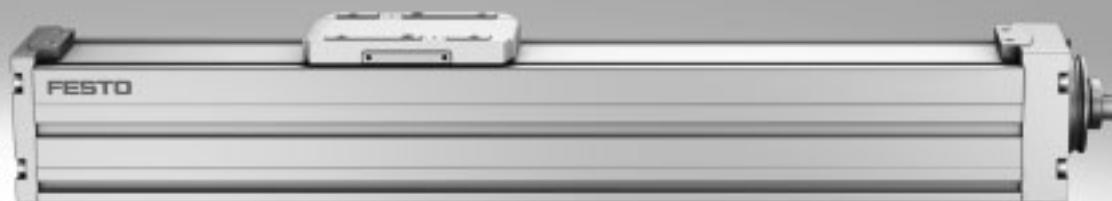


Spindle axes ELGC-BS-KF

FESTO



Electromechanical drives

Selection aid



Overview of toothed belt and spindle axes

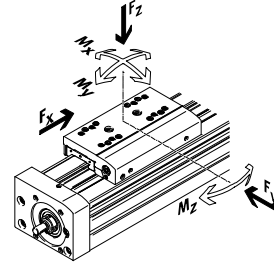
Toothed belt axes

- Speeds of up to 10 m/s
- Acceleration of up to 50 m/s²
- Repetition accuracy of up to ±0.08 mm
- Strokes of up to 8500 mm (longer strokes on request)
- Flexible motor mounting

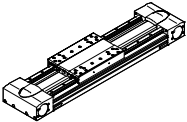
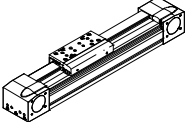
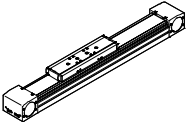
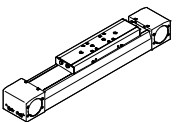
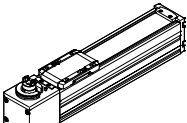
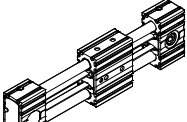
Spindle axes

- Speeds of up to 2 m/s
- Acceleration of up to 20 m/s²
- Repetition accuracy of up to ±0.003 mm
- Strokes of up to 3000 mm

Coordinate system



Toothed belt axes

Type	F_x [N]	v [m/s]	M_x [Nm]	M_y [Nm]	M_z [Nm]	Features
Heavy-duty recirculating ball bearing guide						
EGC-HD-TB						
	450 1000 1800	3 5 5	140 300 900	275 500 1450	275 500 1450	<ul style="list-style-type: none"> • Flat drive unit with rigid, closed profile • Precision DUO guide rail with high load capacity • Ideal as a base axis for linear gantries and cantilever axes
Recirculating ball bearing guide						
EGC-TB-KF						
	50 100 350 800 2500	3 5 5 5 5	3.5 16 36 144 529	10 132 228 680 1820	10 132 228 680 1820	<ul style="list-style-type: none"> • Rigid, closed profile • Precision guide rail with high load capacity • Small drive pinions reduce required driving torque • Space-saving position sensing
ELGA-TB-KF						
	350 800 1300 2000	5 5 5 5	16 36 104 167	132 228 680 1150	132 228 680 1150	<ul style="list-style-type: none"> • Internal guide and toothed belt • Precision guide rail with high load capacity • Guide and toothed belt protected by cover band • High feed forces
ELGA-TB-KF-F1						
	260 600 1000	5 5 5	16 36 104	132 228 680	132 228 680	<ul style="list-style-type: none"> • Suitable for use in the food zone • "Clean Look": smooth, easy to clean surfaces • Internal guide and toothed belt • Precision guide rail with high load capacity • Guide and toothed belt protected by cover band
ELGC-TB-KF						
	75 120 250	1.2 1.5 1.5	5.5 29.1 59.8	4.7 31.8 56.2	4.7 31.8 56.2	<ul style="list-style-type: none"> • Internal guide and toothed belt • Precision guide rail with high load capacity • Guide and toothed belt protected by cover band
ELGR-TB						
	50 100 350	3 3 3	2.5 5 15	20 40 124	20 40 124	<ul style="list-style-type: none"> • Cost-optimised rod guide • Ready-to-install unit • Ball bearings with high load capacity for dynamic operation

Electromechanical drives

Selection aid

Overview of toothed belt and spindle axes

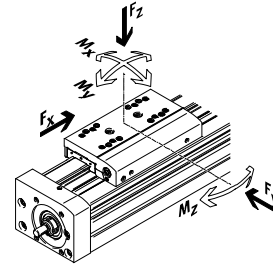
Toothed belt axes

- Speeds of up to 10 m/s
- Acceleration of up to 50 m/s²
- Repetition accuracy of up to ±0.08 mm
- Strokes of up to 8500 mm (longer strokes on request)
- Flexible motor mounting

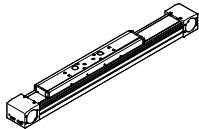
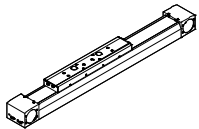
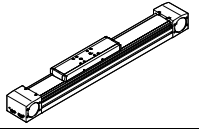
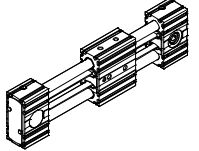
Spindle axes

- Speeds of up to 2 m/s
- Acceleration of up to 20 m/s²
- Repetition accuracy of up to ±0.003 mm
- Strokes of up to 3000 mm

Coordinate system



Toothed belt axes

Type	F_x [N]	v [m/s]	M_x [Nm]	M_y [Nm]	M_z [Nm]	Features
Roller bearing guide						
ELGA-TB-RF						
	350	10	11	40	40	<ul style="list-style-type: none"> • Heavy-duty roller bearing guide • Guide and toothed belt protected by cover band • Speeds of up to 10 m/s • Lower weight than axes with guide rails
	800	10	30	180	180	
	1300	10	100	640	640	
ELGA-TB-RF-F1						
	260	10	8.8	32	32	<ul style="list-style-type: none"> • Suitable for use in the food zone • "Clean Look": smooth, easy to clean surfaces • Heavy-duty roller bearing guide • Guide and toothed belt protected by cover band • Lower weight than axes with guide rails
	600	10	24	144	144	
	1000	10	80	512	512	
Plain-bearing guide						
ELGA-TB-G						
	350	5	5	30	10	<ul style="list-style-type: none"> • Guide and toothed belt protected by cover band • For simple handling tasks • As a drive component for external guides • Insensitive to harsh operating conditions
	800	5	10	60	20	
	1300	5	120	120	40	
ELGR-TB-GF						
	50	1	1	10	10	<ul style="list-style-type: none"> • Cost-optimised rod guide • Ready-to-install unit • Heavy-duty plain bearings for use in harsh operating conditions
	100	1	2.5	20	20	
	350	1	1	40	40	

Electromechanical drives

Selection aid



Overview of toothed belt and spindle axes

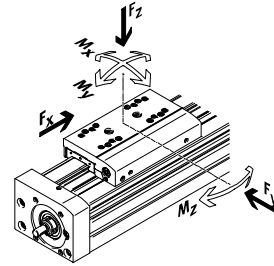
Toothed belt axes

- Speeds of up to 10 m/s
- Acceleration of up to 50 m/s²
- Repetition accuracy of up to ±0.08 mm
- Strokes of up to 8500 mm (longer strokes on request)
- Flexible motor mounting

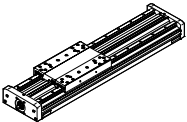
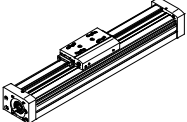
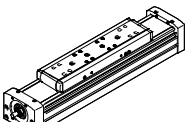
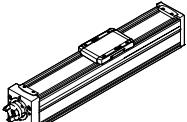
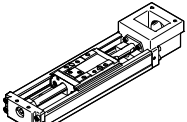
Spindle axes

- Speeds of up to 2 m/s
- Acceleration of up to 20 m/s²
- Repetition accuracy of up to ±0.003 mm
- Strokes of up to 3000 mm

Coordinate system



Spindle axes

Type	F_x [N]	v [m/s]	M_x [Nm]	M_y [Nm]	M_z [Nm]	Features
Heavy-duty recirculating ball bearing guide						
EGC-HD-BS						
	300 600 1300	0.5 1.0 1.5	140 300 900	275 500 1450	275 500 1450	<ul style="list-style-type: none"> • Flat drive unit with rigid, closed profile • Precision DUO guide rail with high load capacity • Ideal as a base axis for linear gantries and cantilever axes
Recirculating ball bearing guide						
EGC-BS-KF						
	300 600 1300 3000	0.5 1.0 1.5 2.0	16 36 144 529	132 228 680 1820	132 228 680 1820	<ul style="list-style-type: none"> • Rigid, closed profile • Precision guide rail with high load capacity • For the highest requirements in terms of feed force and accuracy • Space-saving position sensing
ELGA-BS-KF						
	300 600 1300 3000	0.5 1.0 1.5 2.0	16 36 104 167	132 228 680 1150	132 228 680 1150	<ul style="list-style-type: none"> • Internal guide and ball screw • Precision guide rail with high load capacity • For the highest requirements in terms of feed force and accuracy • Guide and ball screw protected by cover band • Space-saving position sensing
ELGC-BS-KF						
	40 100 200 350	0.6 0.6 0.8 1.0	1.3 5.5 29.1 59.8	1.1 4.7 31.8 56.2	1.1 4.7 31.8 56.2	<ul style="list-style-type: none"> • Internal guide and ball screw • Guide and ball screw protected by cover band • Space-saving position sensing
EGSK						
	57 133 184 239 392	0.33 1.10 0.83 1.10 1.48	13 28.7 60 79.5 231	3.7 9.2 20.4 26 77.3	3.7 9.2 20.4 26 77.3	<ul style="list-style-type: none"> • Spindle axes with maximum precision, compactness and rigidity • Recirculating ball bearing guide and ball screw without caged ball bearings • Standard designs in stock

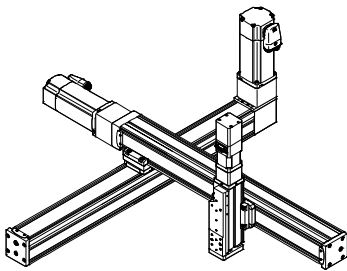
Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Key features

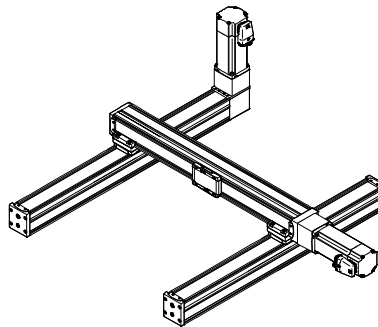
At a glance

- The toothed belt axes, spindle axes ELGC and mini slides EGSC form a scalable modular system for compact automation
- The common platform architecture provide to an integrated range with matching interfaces. A wide variety of systems can be achieved without using any adapter plates
- High-performance drive and guide elements ensure long service life, load carrying ability and reliability
- The uniform, universal range of accessories reduces warehousing and design work
- Two position sensing functions can be selected:
 - With magneto-resistive proximity sensors SMT-8M (detection via integrated magnets)
 - With inductive proximity sensors SIES-8M (detection through switch lug EAPM)

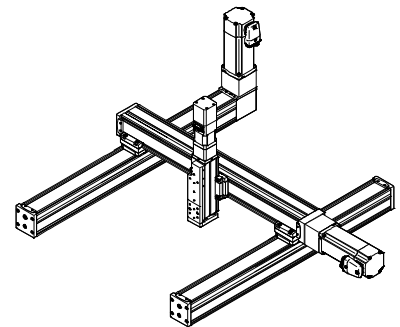
Cantilever system



Planar surface gantry



Three-dimensional gantry



Complete system comprising motor, motor controller and motor mounting kit

Motor



- 1 Servo motor EMME-AS, EMMS-AS
- 2 Stepper motor EMMS-ST

Motor controller



- 1 Servo motor controller CMMP-AS
- 2 Stepper motor controller CMMO-ST

 Note

A range of specially coordinated complete solutions is available for the spindle axis ELGC and the motors.

Motor mounting kit

Axial kit



Parallel kit



Complete kits are available for both parallel and axial motor mounting.

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Key features

Combination matrix between axis ELGC-TB, ELGC-BS, mini slide EGSC-BS and guide axis ELFC

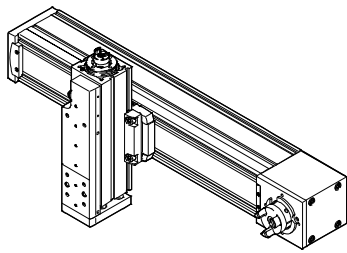
With profile mounting EAHF-L2-...-P-D...

- For axis/axis mounting without adapter plate
- Mounting option: base axis with the next smallest assembly axis

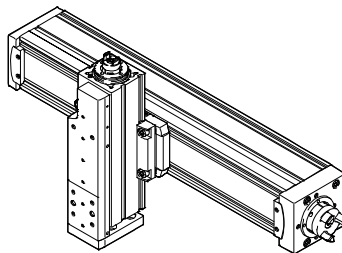
	Size	Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS			
		25	32	45	60
Base axis	32	■	–	–	–
ELGC-BS/-TB; ELFC	45	–	■	–	–
	60	–	–	■	–
	80	–	–	–	■

Sample applications

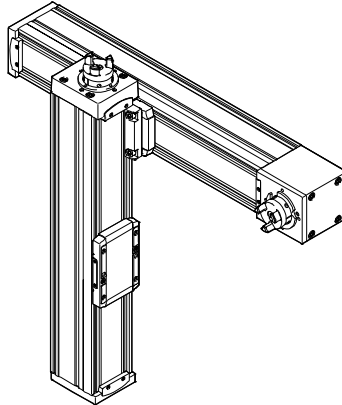
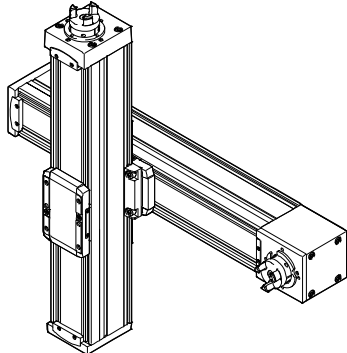
Toothed belt axis ELGC-TB – Mini slide EGSC-BS



Spindle axis ELGC-BS – Mini slide EGSC-BS



Toothed belt axis ELGC-TB – Spindle axis ELGC-BS



Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Key features

Combination matrix between axis ELGC-TB, ELGC-BS, mini slide EGSC-BS and guide axis ELFC

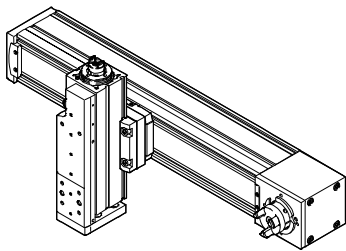
With adapter kit EHAA-D-L2

- For axis/axis mounting with adapter plate
- Mounting option: base axis with the same size or next smallest assembly axis
- When motors are assembled using parallel kits, interfering contours may occur. In this case, the adapter plate is required for height compensation (download CAD data → www.festo.com)

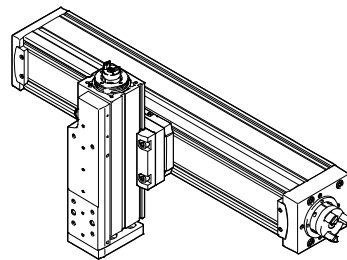
	Size	Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS				
		25	32	45	60	80
Base axis	32		■	–	–	–
ELGC-BS/-TB; ELFC	45	–		■	–	–
	60	–	–		■	–
	80	–	–	–		■

Sample applications

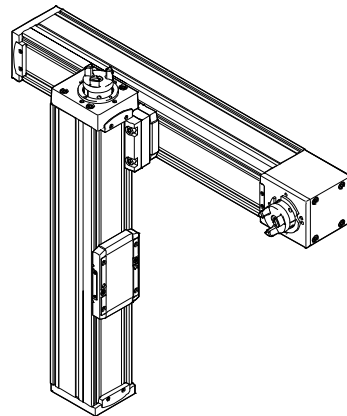
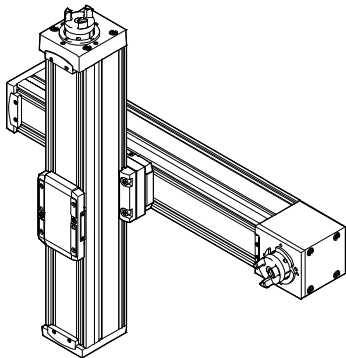
Toothed belt axis ELGC-TB – Mini slide EGSC-BS



Spindle axis ELGC-BS – Mini slide EGSC-BS



Toothed belt axis ELGC-TB – Spindle axis ELGC-BS



Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Key features

Combination matrix between axis ELGC-TB, ELGC-BS, mini slide EGSC-BS and guide axis ELFC

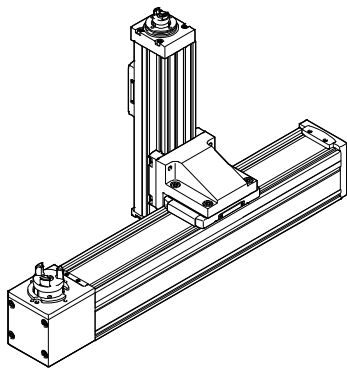
With angle kit EHAA-D-L2-...-AP

- For mounting the next smallest size vertical axes (assembly axes) on base axes with mounting position “slide at top”

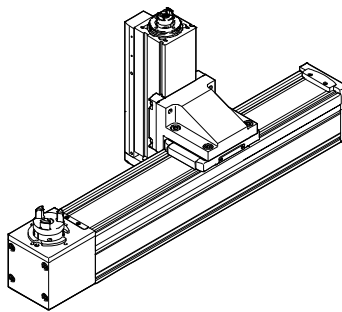
	Size	Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS			
		25	32	45	60
Base axis	32	■	–	–	–
ELGC-BS/-TB; ELFC	45	–	■	–	–
	60	–	–	■	–
	80	–	–	–	■

Sample applications

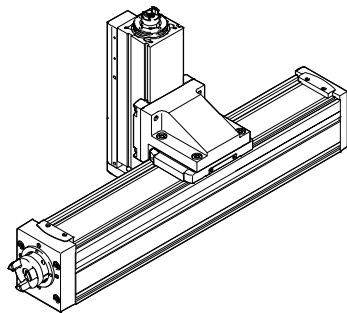
Toothed belt axis ELGC-TB – Spindle axis ELGC-BS



Toothed belt axis ELGC-TB – Mini slide EGSC-BS



Spindle axis ELGC-BS – Mini slide EGSC-BS



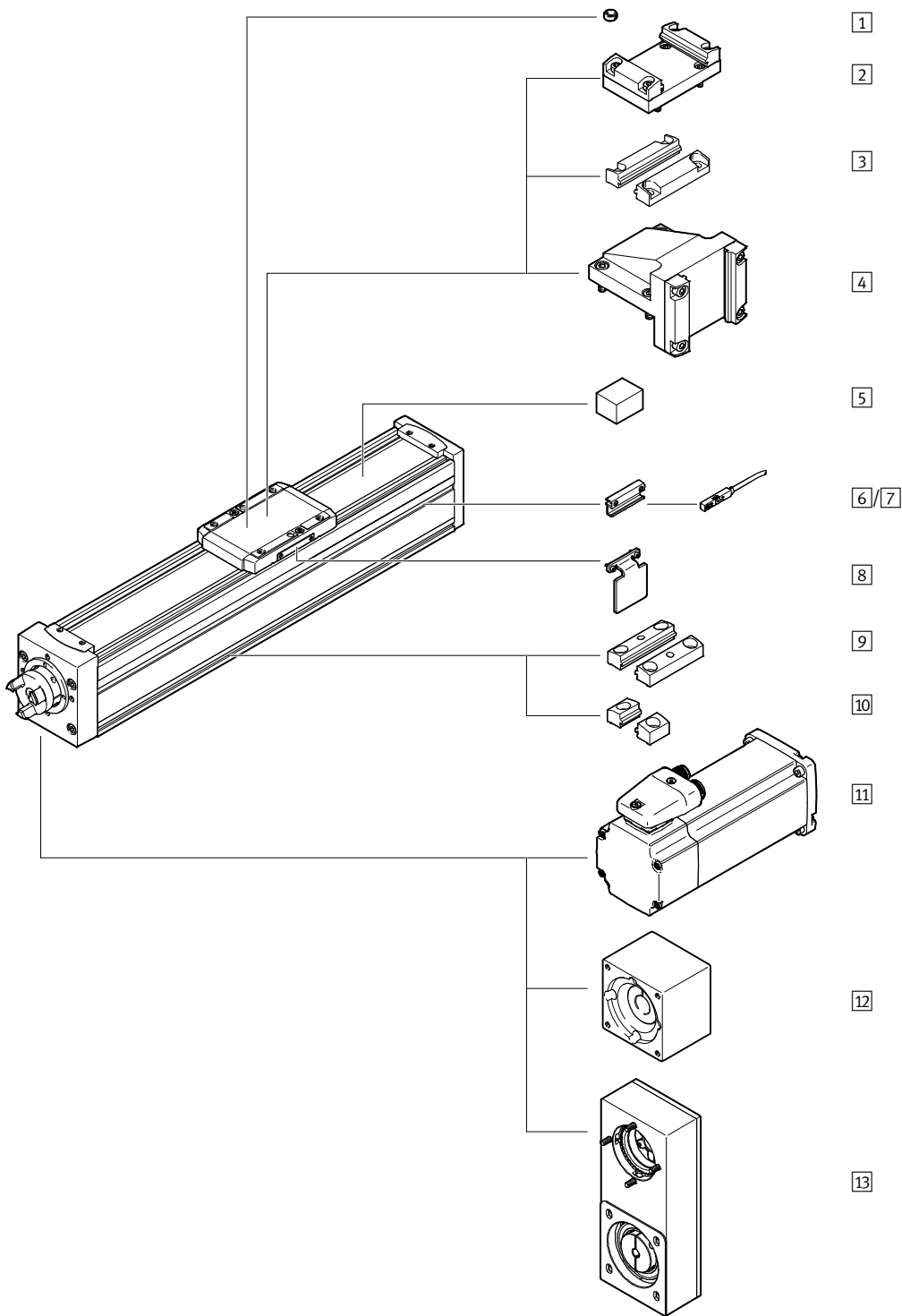
Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Type codes

	ELGC	-	BS	-	KF	-	45	-	500	-	10P
Type											
ELGC	Spindle axis										
Drive system											
BS	Ball screw										
Guide											
KF	Recirculating ball bearing guide										
Size											
Stroke [mm]											
Spindle pitch [mm/rev.]											

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Peripherals overview



Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

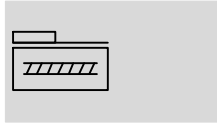
Peripherals overview




Accessories			
	Type	Description	→ Page/Internet
1	Centring pin/sleeve ZBS/ZBH	For centring loads and attachments on the slide	31
2	Adapter kit EHAA-D-L2	<ul style="list-style-type: none"> For axis/axis mounting with adapter plate Mounting option: base axis with the same size or next smallest assembly axis (→ page 7) When motors are assembled using parallel kits, interfering contours may occur. In this case, the adapter plate is required for height compensation (download CAD data → www.festo.com) 	28
3	Profile mounting EAHF-L2-...-P-D...	<ul style="list-style-type: none"> For axis/axis mounting without adapter plate Mounting option: base axis with the next smallest assembly axis (→ page 6) 	27
4	Angle kit EHAA-D-L2-...-AP	For mounting the next smallest vertical axes (assembly axes) on base axes with mounting position “slide at top” (→ page 8)	29
5	Clamping element EADT-S-L5-32	Tool for retensioning the cover band	31
6	Sensor bracket EAPM-L2-SH	For mounting the proximity sensors on the axis. The proximity sensors can only be mounted using the sensor bracket	30
7	Proximity sensor SIES-8M	Inductive proximity sensor, for T-slot	31
	Proximity sensor SMT-8M	Magnetic proximity sensor, for T-slot	31
8	Switch lug EAPM-L2-...-SLS	For sensing the slide position in conjunction with inductive proximity sensors SIES-8M	26
9	Profile mounting EAHF-L2-...-P	For mounting the axis on the side of the profile. The profile mounting can be fixed in place on the mounting surface using the drill hole in the centre	26
10	Profile mounting EAHF-L2-...-P-S	For mounting the axis on the side of the profile	25
11	Motor EMME-AS, EMMS-ST	Motors specially matched to the axis, with or without brake	23
12	Axial kit EAMM-A	For axial motor mounting	23
13	Parallel kit EAMM-U	For parallel motor mounting	24

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Technical data

Function



-  Size
32 ... 80
-  Stroke length
100 ... 1000 mm
-  www.festo.com



General technical data					
Size		32	45	60	80
Design		Electromechanical axis with ball screw			
Guide		Recirculating ball bearing guide			
Mounting position		Any			
Working stroke	[mm]	100, 200, 300, 400, 500, 600, 800	100, 200, 300, 400, 500, 600, 800	100, 200, 300, 400, 500, 600, 800	100, 200, 300, 400, 500, 600, 800, 1000
Max. feed force F_x	[N]	40	100	200	350
No-load torque at low travel speed	[Nm] [m/s]	0.02 0.05	0.032 0.05	0.042 0.05	0.095 0.05
No-load torque at maximum travel speed	[Nm] [m/s]	0.04 0.6	0.12 0.6	0.25 0.8	0.40 1
Max. radial force ¹⁾	[N]	75	180	230	400
Max. rotational speed ²⁾	[rpm]	4500	3600	4000	3750
Max. acceleration	[m/s ²]	15			
Repetition accuracy	[mm]	±0.015	±0.015	±0.01	±0.01
Reversing backlash	[mm]	≤ 0.15			
Position sensing		Magneto-resistive, inductive			

- 1) At the drive shaft
2) Rotational speed and speed are stroke-dependent

Operating and environmental conditions	
Ambient temperature ¹⁾	[°C] 0 ... +50
Degree of protection	IP40
Duty cycle	[%] 100
Maintenance interval	Life-time lubrication

- 1) Note operating range of proximity sensors

Weight [g]					
Size		32	45	60	80
Basic weight with 0 mm stroke ¹⁾		296	724	1682	2942
Additional weight per 10 mm stroke		18	36	51	88
Moving load		83	220	525	978

- 1) Including slide

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Technical data

Spindle					
Size		32	45	60	80
Diameter	[mm]	8	10	12	16
Pitch	[mm/ rev.]	8	10	12	16

Mass moment of inertia					
Size		32	45	60	80
J_0	[kg mm ²]	0.274	0.820	2.235	7.856
J_H per metre stroke	[kg mm ² /m]	2.218	5.056	10.779	35.257
J_L per kg effective load	[kg mm ² /kg]	1.621	2.533	3.648	6.485

The mass moment of inertia J_{rot} of the rotating parts of the axis is calculated as follows:

$$J_{rot} = J_0 + J_H \times \text{working stroke [m]}$$

Homing

Homing can be carried out in two ways:

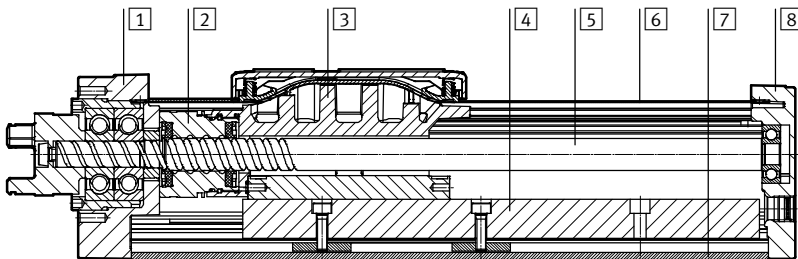
- Against a fixed stop
- Using a reference switch

The following values must be observed:

Size		32	45	60	80
Max. impact energy	[J]	0.25×10^{-3}	0.5×10^{-3}	1×10^{-3}	2×10^{-3}
At max. homing speed	[m/s]	0.01			

Materials

Sectional view



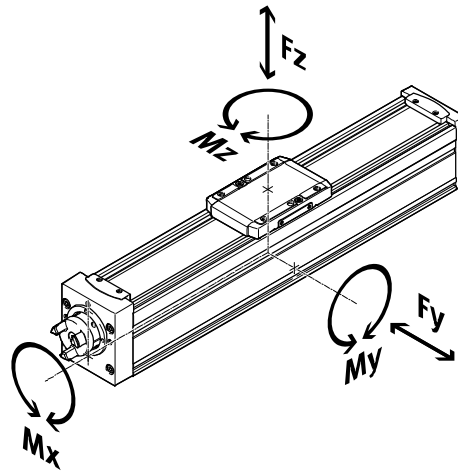
Axis		
1	Drive cover	Painted die-cast aluminium
2	Spindle nut	Steel
3	Slide	Die cast aluminium
4	Guide	Steel
5	Spindle	Steel
6	Cover band	High-alloy stainless steel
7	Profile	Anodised wrought aluminium alloy
8	End cap	Painted die-cast aluminium
Note on materials		RoHS compliant
		Contains paint-wetting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

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

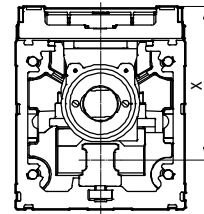
Technical data

Characteristic load values

The indicated forces and torques refer to the centre of the guide. The point of application of force is the point where the centre of the guide and the longitudinal centre of the slide intersect. These values must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.




Distance from the slide surface to the centre of the guide



Max. permissible forces and torques on the slide (strength limits)					
Size		32	45	60	80
F _{y,max.}	[N]	150	300	600	900
F _{z,max.}	[N]	300	600	1800	2700
M _{x,max.}	[Nm]	1.3	5.5	29.1	59.8
M _{y,max.}	[Nm]	1.1	4.7	31.8	56.2
M _{z,max.}	[Nm]	1.1	4.7	31.8	56.2

Distance from the slide surface to the centre of the guide					
Size		32	45	60	80
Dimension x	[mm]	31.4	42.8	54.6	72.5

Max. permissible forces and torques for the bearing calculation, for a service life of 5000 km or 5 x 10 ⁶ cycles					
Size		32	45	60	80
F _{y,max.}	[N]	356	880	3641	5543
F _{z,max.}	[N]	356	880	3641	5543
M _{x,max.}	[Nm]	1.3	5.5	29.1	59.8
M _{y,max.}	[Nm]	1.1	4.7	31.8	56.2
M _{z,max.}	[Nm]	1.1	4.7	31.8	56.2

 **Note**

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

This formula can be used to calculate a guide value.
The engineering software "PositioningDrives" is available for more precise calculations → www.festo.com

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

Calculating the load comparison factor:

$$f_v = \frac{|F_{y,dyn}|}{F_{y,max}} + \frac{|F_{z,dyn}|}{F_{z,max}} + \frac{|M_{x,dyn}|}{M_{x,max}} + \frac{|M_{y,dyn}|}{M_{y,max}} + \frac{|M_{z,dyn}|}{M_{z,max}} \leq 1$$

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Technical data

Calculating the service life

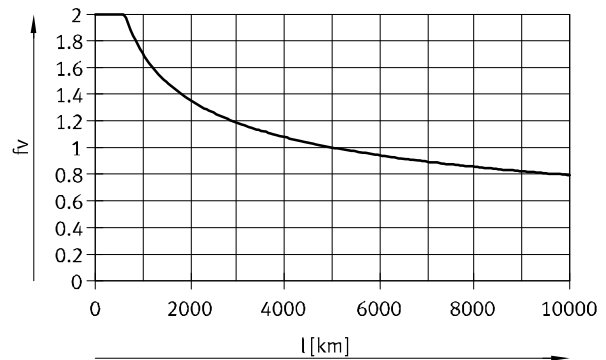
The service life of the guide depends on the load. To be able to make a statement about the service life of the guide, the graph below plots the load comparison factor f_v against the service life.

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

Load comparison factor f_v as a function of service life l

Example:

A user wants to move an x kg load. Using the formula (→ page 14) 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 gives a service life of 5000 km.



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

The characteristic load values of roller 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 roller guides, the table below lists the theoretically permissible forces and torques for a calculated service life of 100 km. This corresponds to the dynamic forces and torques to ISO.

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

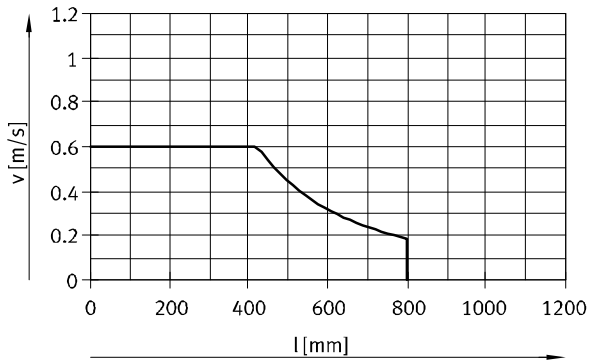
Max. permissible forces and torques for a theoretical service life of 100 km (from a guide perspective only)					
Size		32	45	60	80
$F_{y_{max}}$	[N]	1310	3240	13400	20400
$F_{z_{max}}$	[N]	1310	3240	13400	20400
$M_{x_{max}}$	[Nm]	5	20	107	220
$M_{y_{max}}$	[Nm]	4	17	117	207
$M_{z_{max}}$	[Nm]	4	17	117	207

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

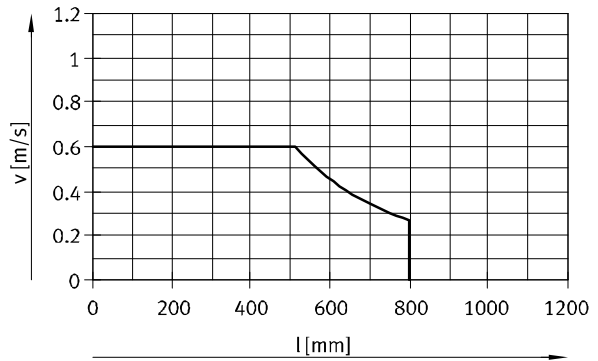
Technical data

Speed v as a function of working stroke l

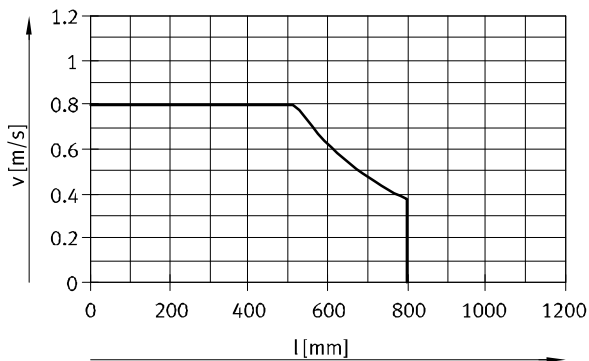
Size 32



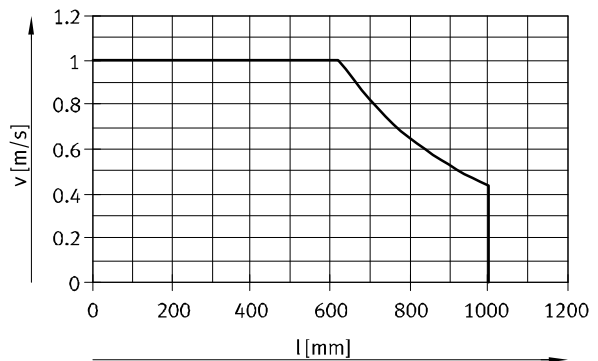
Size 45



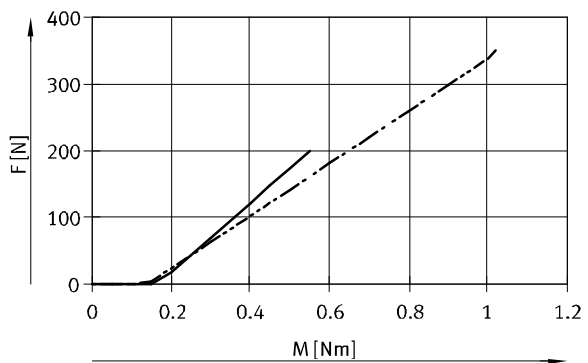
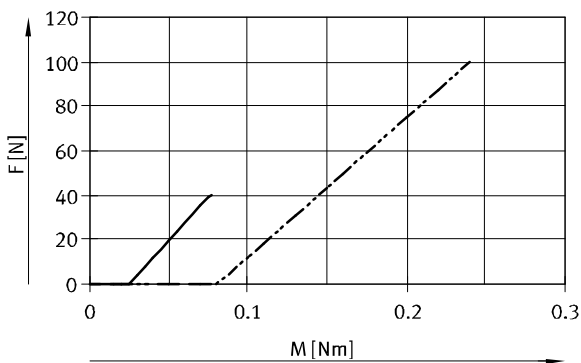
Size 60



Size 80



Feed force F as a function of input torque M



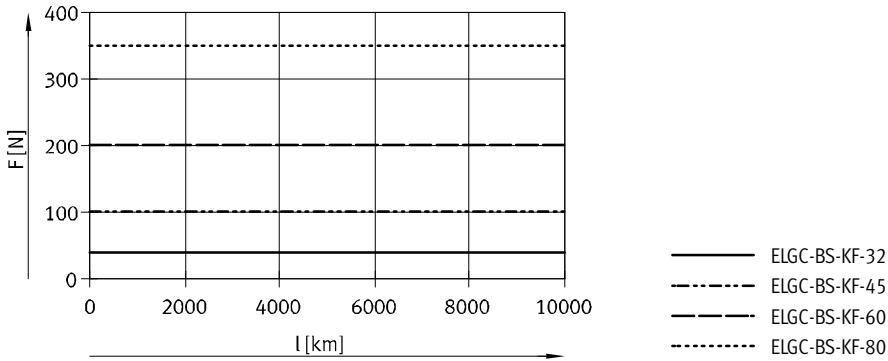
— ELGC-BS-KF-32
 - - - ELGC-BS-KF-45

— ELGC-BS-KF-60
 - - - ELGC-BS-KF-80

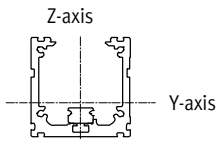
Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Technical data

Feed force F as a function of service life l



2nd moment of area



Size		32	45	60	80
I_y	[mm ⁴]	38×10^3	140×10^3	441×10^3	1.37×10^6
I_z	[mm ⁴]	45×10^3	170×10^3	542×10^3	1.66×10^6

Recommended deflection limits

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

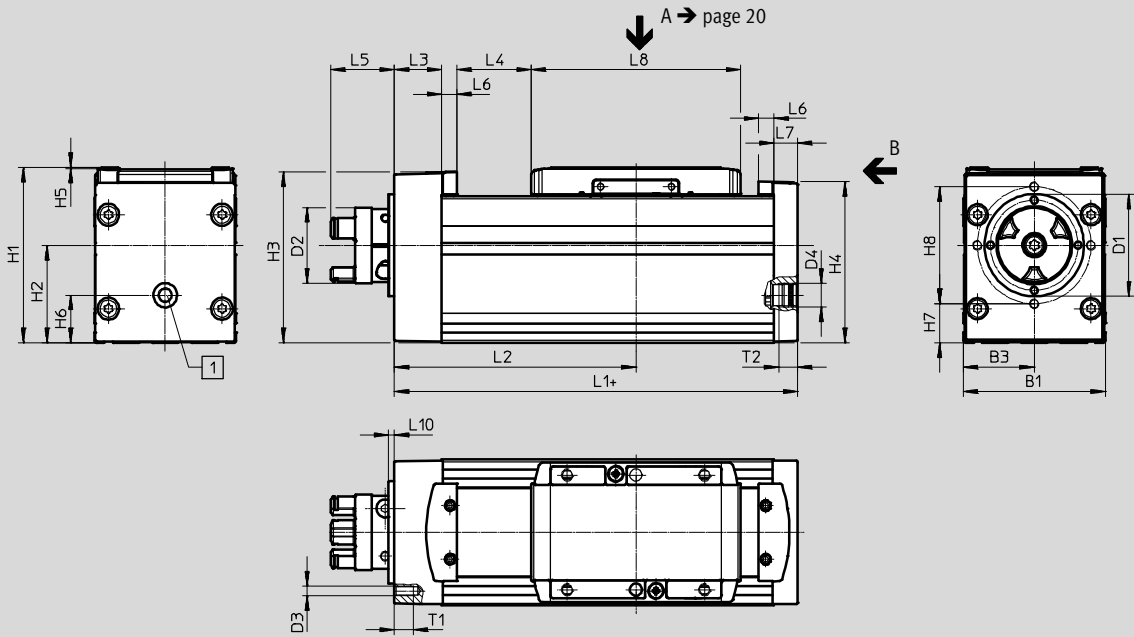
Size	Dynamic deflection (moving load)	Static deflection (stationary load)
32 ... 80	0.05% of the axis length, max. 0.5 mm	0.1% of the axis length

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Technical data

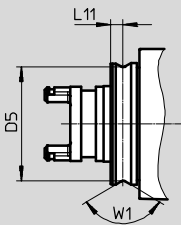
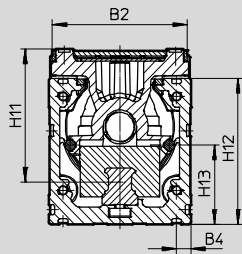
Dimensions

Download CAD data → www.festo.com



View B

Size 32/45



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

Size	B1	B2	B3	B4	D1 ∅	D2 ∅	D3	D4	D5 ∅	H1	H2
32	32	29.6	16	4.9	25	16.5	–	M5	23	38.5	20
45	45	42.6	22.5	6.1	32	16.5	–	G1/8	29.6	54	27.9
60	60	57.1	30	6.1	42	31	M4	G1/8	–	72	40
80	80	77.1	40	6.1	46	31	M6	G1/8	–	96	50

Size	H3	H4	H5	H6	H7	H8	H11	H12	H13	L1	L2 Min.
32	36.3	35.6	0.3	8	–	–	31.4	32	13.7	104.5	57.9
45	50.8	49.6	0.5	12.5	–	–	42.8	45	18.5	134.3	79.7
60	70.1	66.1	0.5	19.5	16	48	54.6	60	32.5	170.5	102.1
80	90.6	88.1	0.5	20	17.5	65	72.5	80	41.5	198.5	119.6

Size	L3	L4	L5	L6	L7	L8	L10	L11	T1	T2	W1
32	10.5	13.4	19.9	4.5	5	59	6	2.6	–	5.5	120°
45	14.8	24.6	19.9	6.5	7	67.5	6	2.9	–	8	90°
60	20	31.4	26.9	6.5	10	88.5	2.5	–	8	8	–
80	21	39.1	25.9	6.5	12	106	2.5	–	15	8	–

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

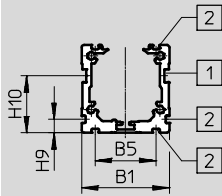
Technical data

Dimensions

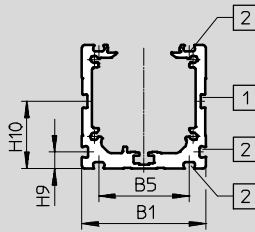
Download CAD data → www.festo.com

Profile

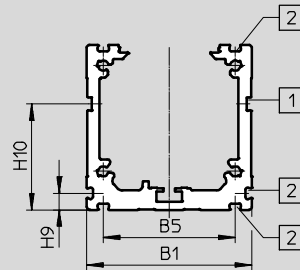
Size 32



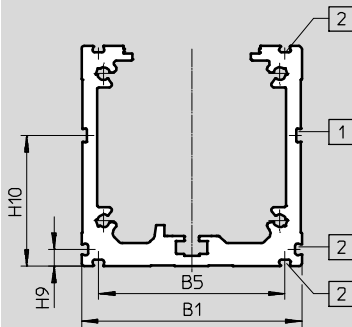
Size 45



Size 60



Size 80



- 1 Slot for sensor bracket
- 2 Mounting slot

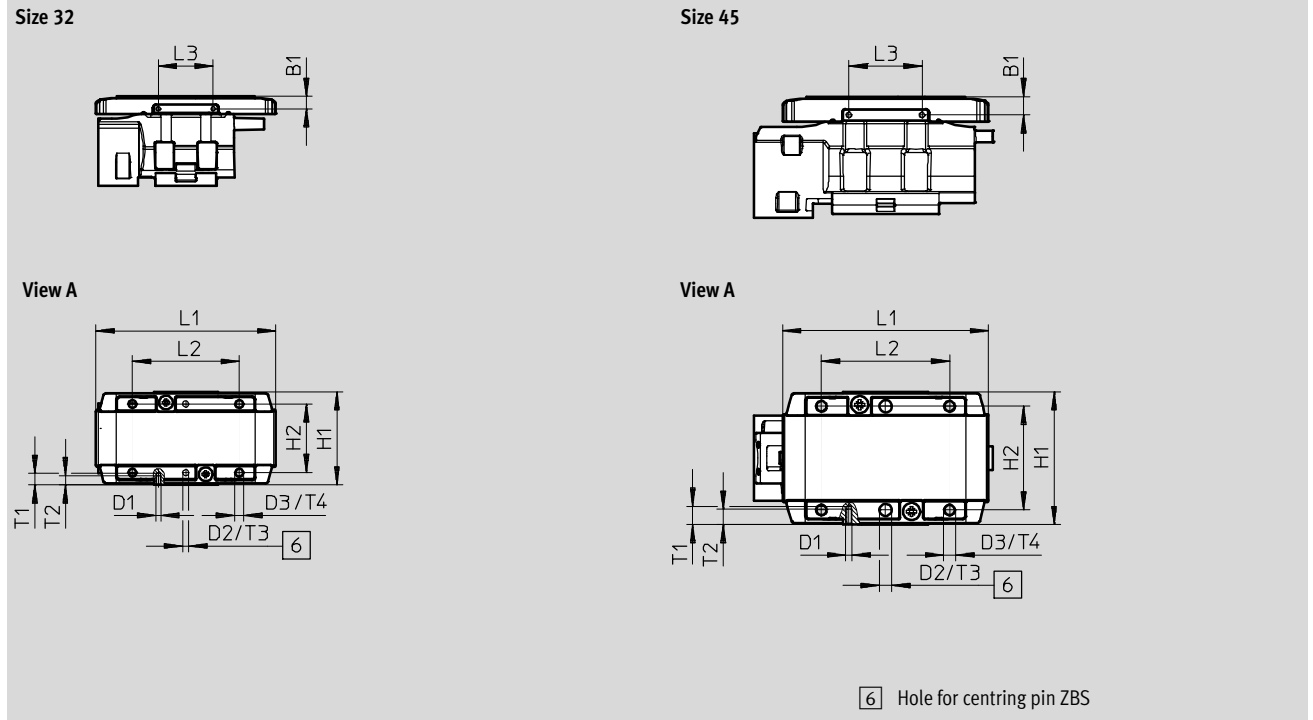
Size	B1	B5	H9	H10
32	32	22.2	4.9	20.8
45	45	32.9	6.1	24.5
60	60	47.9	6.1	38.5
80	80	67.9	6.1	47.5

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Technical data

Dimensions Download CAD data → www.festo.com

Slide



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

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

1) Recommended screw-in depth

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

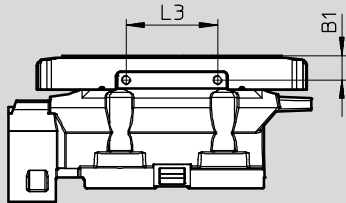
Technical data

Dimensions

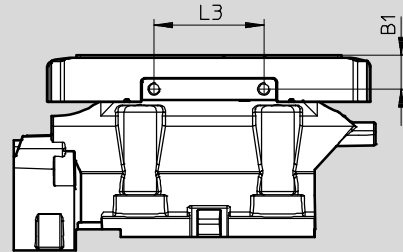
Download CAD data → www.festo.com

Slide

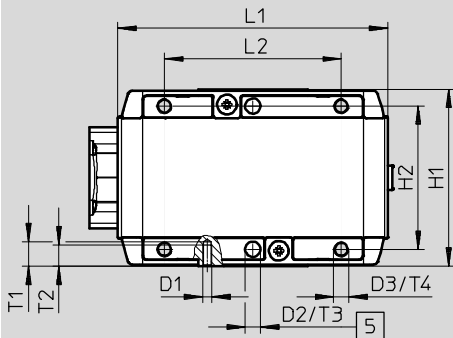
Size 60



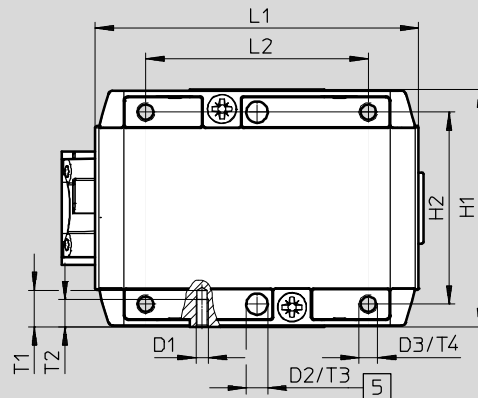
Size 80



View A



View A



5 Hole for centring sleeve ZBH

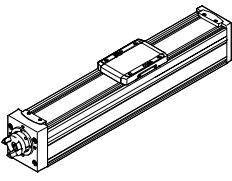
Size	B1	D1	D2 Ø H8	D3	H1	H2 ±0.1 for D2 ±0.03
	±0.1				±0.1	
60	8	M3	5	M5	58	47
80	11	M4	7	M6	78	63

Size	L1	L2	L3	T1	T2	T3	T4 ¹⁾
		±0.1	±0.1			+0.1	
60	88.5	58	30	9	7	1.3	8.5 ... 10
80	106	73	36	12	9	1.6	11 ... 14

1) Recommended screw-in depth

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Technical data

Ordering data					
	Size	Pitch [mm/rev.]	Stroke [mm]	Part No.	Type
	32	8	100	8061477	ELGC-BS-KF-32-100-8P
			200	8061478	ELGC-BS-KF-32-200-8P
			300	8061479	ELGC-BS-KF-32-300-8P
			400	8061480	ELGC-BS-KF-32-400-8P
			500	8061481	ELGC-BS-KF-32-500-8P
			600	8061482	ELGC-BS-KF-32-600-8P
			800	8061483	ELGC-BS-KF-32-800-8P
	45	10	100	8061484	ELGC-BS-KF-45-100-10P
			200	8061485	ELGC-BS-KF-45-200-10P
			300	8061486	ELGC-BS-KF-45-300-10P
			400	8061487	ELGC-BS-KF-45-400-10P
			500	8061488	ELGC-BS-KF-45-500-10P
			600	8061489	ELGC-BS-KF-45-600-10P
			800	8061490	ELGC-BS-KF-45-800-10P
	60	12	100	8061491	ELGC-BS-KF-60-100-12P
			200	8061492	ELGC-BS-KF-60-200-12P
			300	8061493	ELGC-BS-KF-60-300-12P
			400	8061494	ELGC-BS-KF-60-400-12P
			500	8061495	ELGC-BS-KF-60-500-12P
			600	8061496	ELGC-BS-KF-60-600-12P
			800	8061497	ELGC-BS-KF-60-800-12P
	80	16	100	8061498	ELGC-BS-KF-80-100-16P
			200	8061499	ELGC-BS-KF-80-200-16P
			300	8061500	ELGC-BS-KF-80-300-16P
			400	8061501	ELGC-BS-KF-80-400-16P
			500	8061502	ELGC-BS-KF-80-500-16P
			600	8061503	ELGC-BS-KF-80-600-16P
			800	8061504	ELGC-BS-KF-80-800-16P
1000	8061505	ELGC-BS-KF-80-1000-16P			

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

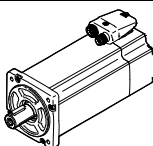
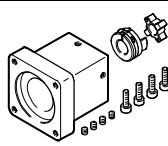
Accessories



Note

Depending on the combination of motor and drive, it may not be possible to reach the maximum feed force of the drive.

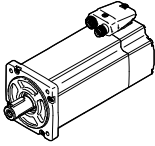
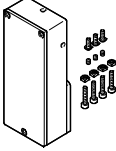
When using parallel kits, the no-load driving torque of the respective kit must be taking into consideration.

Permissible axis/motor combinations with axial kit – Without gear unit		Technical data → Internet: eamm-a
Motor ¹⁾	Axial kit	
		
Type	Part no.	Type
ELGC-BS-KF-32		
With servo motor		
EMME-AS-40-...	4491059	EAMM-A-V25-40P
With stepper motor		
EMMS-ST-42-...	4582608	EAMM-A-V25-42A
ELGC-BS-KF-45		
With servo motor		
EMME-AS-40-...	4595742	EAMM-A-V32-40P
EMME-AS-60-...	4608750	EAMM-A-V32-60P
With stepper motor		
EMMS-ST-42-...	4281142	EAMM-A-V32-42A
EMMS-ST-57-...	4597016	EAMM-A-V32-57A
ELGC-BS-KF-60		
With servo motor		
EMME-AS-60-...	4133487	EAMM-A-T42-60P
EMME-AS-80-...	4623788	EAMM-A-T42-80P
With stepper motor		
EMMS-ST-57-...	4327034	EAMM-A-T42-57A
EMMS-ST-87-...	4610008	EAMM-A-T42-87A
ELGC-BS-KF-80		
With servo motor		
EMME-AS-60-...	4824833	EAMM-A-T46-60P
EMME-AS-80-...	4624170	EAMM-A-T46-80P
EMME-AS-100-...	4624227	EAMM-A-T46-100A
EMMS-AS-100-...	4624227	EAMM-A-T46-100A
With stepper motor		
EMMS-ST-87-...	4048771	EAMM-A-T46-87A

1) The input torque must not exceed the maximum permissible transferable torque of the axial kit.

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Accessories

Permissible axis/motor combinations with parallel kit		Technical data → Internet: eamm-u	
Motor/gear unit ¹⁾	Parallel kit		
		<ul style="list-style-type: none"> • The kit can be mounted in all directions • Use in combination with third-party motors on request 	
Type	Part no.	Type	
ELGC-BS-KF-32			
With servo motor			
EMME-AS-40-...	4782056	EAMM-U-45-V25-40P-63	
With stepper motor			
EMMS-ST-42-...	4825645	EAMM-U-45-V25-42A-63	
ELGC-BS-KF-45			
With servo motor			
EMME-AS-40-...	4718297	EAMM-U-45-V32-40P-63	
With stepper motor			
EMMS-ST-42-...	4280674	EAMM-U-45-V32-42A-63	
ELGC-BS-KF-60			
With servo motor			
EMMS-AS-55-...	8092868	EAMM-U-65-T42-55A-87	
EMME-AS-60-...	4784301	EAMM-U-65-T42-60P-87	
With stepper motor			
EMMS-ST-57-...	4331535	EAMM-U-65-T42-57A-87	
ELGC-BS-KF-80			
With servo motor			
EMME-AS-60-...	4824069	EAMM-U-87-T46-60P-114	
EMME-AS-80-...	4822696	EAMM-U-87-T46-80P-114	
With stepper motor			
EMMS-ST-87-...	4819278	EAMM-U-87-T46-87A-114	

1) The input torque must not exceed the maximum permissible transferable torque of the parallel kit.

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Accessories

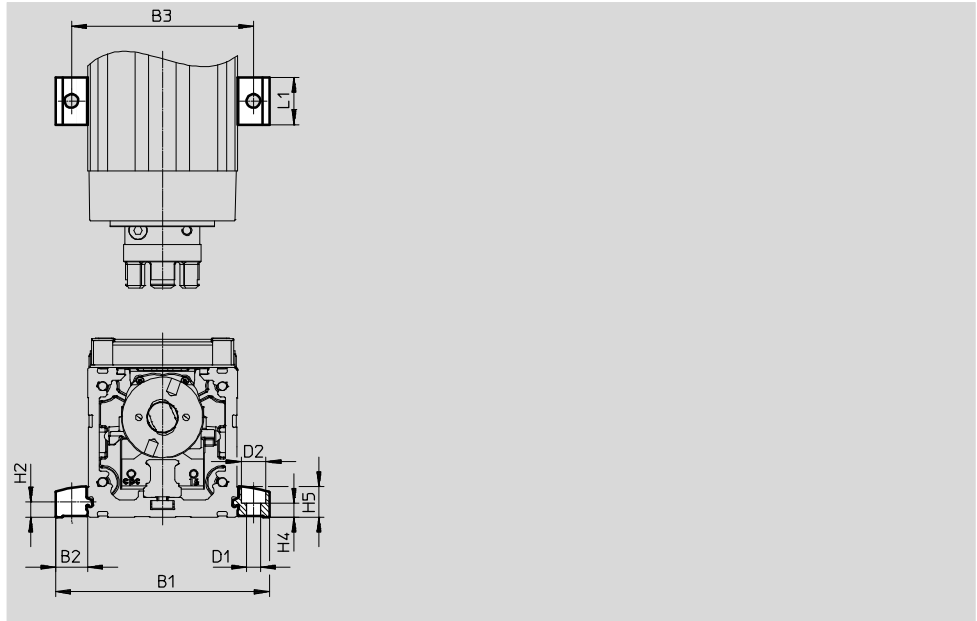
Profile mounting EAHF-L2-...-P-S

Material:

Anodised wrought aluminium alloy

RoHS compliant

- For mounting the axis on the side of the profile



Dimensions and ordering data						
For size	B1	B2	B3	D1 ∅ H13	D2 ∅ H13	H2
32	51.4	9.7	42	4.5	8	4.9
45	70.6	12.8	58	5.5	10	6.1
60	85.6	12.8	73	5.5	10	6.1
80	105.6	12.8	93	5.5	10	6.1

For size	H4 ±0.1	H5	L1	Weight [g]	Part no.	Type
32	4.2	9	19	4	5183153	EAHF-L2-25-P-S
45	5.5	12.2	19	6	5184133	EAHF-L2-45-P-S
60	5.5	12.2	19	6	5184133	EAHF-L2-45-P-S
80	5.5	12.2	19	6	5184133	EAHF-L2-45-P-S

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Accessories

Profile mounting EAHF-L2-...-P

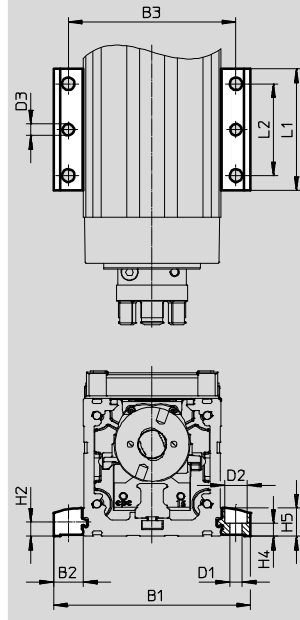
Material:

Anodised wrought aluminium alloy

RoHS compliant

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

The profile mounting can be fixed in place on the mounting surface using the drill hole in the centre.



Dimensions and ordering data							
For size	B1	B2	B3	D1 ∅ H13	D2 ∅ H13	D3 ∅	H2
32	51.4	9.7	42	4.5	8	4	4.9
45	70.6	12.8	58	5.5	10	5	6.1
60	85.6	12.8	73	5.5	10	5	6.1
80	105.6	12.8	93	5.5	10	5	6.1

For size	H4 ±0.1	H5	L1	L2	Weight [g]	Part no.	Type
32	4.2	9	53	40	19	4835684	EAHF-L2-25-P
45	5.5	12.2	53	40	35	4835728	EAHF-L2-45-P
60	5.5	12.2	53	40	35	4835728	EAHF-L2-45-P
80	5.5	12.2	53	40	35	4835728	EAHF-L2-45-P

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Accessories

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

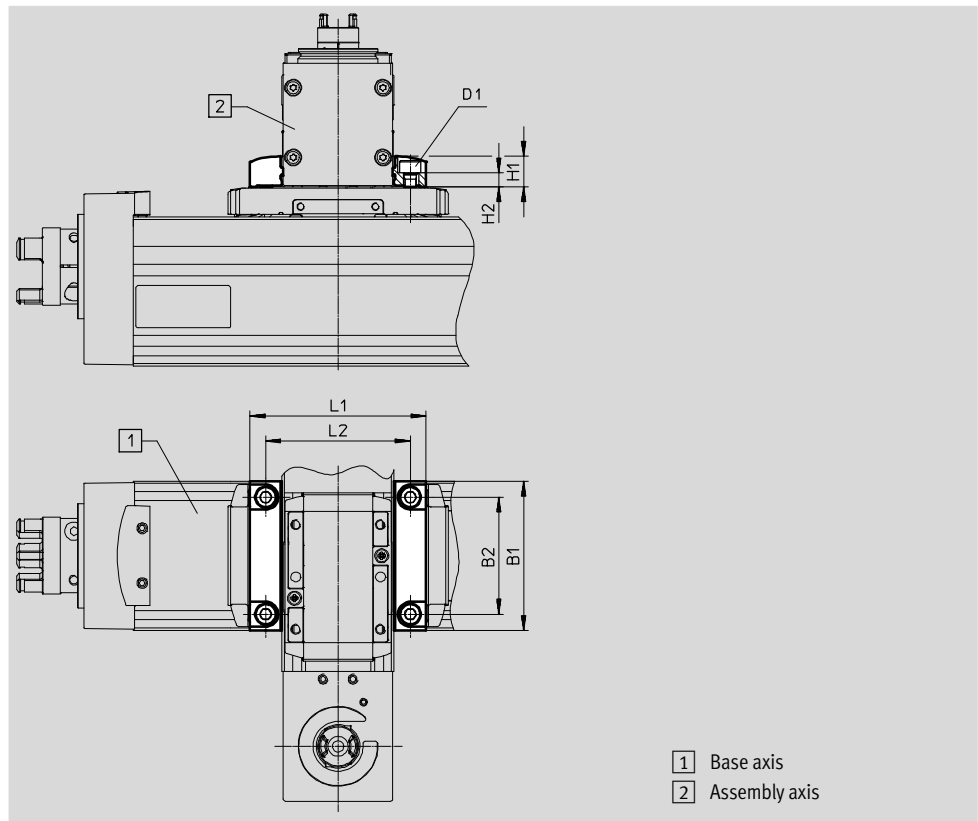
Material:

Anodised wrought aluminium alloy

RoHS compliant

- For axis/axis mounting without adapter plate
- Mounting option: base axis with the next smallest assembly axis (→ page 6)

Combination matrix					
Size	2 Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS				
	25	32	45	60	
1 Base axis	32	4759753	-	-	-
ELGC-BS/-TB; ELFC	45	-	4759748	-	-
	60	-	-	4759739	-
	80	-	-	-	4759726



- 1 Base axis
- 2 Assembly axis

Dimensions and ordering data				
For combination (size)	B1	B2	D1	H1
32/25	32	22.5	M3	9
45/32	45	34	M4	9
60/45	60	47	M5	12.2
80/60	78	63	M6	12.2

For combination (size)	H2 ±0.1	L1	L2	Weight [g]	Part no.	Type
32/25	5.1	44.4	35	16	4759753	EAHF-L2-25-P-D1
45/32	3.7	51.4	42	24	4759748	EAHF-L2-25-P-D2
60/45	5.5	70.6	58	56	4759739	EAHF-L2-45-P-D3
80/60	4.5	85.6	73	77	4759726	EAHF-L2-45-P-D4

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Accessories

Adapter kit EHAA-D-L2

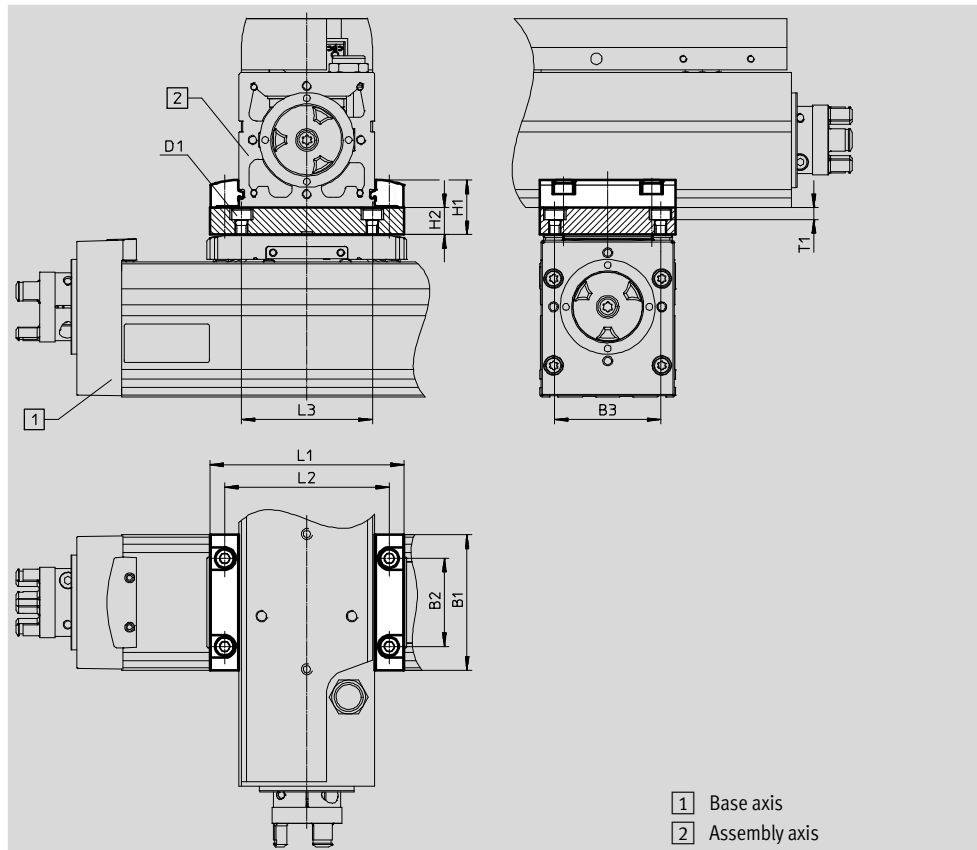
Material:

Anodised wrought aluminium alloy

RoHS compliant

- For axis/axis mounting with adapter plate
- Mounting option: base axis with the same size or next smallest assembly axis (→ page 7)
- When motors are assembled using parallel kits, interfering contours may occur. In this case, the adapter plate is required for height compensation (download CAD data → www.festo.com)

Combination matrix					
Size	2 Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS				
	25	32	45	60	80
1 Base axis ELGC-BS/-TB; ELFC	32	8066713	-	-	-
	45	-	8066714	-	-
	60	-	-	8066715	-
	80	-	-	-	8066716



Dimensions and ordering data												
For combination (size)	B1	B3 ±0.05	D1	H1	H2	L1	L2	L3	T1	Weight [g]	Part no.	Type
32/25	32	22.5	M3	19	10	44.4	35	35	4.2	60	8066713	EHAA-D-L2-32-L2-32
45/32	45	34	M4	19	10	51.4	42	42	5.4	136	8066714	EHAA-D-L2-45-L2-45
60/45	60	47	M5	24.2	12	70.6	58	58	5.4	205	8066715	EHAA-D-L2-60-L2-60
80/60	78	63	M6	24.2	12	85.6	73	73	6.4	315	8066716	EHAA-D-L2-80-L2-80

For combination (size)	B1	B2	B3 ±0.05	D1	H1	H2	L1	L2	L3	T1	Weight [g]	Part no.	Type
32/32	32	14.5	22.5	M3	19	10	52	42	35	4.2	60	8066713	EHAA-D-L2-32-L2-32
45/45	45	32	34	M4	22.2	10	71	58	42	5.4	136	8066714	EHAA-D-L2-45-L2-45
60/60	60	39	47	M5	24.2	12	86	73	58	5.4	205	8066715	EHAA-D-L2-60-L2-60
80/80	78	63	63	M6	24.2	12	106	93	73	6.4	315	8066716	EHAA-D-L2-80-L2-80

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

Accessories

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

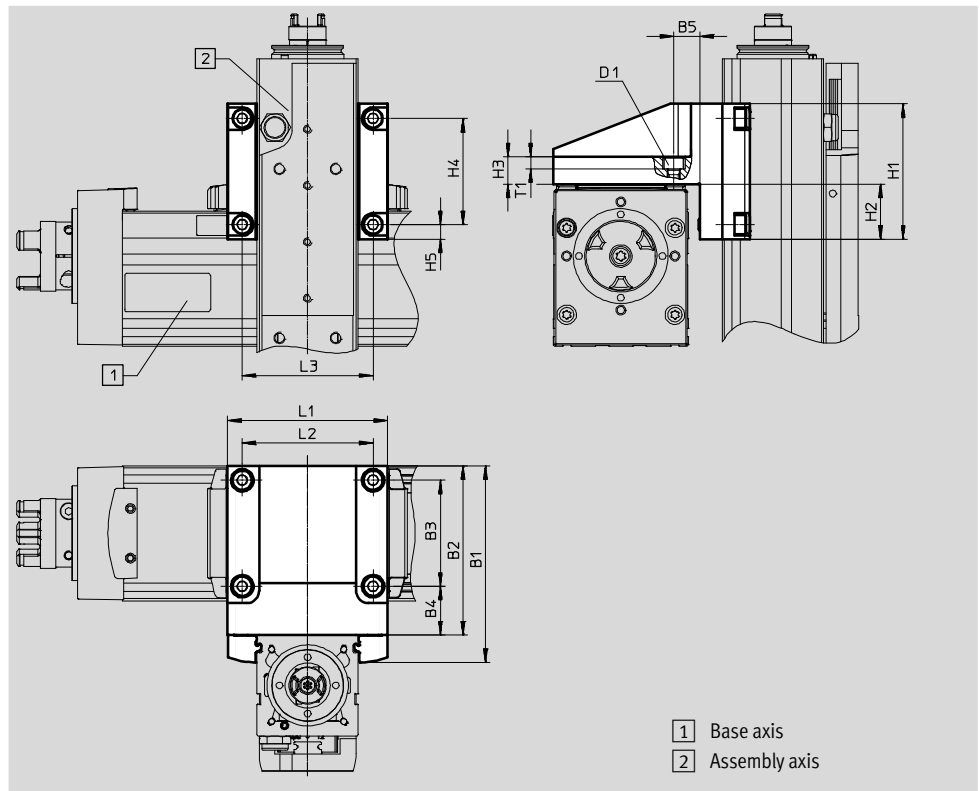
Material:

Anodised wrought aluminium alloy

RoHS compliant

- For mounting the next smallest vertical axes (assembly axes) on base axes with mounting position “slide at top” (→ page 8)

Combination matrix				
Size	2 Assembly axis ELGC-BS/-TB; ELFC; EGSC-BS			
	25	32	45	60
1 Base axis	32	8066717	-	-
ELGC-BS/-TB; ELFC	45	-	8066718	-
	60	-	-	8066719
	80	-	-	-
				8066720



1 Base axis
2 Assembly axis

Dimensions and ordering data										
For combination (size)	B1	B2	B3	B4	B5	D1	H1	H2	H3	H4
32/25	53	44	22.5	16.8	8.8	M3	32	11	10	22.5
45/32	69	60	34	20.5	11.5	M4	45	17.5	10	34
60/45	87.2	75	47	21.5	11.5	M5	60	24.5	12	47
80/60	107.2	95	63	23.5	13.5	M6	78	33.5	12	63

For combination (size)	H5	L1	L2	L3	T1	Weight [g]	Part no.	Type
32/25	4.8	45	35	35	4.2	107	8066717	EHAA-D-L2-32-L2-25-AP
45/32	5.5	52	42	42	5.4	222	8066718	EHAA-D-L2-45-L2-32-AP
60/45	6.5	71	58	58	5.4	433	8066719	EHAA-D-L2-60-L2-45-AP
80/60	7.5	86	73	73	6.4	768	8066720	EHAA-D-L2-80-L2-60-AP

Spindle axes ELGC-BS-KF, with recirculating ball bearing guide

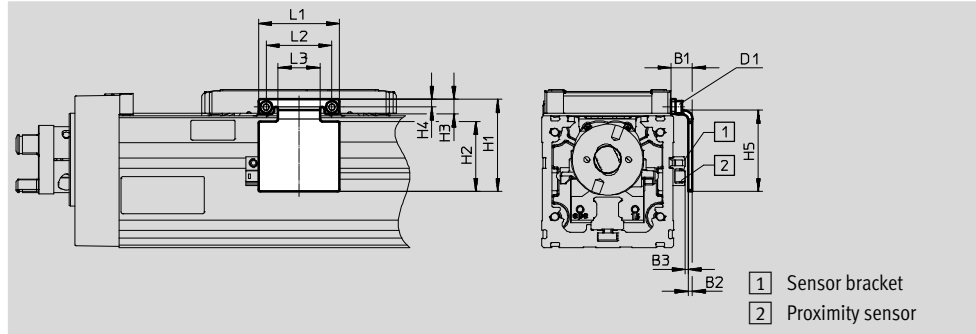
Accessories

Switch lug EAPM-L2-SLS

For sensing using inductive proximity sensors SIES-8M

Materials:

Galvanised steel
RoHS-compliant



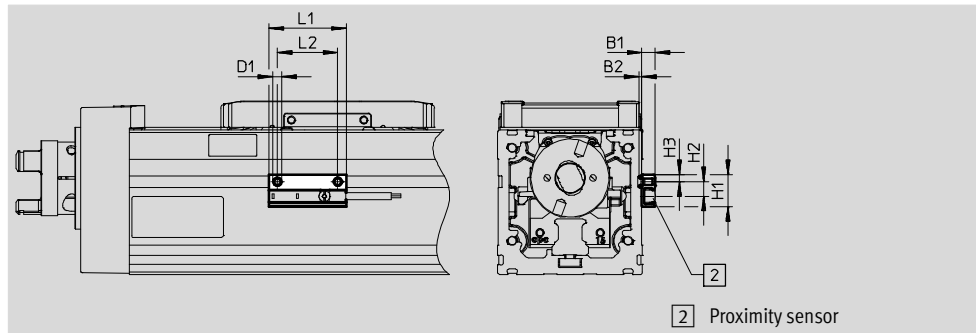
Dimensions and ordering data								
For size	B1	B2	B3	D1	H1	H2	H3	H4
32	9.2	2	1.0±0.31	M1.6	27	19	4.3	2.5
45	9.4	2	1.2±0.31	M2	37	28	5.5	3.3
60	9.7	2	1.3±0.31	M3	37	32	6.6	3.5
80	9.5	2	1.1±0.32	M4	53.5	42	8.3	4.5

For size	H5	L1	L2	L3	Weight [g]	Part no.	Type
32	24	22	18	10	10	8067259	EAPM-L2-32-SLS
45	33	30	24	14	18	8067260	EAPM-L2-45-SLS
60	37	42	30	19	27	8067261	EAPM-L2-60-SLS
80	47	44.6	36	23.4	42	8067262	EAPM-L2-80-SLS

Sensor bracket EAPM-L2-SH

Material:

Anodised wrought aluminium alloy
RoHS compliant





Dimensions and ordering data					
For size	B1	B2	D1	H1	H2
32, 45, 60, 80	5.5	1.3	M4	13.4	6

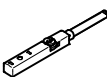
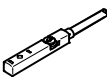
For size	H3	L1	L2	Weight [g]	Part no.	Type
32, 45, 60, 80	3	32	25	4	4759852	EAPM-L2-SH

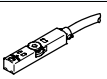
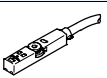
Spindle axes ELGC-BS-KF, with recirculating ball bearing guide



Accessories

Ordering data					
	For size	Description	Part no.	Type	PU ¹⁾
Centring pin ZBS/centring sleeve ZBH					
	32	For slide	525273	ZBS-2	10
	45		562959	ZBS-4	
	60		189652	ZBH-5	
	80		186717	ZBH-7	
Clamping element EADT					
	32, 45	Tool for retensioning the cover band	8065818	EADT-S-L5-32	1
	60, 80		8058451	EADT-S-L5-70	

1) Packaging unit quantity

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

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

Ordering data – Connecting cables						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	