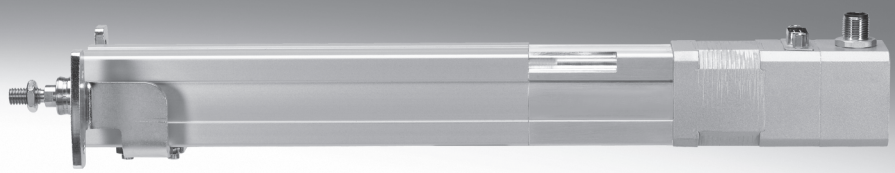
Electric cylinders EPCO, with spindle drive

FESTO



New

Electric cylinders EPCO, with spindle drive

Key features

At a glance

General

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

Properties

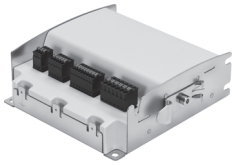
- With recirculating ball spindle
- Optionally with female thread
- Optionally with holding brake
- Protection class IP40
- Compact dimensions
- Extensive mounting accessories for various installation situations

Range of applications

- Suitable for simple applications in factory automation that in the past were mostly realised with pneumatic solutions

Everything from a single source

Electric cylinder
EPCO
➔ 6



Controller
CMMO
➔ Internet: cmmo

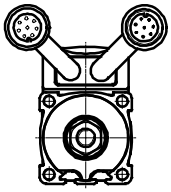
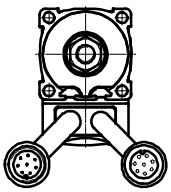
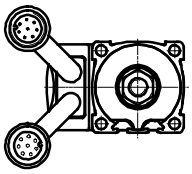
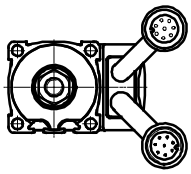
- Electric cylinder EPCO
- Controller CMMO
- Motor cable NEBM
- Encoder cable NEBM

The electric cylinder EPCO and controller CMMO form one unit.
Two activation modes possible:

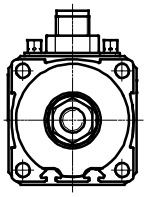
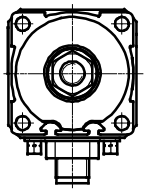
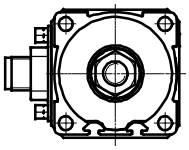
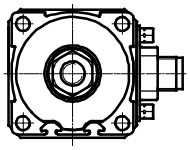
- Closed-loop operation with encoder (servo lite operation)
- Open-loop operation without encoder, for cost-optimised applications

Motor mounting variants

EPCO-16

Standard	Underneath (feature D)	Left (feature L)	Right (feature R)
			

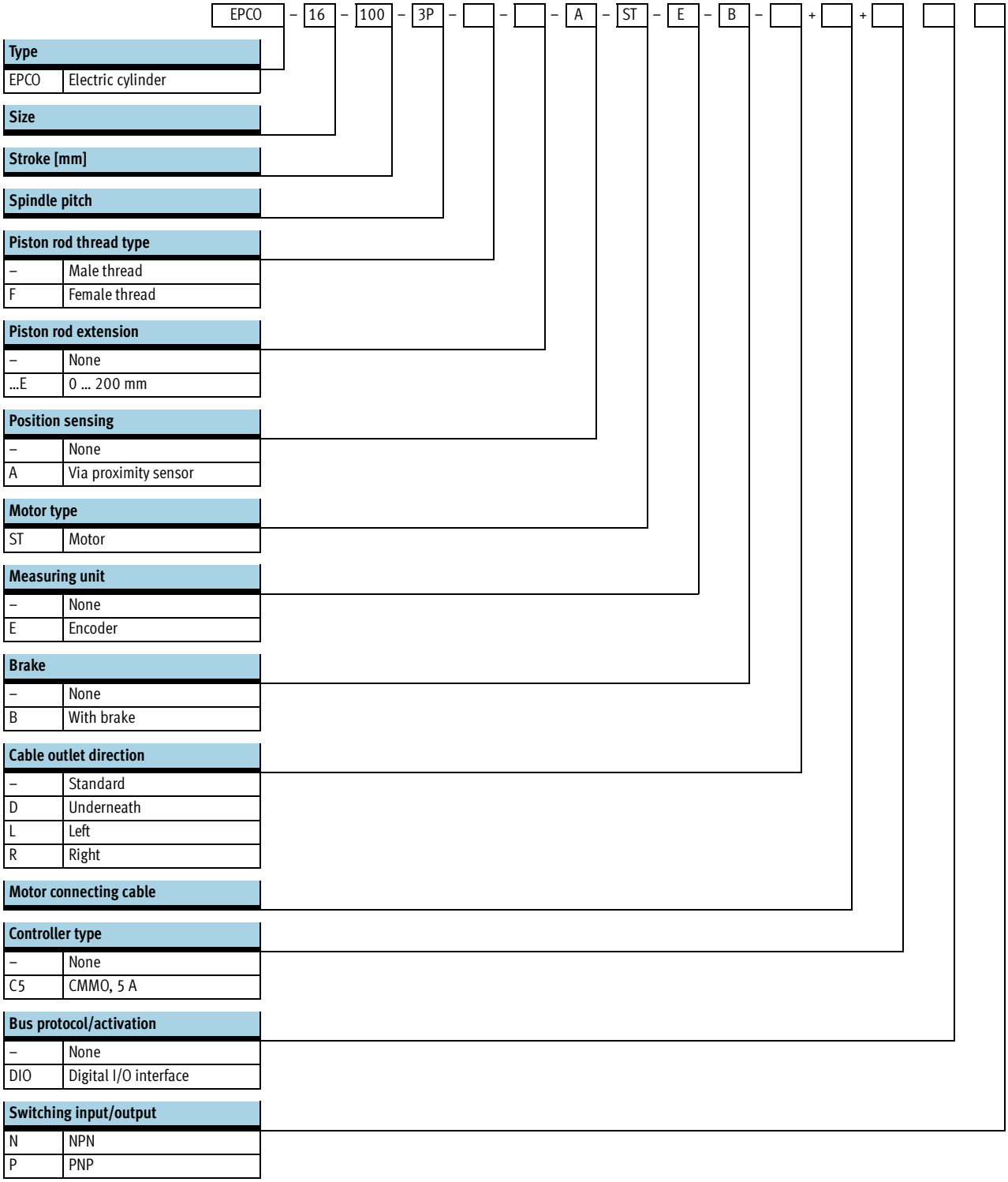
EPCO-25/-40

Standard	Underneath (feature D)	Left (feature L)	Right (feature R)
			

Electric cylinders EPCO, with spindle drive

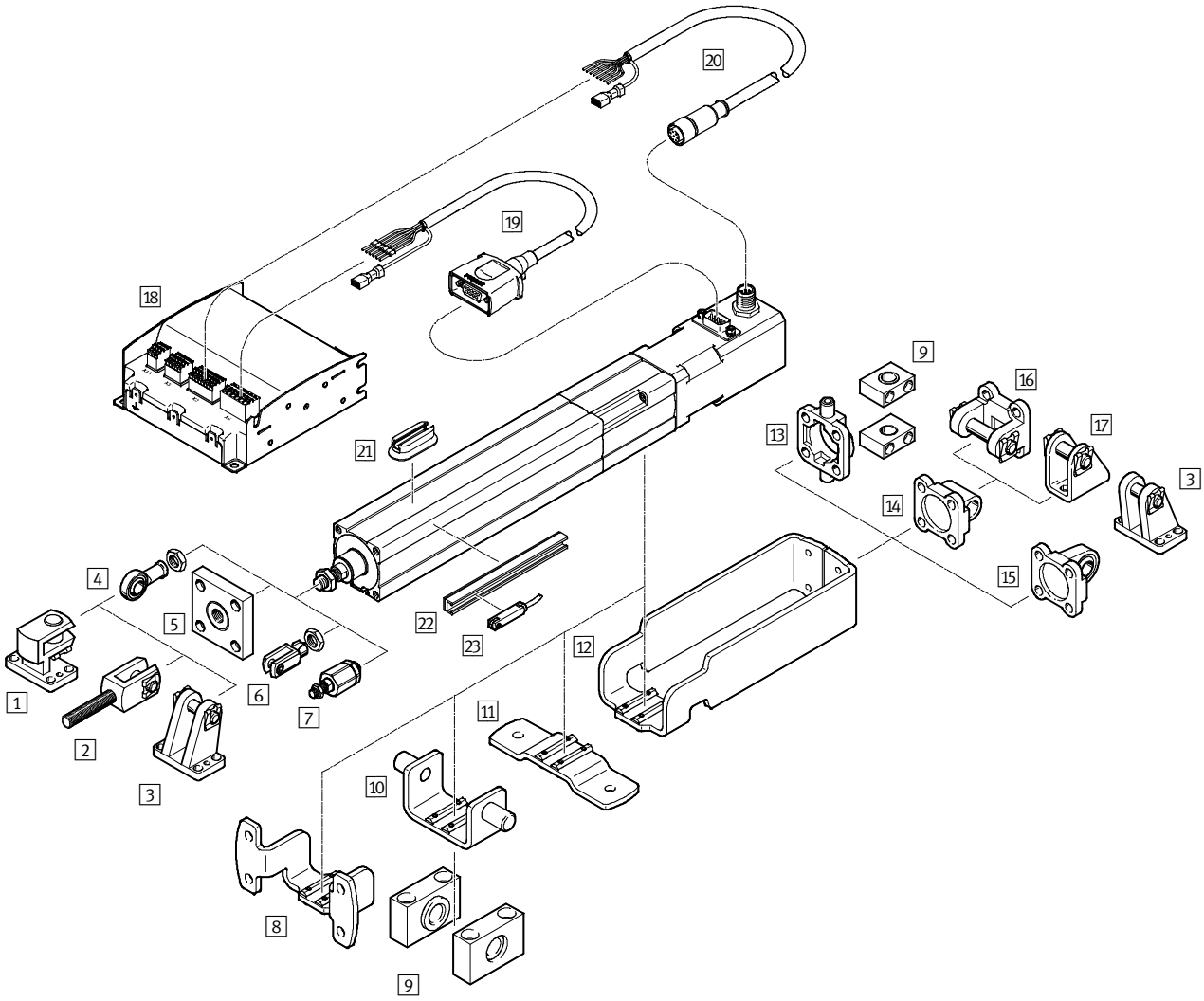
FESTO

Type codes



Electric cylinders EPCO, with spindle drive

Peripherals overview



Electric cylinders EPCO, with spindle drive

FESTO

Peripherals overview

Mounting attachments and accessories						
		Brief description	For size			→ Page/Internet
			16	25	40	
1	Right-angle clevis foot LQG	For rod eye SGS	–	–	■	28
2	Rod clevis SGA	For rod eye SGS, for swivelling cylinder mounting	–	–	■	29
3	Clevis foot LBG	For rod eye SGS, for spherical bearing	–	–	■	28
4	Rod eye SGS/CRSGS	For spherical bearing	■	■	■	29
5	Coupling piece KSG	For compensating radial deviations	–	–	■	29
6	Rod clevis SG/CRSG	Permits a swivelling movement of the cylinder in one plane	■	■	■	29
7	Self-aligning rod coupler FK	For compensating radial and angular deviations	■	■	■	29
8	Flange mounting EAHH	– For mounting the electric cylinder via the profile – Position freely selectable along the cylinder length	■	■	■	23
9	Trunnion support LNZG	For mounting the cylinder in combination with swivel mounting or trunnion flange	■	■	■	26
10	Swivel mounting EAHS	Position freely selectable along the cylinder length	■	■	■	24
11	Foot mounting EAHF	Position freely selectable along the cylinder length	■	■	■	22
12	Adapter kit EAHA	For mounting swivel flange and trunnion flange on the front side. The only motor connection that can be ordered with this adapter kit is for top or bottom mounting.	■	■	■	25
13	Trunnion flange ZNCF	For spherical bearing. It cannot be mounted when turned by 90°.	–	–	■	26
14	Swivel flange SNCL	For spherical bearing	■	■	■	27
15	Swivel flange SNCS	For spherical bearing	–	–	■	27
16	Swivel flange SNCB/SNCB-...-R3	For spherical bearing	–	–	■	28
17	Clevis foot LBN	For spherical bearing	■	■	■	28
18	Controller CMMO	For parameterising and positioning the electric cylinder	■	■	■	cmmo
19	Motor cable NEBM	For connecting the motor and controller	■	■	■	cmmo
20	Encoder cable NEBM	For connecting the encoder and controller	■	■	■	cmmo
21	Mounting kit CRSMB	For proximity sensor SME/SMT-8	■	■	■	30
22	Sensor rail SAMH	– For proximity sensor SME/SMT-8 – Size 25 only with proximity sensor SMT-8	■	■	■	30
23	Proximity sensor SME/SMT-8	For homing or position sensing	■	■	■	29

Note

For applications involving high loads, the cylinder must not be mounted exclusively via the mounting thread on the front.

The mass of the motor can be amplified by the lever effect, which can result in the mounting thread being torn out.

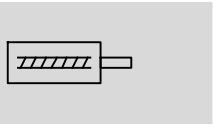
New

Electric cylinders EPCO, with spindle drive

Technical data

FESTO

Function



Size
16 ... 40

Stroke length
1 ... 400 mm

General technical data				
Size		16	25	40
Design		Electric cylinder with recirculating ball spindle and motor		
Piston rod thread				
Male thread		M6	M8	M10x1.25
Female thread		M4	M6	M8
Working stroke	[mm]	50 ... 200	50 ... 300	50 ... 400
Stroke reserve	[mm]	0		
Max. torsion angle of the piston rod	[°]	≤ ±2	≤ ±1.5	≤ ±1
Impact energy at the end positions	[J]	0.1x 10^{-3}	0.2x 10^{-3}	0.4x 10^{-3}
Position sensing		Via proximity sensor		
Type of mounting		Via female thread		
		Via accessories		
Mounting position		Any		

Mechanical data							
Size		16		25		40	
Spindle design		3P	8P	3P	10P	5P	12.7P
Spindle pitch[1]	[mm/rev.]	3	8	3	10	5	12.7
Spindle diameter	[mm]	8	8	10	10	12	12.7
Max. effective load							
Horizontal[2]	[kg]	24	8	60	20	120	40
Vertical	[kg]	12	4	30	10	60	20
Max. feed force F_x	[N]	125	50	350	105	650	250
Max. speed	[mm/s]	125	300	150	500	180	460
Max. acceleration	[m/s^2]	10					
Reversing backlash[3]	[mm]	≤ 0.1					
Repetition accuracy	[mm]	±0.02					

1) Nominal value varies due to component tolerances
2) Note max. lateral force
3) In new condition

Electric cylinders EPCO, with spindle drive

Technical data

FESTO

Electrical data				
Size		16	25	40
Motor				
Nominal voltage	[V DC]	24		
Nominal current	[A]	1.4	3	4.2
Holding brake				
Nominal voltage	[V DC]	24 ±10%		
Rated output	[W]	8		
Encoder				
Pulses/revolution		500		
Zero pulse		Yes		
Line driver		RS422 protocol		
Operating voltage of encoder	[V]	5		

Operating and environmental conditions		
Ambient temperature[1]	[°C]	0 ... +50
Storage temperature	[°C]	–20 ... +60
Relative air humidity	[%]	45 ... 80 (non-condensing)
Protection class to IEC 60529		IP40
Corrosion resistance class CRC[2]		1
Duty cycle	[%]	100
CE mark (see declaration of conformity)		To EU EMC Directive[3]
Certification		C-Tick

1) Note operating range of proximity sensors
2) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.
3) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com ➔ Support ➔ User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Weight [kg]				
Size		16	25	40
Basic weight with 0 mm stroke				
EPCO-...-ST		0.62	1.04	2.49
EPCO-...-ST-E		0.62	1.13	2.59
EPCO-...-ST-B		0.68	1.22	2.71
EPCO-...-ST-EB		0.68	1.28	2.77
Additional weight per 100 mm stroke		0.17	0.34	0.55
Moving load with 0 mm stroke		0.07	0.15	0.42
Moving load per 10 mm stroke		0.0020	0.0026	0.0049

Mass moment of inertia							
Size		16		25		40	
Spindle design		3P	8P	3P	10P	5P	12.7P
J_0 with 0 mm stroke							
EPCO-...-ST	[kg mm²]	2.28	2.29	9.33	9.40	33.25	33.75
EPCO-...-ST-B	[kg mm²]	2.97	2.98	10.63	10.70	34.55	35.05
j_S per meter stroke	[kg mm²/kg]	2.53	2.65	4.87	5.78	11.66	16.70
j_L per kg effective load	[kg mm²/m]	0.23	1.62	0.23	2.54	0.64	4.09

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

$J_A = J_0 + j_S \times \text{working stroke [m]} + j_L \times m_{\text{moving effective load}}$ [kg]

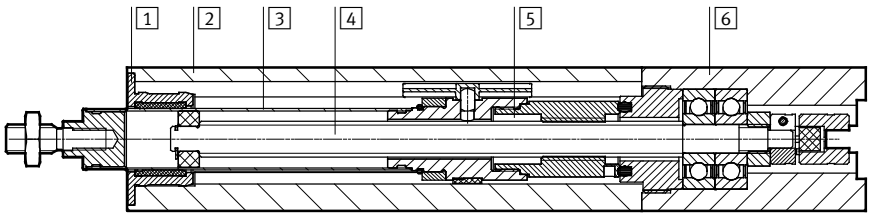
Electric cylinders EPCO, with spindle drive

Technical data

FESTO

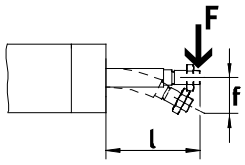
Materials

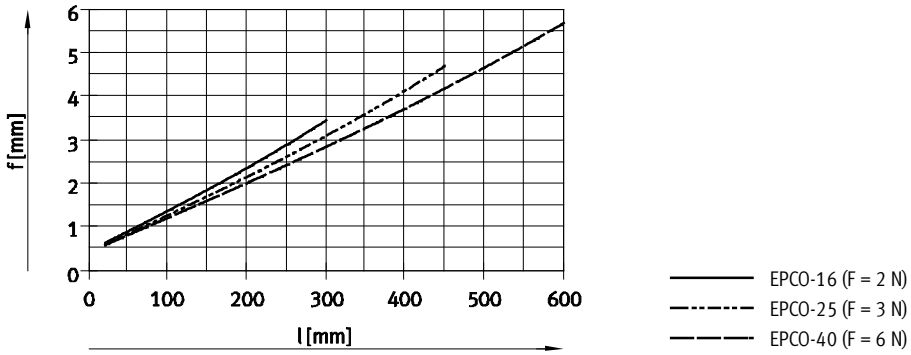
Sectional view



Electric cylinder		
1	Bearing cap	Wrought aluminium alloy
2	Cylinder barrel	Wrought aluminium alloy
3	Piston rod	High-alloy stainless steel
4	Spindle	Steel
5	Spindle nut	Steel
6	Drive cover	Wrought aluminium alloy
	Note on materials	Contains PWIS (paint-wetting impairment substances)
		RoHS-compliant

Piston rod deflection f as a function of projection l and lateral force F



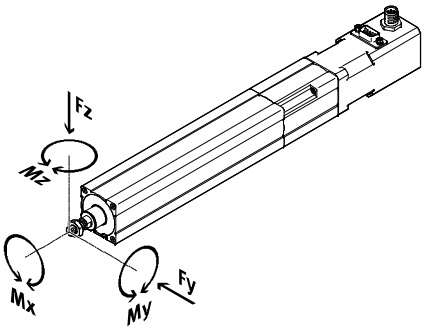


Electric cylinders EPCO, with spindle drive

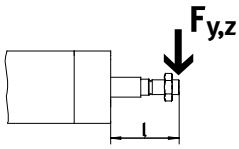
Technical data

FESTO

Maximum permissible loads on the piston rod



If there are two or more forces and torques simultaneously acting on the piston rod, the following equations must be satisfied:

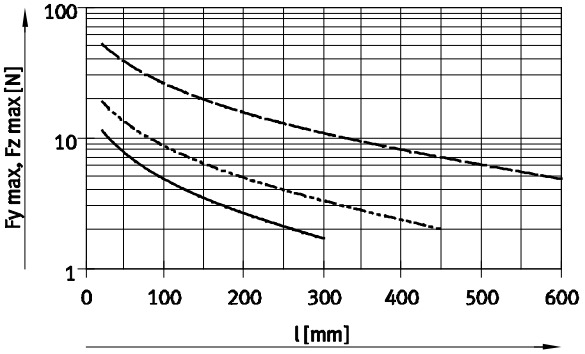


$$\frac{|Fy|}{Fy_{max.}} + \frac{|Fz|}{Fz_{max.}} + \frac{|My|}{My_{max.}} + \frac{|Mz|}{Mz_{max.}} \leq 1$$

$$|Fx| \leq Fxmax$$

$$|Mx| \leq Mxmax$$

Maximum permissible lateral forces Fy_{max} and Fz_{max} on the piston rod as a function of projection l



Size		16		25		40	
Spindle design		3P	8P	3P	10P	5P	12.7P
Fx_{max} (static)	[N]	125	50	350	105	650	250
Mx_{max}	[Nm]	0		0		0	
My_{max}, Mz_{max}	[Nm]	0.6		1.0		3.3	

Note

PositioningDrives sizing software
➔ www.festo.com

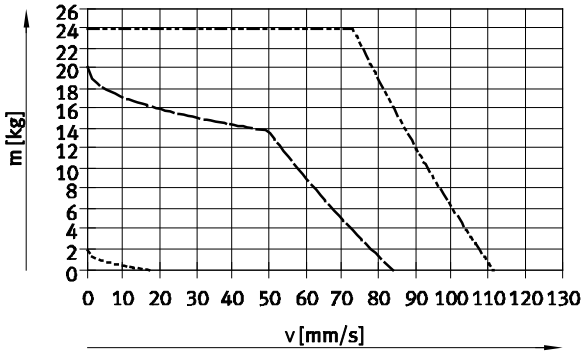
Electric cylinders EPCO, with spindle drive

Technical data

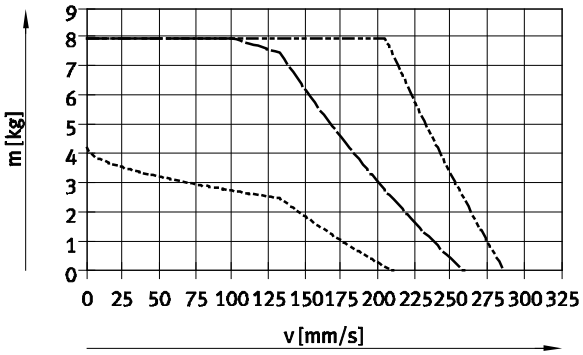
Effective load m as a function of speed v and acceleration a

Horizontal mounting position

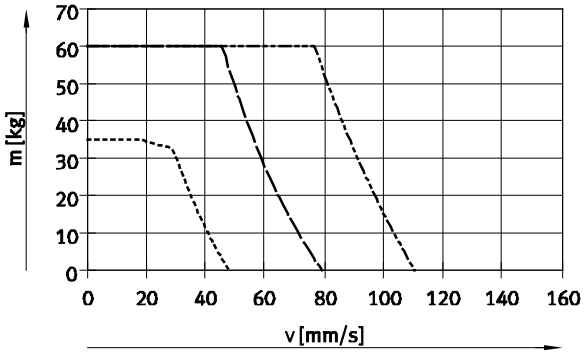
EPCO-16-3P



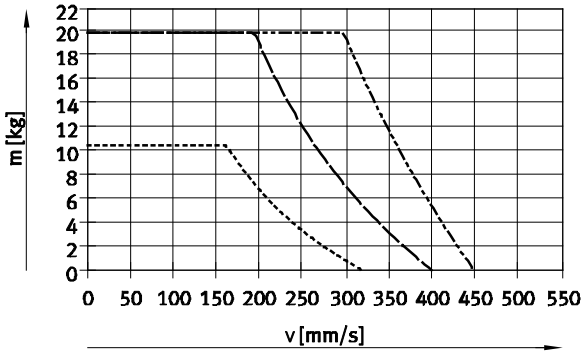
EPCO-16-8P



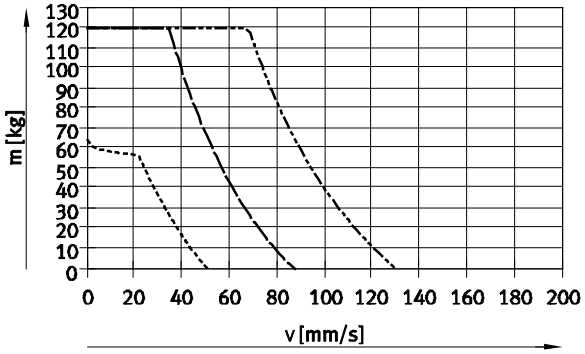
EPCO-25-3P



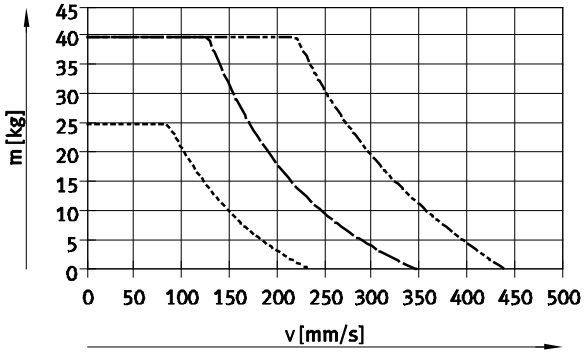
EPCO-25-10P



EPCO-40-5P



EPCO-40-12,7P



——·——·—— a = 2.5 m/s²

———— a = 5 m/s²

---------- a = 10 m/s²

Electric cylinders EPCO, with spindle drive

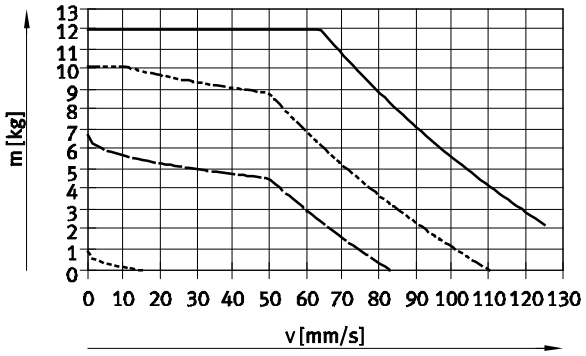
Technical data

FESTO

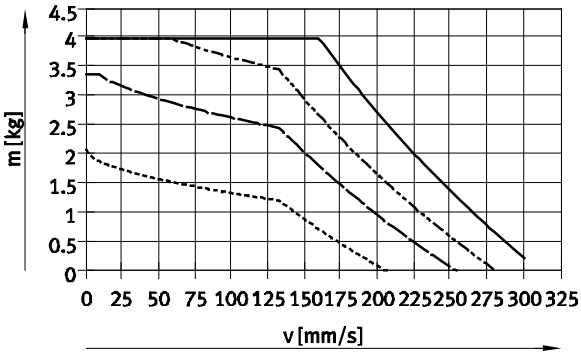
Effective load m as a function of speed v and acceleration a

Vertical mounting position

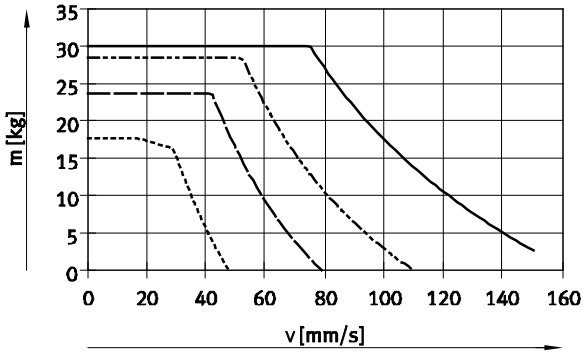
EPCO-16-3P



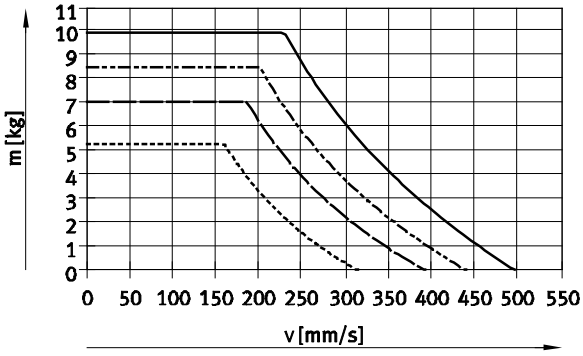
EPCO-16-8P



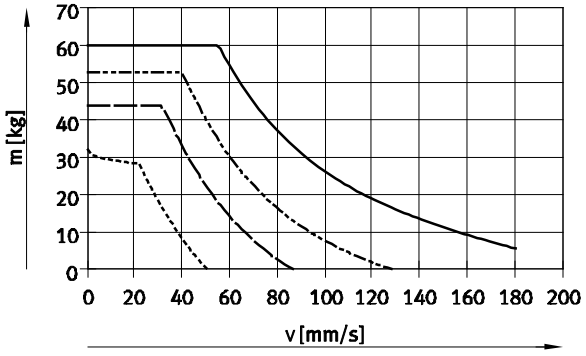
EPCO-25-3P



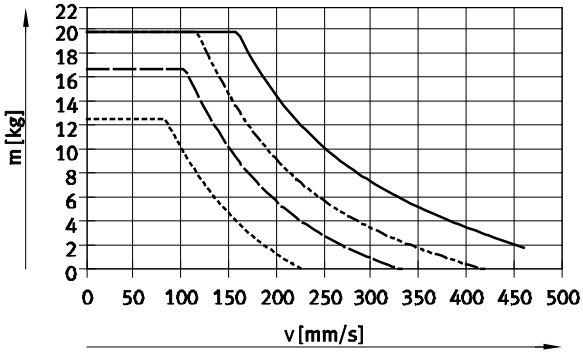
EPCO-25-10P



EPCO-40-5P



EPCO-40-12,7P



a = 0 m/s²
a = 2.5 m/s²
a = 5 m/s²
a = 10 m/s²

Electric cylinders EPCO, with spindle drive

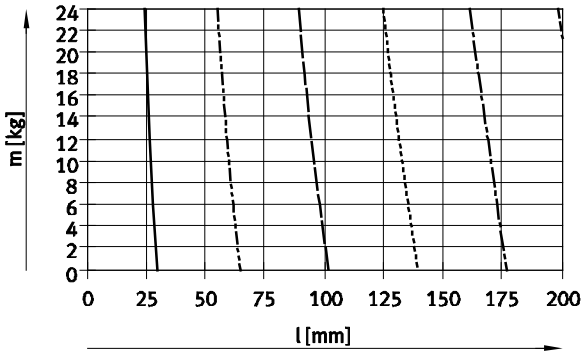
Technical data

FESTO

Positioning time t as a function of effective load m and travel distance l

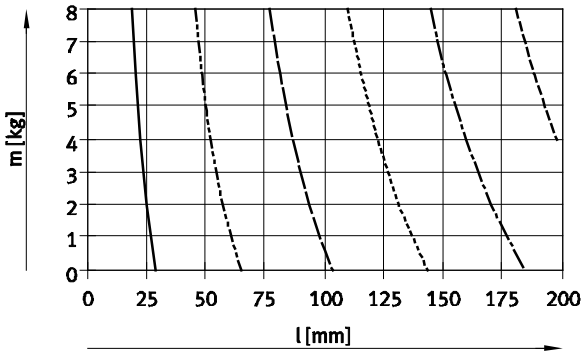
Horizontal mounting position

EPCO-16-3P



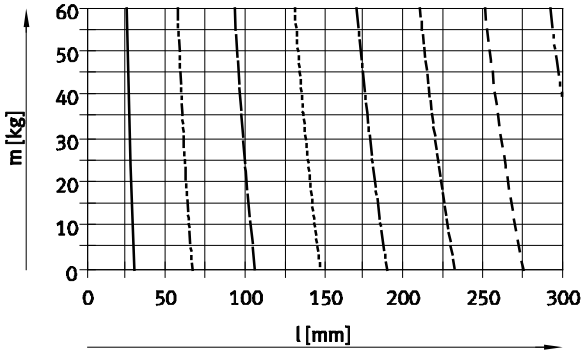
t = 0.3 s
t = 0.6 s
t = 0.9 s
t = 1.2 s
t = 1.5 s
t = 1.8 s

EPCO-16-8P



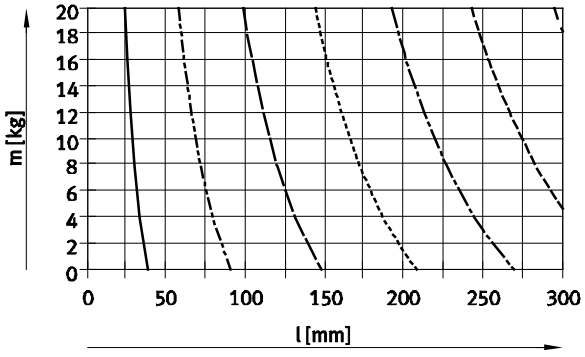
t = 0.15 s
t = 0.3 s
t = 0.45 s
t = 0.6 s
t = 0.75 s
t = 0.9 s

EPCO-25-3P



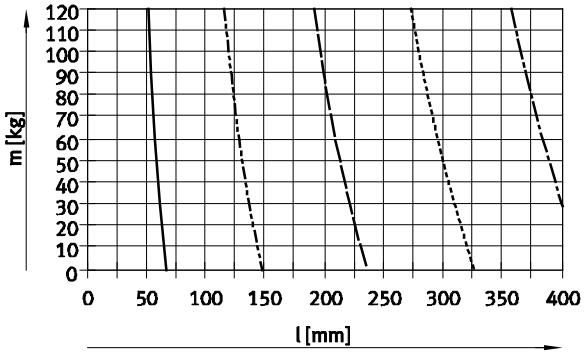
t = 0.3 s
t = 0.6 s
t = 0.9 s
t = 1.2 s
t = 1.5 s
t = 1.8 s
t = 2.1 s
t = 2.4 s

EPCO-25-10P



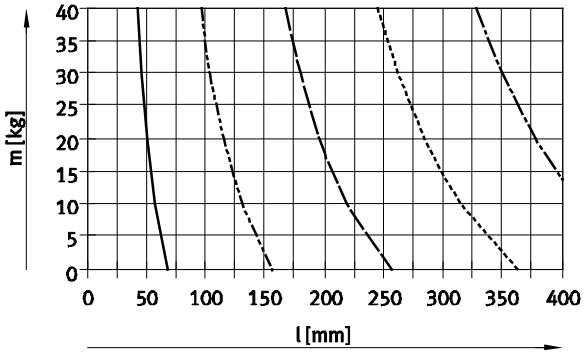
t = 0.15 s
t = 0.30 s
t = 0.45 s
t = 0.60 s
t = 0.75 s
t = 0.90 s
t = 1.05 s

EPCO-40-5P



t = 0.5 s
t = 1.0 s
t = 1.5 s
t = 2.0 s
t = 2.5 s

EPCO-40-12,7P



t = 0.25 s
t = 0.50 s
t = 0.75 s
t = 1.00 s
t = 1.25 s

Electric cylinders EPCO, with spindle drive

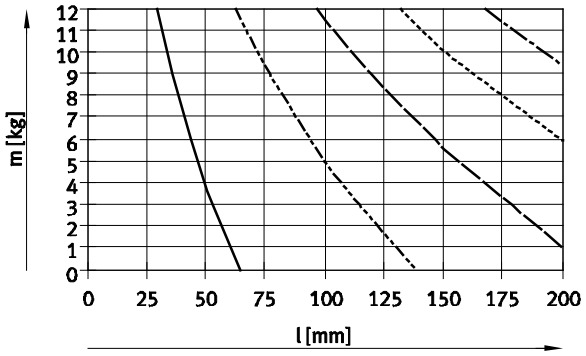
Technical data

FESTO

Positioning time t as a function of effective load m and travel distance l

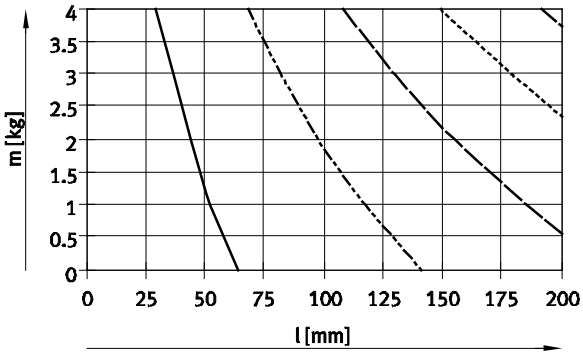
Vertical mounting position

EPCO-16-3P



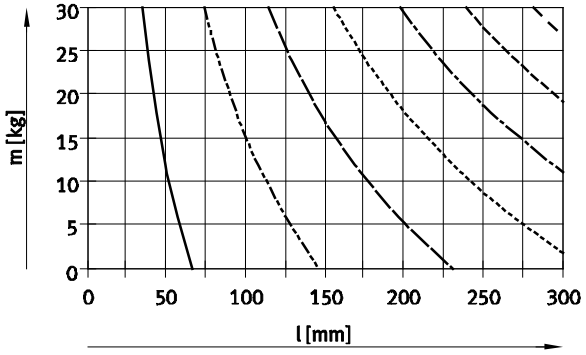
t = 0.6 s
t = 1.2 s
t = 1.8 s
t = 2.4 s
t = 3.0 s

EPCO-16-8P



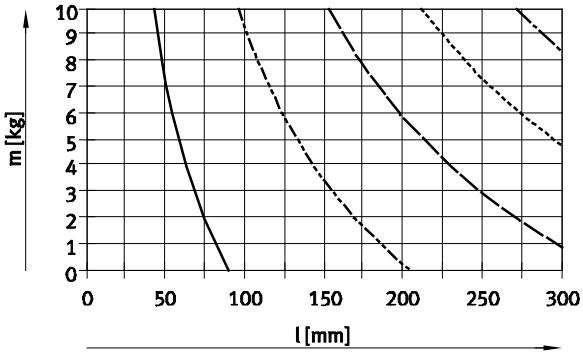
t = 0.3 s
t = 0.6 s
t = 0.9 s
t = 1.2 s
t = 1.5 s

EPCO-25-3P



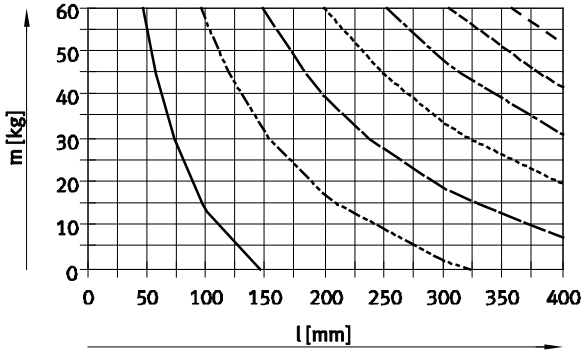
t = 0.6 s
t = 1.2 s
t = 1.8 s
t = 2.4 s
t = 3.0 s
t = 3.6 s
t = 4.2 s

EPCO-25-10P



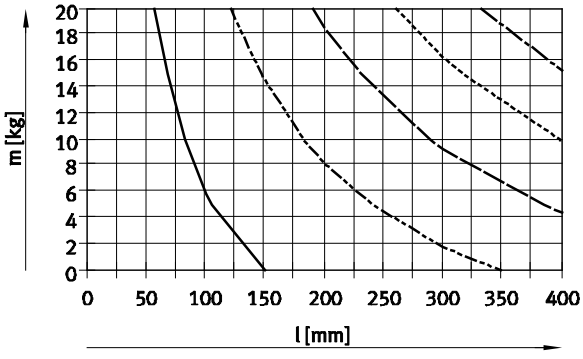
t = 0.3 s
t = 0.6 s
t = 0.9 s
t = 1.2 s
t = 1.5 s

EPCO-40-5P



t = 1 s
t = 2 s
t = 3 s
t = 4 s
t = 5 s
t = 6 s
t = 7 s

EPCO-40-12,7P



t = 0.5 s
t = 1.0 s
t = 1.5 s
t = 2.0 s
t = 2.5 s

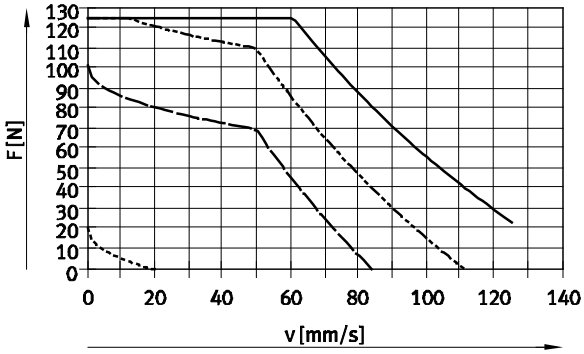
Electric cylinders EPCO, with spindle drive

Technical data

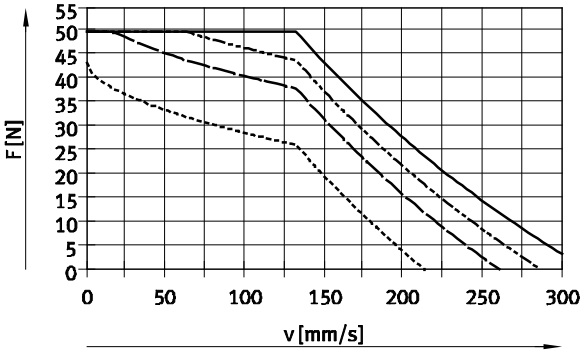
FESTO

Feed force F as a function of speed v and acceleration a

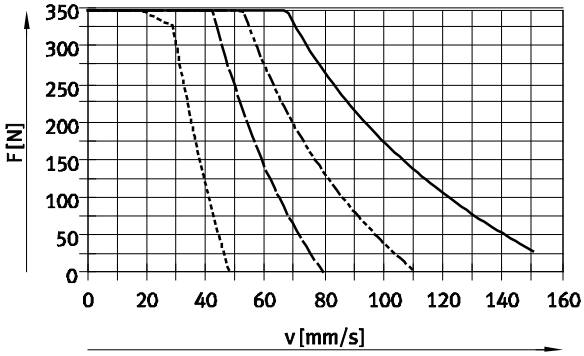
EPCO-16-3P



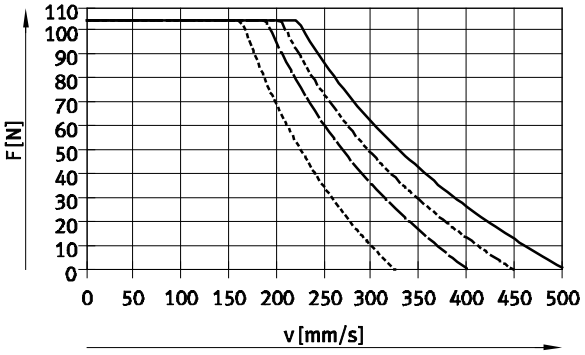
EPCO-16-8P



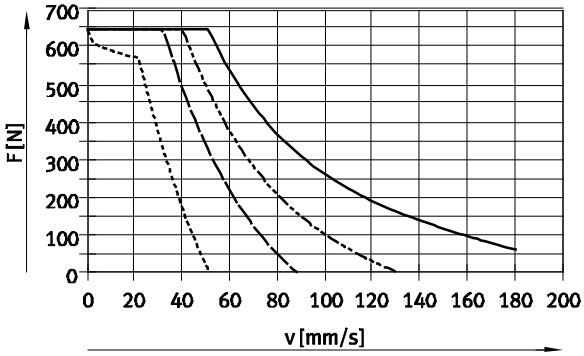
EPCO-25-3P



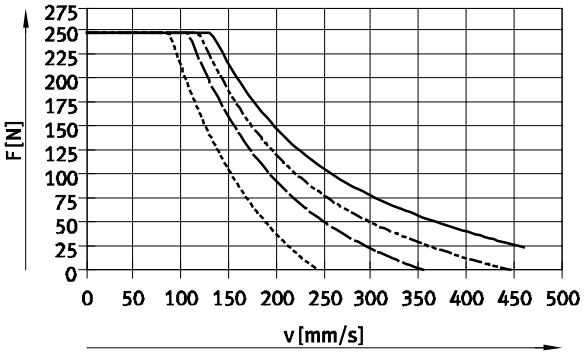
EPCO-25-10P



EPCO-40-5P



EPCO-40-12,7P



a = 0 m/s²
a = 2.5 m/s²
a = 5 m/s²
a = 10 m/s²

Electric cylinders EPCO, with spindle drive

Technical data

FESTO

Calculating the mean feed force F_{xm} with the electric cylinder EPCO

The peak feed force value must not exceed the maximum feed force within a movement cycle. The peak value is generally achieved in vertical operation during the acceleration phase of the upwards stroke. If the maximum feed force is exceeded, this can increase wear and thus shorten the service life of the ball screw spindle. The maximum speed must likewise not be exceeded.

$F_x \leq F_{xmax.}$

and

$v_x \leq v_{xmax.}$

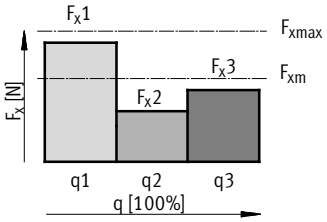
Mean feed force (to DIN 69 051-4)

During operation, the continuous feed force may be briefly exceeded up to the maximum feed force. The continuous feed force must, however, be adhered to when averaged over a movement cycle.

$F_{xm} \leq F_{continuous}$

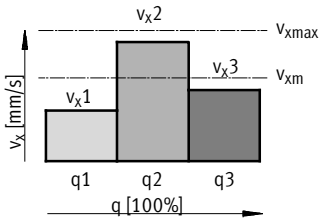
$$F_{xm} = \sqrt[3]{\sum F_x^{\,3} \times \frac{v_x}{v_{xm}} \times \frac{q}{100}} =$$

$$F_{xm} = \sqrt[3]{F_{x1}^{\,3} \times \frac{v_{x1}}{v_{xm}} \times \frac{q_1}{100} + F_{x2}^{\,3} \times \frac{v_{x2}}{v_{xm}} \times \frac{q_2}{100} + F_{x3}^{\,3} \times \frac{v_{x3}}{v_{xm}} \times \frac{q_3}{100} + \ldots}$$



Mean feed speed (to DIN 69 051-4)

$$v_{xm} = \sum v_x \times \frac{q}{100} = v_{x1} \times \frac{q_1}{100} + v_{x2} \times \frac{q_2}{100} + v_{x3} \times \frac{q_3}{100} + \ldots$$



F_x	Feed force	v_x	Feed speed
F_{xm}	Mean feed force	v_{xm}	Mean feed speed
F_{xmax}	Max. feed force	v_{xmax}	Max. feed speed
$F_{xcontinuous}$	Continuous feed force		
q	Time		

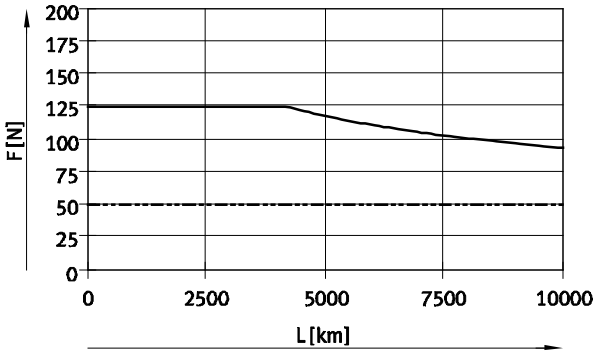
Electric cylinders EPCO, with spindle drive

Technical data

FESTO

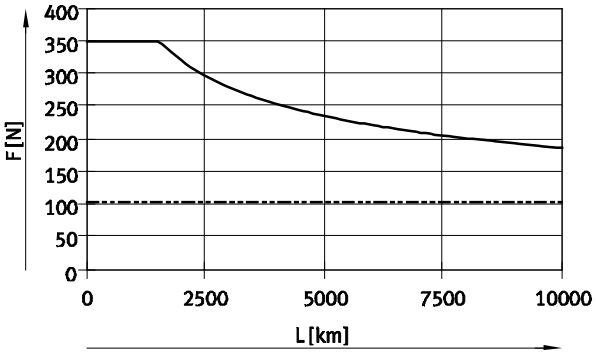
Mean feed force F as a function of running performance L (to DIN 69 051-4)

EPCO-16



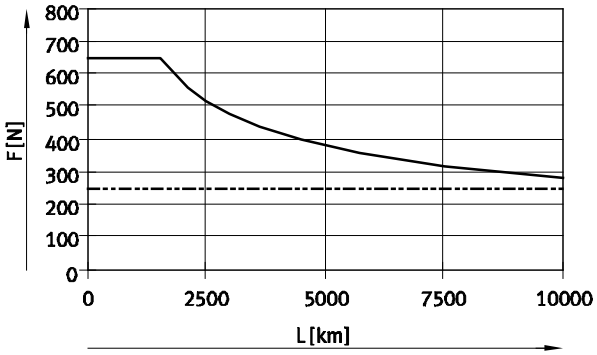
EPCO-16-3P
EPCO-16-8P

EPCO-25



EPCO-25-10P
EPCO-25-10P

EPCO-40



EPCO-40-5P
EPCO-40-12,7P

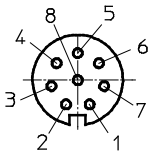
Note

- The specifications for running performance are based on experimentally determined and theoretically calculated data. The running performance attainable in practice can deviate considerably from the specified curves under different parameters.

Pin allocation

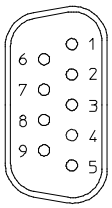
Motor

EPCO-16



Pin	Function
1	String A
2	String A/
3	String B
4	String B/
5	n.c.
6	n.c.
7	Brake +24 V DC[1]
8	Brake GND[1]
–	–

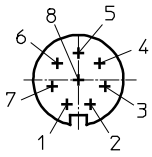
EPCO-25/-40



Pin	Function
1	String A
2	String A/
3	String B
4	String B/
5	n.c.
6	n.c.
7	Brake +24 V DC[1]
8	Brake GND[1]
9	n.c.

Encoder

EPCO-16/-25/-40



Pin	Function
1	Signal trace A
2	Signal trace A/
3	Signal trace B
4	Signal trace B/
5	GND encoder
6	Signal trace N
7	Signal trace N/
8	VCC auxiliary supply +5 V
GND	Shield on plug housing

1) Only on motors with brake.

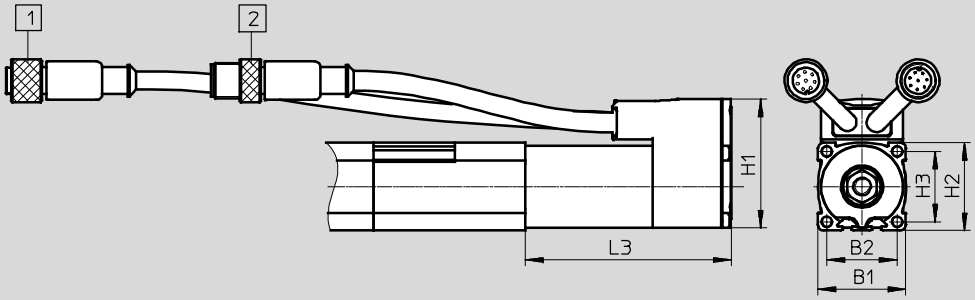
Electric cylinders EPCO, with spindle drive

Technical data

FESTO

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

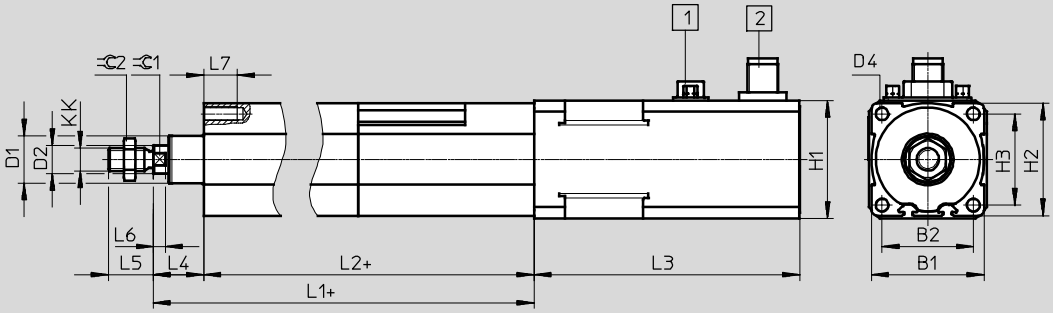
Size 16



1 Motor connection:
Round plug M12, 8-pin, socket
cable length: 350 mm

2 Encoder connection:
Round plug M12, 8-pin, pins
cable length: 250 mm

Size 25, 40



1 Motor connection:
SUB-D plug, 9-pin, pins

2 Encoder connection:
Round plug M12, 8-pin, pins

\+ = plus stroke length

Size [mm]	B1	B2	D1 ∅ ±0.05	D4	H1	H2	H3	KK	L1	L2 ±1
16	30	24	13.27	M4	44	30	24	M6	143	127
25	40	32.5	17.27	M5	$42^{+0.3}$	40	32.5	M8	174.6	156.6
40	55	42	26.52	M6	56.4	55	42	M10x1.25	214.2	192.7

Size [mm]	L3	-E	-B	-EB	L4	L5 −0.5	L6 −0.15	L7	MM −0.1	⌀C1	⌀C2
16	70±1	70±1	96±1.5	96±1.5	16	12	3.7	10	8	7	10
25	66±1	94.4±1.2	114.4±1.3	127.4±1.3	18	16	4.2	12	10	9	13
40	73.5±0.8	102.5±1.1	123.5±1.1	138±1.1	21.5	19	4.7	14	12	10	17

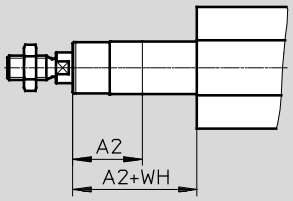
Electric cylinders EPCO, with spindle drive

Technical data

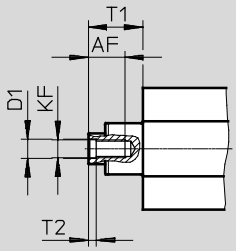
FESTO

Variants

E – Extended piston rod



F – Female piston rod thread



Size [mm]	A2 max.	AF	KF	T1	T2	D1	WH
16	100	10	M4	16	1.5	4.3	16
25	150	12	M6	18	2.6	6.4	18
40	200	14	M8	21.5	3.3	8.4	21.5

Electric cylinders EPCO, with spindle drive

Technical data

FESTO

Ordering data – EPCO-16					
Stroke [mm]	Part No.	Type	Stroke [mm]	Part No.	Type
Spindle pitch 3 mm, with encoder			Spindle pitch 8 mm, with encoder		
50	**1476415**	**EPCO-16-50-3P-ST-E**	50	**1476522**	**EPCO-16-50-8P-ST-E**
100	**1476417**	**EPCO-16-100-3P-ST-E**	100	**1476524**	**EPCO-16-100-8P-ST-E**
150	**1476419**	**EPCO-16-150-3P-ST-E**	150	**1476526**	**EPCO-16-150-8P-ST-E**
200	**1476421**	**EPCO-16-200-3P-ST-E**	200	**1476528**	**EPCO-16-200-8P-ST-E**

Ordering data – EPCO-25					
Stroke [mm]	Part No.	Type	Stroke [mm]	Part No.	Type
Spindle pitch 3 mm, with encoder			Spindle pitch 10 mm, with encoder		
50	**1470698**	**EPCO-25-50-3P-ST-E**	50	**1470769**	**EPCO-25-50-10P-ST-E**
100	**1470700**	**EPCO-25-100-3P-ST-E**	100	**1470771**	**EPCO-25-100-10P-ST-E**
150	**1470702**	**EPCO-25-150-3P-ST-E**	150	**1470773**	**EPCO-25-150-10P-ST-E**
200	**1470704**	**EPCO-25-200-3P-ST-E**	200	**1470775**	**EPCO-25-200-10P-ST-E**
300	**1470706**	**EPCO-25-300-3P-ST-E**	300	**1470777**	**EPCO-25-300-10P-ST-E**

Ordering data – EPCO-40					
Stroke [mm]	Part No.	Type	Stroke [mm]	Part No.	Type
Spindle pitch 5 mm, with encoder			Spindle pitch 12.7 mm, with encoder		
50	**1472501**	**EPCO-40-50-5P-ST-E**	50	**1472617**	**EPCO-40-50-12.7P-ST-E**
100	**1472503**	**EPCO-40-100-5P-ST-E**	100	**1472619**	**EPCO-40-100-12.7P-ST-E**
150	**1472505**	**EPCO-40-150-5P-ST-E**	150	**1472621**	**EPCO-40-150-12.7P-ST-E**
200	**1472507**	**EPCO-40-200-5P-ST-E**	200	**1472623**	**EPCO-40-200-12.7P-ST-E**
300	**1472509**	**EPCO-40-300-5P-ST-E**	300	**1472625**	**EPCO-40-300-12.7P-ST-E**

Note

Variants ordered via modular product system ➔ 20

Note

Position sensing is only possible in combination with feature "A" (position sensing) ➔ 20 (modular product system)

Electric cylinders EPCO, with spindle drive

Ordering data – Modular products

FESTO

Ordering table

	Size		16	25	40	Condi-tions	Code		Enter code
M	Module No.		**1476585**	**1470874**	**1472887**				
	Function		Electric cylinder				**EPCO**		EPCO
	Size		16	25	40		**-...**		
	Stroke	[mm]	50				**-...**		
			75						
			100						
			125						
			150						
			175						
			200						
			–	250					
			–	300					
			–		350				
			–		400				
	Spindle pitch	[mm]	3	3			**-...P**		
					5				
			8						
				10					
					12.7				
O	Piston rod thread type		Male thread						
			Female thread				**-F**		
	Piston rod extension	[mm]	None						
			1 ... 100	1 ... 150	1 ... 200		**-...E**		
	Position sensing		None						
			Via proximity sensor			1	**-A**		
M	Motor type		Stepper motor				**-ST**		ST

1 **A** Must be selected if encoder E is not selected.

Transfer order code

	EPCO	–		–		–		–		–		–		–	**ST**

Electric cylinders EPCO, with spindle drive

FESTO

Ordering data – Modular products

Ordering table

Size		16	25	40	Condi-tions	Code		Enter code
[0]	Measuring unit	None						
		Encoder				**-E**		
	Brake	None						
		Brake				**B**		
	Cable outlet direction	Standard						
		Underneath				**-D**		
		Left				**-L**		
		Right				**-R**		
	Connecting cable to motor controller, suitable for use with energy chains	1.5 m, straight plug			[2]	**+1.5E**		
		1.5 m, angled plug				**+1.5EA**		
		2.5 m, straight plug			[2]	**+2.5E**		
		2.5 m, angled plug				**+2.5EA**		
		5 m, straight plug			[2]	**+5E**		
		5 m, angled plug				**+5EA**		
		7 m, straight plug			[2]	**+7E**		
		7 m, angled plug				**+7EA**		
		10 m, straight plug			[2]	**+10E**		
		10 m, angled plug				**+10EA**		
	Controller type	None						
		CMMO, 5 A			[3]	**+C5**		
	Bus protocol/activation	None						
		Digital I/O interface				**DIO**		
	Switching input/output	NPN				**N**		
		PNP				**P**		

[2] **1.5E, 2.5E, 5E, 7E, 10E** Not with size 25 and 40.

[3] **C5** Only with encoder E.

Transfer order code

	–		–		+		+			

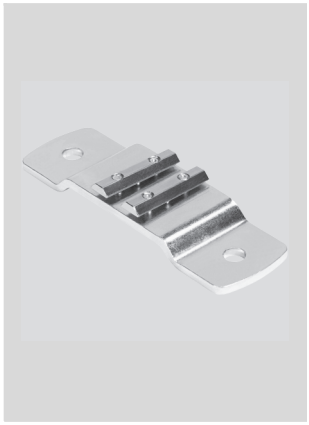
Electric cylinders EPCO, with spindle drive

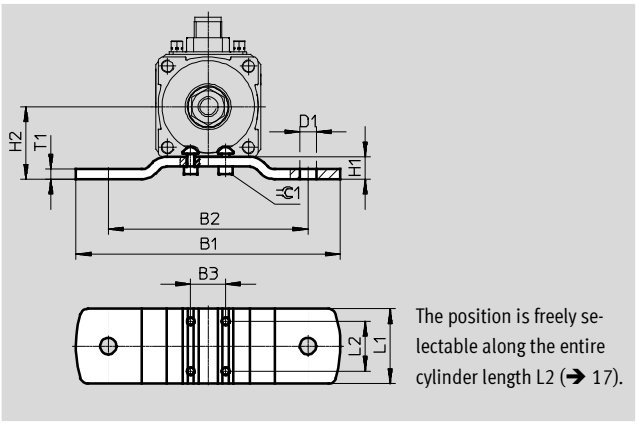
Accessories

FESTO

Foot mounting EAHF

Material:
Galvanised steel
RoHS-compliant





The position is freely selectable along the entire cylinder length L2 (➔ 17).

Dimensions and ordering data

For size [mm]	B1	B2	B3	D1 ∅	H1	H2	L1
16	86	60	10	5.5	7	22	30
25	106	80	14	6.6	9	29	30
40	130	100	18	9	10.5	38	40

For size [mm]	L2	T1	=C1	CRC[1)]	Weight [g]	Part No.	Type
16	20	3	2.5	1	60	**1434903**	**EAHF-P1-16**
25	20	4	2.5	1	100	**1434904**	**EAHF-P1-25**
40	20	4	4	1	160	**1434905**	**EAHF-P1-40**

1) Corrosion resistance class 1 according to Festo standard 940 070.
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

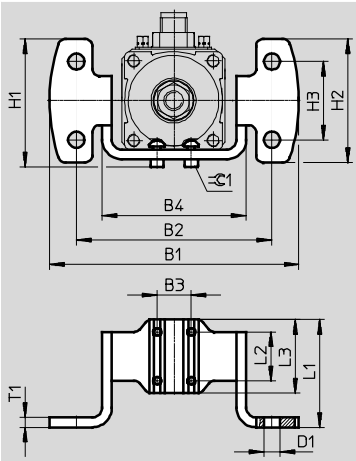
Electric cylinders EPCO, with spindle drive

Accessories

FESTO

Flange mounting EAHH

Material:
Galvanised steel
RoHS-compliant



The position is freely selectable along the entire cylinder length L2 (➔ 17).

Dimensions and ordering data

For size [mm]	B1	B2	B3	B4	D1 ∅	H1	H2	H3	L1
16	77.2	60	10	45	5.5	38.3	34.6	20	43
25	102	80	14	59	6.6	52.3	50.6	32	44
40	119	100	18	76	9	64.5	56	36	54

For size [mm]	L2	L3	T1	⫩1	CRC[1)]	Weight [g]	Part No.	Type
16	20	30	3	2.5	1	80	**1434906**	**EAHH-P1-16**
25	20	30	4	2.5	1	150	**1434907**	**EAHH-P1-25**
40	20	40	4	4	1	240	**1434908**	**EAHH-P1-40**

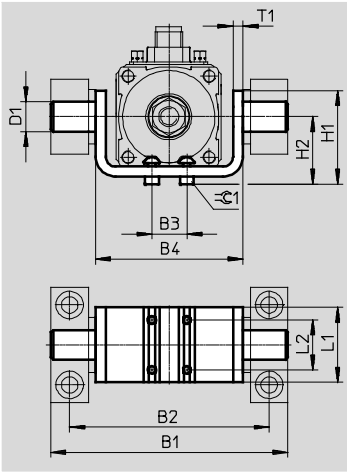
1) Corrosion resistance class 1 according to Festo standard 940 070.
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Electric cylinders EPCO, with spindle drive

Accessories

Swivel mounting EAHS

Material:
Galvanised steel
RoHS-compliant



The position is freely selectable along the entire cylinder length L2 (➔ 17).

Dimensions and ordering data

For size [mm]	B1	B2	B3	B4	D1 ∅ e9	H1	H2
16	71	60	10	45	8	33	21
25	95	80	14	59	12	37.5	27
40	118	100	18	76	16	55	36.5

For size [mm]	L1	L2	T1	⌀1	CRC[1)]	Weight [g]	Part No.	Type
16	30	20	3	2.5	1	80	**1434909**	**EAHS-P1-16**
25	30	20	4	2.5	1	140	**1434910**	**EAHS-P1-25**
40	40	20	4	4	1	260	**1434911**	**EAHS-P1-40**

1) Corrosion resistance class 1 according to Festo standard 940 070.
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

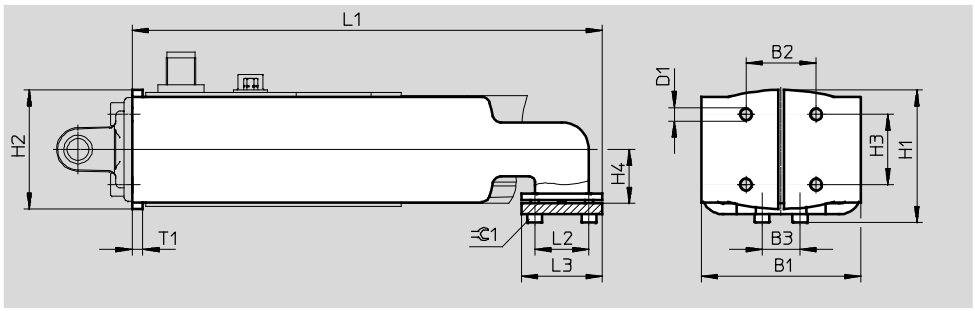
Electric cylinders EPCO, with spindle drive

Accessories

Adapter kit EAHA

Material:
Galvanised steel

RoHS-compliant



Dimensions and ordering data

For size [mm]	B1	B2	B3	D1	H1	H2	H3	H4
16	45	18	10	M4	35.9	29.8	18	15
25	59	26	14	M5	49	44	26	20
40	76	38	18	M6	66.9	60.8	38	27.5

For size [mm]	L1	L2	L3	T1	⌀C1	CRC[1)]	Weight [g]	Part No.	Type
16	139	20	30	3	2.5	1	210	**1434900**	**EAHA-P1-16**
25	174	20	30	4	2.5	1	480	**1434901**	**EAHA-P1-25**
40	193.4	20	40	4	4	1	770	**1434902**	**EAHA-P1-40**

1) Corrosion resistance class 1 according to Festo standard 940 070.
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Electric cylinders EPCO, with spindle drive

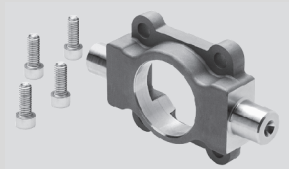
Accessories

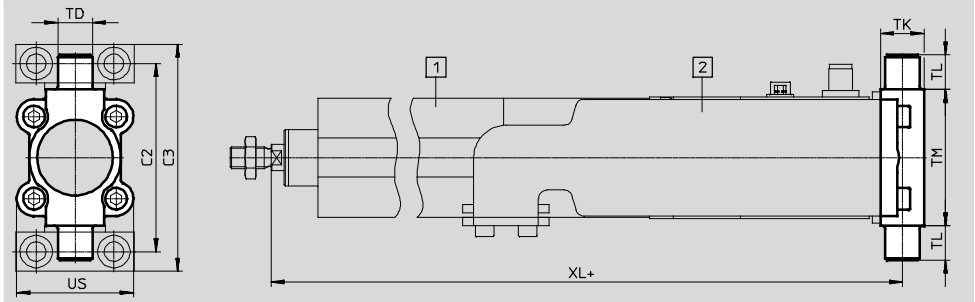
FESTO

Trunnion flange ZNCF

Material:
ZNCF: Stainless steel casting

Free of copper and PTFE
RoHS-compliant





1 Electric cylinder EPCO
2 Adapter kit EAHA
\+ = plus stroke length

The trunnion flange ZNCF cannot be mounted when turned by 90°.

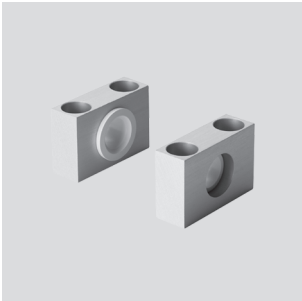
Dimensions and ordering data

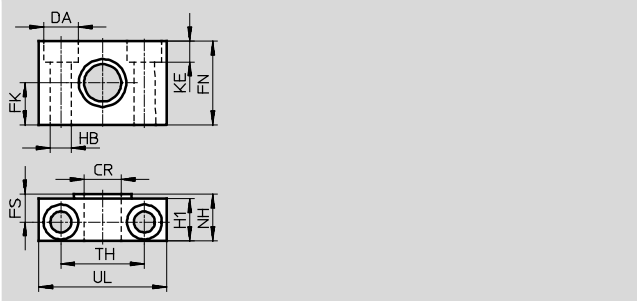
For size	C2	C3	TD ∅	TK	TL	TM	US	XL				CRC[1]	Weight	Part No.	Type
[mm]			e9						-E	-B	-EB		[g]		
40	87	105	16	20	16	63	54	306.7	335.7	356.7	371.2	2	285	**174412**	**ZNCF-40**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Trunnion support LNZG

Material:
Trunnion support: Anodised aluminium
Plain bearing: Plastic
Free of copper and PTFE
RoHS-compliant





Dimensions and ordering data

For size	CR ∅	DA ∅	FK ∅	FN	FS	H1	HB ∅	KE	NH	TH	UL	CRC[1]	Weight	Part No.	Type
[mm]	D11	H13	±0.1				H13			±0.2			[g]		
16	8	8	10	20	7.5	11	4.5	4.6	13	20	30	2	26	**1434912**	**LNZG-16**
25	12	11	15	30	10.5	15	6.6	6.8	18	32	46	2	83	**32959**	**LNZG-32**
40	16	15	18	36	12	18	9	9	21	36	55	2	129	**32960**	**LNZG-40/50**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Electric cylinders EPCO, with spindle drive

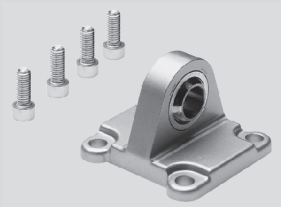
Accessories

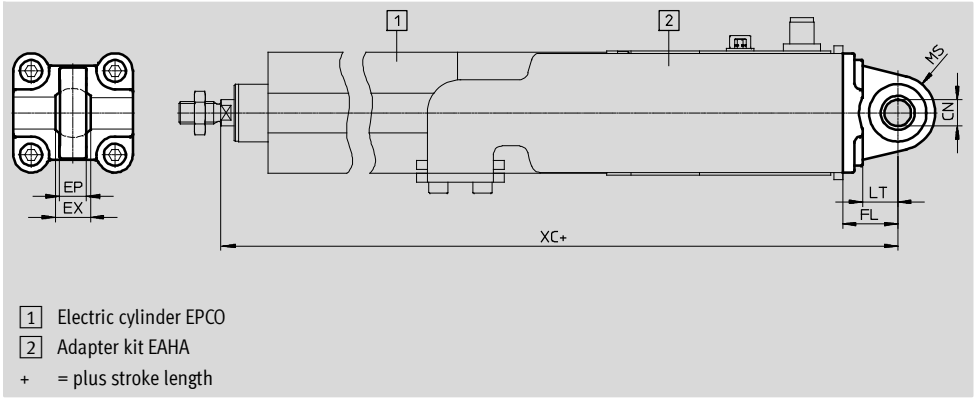
FESTO

Swivel flange SNCS

Material:
Die-cast aluminium

Free of copper and PTFE
RoHS-compliant





1 Electric cylinder EPCO
2 Adapter kit EAHA
\+ = plus stroke length

Dimensions and ordering data

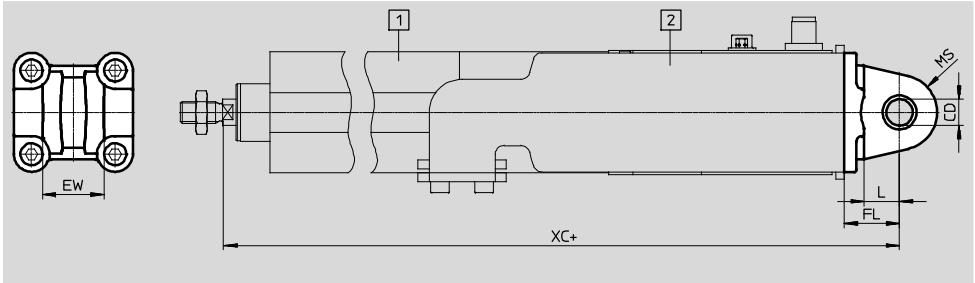
For size	CN ∅	EP	EX	FL	LT	MS	XC				CRC[1]	Weight	Part No.	Type
[mm]	H7	+0.2		±0.2				-E	-B	-EB		[g]		
40	12	12	16	25	16	17	321.7	350.7	371.7	386.2	2	125	**174398**	**SNCS-40**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Swivel flange SNCL

Material:
Wrought aluminium alloy

Free of copper and PTFE
RoHS-compliant



1 Electric cylinder EPCO
2 Adapter kit EAHA
\+ = plus stroke length

Dimensions and ordering data

For size	CD ∅	EW	FL	L	MR	XC				CRC[1]	Weight	Part No.	Type
[mm]	H9	h12	±0.2		–0.5		-E	-B	-EB		[g]		
16	6	12	16	10	6	237	237	263	263	2	25	**537791**	**SNCL-16**
25	8	16	20	14	8	269.6	298	318	331	2	45	**537793**	**SNCL-25**
40	12	28	25	16	12	321.7	350.7	371.7	386.2	2	100	**174405**	**SNCL-40**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Electric cylinders EPCO, with spindle drive

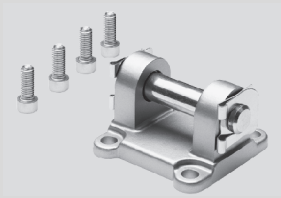
Accessories

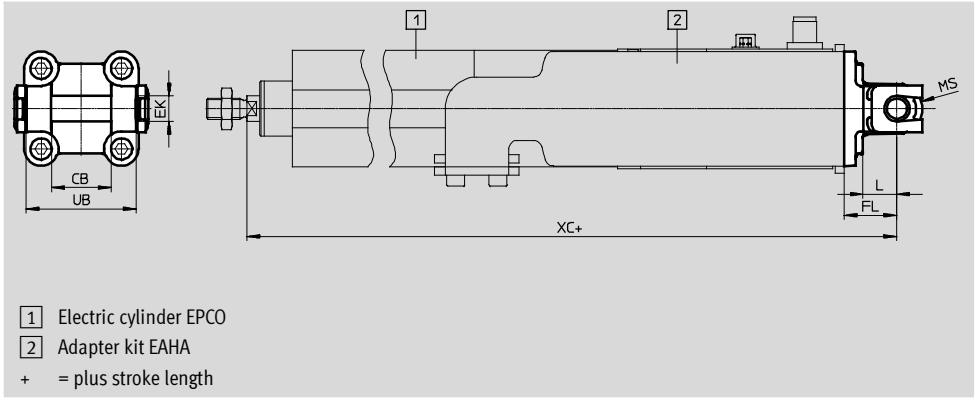
FESTO

Swivel flange SNCB

Material:
Die-cast aluminium

Free of copper and PTFE
RoHS-compliant





1 Electric cylinder EPCO
2 Adapter kit EAHA
+ = plus stroke length

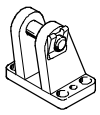
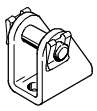
Dimensions and ordering data

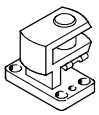
For size	CB	EK ∅	FL	L	MR	UB	XC				CRC[1]	Weight	Part No.	Type
[mm]	H14	e8	±0.2			h14		-E	-B	-EB		[g]		
40	28	12	25	16	12	52	321.7	350.7	371.7	386.2	2	155	**174391**	**SNCB-40**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Ordering data – Mounting attachments

Technical data ➔ Internet: clevis foot

Designation	For size	Part No.	Type
Clevis foot LBG			
	40	**31762**	**LBG-40**
Clevis foot LBN			
	16	**6058**	**LBN-12/16**
	25	**6059**	**LBN-20/25**
	40	**195861**	**LBN-40**

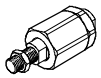
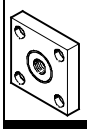
Designation	For size	Part No.	Type
Right-angle clevis foot LQG			
	40	**31769**	**LQG-40**

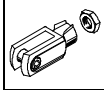
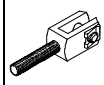
Electric cylinders EPCO, with spindle drive

Accessories

FESTO

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

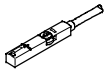
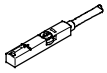
Designation	For size	Part No.	Type
Rod eye SGS			
	16	**9254**	**SGS-M6**
	25	**9255**	**SGS-M8**
	40	**9261**	**SGS-M10x1,25**
Self-aligning rod coupler FK			
	16	**2061**	**FK-M6**
	25	**2062**	**FK-M8**
	40	**6140**	**FK-M10x1,25**
Coupling piece KSG			
	40	**32963**	**KSG-M10x1,25**

Designation	For size	Part No.	Type
Rod clevis SG			
	16	**3110**	**SG-M6**
	25	**3111**	**SG-M8**
	40	**6144**	**SG-M10x1,25**
Rod clevis SGA			
	40	**32954**	**SGA-M10x1,25**

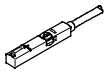
Note

Position sensing is only possible in combination with feature "A" (position sensing) ➔ 20 (modular product system)

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						
	Insertable in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	2.5	**543867**	**SMT-8M-PS-24V-K-2,5-OE**
			Plug M8x1, 3-pin	0.3	**543866**	**SMT-8M-PS-24V-K-0,3-M8D**
			Plug M12x1, 3-pin	0.3	**543869**	**SMT-8M-PS-24V-K-0,3-M12**
		NPN	Cable, 3-wire	2.5	**543870**	**SMT-8M-NS-24V-K-2,5-OE**
			Plug M8x1, 3-pin	0.3	**543871**	**SMT-8M-NS-24V-K-0,3-M8D**
	Insertable in the slot lengthwise, flush with the cylinder profile	PNP	Cable, 3-wire	2.5	**175436**	**SMT-8-PS-K-LED-24-B**
			Plug M8x1, 3-pin	0.3	**175484**	**SMT-8-PS-S-LED-24-B**
N/C contact						
	Insertable in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	7.5	**543873**	**SMT-8M-PO-24V-K7,5-OE**

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

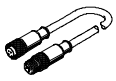
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	**543862**	**SME-8M-DS-24V-K-2,5-OE**
				5.0	**543863**	**SME-8M-DS-24V-K-5,0-OE**
			Cable, 2-wire	2.5	**543872**	**SME-8M-ZS-24V-K-2,5-OE**
			Plug M8x1, 3-pin	0.3	**543861**	**SME-8M-DS-24V-K-0,3-M8D**
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	**150855**	**SME-8-K-LED-24**
			Plug M8x1, 3-pin	0.3	**150857**	**SME-8-S-LED-24**
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**

Electric cylinders EPCO, with spindle drive

Accessories

FESTO

Ordering data – Connecting cable Technical data ➔ Internet: km8

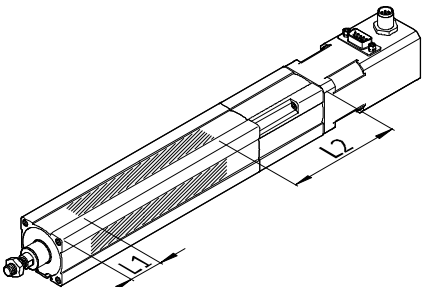
	Mounting	Connection	Cable length [m]	Part No.	Type
Straight socket					
	Union nut M8, both ends	3-pin	0.5	**175488**	**KM8-M8-GSGD-0,5**
			1	**175489**	**KM8-M8-GSGD-1**
			2.5	**165610**	**KM8-M8-GSGD-2,5**
			5	**165611**	**KM8-M8-GSGD-5**

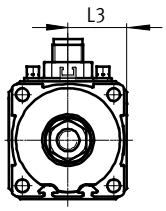
Sensor mounting

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.

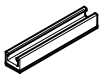
The overall length of the sensor rail SAMH corresponds to the length of the sensing range plus approx. 10 mm adjustment range on either side for the proximity sensors.





Size	L1	L2	L3
16	29	95	15
25	33	121	20
40	40	150	27.5

Ordering data – Sensor mounting for T-slot

	Brief description	Length [mm]	Part No.	Type
Sensor rail[1)]				
	For size 16, 25, 40	50	**1600093**	**SAMH-N8-SR-50**
		100	**1600118**	**SAMH-N8-SR-100**
Mounting kit				
	For size 16, 25, 40	35	**525565**	**CRSMB-8-32/100**

Note

1) Size 25 can only be used with proximity sensor SMT-8 (magneto-resistive).