Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

FESTO

New

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Key features

At a glance

Powerful

- Generously sized profiles with an optimised cross section afford the drives maximum rigidity and load capacity
- Speed, acceleration and torque resistance set a new standard

Economical

- In addition to the technical data, the toothed belt axis is a winner with its excellent price/performance ratio
- Due to the EGC's high performance it is often possible to use a smaller size

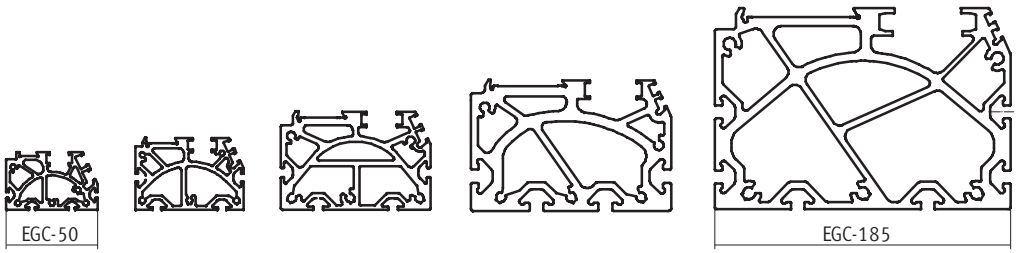
Versatile

- Numerous sizes and variants such as protected guides open up a broad range of applications
- Space-saving position sensing with proximity sensor in the profile slot is possible
- Wide range of options for mounting on drive units
- Comprehensive range of mounting accessories for multi-axis combinations

Flexible motor interface

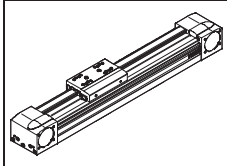
The motor position can be freely selected on 4 sides and can be converted at any time.

Broad range for the most varied load conditions



Characteristic values of the axes

The specifications shown in the table are maximum values.
The precise values for each of the variants can be found in the relevant technical data in the catalogue.

Version	Size	Working stroke	Speed	Repetition accuracy	Feed force	Guide characteristics				
						Forces and torques				
						Fy	Fz	Mx	My	Mz
		[mm]	[m/s]	[mm]	[N]	[N]	[N]	[Nm]	[Nm]	[Nm]
Recirculating ball bearing guide										
	50	50 ... 1,900	3	±0.08	50	650	650	3.5	10	10
	70	50 ... 5,000	5	±0.08	100	1,850	1,850	16	132	132
	80	50 ... 8,500	5	±0.08	350	3,050	3,050	36	228	228
	120	50 ... 8,500	5	±0.08	800	6,890	6,890	144	680	680
	185	50 ... 8,500	5	±0.1	2,500	15,200	15,200	529	1,820	1,820

Note

Sizing software
PositioningDrives
➔www.festo.com

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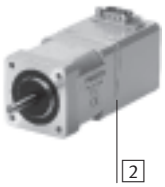
Key features

Complete system comprising toothed belt axis, motor, motor controller and motor mounting kit

Toothed belt axis with recirculating ball bearing guide

Motor

➔26



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

Note

A range of specially adapted complete solutions is available for the toothed belt axis EGC and the motors.

Motor controller

Technical data ➔ Internet: motor controller

1 Servo motor controller CMMP-AS, CMMS-AS
2 Stepper motor controller EMMS-ST

Motor mounting kit

➔26

Axial kit

Kit comprising:

- Motor flange
- Coupling housing
- Coupling
- Screws

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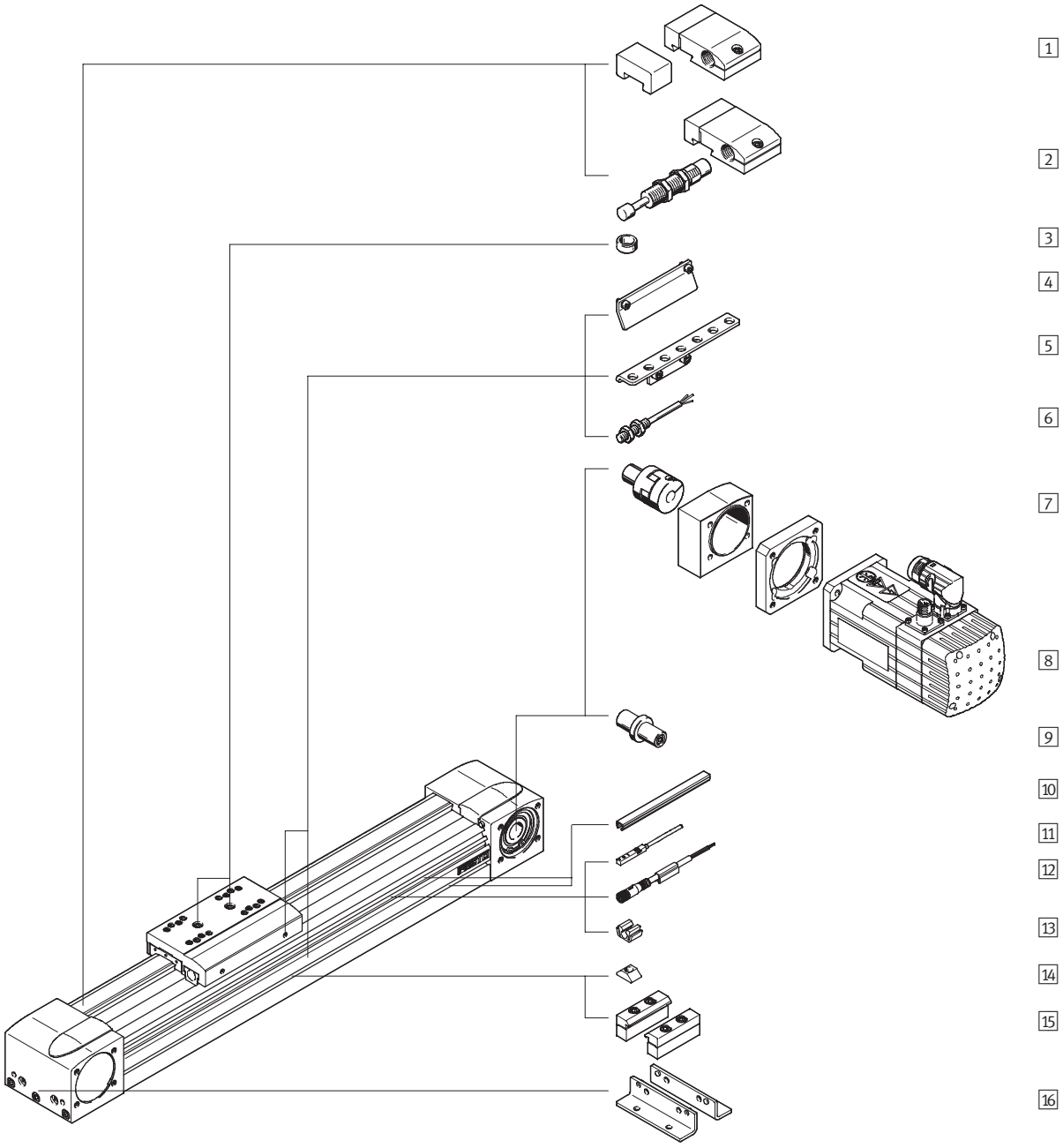
Peripherals overview



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Peripherals overview

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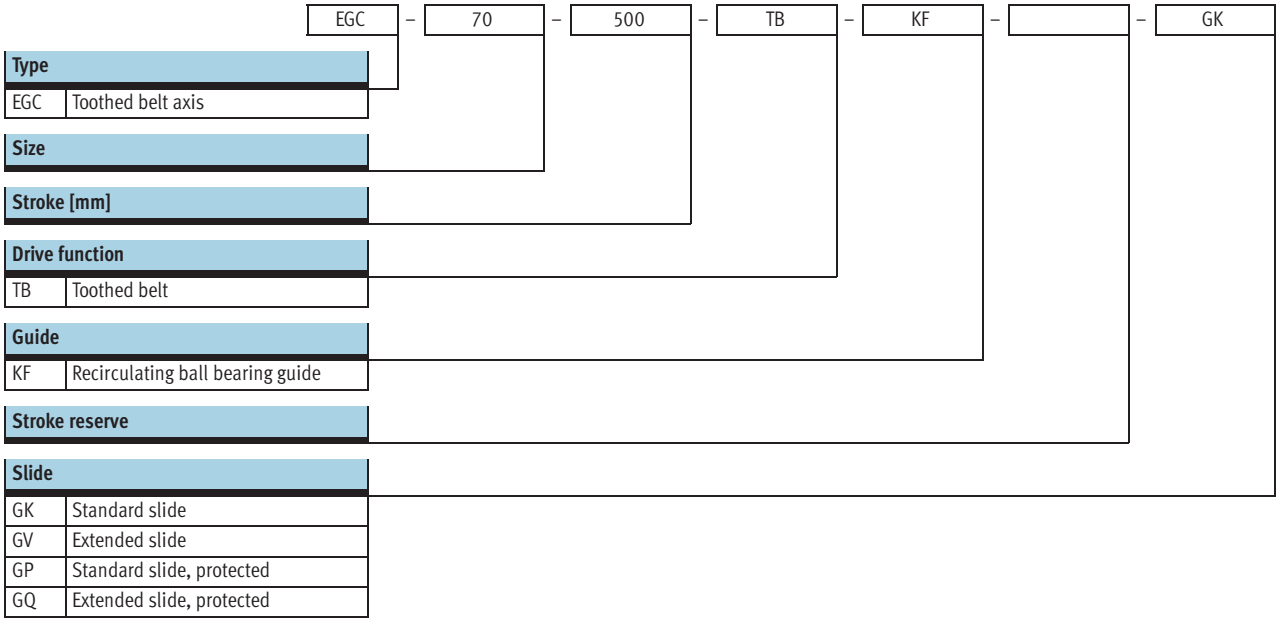
Variants and accessories			
	Type	Brief description	→ Page/Internet
1	Emergency buffer with retainer A	For avoiding damage at the end stop in the event of malfunction	33
2	Shock absorber with retainer C	For avoiding damage at the end stop in the event of malfunction	33
3	Centring pin/sleeve ZBS, ZBH	• For centring loads and attachments on the slide • 6 centring pins/sleeves included in the scope of delivery for the axis	35
4	Switch lug X, Z, O, P, W, R	For sensing the slide position	33
5	Sensor retainer O, P, W, R	Adapter for mounting the inductive proximity sensors (round design) on the axis	34
6	Proximity sensor, M8 O, P, W, R	• Inductive proximity sensor, round design • With the order code O, P, W, R, 1 switch lug and max. 2 sensor retainers are included in the scope of delivery	36
7	Axial kit EAMM	For axial motor mounting (comprising: clutch, clutch housing and motor flange)	26
8	Motor EMMS	Motors specially matched to the axis, with or without gearing, with or without brake	26
9	Drive shaft K	• Can, if required, be used as an alternative interface • For the axis/motor combinations → 26 no drive shaft is needed beyond	35
10	Slot cover B, S	• For protecting against ingress of dirt	35
11	Proximity sensor, slot type 8 X, Z	• Inductive proximity sensor, for slot type 8 • For the order code X, Z, 1 switch lug is included in the scope of delivery	36
12	Plug socket with cable V	For proximity sensor (order code W and R)	36
13	Clip CL	For mounting the proximity sensor cable in the slot	35
14	Slot nut Y	For mounting attachments	35
15	Profile mounting M	For mounting the axis on the profile	32
16	Foot mounting F	For mounting the axis on the end cap	31
–	Passive guide axis EGC-FA	Axis without drive	egc-fa
–	Connecting shaft KSK	For three-dimensional gantries to connect two toothed-belt axes EGC-TB	ksk

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Type codes



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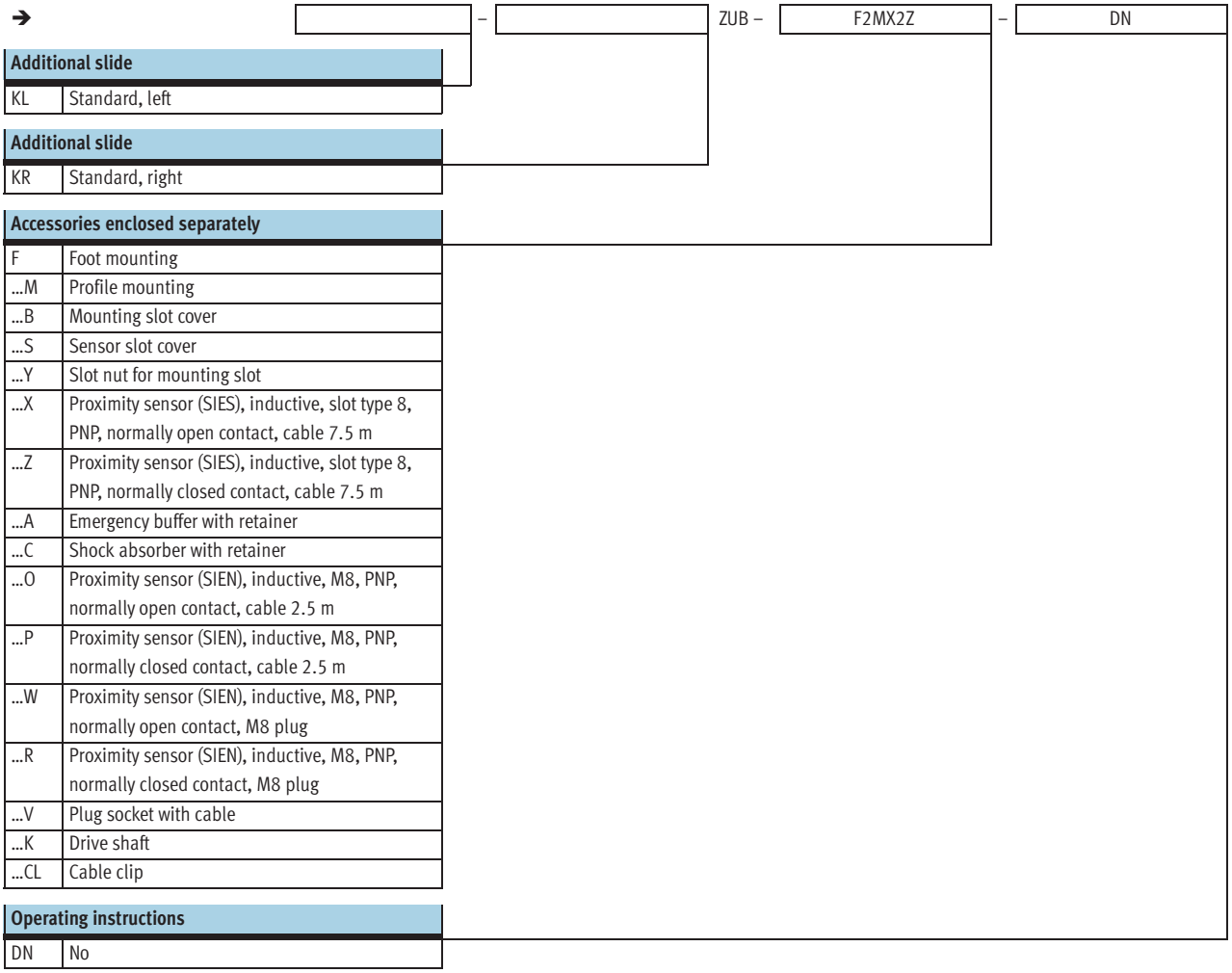
Type codes



Additional slide	
KL	Standard, left

Additional slide	
KR	Standard, right

Accessories enclosed separately	
F	Foot mounting
...M	Profile mounting
...B	Mounting slot cover
...S	Sensor slot cover
...Y	Slot nut for mounting slot
...X	Proximity sensor (SIES), inductive, slot type 8, PNP, normally open contact, cable 7.5 m
...Z	Proximity sensor (SIES), inductive, slot type 8, PNP, normally closed contact, cable 7.5 m
...A	Emergency buffer with retainer
...C	Shock absorber with retainer
...O	Proximity sensor (SIEN), inductive, M8, PNP, normally open contact, cable 2.5 m
...P	Proximity sensor (SIEN), inductive, M8, PNP, normally closed contact, cable 2.5 m
...W	Proximity sensor (SIEN), inductive, M8, PNP, normally open contact, M8 plug
...R	Proximity sensor (SIEN), inductive, M8, PNP, normally closed contact, M8 plug
...V	Plug socket with cable
...K	Drive shaft
...CL	Cable clip

Operating instructions	
DN	No

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Technical data

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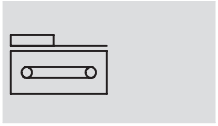
Function



Size
50 ... 185

Stroke length
50 ... 8,500 mm

General technical data							
Size			50	70	80	120	185
Constructional design			Electromechanical axis with toothed belt				
Guide			Recirculating ball bearing guide				
Mounting position			Any				
Working stroke	GK/GP	[mm]	50 ... 1,900	50 ... 5,000	50 ... 8,500	50 ... 8,500	50 ... 8,500
	GV/GQ	[mm]	50 ... 1,900	50 ... 5,000	50 ... 8,500	50 ... 8,400	50 ... 8,400
Max. feed force F_x		[N]	50	100	350	800	2,500
Max. no-load torque[1)]		[Nm]	0.072	0.18	0.4	0.8	4.05
Max. no-load sling resistance[1)]		[N]	8	14.5	28	40.2	110
Max. driving torque		[Nm]	0.46	1.24	5	16	93
Max. speed		[m/s]	3	5			
Max. acceleration		[m/s²]	50				
Repetition accuracy		[mm]	±0.08				±0.1

1) At 0.2 m/s, with variant GK or GV

Operating and environmental conditions		
Ambient temperature	[°C]	–10 ... +60
Protection class		IP40
Duty cycle	[%]	100

Weight [kg]							
Size			50	70	80	120	185
Basic weight with 0 mm stroke[1)]		GK/GP	0.62	1.85	3	10.5	32.6
		GV/GQ	–	2.47	3.9	12.6	36.8
Additional weight per 1,000 mm stroke			1.9	4.4	6.2	15	30
Moving load		GK/GP	0.13	0.37	0.62	2.18	6.5
		GV/GQ	–	0.55	0.9	2.73	7.72
Additional slide		KL/KR	0.08	0.3	0.55	2	6

1) Incl. slide

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

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Toothed belt							
Size			50	70	80	120	185
Pitch		[mm]	2	3	3	5	8
Expansion[1)]		[%]	0.094	0.08	0.24	0.13	0.29
Effective diameter		[mm]	18.46	24.83	28.65	39.79	73.85
Feed constant		[mm/rev.]	58	78	90	125	232

1) At max. feed force

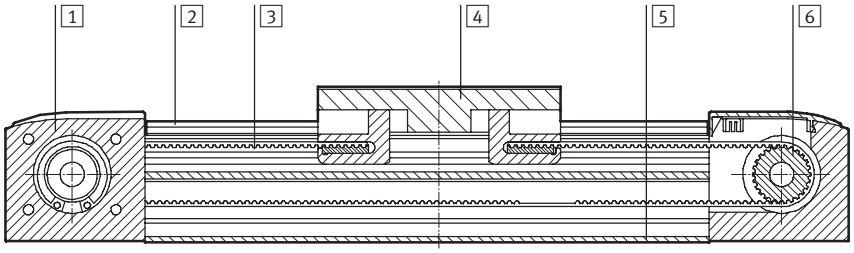
Mass moment of inertia							
Size			50	70	80	120	185
J_O	GK	[kg mm^2]	16.94	83.34	205.9	1,241	17,976
	GV	[kg mm^2]	–	110	265	1,465	19,690
J_H per metre stroke		[kg mm^2/m]	2.6	10.6	18.8	93	760
J_L per kg working load		[kg mm^2/Kg]	85	154	205	396	1,363.5
J_W	GK	[kg mm^2]	3.56	56.32	126.73	861	8,846
J_W	GV	[kg mm^2]	–	82.52	185.22	1,080	10,523

The mass moment of inertia J_A of the entire axis is calculated as follows:

$$J_A = J_O + J_W + J_H \times \text{working stroke [m]} + J_L \times m_{\text{working load}} \text{ [kg]}$$

Materials

Sectional view



Axis		
1	Drive cover	Wrought aluminium alloy, anodised
2	Guide rail	High-alloy steel
3	Toothed belt	Polychloroprene with glass cord and nylon coating
4	Slide	Wrought aluminium alloy, anodised
5	Profile	Wrought aluminium alloy, anodised
6	Toothed belt disc	Corrosion-resistant steel
	Note on materials	RoHS-compliant
		Contains PWIS (paint wetting impairment substances)

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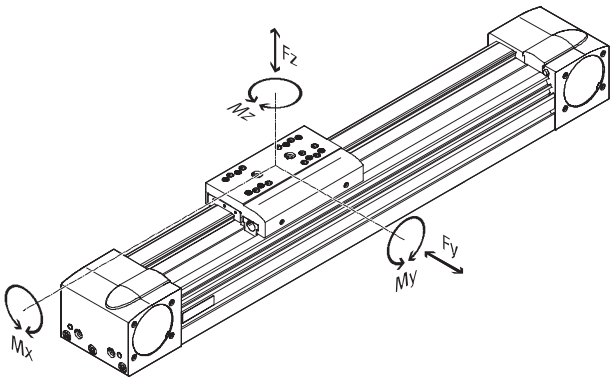
Characteristic load values

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



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

Calculation of the guide index value:

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

Permissible forces and torques

Size			50	70	80	120	185
$Fy_{max.}$		[N]	650	1,850	3,050	6,890	15,200
Fz_{max}		[N]	650	1,850	3,050	6,890	15,200
$Mx_{max.}$		[Nm]	3.5	16	36	144	529
$My_{max.}$	GK/GP	[Nm]	10	51	97	380	1,157
$Mz_{max.}$	GK/GP	[Nm]	10	51	97	380	1,157
$My_{max.}$	GV/GQ	[Nm]	–	132	228	680	1,820
$Mz_{max.}$	GV/GQ	[Nm]	–	132	228	680	1,820

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Service life

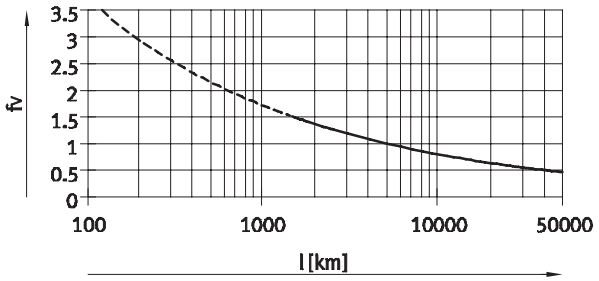
The service life of the guide depends on the load. In order to make an approximate assessment of the service life of the guide, the guide index value f_v in relation to the service life is presented in the diagram below as a characteristic.

This chart only lists the theoretical value. If guide index values f_v greater than 1.5 are returned, then it is essential that you contact your local contact person at Festo.

Guide index value f_v as a function of service life

Example:

A user wants to move a mass weighing X kg. Using the above calculation, a value of 1.5 is returned for the guide index value. According to the diagram, the guide has a service life of approx. 1,500 km. Reducing the acceleration reduces the value Mz and My. Now with a guide index value of 1, the service life is 5,000 km.



Note

Design software PositioningDrives www.festo.com

The load comparison factor fv can also be calculated using the sizing software.

fv values > 1.5 are only theoretical comparison values for the recirculating ball bearing guide.

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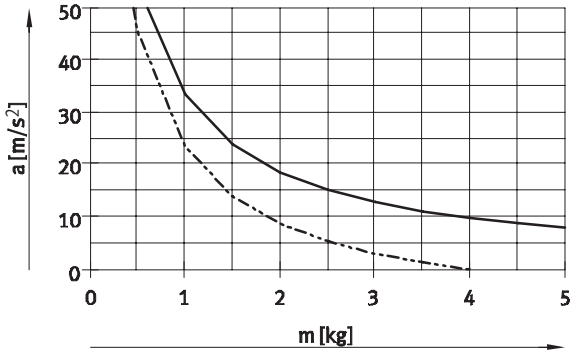
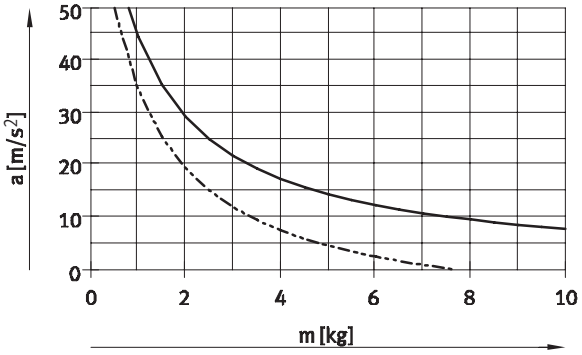
Maximum acceleration a as a function of applied load m

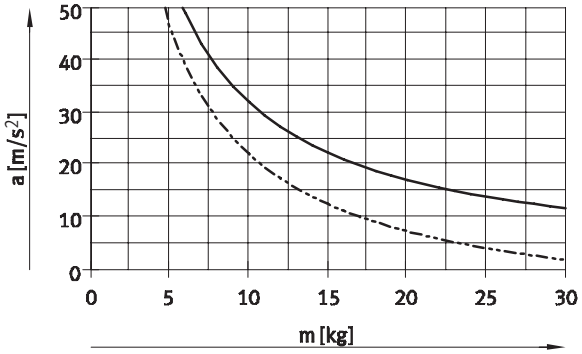
EGC-50



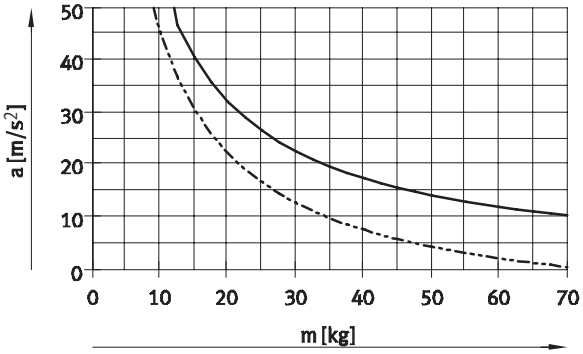
EGC-70



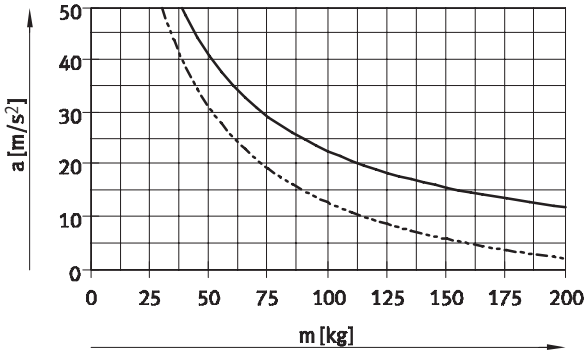
EGC-80



EGC-120



EGC-185



Horizontal mounting position

Vertical mounting position

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

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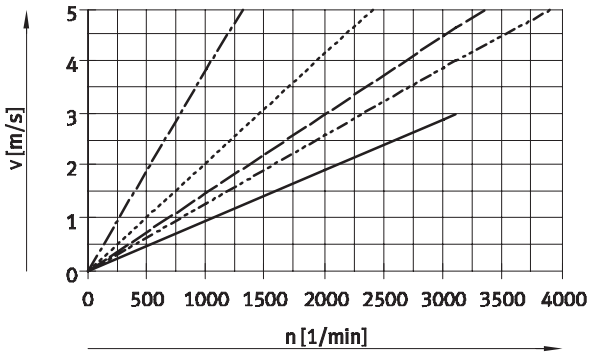
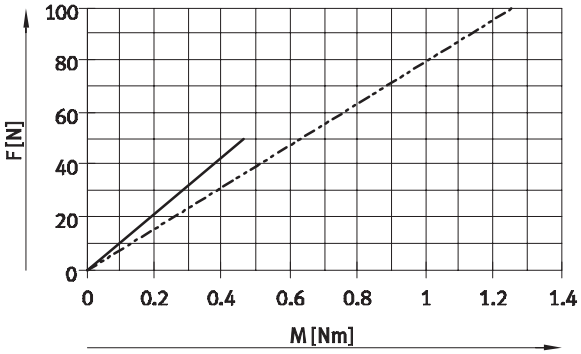
Speed v as a function of rotational speed n



EGC-50
EGC-70
EGC-80
EGC-120
EGC-185

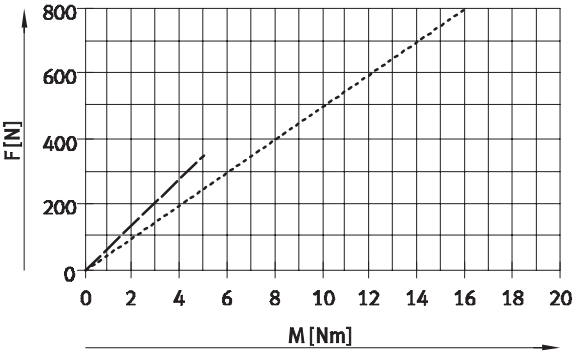
Effective force F as a function of input torque M

EGC-50/-70



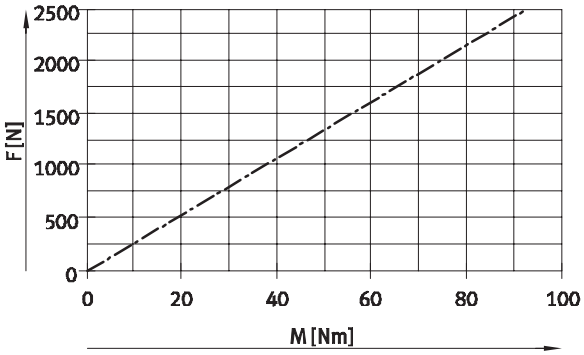
EGC-50
EGC-70

EGC-80/-120



EGC-80
EGC-120

EGC-185



EGC-185

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

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Stroke reserve

Stroke length — Stroke reserve

The selected stroke always corresponds to the required work stroke. With the variants GK/GV there is no wiper seal on the guide. On these variants therefore there is a safety gap between the drive cover and the slide which is not intended as a work stroke.

If a safety gap (similar to GK/GV) between the drive cover and the slide is also to be defined for the variants GP/GQ, this is possible via the feature "Stroke reserve" of the modular product system. With the variants GK/GV the stroke reserve and the safety gap are added per end position.

- The length of the stroke reserve can be selected as desired.
- The sum of the stroke length and 2x stroke reserve must not exceed the maximum work stroke.

Example:
Type EGC-70-500-TB-KF-20H-...
Working stroke = 500 mm
2x stroke reserve = 40 mm

Total length = 540 mm
(540 mm = 500 mm + 2x 20 mm)

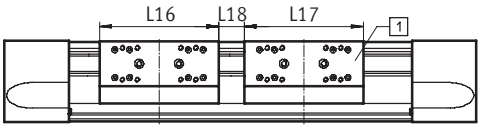
Size		50	70	80	120	185
Safety gap with GK/GV (per end position)	[mm]	–	10.5	13	18	21

Working stroke reduction

in standard slide GK/GP / extended slide GV/GQ with additional slide KL/KR

L16 = Slide length
L17 = Additional slide length

L18 = Distance between both slides
1 Additional slide



- For a toothed belt axis with additional slide, the working stroke is reduced by the length of the additional slide and the distance between both slides
- When ordering the variant GP/GQ, the additional slide is also protected
- When ordering the variant GV/GQ, the additional slide is not extended

Example:
Type EGC-70-500-TB-...-GK-KR
Working stroke without additional slide = 500 mm
L18 = 20 mm
L16, L17 = 100 mm

Working stroke with additional slide = 380 mm
(500 mm – 20 mm – 100 mm)

Dimensions – Additional slide

Size		50	70		80		120		185
Variant		GK/GV	GK/GV	GP/GQ	GK/GV	GP/GQ	GK/GV	GP/GQ	GK/GV
Length L17	[mm]	65	100	121	120	146	200	236	280
Min. distance between the slides L18	[mm]	–	–	21	–	26	–	36	–

Working stroke reduction per side

with integrated emergency buffer NPE / shock absorber YSRW with shock absorber retainer KYE

With a toothed belt axis, the working stroke is reduced by the total dimension of the emergency buffer/ shock absorber and shock absorber retainer.

Size		50	70	80	120	185
With emergency buffer	[mm]	30	43	68	98	133
With shock absorber	[mm]	26	42	63	84	107

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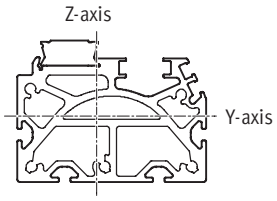
2nd moment of area

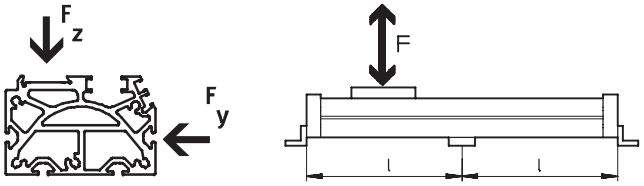


Size		50	70	80	120	185
Iy	[mm^4]	8.4x10^4	3.95x10^5	8.44x10^5	4.62x10^6	2.34x10^7
Iz	[mm^4]	1.14x10^5	5.77x10^5	1.16x10^6	5.65x10^6	2.74x10^7

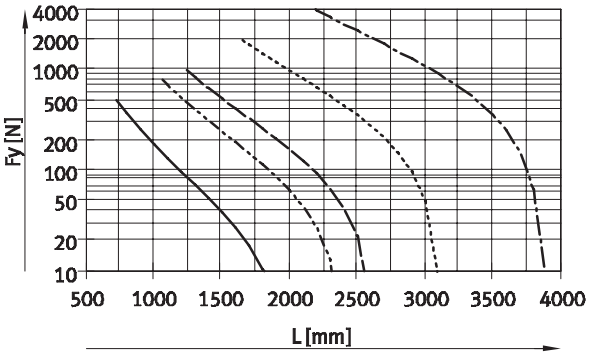
Maximum permissible support span L (without profile mounting) as a function of force F

In order to limit deflection in the case of large strokes, the axis may need to be supported.

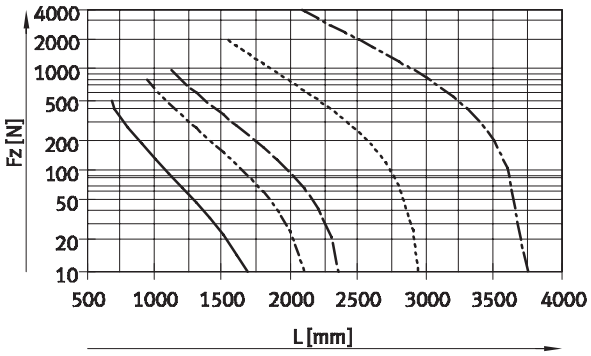
The following diagrams help to determine the maximum permissible support span l as a function of force F acting on the axis. The deflection is f = 0.5 mm.



Force Fy



Force Fz



EGC-50
EGC-70
EGC-80
EGC-120
EGC-185

Recommended deflection limit values

To ensure that the performance of the axes is not impaired, adherence to the following deflection limit values is recommended. Higher deformations can lead to increased friction, greater wear and a reduced service life.

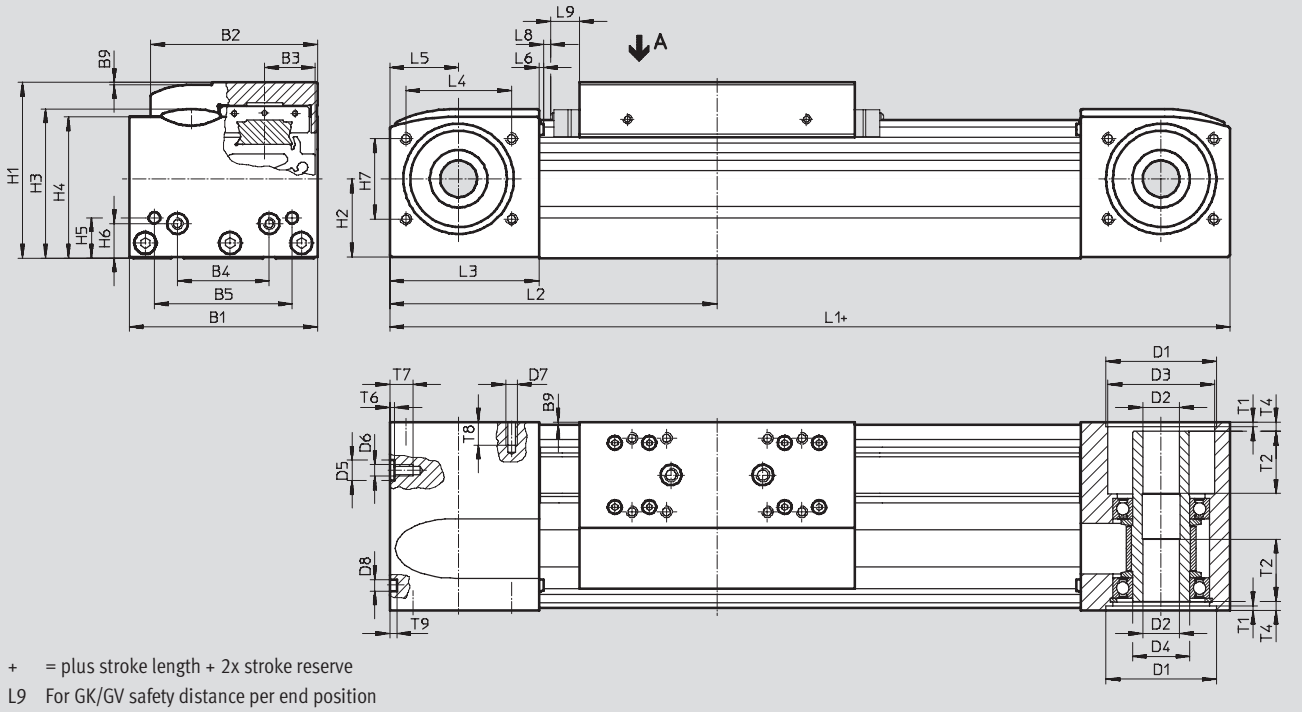
Size	Dyn. deflection (load is moving)	Stat. deflection (load at standstill)
50 ... 185	0.05% of the length of the axis, max. 0.5 mm	0.1% of the length of the axis

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Technical data

FESTO

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

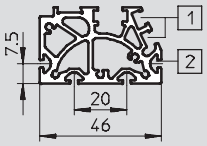


\+ = plus stroke length + 2x stroke reserve

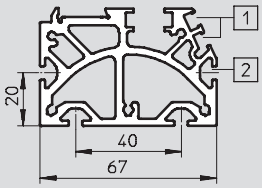
L9 For GK/GV safety distance per end position
For GP/GQ size for scraper ➔ 14

Profile

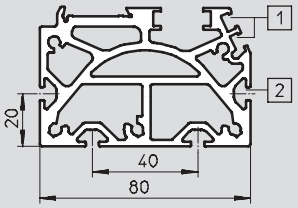
Size 50



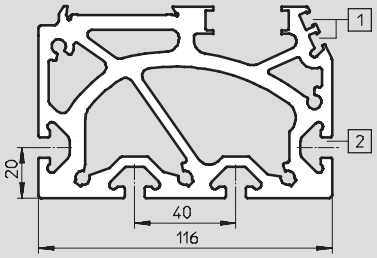
Size 70



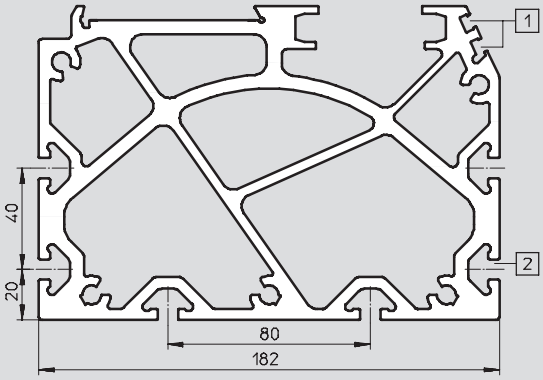
Size 80



Size 120



Size 185



1 Sensor slot for proximity sensor
2 Mounting slot for slot nut

Note

To avoid distortion in the slide, the bearing surfaces of the attachments must maintain a flatness of min. 0.01 mm.

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

FESTO

Technical data

Size	B1	B2	B3	B4	B5	B9	D1 H7	D2 ∅ H7	D3 ∅	D4 ∅	D5 ∅ H7	D6
50	48	39	11.5	20	35	1	27	8	20	15	–	M4
70	69	58.6	16.5	30	45	1	38	10	28	20	–	M5
80	82	72.6	22	40	60	1	48	16	46.5	25	9	M5
120	120	107	33	80	40	1	62	23	59	35	–	M8
185	186	169	53	120	80	1	95	32	90	60	–	M10

Size	D7	D8 ∅ H7	H1	H2	H3	H4	H5	H6	H7	L1		L2	
										GK	GV	GK	GV
50	M3	5	42.5	16.5	37.6	35.5	10.5	10.5	18	155	–	77.5	–
70	M5	5	64	28	53.7	50.8	13	13	29	246	346	123	173
80	M5	5	76.5	34.5	65	61.5	17.5	15	35	286	386	143	193
120	M6	9	111.5	51.6	95.9	91.1	22	22	54	446	546	223	273
185	M8	9	172.5	80.5	152.6	143	25	25	80	612	712	306	356

Size	L3	L4	L5	L6	L8	L9	T1	T2	T4	T6	T7	T8	T9
50	40	26	20	1.8	3	–	1.5	–	5.9	–	7	8	3.1
70	57.5	36	27.5	1.8	3	10.5	2.1	18	7.15	–	10	12	3.1
80	65	46	30	2	3	13	2.1	27	4	2.1	10	10	3.1
120	100	64	50	2	3	18	3.1	29.5	4	–	16	14	2.1
185	140	80	70	2	3	21	2.8	34.5	4	–	20	17	2.1

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

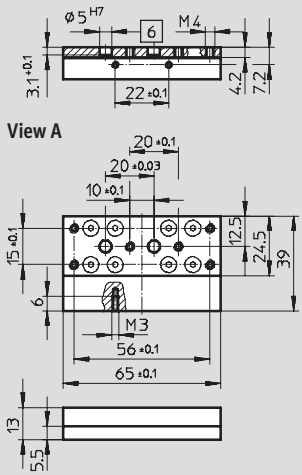
Technical data

FESTO

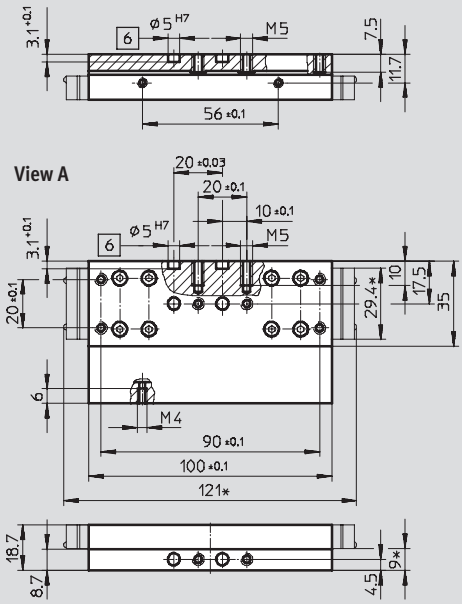
Dimensions Download CAD data ➔ **www.festo.com**

GK – Standard slide / GP – Standard slide, protected

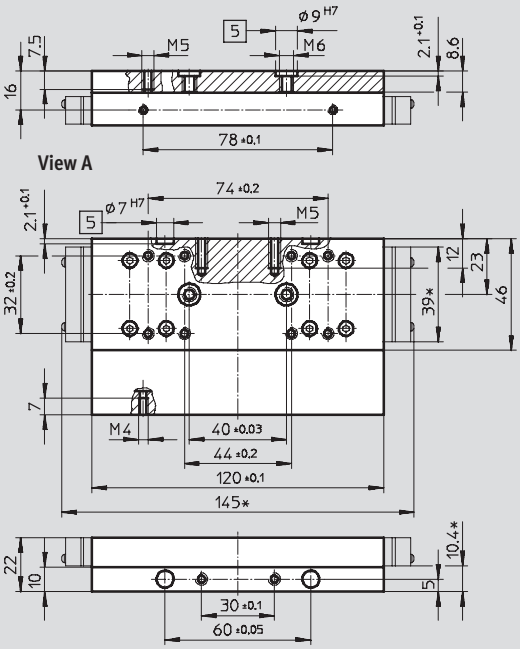
Size 50



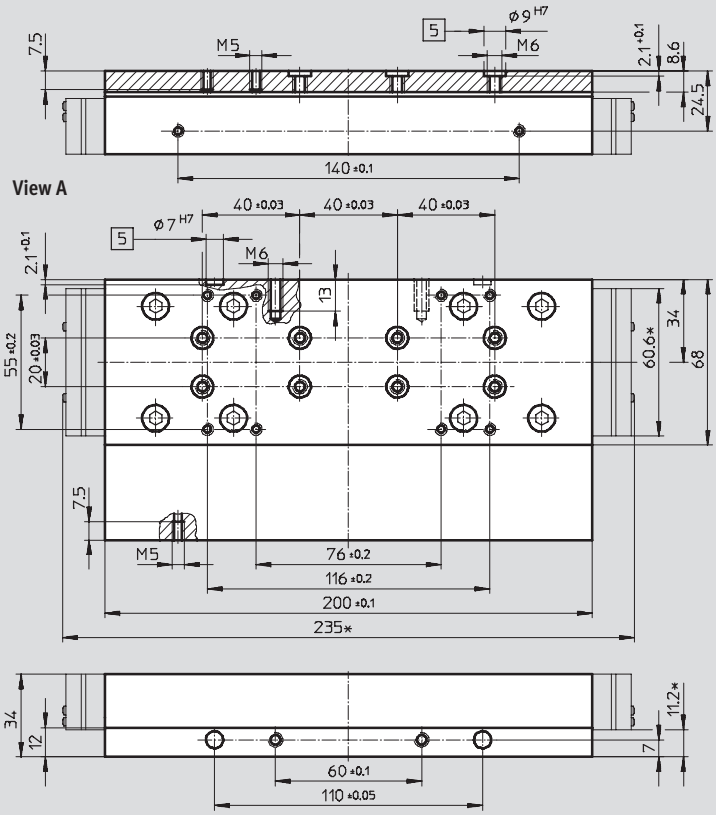
Size 70



Size 80



Size 120



5 Hole for centring sleeve
6 Hole for centring pin
* protected version

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

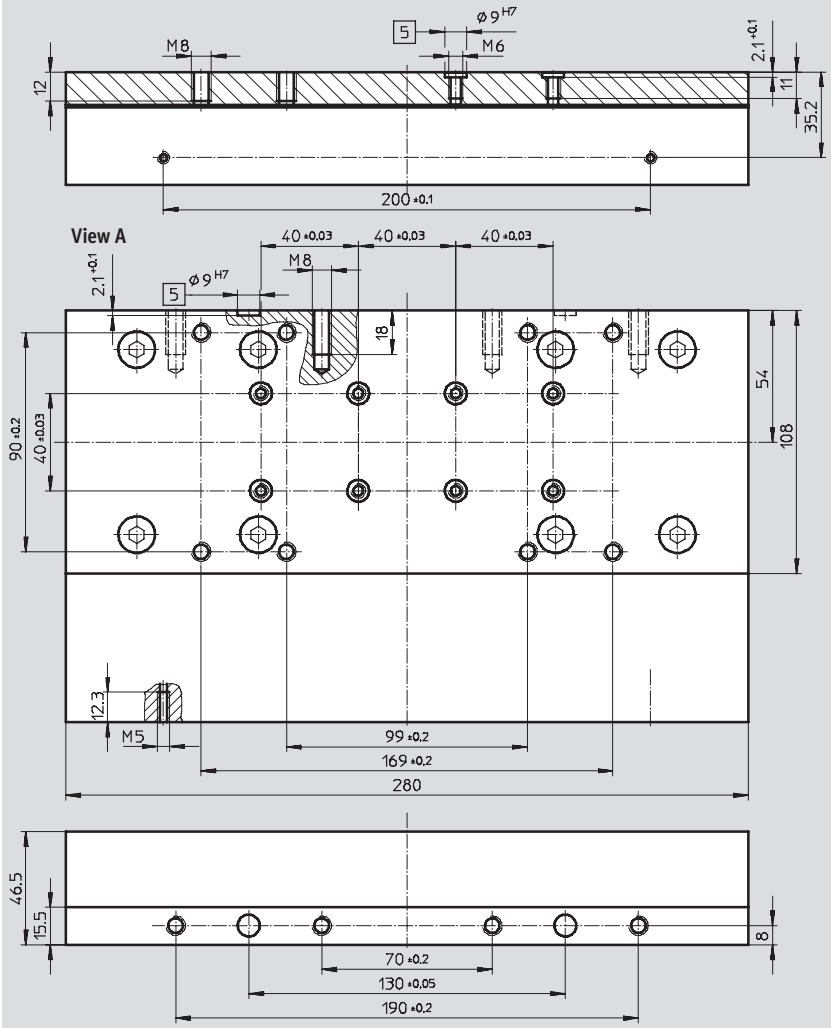
Technical data

FESTO

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

GK – Standard slide

Size 185



5 Hole for centring sleeve

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

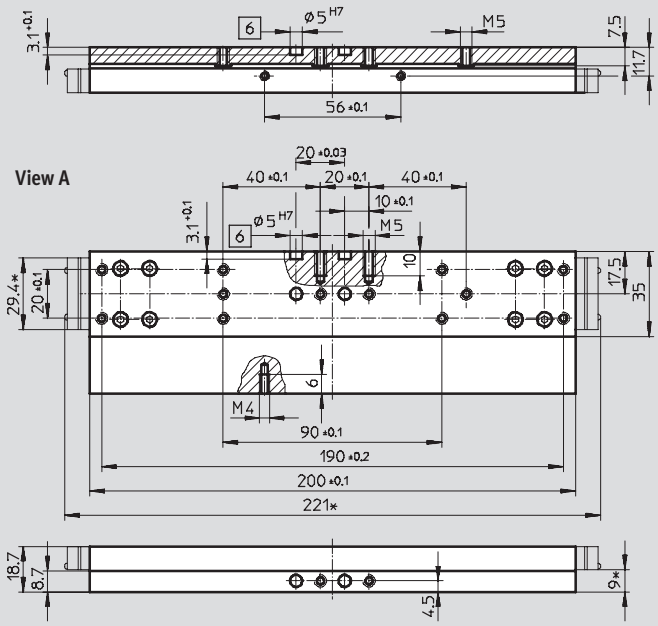
Technical data

FESTO

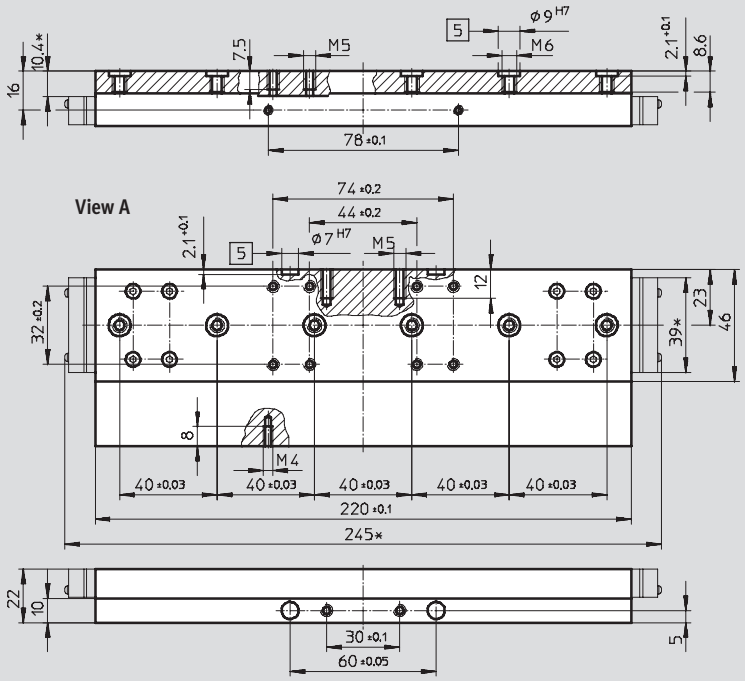
Dimensions Download CAD data ➔ **www.festo.com**

GV – Extended slide / GQ – Extended slide, protected

Size 70



Size 80



5 Hole for centring sleeve
6 Hole for centring pin
* protected version

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

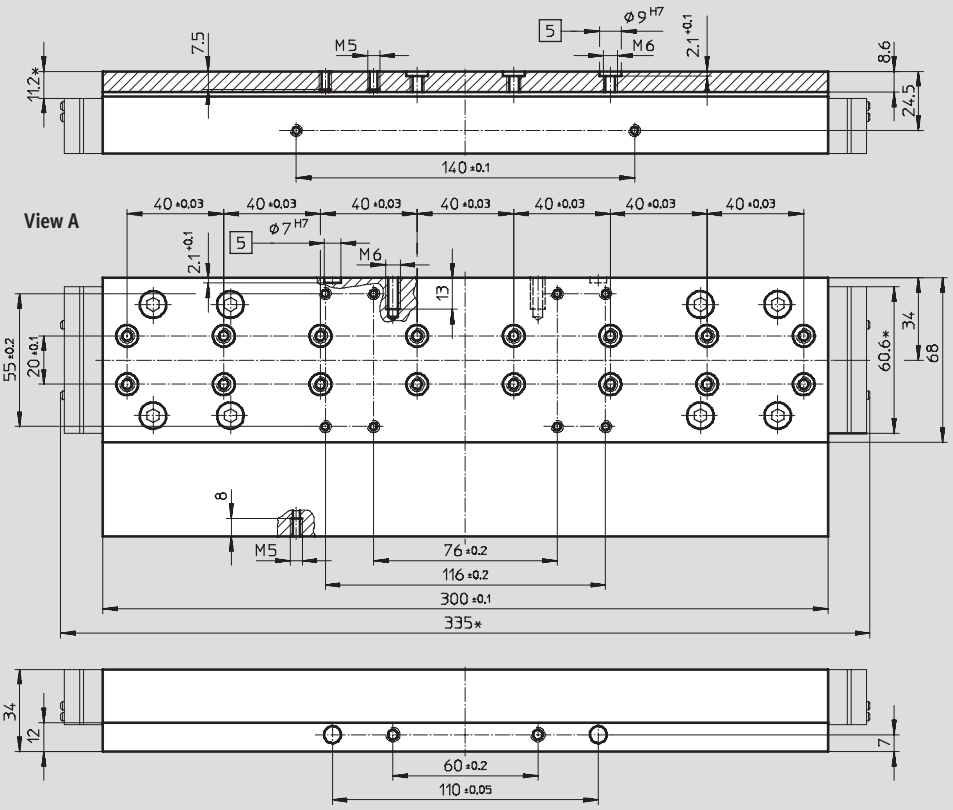
Technical data

FESTO

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

GV – Extended slide / GQ – Extended slide, protected

Size 120



5 Hole for centring sleeve

* protected version

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

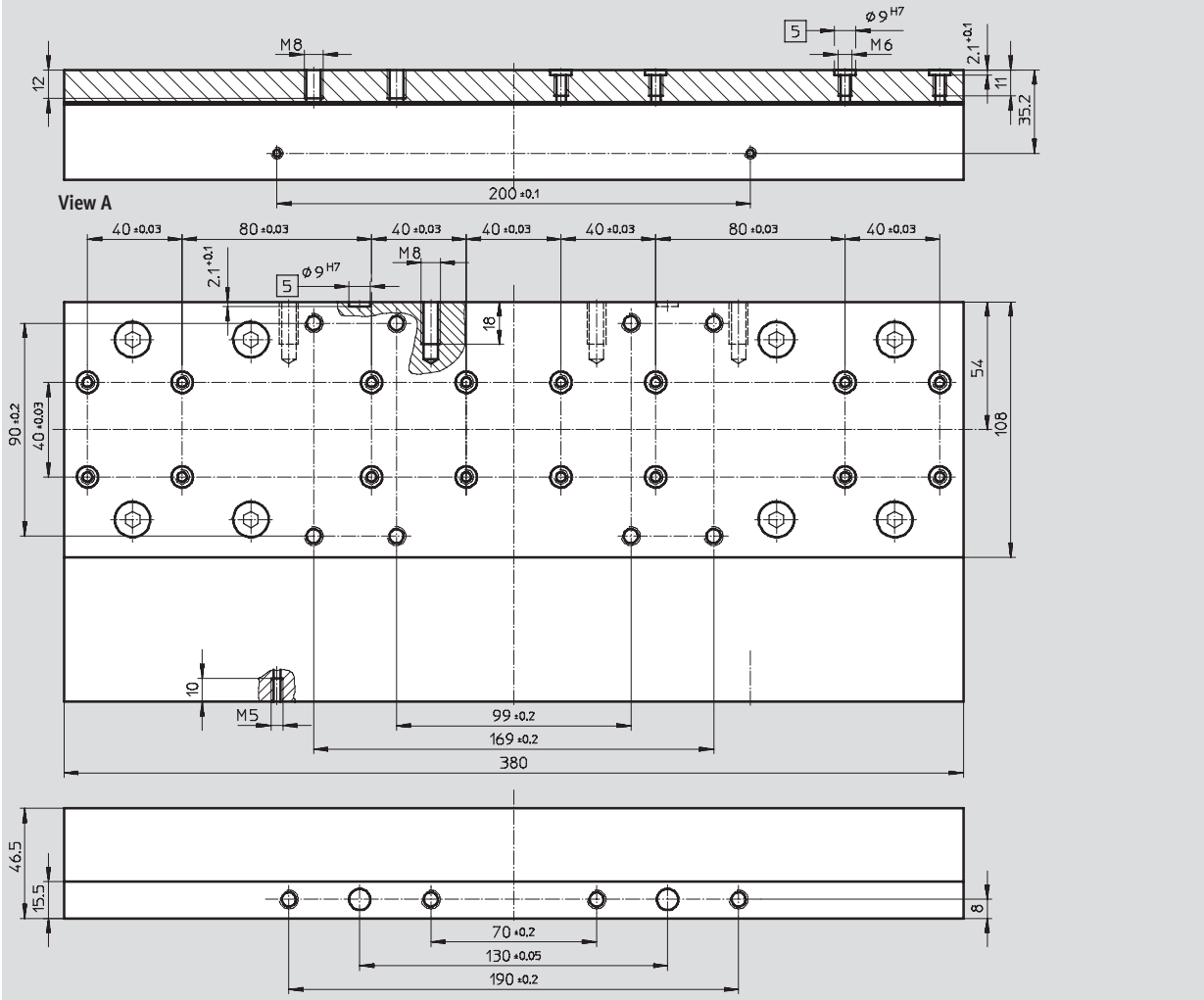
Technical data

FESTO

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

GV – Extended slide

Size 185



5 Hole for centring sleeve

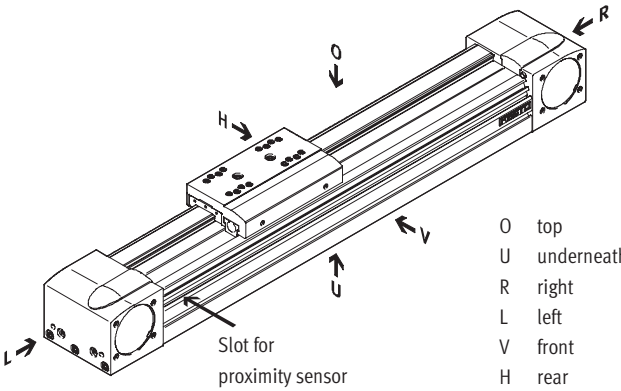
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Ordering data – Modular products

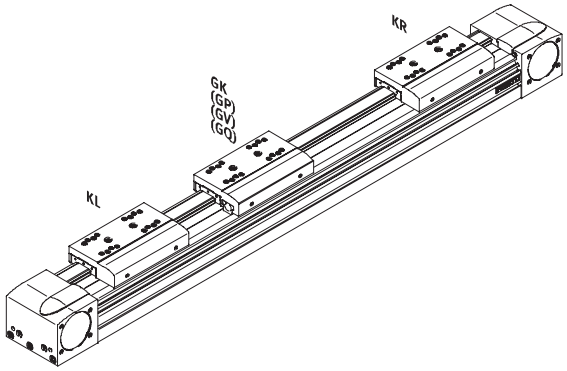
FESTO

Order code

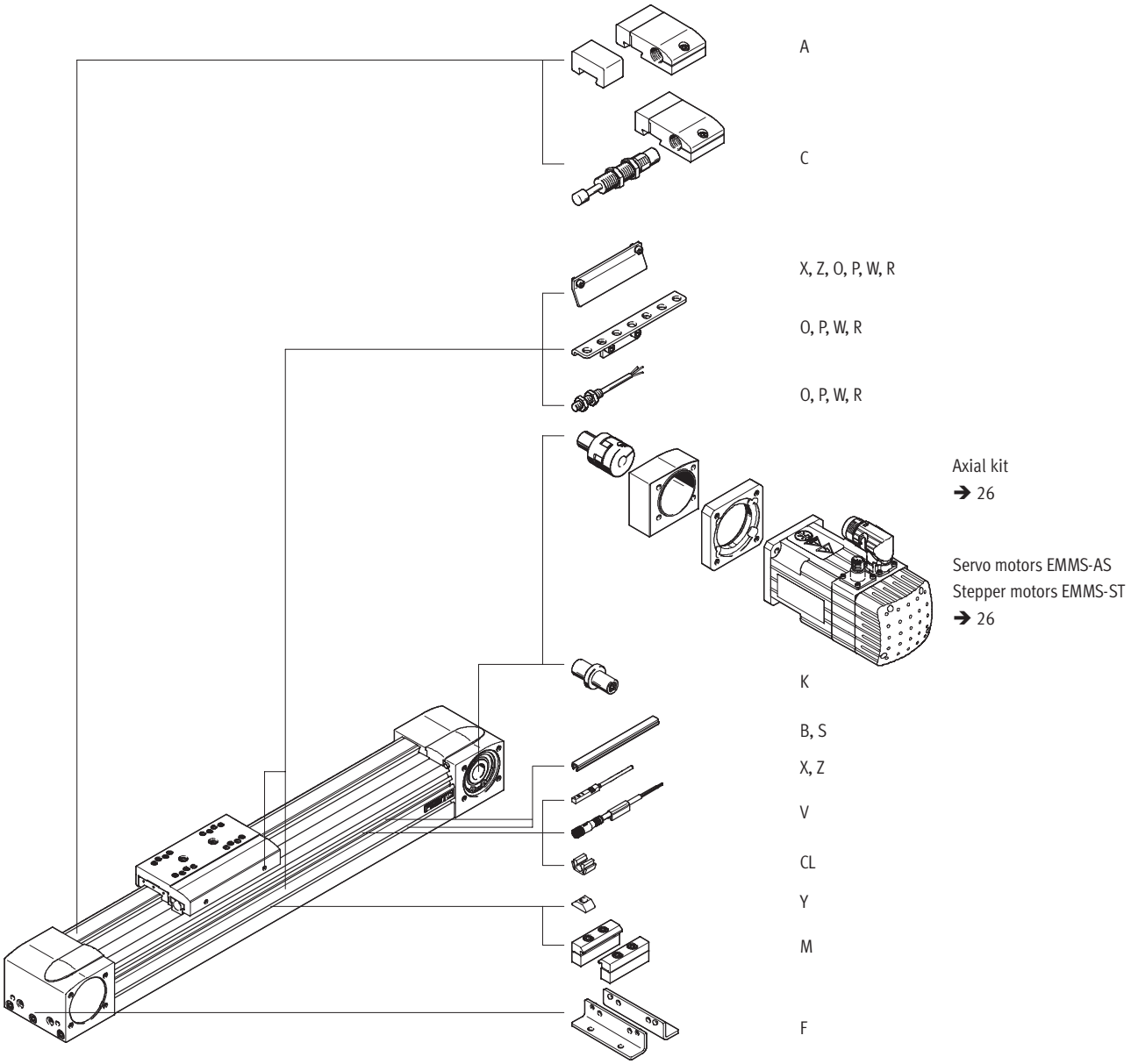
Mandatory data



O	top
U	underneath
R	right
L	left
V	front
H	rear



Accessories



Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Ordering data – Modular products

FESTO

Ordering table

Size			50	70	80	120	185	Condi-tions	Code		Enter code
M	Module No.		**556812**	**556813**	**556814**	**556815**	**556817**				
	Design		Linear axis						**EGC**		EGC
	Size		50	70	80	120	185		**-...**		-...
	Stroke length	[mm]	50 ... 1,900	50 ... 5,000	50 ... 8,500	50 ... 8,500 (50 ... 8,400 at GV, GQ)	50 ... 8,500 (50 ... 8,400 at GV, GQ)	1	**-...**		-...
	Function		Toothed belt						**-TB**		-TB
	Guide		Recirculating ball bearing guide						**-KF**		-KF
	Stroke reserve	[mm]	0 ... 999 (0 = no stroke reserve)					1	**-...H**		
	Slide		Standard slide						**-GK**		
			–	Extended slide, protected			–		**-GQ**		
			–	Standard slide, protected			–		**-GP**		
			–	Elongated slide					**-GV**		
O	Additional slide	Left	Additional slide, standard, at left					2	**-KL**		
↓		Right	Additional slide, standard, at right					2	**-KR**		

1 **-...** The sum of the stroke length and 2x stroke reserve must not exceed the maximum stroke length

2 **KL, KR** If the slide was chosen as a protected variant (GQ, GP), the additional slide (KL, KR) is also protected

If the slide was chosen as an extended variant (GQ, GV), the additional slide (KL, KR) is not extended

No additional slides (KL, KR) can be ordered for long strokes ➔ product configurator. If required, please contact your local Festo office

Order code

	EGC	–		–		–	TB	–	KF	–		–		–	

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

FESTO

Ordering data – Modular products

Ordering table

	Size		50	70	80	120	185	Conditions	Code		Enter code
↓	Accessories		Accessories enclosed separately						**ZUB-**		ZUB-
[0]	Foot mounting		1						**F**		
	Profile mounting		1 ... 50						**...M**		
	Cover	Mounting slot	–	1 ... 50 (1 = 2 units 500 mm long)					**...B**		
		Sensor slot	1 ... 50 (1 = 2 units 500 mm long)						**...S**		
	Slot nut for mounting slot		1 ... 99						**...Y**		
	Proximity sensor (SIES) inductive, slot 8, PNP, incl. switch lug	Normally open contact, cable 7.5 m	1 ... 6						**...X**		
		Normally closed contact, cable length 7.5 m	1 ... 6						**...Z**		
	Emergency buffer with retainer		–	1 ... 2				[3]	**...A**		
	Shock absorber with retainer		1 ... 2					[4]	**...C**		
	Proximity sensor (SIEN) inductive, M8, PNP, incl. switch lug with sensor retainer	Normally open contact, cable 2.5 m	–	1 ... 99					**...O**		
		Normally closed contact, cable length 2.5 m	–	1 ... 99					**...P**		
		Normally open contact, M8 plug	–	1 ... 99					**...W**		
		Normally closed contact, plug M8	–	1 ... 99					**...R**		
	Plug socket with cable 2.5 m, M8, 3-wire		1 ... 99						**...V**		
	Drive shaft		1 ... 4					[5]	**...K**		
	Cable clip		10, 20, 30, 40, 50, 60, 70, 80, 90						**...CL**		
	Operating instructions		Express waiver – no user documentation to be included (already available) (operating instructions in PDF format are available free of charge on the Internet www.festo.com)						**-DN**		

[3] ... **A** Emergency buffer with retainer A cannot be combined with slide GP, GQ and shock absorber with retainer C

[4] ... **C** Shock absorber with retainer C cannot be combined with slide GP, GQ and emergency buffer with retainer A

[5] ... **K.** For the axis/motor combinations → 26 no drive shaft is needed beyond

- Note

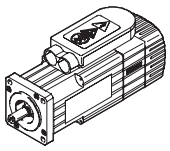
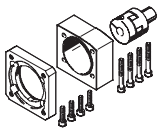
With code X, Z, one switch lug is included in the scope of delivery. With code O, P, W, R, one switch lug and max. two sensor retainers are included in the scope of delivery.

Transfer order code

ZUB	–																	–	

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Accessories

Permissible axis/motor combinations with axial kit – Without gear unit		
Motor	Axial kit	
		
Type	Part No.	Type
EGC-50		
with servo motor		
EMMS-AS-55-S-...	**557975**	**EAMM-A-L27-55A**
with stepper motor		
EMMS-ST-57-S-...	**560678**	**EAMM-A-L27-57A**
EGC-70		
with servo motor		
EMMS-AS-70-S-...	**557979**	**EAMM-A-L38-70A**
with stepper motor		
EMMS-ST-57-M-...	**560679**	**EAMM-A-L38-57A**
EMMS-ST-87-S-...	**560680**	**EAMM-A-L38-87A**
EGC-80		
with servo motor		
EMMS-AS-70-M-...	**557982**	**EAMM-A-L48-70A**
EMMS-AS-100-S-...	**557984**	**EAMM-A-L48-100A**
with stepper motor		
EMMS-ST-87-S-... **EMMS-ST-87-M-...**	**560683**	**EAMM-A-L48-87A**
EGC-120		
with servo motor		
EMMS-AS-100-S-...	**557988**	**EAMM-A-L62-100A**
EMMS-AS-140-M-...	**557990**	**EAMM-A-L62-140A**
EGC-185		
with servo motor		
EMMS-AS-140-M-...	**557994**	**EAMM-A-L95-140A**

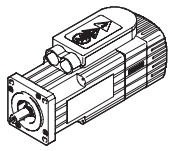
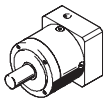
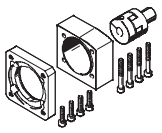
Note

For the optimum selection of axis/motor combinations ➔ Sizing software PositioningDrives www.festo.com

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Accessories

FESTO

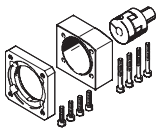
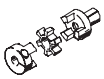
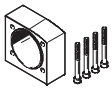
Permissible axis/motor combinations with axial kit – With gear unit				
Motor	Gear unit		Axial kit	
				
Type	Part No.	Type	Part No.	Type
EGC-50				
with servo motor				
EMMS-AS-40-M-...	**552186**	**EMGA-40-P-G3-SAS-40**	**557974**	**EAMM-A-L27-40G**
EGC-70				
with servo motor				
EMMS-AS-55-S-...	**552188**	**EMGA-60-P-G3-SAS-55**	**557978**	**EAMM-A-L38-60G**
EGC-80				
with servo motor				
EMMS-AS-70-M-...	**552190**	**EMGA-60-P-G3-SAS-70**	**557983**	**EAMM-A-L48-60G**
EGC-120				
with servo motor				
EMMS-AS-100-S-...	**552194**	**EMGA-80-P-G3-SAS-100**	**557989**	**EAMM-A-L62-80G**
EGC-185				
with servo motor				
EMMS-AS-140-M-...	**552198**	**EMGA-120-P-G3-SAS-140**	**557995**	**EAMM-A-L95-120G**

Note

For the optimum selection of axis/motor combinations ➔ Sizing software PositioningDrives www.festo.com

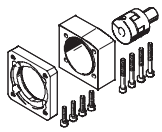
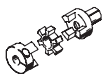
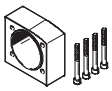
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Accessories

Individual components of the axial kit				
Axial kit	Axial kit comprising:			
	Motor flange	Coupling	Coupling housing	Screws
				
Part No. Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
EGC-50				
557975 **EAMM-A-L27-55A**	**558016** **EAMF-A-27A-55A**	**557999** **EAMD-19-15-9-8X10**	–	–
560678 **EAMM-A-L27-57A**	**560690** **EAMF-A-27A-57A**	**561292** **EAMD-16-15-6,35-8X10**	–	–
EGC-70				
557979 **EAMM-A-L38-70A**	**558018** **EAMF-A-38A-70A**	**558000** **EAMD-25-22-11-10X12**	**558011** **EAMK-A-L38-38A**	**567484** **EAHM-L2-M5-30**
560679 **EAMM-A-L38-57A**	**560692** **EAMF-A-38A-57A**	**561293** **EAMD-25-22-6,35-10X12**	**558011** **EAMK-A-L38-38A**	**567484** **EAHM-L2-M5-30**
560680 **EAMM-A-L38-87A**	**560693** **EAMF-A-38A-87A**	**558000** **EAMD-25-22-11-10X12**	**558011** **EAMK-A-L38-38A**	**567485** **EAHM-L2-M5-35**
EGC-80				
557982 **EAMM-A-L48-70A**	**558025** **EAMF-A-48A-70A**	**558001** **EAMD-32-32-11-16X20**	**558012** **EAMK-A-L48-48A**	**567486** **EAHM-L2-M5-40**
557984 **EAMM-A-L48-100A**	**558020** **EAMF-A-48A-100A**	**558002** **EAMD-42-40-19-16X25**	**558012** **EAMK-A-L48-48A**	**567489** **EAHM-L2-M5-55**
560683 **EAMM-A-L48-87A**	**560695** **EAMF-A-48A-87A**	**558001** **EAMD-32-32-11-16X20**	**558012** **EAMK-A-L48-48A**	**567487** **EAHM-L2-M5-45**
EGC-120				
557988 **EAMM-A-L62-100A**	**558026** **EAMF-A-62A-100A**	**558003** **EAMD-56-46-19-23X27**	**558013** **EAMK-A-L62-62A**	**567491** **EAHM-L2-M6-65**
557990 **EAMM-A-L62-140A**	**558022** **EAMF-A-62A-140A**	**558005** **EAMD-56-46-24-23X27**	**558013** **EAMK-A-L62-62A**	**567493** **EAHM-L2-M6-70**
EGC-185				
557994 **EAMM-A-L95-140A**	**558023** **EAMF-A-95A-140A**	**558008** **EAMD-67-51-24-32X32**	**558014** **EAMK-A-L95-95A**	**567497** **EAHM-L2-M8-80**

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Accessories

Individual components of the axial kit				
Axial kit	Axial kit comprising:			
	Motor flange	Coupling	Coupling housing	Screws
				
Part No. Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
EGC-50				
557974 **EAMM-A-L27-40G**	**558015** **EAMF-A-27A-40G**	**557998** **EAMD-19-15-10-8X10**	–	–
EGC-70				
557978 **EAMM-A-L38-60G**	**558017** **EAMF-A-38A-60G**	**558000** **EAMD-25-22-11-10X12**	**558011** **EAMK-A-L38-38A**	**567485** **EAHM-L2-M5-35**
EGC-80				
557983 **EAMM-A-L48-60G**	**558019** **EAMF-A-48A-60G**	**558001** **EAMD-32-32-11-16X20**	**558012** **EAMK-A-L48-48A**	**567486** **EAHM-L2-M5-40**
EGC-120				
557989 **EAMM-A-L62-80G**	**558021** **EAMF-A-62A-80G**	**558004** **EAMD-56-46-20-23X27**	**558013** **EAMK-A-L62-62A**	**567492** **EAHM-L2-M6-65-L**
EGC-185				
557995 **EAMM-A-L95-120G**	**558024** **EAMF-A-95A-120G**	**558006** **EAMD-67-51-25-32X32**	**558014** **EAMK-A-L95-95A**	**567496** **EAHM-L2-M8-70**

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

FESTO

Accessories

Axial kit EAMM-A-...

Material:
Coupling housing, coupling hubs, motor flange: Aluminium
Screws: Steel

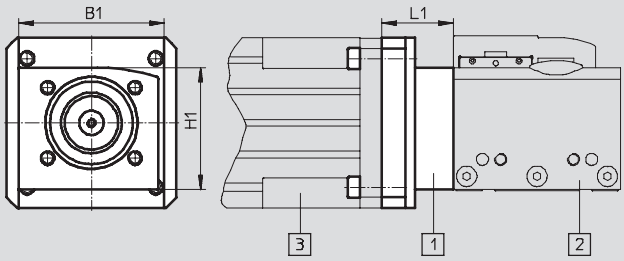


Diagram:
1 Axial kit
2 Toothed belt axis
3 Motor

General technical data								
EAMM-A-...		L27-			L38-			
		55A	57A	40G	57A	70A	87A	60G
Transferable torque	[Nm]	2	1.6	2	3.6	4.4	4.4	4.4
Mass moment of inertia	[kgmm^2]	0.445	0.355	0.445	3.2	3.2	3.2	3.2
Max. rotational speed	[rpm]	10,000	10,000	10,000	8,000	8,000	8,000	8,000
Mounting position		Any						

EAMM-A-...		L48-				L62-			L95-	
		70A	87A	100A	60G	100A	140A	80G	140A	120G
Transferable torque	[Nm]	12.5	12.5	17	12.5	47	47	47	143	150
Mass moment of inertia	[kgmm^2]	14.5	14.5	39	14.5	147	147	147	374	374
Max. rotational speed	[rpm]	8,000	8,000	6,000	8,000	5,500	5,500	5,500	4,500	4,500
Mounting position		Any								

Operating and environmental conditions		
Ambient temperature	[°C]	–10 ... +60
Storage temperature	[°C]	–25 ... +60
Protection class[1)]		IP40
Relative air humidity	[%]	0 ... 95

1) Only with combined attachment of motor and axis

Dimensions and ordering data						
Type	B1	H1	L1	Weight [g]	Part No.	Type
EAMM-A-L27-55A	–	–	23.1	220	**557975**	**EAMM-A-L27-55A**
EAMM-A-L27-57A			23.1	180	**560678**	**EAMM-A-L27-57A**
EAMM-A-L27-40G			29.2	180	**557974**	**EAMM-A-L27-40G**
EAMM-A-L38-57A	57.5	50.3	26.7	220	**557679**	**EAMM-A-L38-57A**
EAMM-A-L38-70A			29.5	290	**557979**	**EAMM-A-L38-70A**
EAMM-A-L38-87A			33.7	480	**560680**	**EAMM-A-L38-87A**
EAMM-A-L38-60G			41.7	345	**557978**	**EAMM-A-L38-60G**
EAMM-A-L48-70A	65	61	40.2	345	**557982**	**EAMM-A-L48-70A**
EAMM-A-L48-87A			44	590	**560683**	**EAMM-A-L48-87A**
EAMM-A-L48-100A			59	985	**557984**	**EAMM-A-L48-100A**
EAMM-A-L48-60G			52.5	485	**557983**	**EAMM-A-L48-60G**
EAMM-A-L62-100A	100	90.5	62.5	1,605	**557988**	**EAMM-A-L62-100A**
EAMM-A-L62-140A			72.5	2,420	**577990**	**EAMM-A-L62-140A**
EAMM-A-L62-80G			62.5	1,620	**557989**	**EAMM-A-L62-80G**
EAMM-A-L95-140A	140	142.5	76	3,710	**557994**	**EAMM-A-L95-140A**
EAMM-A-L95-120G			81	3,660	**557995**	**EAMM-A-L95-120G**

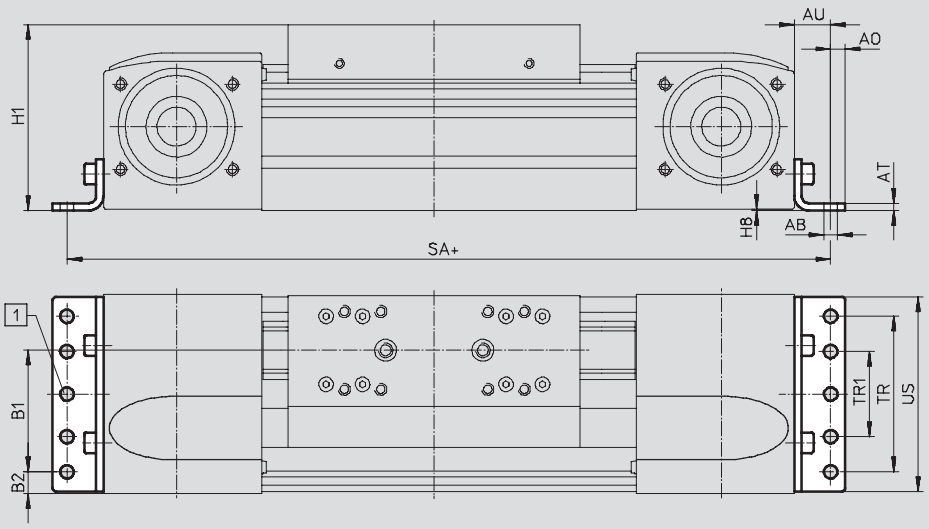
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Accessories

FESTO

Foot mounting HPE
(order code F)

Material:
Galvanised steel
RoHS-compliant



1 Hole in the HPE-120
\+ = plus stroke length + 2x stroke reserve

Dimensions and ordering data

For size	AB ∅	AO	AT	AU	B1	B2	H1	H8
50	4.5	4.5	2	10.5	21.5	14	42.5	0.5
70	5.5	6	3	13	37	14.5	64	0.5
80	5.5	6	3	15	38	21	76.5	0.5
120	9	8	6	22	65	20	111.5	0.6
185	9	12	8	25	118	13	172.5	0.5

For size	SA		TR	TR1	US	Weight [g]	Part No.	Type
	GK	GV						
50	176	–	20	–	46	44	**558320**	**HPE-50**
70	272	372	40	–	67	115	**558321**	**HPE-70**
80	316	416	40	–	80	150	**558322**	**HPE-80**
120	490	590	80	–	116	578	**558323**	**HPE-120**
185	662	762	160	80	182	1,438	**558325**	**HPE-185**

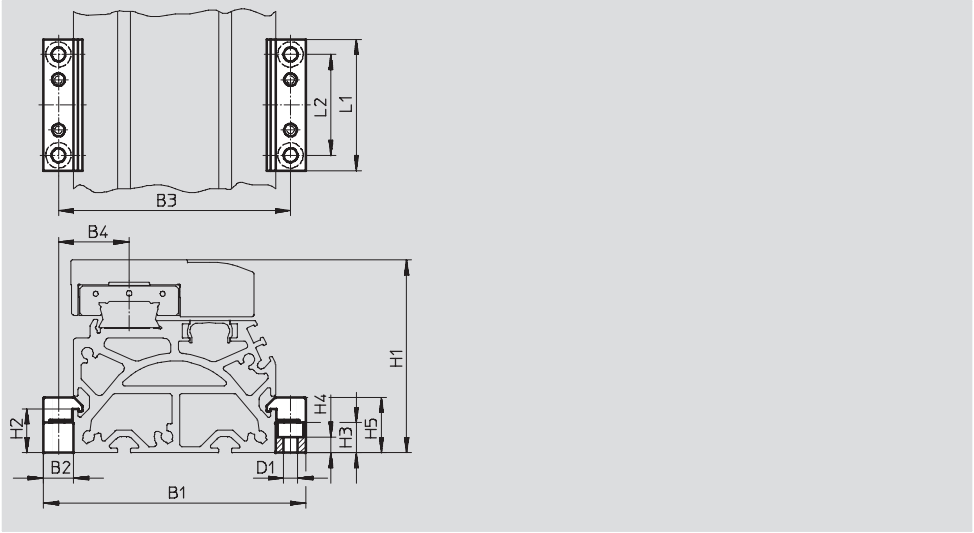
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Accessories

FESTO

Profile mounting MUE
(order code M)

Material:
Anodised aluminium
RoHS-compliant



Dimensions and ordering data

For size	B1	B2	B3	B4	D1 ∅	H1	H2	H3
50	62	8	54	15.5	3.4	42.5	6	5.5
70	91	12	79	22.5	5.5	64	17.5	12
80	104	12	92	28	5.5	76.5	17.5	12
120	154	19	135	42.5	9	111.5	16	14
185	220	19	201	62.5	9	172.5	16	14

For size	H4	H5	L1	L2	Weight [g]	Part No.	Type
50	2.3	11	40	20	20	**558042**	**MUE-50**
70	6.2	22	52	40	80	**558043**	**MUE-70/80**
80	6.2	22	52	40	80	**558043**	**MUE-70/80**
120	5.5	29.5	90	40	290	**558044**	**MUE-120/185**
185	5.5	29.5	90	40	290	**558044**	**MUE-120/185**

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

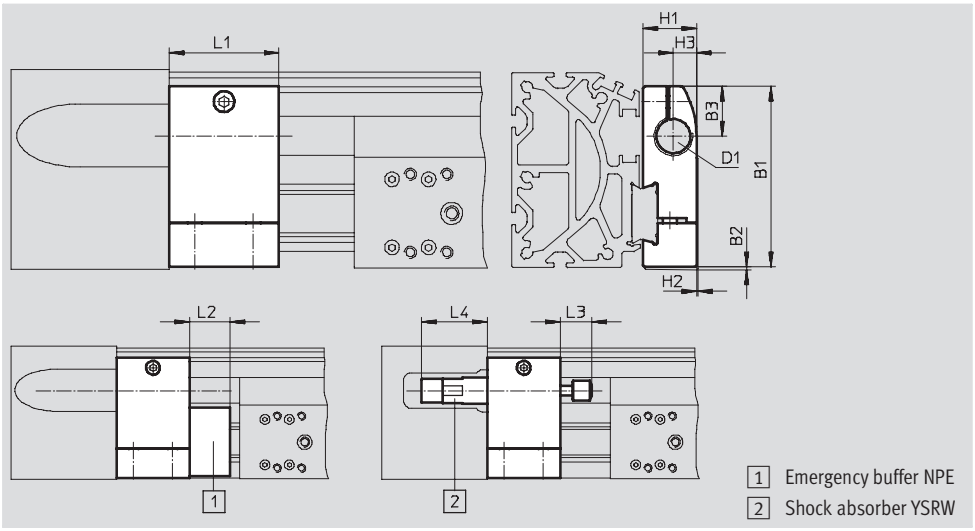
FESTO

Accessories

Shock absorber retainer KYE
Emergency buffer NPE ➔ 35
Shock absorbers YSRW ➔ 35
(order code A or C)

Material:
Anodised aluminium
RoHS-compliant

Cannot be used in combination with the variants GP and GQ.



Dimensions and ordering data

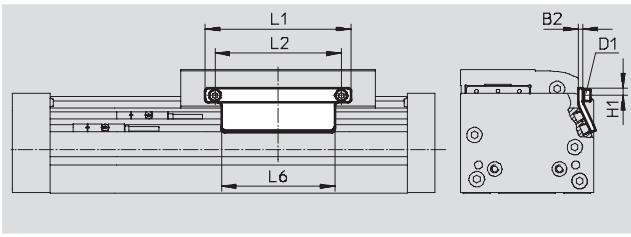
For size	B1	B2	B3	D1	H1	H2	H3	L1	L2	L3	L4 min.	Weight [g]	Part No.	Type
50	38	1	13.5	M8X1	12	0.4	5	20	12	8	20	20	**557583**	**KYE-50**
70	57.5	1	16.5	M12X1	18.2	0.5	7.5	30	15	14	32	75	**557584**	**KYE-70**
80	74.2	1	20.5	M16X1	22	0.5	9.5	45	25	20	41	170	**557585**	**KYE-80**
120	108.5	1	26	M22X1.5	31	1	14	60	40	26	48.5	680	**557586**	**KYE-120**
185	168	1	37	M26X1.5	42	4	18	75	60	34	58.5	1,075	**557587**	**KYE-185**

Switch lug SF-EGC-1
For sensing with proximity sensor SIES-8M
(order code X or Z)

Material:
Galvanised steel
RoHS-compliant

- With size 50, max 3 proximity sensors can be supported when querying both end positions.

For additional proximity sensors, a stroke reserve of 25 mm is required.



Dimensions and ordering data

For size	B2	D1	H1	L1	L2	L6	Weight [g]	Part No.	Type
50	2	M3	3.5	45	22	45	20	**558046**	**SF-EGC-1-50**
70	3	M4	4.65	70	56	50	50	**558047**	**SF-EGC-1-70**
80	3	M4	4.65	90	78	70	60	**558048**	**SF-EGC-1-80**
120	3	M5	8	170	140	170	150	**558049**	**SF-EGC-1-120**
185	3	M5	10	230	200	230	245	**558051**	**SF-EGC-1-185**

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Accessories

FESTO

Switch lug SF-EGC-2
For sensing with proximity sensor SIEN-M8B (order code O, P, W or R) or SIES-8M (order code X or Z)

Material:
Galvanised steel
RoHS-compliant

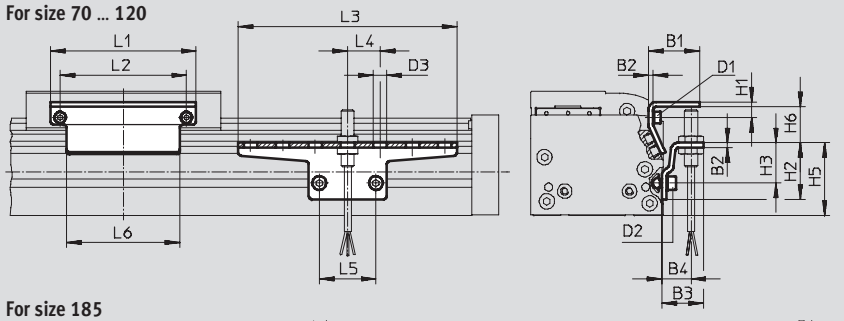
Sensor retainer HWS-EGC
For proximity sensor SIEN-M8B (order code O, P, W or R)

Material:
Galvanised steel
RoHS-compliant

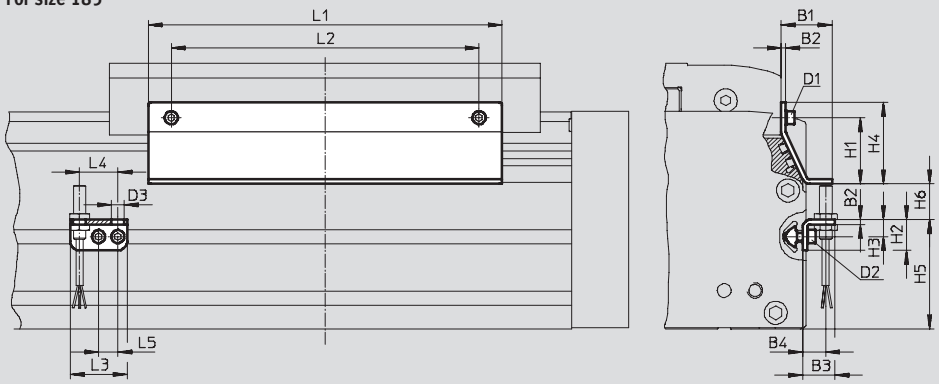
Switch lug SF-EGC-2

Sensor retainer HWS-EGC

For size 70 ... 120



For size 185



Dimensions and ordering data

For size	B1	B2	B3	B4	D1	D2	D3 ∅	H1	H2
70	31.5	3	25.5	18	M4	M5	8.4	9.5	35
80	31.5	3	25.5	18	M4	M5	8.4	9.5	35
120	32	3	25.5	18	M5	M5	8.4	13.2	65
185	33	3	25.5	15	M5	M5	8.4	43	20

For size	H3	H4	H5	H6 max.	L1	L2	L3	L4	L5	L6
70	25	–	45	13.5	70	56	135	20	35	50
80	25	–	45	23.5	90	78	135	20	35	70
120	55	–	75	24	170	140	215	20	35	170
185	11	53	71	25.5	230	200	37	25	12.5	230

For size	Weight [g]	Part No.	Type
	Switch lug		
70	100	**558052**	**SF-EGC-2-70**
80	130	**558053**	**SF-EGC-2-80**
120	280	**558054**	**SF-EGC-2-120**
185	390	**558056**	**SF-EGC-2-185**

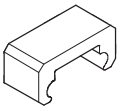
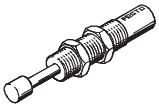
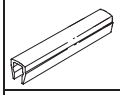
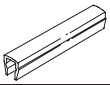
For size	Weight [g]	Part No.	Type
	Sensor retainer		
70	110	**558057**	**HWS-EGC-M5**
80	110	**558057**	**HWS-EGC-M5**
120	200	**558058**	**HWS-EGC-M8**
185	60	**560517**	**HWS-EGC-M8:KURZ**

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Accessories

FESTO

Ordering data

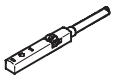
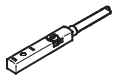
	For size	Remarks	Order code	Part No.	Type	PU[1]
Drive shaft EAMB						
	50	Alternative interface	K	558034	EAMB-16-7-8X15-8X10	1
	70			558035	EAMB-18-9-8X16-10X12	
	80			558036	EAMB-24-6-15X21-16X20	
	120			558037	EAMB-34-6-25X26-23X27	
	185			558038	EAMB-44-7-35X30-32X32	
Emergency buffer NPE						
	50	Use in combination with shock absorber retainer KYE	A	564897	NPE-50	1
	70			562581	NPE-70	
	80			562582	NPE-80	
	120			562583	NPE-120	
	185			562584	NPE-185	
Shock absorber YSRW					Technical data ➔ Internet: ysrw	
	50	Use in combination with shock absorber retainer KYE	C	191192	YSRW-5-8	1
	70			191194	YSRW-8-14	
	80			191196	YSRW-12-20	
	120			191197	YSRW-16-26	
	185			191198	YSRW-20-34	
Slot nut NST						
	50	For mounting slot	Y	558045	NST-3-M3	1
	70, 80			150914	NST-5-M5	1
	120, 185			150915	NST-8-M6	1
Centring pin/sleeve ZBS/ZBH[2]						
	50, 70	For slide	–	150928	ZBS-5	10
	80, 120, 185			150927	ZBH-9	10
Slot cover ABP						
	70, 80	For mounting slot every 0.5 m	B	151681	ABP-5	2
	120, 185			151682	ABP-8	
Slot cover ABP-S						
	50 ... 185	For sensor slot every 0.5 m	S	563360	ABP-5-S1	2
Clip SMBK						
	50 ... 185	For sensor slot, for mounting the proximity sensor cable	CL	534254	SMBK-8	1

1) Packaging unit quantity
2) 6 centring pins/sleeves included in the scope of delivery for the axis

Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Accessories

Ordering data – Proximity sensors for T-slot, inductive — Technical data ➔ Internet: sies

	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	7.5	**551386**	**SIES-8M-PS-24V-K-7,5-OE**
			Plug M8x1, 3-pin	0.3	**551387**	**SIES-8M-PS-24V-K-0,3-M8D**
		NPN	Cable, 3-wire	7.5	**551396**	**SIES-8M-NS-24V-K-7,5-OE**
			Plug M8x1, 3-pin	0.3	**551397**	**SIES-8M-NS-24V-K-0,3-M8D**
N/C contact						
	Insertable in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	7.5	**551391**	**SIES-8M-PO-24V-K-7,5-OE**
			Plug M8x1, 3-pin	0.3	**551392**	**SIES-8M-PO-24V-K-0,3-M8D**
		NPN	Cable, 3-wire	7.5	**551401**	**SIES-8M-NO-24V-K-7,5-OE**
			Plug M8x1, 3-pin	0.3	**551402**	**SIES-8M-NO-24V-K-0,3-M8D**

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

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

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

	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	**159420**	**SIM-M8-3GD-2,5-PU**
			2.5	**541333**	**NEBU-M8G3-K-2.5-LE3**
			5	**541334**	**NEBU-M8G3-K-5-LE3**
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	**541338**	**NEBU-M8W3-K-2.5-LE3**
			5	**541341**	**NEBU-M8W3-K-5-LE3**