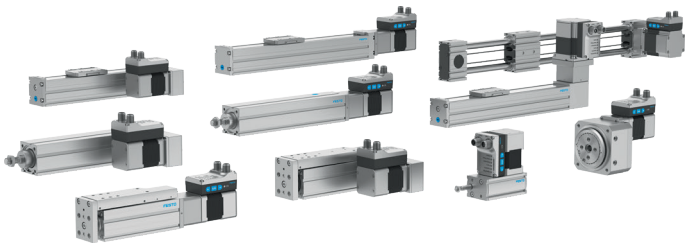
Characteristics

At a glance Further information ➔ egss



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

- No external servo drive: all necessary electronic components combined in the integrated drive
- Two control options integrated as standard: digital I/O and IO-Link®
- Complete solution for simple movements between mechanical end positions
- Simplified commissioning: all parameters can be manually set directly on the drive
- No special knowledge required for commissioning
- Very high-quality ball screw with low internal friction
- Rigid, high load-bearing and precise linear guide for absorbing lateral forces and for increased protection against rotation

Ordering data - modular system Further information ➔ egss

Configurable product
This product and all its product options can be ordered online via the configurator.

Engineering tools Further information ➔ engineering tools

Save time with engineering tools Smart Engineering for the optimal solution. Our goal is to increase your productivity. Our engineering tools play an integral part in this. They help you size your system correctly, tap into unimagined productivity reserves and generate additional productivity along the entire value chain. In every phase of your project, from the initial contact to the modernisation of your machine, you will come across a number of different tools which will be of use to you.

Simplified Motion Series - Solution Finder

- Selection tool for simple electric drive solutions from the Simplified Motion Series: This Solution Finder makes finding solutions for electric motion tasks child's play. All you have to do is enter the main application parameters like stroke, payload and motion type, and the system suggests the best solution for your simple motion task in seconds. Then you can simply add it to your shopping basket with just one click and order it online.

Diagrams Further information ➔ egss

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

Drive system

[BS]	Ball screw drive

- For applications that require precision
- High reliability and long service life
- For large loads

Type code

001	Series	
EGSS	Electric slide drive	

002	Drive system	
BS	Ball screw drive	

003	Guide	
KF	Recirculating ball bearing guide	

004	Size	
32	32	
45	45	
60	60	

005	Stroke [mm]	
25	25	
50	50	
75	75	
100	100	
125	125	
150	150	
200	200	

006	Spindle pitch	
8P	8 mm	
10P	10 mm	
12P	12 mm	

007	Motor type	
ST	Stepper motor ST	

008	Controller	
M	Integrated	

009	Control panel	
H1	Integrated	

010	Bus protocol/activation	
PLK	PNP and IO-Link®	
NLK	NPN and IO-Link®	

011	End-position sensing	
AA	With integrated end-position sensing	

012	Cable outlet direction	
	Standard	
D	Underneath	
L	Left	
R	Right	

013	Motor attachment position	
	Standard	
PL	Parallel, left	
PR	Parallel, right	
PD	Parallel, bottom	
PT	Parallel, top	

014	Electrical accessories	
	None	
L1	Adapter for operation as IO-Link® device	

Datasheet

Operating and ambient conditions			
Size	32	45	60
Ambient temperature	0 ... 50°C		
Storage temperature	-20 ... 60°C		
Note on ambient temperature	Power must be reduced by 2% per K at ambient temperatures above 30°C.		
Protective function	Temperature monitoring		
Relative air humidity	0 - 90%		
Insulation protection class	B		
Protection class	III		
Degree of protection	IP40		
Duty cycle	100%		
CE mark (see declaration of conformity) [1]	To EU EMC Directive In accordance with EU RoHS Directive		
CE marking (see declaration of conformity)[2]	To UK RoHS instructions To UK instructions for EMC		
KC mark	KC-EMV		
Approval	RCM trademark		
Vibration resistance	Transport application test with severity level 1 to FN 942017-4 and EN 60068-2-6		
Shock resistance	Shock test with severity level 1 to FN 942017-5 and EN 60068-2-27		
Cleanroom class	Class 9 according to ISO 14644-1		
Maintenance interval	Life-time lubrication		

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

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

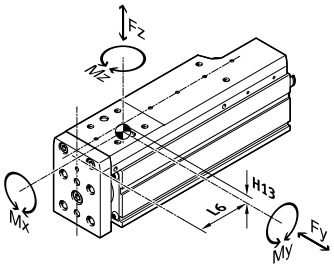
Weight			
Size	32	45	60
Basic weight for 0 mm stroke [1]	924 g	1,238 g	2,735 g
Additional weight per 10 mm stroke	30 g	63 g	95 g
Moving mass for 0 mm stroke	149 g	212 g	675 g
Additional moving mass per 10 mm stroke	12 g	30 g	40 g

1) For axial motor mounting / for parallel motor mounting

Materials			
Size	32	45	60
Material housing	Anodised wrought aluminium alloy		
Material piston rod	High-alloy stainless steel		
Material slide	Anodised wrought aluminium alloy		
Material guide rail	Rolled steel		
Material spindle	Rolled steel		
Material spindle nut	Rolled steel		
LABS (PWIS) conformity	VDMA24364 zone III		
Note on materials	RoHS-compliant		

Datasheet

Permissible forces and torques for the guide calculation for a service life of 5x 10^6 cycles and max. stroke



The indicated forces and torques refer to the centre of the guide. The point of application is the intersection of the centre of the guide and the centre of the length of the slide. They must not be exceeded in dynamic operation. Special attention must be paid to the deceleration process.

Distance to the centre of the guide:
Size 32/45/60
Dimension H13: 7.9 mm/10.2 mm/15.9 mm
Dimension L6: 31.8 mm/37.3 mm/53.4 mm

Size	32	45	60
Max. force Fy	991 N	1,314 N	4,937 N
Max. force Fz	991 N	1,314 N	4,937 N
Max. moment Mx	3.4 Nm	8.14 Nm	20 Nm
Max. moment My	3.17 Nm	7.05 Nm	30 Nm
Max. moment Mz	3.17 Nm	7.05 Nm	30 Nm

Basic load ratings

Size	32	45	60
Dynamic basic load rating ball screw	2,000 N	3,200 N	4,600 N
Dynamic basic load rating linear guide	2,135 N	3,240 N	13,400 N
Dynamic basic load rating fixed bearing	3,795 N	7,413 N	13,321 N
Static basic load rating ball screw	3,700 N	5,900 N	8,500 N
Static basic load rating linear guide	3,880 N	5,630 N	26,900 N
Static basic load rating fixed bearing	1,792 N	3,966 N	7,000 N

Calculating the load comparison factor

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

If the axis is simultaneously subjected to several of the indicated forces and torques, the following equation must be satisfied in addition to the indicated maximum loads.
For a guide system to have a service life of 5x 10^6 cycles, the load comparison factor must have a value of fv < 1, based on the maximum permissible forces and torques for a service life of 5x 10^6 cycles. This formula can be used to calculate a guide value. The engineering software “Electric Motion Sizing” is available for more precise calculations.

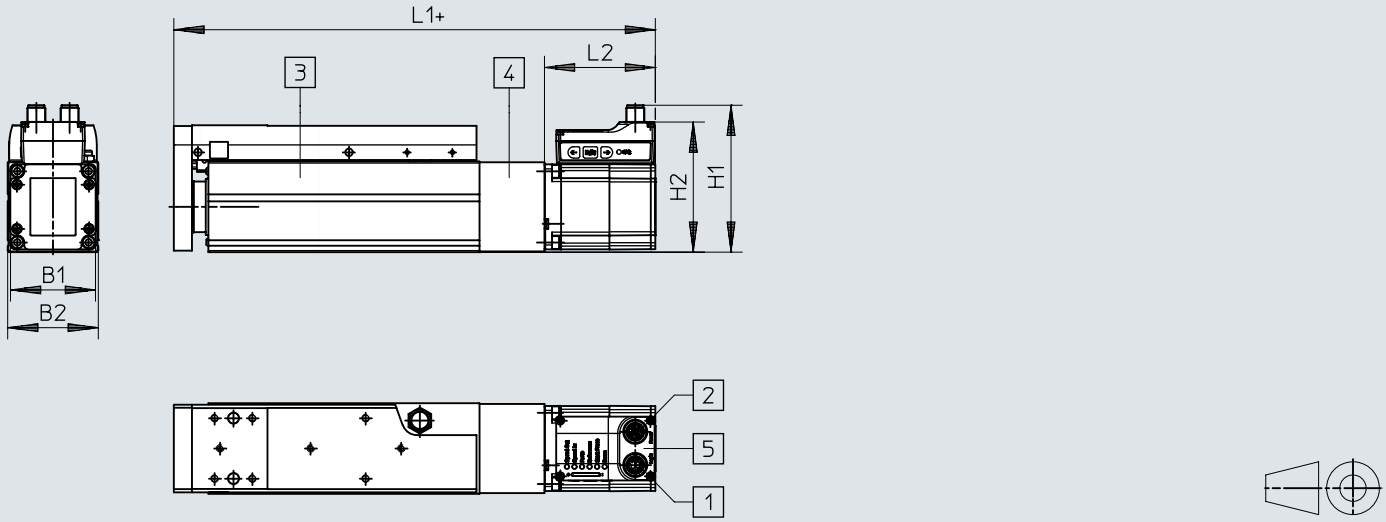
F1 / M1 = dynamic value
F2 / M2 = maximum value

Calculating the service life of the guide

The service life of the guide depends on the load. To be able to provide a rough indication of the service life of the guide, the graph below plots the load comparison factor fv against the service life.
These values are only theoretical. You must consult your local Festo contact for a load comparison factor fv greater than 1.

Dimensions

Dimensions – With axial motor mounting, size 32/45/60 Download CAD data ➔ www.festo.com



[1] Connection to logic interface
[2] Connection to power supply
[3] Mini slide
[4] Axial kit
[5] Motor
[6] + = plus stroke length

	B1	B2	H1	H2	L1	L2
EGSS-BS-KF-32	42,3	32	81,1	69,9	167	65
EGSS-BS-KF-45	42,3	45	82,6	71,4	178,8	65
EGSS-BS-KF-60	56,6	60	97,3	86,1	218,9	73,5

Dimensions

	B1 ±0,15	B2	B5	B6	D1 ø	D2 ø	D3 ø	D4 ø H13	D5 ø H7	D6 ø H13	D7 ø	D8 ø H7	D9 ø H8
EGSS-BS-KF-60	60	40	25	40	42	31	48	5,5	7	10	6	7	7

	D12 ø	D13	D14	D15	D16	H1	H2	H3	H4	H5	H7	H8	H12 ±0,15	H13
EGSS-BS-KF-60	5	M4	M5	M3	M4	84	30	5	25	20	6,1	36	60	16,4

	L1	L2	L3 +0,2	L4	L5 ±0,1	L6	L7	L8	L9	L10	L12	L13	L14	L15
EGSS-BS-KF-60	102,4	79,5	12	4	30	16	2,5	26,9	15	25	12,5	25	30	24

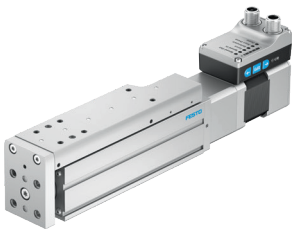
	L16	L18	T1	T2	T3 +0,1	T4 +0,1	T5	T6	T7	T8 +0,1	T9 +0,1	T10 +0,1	T11 –0,2	⌯ 1
EGSS-BS-KF-60	2	53,4	10	8	1,6	1,6	5,4	6	8	1,8	1,6	1,6	5	15

	L[1)]	L19	L11
EGSS-BS-KF-60	50	50	25
	75	75	50
	100	100	75
	125	125	100
	150	150	125
	200	200	175

1) Stroke

Ordering data

With recirculating ball bearing guide

	Size	Spindle pitch	Working stroke	Part no.	Type
	32	8 mm/U	25 mm	**8083801**	**EGSS-BS-KF-32-25-8P-ST-M-H1-PLK-AA**
			50 mm	**8083802**	**EGSS-BS-KF-32-50-8P-ST-M-H1-PLK-AA**
			75 mm	**8083803**	**EGSS-BS-KF-32-75-8P-ST-M-H1-PLK-AA**
			100 mm	**8083804**	**EGSS-BS-KF-32-100-8P-ST-M-H1-PLK-AA**
	45	10 mm/U	25 mm	**8083814**	**EGSS-BS-KF-45-25-10P-ST-M-H1-PLK-AA**
			50 mm	**8083815**	**EGSS-BS-KF-45-50-10P-ST-M-H1-PLK-AA**
			75 mm	**8083816**	**EGSS-BS-KF-45-75-10P-ST-M-H1-PLK-AA**
			100 mm	**8083817**	**EGSS-BS-KF-45-100-10P-ST-M-H1-PLK-AA**
			125 mm	**8083818**	**EGSS-BS-KF-45-125-10P-ST-M-H1-PLK-AA**
			150 mm	**8083819**	**EGSS-BS-KF-45-150-10P-ST-M-H1-PLK-AA**
	60	12 mm/U	50 mm	**8083716**	**EGSS-BS-KF-60-50-12P-ST-M-H1-PLK-AA**
			75 mm	**8083717**	**EGSS-BS-KF-60-75-12P-ST-M-H1-PLK-AA**
			100 mm	**8083718**	**EGSS-BS-KF-60-100-12P-ST-M-H1-PLK-AA**
			125 mm	**8083719**	**EGSS-BS-KF-60-125-12P-ST-M-H1-PLK-AA**
			150 mm	**8083720**	**EGSS-BS-KF-60-150-12P-ST-M-H1-PLK-AA**
			200 mm	**8083721**	**EGSS-BS-KF-60-200-12P-ST-M-H1-PLK-AA**

Ordering data – Modular product system **Further information → egss**

	Size	Spindle pitch	Part no.	Type
	32	8 mm/U	**8083800**	**EGSS-BS-KF-32-**
	45	10 mm/U	**8083813**	**EGSS-BS-KF-45-**
	60	12 mm/U	**8083713**	**EGSS-BS-KF-60-**