Linear drives ELGL-LAS, with air bearing and linear motor

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Key features

At a glance

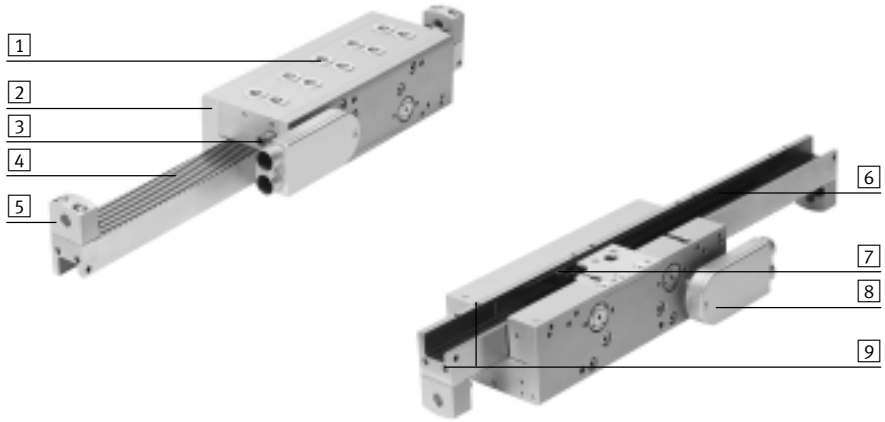
The electric linear drive ELGL is a handling axis with air-bearing guide and integrated linear motor. The drive elements and the air bearing form a single unit. The slide moves on the stator rail. An integrated displacement encoder sends signals to the controller.

The displacement encoder, controller and motor operate in a closed-loop control circuit.
This enables the motor to regulate to specified set values for speed and position within the permitted stroke range with a high degree of accuracy.

Advantages

- Highly accurate positioning and very good linearity thanks to the air bearing
- Integrated locking brake function through magnetic pretensioning of the air bearing
- Multiple carriages possible on one axis
- Opposing and synchronous movements possible
- No friction on the guide parts
- Maintenance and wear-free

The technology in detail



1 Mounting thread with centring recesses
2 Slide
3 Supply port for air bearing
4 Stator
5 End stop with rubber buffer, shock absorbers can alternatively be screwed in
6 Integrated displacement encoder
7 Sensor
8 Electrical interface, rotatable in steps of 90°
9 Mounting thread for foot mountings

Complete system consisting of linear drive and motor controller

Linear axis ELGL ➔3

Motor controller CMMP-AS ➔ 21

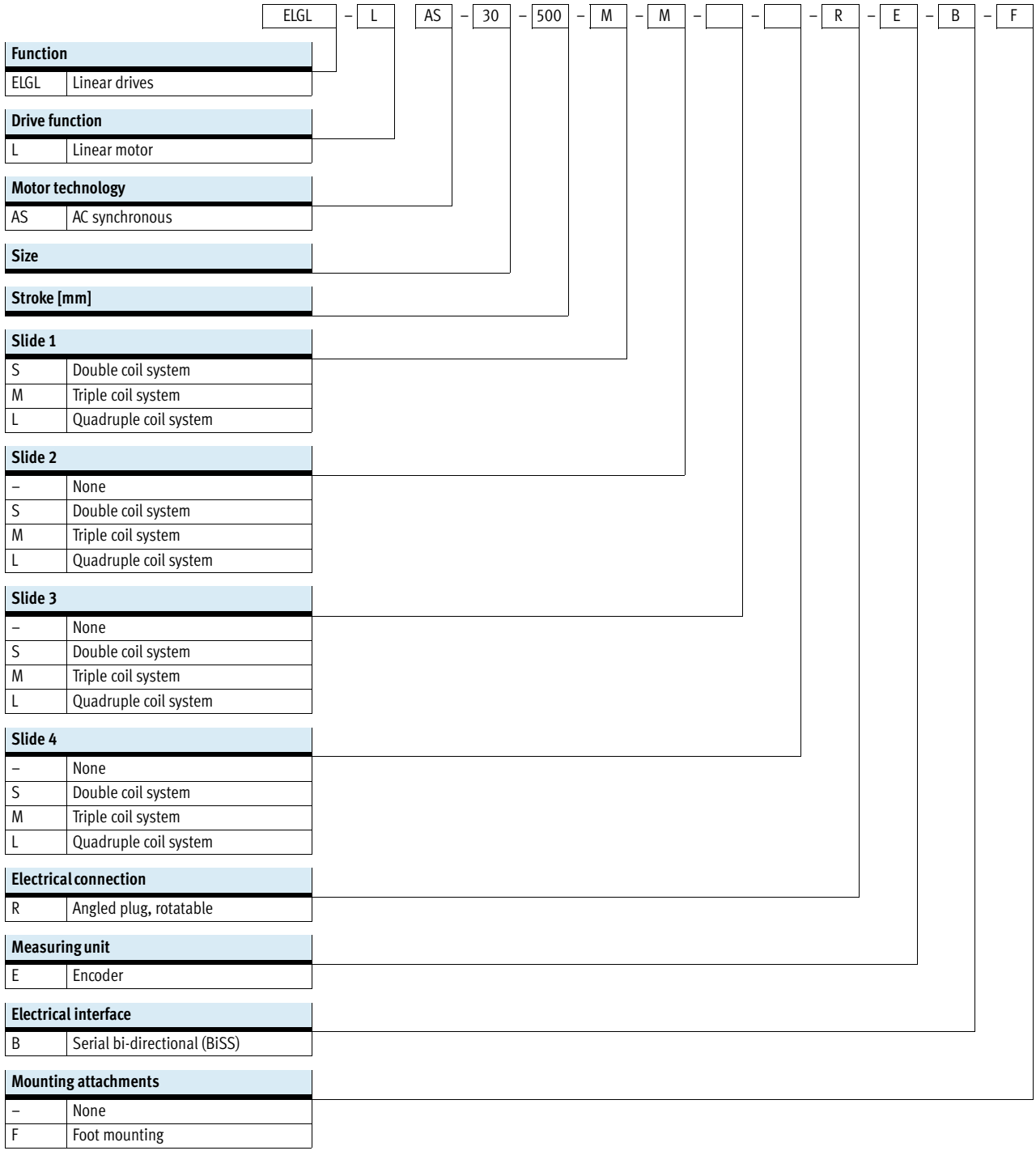
Note

When using the linear axis, make sure that no dirt or dirt particles are sticking to the surface of the air bearing.

Invasive or hardened dirt can block the nozzles of the air bearing to the extent where they need to be replaced.

Linear drives ELGL-LAS, with air bearing and linear motor

Type codes



Function	
ELGL	Linear drives

Drive function	
L	Linear motor

Motor technology	
AS	AC synchronous

Size	

Stroke [mm]	

Slide 1	
S	Double coil system
M	Triple coil system
L	Quadruple coil system

Slide 2	
–	None
S	Double coil system
M	Triple coil system
L	Quadruple coil system

Slide 3	
–	None
S	Double coil system
M	Triple coil system
L	Quadruple coil system

Slide 4	
–	None
S	Double coil system
M	Triple coil system
L	Quadruple coil system

Electrical connection	
R	Angled plug, rotatable

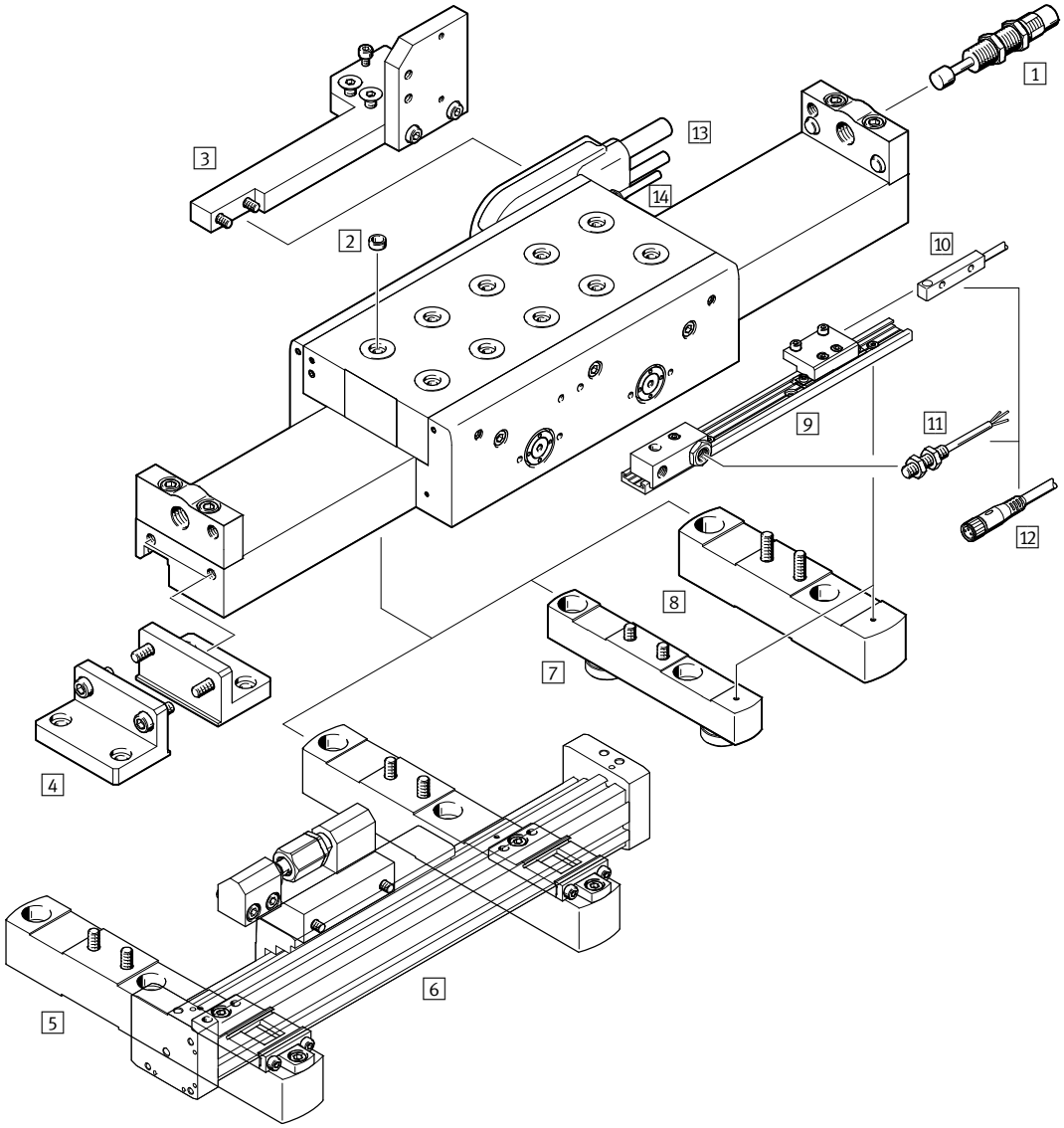
Measuring unit	
E	Encoder

Electrical interface	
B	Serial bi-directional (BiSS)

Mounting attachments	
–	None
F	Foot mounting

Linear drives ELGL-LAS, with air bearing and linear motor

Peripherals overview



Linear drives ELGL-LAS, with air bearing and linear motor

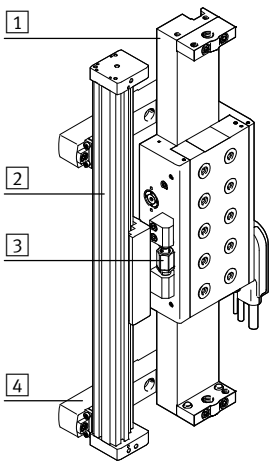
Peripherals overview

Accessories			
	Type	Brief description	➔ Page/Internet
1	Shock absorber YSRW	For avoiding damage at the end stop in the event of malfunction	21
2	Centring sleeve ZBH	• For centring loads and attachments on the slide • Centring sleeves are not included in the scope of delivery of the drive	21
3	Mounting kit EAHT	For mounting an energy chain (type: E6.29 or E6.40) on the linear drive ELGL	19
4	Foot mounting EAHF	• For mounting the axis on the end cap • 2 included in the scope of delivery	16
5	Mounting kit EAHC	• For mounting a pneumatic linear drive DGC on the linear drive ELGL • The slides are connected to each other via a self-aligning rod coupler	20
6	Linear drive DGC-18-...	For relieving the load on the linear motor when used vertically (➔ below)	dgc
7	Adjustable foot mounting EAHF-...-PJ	• For mounting the axis on the stator • Height-adjustable foot mounting, compensates for unevenness of the mounting surface • 1 included in the scope of delivery	17
8	Foot mounting EAHF-...-P	For mounting the axis on the stator • 2 included in the scope of delivery	16
9	Sensor bracket EAPR	For attaching the inductive proximity sensors to the foot mountings EAHF-...-P or EAHF-...-PJ	18
10	Proximity sensor SIES	Inductive proximity sensor, square design	21
11	Proximity sensor SIEN	Inductive proximity sensor, round design	22
12	Connecting cable NEBU	For connecting the proximity sensor with plug connection to the controller	22
13	Motor cable NEBM	• For connecting the motor and controller • Connection can be rotated in steps of 90°	21
13	Encoder cable NEBM	• For connecting the displacement encoder and controller • Connection can be rotated in steps of 90°	21
14	QS push-in fitting QSM	For connecting compressed air tubing with standard external diameters	22

Compressed air backup for vertical operation

A pneumatic linear drive DGC-18 can be attached to the linear drive ELGL to protect the linear motor from overheating. The effective load is additionally held by the DGC when approaching the position by means of an appropriate backpressure in the DGC.

Ordering aid:
Part number: 532446
Type: DGC-18-...-G-...



1 Linear drive ELGL
2 Linear drive DGC
3 Self-aligning rod coupler FK
4 Mounting kit EAHC

Linear drives ELGL-LAS, with air bearing and linear motor

Technical data

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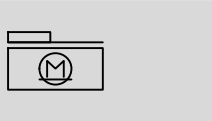
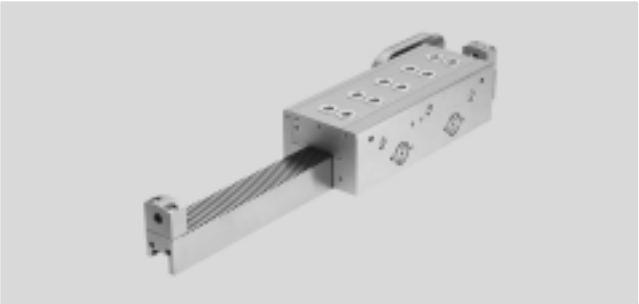
Function



- Size
  30 … 120
- Stroke length
  1 … 5750 mm

Note

All values are based on a normal temperature of 23 °C.
Dynamic response and accuracy depend on the mounting (rigidity) and temperature stresses (heat concentration).



General technical data							
Size		30	64		120		
Coil system		S	S	M	S	M	L
Constructional design		Electric linear direct drive					
		Guide with integrated displacement encoder					
Guide		Air bearing					
Type of mounting		Via accessories					
Mounting position		Horizontal	Any				
Effective stroke	[mm]	1 … 740	1 … 1750[1)]	1 … 1650[1)]	1 … 1750[1)]	1 … 1650[1)]	1 … 1550[1)]
Max. feed force Fx	[N]	44	119	164	240	310	450
Continuous feed force Fx	[N]	44	110	160	217	282	330
Max. speed	[m/s]	4			3.4	3.2	2
Max. acceleration	[m/s²]	15.4	29.4	29.1	47.6	40.4	50.2
Repetition accuracy	[mm]	±0.01					
Locking brake		Integrated by means of air bearing					

1) Work strokes up to 5,750 mm on request

Electrical data							
Size		30	64		120		
Coil system		S	S	M	S	M	L
Type of motor		Linear AC servo motor					
Stator pole pitch	[mm]	5					
Displacement encoder		Incremental, magnetic, resolution 1.56 µm					
Intermediate circuit voltage	[V]	600					
Peak current	[A]	4.0	4.0	4.0	4.5	4.5	4.5
Nominal current	[A]	3.5	3.5	3.0	3.5	3.0	2.75
Magnetic radiation		None					

Pneumatic data							
Size		30	64		120		
Coil system		S	S	M	S	M	L
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [2:4:2]					
		For dust: class 2 (max. particle size 1 µm, max. particle density 1 mg/m³)					
		For water: class 4 (≤ 3°C pressure dew point)					
		For oil: class 2 (≤ 0.1 mg/m³, oil-free)					
Operating pressure	[bar]	5					6
Air consumption	[l/min]	15	15	20	15	20	40

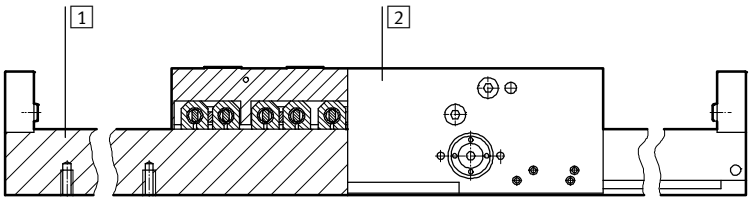
Operating and environmental conditions		
Ambient temperature[1]	[°C]	0 ... +40
Max. motor temperature	[°C]	70
Normal temperature[2]	[°C]	23
Temperature monitoring		Automatic switch-off in event of over-temperature (PTC resistor)
Degree of protection		IP65
Relative air humidity (non-condensing)	[%]	20 ... 80
CE mark (see declaration of conformity)		To EU EMC Directive
		To EU Low Voltage Directive
Certification		C-Tick

1) Temperature range must also be adhered to during transport.
2) Unless otherwise stated, all values are based on normal temperature

Weight							
Size		30	64		120		
Coil system		S	S	M	S	M	L
Slide	[kg]	2.8	3.8	5.0	4.7	6.8	8.7
Stator	[kg/m]	4.9	13.3		27.0		

Materials

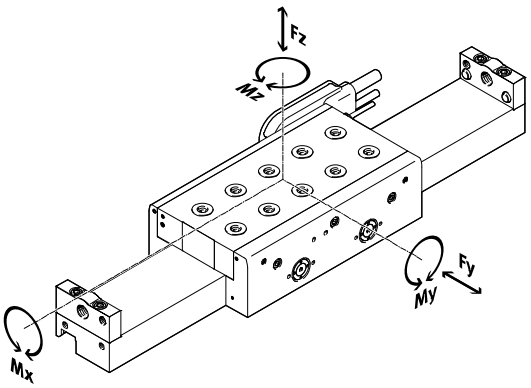
Sectional view



Linear drive		
1	Stator	Steel
2	Housing	Wrought aluminium alloy, anodised
–	Note on materials	Contains PWIS (paint-wetting impairment substances)
		RoHS-compliant

Static characteristic load values

The indicated forces and torques refer to the slide surface. 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. Attention must be paid to the acceleration and braking.



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

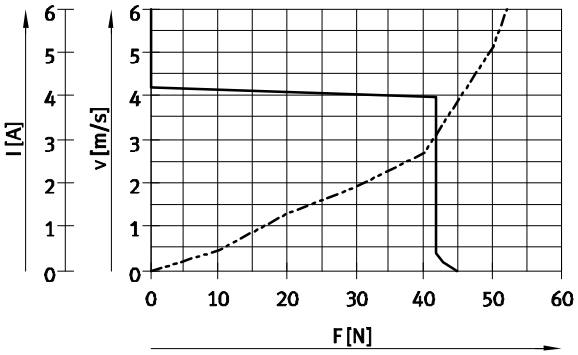
$$\frac{|Fy|}{Fy_{max.}} + \frac{|Fz|}{Fz_{max.}} + \frac{|Mx|}{Mx_{max.}} + \frac{|My|}{My_{max.}} + \frac{|Mz|}{Mz_{max.}} \leq 1$$

Permissible forces and torques

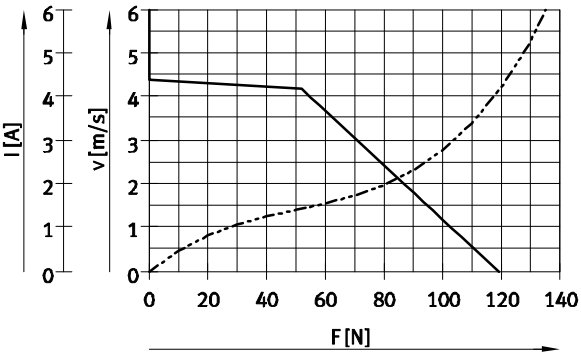
Size		30	64		120		
Coil system		S	S	M	S	M	L
$Fy_{max.}$	[N]	600	600	600	600	600	600
Limit load $Fz_{max.}$	[N]	160	700	1000	1300	1700	2500
Tensile load $Fz_{max.}$	[N]	35	140	220	260	300	400
$Mx_{max.}$	[Nm]	1.2	8	10	14	21	28
$My_{max.}$	[Nm]	7	20	28	45	60	80
$Mz_{max.}$	[Nm]	20	20	30	20	30	50

Speed v and current I as a function of feed force F

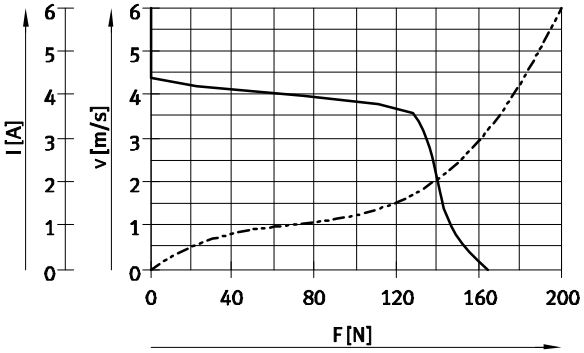
ELGL-LAS-30-...-S



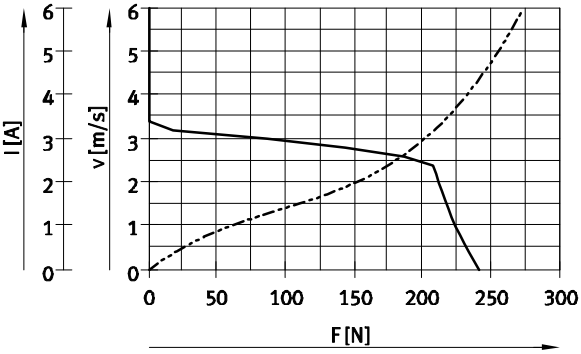
ELGL-LAS-64-...-S



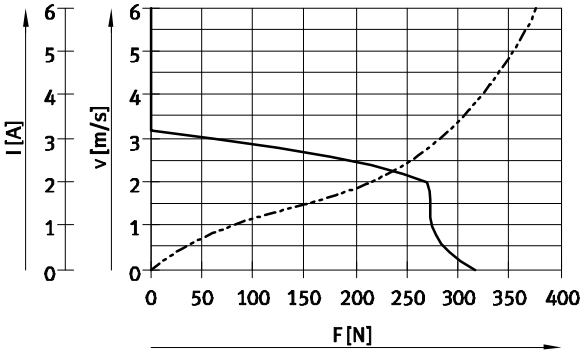
ELGL-LAS-64-...-M



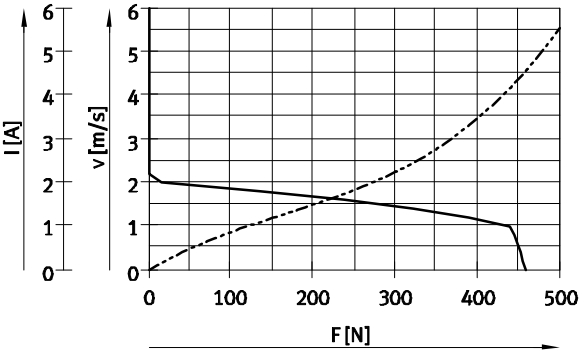
ELGL-LAS-120-...-S



ELGL-LAS-120-...-M



ELGL-LAS-120-...-L



Speed m/s
Current A

Note

The characteristics are produced in combination with the relevant motor controllers CMMP-AS ➔ 21

Mounting options

The stator has an evenness value of 7 µm over 300 mm. To ensure the quality of the air bearing, the mounting surface must be correspondingly precise.

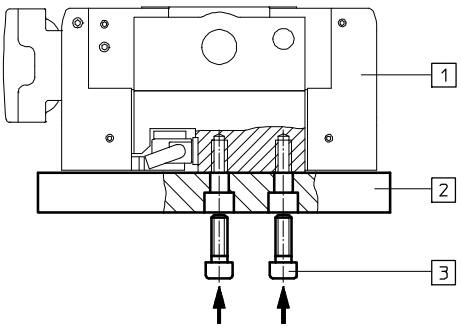
For points of support with smooth surfaces, the linear drive can be mounted directly at the stator 1 or with the help of the foot mountings 2.

If the surface is not sufficiently even, the foot mounting 3 is used together with the adjustable foot mounting 4.

A 3 or 4-point mounting is recommended to secure the load.

1 Direct mounting

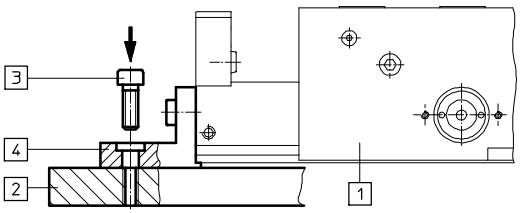
Range of application:
- Only with smooth surface (e.g. granite table)
- Required planarity: 7 µm over 300 mm



1 Linear drive
2 Mounting surface
3 Socket head screw

2 Angled foot mounting

Range of application:
- Only with smooth surface (e.g. granite table)
- Up to a stator length of max. 500 mm
- Manual height adjustment may be required



1 Linear drive
2 Mounting surface
3 Socket head screw
4 Foot mounting EAHF-...

Mounting options

The stator has an evenness value of 7 µm over 300 mm. To ensure the quality of the air bearing, the mounting surface must be correspondingly precise.

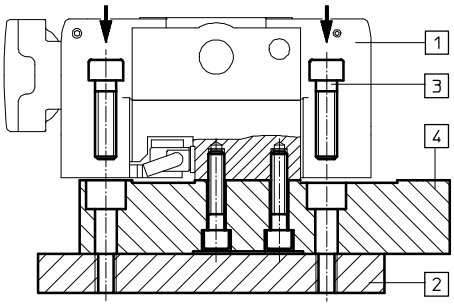
For points of support with smooth surfaces, the linear drive can be mounted directly at the stator 1 or with the help of the foot mountings 2.

If the surface is not sufficiently even, the foot mounting 3 is used together with the adjustable foot mounting 4.

A 3 or 4-point mounting is recommended to secure the load.

3 Foot mounting

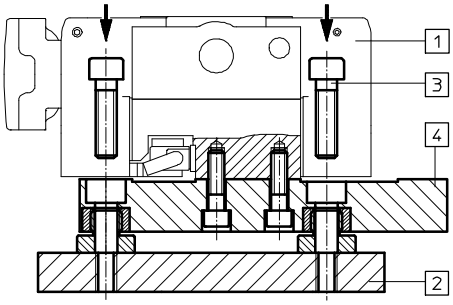
Range of application:
- With milled surface (good evenness)
- Recommended support spacing: every 360 mm
- Manual height adjustment may be required



1 Linear drive
2 Mounting surface
3 Socket head screw
4 Foot mounting EAHF-...-P

4 Adjustable foot mounting

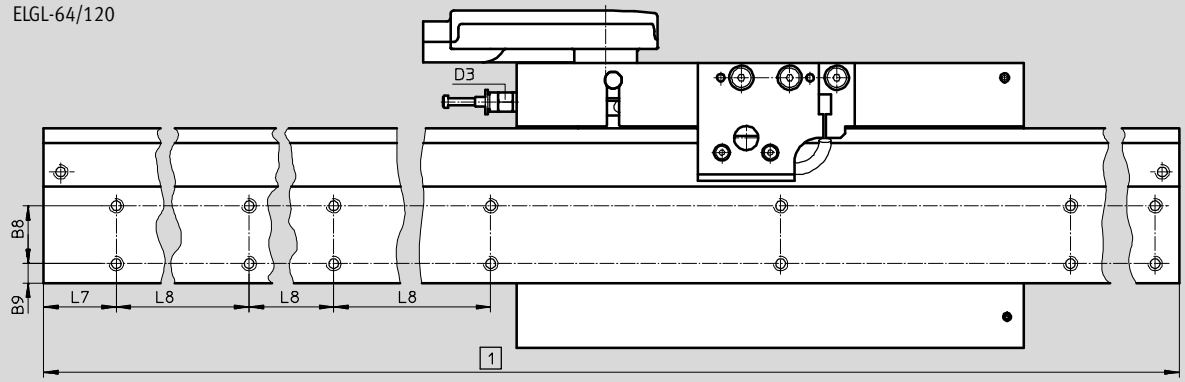
Range of application:
- With surface with low evenness
- Recommended support spacing: every 360 mm



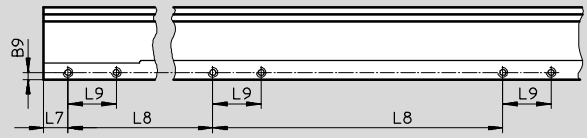
1 Linear drive
2 Mounting surface
3 Socket head screw
4 Foot mounting EAHF-...-PJ

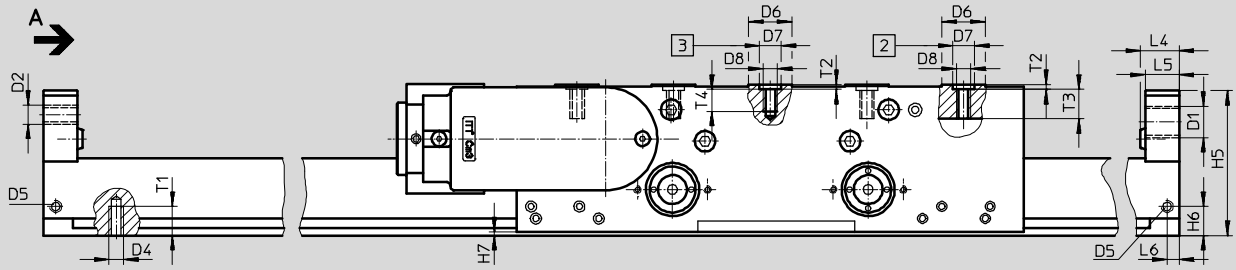
Dimensions Download CAD data ➔ **www.festo.com**

ELGL-64/120

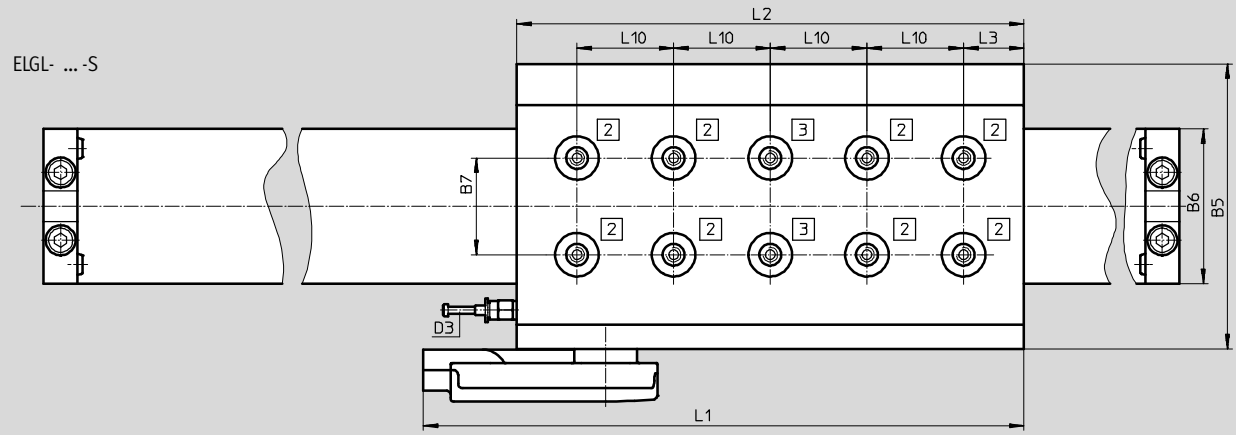


ELGL-30

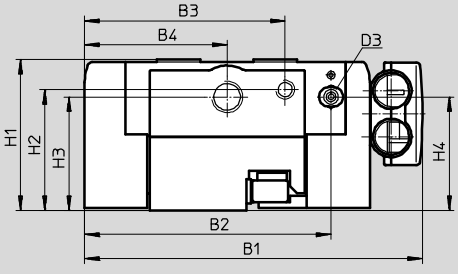




ELGL- ... -S



View A



1 ➔ table on page 14

2 Hole for centring sleeve ZBH-9, thread depth 12 mm

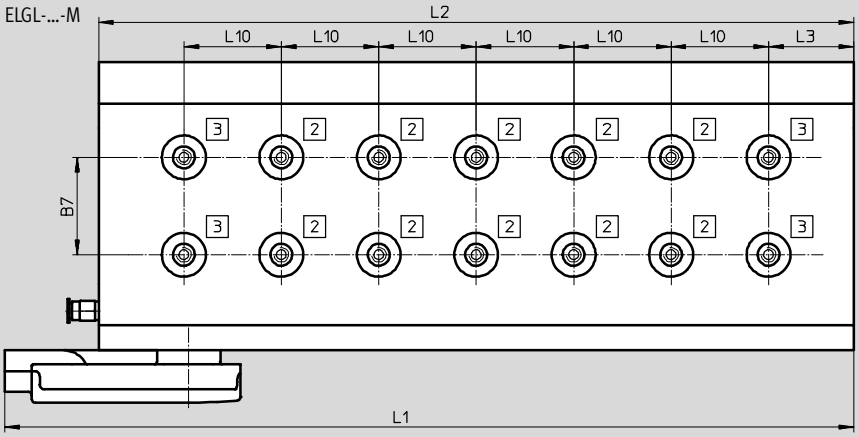
3 Hole for centring sleeve ZBH-9, thread depth 9 mm

Note

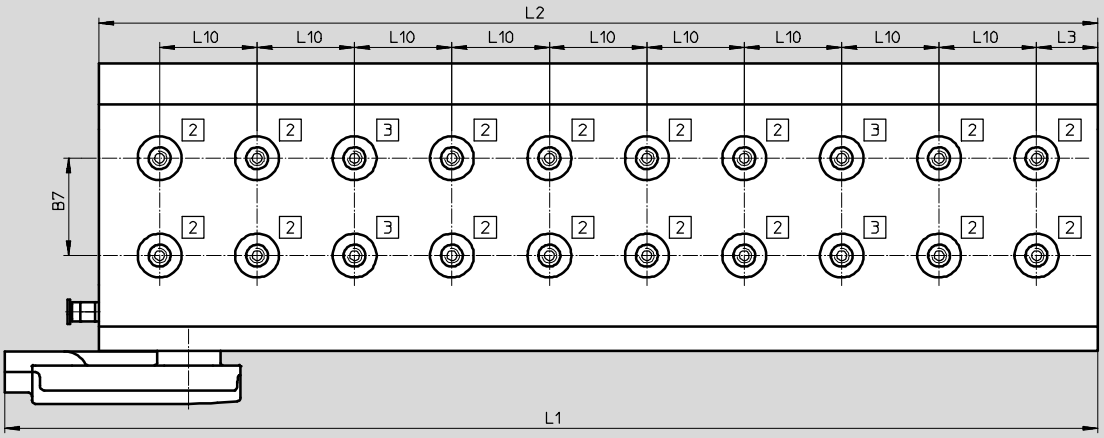
Use max. 4 screws to mount the effective load.

Dimensions Download CAD data ➔ **www.festo.com**

ELGL-...-M



ELGL-...-L



Size	B1	B3	B4	B5	B6	B7 ±0.01	B8	B9	D1	D2	D4	D5	D6	D7 H7	D8	H1
30	105.8	–	42	84	30	20	–	3	M10x1	–	M4	M5	18	9	M6	62
64	139.8	83.5	59	118	64	40	24	8	M14x1	M8x1	M6	M5	18	9	M6	62
120	195.8	111.5	87	174	120	80	72	12	M14x1	M8x1	M6	M5	18	9	M6	62

Size	H2	H3	H4	H5	H6	H7	L4	L5	L6	L7	L8	L9	L10 ±0.01	T1	T2 +0.1	T3	T4
30	–	46.5	47	58	12	1	20	17	5	10	120	20	40	10	2.1	12	9
64	50	47	47	60	12	1	16	14	5	30	120	–	40	12	2.1	12	9
120	50	47	52	60	12	1	16	14	5	30	120	–	40	12	2.1	12	9

Size	Rotor variant	B2	D3		L1	L2	L3
			QS push-in fitting	For tubing O.D.			±0.01
30	S	68	QSM-M5-4	4	248.6	210	25
64	S	102	QSM-M5-4	4	248.6	210	25
	M	102	QSM-M5-4	4	348.6	310	35
120	S	158	QSM-M5-4	4	248.6	210	25
	M	158	QSM-M5-4	4	348.6	310	35
	L	154	QSM-1/8-6	6	453.1	410	25

Linear drives ELGL-LAS, with air bearing and linear motor

Technical data

Total length of the drive with one slide						
Size	30	64		120		
Slide variant	S	S	M	S	M	L
Work stroke [mm]						
100	360	350	450	350	450	550
200	460	450	550	450	550	650
300	560	550	650	550	650	765
400	660	650	765	650	765	850
500	765	765	850	765	850	950
600	860	850	950	850	950	1050
700	960	950	1050	950	1050	1150
800	–	1050	1150	1050	1150	1250
900	–	1150	1250	1150	1250	1365
1000	–	1250	1365	1250	1365	1450
1100	–	1365	1450	1365	1450	1550
1200	–	1450	1550	1450	1550	1650
1300	–	1550	1650	1550	1650	1750
1400	–	1650	1750	1650	1750	1850
1500	–	1750	1850	1750	1850	1965
1600	–	1850	1965	1850	1965	–
1700	–	1965	–	1965	–	–

Note

Total length for other variants on request.

Linear drives ELGL-LAS, with air bearing and linear motor

Ordering data – Modular products

Ordering table

	Size	30	64	120	Condi-tions	Code		Enter code
M	Module No.	**560753**	**560754**	**560755**				
	Function	Electrical linear drive				**ELGL**		ELGL
	Drive type	Linear motor				**-L**		-L
	Motor technology	AC synchronous				**AS**		AS
	Size [mm]	30				**-30**		
			64			**-64**		
				120		**-120**		
	Stroke [mm]	1 ... 740	1 ... 1750		1	-...		
	Slide 1	Double coil system, 3 strings				**-S**		
			Triple coil system, 3 strings			**-M**		
				Quadruple coil system, 3 strings		**-L**		
O	Slide 2	None						
		Double coil system, 3 strings				**-S**		
			Triple coil system, 3 strings			**-M**		
				Quadruple coil system, 3 strings		**-L**		
	Slide 3	None						
		Double coil system, 3 strings				**-S**		
			Triple coil system, 3 strings			**-M**		
				Quadruple coil system, 3 strings		**-L**		
	Slide 4	None						
		Double coil system, 3 strings				**-S**		
			Triple coil system, 3 strings			**-M**		
				Quadruple coil system, 3 strings		**-L**		
M	Electrical connection	Angled plug, rotatable				**-R**		-R
	Measuring unit	Encoder				**E**		E
	Electrical interface	Serial bi-directional (BiSS)				**-B**		-B
O	Mounting attachments	None						
		Foot mounting			2	**-F**		

1 **Stroke** For sizes 64 and 120: 1750 ... 5750 mm on request

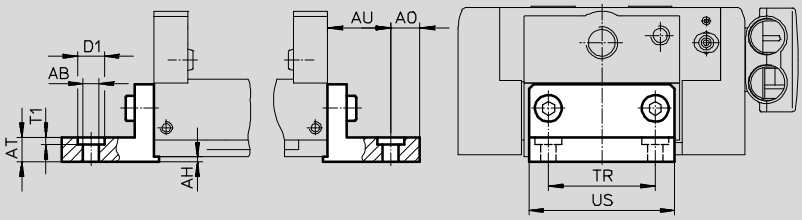
2 **F** Can be selected with stator length <500 mm

Transfer order code

	ELGL	–	**LAS**	–		–		–		–		–		–		–	**RE**	–	**B**	–

Foot mounting EAHF
2 included in the scope of delivery

Material:
Aluminium
Contains PWIS (paint-wetting impairment substances)
RoHS-compliant



Note
Can only be used with stator lengths of max. 500 mm.

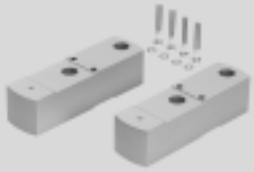
Dimensions and ordering data

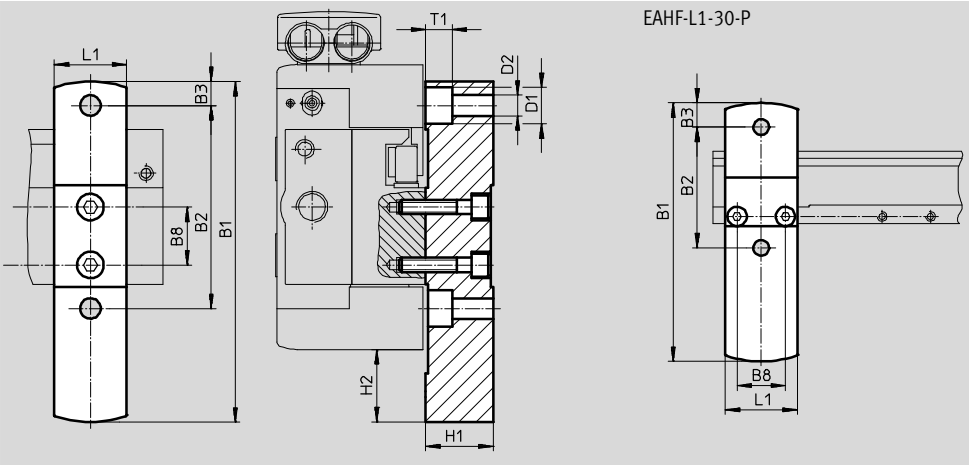
For size	AB	AH −0.1	A0	AT	AU	D1	T1	TR	US	CRC[1]	Weight [g]	Part No.	Type
30	5.5	2	10	10	18	10	3	18	29	1	180	**564252**	**EAHF-L1-30**
64	6.5	2	12	10	26	11	3	44	60	1	400	**564253**	**EAHF-L1-64**
120	6.5	2	12	10	26	11	3	78	94	1	600	**564254**	**EAHF-L1-120**

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Foot mounting EAHF-...-P
2 included in the scope of delivery

Material:
Aluminium
Contains PWIS (paint-wetting impairment substances)
RoHS-compliant





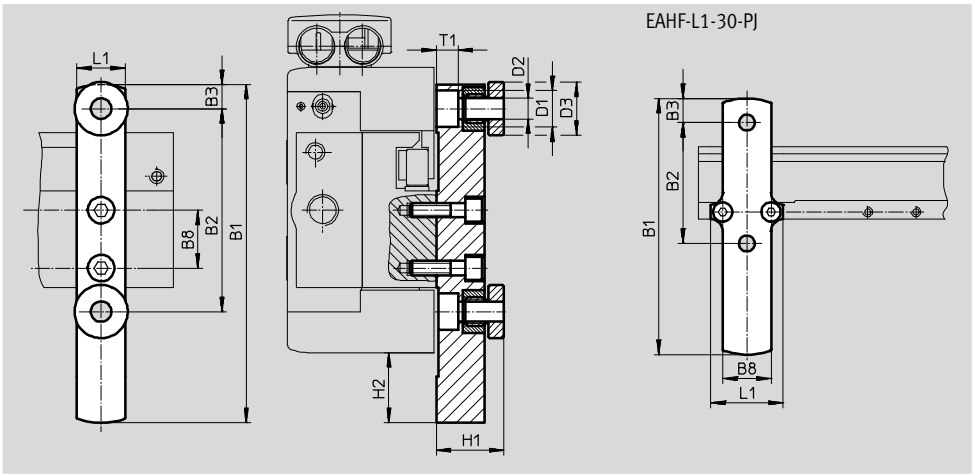
Dimensions and ordering data

For size	B1	B2	B3	B8	D1	D2	H1 −0.01	H2	L1	CRC[1]	Weight [g]	Part No.	Type
30	107	50	10	20	11	6.5	28	30	30	1	250	**564246**	**EAHF-L1-30-P**
64	141	84	10	24	15	8.5	28	30	30	1	310	**564247**	**EAHF-L1-64-P**
120	197	140	10	72	15	8.5	28	30	30	1	450	**564248**	**EAHF-L1-120-P**

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Adjustable foot mounting
EAHF-...-PJ
1 included in the scope of delivery

Material:
Aluminium
Contains PWIS (paint-wetting impairment substances)
RoHS-compliant



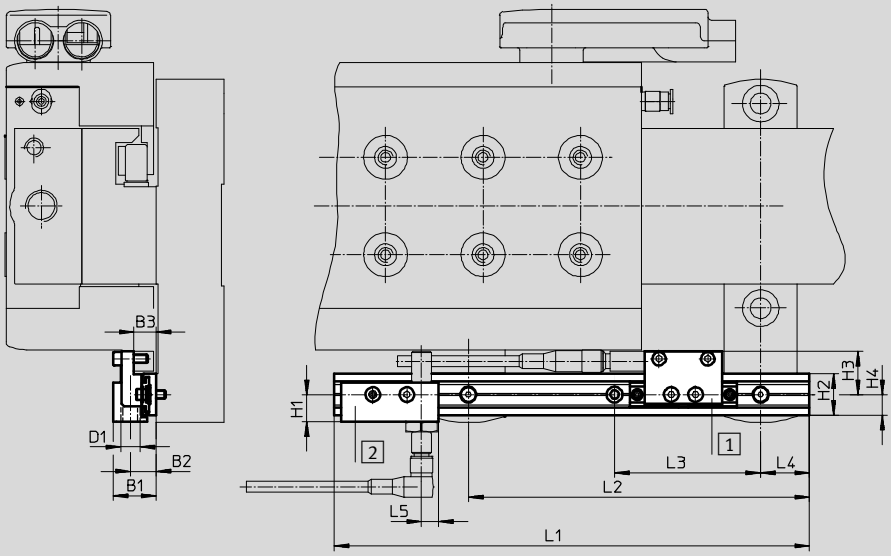
Dimensions and ordering data

For size	B1	B2	B3	B8	D1	D2	D3	H1	H2	L1	CRC[1)]	Weight [g]	Part No.	Type
30	106	50	10	20	11	6.5	22	28	29	30	1	210	**564249**	**EAHF-L1-30-PJ**
64	140	84	10	24	15	8.5	22	28	29	20	1	230	**564250**	**EAHF-L1-64-PJ**
120	196	140	10	72	15	8.5	22	28	29	20	1	260	**564251**	**EAHF-L1-120-PJ**

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Sensor bracket EAPR

Material:
Aluminium
Contains PWIS (paint-wetting impairment substances)
RoHS-compliant



Note

Two foot mountings are needed to attach the bracket; either the foot mounting EAHF-...-P or the adjustable foot mounting EAHF-...-PJ.

1 For proximity sensor SIES, square design
2 For proximity sensor SIEN, round design

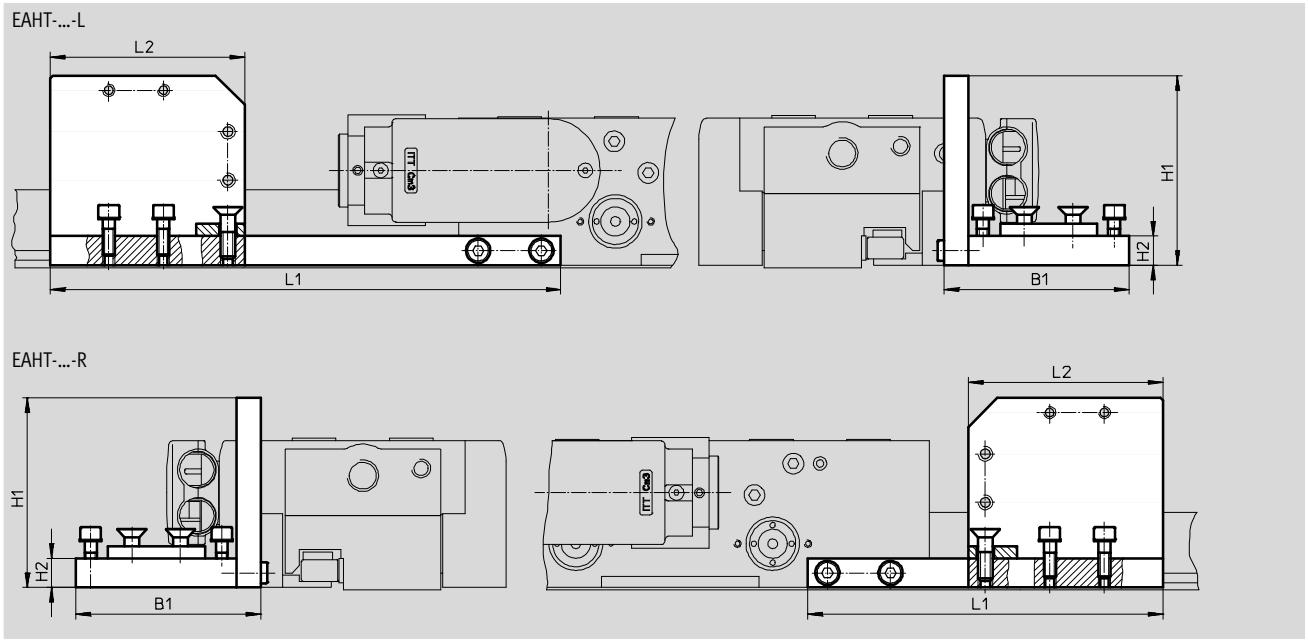
Dimensions and ordering data

For size	B1	B2	B3	D1	H1	H2	H3	H4
30, 64, 120	17.5	10.5	9	M8	11.2	17	17.7	8.5

For size	L1	L2	L3	L4	L5	CRC[1)]	Weight [g]	Part No.	Type
30, 64, 120	195	140	60	20	7	1	75	**564259**	**EAPR-L1-S**

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

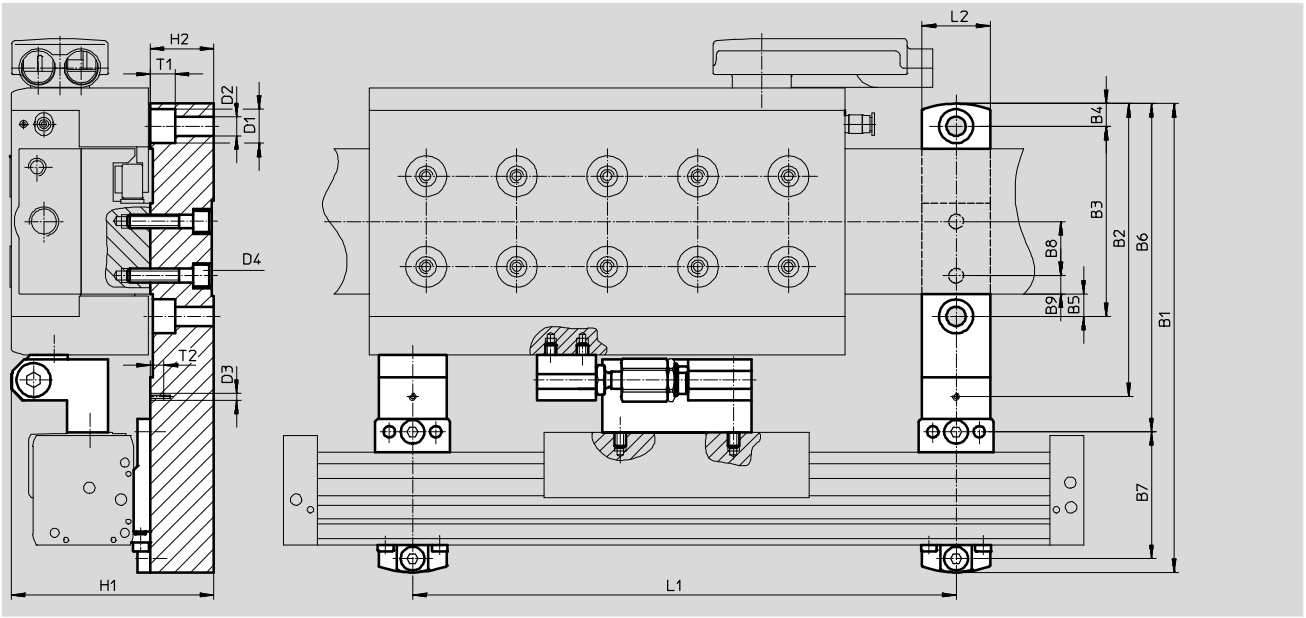
Mounting kit EAHT
Material:
Aluminium
Contains PWIS (paint-wetting impairment substances)
RoHS-compliant



Dimensions and ordering data									
For size	B1	H1	H2	L1	L2	CRC[1]	Weight [g]	Part No.	Type
For energy chain type: E6.29									
30, 64, 120	60	62	12	170	50	1	300	**564255**	**EAHT-L1-E6-29-L**
	60	62	12	105	50	1	300	**564256**	**EAHT-L1-E6-29-R**
For energy chain type: E6.40									
30, 64, 120	76	78	12	210	80	1	400	**564257**	**EAHT-L1-E6-40-L**
	76	78	12	146	80	1	400	**564258**	**EAHT-L1-E6-40-R**

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Mounting kit EAHC
Material:
Aluminium
Contains PWIS (paint-wetting impairment substances)
RoHS-compliant



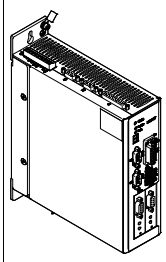
Dimensions and ordering data

For size	B1	B2	B3	B4	B5	B6	B7	B8	B9	D1 ∅	D2 ∅	D3	D4
30	173	95.5	50	10	10	111	56	–	3	11	6.5	M3	M4
64	207	129.5	84	10	10	145	56	24	8	15	8.5	M3	M6
120	263	185.5	140	10	10	201	56	72	12	15	8.5	M3	M6

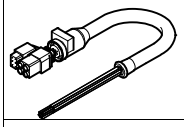
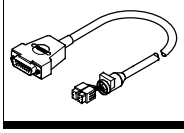
For size	H1	H2 –0.01	L1	L2	L3	T1	T2	CRC[1)]	Weight [g]	Part No.	Type
30	89.6	28	nx120	30	20	8	6	1	960	**564260**	**EAHC-L1-30**
64	89.6	28	nx120	30	–	11	6	1	1100	**564261**	**EAHC-L1-64**
120	89.6	28	nx120	30	–	11	6	1	1350	**564262**	**EAHC-L1-120**

1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Ordering data – Motor controller — Technical data ➔ Internet: cmmp

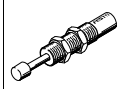
	For size	Coil system (code)	Part No.	Type
	ELGL-LAS-30-...	S	**1501326**	**CMMP-AS-C5-3A-M3**
	ELGL-LAS-64-...-S	S	**1501326**	**CMMP-AS-C5-3A-M3**
	ELGL-LAS-64-...-M	M	**1501327**	**CMMP-AS-C5-11A-P3-M3**
	ELGL-LAS-120-...	S; M; L	**1501328**	**CMMP-AS-C10-11A-P3-M3**

Ordering data – Cables

	Brief description	Cable length [m]	Part No.	Type
	Motor cable, for connecting motor and controller	5	**550306**	**NEBM-T1G7-E-5-N-LE7**
		10	**550307**	**NEBM-T1G7-E-10-N-LE7**
		15	**550308**	**NEBM-T1G7-E-15-N-LE7**
		X length[1)]	**550309**	**NEBM-T1G7-E- -N-LE7**
	Encoder cable, for connecting motor and controller	5	**550314**	**NEBM-T1G8-E-5-N-S1G15**
		10	**550315**	**NEBM-T1G8-E-10-N-S1G15**
		15	**550316**	**NEBM-T1G8-E-15-N-S1G15**
		X length[1)]	**550317**	**NEBM-T1G8-E- -N-S1G15**

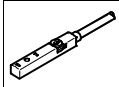
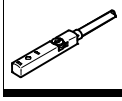
1) Max. 25 m

Ordering data

	For size	Comment	Part No.	Type	PU[1)]
Shock absorber YSRW				Technical data ➔ Internet: ysrw	
	30	For avoiding damage at the end stop in the event of malfunction	**191193**	**YSRW-7-10**	1
	64, 120		**191195**	**YSRW-10-17**	
Centring sleeve ZBH					
	30, 64, 120	For slide	**150927**	**ZBH-9**	10

1) Packaging unit quantity

Ordering data – Proximity sensors, inductive — Technical data ➔ Internet: sies

	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Is screwed on via mounting attachment	PNP	Cable, 3-wire	2.5	**178294**	**SIES-Q8B-PS-K-L**
			Plug M8x1, 3-pin	0.3	**178295**	**SIES-Q8B-PS-S-L**
N/C contact						
	Is screwed on via mounting attachment	PNP	Cable, 3-wire	2.5	**174552**	**SIES-Q8B-PO-K-L**
			Plug M8x1, 3-pin	0.3	**174553**	**SIES-Q8B-PO-S-L**

Ordering data – Inductive proximity sensors M8 — Technical data ➔ Internet: sien

	Electrical connection		Switching output	LED	Cable length [m]	Part No.	Type
	Cable	Plug M8					
N/O contact							
	3-wire	–	PNP	■	2.5	**150386**	**SIEN-M8B-PS-K-L**
	–	3-pin	PNP	■	–	**150387**	**SIEN-M8B-PS-S-L**
N/C contact							
	3-wire	–	PNP	■	2.5	**150390**	**SIEN-M8B-PO-K-L**
	–	3-pin	PNP	■	–	**150391**	**SIEN-M8B-PO-S-L**

Ordering data – Connecting cables — Technical data ➔ Internet: nebu

	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	**541333**	**NEBU-M8G3-K-2.5-LE3**
			5	**541334**	**NEBU-M8G3-K-5-LE3**
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	**541338**	**NEBU-M8W3-K-2.5-LE3**
			5	**541341**	**NEBU-M8W3-K-5-LE3**

Ordering data

	For size	Connection		Description	Part No.	Type	PU[1]
		Threaded	O.D.				
Push-in fitting QSM						Technical data ➔ Internet: quick star	
	30	M5	4	For connecting compressed air tubing with standard external diameters	**153304**	**QSM-M5-4**	10
	64-...-S	M5	4				
	64-...-M	M5	4				
	120-...-S	M5	4				
	120-...-M	M5	4				
	120-...-L	G⅛	6		**153307**	**QSM-⅛-6**	
Blanking plug QSC-...H						Technical data ➔ Internet: quick star	
	30	–	4	For closing off QS push-in connections	**153267**	**QSC-4H**	10
	64-...-S	–	4				
	64-...-M	–	4				
	120-...-S	–	4				
	120-...-M	–	4				
	120-...-L	–	6		**153268**	**QSC-6H**	

1) Packaging unit quantity