

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

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

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Key features

At a glance

Powerful

- Generously sized profiles with an optimised cross section afford 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

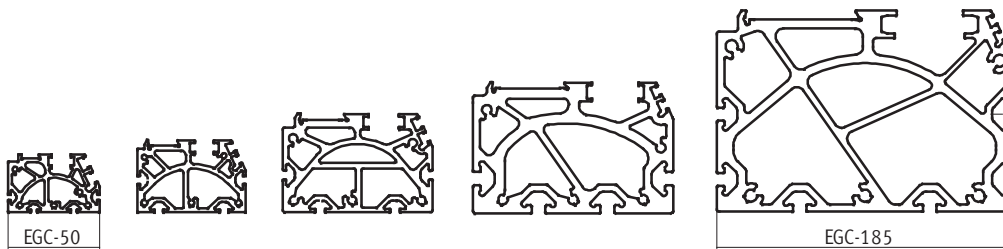
- Numerous sizes and variants such as protected guides open up a broad range of applications
- Space-saving position sensing with proximity sensor in the profile slot is possible
- Wide range of options for mounting on drives
- Comprehensive range of mounting accessories for multi-axis combinations

Flexible motor attachment

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



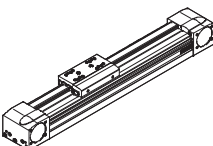
Comprehensive range for the most varied load conditions



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

PositioningDrives
sizing software
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Key features

Slide variants

Standard slide



Extended slide



Additional slide



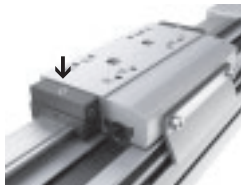
Guide options

Protected version



- The protected guide cleans the guide rail and protects the recirculating ball bearing guide with the aid of an additional wiper

With central lubrication



- The lubrication adapter enables the guide to be permanently lubricated using semi or fully automatic relubrication devices
- The adapters are suitable for oils and greases
- Both lubrication adapters must be connected

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

Toothed belt axis with recirculating ball bearing guide



Motor mounting kit

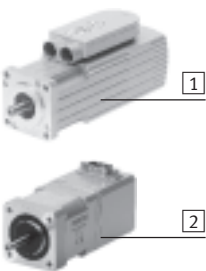
Axial kit



Kit comprising:

- Motor flange
- Coupling housing
- Coupling
- Screws

Motor

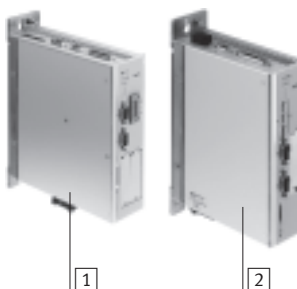


- 1 Servo motor EMMS-AS
- 2 Stepper motor EMMS-ST

Note

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

Motor controller

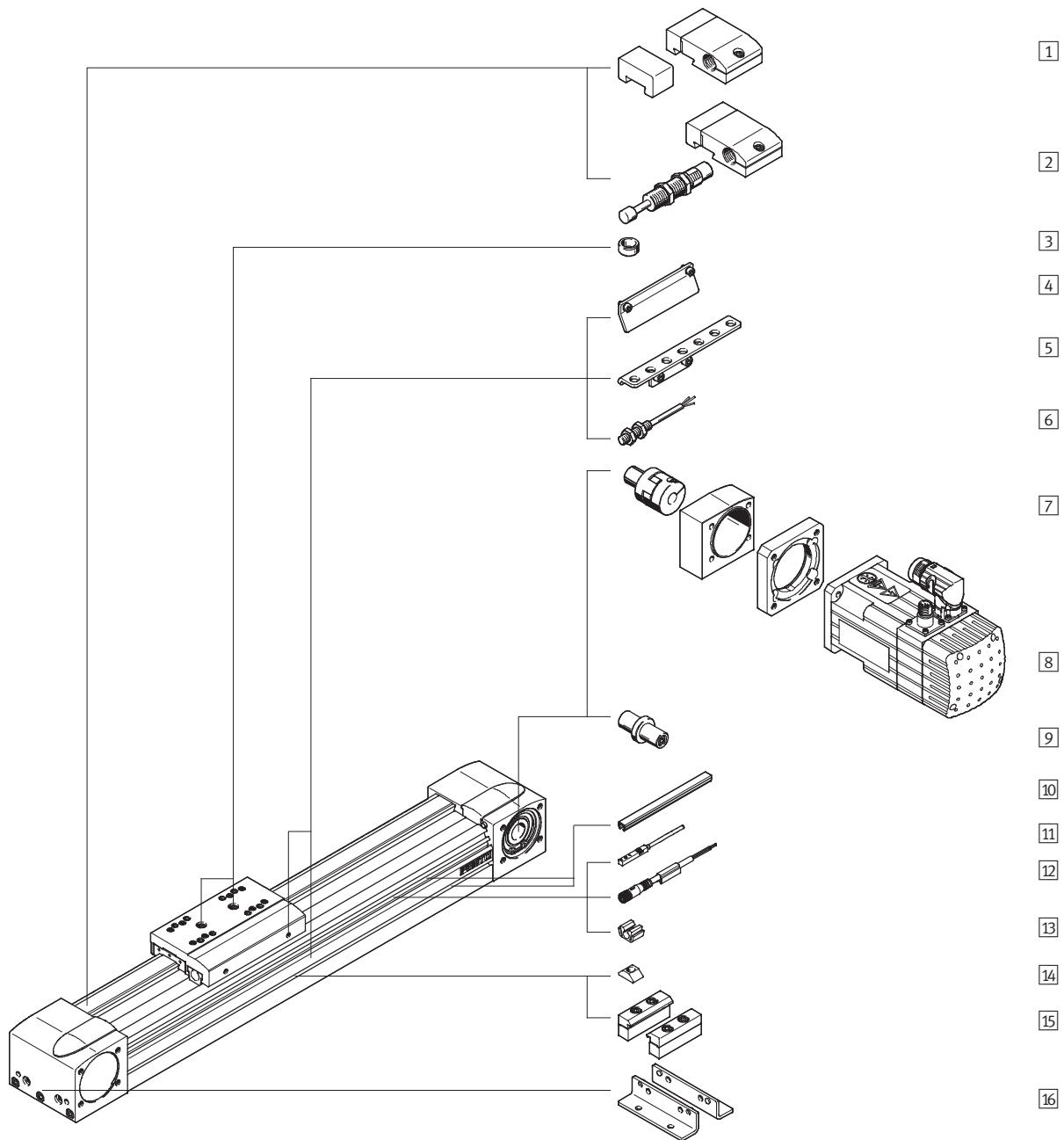


- 1 Servo motor controller CMMP-AS, CMMS-AS
- 2 Stepper motor controller CMMS-ST

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

Peripherals overview

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

Peripherals overview

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	36
2 Shock absorber with retainer C	For avoiding damage at the end stop in the event of malfunction	36
3 Centring pin/sleeve ZBS, ZBH	- For centring loads and attachments on the slide 2 centring pins/sleeves included in the scope of delivery for the axis	38
4 Switch lug X, Z, O, P, W, R	For sensing the slide position	36
5 Sensor retainer O, P, W, R	Adapter for mounting the inductive proximity sensors (round design) on the axis	37
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	39
7 Axial kit EAMM	For axial motor mounting (comprising: clutch, clutch housing and motor flange)	30
8 Motor EMMS	Motors specially matched to the axis, with or without gearing, with or without brake	30
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	38
10 Slot cover B, S	For protecting against ingress of dirt	38
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	39
12 Plug socket with cable V	For proximity sensor (order code W and R)	39
13 Clip CL	For mounting the proximity sensor cable in the slot	38
14 Slot nut Y	For mounting attachments	38
15 Profile mounting M	For mounting the axis on the profile	35
16 Foot mounting F	For mounting the axis on the end cap	34
– 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

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Type codes

		EGC	-	70	-	500	-	TB	-	KF	-		-	GK
Type														
EGC	Toothed belt axis													
Size														
Stroke [mm]														
Drive function														
TB	Toothed belt													
Guide														
KF	Recirculating ball bearing guide													
Stroke reserve														
Slide														
GK	Standard slide													
GV	Extended slide													
GP	Standard slide, protected													
GQ	Extended slide, protected													

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

Type codes

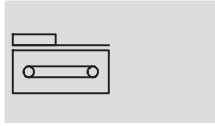
→		-		-		ZUB -	F2MX2Z	-	DN
Additional slide									
KL	Standard, left								
Additional slide									
KR	Standard, right								
Lubrication function									
-	Standard								
C	Lubrication adapter								
Accessories enclosed separately									
F	Foot mounting								
...M	Profile mounting								
...B	Mounting slot cover								
...S	Sensor slot cover								
...Y	Slot nut for mounting slot								
...X	Proximity sensor (SIES), inductive, slot type 8, PNP, N/O contact, cable 7.5 m								
...Z	Proximity sensor (SIES), inductive, slot type 8, PNP, N/C contact, cable 7.5 m								
...A	Emergency buffer with retainer								
...C	Shock absorber with retainer								
...O	Proximity sensor (SIEN), inductive, M8, PNP, N/O contact, cable 2.5 m								
...P	Proximity sensor (SIEN), inductive, M8, PNP, N/C contact, cable 2.5 m								
...W	Proximity sensor (SIEN), inductive, M8, PNP, N/O contact, plug M8								
...R	Proximity sensor (SIEN), inductive, M8, PNP, N/C contact, plug M8								
...V	Connecting cable								
...K	Drive shaft								
...CL	Cable clip								
Operating instructions									
DN	No								

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Technical data

Function



-N- Size
50 ... 185
-T- Stroke length
50 ... 8,500 mm



General technical data						
Size		50	70	80	120	185
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	1.4	4.05
Max. no-load resistance to shifting ¹⁾ [N]		8	14.5	28	70	110
Max. driving torque [Nm]		0.46	1.24	5	16	93
Max. speed [m/s]		3	5			
Max. acceleration [m/s ²]		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

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Technical data

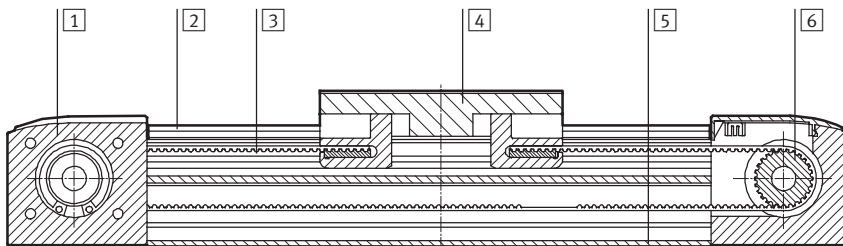
Toothed belt						
Size		50	70	80	120	185
Pitch	[mm]	2	3	3	5	8
Expansion ¹⁾	[%]	0.094	0.08	0.24	0.13	0.29
Effective diameter	[mm]	18.46	24.83	28.65	39.79	73.85
Feed constant	[mm/rev.]	58	78	90	125	232

1) At max. feed force

Mass moment of inertia						
Size		50	70	80	120	185
J ₀	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 _S per metre stroke	[kg mm ² /m]	2.6	10.6	18.8	93	760
J _L per kg effective load	[kg mm ² /kg]	85	154	205	396	1,363.5
J _W Additional slide	GK [kg mm ²]	3.56	56.32	126.73	861	8,846
	GV [kg mm ²]	–	82.52	185.22	1,080	10,523

Materials

Sectional view



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

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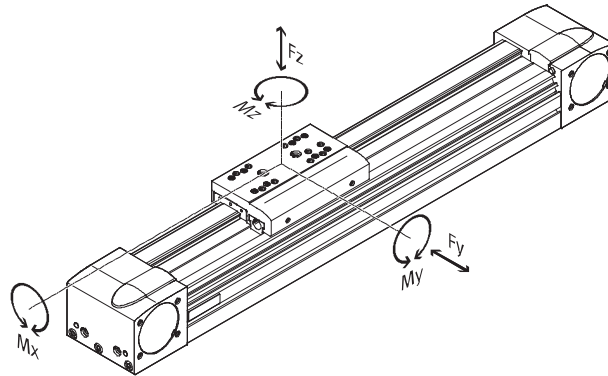
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Technical data

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 longitudinal centre of the slide intersect.

These values 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:

Calculating the load comparison factor:

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

Permissible forces and torques			50	70	80	120	185
Size							
F _{y,max.}	[N]		650	1,850	3,050	6,890	15,200
F _{z,max.}	[N]		650	1,850	3,050	6,890	15,200
M _{x,max.}	[Nm]		3.5	16	36	144	529
M _{y,max.}	GK/GP [Nm]		10	51	97	380	1,157
M _{z,max.}	GK/GP [Nm]		10	51	97	380	1,157
M _{y,max.}	GV/GQ [Nm]		–	132	228	680	1,820
M _{z,max.}	GV/GQ [Nm]		–	132	228	680	1,820

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Calculating service life

The service life of the guide depends on the load. To provide a rough indication of the service life of the

guide, the graph below plots the load comparison factor f_v against the service life.

These values are only theoretical. Consultation with your local contact person at Festo is mandatory for load

comparison factors f_v greater than 1.5.

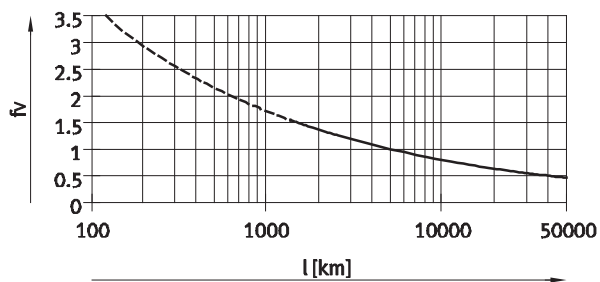
Load comparison factor f_v as a function of service life

Example:

A user wants to move an X kg load.

Using the formula $\rightarrow 10$ gives a value of 1.5 for the load comparison factor f_v . According to the graph, the guide would have a service life of

approx. 1,500 km. Reducing the acceleration reduces the M_z and M_y values. A load comparison factor f_v of 1 now gives a service life of 5,000 km.



Note

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sizing software
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The guide workload for a service life of 5,000 km can be calculated with the help of the sizing software.

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

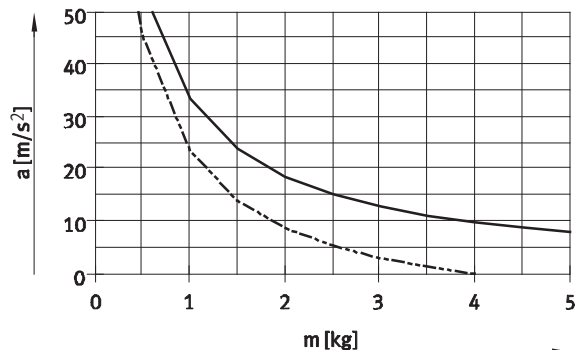
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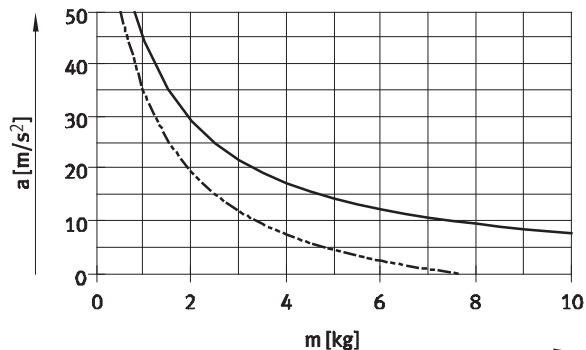
Technical data

Maximum acceleration a as a function of applied load m

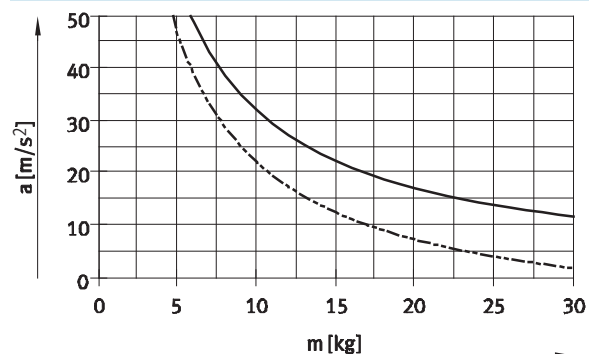
EGC-50



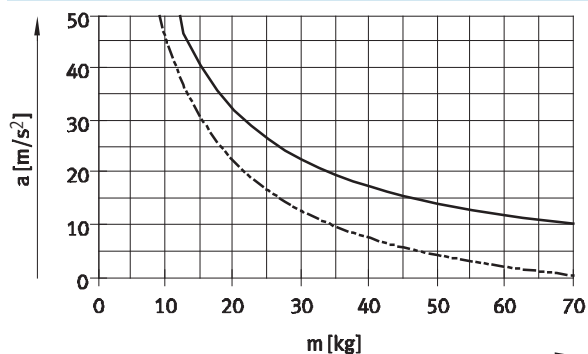
EGC-70



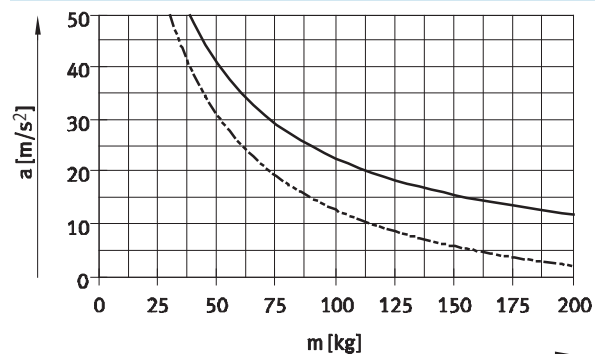
EGC-80



EGC-120



EGC-185



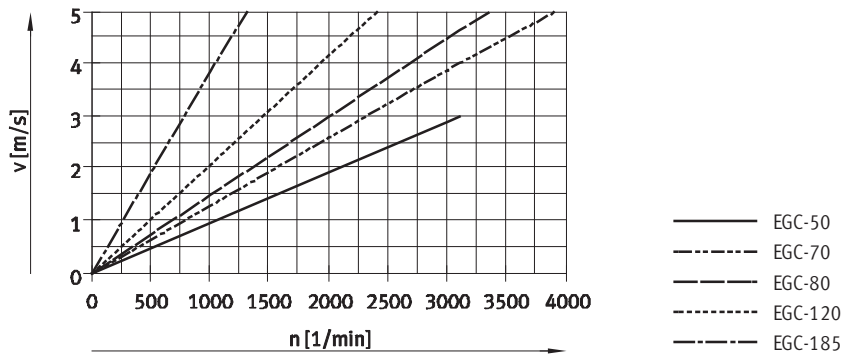
— Horizontal mounting position
 - - - Vertical mounting position

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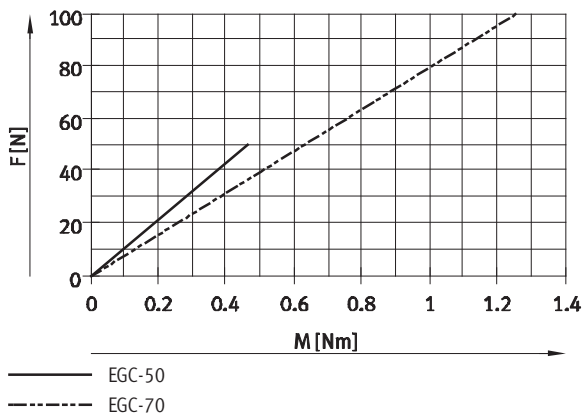
Technical data

Speed v as a function of rotational speed n

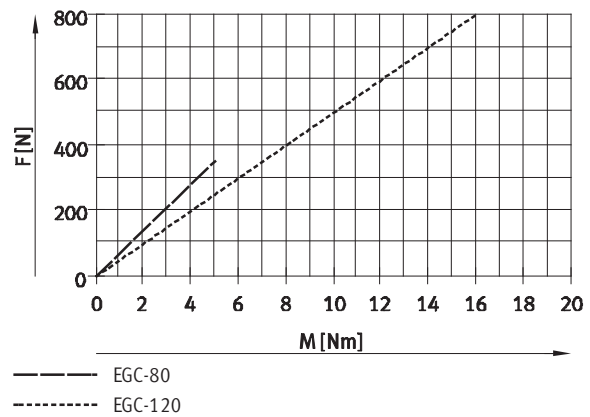


Theoretical feed force F as a function of input torque M

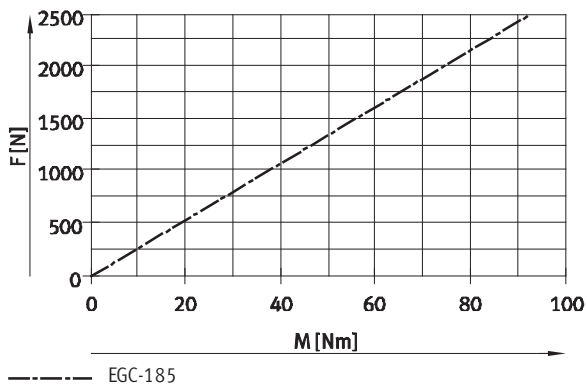
EGC-50/-70



EGC-80/-120



EGC-185



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Technical data

Stroke reserve							
Stroke length		Stroke reserve					
The selected stroke corresponds in principle to the required working stroke. The variants GK/GV do not have a wiper seal on the guide. These variants therefore additionally have a safety distance between the drive cap and slide that is not designated as part of the working stroke.		A safety distance (similar to GK/GV) between the drive cap and slide can be defined for the variants GP/GQ and GK-C/GV-C using the modular product system via the “stroke reserve” feature. With the variants GK/GV, the stroke reserve and safety distance are added for each end position.		• The stroke reserve length can be freely selected • The sum of the stroke length and 2x stroke reserve must not exceed the maximum working stroke		Example:	
						Type EGC-70-500-TB-KF-20H-...	
						Working stroke = 500 mm	
						2x stroke reserve = 40 mm	
						Total stroke = 540 mm	
						(540 mm = 500 mm + 2x 20 mm)	
Size	50	70	80	120	185		
L9 = safety distance with [mm] GK/GV (per end position)	–	10.5	13	18	21		

Working stroke reduction		
With standard slide GK/GP / extended slide GV/GQ with additional slide KL/KR		
With 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	- If the variant GP/GQ is ordered, the additional slide is also protected - If the variant GV/GQ is ordered, the additional slide is not extended	If the variant GK-C/GV-C is ordered, the additional slide is also supplied with lubrication adapters
L16 = Slide length	L18 = Distance between both slides	Example:
L17 = Additional slide length	1 Additional slide	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 or GK-C/GV-C	GK/GV	GP/GQ or GK-C/GV-C	GK/GV	GK-C/GV-C
Length L17 [mm]	65	100	121	120	146	200	236	280	322
Min. distance between the slides L18 [mm]	–	–	21	–	26	–	36	–	42

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	Shock absorbers must not be used in combination with GK-C/GV-C				

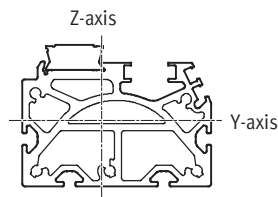
Size	50	70	80	120	185
With emergency buffer [mm]	30	43	68	98	133
With shock absorber [mm]	26	42	63	84	107

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Technical data

2nd moment of area

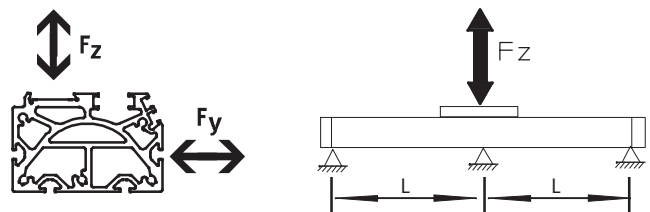


Size		50	70	80	120	185
I _y	[mm ⁴]	8.4x10 ⁴	3.95x10 ⁵	8.44x10 ⁵	4.62x10 ⁶	2.34x10 ⁷
I _z	[mm ⁴]	1.14x10 ⁵	5.77x10 ⁵	1.16x10 ⁶	5.65x10 ⁶	2.74x10 ⁷

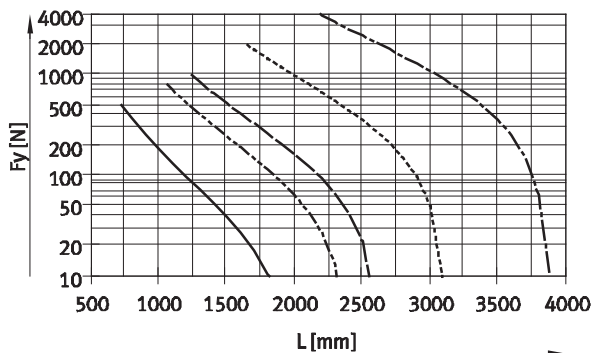
Maximum permissible support span L (without profile mounting) as a function of force F

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

The following graphs serve 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.

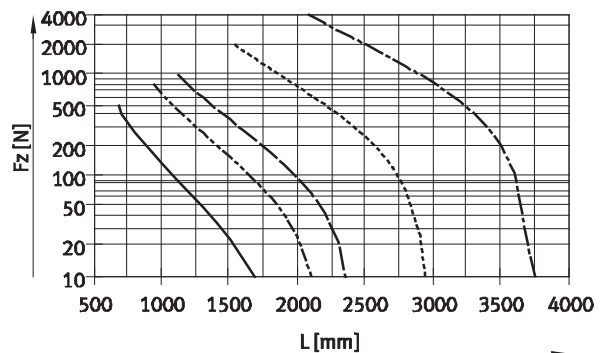


Force F_y



— EGC-50 - - - - - EGC-120
 - - - - - EGC-70 - · - · - EGC-185
 — · — EGC-80

Force F_z



Recommended deflection limits

Adherence to the following deflection limits is recommended so as not to impair the functional performance of

the axes. Greater deformation can result in increased friction, greater wear and reduced service life.

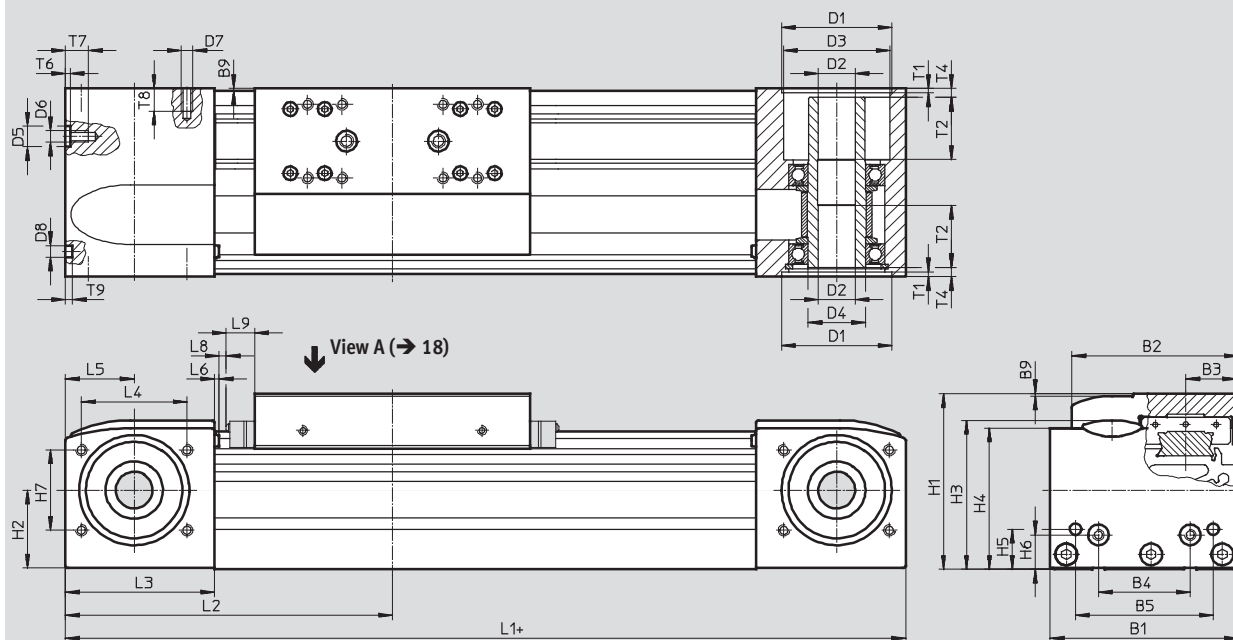
Size	Dyn. deflection (load moving)	Stat. deflection (stationary load)
50 ... 185	0.05% of the axis length, max. 0.5 mm	0.1% of the axis length

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Technical data

Dimensions

Download CAD Data ➔ www.festo.com/us/cad



+ = plus stroke length + 2x stroke reserve

L9 With GK/GV: safety distance per end position

With GP/GQ: dimension for wiper seal → 14

With GK-C/GV-C: dimension for adapter → 23

Size	B1	B2	B3	B4	B5	B9	D1 H7	D2 Ø H7	D3 Ø	D4 Ø	D5 Ø 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 Ø 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

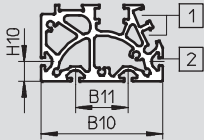
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

FESTO

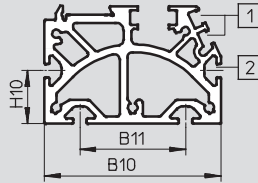
Technical data

Profile

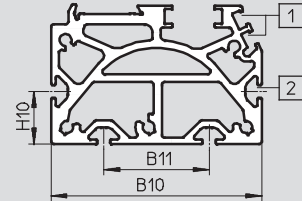
Size 50



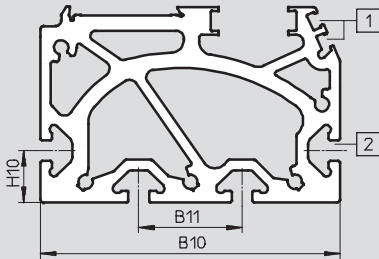
Size 70



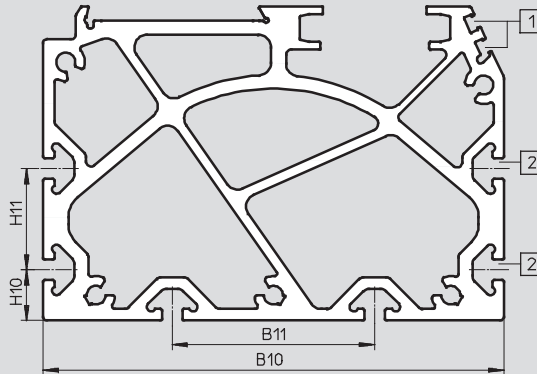
Size 80



Size 120



Size 185



- 1 Slot for proximity sensor
- 2 Mounting slot for slot nut

Size	B10	B11	H10	H11
50	46	20	7.5	–
70	67	40	20	–
80	80	40	20	–
120	116	40	20	–
185	182	80	20	40

Note

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

FESTO

Dimensions

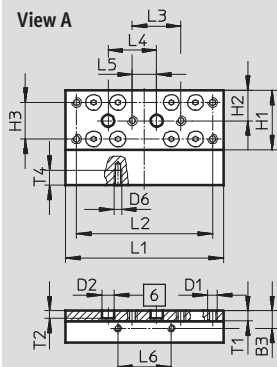
Download CAD Data ➔ www.festo.com/us/cad

GK – Standard slide/GP – Standard slide, protected

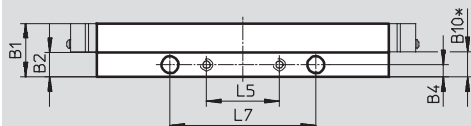
Size 50



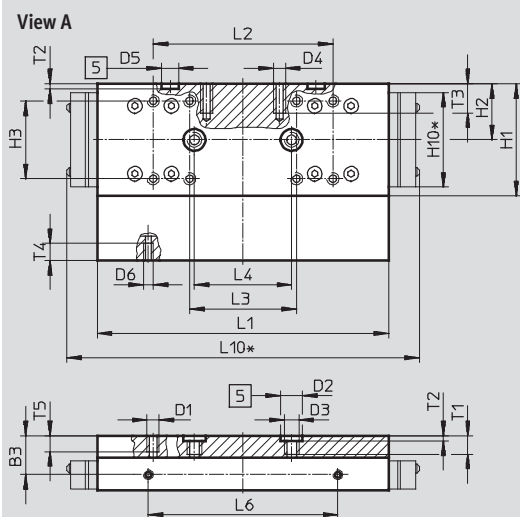
View A



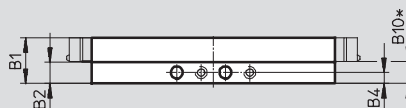
Size 80



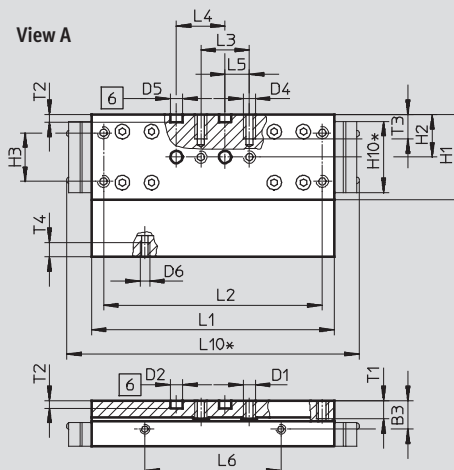
View A



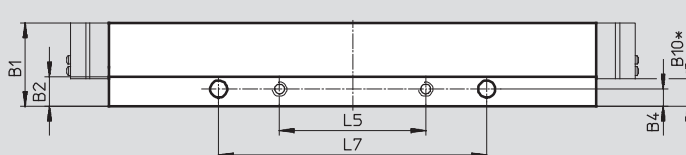
Size 70



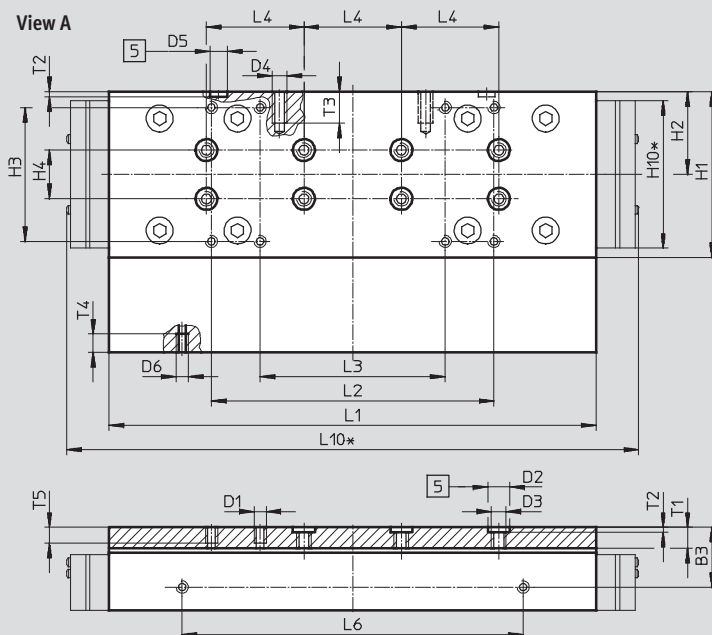
View A



Size 120



View A



- 5 Hole for centring sleeve
- 6 Hole for centring pin
- * Protected version

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

FESTO

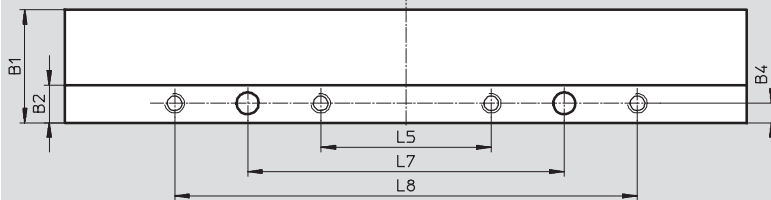
Technical data

Dimensions

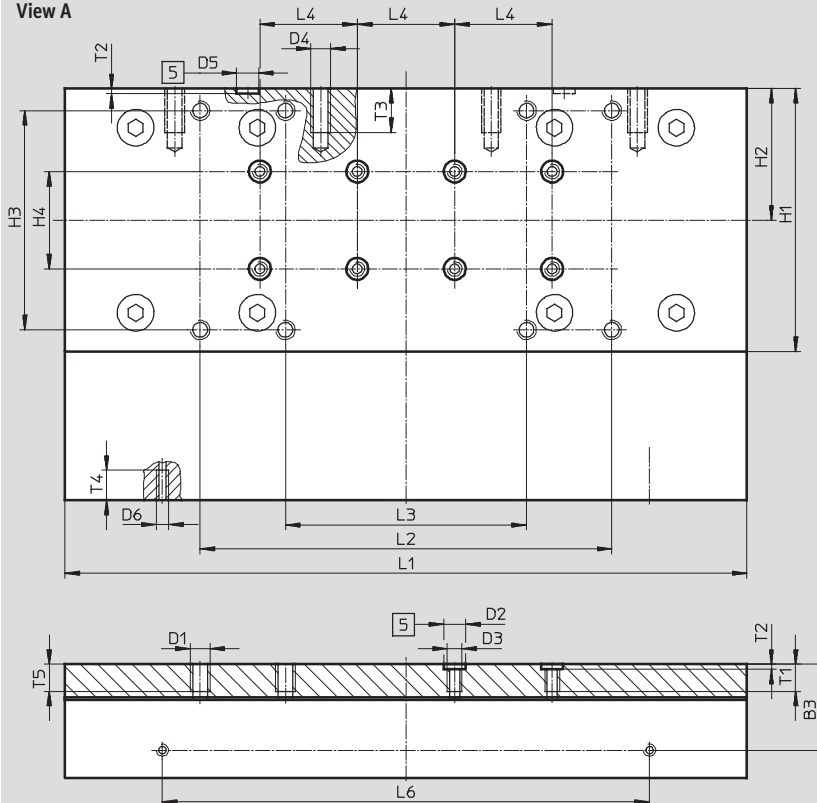
Download CAD Data → www.festo.com/us/cad

GK – Standard slide

Size 185



View A



[5] Hole for centring sleeve

Size	B1	B2	B3	B4	B10*	D1	D2 Ø H7	D3	D4	D5 Ø H7	D6	H1	H2	H3	H4 ±0.03
50	13	5.5	7.2	–	–	M4	5	–	–	–	M3	24.5	12.5	15 ±0.1	–
70	18.7	8.7	11.7	4.5	9	M5	5	–	M5	5	M4	35	17.5	20 ±0.1	–
80	22	10	16	5	10.4	M5	9	M6	M5	7	M4	46	23	32 ±0.2	–
120	34	12	24.5	7	11.2	M5	9	M6	M6	7	M5	68	34	55 ±0.2	20
185	46.5	15.5	35.2	8	–	M8	9	M6	M8	9	M5	108	54	90 ±0.2	40

Size	H10*	L1 ±0.1	L2	L3	L4 ±0.03	L5	L6 ±0.1	L7 ±0.05	L8 ±0.2	L10*	T1	T2 +0.1	T3	T4	T5
50	–	65	56 ±0.1	20 ±0.1	20	10 ±0.1	22	–	–	–	4.2	3.1	–	6	–
70	29.4	100	90 ±0.1	20 ±0.1	20	10 ±0.1	56	–	–	121	7.5	3.1	10	6	–
80	39	120	74 ±0.2	44 ±0.2	40	30 ±0.1	78	60	–	145	8.6	2.1	12	7	7.5
120	60.6	200	116 ±0.2	76 ±0.2	40	60 ±0.1	140	110	–	235	8.6	2.1	13	7.5	7.5
185	–	280	169 ±0.2	99 ±0.2	40	70 ±0.2	200	130	190	–	11	2.1	18	12.3	12

* Protected version

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

FESTO

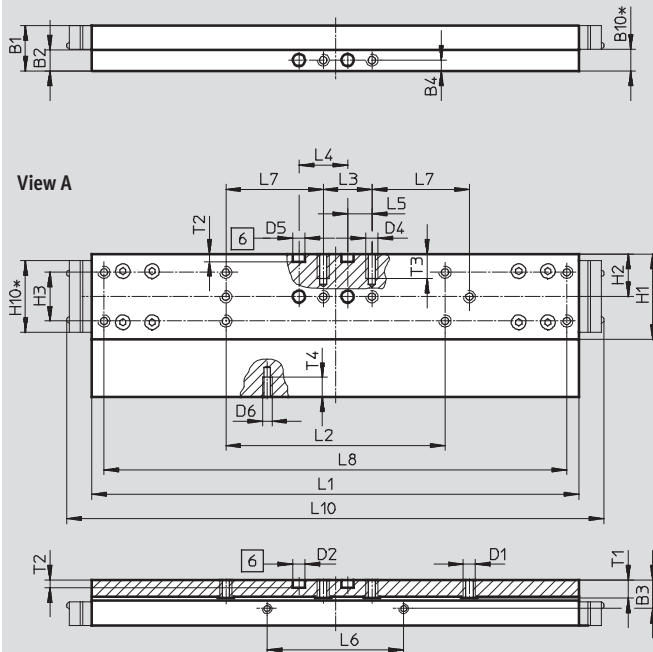
Technical data

Dimensions

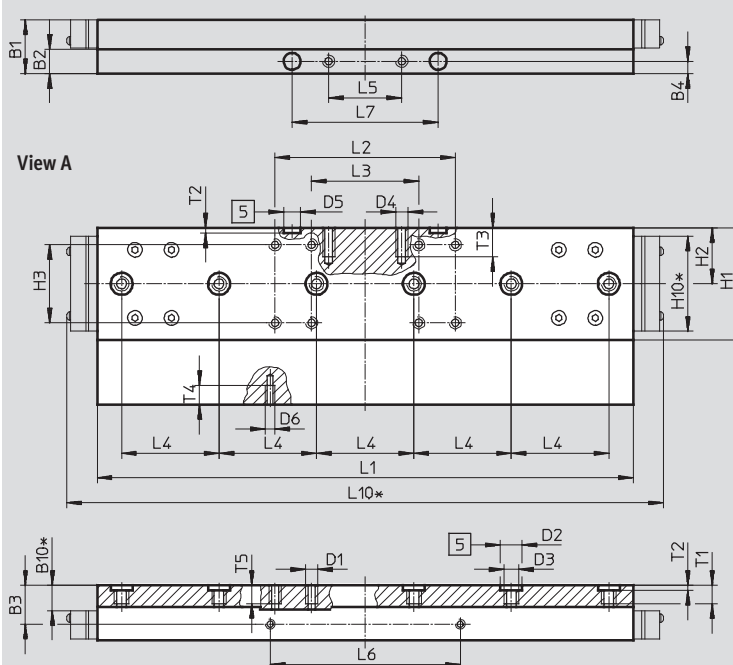
Download CAD Data → www.festo.com/us/cad

GV – Extended slide/GQ – Extended slide, protected

Size 70



Size 80

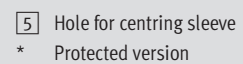


- 5 Hole for centring sleeve
- 6 Hole for centring pin
- * Protected version

FESTO

Download CAD Data ➔ www.festo.com/us/cad

Size 120



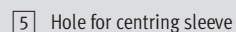
Size	L5	L6	L7	L8	L10*	T1	T2	T3	T4	T5
	±0.1	±0.1		±0.2			+0.1			
70	10	56	40 ±0.1	190	221	7.5	3.1	10	6	–
80	30	78	60 ±0.05	–	245	8.6	2.1	12	7	7.5
120	60	140	110±0.05	–	335	8.6	2.1	13	7.5	7.5

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Download CAD Data → www.festo.com/us/cad

GV – Extended slide

Size 185



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

Technical data

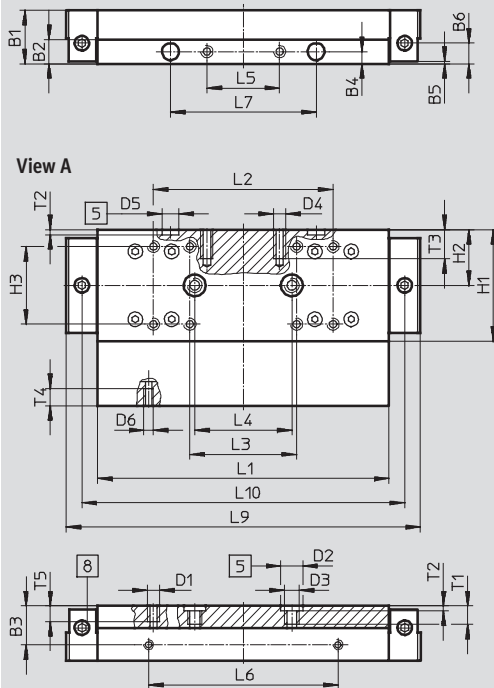
FESTO

Dimensions

Download CAD Data → www.festo.com/us/cad

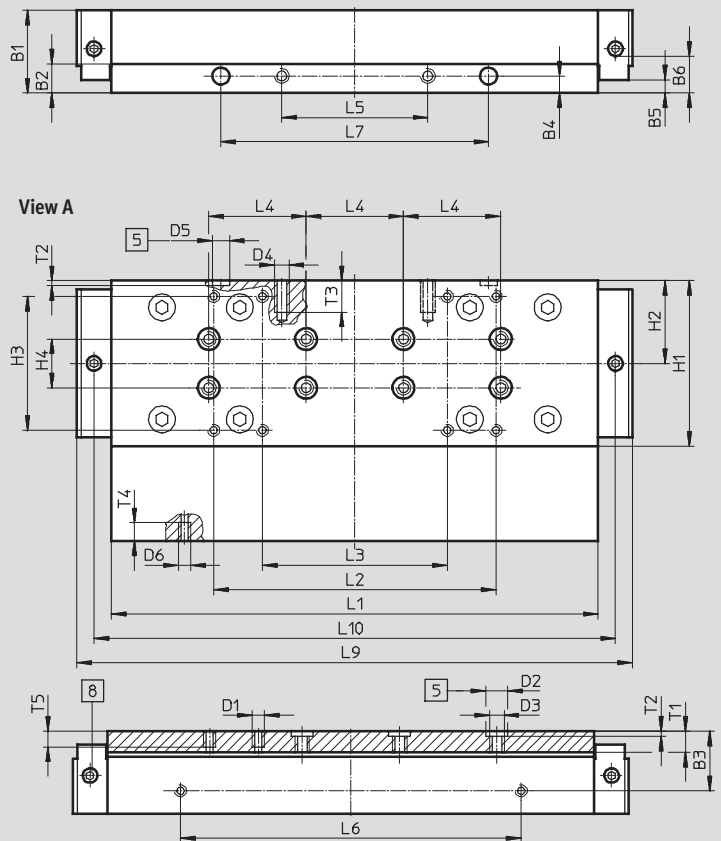
GK-C – Standard slide with lubrication adapter

Size 80



- 5 Hole for centring sleeve
- 8 Lubricating hole for lubrication adapter, M6 threaded connection, 6 mm deep

Size 120



Size	B1	B2	B3	B4	B5	B6	D1	D2 Ø H7	D3	D4
80	22	10	16	5	1	8.5	M5	9	M6	M5
120	34	12	24.5	7	5.5	18.2	M5	9	M6	M6

Size	D5 Ø H7	D6	H1	H2	H3	H4	L1	L2	L3	L4
80	7	M4	46	23	32	–	120	74	44	40
120	7	M5	68	34	55	20	200	116	76	40

Size	L5	L6	L7	L9	L10	T1	T2	T3	T4	T5
	±0.1	±0.1	±0.05				+0.1			
80	30	78	60	146	133	8.6	2.1	12	7	7.5
120	60	140	110	226.9	214.3	8.6	2.1	13	7.5	7.5

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

Technical data

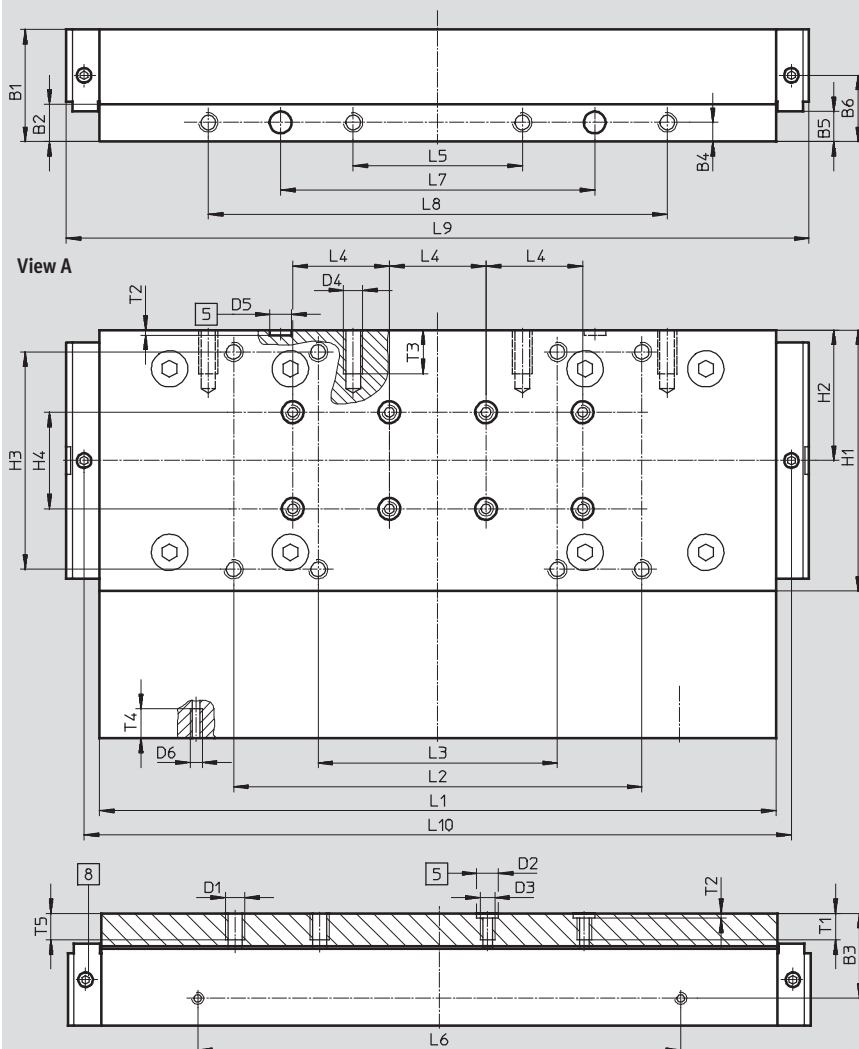
FESTO

Dimensions

Download CAD Data → www.festo.com/us/cad

GK-C – Standard slide with lubrication adapter

Size 185



- 5 Hole for centring sleeve
8 Lubricating hole for lubrication adapter,
M6 threaded connection, 6 mm deep

Size	B1	B2	B3	B4	B5	B6	D1	D2 Ø H7	D3	D4
185	46.5	15.5	35.2	8	±0.1 12.5	27.5	M8	9	M6	M8

Size	D5 Ø H7	D6	H1	H2	H3	H4	L1	L2	L3	L4
185	9	M5	108	54	±0.2 90	±0.03 40	±0.1 280	±0.2 169	±0.2 99	±0.03 40

Size	L5	L6	L7	L8	L9	L10	T1	T2	T3	T4	T5
185	±0.2 70	±0.1 200	±0.05 130	±0.2 190	307.4	292.8	11	±0.1 2.1	18	12.3	12

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

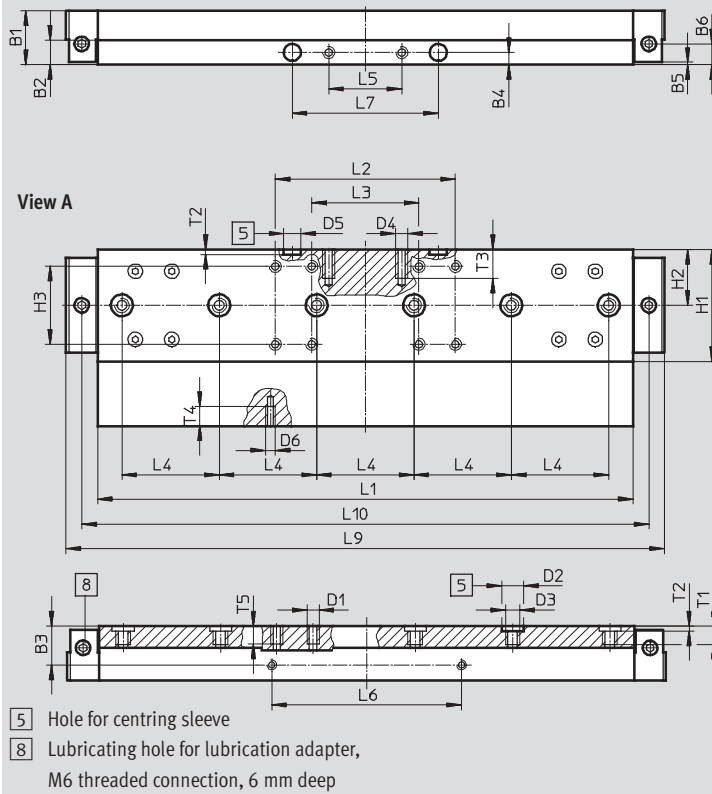
Technical data

Dimensions

Download CAD Data → www.festo.com/us/cad

GV-C – Extended slide with lubrication adapter

Size 80



Size	B1	B2	B3	B4	B5	B6	D1	D2 Ø H7	D3	D4
80	22	10	16	5	±0.1 1	8.5	M5	9	M6	M5

Size	D5 Ø H7	D6	H1	H2	H3	L1	L2	L3	L4	L5
80	7	M4	46	23	±0.2 32	±0.1 220	±0.2 74	±0.2 44	±0.03 40	±0.1 30

Size	L6	L7	L9	L10	T1	T2	T3	T4	T5
80	±0.1 78	±0.05 60	246	233	8.6	+0.1 2.1	12	7	7.5

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

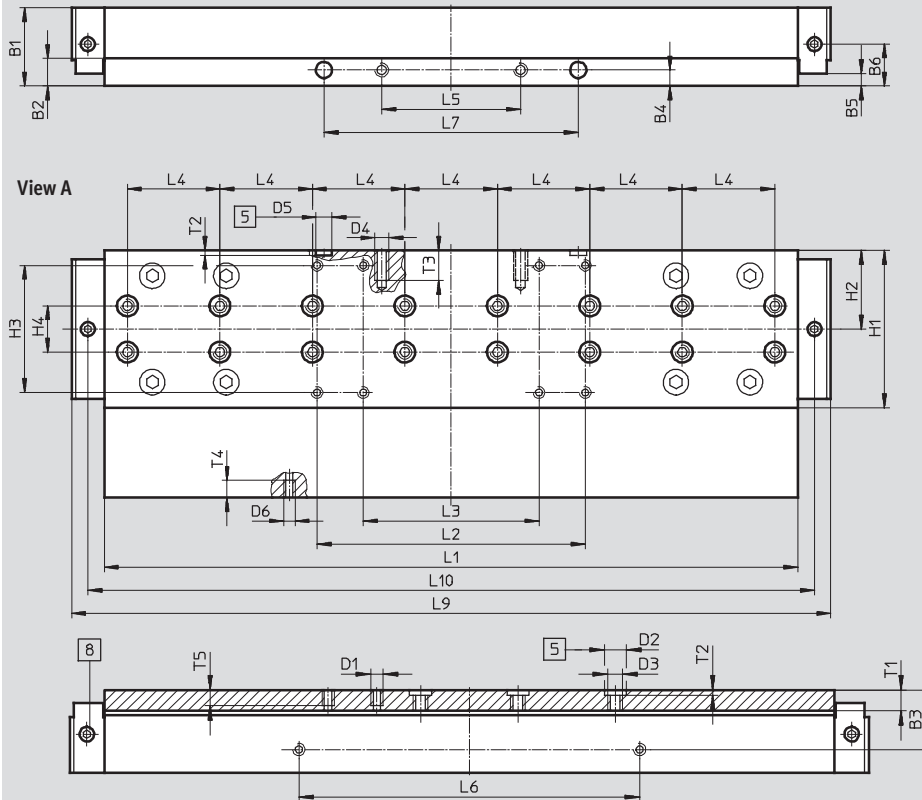
Technical data

Dimensions

Download CAD Data → www.festo.com/us/cad

GV-C – Extended slide with lubrication adapter

Size 120



- 5 Hole for centring sleeve
- 8 Lubricating hole for lubrication adapter, M6 threaded connection, 6 mm deep

Size	B1	B2	B3	B4	B5	B6	D1	D2 Ø H7	D3	D4
120	34	12	24.5	7	±0.1 5.5	18.2	M5	9	M6	M6

Size	D5 Ø H7	D6	H1	H2	H3	H4	L1	L2	L3	L4
					±0.2	±0.03	±0.1	±0.2	±0.2	±0.03
120	7	M5	68	34	55	20	300	116	76	40

Size	L5	L6	L7	L9	L10	T1	T2	T3	T4	T5
	±0.1	±0.1	±0.05				±0.1			
120	60	140	110	326.9	314.3	8.6	2.1	13	7.5	7.5

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

Technical data

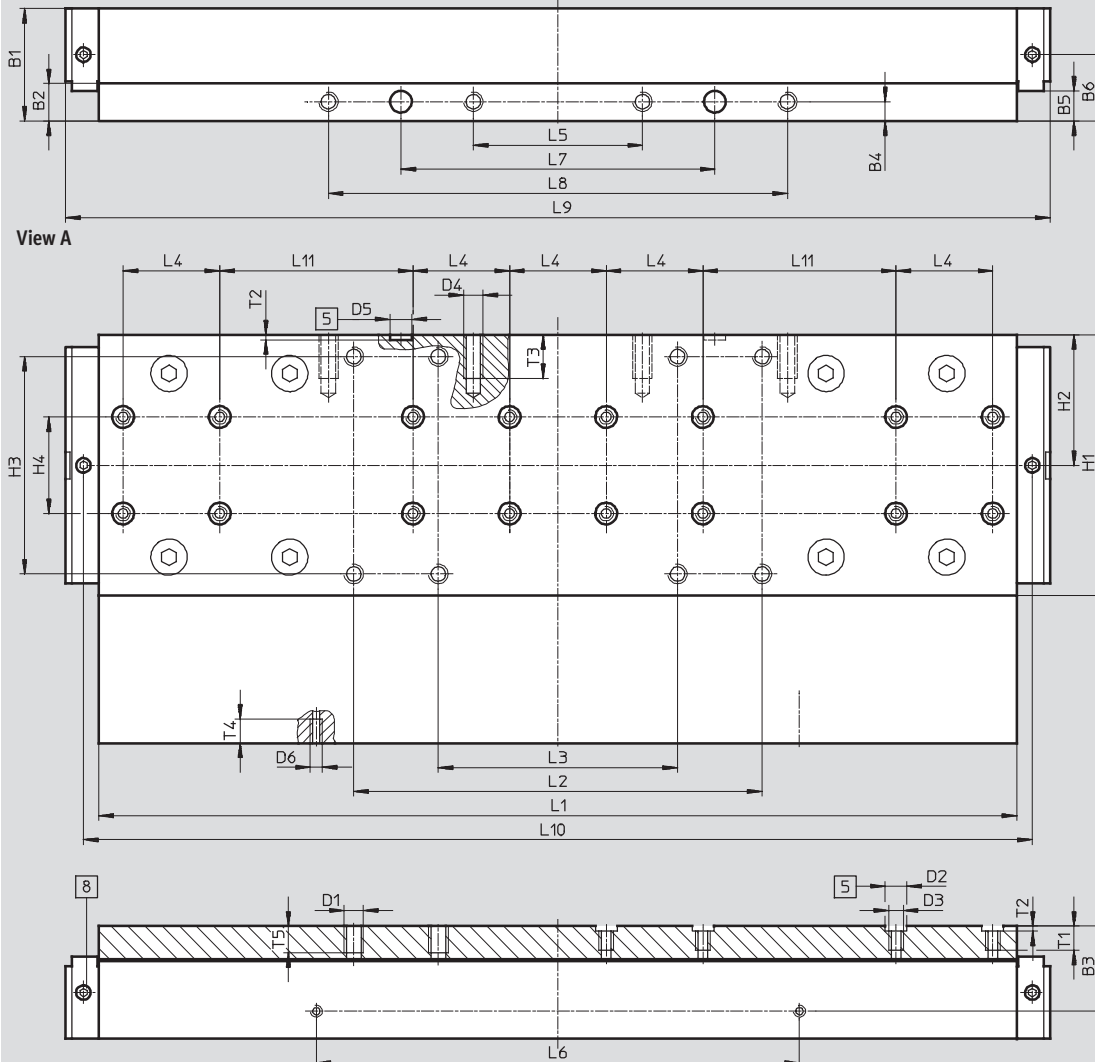
FESTO

Dimensions

Download CAD Data → www.festo.com/us/cad

GV-C – Extended slide with lubrication adapter

Size 185



- 5 Hole for centring sleeve
8 Lubricating hole for lubrication adapter,
M6 threaded connection, 6 mm deep

Size	B1	B2	B3	B4	B5	B6	D1	D2 Ø H7	D3	D4
185	46.5	15.5	35.2	8	±0.1 12.5	27.5	M8	9	M6	M8

Size	D5 Ø H7	D6	H1	H2	H3	H4	L1	L2	L3	L4	L5
185	9	M5	108	54	±0.2 90	±0.03 40	±0.1 380	±0.2 169	±0.2 99	±0.03 40	±0.2 70

Size	L6	L7	L8	L9	L10	L11	T1	T2	T3	T4	T5
185	±0.1 200	±0.05 130	±0.2 190	407.4	392.8	±0.03 80	11	+0.1 2.1	18	10	12

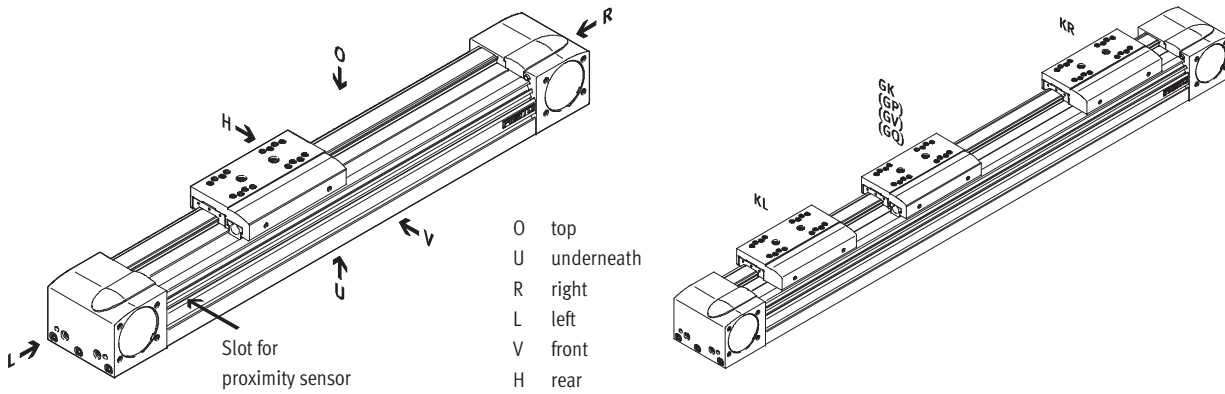
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

FESTO

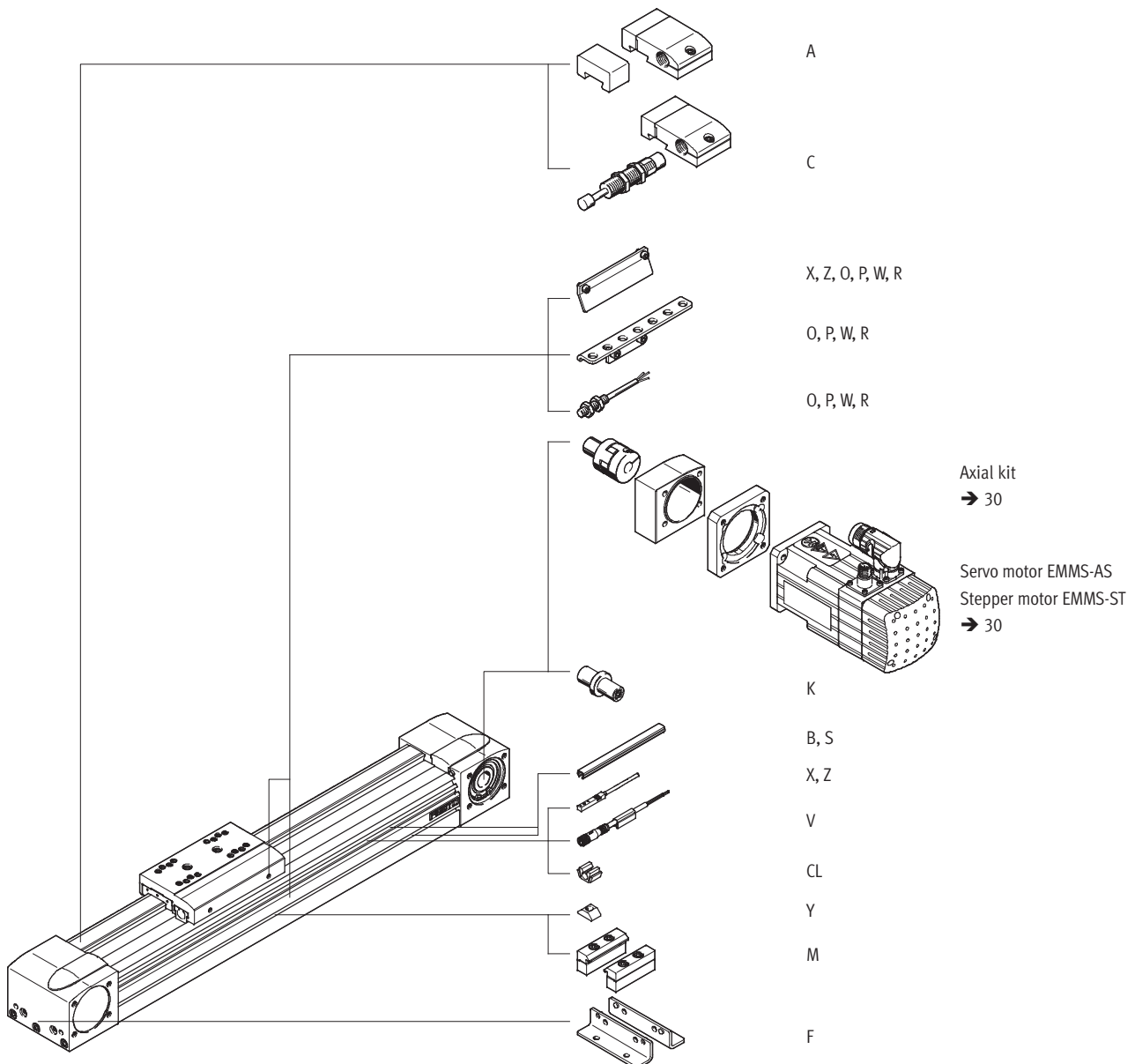
Ordering data – Modular products

Order code

Mandatory data



Accessories



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

Ordering data – Modular products

Ordering table									
Size		50	70	80	120	185	Condition s	Code	Enter code
[M]	Module No.		556812	556813	556814	556815	556817		
	Design		Linear axis						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 with GV, GQ)	50 ... 8,500 (50 ... 8,400 with GV, GQ)	[1]	-...
	Function		Toothed belt						-TB
	Guide		Recirculating ball bearing guide						-KF
	Stroke reserve [mm]		0 ... 999 (0 = no stroke reserve)					[1]	-...H
	Slide		Standard slide						-GK
			–			Extended slide, protected		–	-GQ
			–			Standard slide, protected		–	-GP
–			Extended slide			-GV			
[O]	Additional slide	Left	Additional slide, standard, on left					[2]	-KL
		Right	Additional slide, standard, on right					[2]	-KR
↓	Lubrication function		Standard						
			–	–	Lubrication adapter				-C
Accessories		Accessories enclosed separately						ZUB-	
Foot mounting		1						F	
Profile mounting		1 ... 50						...M	
Cover	Mounting slot	–	1 ... 50 (1 = 2 units, 500 mm)					...B	
	Sensor slot	1 ... 50 (1 = 2 units, 500 mm)						...S	
Slot nut for mounting slot		1 ... 99						...Y	
Proximity sensor (SIES), inductive, slot type 8,		N/O contact, cable 7.5 m		1 ... 6				...X	
PNP, incl. switch lug		N/C contact, cable 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,	N/O contact, cable 2.5 m	–	1 ... 99					...O	
	N/C contact, cable 2.5 m	–	1 ... 99					...P	
PNP, incl. switch lug with sensor bracket	N/O contact, plug M8	–	1 ... 99					...W	
	N/C 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 operating instructions to be included (already available) (operating instructions in pdf format are available free of charge on the Internet at www.festo.com)						-DN	

- [1]** -... The sum of the stroke length and 2x stroke reserve must not exceed the maximum stroke length.
- [2]** **KL, KR** If the protected slide variant (GQ, GP) is selected, the additional slide (KL, KR) is also protected.
If the extended slide variant (GQ, GV) is selected, then the additional slide (KL, KR) is not extended.
If the slide with lubrication adapter (GK-C) is selected, then the additional slide (KL, KR) is also supplied with lubrication adapter.
Additional slides (KL, KR) cannot be ordered for long strokes → product configurator. Please contact your local contact person at Festo if necessary.
- [3]** **...A** Emergency buffer with retainer A cannot be combined with slide GP, GQ, GK-C, GV-C and shock absorber with retainer C.
- [4]** **...C** Shock absorber with retainer C cannot be combined with slide GP, GQ, GK-C, GV-C and emergency buffer with retainer A.
- [5]** **...K** No drive shaft is required for the axis/motor combinations → from 30.

The code X, Z includes a switch lug in the scope of delivery.

The code O, P, W, R includes one switch lug and max. two sensor brackets in the scope of delivery.

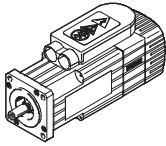
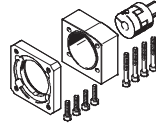
Order code

EGC - - - **TB** - **KF** - - - - - **ZUB** -

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

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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-...	560683	EAMM-A-L48-87A
EMMS-ST-87-M-...		
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

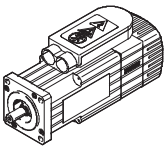
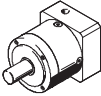
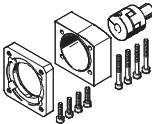
For the optimum selection
of axis/motor combinations →

Sizing software
PositioningDrives
www.festo.com

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

Accessories

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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

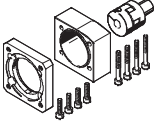
For the optimum selection
of axis/motor combinations →

Sizing software
PositioningDrives
www.festo.com

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

FESTO

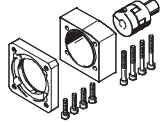
Accessories

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

FESTO

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

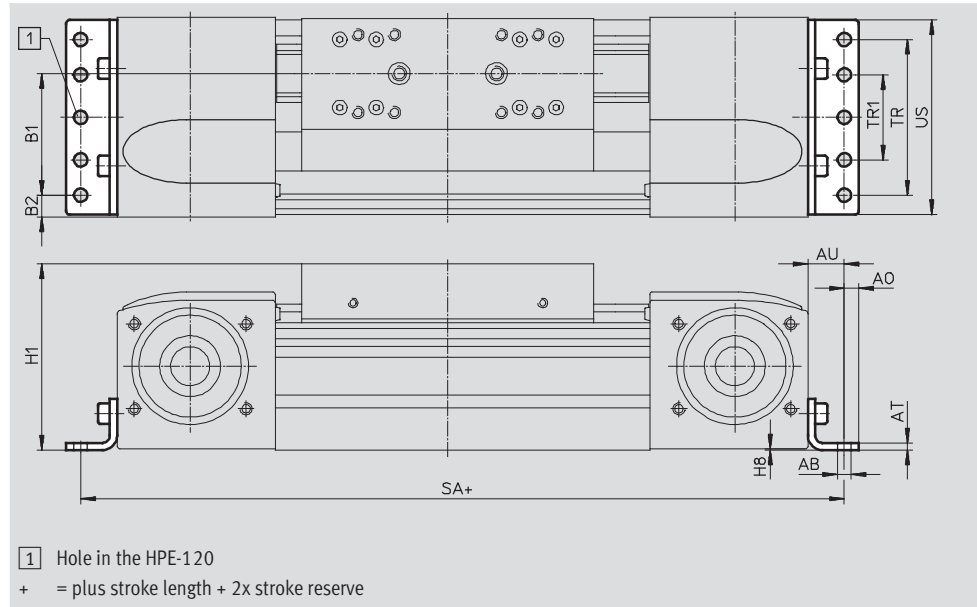
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

FESTO

Accessories

Foot mounting HPE
(order code F)

Material:
Galvanised steel
RoHS-compliant



Dimensions and ordering data								
For size	AB Ø	A0	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

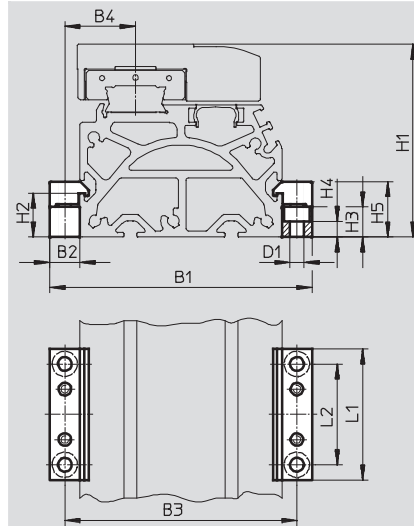
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

FESTO

Accessories

Profile mounting MUE
(order code M)

Material:
Anodised aluminium
RoHS-compliant



Dimensions and ordering data								
For size	B1	B2	B3	B4	D1 Ø	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 → 38

Shock absorbers YSRW → 38

(order code A or C)

Material:

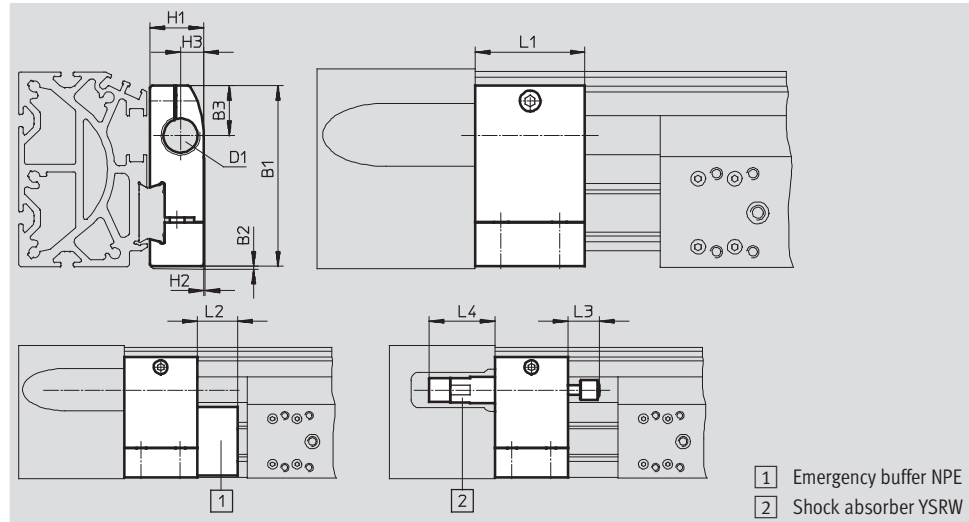
Anodised aluminium

RoHS-compliant

Cannot be used in combination with

the variants GP and GQ or GK-C and

GV-C.



Dimensions and ordering data														Part No.	Type
For size	B1	B2	B3	D1	H1	H2	H3	L1	L2	L3	L4 min.	Weight [g]			
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)

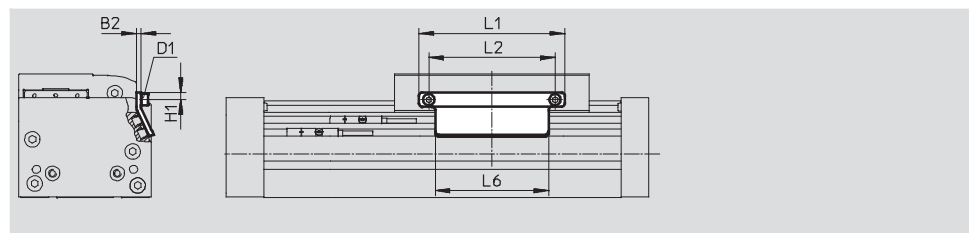
Material:

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								Part No.	Type
For size	B2	D1	H1	L1	L2	L6	Weight [g]		
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

FESTO

Accessories

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:

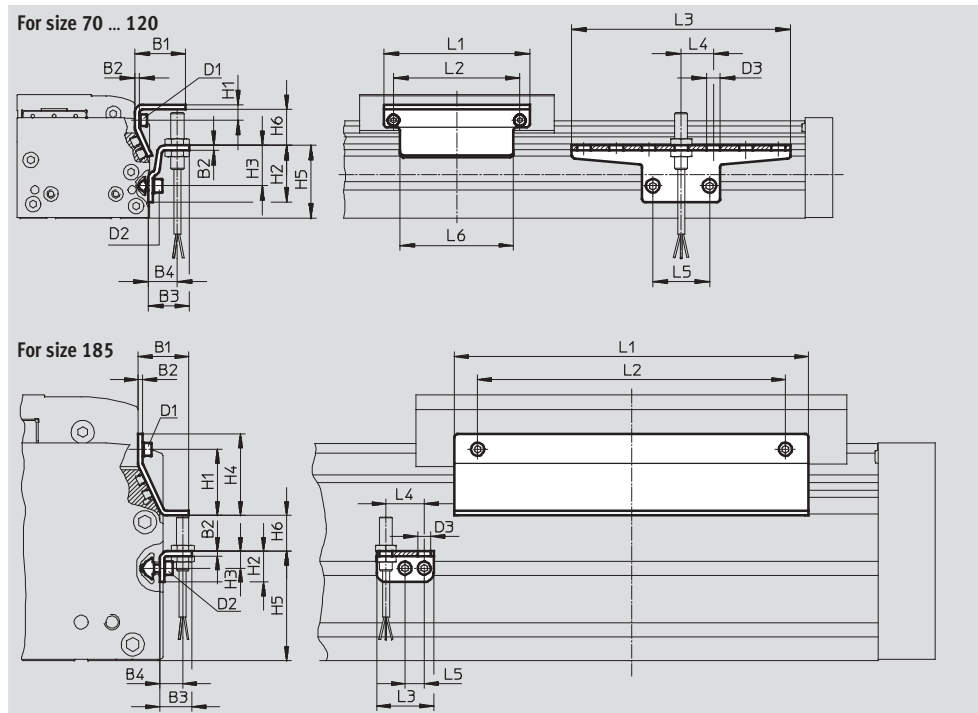
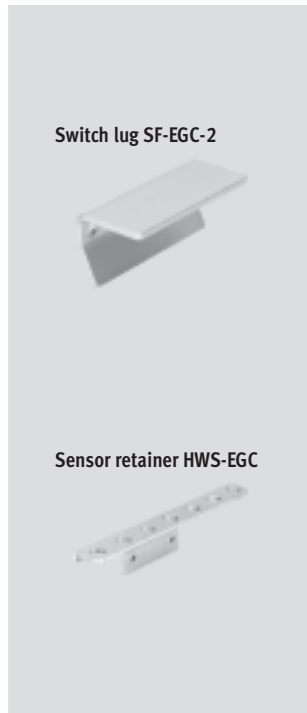
Galvanised steel
RoHS-compliant

Sensor retainer HWS-EGC

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

Material:

Galvanised steel
RoHS-compliant



Dimensions and ordering data									
For size	B1	B2	B3	B4	D1	D2	D3 Ø	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

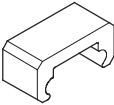
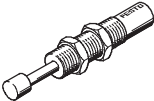
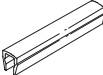
For size	Weight [g]	Part No.	Type
Switch lug			
70	100	558052	SF-EGC-2-70
80	130	558053	SF-EGC-2-80
120	280	558054	SF-EGC-2-120
185	390	558056	SF-EGC-2-185

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

FESTO

Accessories

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	
	120, 185			150915	NST-8-M6	
Centring pin/sleeve ZBS/ZBH ²⁾						
	50, 70	For slide	–	150928	ZBS-5	10
	80, 120, 185			150927	ZBH-9	
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	10

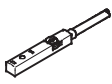
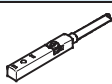
1) Packaging unit quantity

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

FESTO

Accessories

Ordering data – Proximity sensors for T-slot, inductive						Technical data → Internet: sies	
	Type of mounting	Electrical connection	Switching output	Cable length [m]	Order code	Part No.	Type
N/O contact							
	Insertable in the slot from above, flush with the cylinder profile	Cable, 3-wire	PNP	7.5	X	551386	SIES-8M-PS-24V-K-7,5-OE
		Plug M8x1, 3-pin		0.3	–	551387	SIES-8M-PS-24V-K-0,3-M8D
		Cable, 3-wire	NPN	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	Cable, 3-wire	PNP	7.5	Z	551391	SIES-8M-PO-24V-K-7,5-OE
		Plug M8x1, 3-pin		0.3	–	551392	SIES-8M-PO-24V-K-0,3-M8D
		Cable, 3-wire	NPN	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	LED	Switching output	Cable length [m]	Order code	Part No.	Type
N/O contact							
	Cable, 3-wire	■	PNP	2.5	O	150386	SIEN-M8B-PS-K-L
	Plug M8x1, 3-pin	■	PNP	–	W	150387	SIEN-M8B-PS-S-L
N/C contact							
	Cable, 3-wire	■	PNP	2.5	P	150390	SIEN-M8B-PO-K-L
	Plug M8x1, 3-pin	■	PNP	–	R	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

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