Electric cylinders ESBF, with spindle drive

FESTO

New
Sizes: 32, 40, 50

Electric cylinders ESBF, with spindle drive

Key features

At a glance

The electric cylinder ESBF is a mechanical linear drive unit with piston rod. The driving component consists of an electrically actuated spindle that converts the rotary motion of the motor into a linear motion of the piston rod.

The electric cylinder is based on the ISO 15552 standard. The mechanical interfaces are largely compatible with the standards-based cylinder DSBF.

Two spindle types to choose from:
Size 32 ... 50:
- Ball screw (BS)
- Lead screw (LS)

Size 63 ... 100:
- Ball screw (BS)

Options:
- High corrosion protection
- Degree of protection IP65
- Piston rod extension
- NSF-H1 lubricant for food & beverage applications
- Wide range of accessories

Complete system consisting of electric cylinder, motor and motor mounting kit

Electric cylinder ➔ 4

Motor ➔ 25

Note

A range of specially adapted complete solutions is available for the electric cylinder ESBF and the motors.

Motor mounting kit ➔ 25

Axial kit

Parallel kit

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

Protective bellows kit EADB for use in dusty environments ➔ 38

The protective bellows kit is a leak-free system. To prevent unwanted media from being drawn in, the supply and exhaust air for the kit must be ducted via a pressure compensation hole in the connection part 1.
The kit protects the piston rod, seal and bearings against a wide variety of media, for example:
- Dust
- Chippings
- Oil
- Grease
- Petrol

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Features and type codes

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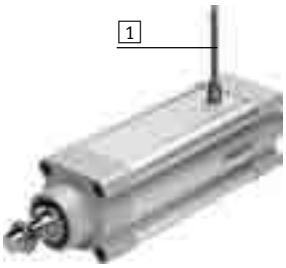
Degree of protection IP65 (feature S1) for use in wet environments

➔ 24



The electric cylinder to IP65 fulfils the specifications to IEC 60 529.
Air is exchanged between the interior of the cylinder and the environment via a pressure compensation hole 1. This prevents negative pressure or excess pressure arising in the interior of the cylinder.

It also prevents unwanted media being drawn in.
Sealing air can also be applied to the pressure compensation hole if needed (e.g. during a cleaning process).

NSF-H1 lubricant for food & beverage applications (feature F1)

The electric cylinder is of limited suitability for the food industry.
Can only be selected in combination with the ball screw (BS) drive system.

NSF-H1 lubricant for piston rod, screw spindle and other parts.

Further information on materials
www.festo.com/sp ➔ technical hotline

Type codes

ESBF	–	BS	–	63	–	100	–	5P	–	F

Type	
ESBF	Electric cylinder

Drive system	
BS	Ball screw
LS	Lead screw

Size

Stroke [mm]

Spindle pitch [mm]

Variant	
F	Female thread
S1	Degree of protection IP65
R3	High corrosion protection
F1	Suitable for use in the food industry as per extended information on materials
...E	Piston rod extension

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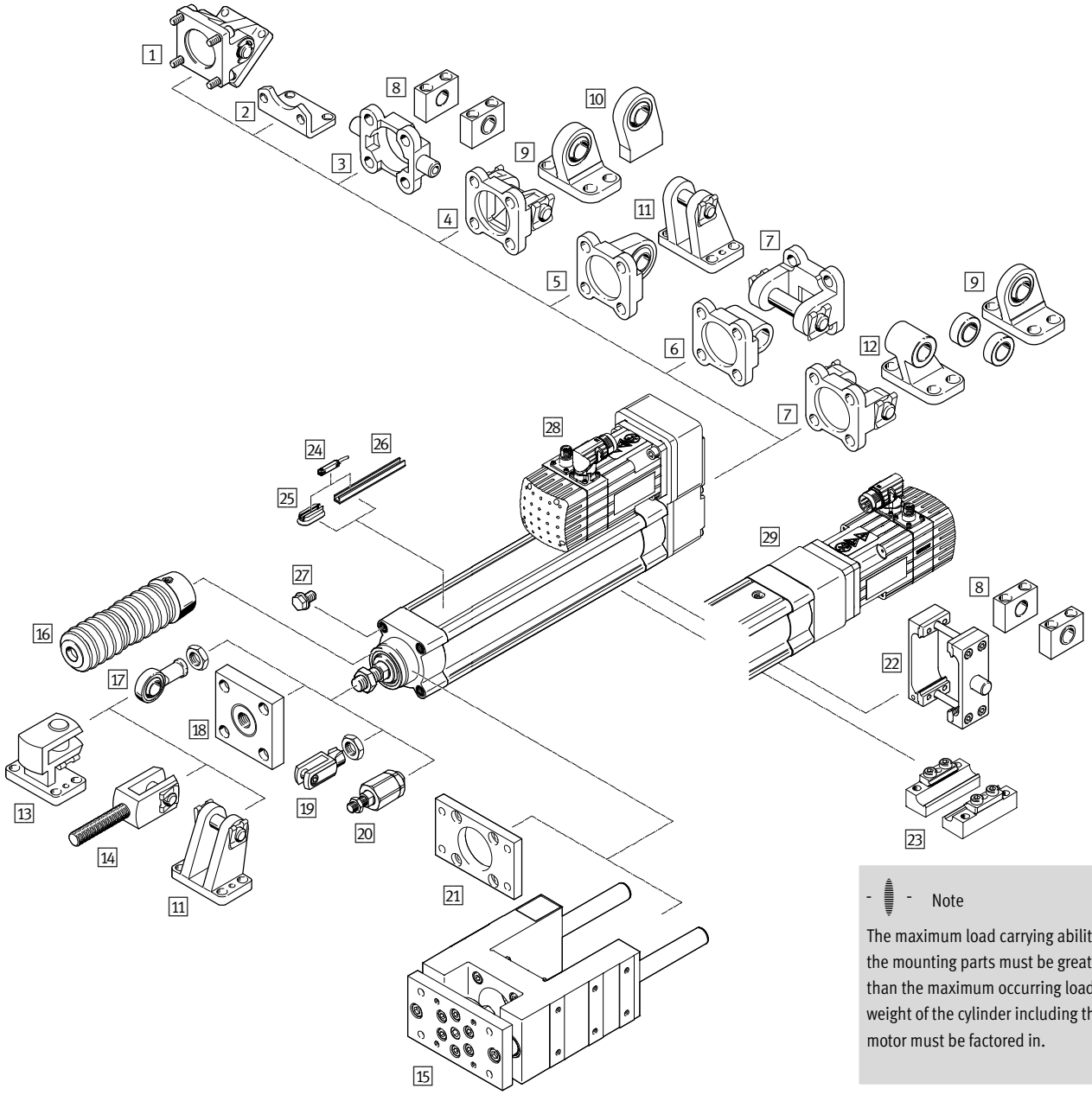
Peripherals overview



Note

The maximum load carrying ability of the mounting parts must be greater than the maximum occurring load. The weight of the cylinder including the motor must be factored in.

Mounting components and accessories			
	Description	Suitable for high forces[1]	→ Page/Internet
1 Swivel flange DAMS	With parallel motor mounting, for spherical bearing	■	49
2 Foot mounting HNC/CRHNC	For mounting the cylinder. The foot mounting can only be secured at the rear, on the parallel kit	–	44
3 Trunnion flange ZNCF/CRZNG	For spherical bearing	–	46
4 Swivel flange SNC	With parallel motor mounting	–	50
5 Swivel flange SNCS	With parallel motor mounting	–	51

1) Shows which accessories can be used within the entire force range. For restricted force ranges see the relevant accessory part, from page 44.

Electric cylinders ESBF, with spindle drive

Peripherals overview

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Mounting components and accessories				
		Description	Suitable for high forces[1]	→ Page/Internet
6	Swivel flange SNCL	With parallel motor mounting	–	52
7	Swivel flange SNCB/SNCB-...-R3	With parallel motor mounting, for spherical bearing	–	53
8	Trunnion support LNZG/CRLNZG	For cylinders with trunnion mounting	–	47
9	Clevis foot LSNG	With parallel motor mounting, with spherical bearing	–	55
10	Clevis foot LSNSG	With parallel motor mounting, weld-on, with spherical bearing	–	55
11	Clevis foot LBG	With parallel motor mounting, for spherical bearing	–	55
12	Clevis foot LNG/CRLNG	With parallel motor mounting	–	55
13	Right-angle clevis foot LQG	For rod eye SGS	–	55
14	Rod clevis SGA	For swivel mounting of cylinders	■	56
15	Guide unit EAGF	– For protecting electric cylinders against rotation at high torque loads – Cannot be used in combination with protective bellows kit EADB	■	57
16	Protective bellows kit EADB	– Protects the cylinder (piston rod, seal and bearings) against a wide range of media and thus prevents premature wear – The kit can only be used in combination with an extended piston rod (...E)	■	38
17	Rod eye SGS/CRSGS	With spherical bearing	■	56
18	Coupling piece KSZ	To compensate for radial deviations	–	56
19	Rod clevis SG/CRSG	Permits a swivel motion of the cylinder in one plane	■	56
20	Self-aligning rod coupler FK/CRFK	For compensating radial and angular misalignments	–	56
21	Flange mounting EAHH	– On the bearing cap – Cannot be used in combination with protective bellows kit EADB	■	45
22	Trunnion mounting kit DAMT	For mounting anywhere along the cylinder profile barrel. Cannot be mounted in the vicinity of the motor with parallel motor mounting	–	54
23	Profile mounting EAHF-...-P	– For mounting the electric cylinder via the profile – Cannot be mounted in combination with the parallel kit EAMM-U with some combinations (in the vicinity of the motor)	■	43
24	Proximity sensor SME/SMT-8	For position sensing	■	58
25	Mounting kit CRSMB	For proximity sensor with T-slot	■	58
26	Sensor rail SAMH	For proximity sensor with T-slot	■	58
27	Blanking screw DAMD-PS	For covering unused mounting threads	■	59
28	Parallel kit EAMM-U	For parallel motor mounting	■	34
29	Axial kit EAMM-A	For axial motor mounting	■	25

1) Shows which accessories can be used within the entire force range. For restricted force ranges see the relevant accessory part, from page 44.

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Technical data

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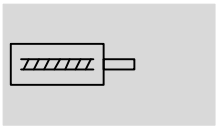
Function



Size
32 ... 100

Stroke length
30 ... 1500 mm

www.festo.com

General technical data							
Size		32	40	50	63	80	100
Based on standard		ISO 15552					
Design		Electric cylinder with ball screw or lead screw			Electric cylinder with ball screw		
Piston rod thread							
Male thread		M10x1.25	M12x1.25	M16x1.5	M16x1.5	M20x1.5	M20x1.5
Female thread		M6	M8	M10	M10	M12	M12
Working stroke	[mm]	30 ... 800	30 ... 800	30 ... 1000	30 ... 1200	30 ... 1500	30 ... 1500
Protection against torsion/guide		With plain-bearing guide					
Duty cycle	[%]	100					
Position sensing		For proximity sensor					
Type of mounting		With female thread/accessories					
Mounting position		Any					

Mechanical data – Ball screw									
Size		32		40			50		
Spindle pitch	[mm/rev]	5	10	5	10	16	5	10	20
Spindle diameter	[mm]	12		16			20		
Max. force of the cylinder[1]	[kN]	1	1	3	3	2.6	5	5	4.5
Max. driving torque	[Nm]	1.1	2	3	5.6	7.7	4.8	9.2	16.3
Max. radial force[2]	[N]	115		130			300		
Max. speed	[m/s]	0.55	1.1	0.4	0.8	1.2	0.3	0.6	1.2
Max. rotational speed	[rpm]	6600	6600	4800	4800	4500	3600	3600	3600
Max. acceleration	[m/s²]	5	15	5	15	25	5	15	25
Max. angle of rotation at the piston rod[3]	[°]	±0.25		±0.2			±0.15		
Reversing backlash[3]	[mm]	< 0.03	< 0.04	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.04
Repetition accuracy	[mm]	±0.01							
No-load driving torque[4]	[Nm]	0.1		0.2			0.3		

Size		63			80			100		
Spindle pitch	[mm/rev]	5	10	25	5	15	32	5	20	40
Spindle diameter	[mm]	25			32			40		
Max. force of the cylinder[1]	[kN]	7	7	6	12	12	10	17	17	14.5
Max. driving torque	[Nm]	7	13.1	26.5	11.9	33.7	56.6	16.9	63.7	102.6
Max. radial force[2]	[N]	700			1100			1100		
Max. speed	[m/s]	0.27	0.53	1.35	0.21	0.62	1.34	0.16	0.67	1.34
Max. rotational speed	[rpm]	3250	3220	3260	2530	2515	2515	2010	2010	2010
Max. acceleration	[m/s²]	5	15	25	5	15	25	5	15	25
Max. angle of rotation at the piston rod[3]	[°]	±0.4			±0.5			±0.5		
Reversing backlash[3]	[mm]	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.04	< 0.03	< 0.03	< 0.04
Repetition accuracy	[mm]	±0.015	±0.01							
No-load driving torque[4]	[Nm]	0.4	0.45	0.5	0.5	0.6	0.65	0.7	0.9	1.0

1) The pressure force is dependent on the stroke and has an effect on the service life → 10
2) On the drive shaft
3) In new condition
4) At a spindle speed of 200 rpm

Electric cylinders ESBF, with spindle drive

Technical data

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Mechanical data – Lead screw				
Size		32	40	50
Spindle pitch	[mm/rev]	2.5	3	4
Spindle diameter	[mm]	12	16	20
Max. force of the cylinder[1)]	[kN]	0.6	1	1.6
Max. driving torque	[Nm]	1.1	2.4	4.8
Max. radial force[2)]	[N]	115	130	300
Max. speed	[m/s]	0.05	0.05	0.05
Max. rotational speed	[rpm]	1200	1000	750
Max. acceleration	[m/s^2]	2.5	2.5	2.5
Max. angle of rotation at the piston rod	[°]	±0.25	±0.2	±0.15
Reversing backlash[3)]	[mm]	< 0.1	< 0.1	< 0.1
Repetition accuracy	[mm]	±0.05		
No-load driving torque[4)]	[Nm]	0.1	0.2	0.3

1) Electric cylinder with lead screw can be operated with maximum force over the entire stroke range.
2) On the drive shaft
3) In new condition
4) At a spindle speed of 200 rpm

Weight [g] – Ball screw						
Size	32	40	50	63	80	100
Basic weight m_0 at 0 mm stroke	781	1237	1982	3165	7393	11123
Additional weight m_{10} per 10 mm stroke	33	47	65	87	155	193
Moving mass m_{b0} at 0 mm stroke	281	467	793	1831	5300	8786
Moving mass m_{b10} per 10 mm stroke	9	26	35	52	103	132

Weight [g] – Lead screw			
Size	32	40	50
Basic weight m_0 at 0 mm stroke	667	1079	1716
Additional weight m_{10} per 10 mm stroke	34	48	67
Moving mass m_{b0} at 0 mm stroke	198	317	532
Moving mass m_{b10} per 10 mm stroke	9	11	13

Total weight $m_{ges.}$:

$$m_{ges.} = m_0 + m_{10} \times \frac{stroke}{10}$$

Total moving mass $m_{bges.}$:

$$m_{bges.} = m_{b0} + m_{b10} \times \frac{stroke}{10}$$

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Technical data

Operating and environmental conditions		
Ambient temperature[1]	[°C]	0 ... +60
Storage temperature	[°C]	–20 ... +60
Degree of protection to IEC 60529		
ESBF-...		IP40
ESBF-...-S1		IP65
Relative air humidity	[%]	0 ... 95 (non-condensing)
Duty cycle	[%]	100
Suitable for use in the food industry with ESBF-...-F1[2]		➔ extended information on materials
Corrosion resistance class CRC[3]		
ESBF-...		2
ESBF-...-R3		3

1) Note operating range of proximity sensors and motors
2) Extended information on materials on request ➔ technical hotline
Only in combination with ESBF-BS-... (ball screw)
3) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

Mass moment of inertia – Ball screw									
Size		32		40			50		
Spindle pitch	[mm/rev]	5	10	5	10	16	5	10	20
J_0 at 0 mm stroke	[kg cm²]	0.023	0.036	0.050	0.078	0.125	0.145	0.187	0.329
j_H per meter stroke	[kg cm²/m]	0.122	0.139	0.46	0.48	0.523	1.019	1.043	1.139
j_L per kg payload	[kg cm²/kg]	0.006	0.025	0.006	0.025	0.065	0.006	0.025	0.101

Size		63			80			100		
Spindle pitch	[mm/rev]	5	10	25	5	15	32	5	20	40
J_0 at 0 mm stroke	[kg cm²]	0.491	0.486	0.65	1.529	1.648	2.119	4.696	5.050	6.71
j_H per meter stroke	[kg cm²/m]	2.832	2.859	3.053	7.699	7.815	8.277	18.978	19.31	20.372
j_L per kg payload	[kg cm²/kg]	0.006	0.025	0.158	0.006	0.057	0.259	0.006	0.101	0.405

Mass moment of inertia – Lead screw				
Size		32	40	50
Spindle pitch	[mm/rev]	2.5	3	4
J_0 at 0 mm stroke	[kg cm²]	0.016	0.045	0.141
j_H per meter stroke	[kg cm²/m]	0.161	0.508	1.238
j_L per kg payload	[kg cm²/kg]	0.002	0.002	0.004

The mass moment of inertia J_A of the electric cylinder is calculated as follows:

$J_A = J_0 + j_H \times \text{working stroke [m]} + j_L \times m_{payload}\ [kg]$

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Technical data

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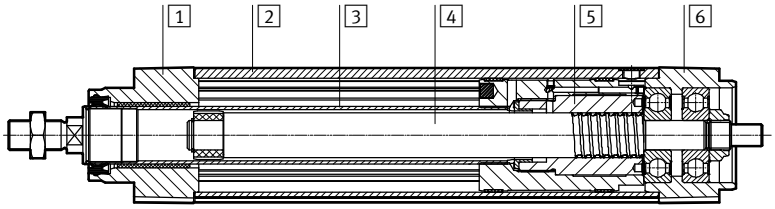
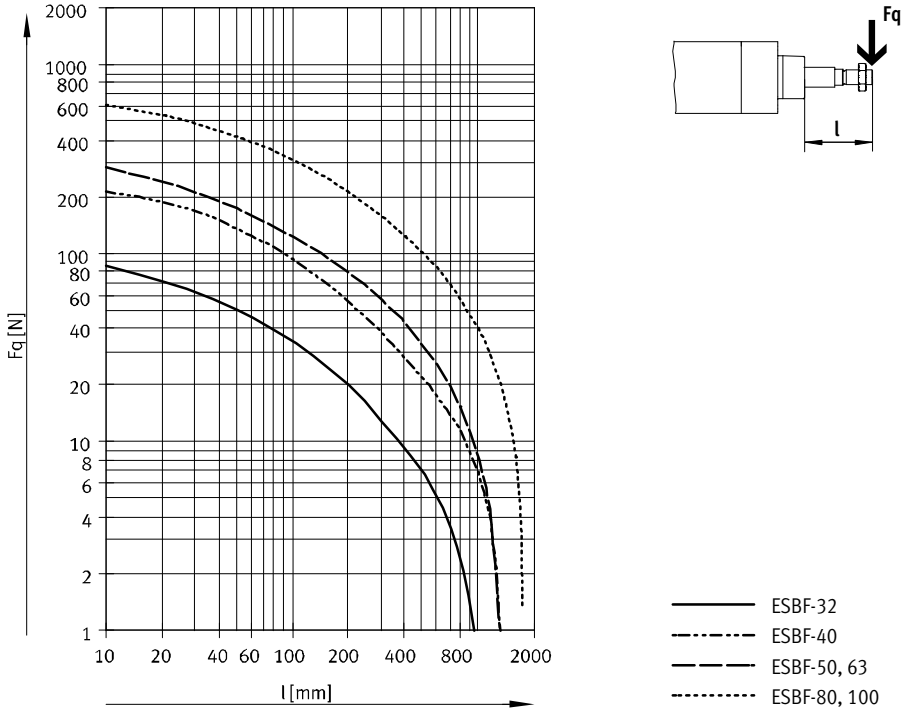
Materials

Sectional view



Size		32 ... 50	63 ... 100
1	Bearing cap	Coated wrought aluminium alloy	Coated gravity die-cast aluminium
2	Cylinder barrel	Smooth anodised wrought aluminium alloy	
3	Piston rod	High-alloy stainless steel	
4	Spindle	Rolled steel	
5	Spindle nut	Rolled steel	
6	Drive cover	Coated wrought aluminium alloy	Coated gravity die-cast aluminium
–	Note on materials	RoHS compliant	
		Contains paint-wetting impairment substances	

Lateral force Fq as a function of stroke length l



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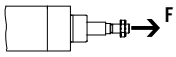
Max. pressure force F dependent on piston rod length l (l = stroke + optional piston rod extension)

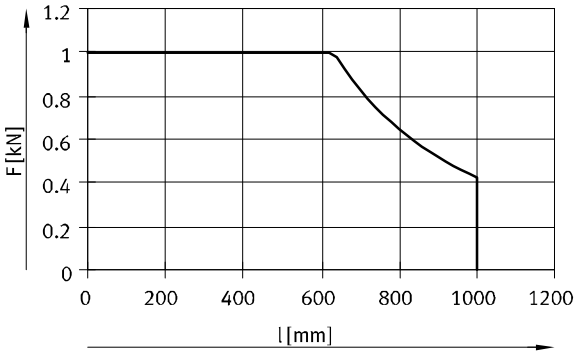


Due to possible buckling, the pressure force must be limited dependent on the stroke.

The tensile force is not affected by this.

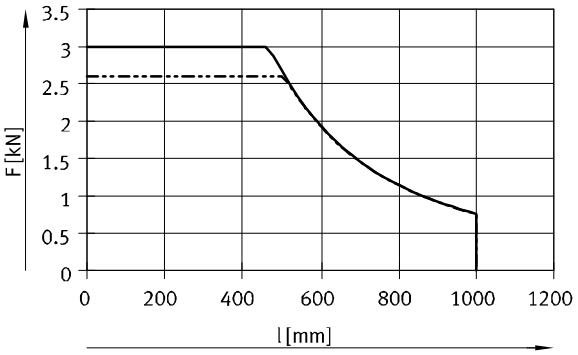
For ball screw

ESBF-BS-32-...



ESBF-BS-32-...-5P/10P

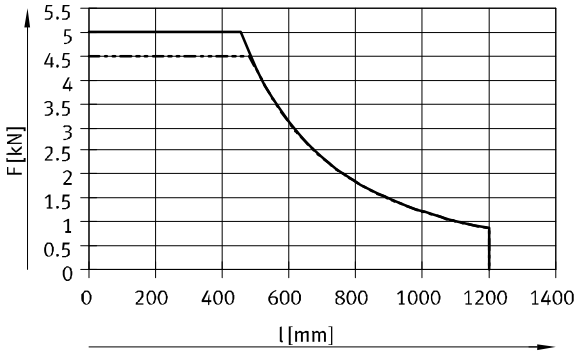
ESBF-BS-40-...



ESBF-BS-40-...-5P/10P

ESBF-BS-40-...-16P

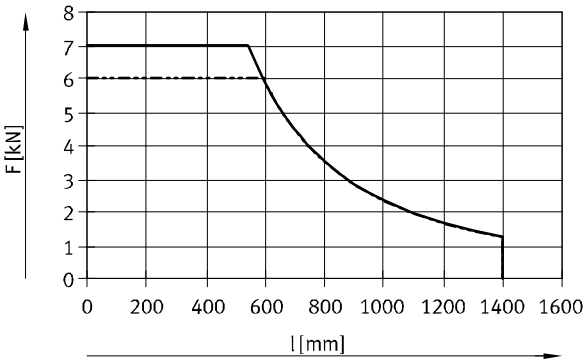
ESBF-BS-50-...



ESBF-BS-50-...-5P/10P

ESBF-BS-50-...-20P

ESBF-BS-63-...



ESBF-BS-63-...-5P/10P

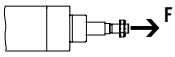
ESBF-BS-63-...-25P

Electric cylinders ESBF, with spindle drive

Technical data

FESTO

Max. pressure force F dependent on piston rod length l (l = stroke + optional piston rod extension)

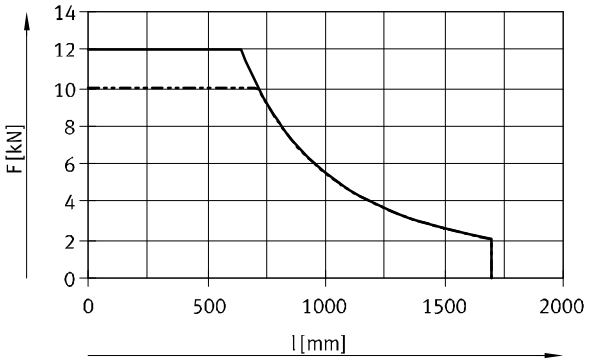


Due to possible buckling, the pressure force must be limited dependent on the stroke.

The tensile force is not affected by this.

For ball screw

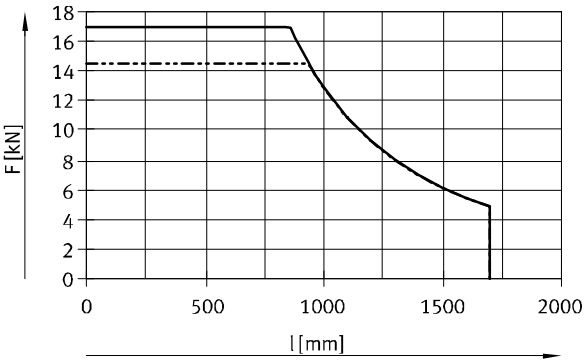
ESBF-BS-80-...



ESBF-BS-80-...-5P/15P

ESBF-BS-80-...-32P

ESBF-BS-100-...

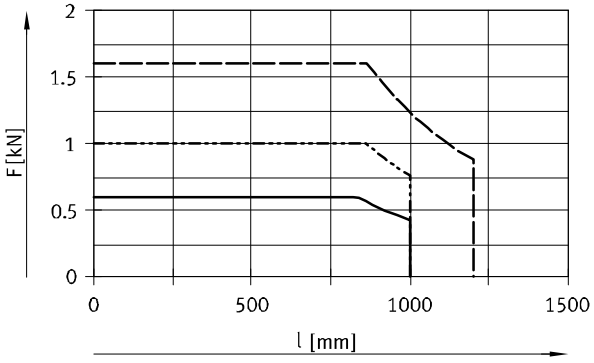


ESBF-BS-100-...-5P/20P

ESBF-BS-100-...-40P

For lead screw

ESBF-LS-...



ESBF-LS-32

ESBF-LS-40

ESBF-LS-50

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Sizes: 32, 40, 50

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Technical data

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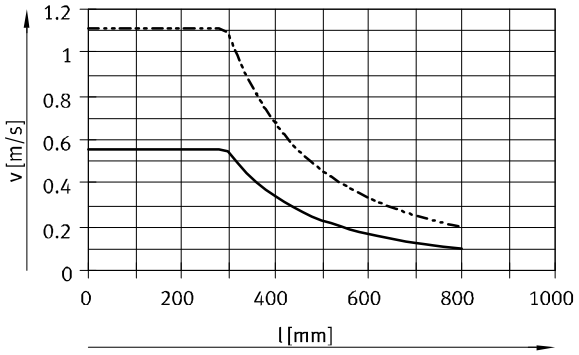
Max. feed speed v as a function of stroke length l

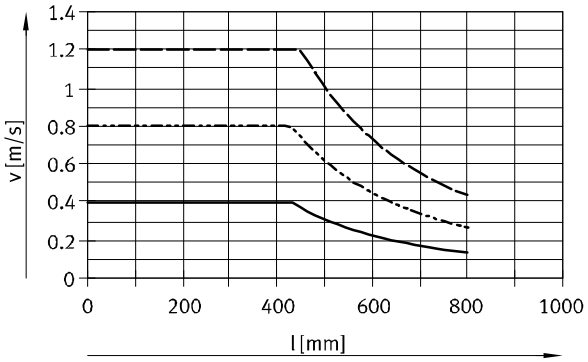
For ball screw

ESBF-BS-32-...



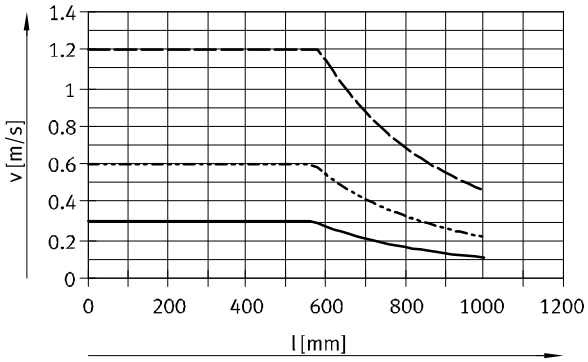
ESBF-BS-32-...-5P
ESBF-BS-32-...-10P

ESBF-BS-40-...



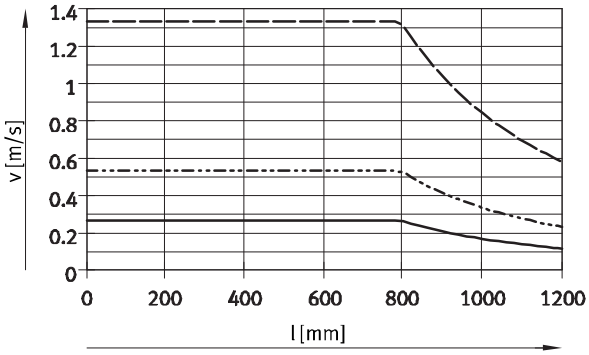
ESBF-BS-40-...-5P
ESBF-BS-40-...-10P
ESBF-BS-40-...-16P

ESBF-BS-50-...



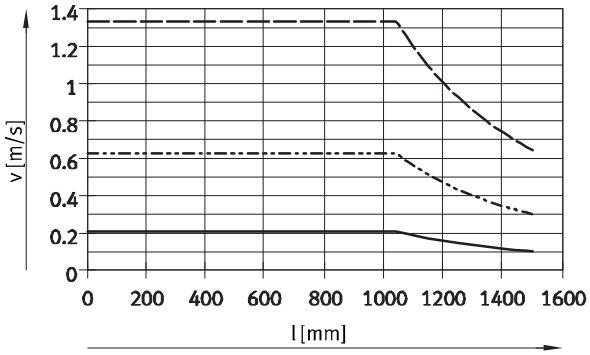
ESBF-BS-50-...-5P
ESBF-BS-50-...-10P
ESBF-BS-50-...-20P

ESBF-BS-63-...



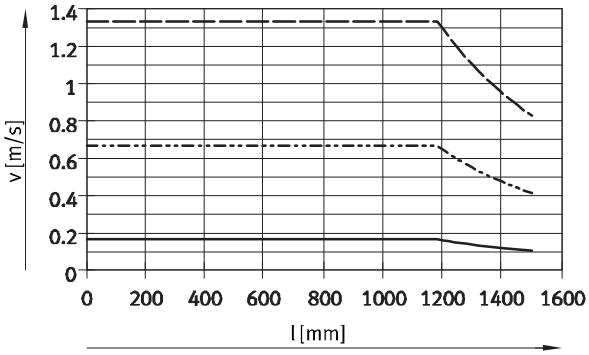
ESBF-BS-63-...-5P
ESBF-BS-63-...-10P
ESBF-BS-63-...-25P

ESBF-BS-80-...



ESBF-BS-80-...-5P
ESBF-BS-80-...-15P
ESBF-BS-80-...-32P

ESBF-BS-100-...



ESBF-BS-100-...-5P
ESBF-BS-100-...-20P
ESBF-BS-100-...-40P

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Technical data

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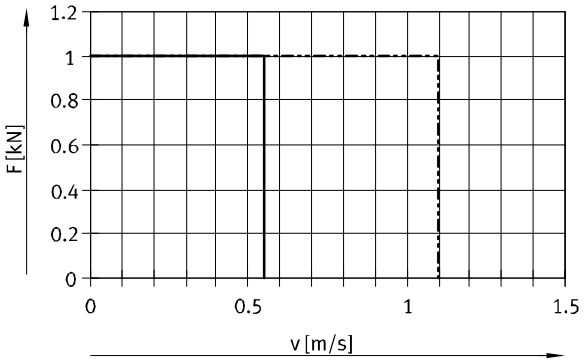
Maximum feed force F dependent on the feed speed v

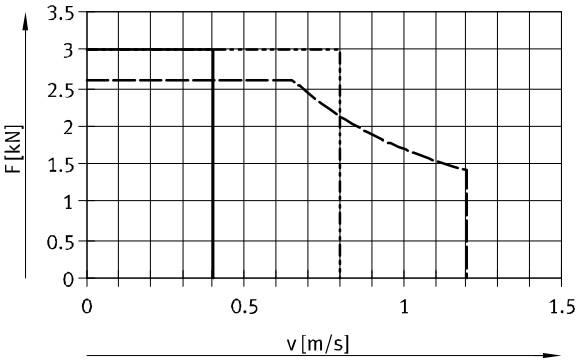
For ball screw

ESBF-BS-32-...



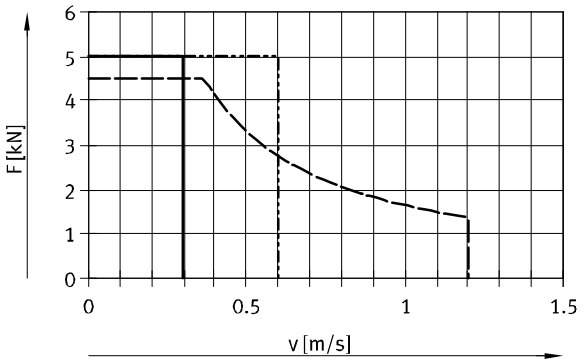
ESBF-32-...-5P
ESBF-32-...-10P

ESBF-BS-40-...



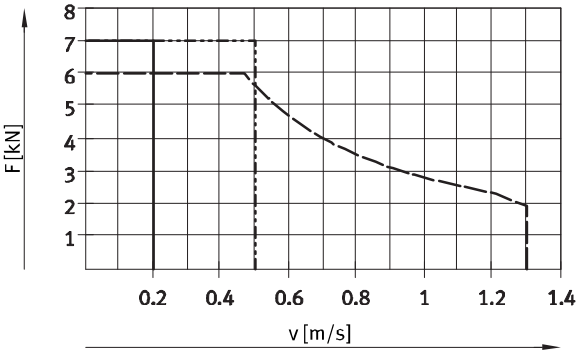
ESBF-40-...-5P
ESBF-40-...-10P
ESBF-40-...-16P

ESBF-BS-50-...



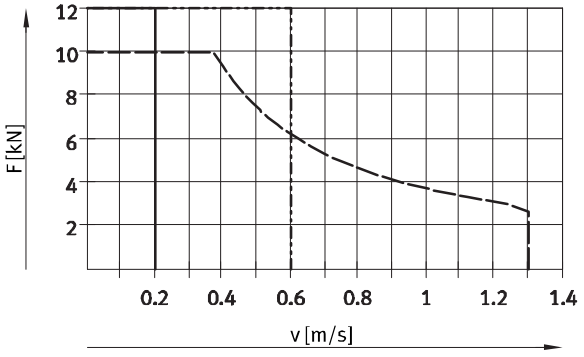
ESBF-50-...-5P
ESBF-50-...-10P
ESBF-50-...-20P

ESBF-BS-63-...



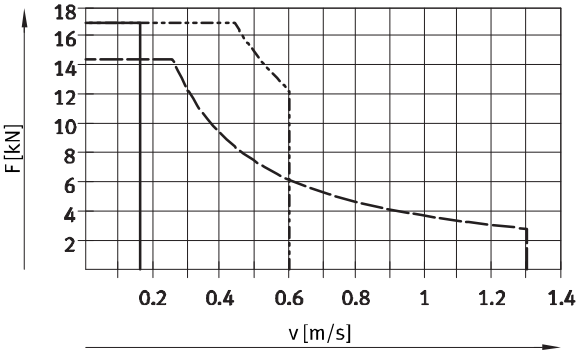
ESBF-BS-63-...-5P
ESBF-BS-63-...-10P
ESBF-BS-63-...-25P

ESBF-BS-80-...



ESBF-BS-80-...-5P
ESBF-BS-80-...-15P
ESBF-BS-80-...-32P

ESBF-BS-100-...



ESBF-BS-100-...-5P
ESBF-BS-100-...-20P
ESBF-BS-100-...-40P

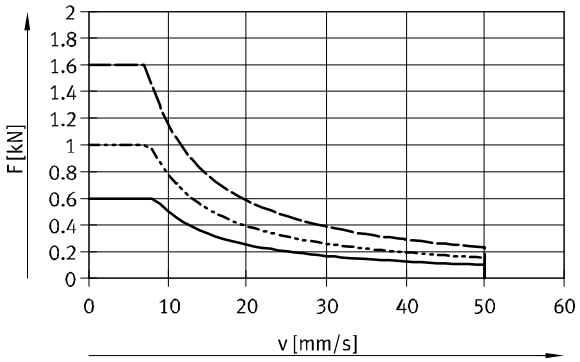
Electric cylinders ESBF, with spindle drive

Technical data

FESTO

Maximum feed force F dependent on the feed speed v

For lead screw
ESBF-LS-...



ESBF-LS-32
ESBF-LS-40
ESBF-LS-50

Service life

The service life of the electric cylinder is primarily dependent on the service life of the lead screw. The service life ends once the maximum number of switching cycles (ESBF-BS: 10 million; ESBF-LS: ➔ table on page 15) or the running performance is reached.

The operating coefficient has a significant impact here.
The operating coefficient and thus the possible service life can be determined approximately using the table (➔ 15).

Note

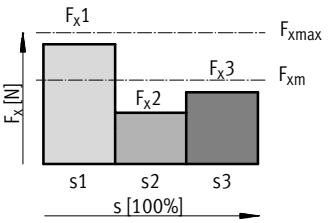
The specifications for running performance are based on experimentally determined and theoretically calculated data (at room temperature).

The running performance that can be achieved in practice can deviate considerably from the specified curves under different parameters.

Calculation of the mean feed force F_{xm} with ball screw (ESBF-BS)

$$F_{xm} = \sqrt[3]{\frac{F_{x1}^3 \times s_1 + \ldots + F_n^3 \times s_n}{s_1 + \ldots + s_n}}$$

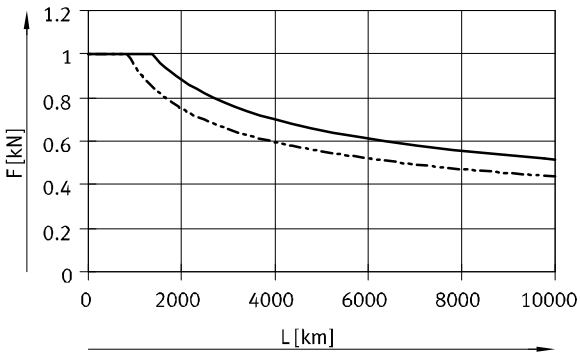
F_{xm} = Mean feed force
$F_{x1/n}$ = Feed force of section
$s_{1/n}$ = Share of movement cycle that is travel



Mean feed force F_{xm} as a function of running performance L, with an operating coefficient f_B of 1.0 at room temperature

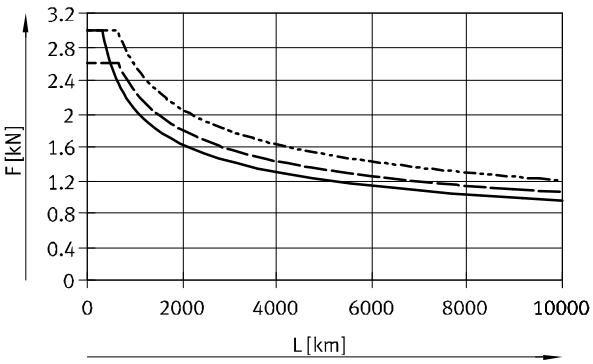
For ball screw

ESBF-BS-32-...



ESBF-32-...-5P
ESBF-32-...-10P

ESBF-BS-40-...



ESBF-40-...-5P
ESBF-40-...-10P
ESBF-40-...-16P

Electric cylinders ESBF, with spindle drive

Technical data

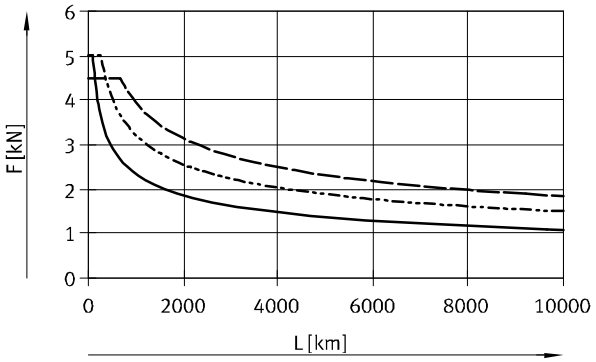
FESTO

Service life

Mean feed force F_{xm} as a function of running performance L, with an operating coefficient f_B of 1.0 at room temperature

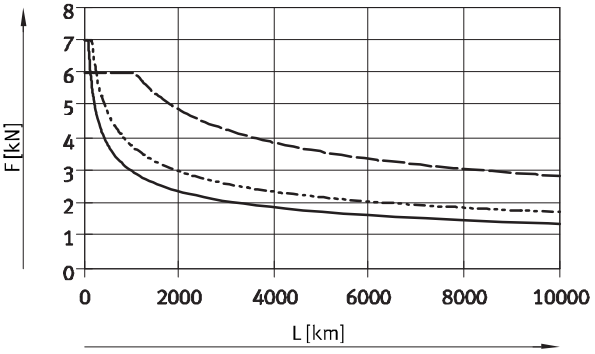
For ball screw

ESBF-BS-50-...



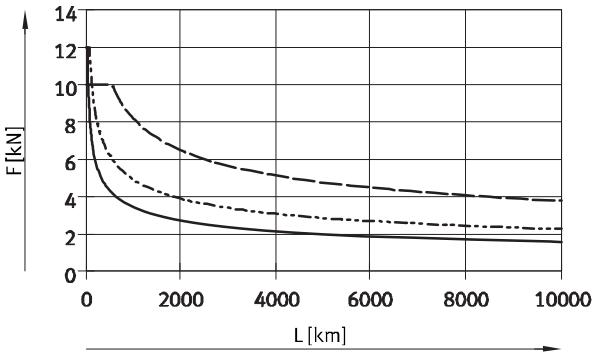
ESBF-50-...-5P
ESBF-50-...-10P
ESBF-50-...-20P

ESBF-BS-63-...



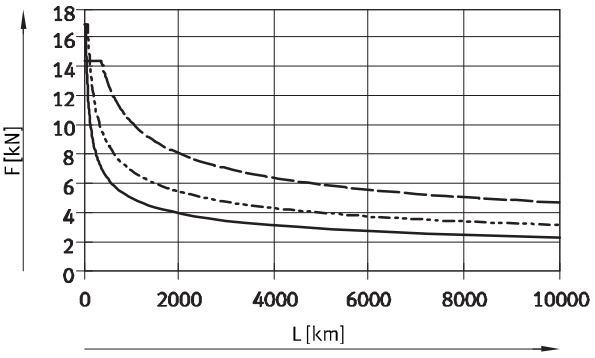
ESBF-BS-63-...-5P
ESBF-BS-63-...-10P
ESBF-BS-63-...-25P

ESBF-BS-80-...



ESBF-BS-80-...-5P
ESBF-BS-80-...-15P
ESBF-BS-80-...-32P

ESBF-BS-100-...



ESBF-BS-100-...-5P
ESBF-BS-100-...-20P
ESBF-BS-100-...-40P

Life cycle taking into account the operating coefficient

$$L_{ist} = \frac{L}{f_B^{\,3}}$$

L_{ist} = Actual service life
L = Target service life (➔ graphs)
f_B = Operating coefficient

Load[1]	Operating coefficient f_B		Sample application
	For ESBF-...	For ESBF-...-F1 (food zone)	
None	1.0 ... 1.2	1.4 ... 1.7	Measuring machine
Lightweight	1.2 ... 1.4	1.7 ... 2.0	Handling, robot technology
Medium	1.4 ... 1.6	2.0 ... 2.3	Press-in operations
High	1.6 ... 2.0	2.3 ... 3.0	Construction, agriculture

1) This refers to loads caused by impacts, temperatures, contamination, shock and vibrations that affect the cylinder or piston rod.

Reference values for lead screw (ESBF-LS)

Size		32	40	50
Running performance L	[km]	200	250	300
Stress cycles L[1]	[million]	1.0	1.2	1.4
Switching cycles L[2]	[million]	0.5	0.6	0.7

1) Movement from position A to B with acceleration and deceleration to stop.
2) Two stress cycles to get back to the starting point.

Electric cylinders ESBF, with spindle drive

Technical data

FESTO

Friction losses and driving torque

Friction losses

The friction losses comprise the no-load driving torque and the speed-dependent friction losses.

$M_{reib} = M_{leerlauf} + M_V$

M_{reib} = Friction torque
$M_{leerlauf}$ = No-load driving torque
M_V = Friction torque dependent on the feed speed

Driving torque

The driving torque required for the cylinder comprises the friction torque and the effective torque.

$M_{antrieb} = M_{reib} + M_{nutz}$

$M_{antrieb}$ = Required driving torque
M_{reib} = Friction torque
M_{nutz} = Effective torque

No-load driving torque – Ball screw[1)]

Size		32		40			50		
Spindle pitch	[mm/rev]	5	10	5	10	16	5	10	20
No-load driving torque $M_{leerlauf}$	[Nm]	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3

Size		63			80			100		
Spindle pitch	[mm/rev]	5	10	25	5	15	32	5	20	40
No-load driving torque $M_{leerlauf}$	[Nm]	0.4	0.45	0.5	0.5	0.6	0.65	0.7	0.9	1.0

No-load driving torque – Lead screw[1)]

Size		32	40	50
Spindle pitch	[mm/rev]	2.5	3	4
No-load driving torque $M_{leerlauf}$	[Nm]	0.1	0.2	0.3

1) Corresponds to the required driving torque without load, at a spindle speed of 200 rpm.

Electric cylinders ESBF, with spindle drive

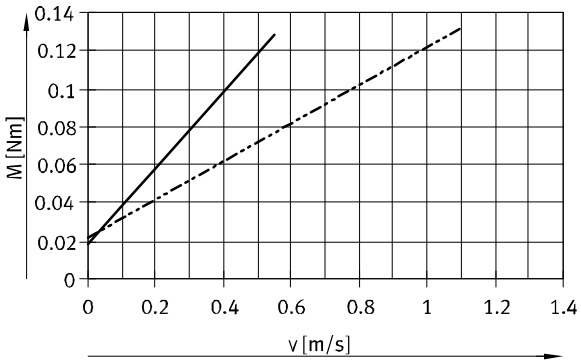
Technical data

FESTO

Friction torque M_V as a function of feed speed v

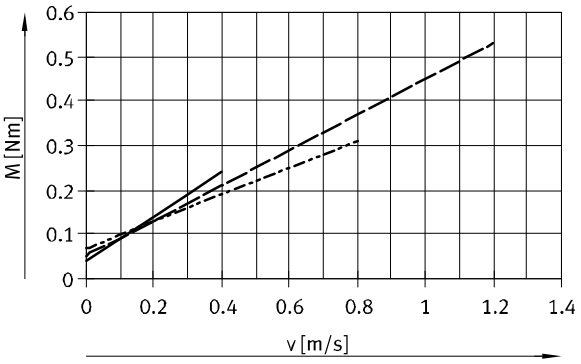
For ball screw

ESBF-BS-32-...



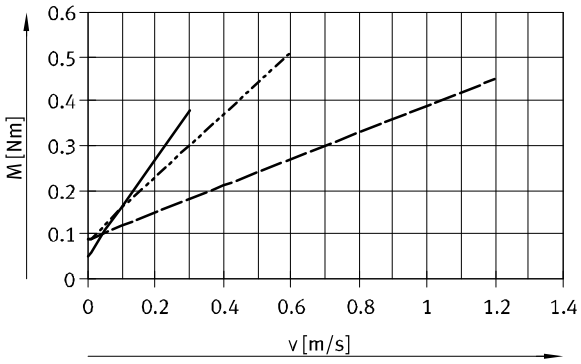
ESBF-BS-32-...-5P
ESBF-BS-32-...-5P

ESBF-BS-40-...



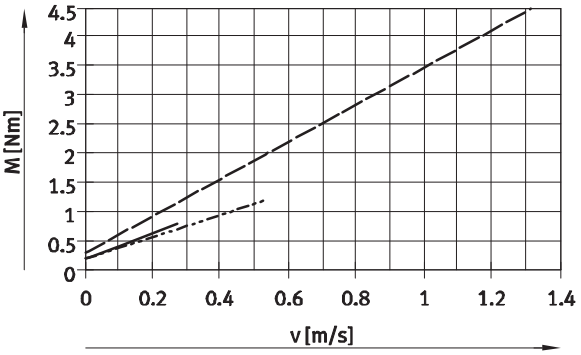
ESBF-BS-40-...-5P
ESBF-BS-40-...-10P
ESBF-BS-40-...-16P

ESBF-BS-50-...



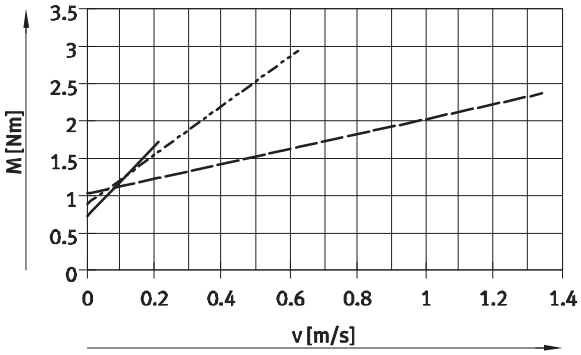
ESBF-BS-50-...-5P
ESBF-BS-50-...-10P
ESBF-BS-50-...-20P

ESBF-BS-63-...



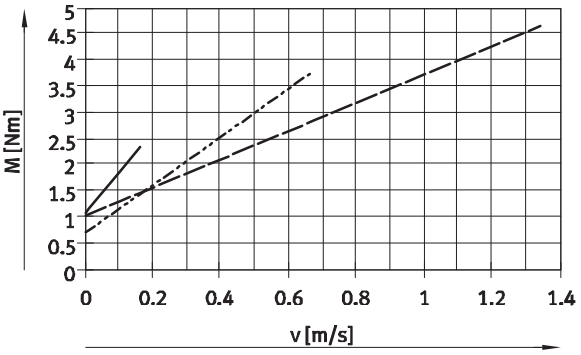
ESBF-BS-63-...-5P
ESBF-BS-63-...-10P
ESBF-BS-63-...-25P

ESBF-BS-80-...



ESBF-BS-80-...-5P
ESBF-BS-80-...-15P
ESBF-BS-80-...-32P

ESBF-BS-100-...



ESBF-BS-100-...-5P
ESBF-BS-100-...-20P
ESBF-BS-100-...-40P

Electric cylinders ESBF, with spindle drive

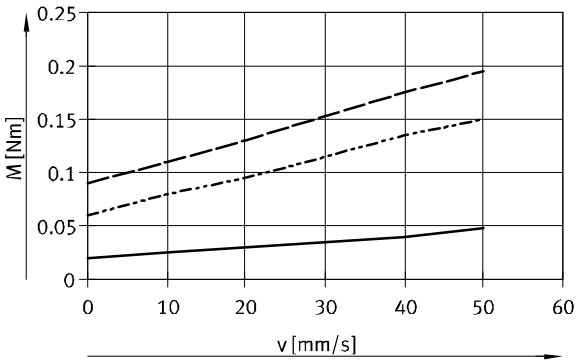
Technical data

FESTO

Friction torque M_V as a function of feed speed v

For lead screw

ESBF-LS-...

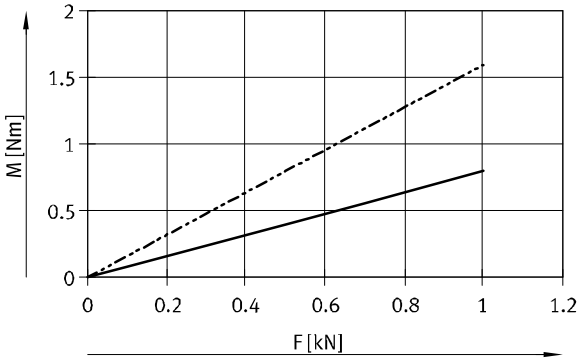


ESBF-LS-32
ESBF-LS-40
ESBF-LS-50

Effective torque M_{nutz} as a function of feed force F

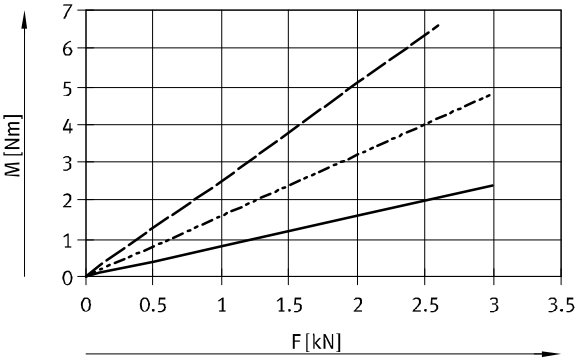
For ball screw

ESBF-BS-32-...



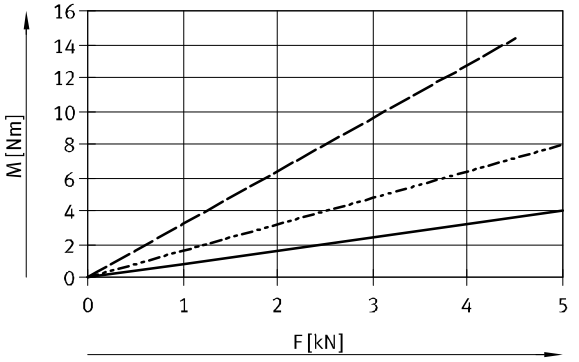
ESBF-BS-32-...-5P
ESBF-BS-32-...-10P

ESBF-BS-40-...



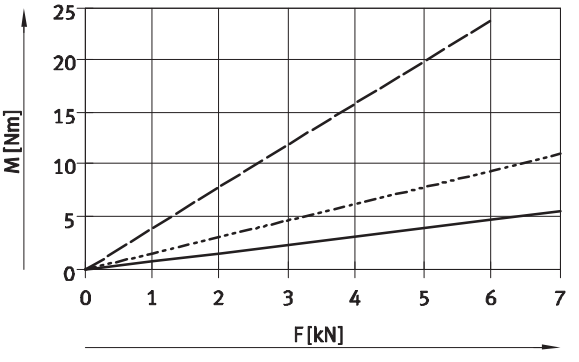
ESBF-BS-40-...-5P
ESBF-BS-40-...-10P
ESBF-BS-40-...-16P

ESBF-BS-50-...



ESBF-BS-50-...-5P
ESBF-BS-50-...-10P
ESBF-BS-50-...-20P

ESBF-BS-63-...



ESBF-BS-63-...-5P
ESBF-BS-63-...-10P
ESBF-BS-63-...-25P

Electric cylinders ESBF, with spindle drive

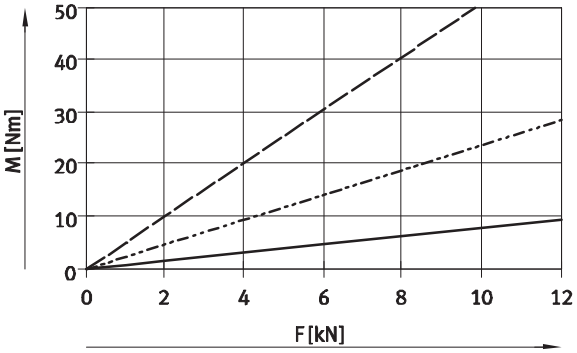
Technical data

FESTO

Effective torque M_{nutz} as a function of feed force F

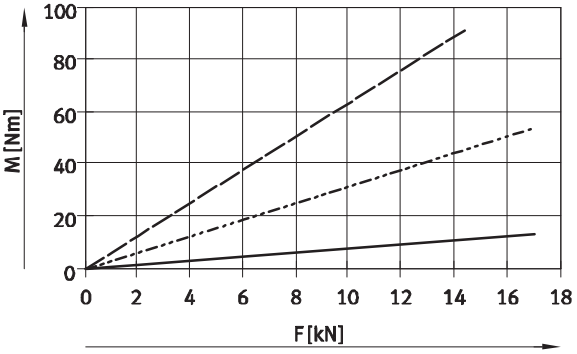
For ball screw

ESBF-BS-80-...



ESBF-BS-80-...-5P
ESBF-BS-80-...-15P
ESBF-BS-80-...-32P

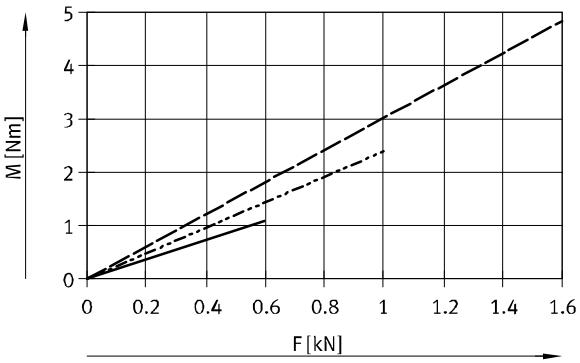
ESBF-BS-100-...



ESBF-BS-100-...-5P
ESBF-BS-100-...-20P
ESBF-BS-100-...-40P

For lead screw

ESBF-LS-...



ESBF-LS-32
ESBF-LS-40
ESBF-LS-50

New
Sizes: 32, 40, 50

Electric cylinders ESBF, with spindle drive

Technical data

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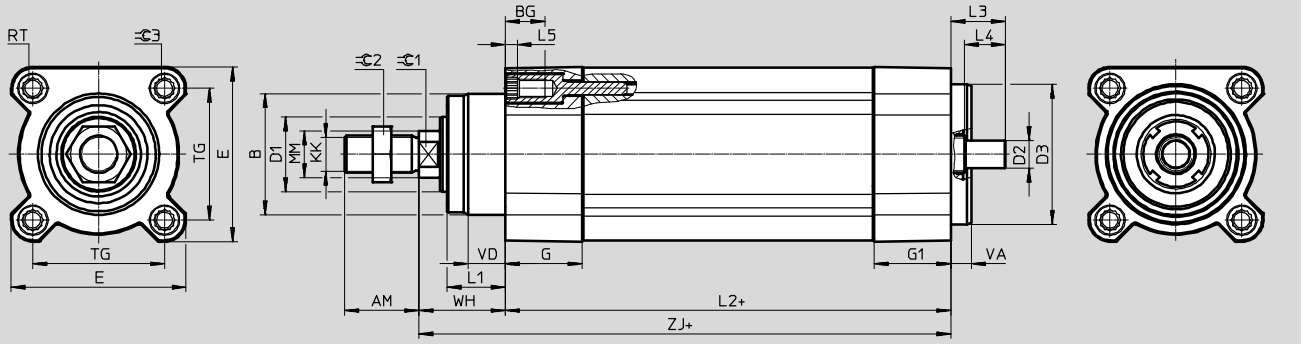
Dimensions Download CAD data ➔ **www.festo.com**



\+ = plus stroke length

Size [mm]	AM −0.5	B ∅ d11	BG Min.	D1 ∅ H9	D2 ∅ H6	D3 ∅ f7	E	G
32	22	34	16	20	6	32	$45^{+0.5}$	$25.5_{-0.1}$
40	24	39	16	24	8	40	$54^{+0.5}$	$30_{-0.1}$
50	32	45	17	28	12	50	$64^{+0.5}$	$30_{-0.1}$
63	32	52	17	32	12	60	$75^{+0.5/-0.1}$	$33^{\pm 0.1}$
80	40	60	17	40	19	80	$93^{+0.5/-0.1}$	$39^{\pm 0.1}$
100	40	70	17	50	24	100	$110^{+0.5/-0.1}$	$39^{\pm 0.1}$

Size [mm]	G1	L1	L2	L3	L4 ±0.2	L5 Min.	KK	MM ∅ −0.1
32	$25.5_{-0.1}$	$12^{+0.2}$	$122.5^{+0.2/-1.4}$	$15.9^{+0.8/-0.3}$	8	4	M10x1.25	14
40	$30_{-0.1}$	$14^{+0.2}$	$144^{+0.2/-1.4}$	$18.4^{+0.8/-0.3}$	14	4	M12x1.25	16
50	$34_{-0.1}$	$20^{+0.2}$	$163^{+0.2/-1.4}$	$27^{+0.8/-0.3}$	17	5	M16x1.5	20
63	$33^{\pm 0.1}$	$25_{-0.5}$	$171^{+0.7/-1.2}$	$23.5^{\pm 0.5}$	17	5	M16x1.5	20
80	$39^{\pm 0.1}$	$31_{-0.5}$	$204^{+0.7/-1.2}$	$33.5^{\pm 0.5}$	26	25.9	M20x1.5	25
100	$39^{\pm 0.1}$	$34_{-0.5}$	$224^{+0.7/-1.2}$	$39.5^{\pm 0.5}$	30	25.9	M20x1.5	25

Size [mm]	RT	TG	VA	VD	WH	ZJ	⌀1	⌀2	⌀3
32	M6	32.5	$7_{-0.2}$	$8^{\pm 0.1}$	$25.5^{+1.9/-0.8}$	$148^{+2.1/-1.1}$	10	17	6
40	M6	38	$7_{-0.2}$	$9^{\pm 0.1}$	$29.5^{+1.9/-0.8}$	$173.5^{+2.1/-1.1}$	13	19	6
50	M8	46.5	$9_{-0.2}$	$11.5^{\pm 0.1}$	$36.5^{+1.9/-0.8}$	$199.5^{+2.1/-1.1}$	17	24	8
63	M8	$56.5^{\pm 0.5}$	$9^{\pm 0.2}$	$16^{\pm 0.2}$	$37^{+1.8/-1.7}$	208	17	24	8
80	M10	$72^{\pm 0.5}$	$10^{\pm 0.2}$	$18^{\pm 0.2}$	$46^{+1.8/-1.7}$	250	22	30	6
100	M10	$89^{\pm 0.5}$	$12^{\pm 0.2}$	$20^{\pm 0.2}$	$51^{+1.8/-1.7}$	275	22	30	6

Electric cylinders ESBF, with spindle drive

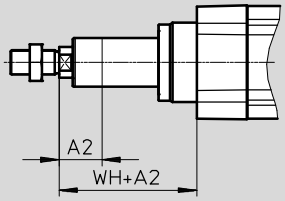
Technical data

FESTO

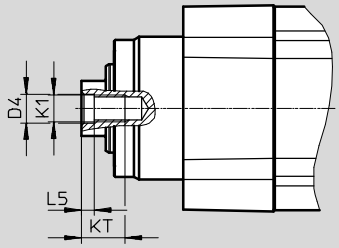
Dimensions Download CAD data ➔ **www.festo.com**

Variants

...E – Piston rod extension

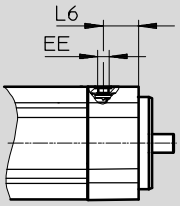


F – Female thread

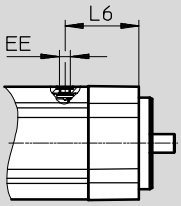


S1 – Protection class IP65/F1 – for the food industry

ESBF-32 ... 50



ESBF-63 ... 100



Size [mm]	A2 Max.	D4 ∅	EE	L5 ±0.2	L6	K1	KT Min.	WH
32	200	$6.4^{+0,2}$	M7	2.6	19.5	M6	12	$25.5^{+1,9/-0.8}$
40	200	$8.4^{+0,2}$	M7	3.3	24	M8	12	$29.5^{+1,9/-0.8}$
50	200	$10.5^{+0,2}$	M7	4.7	28	M10	16	$36.5^{+1,9/-0.8}$
63	200	$10.5^{+0,1}$	G⅛	4.7	48.5	M10	16	$37^{+1,8/-1.7}$
80	200	$13^{+0,1}$	G⅛	6.1	57.5	M12	20	$46^{+1,8/-1.7}$
100	200	$13^{+0,1}$	G⅛	6.1	68.5	M12	20	$51^{+1,8/-1.7}$

New
Sizes: 32, 40, 50

Electric cylinders ESBF, with spindle drive

Technical data

FESTO

Ordering data – Standard design – Ball screw

Spindle pitch [mm/rev]	Stroke [mm]	Part No.	Type
ESBF-32			
5	100	**8022562**	**ESBF-BS-32-100-5P**
	200	**2215384**	**ESBF-BS-32-200-5P**
	300	**8022563**	**ESBF-BS-32-300-5P**
	400	**8022564**	**ESBF-BS-32-400-5P**
10	100	**8022565**	**ESBF-BS-32-100-10P**
	200	**8022566**	**ESBF-BS-32-200-10P**
	300	**8022567**	**ESBF-BS-32-300-10P**
	400	**8022568**	**ESBF-BS-32-400-10P**
ESBF-40			
5	100	**8022574**	**ESBF-BS-40-100-5P**
	200	**2215385**	**ESBF-BS-40-200-5P**
	300	**8022575**	**ESBF-BS-40-300-5P**
	400	**8022576**	**ESBF-BS-40-400-5P**
10	100	**8022577**	**ESBF-BS-40-100-10P**
	200	**8022578**	**ESBF-BS-40-200-10P**
	300	**8022579**	**ESBF-BS-40-300-10P**
	400	**8022580**	**ESBF-BS-40-400-10P**
16	100	**8022581**	**ESBF-BS-40-100-16P**
	200	**8022582**	**ESBF-BS-40-200-16P**
	300	**8022583**	**ESBF-BS-40-300-16P**
	400	**8022584**	**ESBF-BS-40-400-16P**
ESBF-50			
5	100	**8022590**	**ESBF-BS-50-100-5P**
	200	**2215386**	**ESBF-BS-50-200-5P**
	300	**8022591**	**ESBF-BS-50-300-5P**
	400	**8022592**	**ESBF-BS-50-400-5P**
10	100	**8022593**	**ESBF-BS-50-100-10P**
	200	**8022594**	**ESBF-BS-50-200-10P**
	300	**8022595**	**ESBF-BS-50-300-10P**
	400	**8022596**	**ESBF-BS-50-400-10P**
20	100	**8022597**	**ESBF-BS-50-100-20P**
	200	**8022598**	**ESBF-BS-50-200-20P**
	300	**8022599**	**ESBF-BS-50-300-20P**
	400	**8022600**	**ESBF-BS-50-400-20P**

Spindle pitch [mm/rev]	Stroke [mm]	Part No.	Type
ESBF-63			
5	100	**574093**	**ESBF-BS-63-100-5P**
	200	**1347390**	**ESBF-BS-63-200-5P**
	300	**574094**	**ESBF-BS-63-300-5P**
	400	**574095**	**ESBF-BS-63-400-5P**
10	100	**574096**	**ESBF-BS-63-100-10P**
	200	**574097**	**ESBF-BS-63-200-10P**
	300	**574098**	**ESBF-BS-63-300-10P**
	400	**574099**	**ESBF-BS-63-400-10P**
25	100	**574100**	**ESBF-BS-63-100-25P**
	200	**574101**	**ESBF-BS-63-200-25P**
	300	**574102**	**ESBF-BS-63-300-25P**
	400	**574103**	**ESBF-BS-63-400-25P**
ESBF-80			
5	100	**574104**	**ESBF-BS-80-100-5P**
	200	**1347391**	**ESBF-BS-80-200-5P**
	300	**574105**	**ESBF-BS-80-300-5P**
	400	**574106**	**ESBF-BS-80-400-5P**
15	100	**574107**	**ESBF-BS-80-100-15P**
	200	**574108**	**ESBF-BS-80-200-15P**
	300	**574109**	**ESBF-BS-80-300-15P**
	400	**574110**	**ESBF-BS-80-400-15P**
32	100	**574111**	**ESBF-BS-80-100-32P**
	200	**574112**	**ESBF-BS-80-200-32P**
	300	**574113**	**ESBF-BS-80-300-32P**
	400	**574114**	**ESBF-BS-80-400-32P**
ESBF-100			
5	100	**574115**	**ESBF-BS-100-100-5P**
	200	**1347393**	**ESBF-BS-100-200-5P**
	300	**574116**	**ESBF-BS-100-300-5P**
	400	**574117**	**ESBF-BS-100-400-5P**
20	100	**574118**	**ESBF-BS-100-100-20P**
	200	**574119**	**ESBF-BS-100-200-20P**
	300	**574120**	**ESBF-BS-100-300-20P**
	400	**574121**	**ESBF-BS-100-400-20P**
40	100	**574122**	**ESBF-BS-100-100-40P**
	200	**574123**	**ESBF-BS-100-200-40P**
	300	**574124**	**ESBF-BS-100-300-40P**
	400	**574125**	**ESBF-BS-100-400-40P**

Note

Order variable strokes and variants via the modular product system
➔ 24

New
Sizes: 32, 40, 50

Electric cylinders ESBF, with spindle drive

Technical data

FESTO

Ordering data – Standard design – Lead screw			
Spindle pitch [mm/rev]	Stroke [mm]	Part No.	Type
ESBF-32			
2.5	100	**8022570**	**ESBF-LS-32-100-2.5P**
	200	**2295381**	**ESBF-LS-32-200-2.5P**
	300	**8022571**	**ESBF-LS-32-300-2.5P**
	400	**8022572**	**ESBF-LS-32-400-2.5P**
ESBF-40			
3	100	**8022586**	**ESBF-LS-40-100-3P**
	200	**2295382**	**ESBF-LS-40-200-3P**
	300	**8022587**	**ESBF-LS-40-300-3P**
	400	**8022588**	**ESBF-LS-40-400-3P**
ESBF-50			
4	100	**8022602**	**ESBF-LS-50-100-4P**
	200	**2295383**	**ESBF-LS-50-200-4P**
	300	**8022603**	**ESBF-LS-50-300-4P**
	400	**8022604**	**ESBF-LS-50-400-4P**

Note

Order variable strokes and variants via the modular product system
➔ 24

New
Sizes: 32, 40, 50

Electric cylinders ESBF, with spindle drive

Ordering data – Modular products

FESTO

Ordering table										
	Size	32	40	50	63	80	100	Conditions	Code	Entry code
M	Module no.	**8022569**	**8022585**	**8022601**	**574090**	**574091**	**574092**			
	Function	Electric cylinder							**ESBF**	ESBF
	Drive system	Ball screw						[1]	**-BS**	
		Lead screw			–			[2]	**-LS**	
	Size	32	40	50	63	80	100		**-...**	
	Stroke [mm]	100							**-...**	
		200								
		300								
		400								
		30 ... 800	30 ... 800	30 ... 1000	30 ... 1200	30 ... 1500	30 ... 1500			
	Spindle pitch [mm]	2.5	–	–	–	–	–		**-...P**	
		–	3	–	–	–	–			
		–	–	4	–	–	–			
		5	5	5	5	5	5			
		10	10	10	10	–	–			
		–	–	–	–	15	–			
		–	16	–	–	–	–			
		–	–	20	–	–	20			
		–	–	–	25	–	–			
		–	–	–	–	32	–			
		–	–	–	–	–	40			
O	Piston rod thread type	Male thread								
		Female thread							**-F**	
	Degree of protection for electrics	Standard								
		IP65							**-S1**	
	Corrosion protection	Standard								
		High corrosion protection						[3]	**-R3**	
	Additional features	None								
		Suitable for use in the food industry as per extended information on materials						[4]	**-F1**	
	Piston rod extension	None								
		1 ... 200							**-...E**	

[1] **BS** Only with spindle pitch 5P, 10P, 15P, 16P, 20P, 25P, 32P, 40P
[2] **LS** Only with spindle pitch 2.5P, 3P, 4P
[3] **R3** Only with S1
[4] **F1** Only with R3
Not with LS

M Mandatory data
O Options

Transfer order code

	ESBF	–		–		–		–		–		–		–		–		–		–	

Electric cylinders ESBF, with spindle drive

Accessories

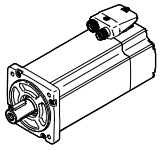
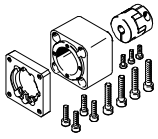
FESTO

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 Technical data ➔ Internet: eamm-a

Motor/gear unit[1]	Axial kit	
		
Type	Part No.	Type
ESBF-32		
With servo motor		
EMME-AS-40-...	**1976465**	**EAMM-A-D32-40P**
	2207372	**EAMM-A-D32-40P-S1**[2]
EMMS-AS-40-...	**543147**	**EAMM-A-D32-40A**
	1322178	**EAMM-A-D32-40A-S1**[2]
EMMS-AS-55-...	**550979**	**EAMM-A-D32-55A**
	1322180	**EAMM-A-D32-55A-S1**[2]
EMME-AS-60-...	**1956054**	**EAMM-A-D32-60P**
	2234020	**EAMM-A-D32-60P-S1**[2]
With servo motor and gear unit		
EMME-AS-40-... **EMGA-40-P-G...-EAS-40**	**1454238** **2256396**	**EAMM-A-D32-40G** **EAMM-A-D32-40G-S1**[2]
EMMS-AS-40-... **EMGA-40-P-G...-SAS-40**	**1454238** **2256396**	**EAMM-A-D32-40G** **EAMM-A-D32-40G-S1**[2]
EMMS-AS-55-... **EMGA-60-P-G...-SAS-55**	**2946758** **2946759**	**EAMM-A-D32-60G** **EAMM-A-D32-60G-S1**[2]
EMME-AS-60-... **EMGA-60-P-G...-EAS-60**	**2946760** **2946761**	**EAMM-A-D32-60H** **EAMM-A-D32-60H-S1**[2]
EMMS-AS-70-... **EMGA-60-P-G...-SAS-70**	**2946758** **2946759**	**EAMM-A-D32-60G** **EAMM-A-D32-60G-S1**[2]
With stepper motor		
EMMS-ST-42-...	**543148**	**EAMM-A-D32-42A**
	1322179	**EAMM-A-D32-42A-S1**[2]
EMMS-ST-57-...	**550980**	**EAMM-A-D32-57A**
	1322181	**EAMM-A-D32-57A-S1**[2]
With stepper motor and gear unit		
EMMS-ST-42-... **EMGA-40-P-G...-SST-42**	**1454238** **2256396**	**EAMM-A-D32-40G** **EAMM-A-D32-40G-S1**[2]
EMMS-ST-57-... **EMGA-60-P-G...-SST-57**	**2946758** **2946759**	**EAMM-A-D32-60G** **EAMM-A-D32-60G-S1**[2]
With integrated drive		
EMCA-EC-67-...	**1454239**	**EAMM-A-D32-67A**
	2256397	**EAMM-A-D32-67A-S1**[2]
With integrated drive and gear unit		
EMCA-EC-67-... **EMGC-40-...**	**1454238** **2256396**	**EAMM-A-D32-40G** **EAMM-A-D32-40G-S1**[2]
EMCA-EC-67-... **EMGC-60-...**	**2946760** **2946761**	**EAMM-A-D32-60H** **EAMM-A-D32-60H-S1**[2]

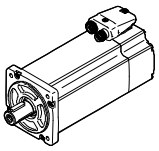
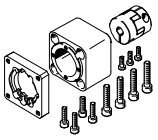
1) The input torque must not exceed the maximum permissible transferable torque of the axial kit.
2) With degree of protection IP65

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Permissible axis/motor combinations with axial kit — Technical data ➔ Internet: eamm-a

Motor[1]	Axial kit	
		
Type	Part No.	Type
ESBF-40		
With servo motor		
EMMS-AS-55-...	**543153**	**EAMM-A-D40-55A**
	1322182	**EAMM-A-D40-55A-S1**[2]
EMME-AS-60-...	**1977000**	**EAMM-A-D40-60P**
	2151519	**EAMM-A-D40-60P-S1**[2]
EMMS-AS-70-...	**550981**	**EAMM-A-D40-70A**
	1322185	**EAMM-A-D40-70A-S1**[2]
With servo motor and gear unit		
EMME-AS-40-...	**2256398**	**EAMM-A-D40-40G-G2**
EMGA-40-P-G...-EAS-40	**2256399**	**EAMM-A-D40-40G-S1**[2]
EMMS-AS-40-...	**2256398**	**EAMM-A-D40-40G-G2**
EMGA-40-P-G...-SAS-40	**2256399**	**EAMM-A-D40-40G-S1**[2]
EMMS-AS-55-...	**2256400**	**EAMM-A-D40-60G**
EMGA-60-P-G...-SAS-55	**2256409**	**EAMM-A-D40-60G-S1**[2]
EMME-AS-60-...	**1454242**	**EAMM-A-D40-60H**
EMGA-60-P-G...-EAS-60	**2256401**	**EAMM-A-D40-60H-S1**[2]
EMMS-AS-70-...	**2256400**	**EAMM-A-D40-60G**
EMGA-60-P-G...-SAS-70	**2256409**	**EAMM-A-D40-60G-S1**[2]
With stepper motor		
EMMS-ST-57-...	**543154**	**EAMM-A-D40-57A**
	1322183	**EAMM-A-D40-57A-S1**[2]
EMMS-ST-87-...	**550982**	**EAMM-A-D40-87A**
	1322186	**EAMM-A-D40-87A-S1**[2]
With stepper motor and gear unit		
EMMS-ST-42-...	**2256398**	**EAMM-A-D40-40G-G2**
EMGA-40-P-G...-SST-42	**2256399**	**EAMM-A-D40-40G-S1**[2]
EMMS-ST-57-...	**2256400**	**EAMM-A-D40-60G**
EMGA-60-P-G...-SST-57	**2256409**	**EAMM-A-D40-60G-S1**[2]
With integrated drive		
EMCA-EC-67-...	**1454243**	**EAMM-A-D40-67A**
	2256695	**EAMM-A-D40-67A-S1**[2]
With integrated drive and gear unit		
EMCA-EC-67-...	**2256398**	**EAMM-A-D40-40G-G2**
EMGC-40-...	**2256399**	**EAMM-A-D40-40G-S1**[2]
EMCA-EC-67-...	**1454242**	**EAMM-A-D40-60H**
EMGC-60-...	**2256401**	**EAMM-A-D40-60H-S1**[2]

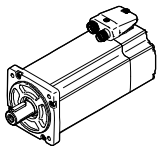
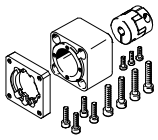
1) The input torque must not exceed the maximum permissible transferable torque of the axial kit.
2) With degree of protection IP65

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Permissible axis/motor combinations with axial kit — Technical data ➔ Internet: eamm-a

Motor[1]	Axial kit		
			
Type	Part No.	Type	
ESBF-50			
With servo motor			
EMMS-AS-70-...	**2733783**	**EAMM-A-D50-70A**	
	2734287	**EAMM-A-D50-70A-S1**[2]	
EMME-AS-80-...	**2733785**	**EAMM-A-D50-80P**	
	2734289	**EAMM-A-D50-80P-S1**[2]	
EMME-AS-100-...	**2733784**	**EAMM-A-D50-100A**	
	2734288	**EAMM-A-D50-100A-S1**[2]	
EMMS-AS-100-...	**2733784**	**EAMM-A-D50-100A**	
	2734288	**EAMM-A-D50-100A-S1**[2]	
With servo motor and gear unit			
EMMS-AS-55-...	**2733786**	**EAMM-A-D50-60G**	
EMGA-60-P-G...-SAS-55	**2734290**	**EAMM-A-D50-60G-S1**[2]	
EMME-AS-60-...	**2733796**	**EAMM-A-D50-60H**	
EMGA-60-P-G...-EAS-60	**2907418**	**EAMM-A-D50-60H-S1**[2]	
EMMS-AS-70-...	**2733786**	**EAMM-A-D50-60G**	
EMGA-60-P-G...-SAS-70	**2734290**	**EAMM-A-D50-60G-S1**[2]	
EMMS-AS-70-...	**2733787**	**EAMM-A-D50-80G**	
EMGA-80-P-G...-SAS-70	**2734291**	**EAMM-A-D50-80G-S1**[2]	
EMME-AS-80-...	**2733787**	**EAMM-A-D50-80G**	
EMGA-80-P-G...-EAS-80	**2734291**	**EAMM-A-D50-80G-S1**[2]	
EMMS-AS-100-...	**2733787**	**EAMM-A-D50-80G**	
EMGA-80-P-G...-SAS-100	**2734291**	**EAMM-A-D50-80G-S1**[2]	
With stepper motor			
EMMS-ST-87-...	**2733781**	**EAMM-A-D50-87A**	
	2734286	**EAMM-A-D50-87A-S1**[2]	
With stepper motor and gear unit			
EMMS-ST-57-...	**2733786**	**EAMM-A-D50-60G**	
EMGA-60-P-G...-SST-57	**2734290**	**EAMM-A-D50-60G-S1**[2]	
EMMS-ST-87-...	**2733787**	**EAMM-A-D50-80G**	
EMGA-80-P-G...-SST-87	**2734291**	**EAMM-A-D50-80G-S1**[2]	
With integrated drive and gear unit			
EMCA-EC-67-...	**2733796**	**EAMM-A-D50-60H**	
EMGC-60-...	**2907418**	**EAMM-A-D50-60H-S1**[2]	

1) The input torque must not exceed the maximum permissible transferable torque of the axial kit.
2) With degree of protection IP65

Note

The axial kit (without "S1" in the type code) can be retrofitted with a seal set EADS-F to change the degree of protection from IP40 to IP65.

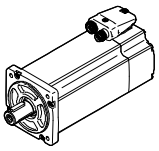
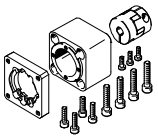
Additional information ➔ eamm-a

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Permissible axis/motor combinations with axial kit — Technical data ➔ Internet: eamm-a

Motor[1]	Axial kit	
		
Type	Part No.	Type
ESBF-63		
With servo motor		
EMMS-AS-70-...	**543161**	**EAMM-A-D60-70A**
	2256699	**EAMM-A-D60-70A-S1**[2]
EMME-AS-80-...	**1977073**	**EAMM-A-D60-80P**
	2218564	**EAMM-A-D60-80P-S1**[2]
EMME-AS-100-...	**550983**	**EAMM-A-D60-100A**
	2256700	**EAMM-A-D60-100A-S1**[2]
EMMS-AS-100-...	**550983**	**EAMM-A-D60-100A**
	2256700	**EAMM-A-D60-100A-S1**[2]
With servo motor and gear unit		
EMMS-AS-55-...	**2256696**	**EAMM-A-D60-60G-G2**
EMGA-60-P-G...-SAS-55	**2256698**	**EAMM-A-D60-60G-S1**[2]
EMME-AS-60-...	**1454245**	**EAMM-A-D60-60H**
EMGA-60-P-G...-EAS-60	**2256697**	**EAMM-A-D60-60H-S1**[2]
EMMS-AS-70-...	**2256696**	**EAMM-A-D60-60G-G2**
EMGA-60-P-G...-SAS-70	**2256698**	**EAMM-A-D60-60G-S1**[2]
EMMS-AS-70-...	**1499402**	**EAMM-A-D60-80G**
EMGA-80-P-G...-SAS-70	**2946762**	**EAMM-A-D60-80G-S1**[2]
EMME-AS-80-...	**1499402**	**EAMM-A-D60-80G**
EMGA-80-P-G...-EAS-80	**2946762**	**EAMM-A-D60-80G-S1**[2]
EMMS-AS-100-...	**1499402**	**EAMM-A-D60-80G**
EMGA-80-P-G...-SAS-100	**2946762**	**EAMM-A-D60-80G-S1**[2]
With stepper motor		
EMMS-ST-87-...	**543162**	**EAMM-A-D60-87A**
	1322188	**EAMM-A-D60-87A-S1**[2]
With stepper motor and gear unit		
EMMS-ST-57-...	**2256696**	**EAMM-A-D60-60G-G2**
EMGA-60-P-G...-SST-57	**2256698**	**EAMM-A-D60-60G-S1**[2]
EMMS-ST-87-...	**1499402**	**EAMM-A-D60-80G**
EMGA-80-P-G...-SST-87	**2946762**	**EAMM-A-D60-80G-S1**[2]
With integrated drive and gear unit		
EMCA-EC-67-...	**1454245**	**EAMM-A-D60-60H**
EMGC-60-...	**2256697**	**EAMM-A-D60-60H-S1**[2]

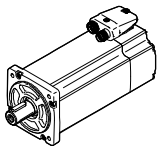
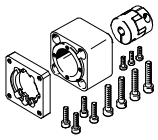
1) The input torque must not exceed the maximum permissible transferable torque of the axial kit.
2) With degree of protection IP65

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Permissible axis/motor combinations with axial kit — Technical data ➔ Internet: eamm-a

Motor[1]	Axial kit	
		
Type	Part No.	Type
ESBF-80		
With servo motor		
EMME-AS-100	**1589665**	**EAMM-A-D80-100A**
	1600673	**EAMM-A-D80-100A-S1**[2]
EMMS-AS-100-...	**1589665**	**EAMM-A-D80-100A**
	1600673	**EAMM-A-D80-100A-S1**[2]
EMMS-AS-140-...	**1588299**	**EAMM-A-D80-140A**
	1600674	**EAMM-A-D80-140A-S1**[2]
With servo motor and gear unit		
EMMS-AS-70-...	**2946763**	**EAMM-A-D80-80G**
EMGA-80-P-G...-SAS-70	**2946764**	**EAMM-A-D80-80G-S1**[2]
EMME-AS-80-...	**2946763**	**EAMM-A-D80-80G**
EMGA-80-P-G...-EAS-80	**2946764**	**EAMM-A-D80-80G-S1**[2]
EMMS-AS-100-...	**2946763**	**EAMM-A-D80-80G**
EMGA-80-P-G...-SAS-100	**2946764**	**EAMM-A-D80-80G-S1**[2]
With stepper motor and gear unit		
EMMS-ST-87-...	**2946763**	**EAMM-A-D80-80G**
EMGA-80-P-G...-SST-87	**2946764**	**EAMM-A-D80-80G-S1**[2]
ESBF-100		
With servo motor		
EMME-AS-100	**3356796**	**EAMM-A-D100-100A**
	3356931	**EAMM-A-D100-100A-S1**[2]
EMMS-AS-100-...	**3356796**	**EAMM-A-D100-100A**
	3356931	**EAMM-A-D100-100A-S1**[2]
EMMS-AS-140-...	**1588349**	**EAMM-A-D100-140A**
	1600675	**EAMM-A-D100-140A-S1**[2]
With servo motor and gear unit		
EMMS-AS-100-...	**2449341**	**EAMM-A-D100-120G**
EMGA-120-P-G...-SAS-100	**2946765**	**EAMM-A-D100-120G-S1**[2]
EMMS-AS-140-...	**2449341**	**EAMM-A-D100-120G**
EMGA-120-P-G...-SAS-140	**2946765**	**EAMM-A-D100-120G-S1**[2]

1) The input torque must not exceed the maximum permissible transferable torque of the axial kit.
2) With degree of protection IP65

Note

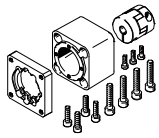
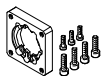
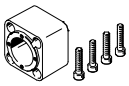
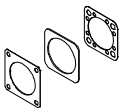
The axial kit (without "S1" in the type code) can be retrofitted with a seal set EADS-F to change the degree of protection from IP40 to IP65.

Additional information ➔ eamm-a

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

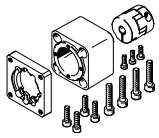
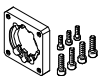
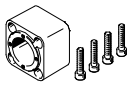
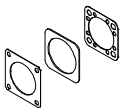
Part components of the axial kit				
Axial kit	Comprises:			
	Motor flange	Coupling	Coupling housing	Seal set
				
Part No. Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
ESBF-32				
543147 **EAMM-A-D32-40A**	**552163** **EAMF-A-28B-40A**	**543420** **EAMC-16-20-6-6**	**552155** **EAMK-A-D32-28B**	**–**
1322178 **EAMM-A-D32-40A-S1**[1)]				**1561526** **EADS-F-D32-40A**
1454238 **EAMM-A-D32-40G**	**1460095** **EAMF-A-44C-40G-S1**	**562681** **EAMC-30-32-6-10**	**551006** **EAMK-A-D32-44A/C**	**–**
2256396 **EAMM-A-D32-40G-S1**[1)]				**2253500** **EADS-F-D32-40G**
1976465 **EAMM-A-D32-40P**	**1976704** **EAMF-A-28B-40P**	**1232854** **EAMC-16-20-6-8**	**552155** **EAMK-A-D32-28B**	**–**
2207372 **EAMM-A-D32-40P-S1**[1)]				**2207219** **EADS-F-D32-40P**
543148 **EAMM-A-D32-42A**	**552164** **EAMF-A-28B-42A**	**543419** **EAMC-16-20-5-6**	**552155** **EAMK-A-D32-28B**	**–**
1322179 **EAMM-A-D32-42A-S1**[1)]				**1561527** **EADS-F-D32-42A**
550979 **EAMM-A-D32-55A**	**529942** **EAMF-A-44A/B-55A**	**551003** **EAMC-30-32-6-9**	**551006** **EAMK-A-D32-44A/C**	**–**
1322180 **EAMM-A-D32-55A-S1**[1)]				**1561528** **EADS-F-D32-55A**
550980 **EAMM-A-D32-57A**	**530081** **EAMF-A-44A/B-57A**	**551002** **EAMC-30-32-6-6.35**	**551006** **EAMK-A-D32-44A/C**	**–**
1322181 **EAMM-A-D32-57A-S1**[1)]				**1561529** **EADS-F-D32-57A**
2946758 **EAMM-A-D32-60G**	**1460105** **EAMF-A-44C-60G/H-S1**	**3187577** **EAMC-30-32-6-11**	**551006** **EAMK-A-D32-44A/C**	**–**
2946759 **EAMM-A-D32-60G-S1**[1)]				**8022150** **EADS-F-D32-60G/H**
2946760 **EAMM-A-D32-60H**	**1460105** **EAMF-A-44C-60G/H-S1**	**1233256** **EAMC-30-32-6-14**	**551006** **EAMK-A-D32-44A/C**	**–**
2946761 **EAMM-A-D32-60H-S1**[1)]				**8022150** **EADS-F-D32-60G/H**
1956054 **EAMM-A-D32-60P**	**1956846** **EAMF-A-44C-60P**	**1233256** **EAMC-30-32-6-14**	**551006** **EAMK-A-D32-44A/C**	**–**
2234020 **EAMM-A-D32-60P-S1**[1)]				**2234012** **EADS-F-D32-60P**
1454239 **EAMM-A-D32-67A**	**1476305** **EAMF-A-44A/B/C-67A-S1**	**551003** **EAMC-30-32-6-9**	**551006** **EAMK-A-D32-44A/C**	**–**
2256397 **EAMM-A-D32-67A-S1**[1)]				**2253501** **EADS-F-D32-67A**

1) With degree of protection IP65

Electric cylinders ESBF, with spindle drive

Accessories

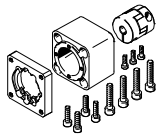
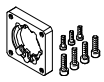
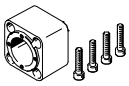
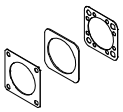
FESTO

Part components of the axial kit				
Axial kit	Comprises:			
	Motor flange	Coupling	Coupling housing	Seal set
				
Part No. Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
ESBF-40				
2256398 **EAMM-A-D40-40G-G2**	**1460095** **EAMF-A-44C-40G-S1**	**558029** **EAMC-30-32-8-10**	**552157** **EAMK-A-D40-44A/C**	**–**
2256399 **EAMM-A-D40-40G-S1**[1)]				**2253502** **EADS-F-D40-40G**
543153 **EAMM-A-D40-55A**	**529942** **EAMF-A-44A/B-55A**	**543423** **EAMC-30-32-8-9**	**552157** **EAMK-A-D40-44A/C**	**–**
1322182 **EAMM-A-D40-55A-S1**[1)]				**1561530** **EADS-F-D40-55A**
543154 **EAMM-A-D40-57A**	**530081** **EAMF-A-44A/B-57A**	**543421** **EAMC-30-32-6.35-8**	**552157** **EAMK-A-D40-44A/C**	**–**
1322183 **EAMM-A-D40-57A-S1**[1)]				**1561531** **EADS-F-D40-57A**
2256400 **EAMM-A-D40-60G**	**1460105** **EAMF-A-44C-60G/H-S1**	**551004** **EAMC-30-32-8-11**	**552157** **EAMK-A-D40-44A/C**	**–**
2256409 **EAMM-A-D40-60G-S1**[1)]				**2253503** **EADS-F-D40-60G/H**
1454242 **EAMM-A-D40-60H**	**1460105** **EAMF-A-44C-60G/H-S1**	**562682** **EAMC-30-32-8-14**	**552157** **EAMK-A-D40-44A/C**	**–**
2256401 **EAMM-A-D40-60H-S1**[1)]				**2253503** **EADS-F-D40-60G/H**
1977000 **EAMM-A-D40-60P**	**1956846** **EAMF-A-44C-60P**	**562682** **EAMC-30-32-8-14**	**552157** **EAMK-A-D40-44A/C**	**–**
2151519 **EAMM-A-D40-60P-S1**[1)]				**2151545** **EADS-F-D40-60P**
1454243 **EAMM-A-D40-67A**	**1476305** **EAMF-A-44A/B/C-67A-S1**	**543423** **EAMC-30-32-8-9**	**551006** **EAMK-A-D32-44A/C**	**–**
2256695 **EAMM-A-D40-67A-S1**[1)]				**2253501** **EADS-F-D32-67A**
550981 **EAMM-A-D40-70A**	**529943** **EAMF-A-44A/B-70A**	**551004** **EAMC-30-32-8-11**	**552157** **EAMK-A-D40-44A/C**	**–**
1322185 **EAMM-A-D40-70A-S1**[1)]				**1561532** **EADS-F-D40-70A**
550982 **EAMM-A-D40-87A**	**530082** **EAMF-A-44A/B-87A**	**551004** **EAMC-30-32-8-11**	**552157** **EAMK-A-D40-44A/C**	**–**
1322186 **EAMM-A-D40-87A-S1**[1)]				**1561533** **EADS-F-D40-87A**

1) With degree of protection IP65

Electric cylinders ESBF, with spindle drive

Accessories

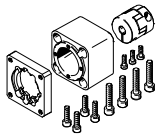
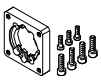
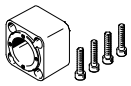
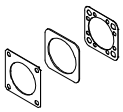
Part components of the axial kit				
Axial kit	Comprises:			
	Motor flange	Coupling	Coupling housing	Seal set
				
Part No. Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
ESBF-50				
2733786 **EAMM-A-D50-60G**	**2256289** **EAMF-A-64B-60G/H-S1**	**543424** **EAMC-42-50-11-12**	**2733780** **EAMK-A-D50-64B**	**–**
2734290 **EAMM-A-D50-60G-S1**[1)]				**2733792** **EADS-F-D50-60G/H**
2733796 **EAMM-A-D50-60H**	**2256289** **EAMF-A-64B-60G/H-S1**	**1455671** **EAMC-42-50-12-14**	**2733780** **EAMK-A-D50-64B**	**–**
2907418 **EAMM-A-D50-60H-S1**[1)]				**2733792** **EADS-F-D50-60G/H**
2733783 **EAMM-A-D50-70A**	**529945** **EAMF-A-64A/B-70A**	**543424** **EAMC-42-50-11-12**	**2733780** **EAMK-A-D50-64B**	**–**
2734287 **EAMM-A-D50-70A-S1**[1)]				**2733789** **EADS-F-D50-70A**
2733787 **EAMM-A-D50-80G**	**2843290** **EAMF-A-64C-80G-S1**	**2138701** **EAMC-42-50-12-20**	**2836865** **EAMK-A-D50-64C**	**–**
2734291 **EAMM-A-D50-80G-S1**[1)]				**2733793** **EADS-F-D50-80G**
2733785 **EAMM-A-D50-80P**	**1977113** **EAMF-A-64A/C-80P**	**551005** **EAMC-42-50-12-19**	**2836865** **EAMK-A-D50-64C**	**–**
2734289 **EAMM-A-D50-80P-S1**[1)]				**2733791** **EADS-F-D50-80P**
2733781 **EAMM-A-D50-87A**	**533140** **EAMF-A-64A/B-87A**	**543424** **EAMC-42-50-11-12**	**2733780** **EAMK-A-D50-64B**	**–**
2734286 **EAMM-A-D50-87A-S1**[1)]				**2733788** **EADS-F-D50-87A**
2733784 **EAMM-A-D50-100A**	**529947** **EAMF-A-64A/C/D-100A**	**551005** **EAMC-42-50-12-19**	**2836865** **EAMK-A-D50-64C**	**–**
2734288 **EAMM-A-D50-100A-S1**[1)]				**2733790** **EADS-F-D50-100A**
ESBF-63				
2256696 **EAMM-A-D60-60G-G2**	**2256289** **EAMF-A-64B-60G/H-S1**	**543424** **EAMC-42-50-11-12**	**552160** **EAMK-A-D60-64B**	**–**
2256698 **EAMM-A-D60-60G-S1**[1)]				**2253505** **EADS-F-D60-60G/H**
1454245 **EAMM-A-D60-60H**	**2256289** **EAMF-A-64B-60G/H-S1**	**1455671** **EAMC-42-50-12-14**	**552160** **EAMK-A-D60-64B**	**–**
2256697 **EAMM-A-D60-60H-S1**[1)]				**2253505** **EADS-F-D60-60G/H**
543161 **EAMM-A-D60-70A**	**529945** **EAMF-A-64A/B-70A**	**543424** **EAMC-42-50-11-12**	**552160** **EAMK-A-D60-64B**	**–**
2256699 **EAMM-A-D60-70A-S1**[1)]				**8022145** **EADS-F-D60-70A**

1) With degree of protection IP65

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Part components of the axial kit				
Axial kit	Comprises:			
	Motor flange	Coupling	Coupling housing	Seal set
				
Part No. Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
ESBF-63				
1499402 EAMM-A-D60-80G	2843290 EAMF-A-64C-80G-S1	2138701 EAMC-42-50-12-20	551007 EAMK-A-D60-64C	–
2946762 EAMM-A-D60-80G-S1[1)]				8022146 EADS-F-D60-80G
1977073 EAMM-A-D60-80P	1977113 EAMF-A-64A/C-80P	551005 EAMC-42-50-12-19	551007 EAMK-A-D60-64C	–
2218564 EAMM-A-D60-80P-S1[1)]				2218523 EADS-F-D60-80P
543162 EAMM-A-D60-87A	533140 EAMF-A-64A/B-87A	543424 EAMC-42-50-11-12	552160 EAMK-A-D60-64B	–
1322188 EAMM-A-D60-87A-S1[1)]				1561536 EADS-F-D60-87A
550983 EAMM-A-D60-100A	529947 EAMF-A-64A/C/D-100A	551005 EAMC-42-50-12-19	551007 EAMK-A-D60-64C	–
2256700 EAMM-A-D60-100A-S1[1)]				2253507 EADS-F-D60-100A
ESBF-80				
2946763 EAMM-A-D80-80G	2933286 EAMF-A-77A-80G-S1	3181801 EAMC-56-58-19-20	1593627 EAMK-A-D80-77A	–
2946764 EAMM-A-D80-80G-S1[1)]				8022147 EADS-F-D80-80G
1589665 EAMM-A-D80-100A	1593628 EAMF-A-77A-100A	1485673 EAMC-56-58-19-19	1593627 EAMK-A-D80-77A	–
1600673 EAMM-A-D80-100A-S1[1)]				1593617 EADS-F-D80-100A
1588299 EAMM-A-D80-140A	1593636 EAMF-A-77A-140A	1485674 EAMC-56-58-19-24	1593627 EAMK-A-D80-77A	–
1600674 EAMM-A-D80-140A-S1[1)]				1593671 EADS-F-D80-140A
ESBF-100				
1588349 EAMM-A-D100-140A	1593636 EAMF-A-77A-140A	1451407 EAMC-67-62-24-24	1593914 EAMK-A-D100-77A/B	–
1600675 EAMM-A-D100-140A-S1[1)]				1593991 EADS-F-D100-140A
3356796 EAMM-A-D100-100A	1593628 EAMF-A-77A-100A	1485674 EAMC-56-58-19-24	1593914 EAMK-A-D100-77A/B	–
3356931 EAMM-A-D100-100A-S1[1)]				3356966 EADS-F-D100-100A
2449341 EAMM-A-D100-120G	2449380 EAMF-A-77B-120G-S1	3187895 EAMC-67-62-24-25	1593914 EAMK-A-D100-77A/B	–
2946765 EAMM-A-D100-120G-S1[1)]				8022148 EADS-F-D100-120G

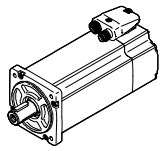
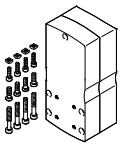
1) With degree of protection IP65

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Permissible axis/motor combinations with parallel kit — Technical data ➔ Internet: eamm-u

Motor/gear unit[1]	Parallel kit	
		• Increased housing rigidity • More flexible motor mounting possible • Larger toothed belt bending radii for improved service life • Components can be mounted to the kit facing any direction • Use in combination with third-party motors on request
Type	Part No.	Type
ESBF-32		
With servo motor		
EMME-AS-40-...	**2153283**	**EAMM-U-50-D32-40P-78**
	2154009	**EAMM-U-50-D32-40P-78-S1**[2]
EMMS-AS-40-...	**1201591**	**EAMM-U-50-D32-40A-78**
	1202302	**EAMM-U-50-D32-40A-78-S1**[2]
EMMS-AS-55-...	**1210126**	**EAMM-U-60-D32-55A-91**
	1210450	**EAMM-U-60-D32-55A-91-S1**[2]
EMME-AS-60-...	**2619586**	**EAMM-U-70-D32-60P-96**
	2619688	**EAMM-U-70-D32-60P-96-S1**[2]
EMMS-AS-70-...	**2755565**	**EAMM-U-70-D32-70A-96**
	2781711	**EAMM-U-70-D32-70A-96-S1**[2]
With stepper motor		
EMMS-ST-42-...	**1201607**	**EAMM-U-50-D32-42A-78**
	1202312	**EAMM-U-50-D32-42A-78-S1**[2]
EMMS-ST-57-...	**1210419**	**EAMM-U-60-D32-57A-91**
	1210453	**EAMM-U-60-D32-57A-91-S1**[2]
With gear unit		
EMGA-40-P-..., EMGC-40-P-...	**1577358**	**EAMM-U-60-D32-40G-91**
	1577346	**EAMM-U-60-D32-40G-91-S1**[2]
EMGA-60-P-...-SAS/SST[3]	**2748181**	**EAMM-U-70-D32-60G-96**
	2778302	**EAMM-U-70-D32-60G-96-S1**[2]
EMGA-60-P-...-EAS, EMGC-60-P-...[3]	**2778393**	**EAMM-U-70-D32-60H-96**
	2781450	**EAMM-U-70-D32-60H-96-S1**[2]
With motor unit[4]		
MTR-DCI-32S-...	**1570862**	**EAMM-U-50-D32-32B-78**
MTR-DCI-42S-...	**1577393**	**EAMM-U-60-D32-42B/C-91**
MTR-DCI-52S-...	**2755890**	**EAMM-U-70-D32-52B/C-96**
ESBF-40		
With servo motor		
EMMS-AS-55-...	**1210438**	**EAMM-U-60-D40-55A-91**
	1210458	**EAMM-U-60-D40-55A-91-S1**[2]
EMME-AS-60-...	**2617488**	**EAMM-U-70-D40-60P-96**
	2546123	**EAMM-U-70-D40-60P-96-S1**[2]
EMMS-AS-70-...	**2786204**	**EAMM-U-70-D40-70A-96**
	2786316	**EAMM-U-70-D40-70A-96-S1**[2]
EMMS-AS-70-...	**1212826**	**EAMM-U-86-D40-70A-102**
	1212854	**EAMM-U-86-D40-70A-102-S1**[2]
EMME-AS-80-...	**2802441**	**EAMM-U-86-D40-80P-102**
	2802656	**EAMM-U-86-D40-80P-102-S1**[2]

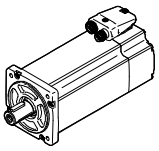
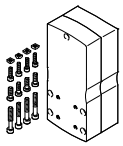
1) The input torque must not exceed the maximum permissible transferable torque of the parallel kit.
2) With degree of protection IP65
3) Gear unit drive shaft diameter: EMGA-60-P-...-SAS/-SST11 mm; EMGA-60-P-...-EAS, EMGC-60-P14 mm
4) Only in combination with ESBF-LS-...

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Permissible axis/motor combinations with parallel kit — Technical data ➔ Internet: eamm-u

Motor/gear unit[1]	Parallel kit	
		• Increased housing rigidity • More flexible motor mounting possible • Larger toothed belt bending radii for improved service life • Use in combination with third-party motors on request
Type	Part No.	Type
ESBF-40		
With stepper motor		
EMMS-ST-57-...	**1210442**	**EAMM-U-60-D40-57A-91**
	1210462	**EAMM-U-60-D40-57A-91-S1**[2]
EMMS-ST-87-...	**1215802**	**EAMM-U-86-D40-87A-102**
	1215814	**EAMM-U-86-D40-87A-102-S1**[2]
With gear unit		
EMGA-40-P-..., EMGC-40-P-...	**1577165**	**EAMM-U-60-D40-40G-91**
	1435968	**EAMM-U-60-D40-40G-91-S1**[2]
EMGA-60-P-...-SAS/SST[3]	**2785471**	**EAMM-U-70-D40-60G-96**
	2785542	**EAMM-U-70-D40-60G-96-S1**[2]
EMGA-60-P-...-EAS, EMGC-60-P-...[3]	**2786101**	**EAMM-U-70-D40-60H-96**
	2786137	**EAMM-U-70-D40-60H-96-S1**[2]
EMGA-60-P-...-SAS/SST[3]	**1586445**	**EAMM-U-86-D40-60G-102**
	1586429	**EAMM-U-86-D40-60G-102-S1**[2]
EMGA-60-P-...-EAS, EMGC-60-P-...[3]	**1586496**	**EAMM-U-86-D40-60H-102**
	1586372	**EAMM-U-86-D40-60H-102-S1**[2]
With motor unit[4]		
MTR-DCI-42S-...	**1570950**	**EAMM-U-60-D40-42B/C-91**
MTR-DCI-52S-...	**2786802**	**EAMM-U-70-D40-52B/C-96**
MTR-DCI-52S-...	**1537046**	**EAMM-U-86-D40-52B/C-102**
ESBF-50		
With servo motor		
EMMS-AS-70-...	**2786899**	**EAMM-U-70-D50-70A-96**
	2756078	**EAMM-U-70-D50-70A-96-S1**[2]
EMME-AS-80-...	**2803053**	**EAMM-U-86-D50-80P-102**
	2803073	**EAMM-U-86-D50-80P-102-S1**[2]
EMME-AS-100-...	**2799424**	**EAMM-U-110-D50-100A-120**
	2799488	**EAMM-U-110-D50-100A-120-S1**[2]
EMMS-AS-100-...	**2799424**	**EAMM-U-110-D50-100A-120**
	2799488	**EAMM-U-110-D50-100A-120-S1**[2]
With stepper motor		
EMMS-ST-87-...	**2802708**	**EAMM-U-86-D50-87A-102**
	2802742	**EAMM-U-86-D50-87A-102-S1**[2]

1) The input torque must not exceed the maximum permissible transferable torque of the parallel kit.
2) With degree of protection IP65
3) Gear unit drive shaft diameter: EMGA-60-P-...-SAS/-SST11 mm; EMGA-60-P-...-EAS, EMGC-60-P14 mm
4) Only in combination with ESBF-LS-...

Note

The clamping component EADT is required to adjust the toothed belt pretension with EAMM-U-110.

The motor and/or axis shaft can optionally be supported with a counter bearing EAMG.

Additional information
➔ eamm-u

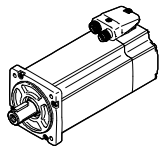
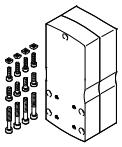
New
Sizes: 32, 40, 50

Electric cylinders ESBF, with spindle drive

FESTO

Accessories

Permissible axis/motor combinations with parallel kit — Technical data ➔ Internet: eamm-u

Motor/gear unit[1]	Parallel kit		
		• Increased housing rigidity • More flexible motor mounting possible • Larger toothed belt bending radii for improved service life • Components can be mounted to the kit facing any direction • Use in combination with third-party motors on request	
Type	Part No.	Type	
ESBF-50			
With gear unit			
EMGA-60-P-…-SAS/SST[3]	**2803125**	**EAMM-U-86-D50-60G-102**	
	2803197	**EAMM-U-86-D50-60G-102-S1[2]**	
EMGA-60-P-…-EAS, EMGC-60-P-…[3]	**2803326**	**EAMM-U-86-D50-60H-102**	
	2803325	**EAMM-U-86-D50-60H-102-S1[2]**	
EMGA-60-P-…-SAS/SST[3]	**2797368**	**EAMM-U-110-D50-60G-120**	
	2798665	**EAMM-U-110-D50-60G-120-S1[2]**	
EMGA-60-P-…-EAS, EMGC-60-P-…[3]	**2798760**	**EAMM-U-110-D50-60H-120**	
	2799150	**EAMM-U-110-D50-60H-120-S1[2]**	
EMGA-80-P-…	**2799196**	**EAMM-U-110-D50-80G-120**	
	2799281	**EAMM-U-110-D50-80G-120-S1[2]**	
ESBF-63			
With servo motor			
EMMS-AS-70-…	**1212477**	**EAMM-U-86-D60-70A-102**	
	1212835	**EAMM-U-86-D60-70A-102-S1[2]**	
EMME-AS-80-…	**2155875**	**EAMM-U-86-D60-80P-102**	
	2156527	**EAMM-U-86-D60-80P-102-S1[2]**	
EMME-AS-100-…	**1202436**	**EAMM-U-110-D60-100A-120**	
	1203112	**EAMM-U-110-D60-100A-120-S1[2]**	
EMMS-AS-100-…	**1202436**	**EAMM-U-110-D60-100A-120**	
	1203112	**EAMM-U-110-D60-100A-120-S1[2]**	
With stepper motor			
EMMS-ST-87-…	**1215784**	**EAMM-U-86-D60-87A-102**	
	1215810	**EAMM-U-86-D60-87A-102-S1[2]**	
With gear unit			
EMGA-60-P-…-SAS/SST[3]	**1586347**	**EAMM-U-86-D60-60G-102**	
	1437163	**EAMM-U-86-D60-60G-102-S1[2]**	
EMGA-60-P-…-EAS, EMGC-60-P-…[3]	**1586276**	**EAMM-U-86-D60-60H-102**	
	1530837	**EAMM-U-86-D60-60H-102-S1[2]**	
EMGA-60-P-…-SAS/SST[3]	**1543240**	**EAMM-U-110-D60-60G-120**	
	1436183	**EAMM-U-110-D60-60G-120-S1[2]**	
EMGA-60-P-…-EAS, EMGC-60-P-…[3]	**1542264**	**EAMM-U-110-D60-60H-120**	
	1530621	**EAMM-U-110-D60-60H-120-S1[2]**	
EMGA-80-P-…	**1532949**	**EAMM-U-110-D60-80G-120**	
	1530875	**EAMM-U-110-D60-80G-120-S1[2]**	

1) The input torque must not exceed the maximum permissible transferable torque of the parallel kit.
2) With degree of protection IP65
3) Gear unit drive shaft diameter: EMGA-60-P-…-SAS/-SST11 mm; EMGA-60-P-…-EAS, EMGC-60-P14 mm

Note

The clamping component EADT is required to adjust the toothed belt pretension with EAMM-U-110.

The motor and/or axis shaft can optionally be supported with a counter bearing EAMG.

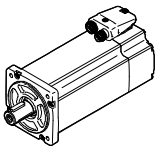
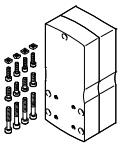
Additional information
➔ eamm-u

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Permissible axis/motor combinations with parallel kit — Technical data ➔ Internet: eamm-u

Motor/gear unit[1]	Parallel kit	
		• Increased housing rigidity • More flexible motor mounting possible • Larger toothed belt bending radii for improved service life • Components can be mounted to the kit facing any direction • Use in combination with third-party motors on request
Type	Part No.	Type
ESBF-80		
With servo motor		
EMME-AS-100-...	**1465438**	**EAMM-U-110-D80-100A-120**
	1433650	**EAMM-U-110-D80-100A-120-S1**[2]
EMMS-AS-100-...	**1465438**	**EAMM-U-110-D80-100A-120**
	1433650	**EAMM-U-110-D80-100A-120-S1**[2]
EMMS-AS-140-...	**1465530**	**EAMM-U-145-D80-140A-188**
	1433709	**EAMM-U-145-D80-140A-188-S1**[2]
With gear unit		
EMGA-80-P-...	**1589614**	**EAMM-U-110-D80-80G-120**
	1589706	**EAMM-U-110-D80-80G-120-S1**[2]
ESBF-100		
With servo motor		
EMMS-AS-140-...	**1465541**	**EAMM-U-145-D100-140A-188**
	1433852	**EAMM-U-145-D100-140A-188-S1**[2]
With gear unit		
EMGA-120-P-...	**2803620**	**EAMM-U-145-D100-120G-188**
	2803622	**EAMM-U-145-D100-120G-188-S1**[2]

1) The input torque must not exceed the maximum permissible transferable torque of the parallel kit.
2) With degree of protection IP65

Note

The clamping component EADT is required to adjust the toothed belt pretension with EAMM-U-110.

The motor and/or axis shaft can optionally be supported with a counter bearing EAMG.

Additional information ➔ eamm-u

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

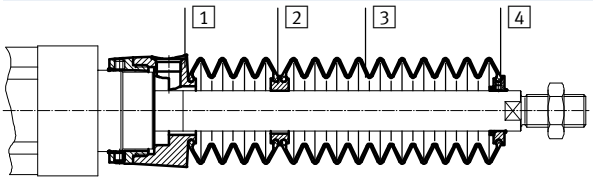
Protective bellows kit EADB

General technical data						
Type EADB-V2-		32	40	50	63	80
Max. stroke range of cylinder[1)]	[mm]	30 … 500	30 … 500	30 … 500	30 … 500	30 … 500
Type of mounting		Push-on				
		Via threaded pin				
Mounting position		Any				
Resistance to media		Dust, chippings, oil, grease, petrol (➔ Internet: Resistance to media)				
Ambient temperature[2)]	[°C]	–10 … +80				
Degree of protection to IEC 60529		IP65				
Corrosion resistance class CRC[3)]		3				

1) In combination with the protective bellows kit EADB
2) Note operating range of proximity sensors and cylinder
3) Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

Materials

Sectional view



Bellows		
1	Connection	Anodised wrought aluminium alloy
2	Adapter	Polyamide
3	Bellows	NBR
4	End piece	Anodised wrought aluminium alloy
–	O-ring	NBR
	Note on materials	Free of copper and PTFE
		RoHS compliant

Weight [g]					
Type EADB-V2- Stroke [mm]	32	40	50	63	80
Product weight					
10 … 100	116	109	190	203	269
101 … 200	155	146	261	265	327
201 … 300	173	164	306	307	365
301 … 400	212	201	377	370	423
401 … 500	233	222	402	391	444
Moving mass					
10 … 100	46	44	93	79	72
101 … 200	85	82	164	142	130
201 … 300	104	99	209	183	168
301 … 400	143	137	280	246	226
401 … 500	163	157	305	267	247

Electric cylinders ESBF, with spindle drive

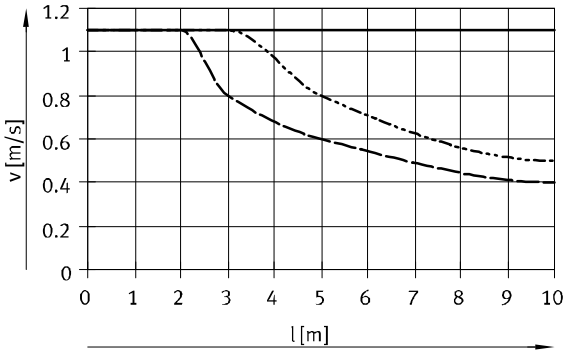
Accessories

FESTO

Travel speed v as a function of tubing length l

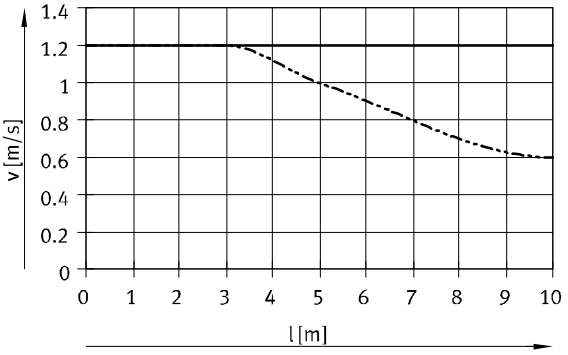
The protective bellows kit is a leak-free system.
To prevent unwanted media from being drawn in, the supply and exhaust air for the kit must be ducted via a pressure compensation hole in the connection part 1.
The pressure generated in the protective bellows kit by the positioning motion is primarily defined by the travel speed and tubing length. The recommended tubing length based on the travel speed of the drive can be read from the graph.

For size 32



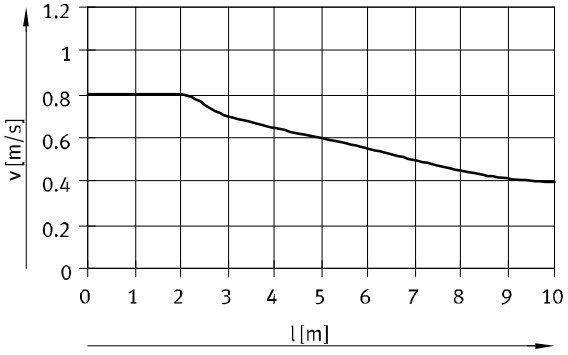
with QS-G1/4-12, QSH-16-12, PUN-16x2,5
with QS-G1/4-12, PUN-12x2
with QS-G1/4-10, PUN-10x1,5

For size 40



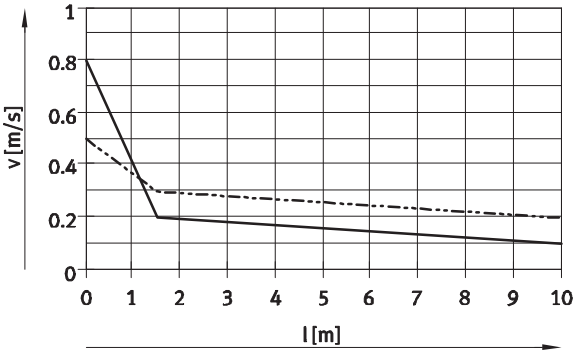
with QS-G1/4-12, QSH-16-12, PUN-16x2,5
with QS-G1/4-10, PUN-10x1,5

For size 50



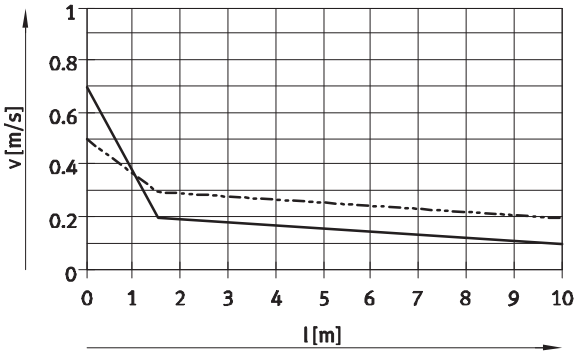
with QS-G1/4-12, QSH-16-12, PUN-16x2,5

For size 63



with QS-G1/4-12, PUN-12x2
with QS-G1/4-12, QSH-16-12, PUN-16x2,5

For size 80



with QS-G1/4-12, PUN-12x2
with QS-G1/4-12, QSH-16-12, PUN-16x2,5

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Tubing size and push-in fitting for pressure compensation hole

The push-in fittings in the following table must be used for the pressure compensation hole.

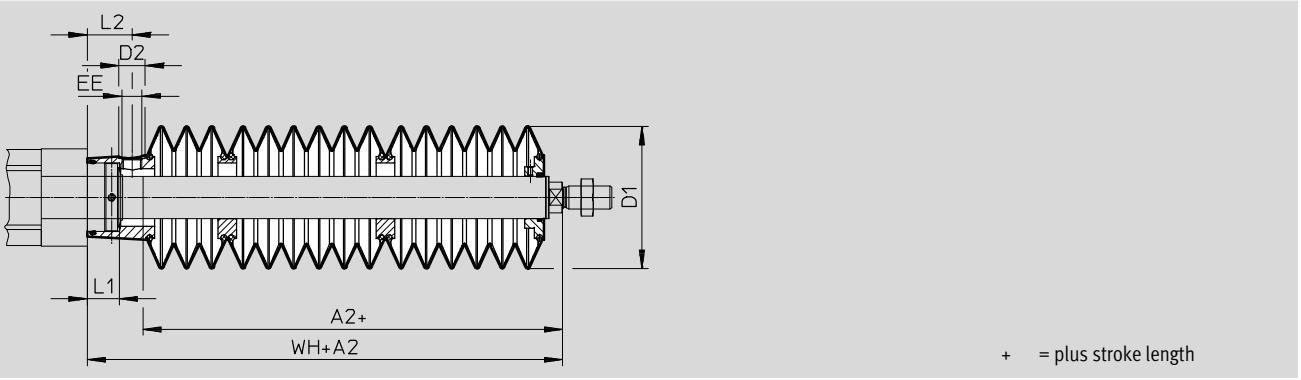
Silencers can be used as an alternative. This reduces the travel speed slightly.

∅ [mm]	Tubing O.D. [mm]	Push-in fitting Part No.	Type	Push-in sleeve Part No.	Type	Plastic tubing Type
32, 40, 50, 63, 80	16	**186350**	**QS-G¼-12**	**153261**	**QSH-16-12**	**PUN-16x2,5**
32, 63, 80	12	**186350**	**QS-G¼-12**	–		**PUN-12x2**
32, 40	10	**186101**	**QS-G¼-10**	–		**PUN-10x1,5**

Dimensions

Download CAD data ➔ **www.festo.com**

For size 32 ... 50



\+ = plus stroke length

∅ Stroke [mm]	32 A2[1]	D1 Max.	D2	EE	L1	L2	WH+A2	40 A2[1]	D1 Max.	D2	EE	L1	L2	WH+A2
10 ... 100	52	57	17	G¼	15	23.3	76.5	50	57	17	G¼	15	23.3	79.5
101 ... 200	81						105.5	79						108.5
201 ... 300	92						116.5	90						119.5
301 ... 400	121						145.5	119						148.5
401 ... 500	139						162.5	137						166.5

∅ Stroke [mm]	50 A2[1]	D1 Max.	D2	EE	L1	L2	WH+A2
10 ... 100	46	93	17	G¼	21	29.4	81.5
101 ... 200	70						106.5
201 ... 300	82						118.5
301 ... 400	107						142.5
401 ... 500	119						155.5

1) The dimension corresponds to the E value (piston rod extension) of the cylinder

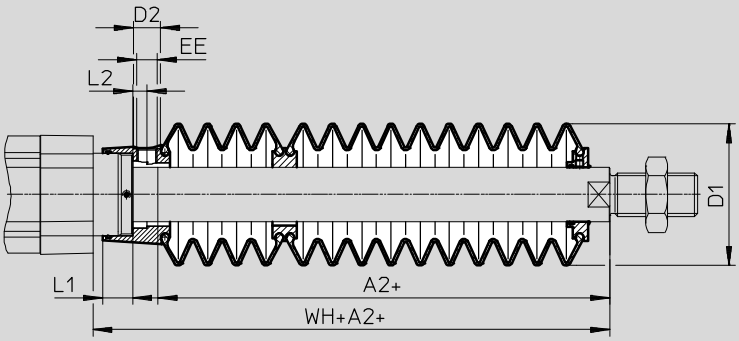
Electric cylinders ESBF, with spindle drive

Accessories

FESTO

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

For size 63, 80



\+ = plus stroke length

∅	63						
Stroke [mm]	A2[1)]	D1 Max.	D2	EE	L1	L2	WH+A2
10 … 100	45	93	17	G¼	18.9	9	82
101 … 200	70						107
201 … 300	82						119
301 … 400	106						143
401 … 500	119						156

∅	80						
Stroke [mm]	A2[1)]	D1 Max.	D2	EE	L1	L2	WH+A2
10 … 100	48	93	17	G¼	21.9	12	94
101 … 200	73						119
201 … 300	85						131
301 … 400	109						155
401 … 500	122						168

1) The dimension corresponds to the E value (piston rod extension) of the cylinder

New
Sizes: 32, 40, 50

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Ordering data – Protective bellows kit

An extended piston rod (order code ...E) ➔ 24 is absolutely essential if a protective bellows kit is to be used.

The necessary dimensions for ...E as a function of cylinder size and stroke as well as the corresponding protective bellows kit are indicated in the following table:

Order example:
Selected electric cylinder:
ESBF-BS-63-250-5P-...E
The dimension for the corresponding E value (see table):
82 mm
Complete type code for electric cylinder:
ESBF-BS-63-250-5P-82E
The corresponding protective bellows kit:
EADB-V2-63-S201-300

Cylinder data			Protective bellows kit	
∅ [mm]	Stroke [mm]	Dimension for ...E [mm]	Part No.	Type
32	10 ... 100	52	**2828829**	**EADB-V2-32-S10-100**
	101 ... 200	81	**2828830**	**EADB-V2-32-S101-200**
	201 ... 300	92	**2828831**	**EADB-V2-32-S201-300**
	301 ... 400	121	**2828832**	**EADB-V2-32-S301-400**
	401 ... 500	139	**2828833**	**EADB-V2-32-S401-500**
40	10 ... 100	50	**2828834**	**EADB-V2-40-S10-100**
	101 ... 200	79	**2828835**	**EADB-V2-40-S101-200**
	201 ... 300	90	**2828836**	**EADB-V2-40-S201-300**
	301 ... 400	119	**2828837**	**EADB-V2-40-S301-400**
	401 ... 500	137	**2828838**	**EADB-V2-40-S401-500**
50	10 ... 100	46	**2828839**	**EADB-V2-50-S10-100**
	101 ... 200	70	**2828840**	**EADB-V2-50-S101-200**
	201 ... 300	82	**2828841**	**EADB-V2-50-S201-300**
	301 ... 400	107	**2828842**	**EADB-V2-50-S301-400**
	401 ... 500	119	**2828843**	**EADB-V2-50-S401-500**
63	10 ... 100	45	**1488361**	**EADB-V2-63-S10-100**
	101 ... 200	70	**1488362**	**EADB-V2-63-S101-200**
	201 ... 300	82	**1488363**	**EADB-V2-63-S201-300**
	301 ... 400	106	**1488364**	**EADB-V2-63-S301-400**
	401 ... 500	119	**1488365**	**EADB-V2-63-S401-500**
80	10 ... 100	48	**1489406**	**EADB-V2-80-S10-100**
	101 ... 200	73	**1489407**	**EADB-V2-80-S101-200**
	201 ... 300	85	**1489408**	**EADB-V2-80-S201-300**
	301 ... 400	109	**1489409**	**EADB-V2-80-S301-400**
	401 ... 500	122	**1489410**	**EADB-V2-80-S401-500**

Electric cylinders ESBF, with spindle drive

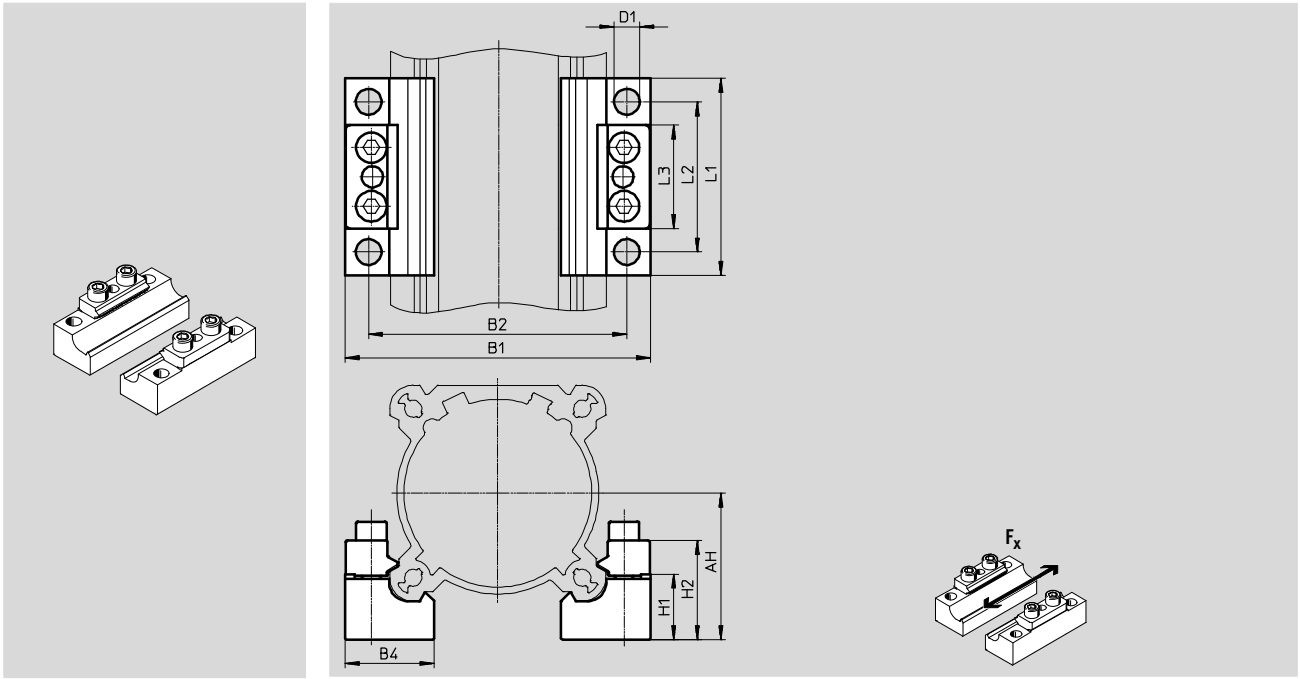
Accessories

FESTO

Profile mounting EAHF

Materials:
Plate: Anodised aluminium
Clamping piece: Coated steel

RoHS compliant



Dimensions and ordering data

For size [mm]	AH	B1	B2	B4	D1 ∅	H1	H2	L1	L2	L3
32	32	76	60	26	9	16	23.6	80	60	34
40	36	84.5	68	26	9	16	23.6	80	60	34
50	44.5	94	81	30	9	22.8	30.4	80	60	41
63	50	105	92	30	9	22.8	30.4	80	60	41
80	62.5	130	110	38	11	28.1	42.5	84	64	44
100	71	147	127	38	11	28.1	42.5	84	64	44

For size [mm]	Transferable axial force F_x [kN]	CRC[1)]	Weight [g]	Part No.	Type
32, 40	1.6	3	218	**2838839**	**EAHF-V2-32/40-P**
50, 63	3.6	3	340	**1547781**	**EAHF-V2-50/63-P**
80, 100	4.0	3	570	**1547780**	**EAHF-V2-80/100-P**

1) Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

New
Sizes: 32, 40, 50

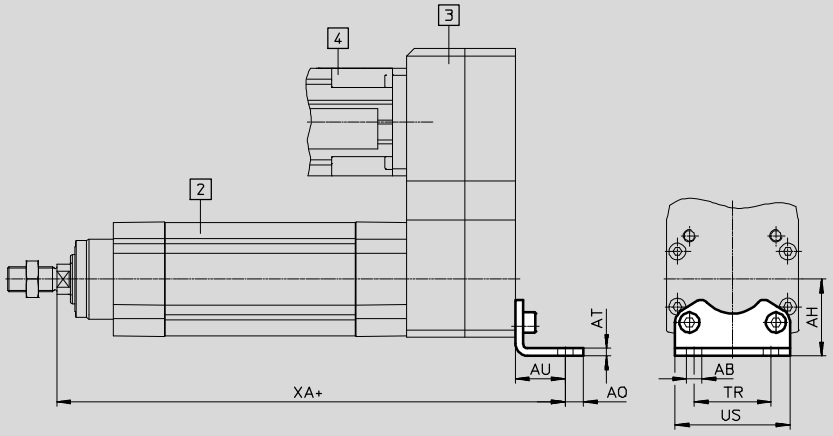
Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Foot mounting HNC/CRHNC, for parallel motor attachment

Materials:
HNC: Galvanised steel
CRHNC: High-alloy steel
Free of copper and PTFE



2 Electric cylinder ESBF
3 Parallel kit EAMM-U
4 Motor EMME-AS/EMMS-AS
\+ = plus stroke length

Note

The foot mounting can only be secured at the rear, on the parallel kit.

Dimensions and ordering data

For size [mm]	AB ∅	AH	AO	AT	AU ±0.2	TR JS14	US
32	7	32	6.5	4	24	32	$45_{-0.5}$
40	10	36	9	4	28	36	$54_{-0.6}$
50	10	45	9.5	5	32	45	$64_{-0.6}$
63	10	50	12.5	5	32	50	$75_{-0.6}$
80	12	63	15	6	41	63	$93_{-0.8}$
100	14.5	71	17.5	6	41	75	$110_{-0.8}$

For size	XA With parallel kit					
[mm]	EAMM-U-50	EAMM-U-60	EAMM-U-70	EAMM-U-86	EAMM-U-110	EAMM-U-145
32	217	228	236.5	–	–	–
40	–	257.5	266	270.5	–	–
50	–	–	298	302.5	313.5	–
63	–	–	–	311	322	–
80	–	–	–	–	373	390.5
100	–	–	–	–	–	415.5

For size	Max. load carrying ability	ESBF-...				ESBF-...-R3			
[mm]	[kN]	CRC[1]	Weight [g]	Part No.	Type	CRC[1]	Weight [g]	Part No.	Type
32	0.9	2	144	**174369**	**HNC-32**	4	139	**176937**	**CRHNC-32**
40	1.5	2	193	**174370**	**HNC-40**	4	188	**176938**	**CRHNC-40**
50	2.5	2	353	**174371**	**HNC-50**	4	341	**176939**	**CRHNC-50**
63	4	2	436	**174372**	**HNC-63**	4	424	**176940**	**CRHNC-63**
80	6	2	829	**174373**	**HNC-80**	4	810	**176941**	**CRHNC-80**
100	9	2	1009	**174374**	**HNC-100**	4	990	**176942**	**CRHNC-100**

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Electric cylinders ESBF, with spindle drive

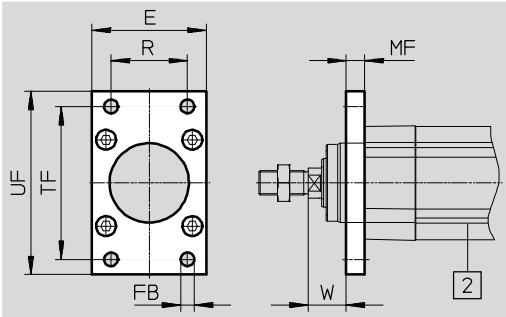
Accessories

FESTO

Flange mounting EAHH

Materials:
High-alloy stainless steel

RoHS compliant
Free of copper and PTFE



2 Electric cylinder ESBF

Dimensions and ordering data

For size [mm]	E	FB ∅ H13	MF js14	R	TF	UF ±1	W
32	45	7	10	32	64	80	15.5
40	54	9	10	36	72	90	19.5
50	64	9	12	45	90	110	24.5
63	75	9	12	50	100	120	25
80	93	12	16	63	126	150	30
100	110	14	16	75	150	175	35

For size [mm]	Max. load carrying ability [kN]	ESBF-...-R3 CRC[1)]	Weight [g]	Part No.	Type
32	1	4	206	**2827587**	**EAHH-V2-32-R1**
40	3	4	275	**2827588**	**EAHH-V2-40-R1**
50	5	4	496	**2827589**	**EAHH-V2-50-R1**
63	7	4	633	**1502305**	**EAHH-V2-63-R1**
80	12	4	1360	**1502306**	**EAHH-V2-80-R1**
100	17	4	1880	**1502307**	**EAHH-V2-100-R1**

1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

New
Sizes: 32, 40, 50

Electric cylinders ESBF, with spindle drive

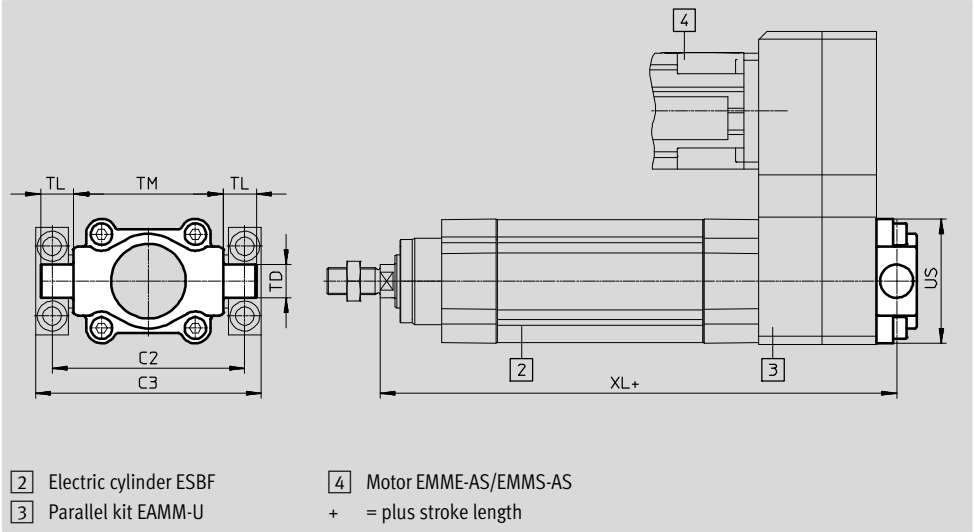
Accessories

FESTO

Trunnion flange ZNCF/CRZNG

Materials:
ZNCF: Stainless steel casting
CRZNG: Electropolished stainless steel casting

Free of copper and PTFE



2 Electric cylinder ESBF
3 Parallel kit EAMM-U
4 Motor EMME-AS/EMMS-AS
\+ = plus stroke length

Dimensions and ordering data

For size [mm]	C2	C3	TD ∅ e9	TL	TM H14	US
32	71	86	12	12_{h14}	50	45
40	87	105	16	16_{h14}	63	54
50	99	117	16	16_{h14}	75	64
63	116	136	20	$20_{+0,5/-0.7}$	90	75
80	136	156	20	$19.5_{+0,5/-0.7}$	110	93
100	164	189	25	$24.5_{+0,5/-0.7}$	132	110

For size	XL With parallel kit					
[mm]	EAMM-U-50	EAMM-U-60	EAMM-U-70	EAMM-U-86	EAMM-U-110	EAMM-U-145
32	201	212	220.5	–	–	–
40	–	239.5	248	252.5	–	–
50	–	–	278	282.5	293.5	–
63	–	–	–	291	302	–
80	–	–	–	–	346	363.5
100	–	–	–	–	–	393.5

For size [mm]	Max. load carrying ability [kN]	ESBF-...				ESBF-...-R3			
		CRC[1]	Weight [g]	Part No.	Type	CRC[1]	Weight [g]	Part No.	Type
32	0.9	2	150	**174411**	**ZNCF-32**	4	150	**161852**	**CRZNG-32**
40	1.5	2	285	**174412**	**ZNCF-40**	4	285	**161853**	**CRZNG-40**
50	2.5	2	473	**174413**	**ZNCF-50**	4	473	**161854**	**CRZNG-50**
63	4	2	687	**174414**	**ZNCF-63**	4	687	**161855**	**CRZNG-63**
80	6	2	1296	**174415**	**ZNCF-80**	4	1296	**161856**	**CRZNG-80**
100	9	2	2254	**174416**	**ZNCF-100**	4	2254	**161857**	**CRZNG-100**

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

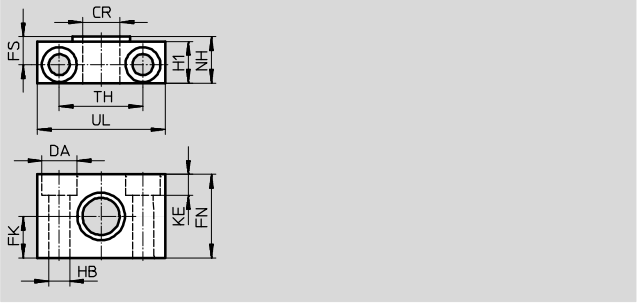
Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Trunnion support LNZG

Materials:
Trunnion support: Anodised aluminium
Plain bearing: Plastic
Free of copper and PTFE



Dimensions and ordering data

For size [mm]	Max. load carrying ability [kN]	CR ∅ D11	DA ∅ H13	FK ±0.1	FN	FS	H1	HB ∅ H13
32	0.9	12	11	15	30	10.5	15	6.6
40, 50	2.5	16	15	18	36	12	18	9
63, 80	6	20	18	20	40	13	20	11
100	9	25	20	25	50	16	24.5	14

For size [mm]	KE	NH	TH ±0.2	UL	CRC[1)]	Weight [g]	Part No.	Type
32	6.8	18	32	46	2	83	**32959**	**LNZG-32**
40, 50	9	21	36	55	2	129	**32960**	**LNZG-40/50**
63, 80	11	23	42	65	2	178	**32961**	**LNZG-63/80**
100	13	28.5	50	75	2	306	**32962**	**LNZG-100/125**

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

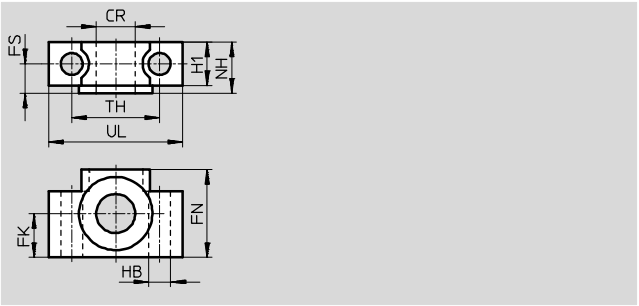
Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Trunnion support CRLNZG

Materials:
High-alloy steel
Free of copper and PTFE



Dimensions and ordering data

For size [mm]	Max. load carrying ability [kN]	CR ∅ D11	FK ±0.1	FN	FS	H1	HB ∅ H13
32	0.9	12	15	30	10.5	15	6.6
40/50	2.5	16	18	36	12	18	9
63, 80	6	20	20	40	13	20	11
100	9	25	25	50	16	24.5	14

For size [mm]	NH	TH ±0.2	UL	CRC[1)]	Weight [g]	Part No.	Type
32	18	32	46	4	205	**161874**	**CRLNZG-32**
40/50	21	36	55	4	323	**161875**	**CRLNZG-40/50**
63, 80	23	42	65	4	435	**161876**	**CRLNZG-63/80**
100	28.5	50	75	4	739	**161877**	**CRLNZG-100/125**

1) Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

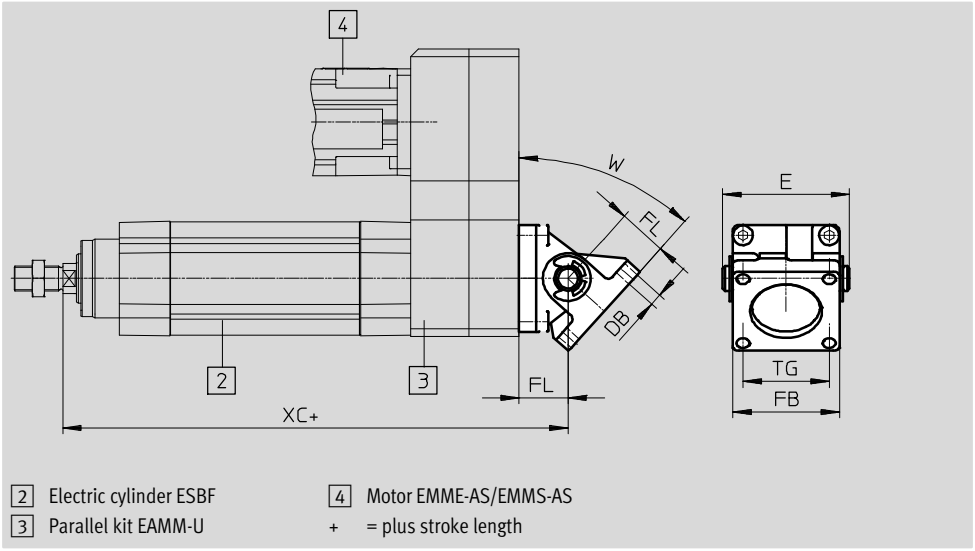
Electric cylinders ESBF, with spindle drive

Accessories

Swivel flange DAMS

Materials:
Aluminium

RoHS compliant
Free of copper and PTFE



2 Electric cylinder ESBF
3 Parallel kit EAMM-U
4 Motor EMME-AS/EMMS-AS
\+ = plus stroke length

Dimensions and ordering data

For size [mm]	DB ∅	E	FB	FL	TG	W Max. [°]
40	6.5	63	52	25	38	32
50	8.5	73	60	27	46.5	45
63	8.5	83	70	32	56.5	42
80	10.5	103	90	36	72	31
100	10.5	127	110	41	89	36

For size [mm]	XC With parallel kit				
	EAMM-U-60	EAMM-U-70	EAMM-U-86	EAMM-U-110	EAMM-U-145
40	254.5	263	267.5	–	–
50	–	293	297.5	308.5	–
63	–	–	311	322	–
80	–	–	–	368	385.5
100	–	–	–	–	415.5

For size [mm]	Max. load carrying ability [kN]	CRC[1)]	Weight [g]	Part No.	Type
40	3	3	258	**2787470**	**DAMS-K-V1-40-V-R3**
50	5	3	451	**2787651**	**DAMS-K-V1-50-V-R3**
63	7	3	657	**1555443**	**DAMS-K-V1-63-V-R3**
80	12	3	1240	**1556588**	**DAMS-K-V1-80-V-R3**
100	17	3	1940	**1560237**	**DAMS-K-V1-100-V-R3**

1) Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

Note

The swivel flange SNCS or SNCB (max. load carrying ability of 1 kN) can be used for size 32.

New
Sizes: 32, 40, 50

Electric cylinders ESBF, with spindle drive

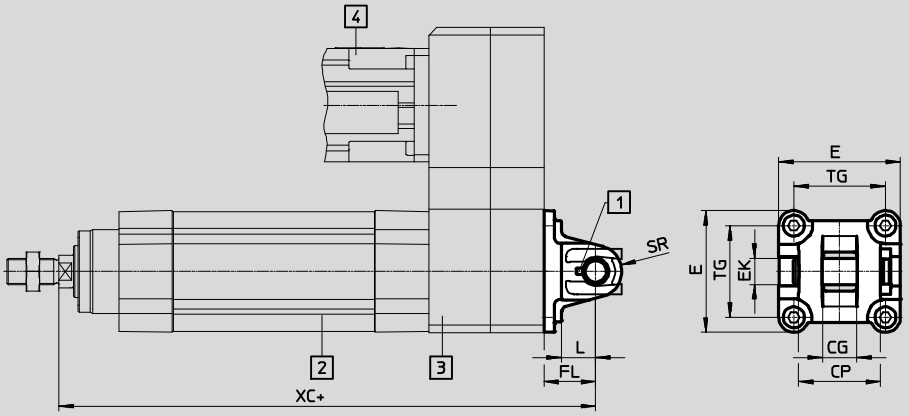
Accessories

FESTO

Swivel flange SNC

Materials:
Die-cast aluminium

Free of copper and PTFE
RoHS compliant



1 The king pin is protected against rotation with a spring pin

2 Electric cylinder ESBF
3 Parallel kit EAMM-U
4 Motor EMME-AS/EMMS-AS

\+ = plus stroke length

Dimensions and ordering data

For size [mm]	CG H14	CP H14	E	EK ∅ H9	FL ±0.2	L	SR	TG
32	14	34	$45^{+0,2/-0.5}$	10	22	13	10	32.5
40	16	40	$54_{-0.5}$	12	25	16	12	38
50	21	45	$64_{-0.6}$	16	27	16	12	46.5
63	21	51	$75_{-0.6}$	16	32	21	16	56.5
80	25	65	$93_{-0.8}$	20	36	22	16	72
100	25	75	$110^{+0,3/-0.8}$	20	41	27	20	89

For size	XC With parallel kit					
[mm]	EAMM-U-50	EAMM-U-60	EAMM-U-70	EAMM-U-86	EAMM-U-110	EAMM-U-145
32	215	226	234.5	–	–	
40	–	254.5	263	267.5	–	–
50	–	–	293	297.5	308.5	–
63	–	–	–	311	322	–
80	–	–	–	–	368	385.5
100	–	–	–	–	–	415.5

For size [mm]	Max. load carrying ability [kN]	CRC[1)]	Weight [g]	Part No.	Type
32	0.9	2	93	**174383**	**SNC-32**
40	1.5	2	140	**174384**	**SNC-40**
50	2.5	2	234	**174385**	**SNC-50**
63	4	2	331	**174386**	**SNC-63**
80	6	2	618	**174387**	**SNC-80**
100	9	2	865	**174388**	**SNC-100**

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Electric cylinders ESBF, with spindle drive

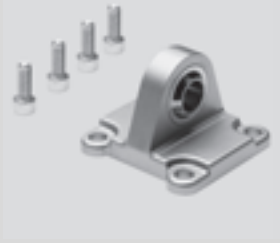
Accessories

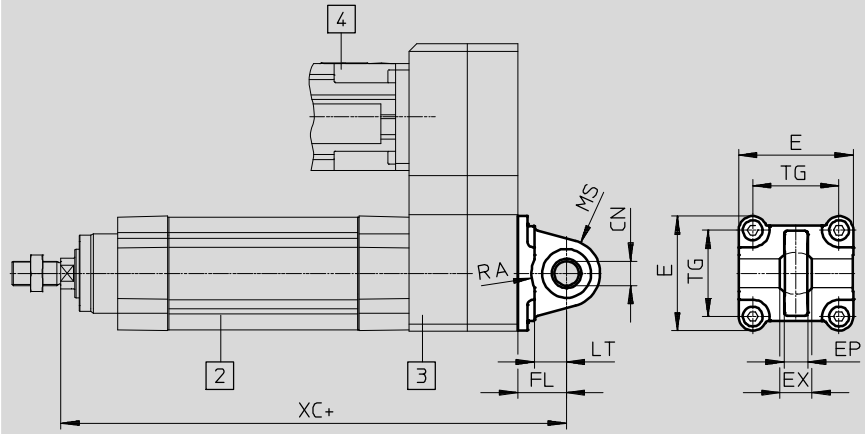
FESTO

Swivel flange SNCS

Materials:
SNCS 63 ... 80: Die-cast aluminium
SNCS 100: Wrought aluminium alloy

Free of copper and PTFE
RoHS compliant





2 Electric cylinder ESBF
3 Parallel kit EAMM-U
4 Motor EMME-AS/EMMS-AS
\+ = plus stroke length

Dimensions and ordering data

For size [mm]	CN ∅	E	EP ±0.2	EX	FL ±0.2	LT	MS	RA +1	TG
32	$10^{+0,013}$	$45_{+0,2/-0.5}$	10.5	14	22	13	$15^{+0,5}$	14.5	32.5
40	$12^{+0,015}$	$54_{-0.5}$	12	16	25	16	$17^{+0,5}$	17.5	38
50	$16^{+0,015}$	$64_{-0.6}$	15	21	27	16	$20^{+0,5}$	18.5	46.5
63	$16^{+0,015}$	$75_{-0.6}$	15	21	32	21	$23_{-0.5}$	23	56.5
80	$20^{+0,018}$	$93_{-0.8}$	18	25	36	22	$28_{-0.5}$	25	72
100	$20^{+0,018}$	$109_{+1/-0.7}$	18	25	41	27	$30_{\pm 0.5}$	95	89

For size	XC With parallel kit					
[mm]	EAMM-U-50	EAMM-U-60	EAMM-U-70	EAMM-U-86	EAMM-U-110	EAMM-U-145
32	215	226	234.5	–	–	–
40	–	254.5	263	267.5	–	–
50	–	–	293	297.5	308.5	–
63	–	–	–	311	322	–
80	–	–	–	–	368	385.5
100	–	–	–	–	–	415.5

For size [mm]	Max. load carrying ability [kN]	CRC[1)]	Weight [g]	Part No.	Type
32	1	2	86	**174397**	**SNCS-32**
40	1.5	2	122	**174398**	**SNCS-40**
50	2.5	2	216	**174399**	**SNCS-50**
63	4	2	281	**174400**	**SNCS-63**
80	6	2	557	**174401**	**SNCS-80**
100	9	2	683	**174402**	**SNCS-100**

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

New
Sizes: 32, 40, 50

Electric cylinders ESBF, with spindle drive

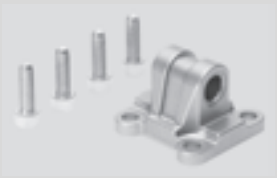
Accessories

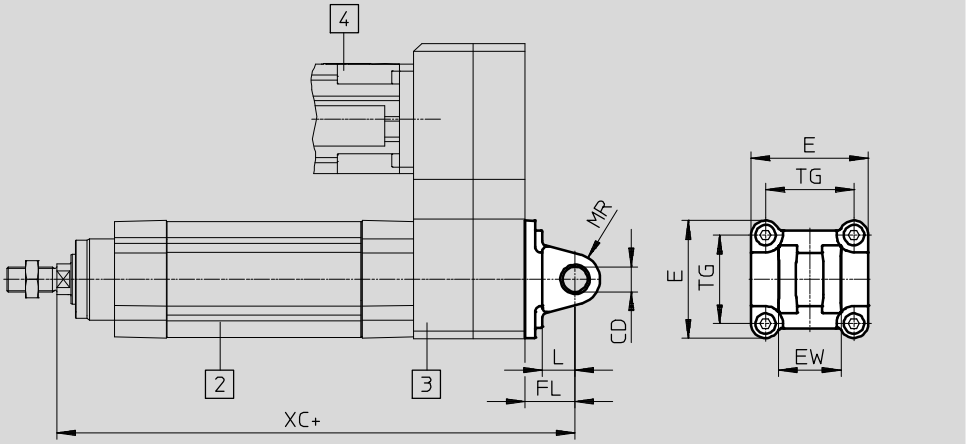
FESTO

Swivel flange SNCL

Materials:
Die-cast aluminium

Free of copper and PTFE
RoHS compliant





2 Electric cylinder ESBF
3 Parallel kit EAMM-U
4 Motor EMME-AS/EMMS-AS
\+ = plus stroke length

Dimensions and ordering data

For size [mm]	CD ∅ H9	E	EW −0.2/−0.6	FL ±0.2	L	MR	TG
32	10	$45^{+0,2/-0.5}$	26	22	13	10	32.5
40	12	$54_{-0.5}$	28	25	16	12	38
50	12	$64_{-0.6}$	32	27	16	12	46.5
63	16	$75_{-0.6}$	40	32	21	16	56.5
80	16	$93_{-0.8}$	50	36	22	16	72
100	20	$110^{+0,3/-0.8}$	60	41	27	20	89

For size [mm]	XC With parallel kit					
	EAMM-U-50	EAMM-U-60	EAMM-U-70	EAMM-U-86	EAMM-U-110	EAMM-U-145
32	215	226	234.5	–	–	
40	–	254.5	263	267.5	–	–
50	–	–	293	297.5	308.5	–
63	–	–	–	311	322	–
80	–	–	–	–	368	385.5
100	–	–	–	–	–	415.5

For size [mm]	Max. load carrying ability [kN]	CRC[1)]	Weight [g]	Part No.	Type
32	0.9	2	71	**174404**	**SNCL-32**
40	1.5	2	95	**174405**	**SNCL-40**
50	2.5	2	158	**174406**	**SNCL-50**
63	4	2	225	**174407**	**SNCL-63**
80	6	2	436	**174408**	**SNCL-80**
100	9	2	606	**174409**	**SNCL-100**

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Electric cylinders ESBF, with spindle drive

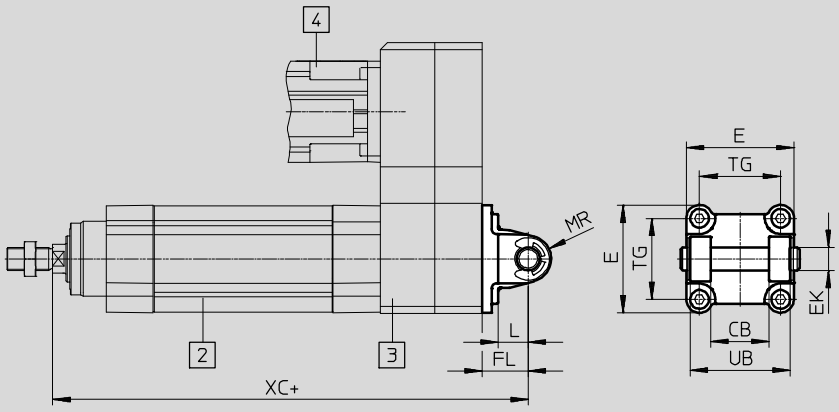
Accessories

FESTO

Swivel flange
SNCB/SNCB-...-R3

Materials:
SNCB: Die-cast aluminium
SNCB-...-R3: Die-cast aluminium with protective coating, high corrosion protection

Free of copper and PTFE
RoHS compliant



2 Electric cylinder ESBF
3 Parallel kit EAMM-U
4 Motor EMME-AS/EMMS-AS
\+ = plus stroke length

Dimensions and ordering data

For size [mm]	CB H14	E	EK ∅ e8	FL ±0.2	L	MR −0.5	TG	UB H14
32	26	$45^{+0,2/-0.5}$	10	22	13	8.5	32.5	45
40	28	$54_{-0.5}$	12	25	16	12	38	52
50	32	$64_{-0.6}$	12	27	16	12	46.5	60
63	40	$75_{-0.6}$	16	32	21	16	56.5	70
80	50	$93_{-0.8}$	16	36	22	16	72	90
100	60	$110^{+0,3/-0.8}$	20	41	27	20	89	110

For size [mm]	XC With parallel kit					
	EAMM-U-50	EAMM-U-60	EAMM-U-70	EAMM-U-86	EAMM-U-110	EAMM-U-145
32	215	226	234.5	–	–	–
40	–	254.5	263	267.5	–	–
50	–	–	293	297.5	308.5	–
63	–	–	–	311	322	–
80	–	–	–	–	368	385.5
100	–	–	–	–	–	415.5

For size [mm]	Max. load carrying ability [kN]	ESBF-...				ESBF-...-R3			
		CRC[1)]	Weight [g]	Part No.	Type	CRC[1)]	Weight [g]	Part No.	Type
32	1	2	103	**174390**	**SNCB-32**	3	100	**176944**	**SNCB-32-R3**
40	1.5	2	155	**174391**	**SNCB-40**	3	151	**176945**	**SNCB-40-R3**
50	2.5	2	232	**174392**	**SNCB-50**	3	228	**176946**	**SNCB-50-R3**
63	4	2	375	**174393**	**SNCB-63**	3	371	**176947**	**SNCB-63-R3**
80	6	2	636	**174394**	**SNCB-80**	3	632	**176948**	**SNCB-80-R3**
100	9	2	1035	**174395**	**SNCB-100**	3	986	**176949**	**SNCB-100-R3**

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

Electric cylinders ESBF, with spindle drive

Accessories

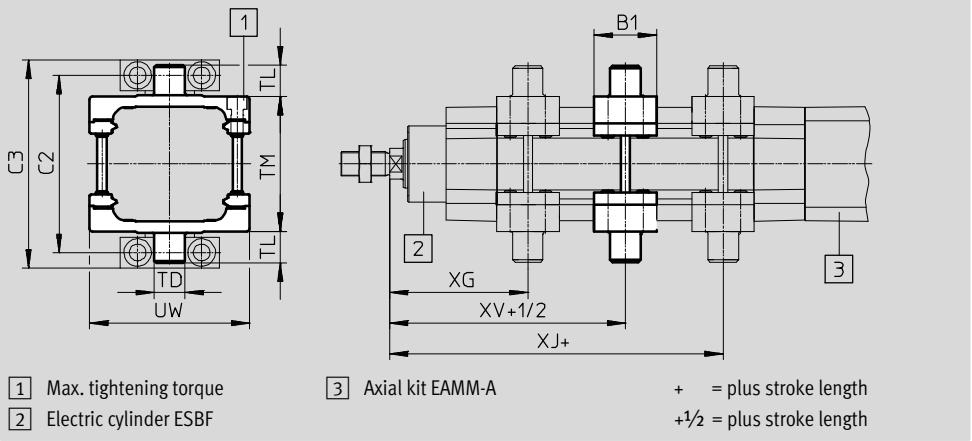
FESTO

Trunnion mounting kit DAMT

Materials:
Galvanised steel

Free of copper and PTFE
RoHS compliant

The kit can be mounted at any position along the cylinder profile barrel. The trunnion mounting kit cannot be mounted in the vicinity of the motor when used in combination with the parallel kit EAMM-U.



1 Max. tightening torque
2 Electric cylinder ESBF
3 Axial kit EAMM-A
\+ = plus stroke length
+½ = plus stroke length

Dimensions and ordering data

For size [mm]	B1	C2	C3	TD ∅ e9	TL	TM	UW	XG
32	30	71	86	12	12	50	65	66
40	32	87	105	16	16	63	75	75.5
50	34	99	117	16	16	75	95	83.5
63	41	116	136	20	20	90	105	90.5
80	44	136	156	20	20	110	130	107
100	48	164	189	25	25	132	145	114

For size [mm]	XJ	XV	Max. tightening torque [Nm]	Max. load carrying ability [kN]	CRC[1)]	Weight [g]	Part No.	Type
32	107.5	86.8	4+1	0.9	1	212.7	**2213233**	**DAMT-V1-32-A**
40	127.5	101.5	8+1	1.5	1	387.5	**2214899**	**DAMT-V1-40-A**
50	152.5	118	8+2	2.5	1	607.6	**2214909**	**DAMT-V1-50-A**
63	154.5	122.5	18+2	4	1	910.5	**2214971**	**DAMT-V1-63-A**
80	189	148	28+2	6	1	1493.7	**163529**	**DAMT-V1-80-A**
100	212	163	28+2	9	1	2094.8	**163530**	**DAMT-V1-100-A**

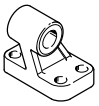
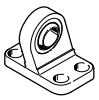
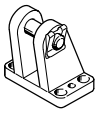
1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

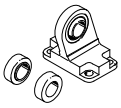
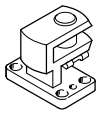
Electric cylinders ESBF, with spindle drive

Accessories

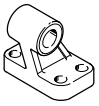
FESTO

Ordering data – Mounting attachments Technical data ➔ Internet: clevis foot

Designation	For size	Max. load carrying ability [kN]	Part No.	Type
Clevis foot LNG				
	32	0.9	**33890**	**LNG-32**
	40	1.5	**33891**	**LNG-40**
	50	2.5	**33892**	**LNG-50**
	63	4	**33893**	**LNG-63**
	80	6	**33894**	**LNG-80**
	100	9	**33895**	**LNG-100**
Clevis foot LSNG				
	32	0.9	**31740**	**LSNG-32**
	40	1.5	**31741**	**LSNG-40**
	50	2.5	**31742**	**LSNG-50**
	63	4	**31743**	**LSNG-63**
	80	6	**31744**	**LSNG-80**
	100	9	**31745**	**LSNG-100**
Clevis foot LBG				
	32	0.9	**31761**	**LBG-32**
	40	1.5	**31762**	**LBG-40**
	50	2.5	**31763**	**LBG-50**
	63	4	**31764**	**LBG-63**
	80	6	**31765**	**LBG-80**
	100	9	**31766**	**LBG-100**

Designation	For size	Max. load carrying ability [kN]	Part No.	Type
Clevis foot LSN				
	32	0.9	**5561**	**LSN-32**
	40	1.5	**5562**	**LSN-40**
	50	2.5	**5563**	**LSN-50**
	63	4	**5564**	**LSN-63**
	80	6	**5565**	**LSN-80**
	100	9	**5566**	**LSN-100**
Clevis foot LSNSG				
	32	0.9	**31747**	**LSNSG-32**
	40	1.5	**31748**	**LSNSG-40**
	50	2.5	**31749**	**LSNSG-50**
	63	4	**31750**	**LSNSG-63**
	80	6	**31751**	**LSNSG-80**
	100	9	**31752**	**LSNSG-100**
Right-angle clevis foot LQG				
	32	0.9	**31768**	**LQG-32**
	40	1.5	**31769**	**LQG-40**
	50	2.5	**31770**	**LQG-50**
	63	4	**31771**	**LQG-63**
	80	6	**31772**	**LQG-80**
	100	9	**31773**	**LQG-100**

Ordering data – Mounting attachments, corrosion-resistant Technical data ➔ Internet: clevis foot

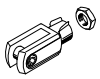
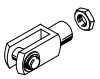
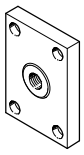
Designation	For size	Max. load carrying ability [kN]	Part No.	Type
Clevis foot CRLNG				
	32	0.9	**161840**	**CRLNG-32**
	40	1.5	**161841**	**CRLNG-40**
	50	2.5	**161842**	**CRLNG-50**
	63	4	**161843**	**CRLNG-63**
	80	6	**161844**	**CRLNG-80**
	100	9	**161845**	**CRLNG-100**

Electric cylinders ESBF, with spindle drive

Accessories

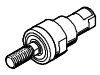
FESTO

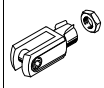
Ordering data – Piston-rod attachments — Technical data ➔ Internet: piston-rod attachment

Designation	For size	Max. load carrying ability [kN]	Part No.	Type
Rod eye SGS				
	32	0.9	**9261**	**SGS-M10x1,25**
	40	1.5	**9262**	**SGS-M12x1,25**
	50, 63	4	**9263**	**SGS-M16x1,5**
	80, 100	9	**9264**	**SGS-M20x1,5**
Rod clevis SG				
	32	0.9	**6144**	**SG-M10x1,25**
	40	1.5	**6145**	**SG-M12x1,25**
	50, 63	4	**6146**	**SG-M16x1,5**
	80, 100	9	**6147**	**SG-M20x1,5**
Coupling piece KSZ				
	32	0.9	**36125**	**KSZ-M10x1,25**
	40	1.5	**36126**	**KSZ-M12x1,25**
	50, 63	4	**36127**	**KSZ-M16x1,5**
	80, 100	9	**36128**	**KSZ-M20x1,5**

Designation	For size	Max. load carrying ability [kN]	Part No.	Type
Rod clevis SGA				
	32	0.9	**32954**	**SGA-M10x1,25**
	40	1.5	**10767**	**SGA-M12x1,25**
	50, 63	4	**10768**	**SGA-M16x1,5**
	80, 100	9	**10769**	**SGA-M20x1,5**
Self-aligning rod coupler FK				
	32	0.9	**6140**	**FK-M10x1,25**
	40	1.5	**6141**	**FK-M12x1,25**
	50, 63	4	**6142**	**FK-M16x1,5**
	80, 100	9	**6143**	**FK-M20x1,5**

Ordering data – Piston-rod attachments, corrosion-resistant — Technical data ➔ Internet: piston-rod attachment

Designation	For size	Max. load carrying ability [kN]	Part No.	Type
Rod eye CRSGS				
	32	0.9	**195582**	**CRSGS-M10x1,25**
	40	1.5	**195583**	**CRSGS-M12x1,25**
	50, 63	4	**195584**	**CRSGS-M16x1,5**
	80, 100	9	**195585**	**CRSGS-M20x1,5**
Self-aligning rod coupler CRFK				
	32	0.9	**2305778**	**CRFK-M10x1,25**
	40	1.5	**2305779**	**CRFK-M12x1,25**
	50, 63	4	**2490673**	**CRFK-M16x1,5**
	80.10	9	**2545677**	**CRFK-M20x1,5**

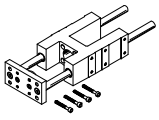
Designation	For size	Max. load carrying ability [kN]	Part No.	Type
Rod clevis CRSG				
	32	0.9	**13569**	**CRSG-M10x1,25**
	40	1.5	**13570**	**CRSG-M12x1,25**
	50, 63	4	**13571**	**CRSG-M16x1,5**
	80, 100	9	**13572**	**CRSG-M20x1,5**

Electric cylinders ESBF, with spindle drive

Accessories

FESTO

Ordering data – Guide units Technical data ➔ Internet: eagf



Stroke [mm]	Part No.	Type	Stroke [mm]	Part No.	Type
For size 32			For size 40		
10 … 100	**2782679**	**EAGF-V2-KF-32-100**	10 … 100	**2782939**	**EAGF-V2-KF-40-100**
10 … 200	**2782818**	**EAGF-V2-KF-32-200**	10 … 200	**2782976**	**EAGF-V2-KF-40-200**
10 … 320	**2782885**	**EAGF-V2-KF-32-320**	10 … 320	**2783047**	**EAGF-V2-KF-40-320**
10 … 400	**2782923**	**EAGF-V2-KF-32-400**	10 … 400	**2783080**	**EAGF-V2-KF-40-400**
1 … 500	**3038083**	**EAGF-V2-KF-32-**	1 … 500	**3038089**	**EAGF-V2-KF-40-**
For size 50			For size 63		
10 … 100	**2783639**	**EAGF-V2-KF-50-100**	10 … 100	**1725842**	**EAGF-V2-KF-63-100**
10 … 200	**2784152**	**EAGF-V2-KF-50-200**	10 … 200	**1725843**	**EAGF-V2-KF-63-200**
10 … 320	**2784164**	**EAGF-V2-KF-50-320**	10 … 320	**1725844**	**EAGF-V2-KF-63-320**
10 … 400	**2784184**	**EAGF-V2-KF-50-400**	10 … 400	**1725845**	**EAGF-V2-KF-63-400**
1 … 500	**3038094**	**EAGF-V2-KF-50-**	1 … 500	**2608521**	**EAGF-V2-KF-63-**
For size 80			For size 100		
10 … 100	**1725846**	**EAGF-V2-KF-80-100**	10 … 100	**1725850**	**EAGF-V2-KF-100-100**
10 … 200	**1725847**	**EAGF-V2-KF-80-200**	10 … 200	**1725851**	**EAGF-V2-KF-100-200**
10 … 320	**1725848**	**EAGF-V2-KF-80-320**	10 … 320	**1725852**	**EAGF-V2-KF-100-320**
10 … 400	**1725849**	**EAGF-V2-KF-80-400**	10 … 400	**1725853**	**EAGF-V2-KF-100-400**
1 … 500	**2608528**	**EAGF-V2-KF-80-**	1 … 500	**2608532**	**EAGF-V2-KF-100-**

Note

The length of the guide unit must be correspondingly longer for cylinders with piston rod extensions.

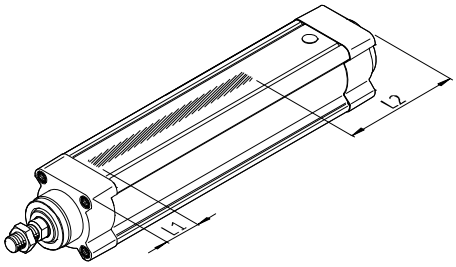
Electric cylinders ESBF, with spindle drive

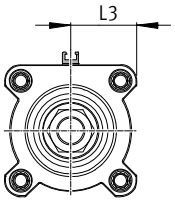
Accessories

Sensor mounting

The sensor mountings can only be attached within the highlighted area due to the asymmetry of the internal magnets.

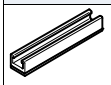
The proximity sensors may not switch reliably if they are mounted outside of this area.





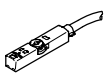
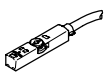
Size	L1	L2	L3
32	26	48	22.3
40	30	65	26.5
50	30	84	31.5
63	33	99	37
80	39	132	46
100	39	151	54.5

Ordering data – Sensor mounting for T-slot

	Description	Length [mm]	Part No.	Type
Sensor rail				
	For proximity sensors SME/SMT-8. If required, multiple sensor rails can be glued on one behind the other.	50	**1600093**	**SAMH-N8-SR-50**
		100	**1600118**	**SAMH-N8-SR-100**
Mounting kit				
	For proximity sensors SME/SMT-8. The overall length corresponds to the length of the sensing range plus an adjustment range of approx. 10 mm for the proximity sensors.	35	**525565**	**CRSMB-8-32/100**

Ordering data – Proximity sensor for T-slot, magneto-resistive

Technical data ➔ Internet: smt

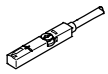
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	2.5	**574335**	**SMT-8M-A-PS-24V-E-2,5-OE**
			Plug M8x1, 3-pin	0.3	**574334**	**SMT-8M-A-PS-24V-E-0,3-M8D**
			Plug M12x1, 3-pin	0.3	**574337**	**SMT-8M-A-PS-24V-E-0,3-M12**
		NPN	Cable, 3-wire	2.5	**574338**	**SMT-8M-A-NS-24V-E-2,5-OE**
			Plug M8x1, 3-pin	0.3	**574339**	**SMT-8M-A-NS-24V-E-0,3-M8D**
N/C contact						
	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**

Electric cylinders ESBF, with spindle drive

Accessories

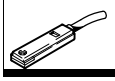
FESTO

Ordering data – Proximity sensors for T-slot, magnetic reed — Technical data ➔ Internet: sme

	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	Contacting	Cable, 3-wire	2.5	**543862**	**SME-8M-DS-24V-K-2,5-OE**
				5.0	**543863**	**SME-8M-DS-24V-K-5,0-OE**
			Cable, 2-wire	2.5	**543872**	**SME-8M-ZS-24V-K-2,5-OE**
			Plug connector M8x1, 3-pin	0.3	**543861**	**SME-8M-DS-24V-K-0,3-M8D**
N/C contact						
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	7.5	**160251**	**SME-8-O-K-LED-24**

Proximity sensor for size 63 … 100

Ordering data – Proximity sensor, magneto-resistive CRSMT — Technical data ➔ Internet: crsmt

	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot lengthwise, flush with the cylinder profile	PNP	Cable, 3-wire	2.5	**525563**	**CRSMT-8-PS-K2,5-LED-24**
				5.0	**525564**	**CRSMT-8-PS-K5-LED-24**

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**
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	**541363**	**NEBU-M12G5-K-2.5-LE3**
			5	**541364**	**NEBU-M12G5-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**
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	**541367**	**NEBU-M12W5-K-2.5-LE3**
			5	**541370**	**NEBU-M12W5-K-5-LE3**

Ordering data – Blanking screws, corrosion-resistant

	For ∅	Material	CRC[1]	Weight [g]	Part No.	Type	PU[2]
	32, 40	High-alloy steel	3	6.5	**1355016**	**DAMD-PS-M6-12-R1**	4
	50, 63		3	17.5	**650121**	**DAMD-PS-M8-16-R1**	
	80, 100		3	23	**1355026**	**DAMD-PS-M10-16-R1**	

1) Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.
2) Packaging unit

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Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

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14001:CERTCS-16248A-2006-AQ-ESN-TGA

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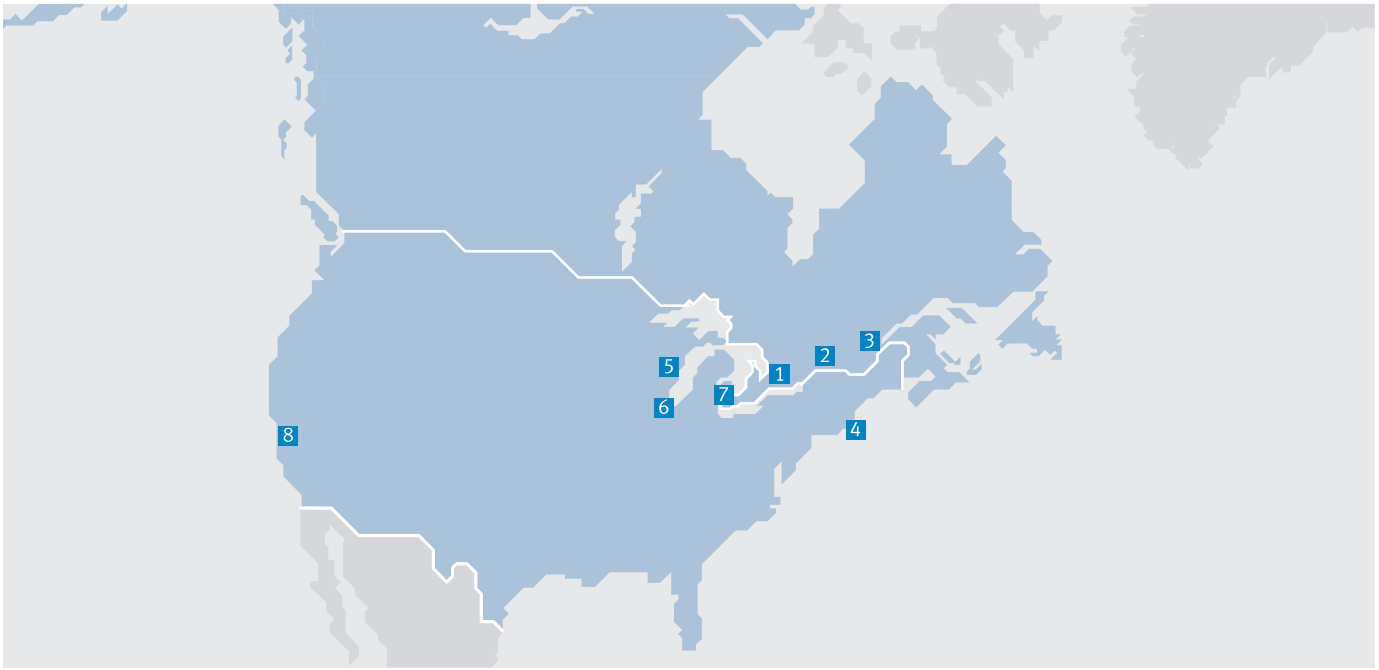
Festo North America



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