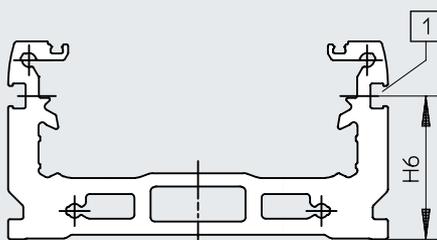


[1] Sensor slot for proximity switch

	H6
ELGD-TB-100	38

**Dimensions – ELGD-TB-...- (profile)**

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



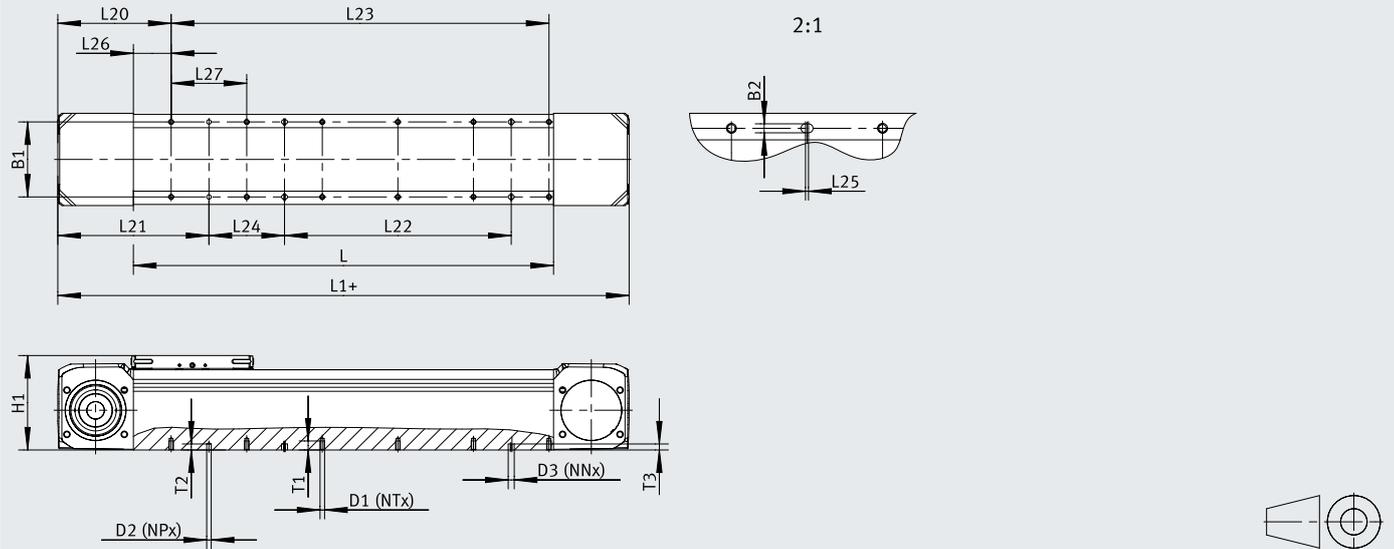
[1] Sensor slot for proximity switch

	H6	H7
ELGD-TB-120	81.5	92

Datasheet

Dimensions - ELGD-TB-...-M (for direct mounting)

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



+ = plus stroke length + 2x stroke reserve

$L23 = (NT/2-1) \times 100$

	B1	B2	D1	D2	H1	L	L20	L21
		H7		∅ H7		(at zero stroke)		
ELGD-TB-100-...-L-M	83	6	M5	6	69.4	186	112.5	162.5
ELGD-TB-120-...-L-M	100		M6		81.4	257	119	169

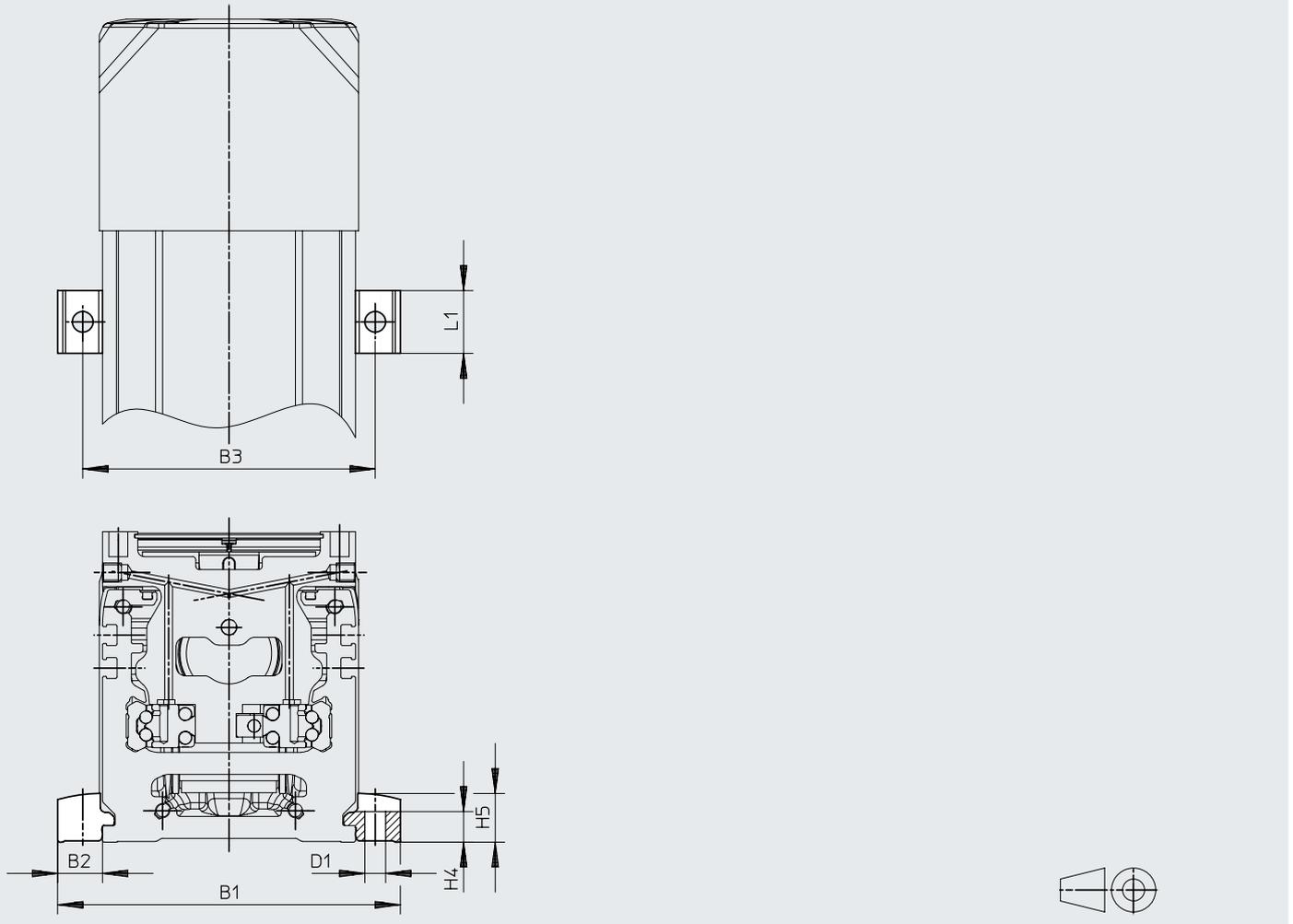
	L25	L26	L27	T1	T2	T3
ELGD-TB-100-...-L-M	2	50	100	10.5	8	8
ELGD-TB-120-...-L-M				12.5		

L	D1 <sup>1)</sup>		D2 <sup>2)</sup>	D3 <sup>3)</sup>		L24
	NT	L23	NP	NN	L22	
<270	4	100	2	-	-	100
≥270	6	200		2	-	
≥370	8	300		4	100	
≥470	10	400			200	
≥570	12	500			300	
≥670	14	600			400	
≥770	16	700			500	
≥870	18	800			600	
≥970	20	900			700	
≥1070	22	1000			800	
≥1170	24	1100			900	
≥1270	26	1200			1000	
≥1370	28	1300			1100	
≥1470	30	1400			1200	
≥1570	32	1500			1300	
D ≤1650						

- 1) Threaded hole
- 2) Pin hole
- 3) Slotted hole

## Datasheet

## Dimensions – Profile mounting EAHF-E24-60-P-S

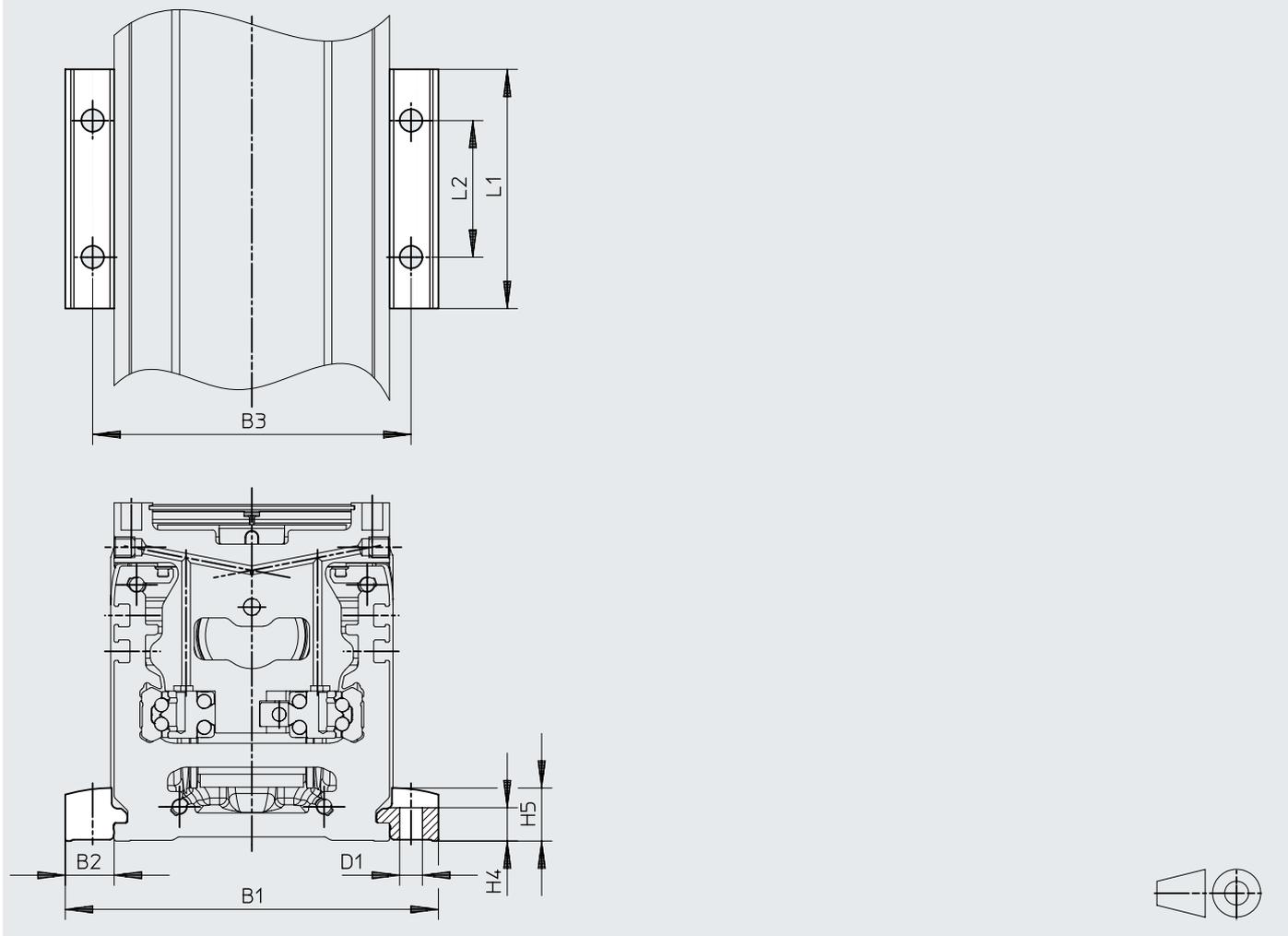
Download CAD data → [www.festo.com](http://www.festo.com)

		B1	B2	B3	D1 ∅ H13	H4 ±0.1	H5	L1
EAHF-E24-60-P-S	ELGD-TB-100	128.4	14.2	112.5	6.6	10.3	16.5	20
	ELGD-TB-120	148.4	14.2	132.5	6.6	10.3	16.5	20

Datasheet

Dimensions – Profile mounting EAHF-E24-60-P

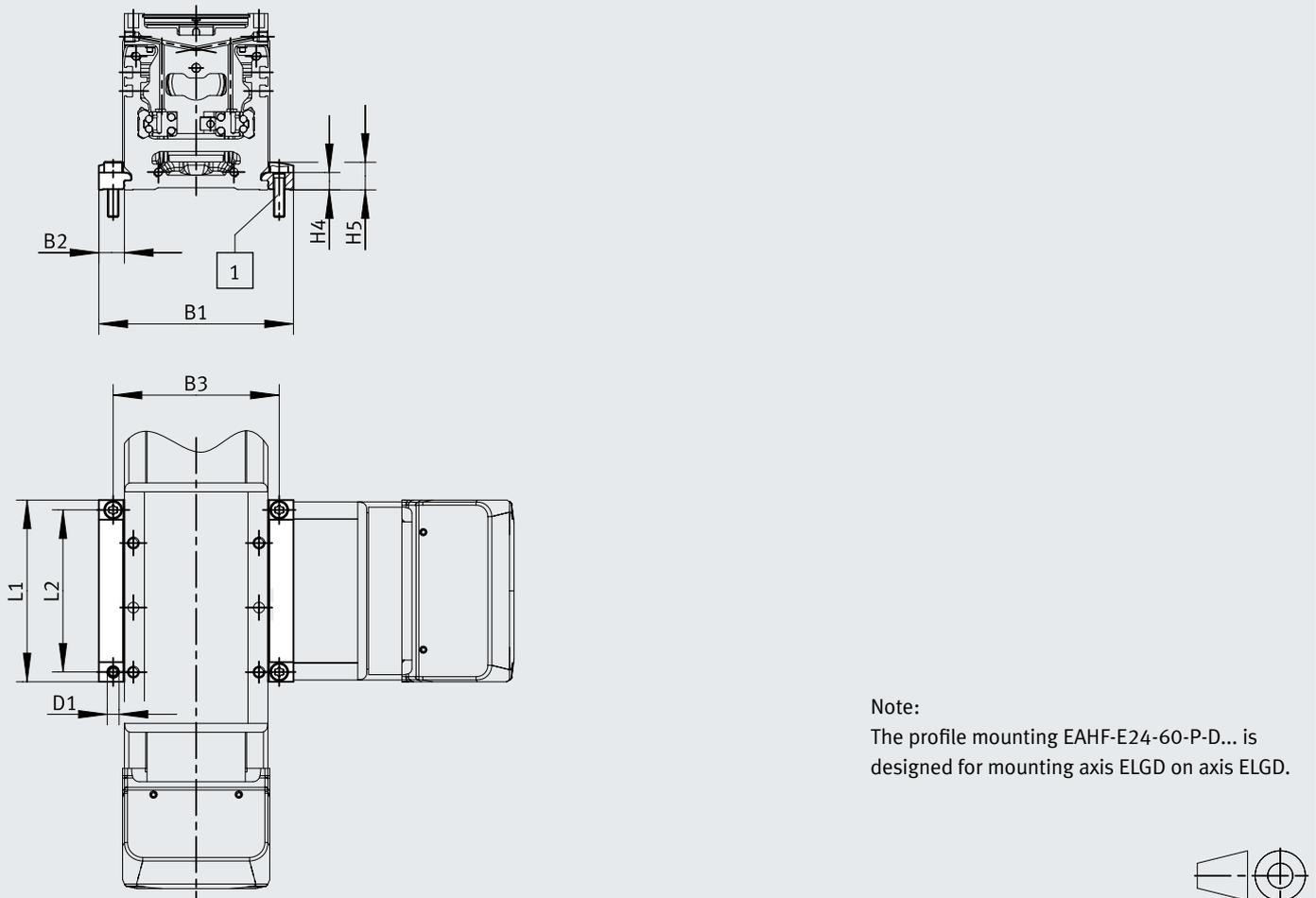
Download CAD data → [www.festo.com](http://www.festo.com)



		B1	B2	B3	D1 ∅ H13	H4 ±0.1	H5	L1	L2
EAHF-E24-60-P	ELGD-TB-100	128.4	14.2	112.5	6.6	10.3	16.5	70	40
	ELGD-TB-120	148.4	14.2	132.5	6.6	10.3	16.5	70	40

## Datasheet

## Dimensions – Profile mounting EAHF-E24-60-P-D

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

## Note:

The profile mounting EAHF-E24-60-P-D... is designed for mounting axis ELGD on axis ELGD.

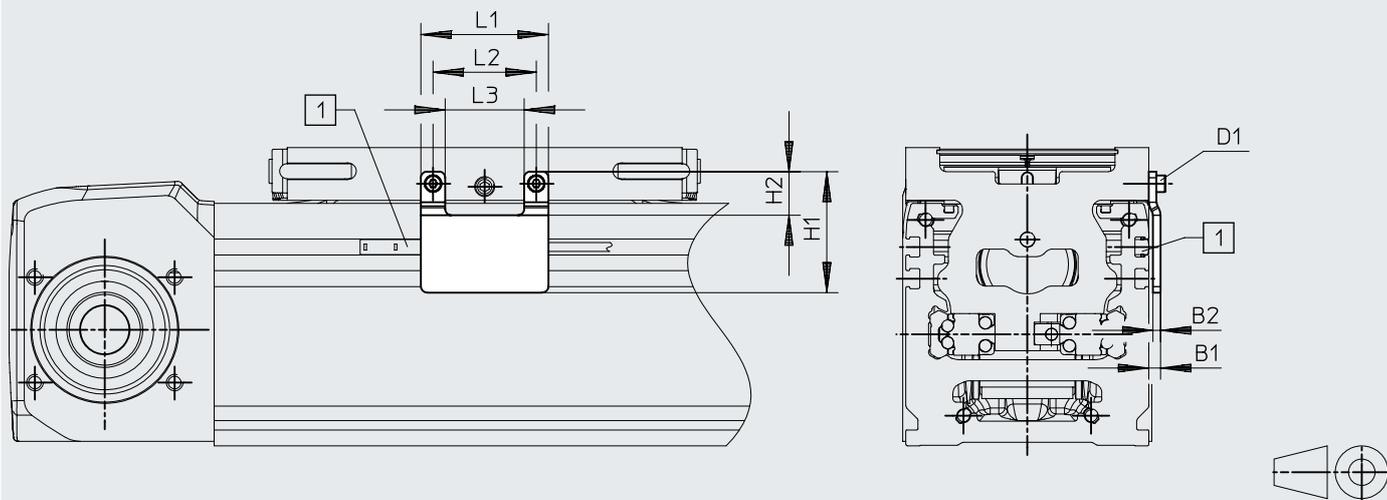
[1] Screws are included in the scope of delivery

		B1	B2	B3	D1 ∅ H13	H4 ±0.1	H5	L1	L2
EAHF-E24-60-P-D6	ELGD-TB-100	128.4	14.2	112.5	5.5	10.3	16.5	102	91
EAHF-E24-60-P-D7	ELGD-TB-120	148.4	14.2	132.5	6.6	10.3	16.5	120	107

Datasheet

**Dimensions – Switch lug EAPM-E24-60-SLS**

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

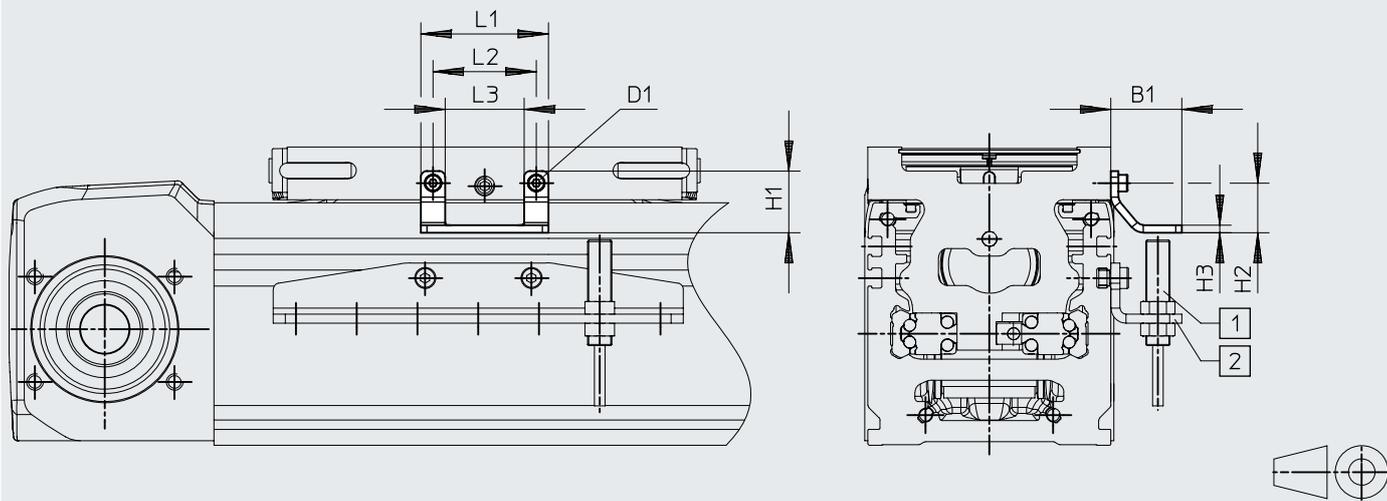


[1] Sensor slot for proximity switch SIES-8M

		B1	B2	D1	H1	H2	L1	L2	L3
EAPM-E24-60-SLS	ELGD-TB-100	3.8	2.5	M3x8	40.2	14.5	42	34	26
	ELGD-TB-120								

**Dimensions – Switch lug EAPM-E24-...-SLE**

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



[1] Proximity switch SIEN-M8

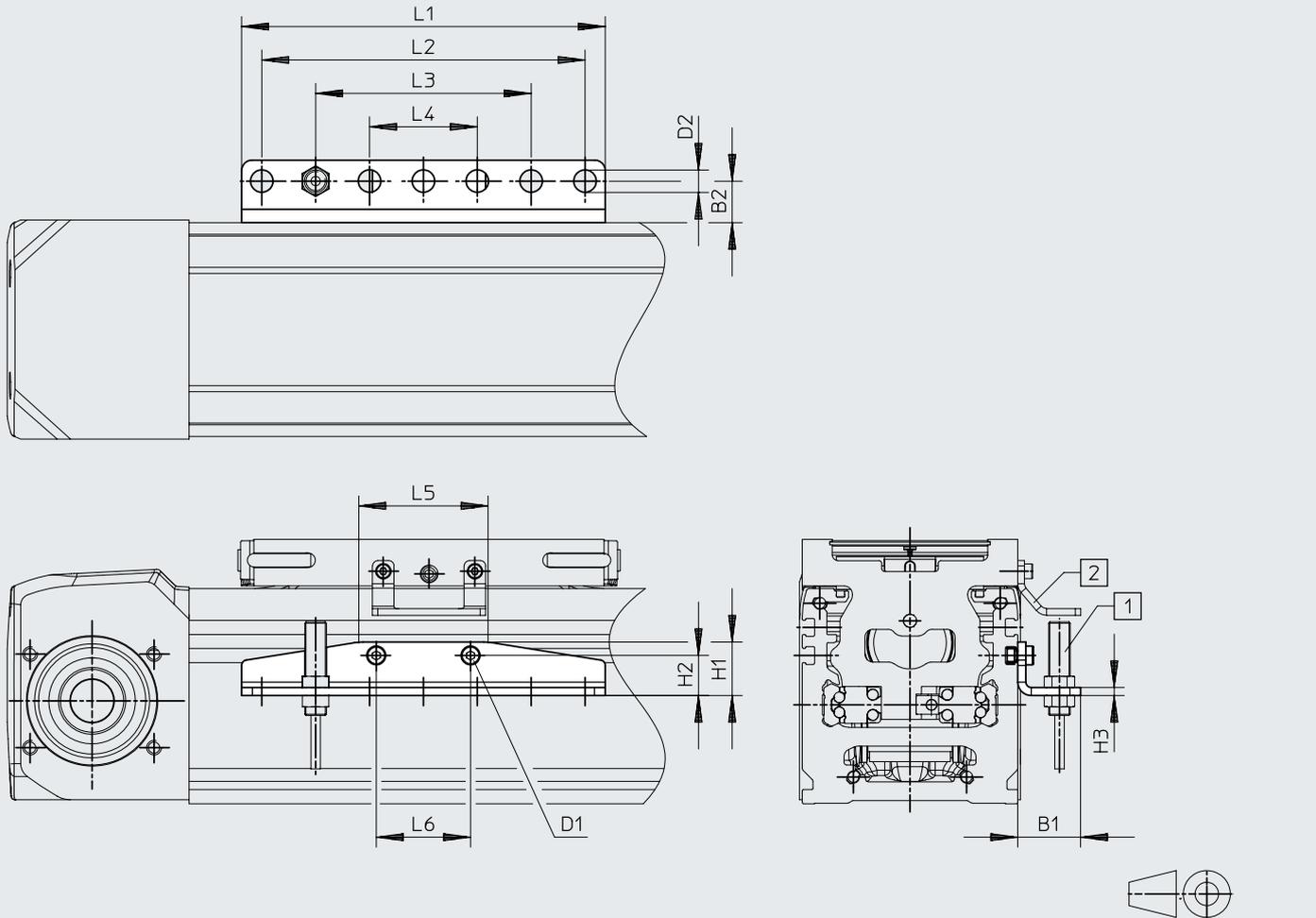
[2] Sensor bracket EAPM-E24-60-SHE

		B1	D1	H1	H2	H3	L1	L2	L3
EAPM-E24-60-SLE	ELGD-TB-100	23.4	M3	20.5	16.5	2.5	42	34	26
	ELGD-TB-120								

Datasheet

Dimensions – Sensor bracket EAPM-E24-60-SHE

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



- [1] Proximity switch SIEN-8M
- [2] Switch lug EAPM-E24-60-SLE

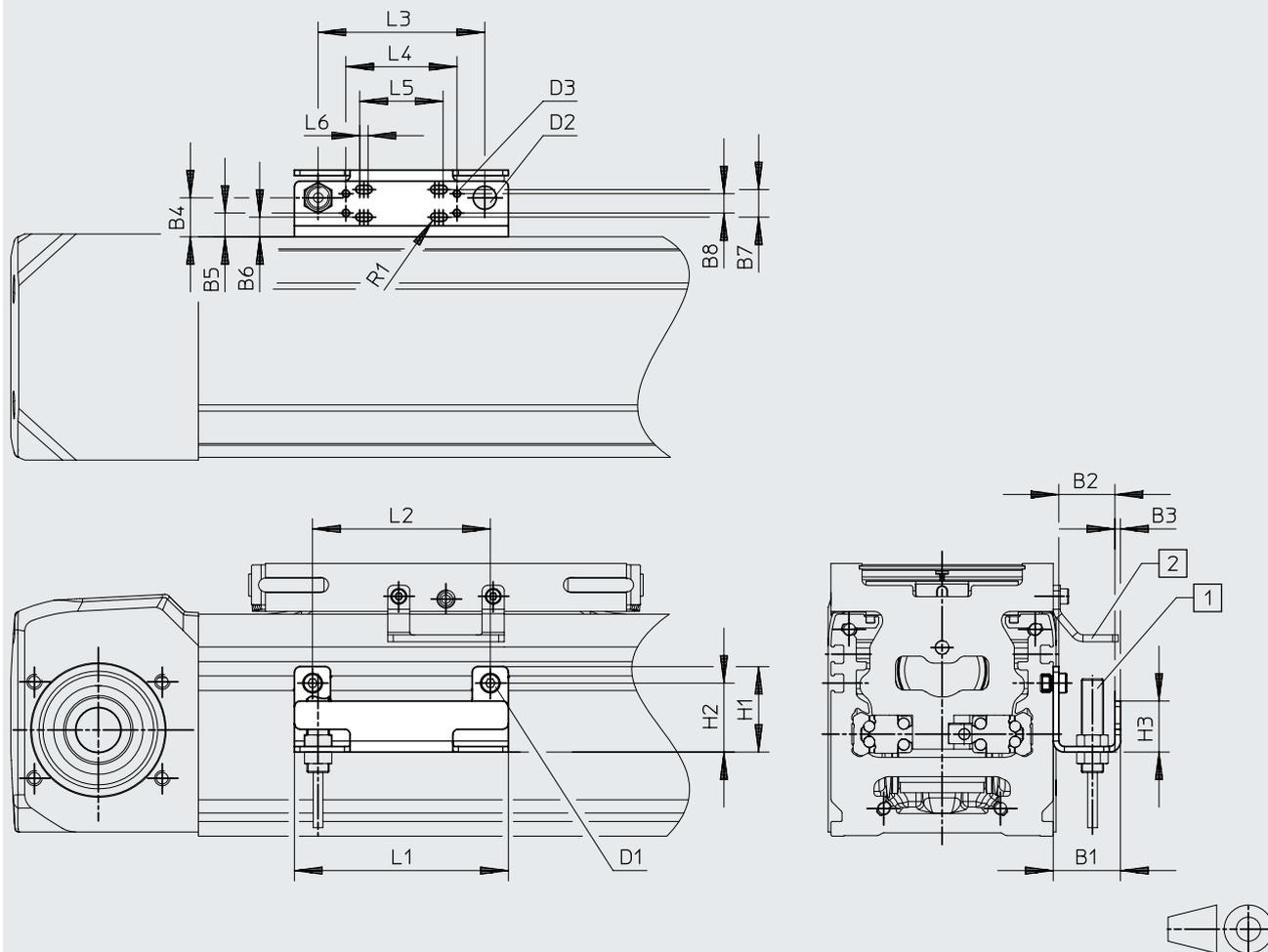
		B1	B2	D1	D2 ∅ H13	H1	H2	H3
		±0.3				±0.3		
EAPM-E24-60-SHE	ELGD-TB-100	23.4	15.5	M4x6	8.4	20	15	3
	ELGD-TB-120							

		L1	L2	L3	L4	L5	L6
		±0.2					
EAPM-E24-60-SHE	ELGD-TB-100	135	120	80	40	48	35
	ELGD-TB-120						

Datasheet

Dimensions – Sensor bracket EAPM-E24-60-SHO

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



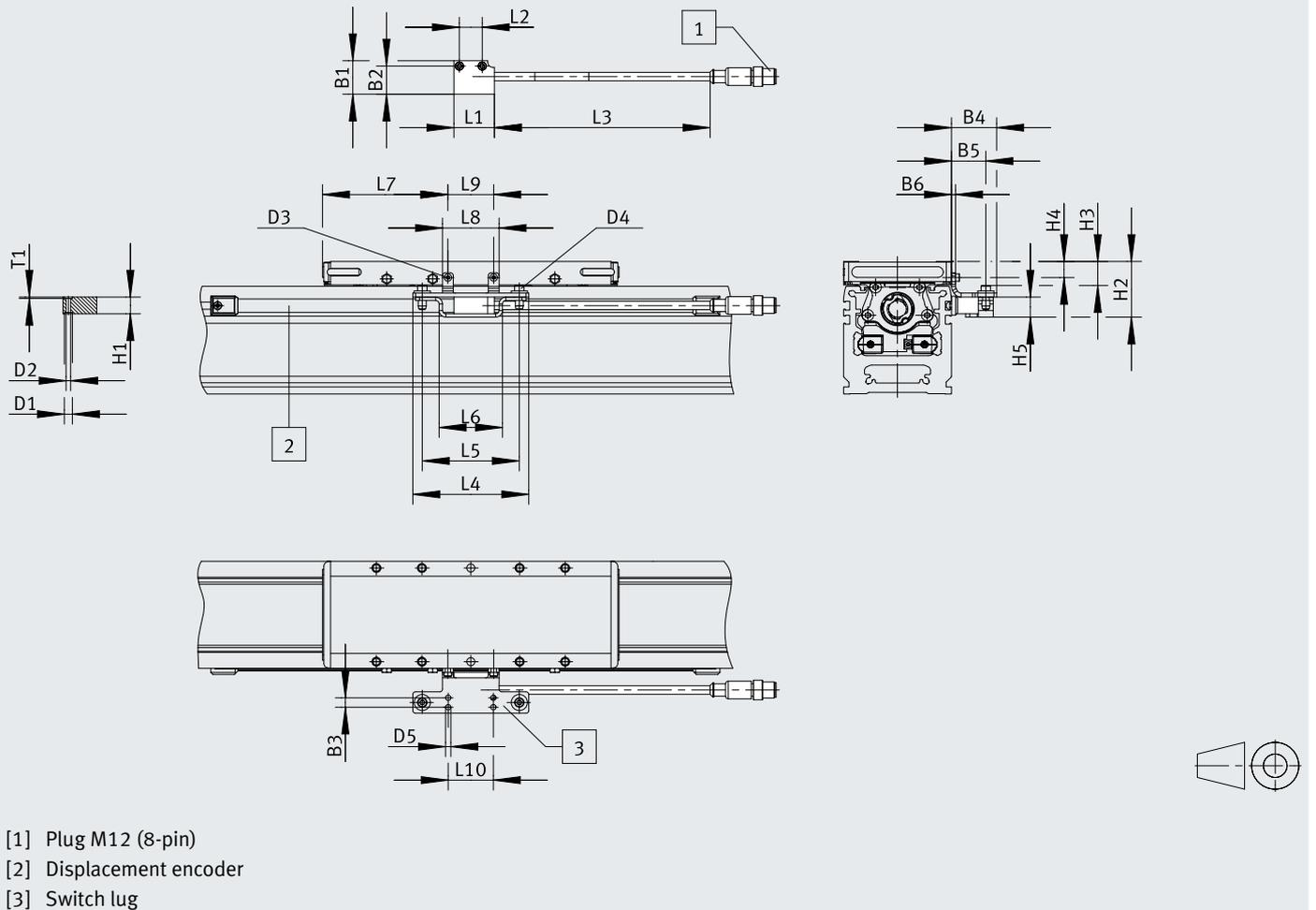
- [1] Inductive sensor (Omron)
- [2] Switch lug EAPM-E24-60-SLE

		B1	B2	B3	B4	B5	B6	B7
EAPM-E24-60-SHO	ELGD-TB-100	24.2	20.2	2	14.1	8.6	7.1	10
	ELGD-TB-120							
		B8	D1	D2 ∅	D3	H1	H2	H3
EAPM-E24-60-SHO	ELGD-TB-100	7	M3	8.4	M3	31	25	18.5
	ELGD-TB-120							
		L1	L2	L3	L4	L5	L6	R1
EAPM-E24-60-SHO	ELGD-TB-100	77	64	60	40	24	3	1.5
	ELGD-TB-120							

Datasheet

Dimensions - ELGD-...-M3 with incremental displacement encoder

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



	B1	B2	B3	B4	B5	B6	D1 ∅
ELGD-TB-100	25	21	7	33.5	25.5	3	6
ELGD-TB-120							

	D2 ∅	D3	D4	D5 ∅	H1 ±0.1	H2	H3
ELGD-TB-100	3.4	M2x10	M4x14	4	12.5	40.6	17
ELGD-TB-120						42.1	18.5

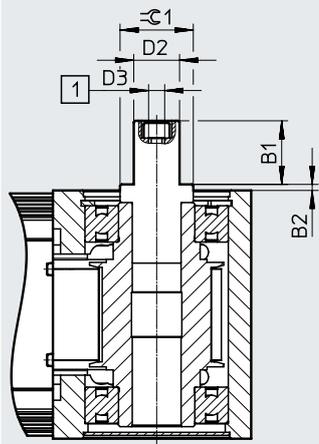
	H4	H5	L1	L2	L3	L4	L5
ELGD-TB-100	11	15	30	17	160	86	72
ELGD-TB-120	12.5						

	L6	L7	L8	L9	L10	T1
ELGD-TB-100	47	79	42	34	33.5	1
ELGD-TB-120		114.5				

Datasheet

Dimensions – Drive shaft adapter EAMB-...

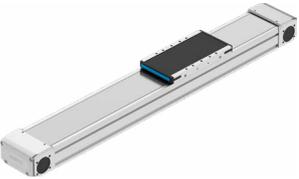
Download CAD data → [www.festo.com](http://www.festo.com)



[1] Draw-off thread

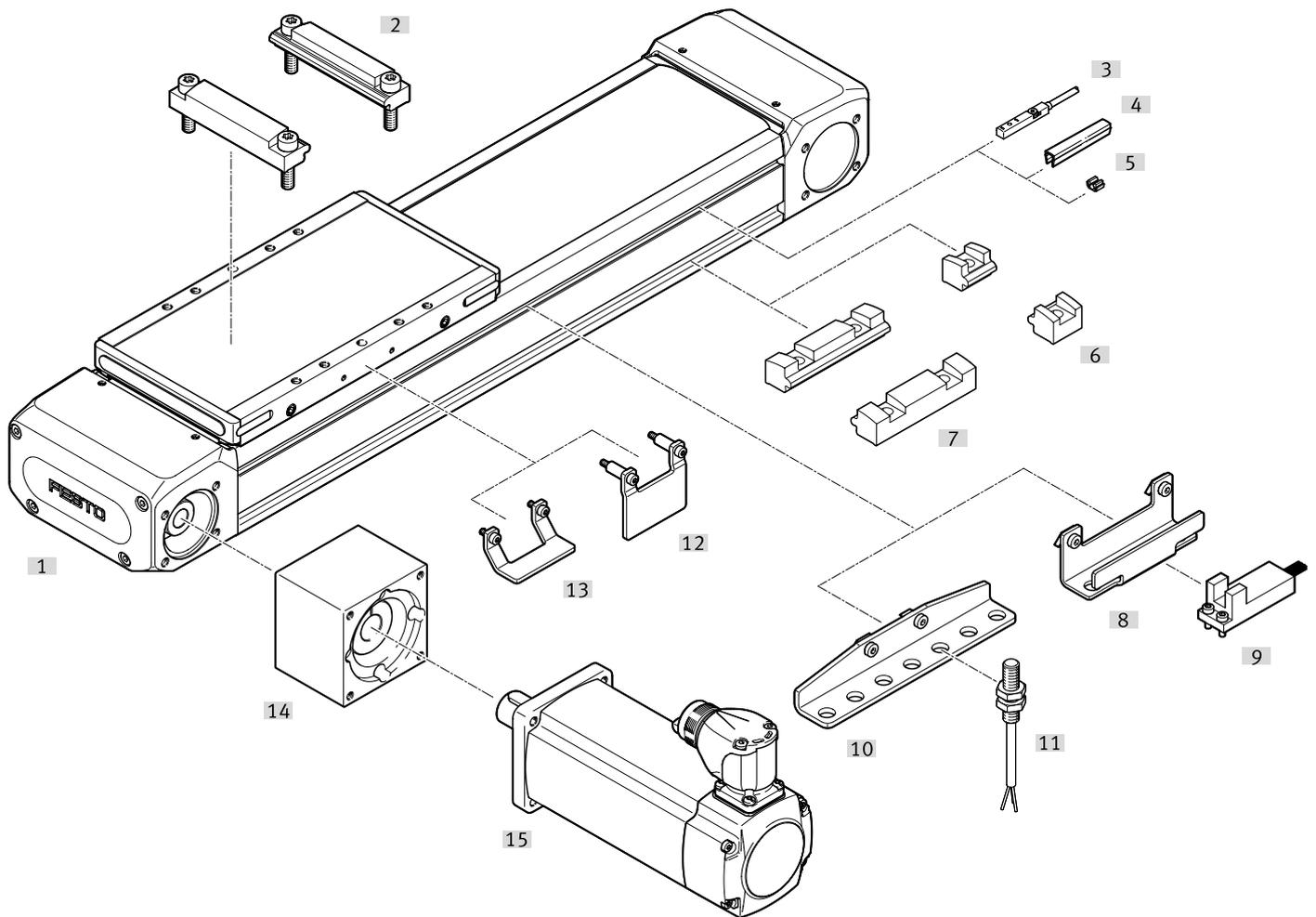
		B1	B2	D2 $\varnothing$ h7	D3	$\pm \text{C}1$
EAMB-18-9-8X16-10X12	ELGD-TB-100	12	1.8	8	M5	15
EAMB-24-6-15X21-16X20	ELGD-TB-120	21	2	15	M6	21

## Datasheet

Ordering data				
	Size	Stroke [mm]	Part no.	Type
	100	200	<b>8192374</b>	ELGD-TB-KF-WD-100-200-0H-L-PU2
		300	<b>8192375</b>	ELGD-TB-KF-WD-100-300-0H-L-PU2
		500	<b>8192376</b>	ELGD-TB-KF-WD-100-500-0H-L-PU2
		600	<b>8192377</b>	ELGD-TB-KF-WD-100-600-0H-L-PU2
		800	<b>8192378</b>	ELGD-TB-KF-WD-100-800-0H-L-PU2
		1000	<b>8192379</b>	ELGD-TB-KF-WD-100-1000-0H-L-PU2
		1200	<b>8192380</b>	ELGD-TB-KF-WD-100-1200-0H-L-PU2
		1500	<b>8192381</b>	ELGD-TB-KF-WD-100-1500-0H-L-PU2
		1800	<b>8192382</b>	ELGD-TB-KF-WD-100-1800-0H-L-PU2
		2000	<b>8192383</b>	ELGD-TB-KF-WD-100-2000-0H-L-PU2
	120	200	<b>8192384</b>	ELGD-TB-KF-WD-120-200-0H-L-PU2
		300	<b>8192385</b>	ELGD-TB-KF-WD-120-300-0H-L-PU2
		500	<b>8192386</b>	ELGD-TB-KF-WD-120-500-0H-L-PU2
		600	<b>8192387</b>	ELGD-TB-KF-WD-120-600-0H-L-PU2
		800	<b>8192388</b>	ELGD-TB-KF-WD-120-800-0H-L-PU2
		1000	<b>8192389</b>	ELGD-TB-KF-WD-120-1000-0H-L-PU2
		1200	<b>8192390</b>	ELGD-TB-KF-WD-120-1200-0H-L-PU2
		1500	<b>8192391</b>	ELGD-TB-KF-WD-120-1500-0H-L-PU2
		1800	<b>8192392</b>	ELGD-TB-KF-WD-120-1800-0H-L-PU2
		2000	<b>8192393</b>	ELGD-TB-KF-WD-120-2000-0H-L-PU2

Ordering data – Modular product system					More information → <a href="#">elgd-tb</a>
	Size	Stroke [mm]	Part no.	Type	
	100	50 ... 8500	<b>8176888</b>	ELGD-TB-KF-WD-100-...	
	120	50 ... 8500	<b>8176889</b>	ELGD-TB-KF-WD-120-...	

Peripherals overview

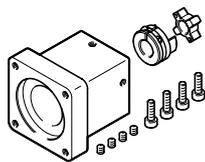


## Peripherals overview

Accessories		
Type	Description	→ Page/Internet
[1] Toothed belt axis ELGD-TB-WD	Electric drive	elgd-tb
[2] Profile mounting EAHF-E24-...-D...	For axis/axis mounting with adapter plate	27
[3] Proximity switch, T-slot SIES-8M	Inductive proximity switch, for T-slot	28
[4] Slot cover ABP-S	For protection against contamination	29
[5] Clip SMBK	For mounting the proximity switch cable in the slot	29
[6] Profile mounting EAHF-E24-...-S	For mounting the axis on the side of the profile	27
[7] Profile mounting EAHF-E24-...	For mounting the axis on the side of the profile	27
[8] Sensor bracket EAPM-E24-SHO	For mounting third-party sensors on the axis	28
[9] Sensor OMRON	Third-party sensor OMRON, EE-SX674 series	–
[10] Sensor bracket EAPM-E24-SHE	For mounting the inductive proximity switches SIEN-M8 (round design) on the axis	28
[11] Proximity switch, M8 SIEN-M8	Inductive proximity switch, round design	29
[12] Switch lug EAPM-E24-SLS	For sensing the slide position using inductive proximity switch SIES-8M or for optical sensors (Omron) with sensor bracket EAPM-E24-SHO	28
[13] Switch lug EAPM-E24-SLE	For sensing the slide position using inductive proximity switch SIEN-M8 (round design) and sensor bracket EAPM-E24-SHE	28
[14] Axial kit EAMM	For axial motor mounting	<a href="#">eamm-a</a>
[15] Motor EMMT	Motors and kits specially matched with the axis Detailed information: <a href="http://www.festo.com/catalogue/eamm">www.festo.com/catalogue/eamm</a> Engineering tool: <a href="http://www.festo.com/x/electric-motion-sizing">www.festo.com/x/electric-motion-sizing</a>	<a href="#">emmt</a>

## Accessories

## Permitted axis/motor combinations for axial kits

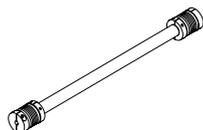


Full information is available via the following link:

- Axis/motor combinations
- Permitted third-party motors
- Technical data
- Dimensions

For axial kits → [eamm-a](#)

## Connecting shaft KSK



- For synchronising two base axes in gantry systems

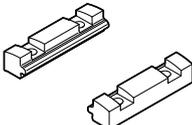
Full information is available via the following link:

Connecting shaft → [ksk](#)

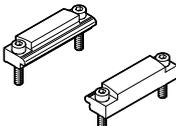
## Profile mounting EAHF-E24-...-P-S

	Description	Suitable for the production of Li-ion batteries	Material	Product weight	Part no.	Type
	For size 100, 120	F1a	Anodised wrought aluminium alloy	18 g	<b>8197128</b>	<b>EAHF-E24-60-P-S</b>

## Profile mounting EAHF-E24-...-P

	Description	Suitable for the production of Li-ion batteries	Material	Product weight	Part no.	Type
	For size 100, 120	F1a	Anodised wrought aluminium alloy	71 g	<b>8197132</b>	<b>EAHF-E24-60-P</b>

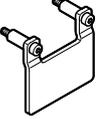
## Profile mounting EAHF-E24-...-P-D...

	Description <sup>1)</sup>	Suitable for the production of Li-ion batteries	Material	Product weight	Part no.	Type
	ELGD-60 on ELGD-100 <sup>1)</sup>	F1a	Anodised wrought aluminium alloy	133 g	<b>8197130</b>	<b>EAHF-E24-60-P-D6</b>
	ELGD-80 to ELGD-100			133 g	<b>8197130</b>	<b>EAHF-E24-60-P-D6</b>
	ELGD-80 on ELGD-120-L			165 g	<b>8229954</b>	<b>EAHF-E24-60-P-D7</b>
	ELGD-100-L on ELGD-120-L			165 g	<b>8229954</b>	<b>EAHF-E24-60-P-D7</b>

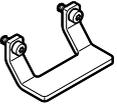
1) With this combination, the axis is mounted off-centre on the slide (see dimension L13 on the dimensional drawing with long slide).

## Accessories

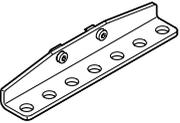
## Switch lug EAPM-E24-...-SLS

	Description	Suitable for the production of Li-ion batteries	Material	Product weight	Part no.	Type
	For size 100, 120	F1a	Steel	32 g	<b>8197117</b>	<b>EAPM-E24-60-SLS</b>

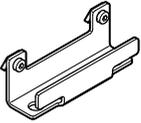
## Switch lug EAPM-E24-...-SLE

	Description	Suitable for the production of Li-ion batteries	Material	Product weight	Part no.	Type
	For size 100, 120	F1a	Steel	20 g	<b>8197116</b>	<b>EAPM-E24-60-SLE</b>

## Sensor bracket EAPM-E24-...-SHE

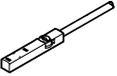
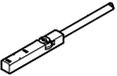
	Description	Suitable for the production of Li-ion batteries	Material	Product weight	Part no.	Type
	For size 100, 120	F1a	Steel	103 g	<b>8197123</b>	<b>EAPM-E24-60-SHE</b>

## Sensor bracket EAPM-E24-...-SHO

	Description	Suitable for the production of Li-ion batteries	Material	Product weight	Part no.	Type
	For size 100, 120	F1a	Steel	67 g	<b>8197121</b>	<b>EAPM-E24-60-SHO</b>

## Proximity switch for T-slot, inductive

Datasheets → Internet: sies

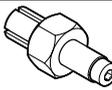
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type
<b>N/O</b>						
	Inserted in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	7.5	<b>551386</b>	<b>SIES-8M-PS-24V-K-7,5-OE</b>
			Plug M8x1, 3-pin	0.3	<b>551387</b>	<b>SIES-8M-PS-24V-K-0,3-M8D</b>
		NPN	Cable, 3-wire	7.5	<b>551396</b>	<b>SIES-8M-NS-24V-K-7,5-OE</b>
			Plug M8x1, 3-pin	0.3	<b>551397</b>	<b>SIES-8M-NS-24V-K-0,3-M8D</b>
<b>N/C</b>						
	Inserted in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	7.5	<b>551391</b>	<b>SIES-8M-PO-24V-K-7,5-OE</b>
			Plug M8x1, 3-pin	0.3	<b>551392</b>	<b>SIES-8M-PO-24V-K-0,3-M8D</b>
		NPN	Cable, 3-wire	7.5	<b>551401</b>	<b>SIES-8M-NO-24V-K-7,5-OE</b>
			Plug M8x1, 3-pin	0.3	<b>551402</b>	<b>SIES-8M-NO-24V-K-0,3-M8D</b>

## Accessories

Proximity switch M8 (round design), inductive						Datasheets → Internet: sien
	Switching output	Electrical connection	Cable length [m]	Part no.	Type	
<b>N/O</b>						
	PNP	Cable, 3-wire	2.5	150386	SIEN-M8B-PS-K-L	
	NPN		2.5	150384	SIEN-M8B-NS-K-L	
	PNP	Plug M8x1, 3-pin	–	150387	SIEN-M8B-PS-S-L	
	NPN		–	150385	SIEN-M8B-NS-S-L	
<b>N/C</b>						
	PNP	Cable, 3-wire	2.5	150390	SIEN-M8B-PO-K-L	
	NPN		2.5	150388	SIEN-M8B-NO-K-L	
	PNP	Plug M8x1, 3-pin	–	150391	SIEN-M8B-PO-S-L	
	NPN		–	150389	SIEN-M8B-NO-S-L	

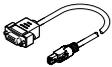
Slot cover ABP-5-S1						
	Description	Material	Pack size	Product weight	Part no.	Type
	For size 100, 120	ABS	2 every 0.5 m	13 g	563360	ABP-5-S1

Clip SMBK						
	Description	Pack size	Product weight	Part no.	Type	
	For size 100, 120	10	1 g	534254	SMBK-8	

Drive shaft adapter EAMB						
	Description	Transferable torque	Product weight	Part no.	Type	
	For size 100	12 Nm	29 g	558035	EAMB-18-9-8X16-10X12	
	For size 120	29 Nm	68 g	558036	EAMB-24-6-15X21-16X20	

Ordering data – Encoder cables for displacement encoder system, ELGD-...-M3						Datasheets → Internet: nebm
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type	
	Displacement encoder ELGD-...-M3	Motor controller CMMP-AS and CMMT-AS	5	1599105	NEBM-M12G8-E-5-S1G9-V3	
			10	1599106	NEBM-M12G8-E-10-S1G9-V3	
			15	1599107	NEBM-M12G8-E-15-S1G9-V3	
			x1)	1599108	NEBM-M12G8-E-...-S1G9-V3	

1) Max. cable length: 25 m.

Ordering data – Adapter						
	Description	Part no.	Type			
	Required in combination with the servo drive CMMT-AS as adapter between encoder cable NEBM-M12G8-...-V3 and interface X3 (position encoder)2)	8106112	NEFM-S1G9-K-0.5-R3G8			