

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



# Electromechanical drives

Selection aid



## Overview of toothed belt and spindle axes

Toothed belt axes	Spindle axes	Coordinate system
<ul style="list-style-type: none"> <li>• Speeds of up to 10 m/s</li> <li>• Acceleration of up to 50 m/s<sup>2</sup></li> <li>• Repetition accuracy of up to +0.08 mm</li> <li>• Strokes of up to 8,500 mm (longer strokes on request)</li> <li>• Flexible motor mounting</li> </ul>	<ul style="list-style-type: none"> <li>• Speeds of up to 2 m/s</li> <li>• Acceleration of up to 20 m/s<sup>2</sup></li> <li>• Repetition accuracy of up to +0.003 mm</li> <li>• Strokes of up to 3,000 mm</li> </ul>	

Toothed belt axes						
Type	$F_x$ [N]	$v$ [m/s]	$M_x$ [Nm]	$M_y$ [Nm]	$M_z$ [Nm]	Properties
<b>Heavy-duty recirculating ball bearing guide</b>						
<b>EGC-HD-TB</b>						
	450 1,000 1,800	3 5 5	140 300 900	275 500 1,450	275 500 1,450	<ul style="list-style-type: none"> <li>• Flat drive unit with rigid, closed profile</li> <li>• Precision, resilient DUO guide rail</li> <li>• Ideal as a basic axis for linear gantries and cantilever axes</li> </ul>
<b>Recirculating ball bearing guide</b>						
<b>EGC-TB-KF</b>						
	50 100 350 800 2,500	3 5 5 5 5	3.5 16 36 144 529	10 132 228 680 1,820	10 132 228 680 1,820	<ul style="list-style-type: none"> <li>• Rigid, closed profile</li> <li>• Precision, resilient guide rail</li> <li>• Small drive pinions reduce necessary driving torque</li> <li>• Space-saving position sensing</li> </ul>
<b>ELGR-TB</b>						
	50 100 350	3 3 3	2.5 5 15	20 40 124	20 40 124	<ul style="list-style-type: none"> <li>• Cost-optimised rod guide</li> <li>• Ready-to-install unit</li> <li>• Resilient ball bearings for dynamic operation</li> </ul>
<b>Roller bearing guide</b>						
<b>ELGA-TB-RF</b>						
	350 800 1 300	10 10 10	11 30 100	40 180 640	40 180 640	<ul style="list-style-type: none"> <li>• Sturdy roller bearing guide</li> <li>• Guide and toothed belt protected by cover strip</li> <li>• Speeds of up to 10 m/s</li> <li>• Lower weight than axes with guide rails</li> </ul>
<b>Plain-bearing guide</b>						
<b>ELGA-TB-G</b>						
	350 800 1,300	5 5 5	5 10 120	30 60 120	10 20 40	<ul style="list-style-type: none"> <li>• Guide and toothed belt protected by cover strip</li> <li>• For simple handling tasks</li> <li>• As an actuator for external guides</li> <li>• Insensitive to harsh environmental conditions</li> </ul>
<b>ELGR-TB-GF</b>						
	50 100 350	1 1 1	1 2.5 1	10 20 40	10 20 40	<ul style="list-style-type: none"> <li>• Cost-optimised rod guide</li> <li>• Ready-to-install unit</li> <li>• Heavy-duty plain bearings for use in harsh environmental conditions</li> </ul>

# Electromechanical drives

Selection aid

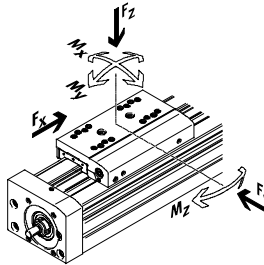
## Overview of toothed belt and spindle axes

### Toothed belt axes

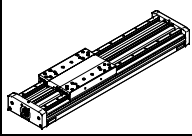
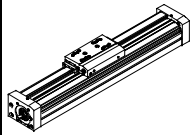
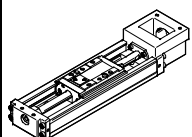
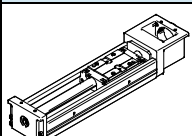
- Speeds of up to 10 m/s
- Acceleration of up to 50 m/s<sup>2</sup>
- Repetition accuracy of up to +0.08 mm
- Strokes of up to 8,500 mm (longer strokes on request)
- Flexible motor mounting

### Spindle axes

- Speeds of up to 2 m/s
- Acceleration of up to 20 m/s<sup>2</sup>
- Repetition accuracy of up to +0.003 mm
- Strokes of up to 3,000 mm



## Spindle axes

Type	$F_x$ [N]	$v$ [m/s]	$M_x$ [Nm]	$M_y$ [Nm]	$M_z$ [Nm]	Properties
<b>Heavy-duty recirculating ball bearing guide</b>						
<b>EGC-HD-BS</b>						
	300	0.5	140	275	275	<ul style="list-style-type: none"> <li>• Flat drive unit with rigid, closed profile</li> <li>• Precision, resilient DUO guide rail</li> <li>• Ideal as a basic axis for linear gantries and cantilever axes</li> </ul>
	600	1.0	300	500	500	
	1,300	1.5	900	1,450	1,450	
<b>Recirculating ball bearing guide</b>						
<b>EGC-BS-KF</b>						
	300	0.5	16	132	132	<ul style="list-style-type: none"> <li>• Rigid, closed profile</li> <li>• Precision, resilient guide rail</li> <li>• For extremely high requirements for speed, acceleration and torque resistance</li> <li>• Space-saving position sensing</li> </ul>
	600	1.0	36	228	228	
	1,300	1.5	144	680	680	
	3,000	2.0	529	1,820	1,820	
<b>EGSK</b>						
	57	0.33	13	3.7	3.7	<ul style="list-style-type: none"> <li>• Spindle axes with maximum precision, compactness and rigidity</li> <li>• Recirculating ball bearing guide and ball screw without caged ball bearings</li> <li>• Standard designs in stock</li> </ul>
	133	1.10	28.7	9.2	9.2	
	184	0.83	60	20.4	20.4	
	239	1.10	79.5	26	26	
	392	1.48	231	77.3	77.3	
<b>EGSP</b>						
	112	0.6	36.3	12.5	12.5	<ul style="list-style-type: none"> <li>• Spindle axes with maximum precision, compactness and rigidity</li> <li>• Recirculating ball bearing guide with caged ball bearings</li> <li>• Ball screw sizes 33, 46 with caged ball bearings</li> </ul>
	212	0.6	81.5	31.6	31.6	
	466	2.0	90.3	32.1	32.1	
	460	2.0	258	94	94	

# 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 maximum rigidity and load capacity
- Speed, acceleration and torque resistance set a new standard

### Economical

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

### Versatile

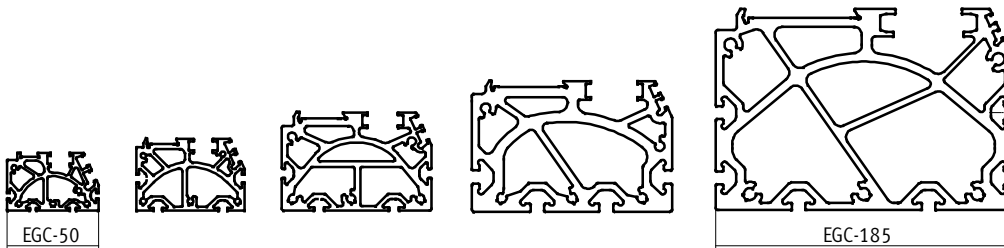
- Numerous sizes and variants such as protected guides open up a broad range of applications
- Space-saving position sensing with proximity sensors in the profile slot is possible
- Wide range of options for mounting on drives
- Comprehensive range of mounting accessories for multi-axis combinations

## Flexible motor attachment

The motor position can be freely selected on four 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 [mm]	Speed [m/s]	Repetition accuracy [mm]	Feed force [N]	Guide characteristics				
						Forces and torques				
						Fy [N]	Fz [N]	Mx [Nm]	My [Nm]	Mz [Nm]
<b>Recirculating ball bearing guide</b>										
	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  
[www.festo.com](http://www.festo.com)

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

Key features

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### Slide variants

Standard slide



Extended slide



Additional slide



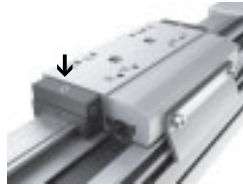
### Guide options

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

→ 25

Displacement encoder

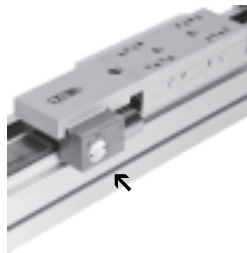
→ 12



- The position of the slide can be sensed directly when using the incremental displacement encoder. This means that all elasticities of the drive train can be detected and can be corrected by the motor controller

Clamping unit

→ 12



- 1 or 2-channel design, for holding loads
- Reliable holding is guaranteed since the forces act directly on the slide
- A limited number of emergency braking operations are permissible with the sizes 120 and 185

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

Toothed belt axis with recirculating ball bearing guide



Motor mounting kit

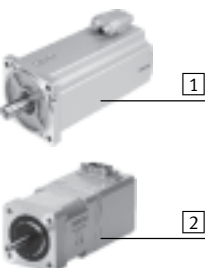
Axial kit



Kit comprising:

- Motor flange
- Coupling housing
- Coupling
- Screws

Motor

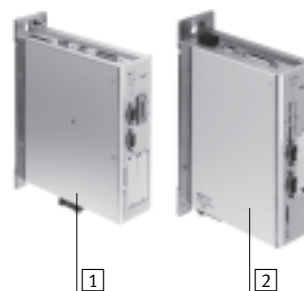


- 1 Servo motor EMME-AS, EMMS-AS
- 2 Stepper motor EMMS-ST

 Note

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

Motor controller

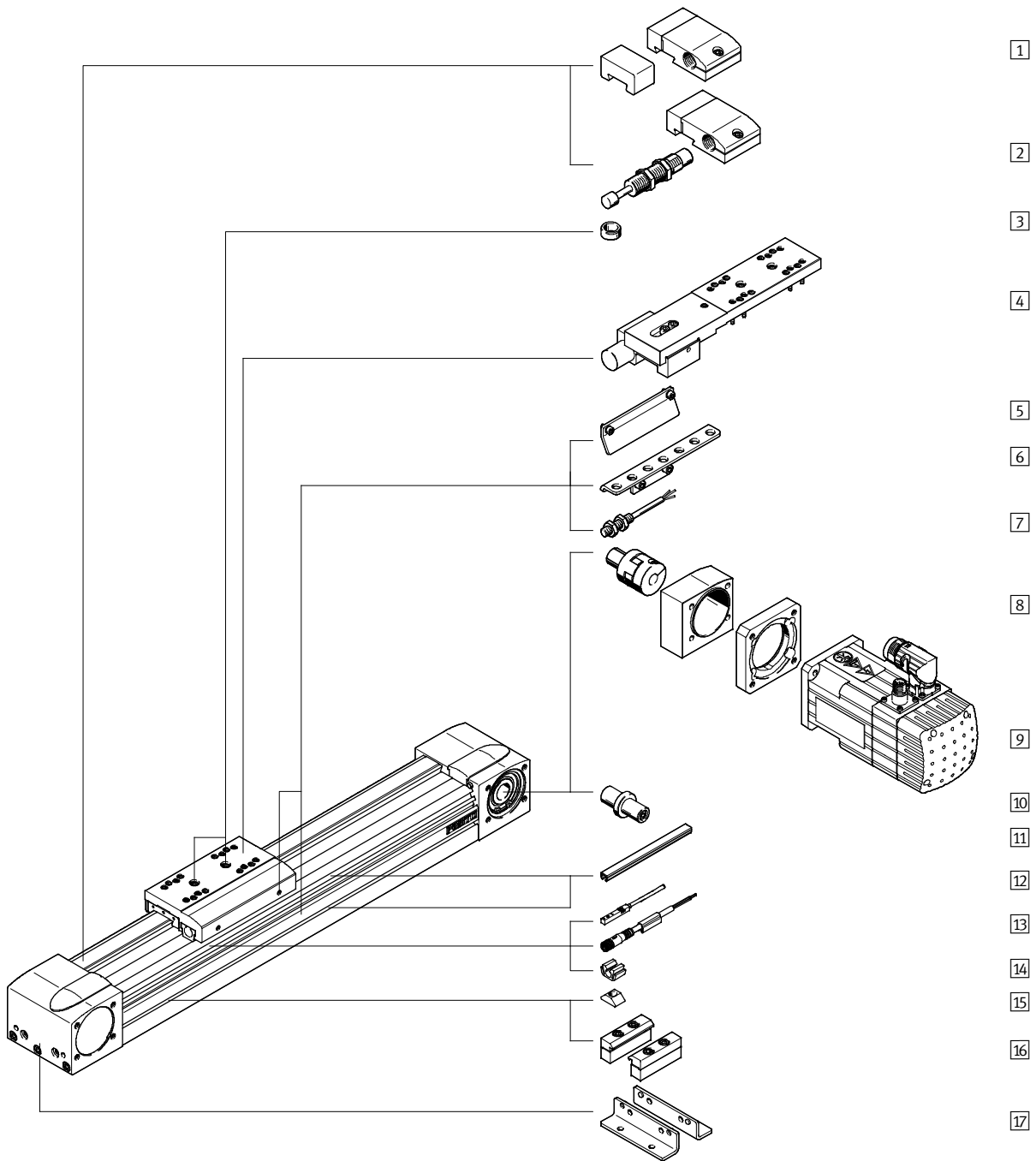


- 1 Servo motor controller CMMP-AS, CMMS-AS
- 2 Stepper motor controller CMMS-ST

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

Peripherals overview

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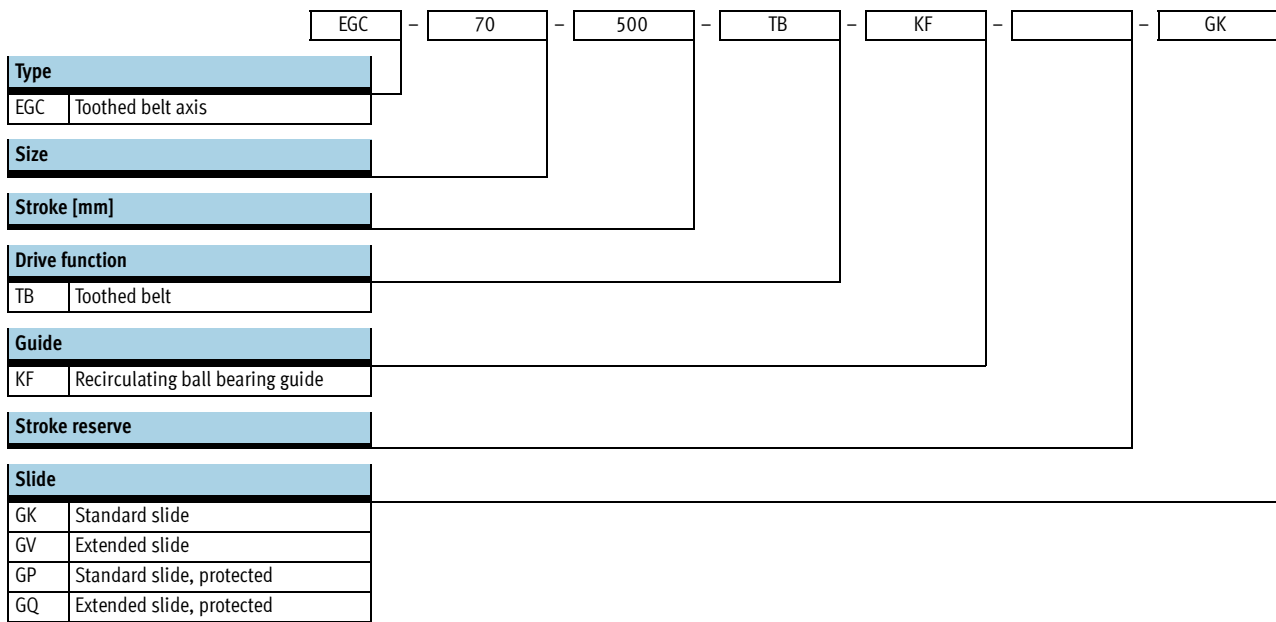
# Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

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	44
2 Shock absorber with retainer C	For avoiding damage at the end stop in the event of malfunction	44
3 Centring pin/sleeve ZBS, ZBH	<ul style="list-style-type: none"> <li>For centring loads and attachments on the slide</li> <li>2 centring pins/sleeves included in the scope of delivery of the axis</li> </ul>	47
4 Clamping unit 1H...-PN, 2H-PN	For holding loads	12
5 Switch lug X, Z, O, P, W, R	For sensing the slide position	44
6 Sensor bracket O, P, W, R	Adapter for mounting the inductive proximity sensors (round design) on the axis	45
7 Proximity sensor, M8 O, P, W, R	<ul style="list-style-type: none"> <li>Inductive proximity sensor, round design</li> <li>The order code O, P, W, R includes 1 switch lug and max. 2 sensor brackets in the scope of delivery</li> </ul>	48
8 Axial kit EAMM	For axial motor mounting (consisting of: coupling, coupling housing and motor flange)	38
9 Motor EMMS	Motors specially matched to the axis, with or without gear unit, with or without brake	38
10 Drive shaft K	<ul style="list-style-type: none"> <li>Can, if required, be used as an alternative interface</li> <li>No drive shaft is required for the axis/motor combinations → from 38</li> </ul>	46
11 Slot cover B, S	<ul style="list-style-type: none"> <li>For protecting against ingress of dirt</li> </ul>	47
12 Proximity sensor, T-slot X, Z	<ul style="list-style-type: none"> <li>Inductive proximity sensor, for T-slot</li> <li>The order code X, Z includes 1 switch lug in the scope of delivery</li> </ul>	48
13 Connecting cable V	For proximity sensor (order code W and R)	48
14 Clip CL	For mounting the proximity sensor cable in the slot	47
15 Slot nut Y	For mounting attachments	47
16 Profile mounting M	For mounting the axis on the profile	43
17 Foot mounting F	For mounting the axis on the end cap	42
– Passive guide axis EGC-FA	Axis without drive	egc-fa
– Connecting shaft KSK	For connecting two toothed belt axes EGC-TB in three-dimensional gantries	ksk

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

Type codes





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

Type codes

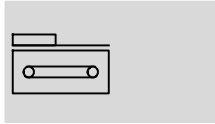
→		-	-	-	-	-	ZUB -	F2MX2Z	-	DN
<b>Additional slide</b>										
KL	Standard, left									
<b>Additional slide</b>										
KR	Standard, right									
<b>Lubrication function</b>										
-	Standard									
C	Lubrication adapter									
<b>Displacement encoder, incremental</b>										
M1	Resolution: 2.5 µm									
M2	Resolution: 10 µm									
<b>Clamping unit</b>										
1HL	1-channel, left									
1HR	1-channel, right									
2H	2-channel									
<b>Actuation type</b>										
PN	Pneumatically actuated									
<b>Accessories enclosed separately</b>										
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, 7.5 m cable									
...Z	Proximity sensor (SIES), inductive, slot type 8, PNP, N/C contact, 7.5 m cable									
...A	Emergency buffer with retainer									
...C	Shock absorber with retainer									
...O	Proximity sensor (SIEN), inductive, M8, PNP, N/O contact, 2.5 m cable									
...P	Proximity sensor (SIEN), inductive, M8, PNP, N/C contact, 2.5 m cable									
...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									
<b>Operating instructions</b>										
DN	None									



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

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Technical data

Function



-  Size  
50 ... 185
-  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						
EGC-...-GK/-GP	[mm]	50 ... 1,900	50 ... 5,000	50 ... 8,500	50 ... 8,500	50 ... 8,500
EGC-...-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 <sup>1)</sup>	[Nm]	0.072	0.18	0.4	1.4	4.05
Max. no-load resistance to shifting <sup>1)</sup>	[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 <sup>2</sup> ]	50				
Repetition accuracy	[mm]	±0.08				±0.1

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

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

Weight [g]						
Size		50	70	80	120	185
Basic weight with 0 mm stroke <sup>1)</sup>						
EGC-...-GK/-GP		620	1,850	3,000	10,500	32,600
EGC-...-GV/-GQ		-	2,470	3,900	12,600	36,800
Additional weight per 10 mm stroke		19	44	62	150	300
Moving load						
EGC-...-GK/-GP		130	370	620	2,180	6,500
EGC-...-GV/-GQ		-	550	900	2,730	7,720
Additional slide						
EGC-...-KL/-KR		80	300	550	2,000	6,000
Clamping unit						
EGC-...-1H...-PN		-	-	700	2,300	4,900
EGC-...-2H-PN		-	-	1,300	4,000	8,300

1) Incl. slide

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

Technical data

Toothed belt						
Size		50	70	80	120	185
Pitch	[mm]	2	3	3	5	8
Expansion <sup>1)</sup>	[%]	0.094	0.08	0.24	0.13	0.29
Width	[mm]	10	15	19.3	30.3	50.5
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
<b>J<sub>0</sub></b>						
EGC-...-GK	[kg mm <sup>2</sup> ]	16.94	83.34	205.9	1,241	17,976
EGC-...-GV	[kg mm <sup>2</sup> ]	–	110	265	1,465	19,690
J <sub>H</sub> per metre stroke	[kg mm <sup>2</sup> /m]	2.6	10.6	18.8	93	760
J <sub>L</sub> per kg effective load	[kg mm <sup>2</sup> /kg]	85	154	205	396	1,363.5
J <sub>W</sub> Additional slide	[kg mm <sup>2</sup> ]	3.56	56.32	126.73	861	8,846
<b>J<sub>F</sub> Clamping unit</b>						
EGC-...-1H...-PN	[kg mm <sup>2</sup> ]	–	–	143.5	911	6,681
EGC-...-2H-PN	[kg mm <sup>2</sup> ]	–	–	266.5	1,584	11,317

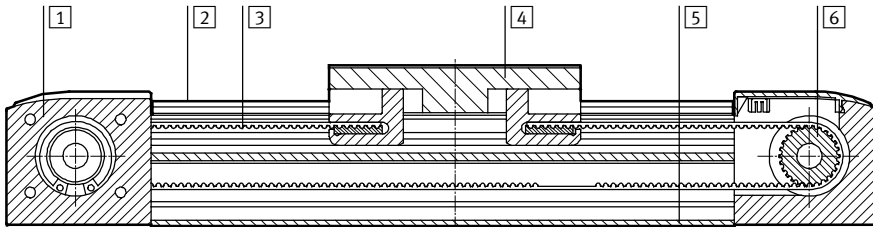
The mass moment of inertia J<sub>A</sub> of the entire axis is calculated as follows:

$$J_A = J_0 + K \times J_W + J_H \times \text{working stroke [m]} + J_L \times m_{\text{effective load [kg]} + J_F$$

K= Number of additional slides

## 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	High-alloy stainless steel
	Note on materials	RoHS-compliant
		Contains PWIS (paint-wetting impairment substances)

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

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Technical data

Technical data – Displacement encoder			Dimensions → 34
Order code	EGC-...-M1	EGC-...-M2	
Resolution	[μm]	2.5	10
Max. travel speed			
With motor controller CMM...	[m/s]	4	4
With safety system CMGA...	[m/s]	1	4
Electrical connection	8-pin plug, round design, M12		
Cable length	[mm]	160	

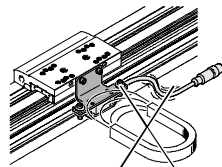
Operating and environmental conditions – Displacement encoder	
Ambient temperature	[°C] -10 ... +70
Protection class	IP64
CE marking (see declaration of conformity)	To EU EMC Directive <sup>1)</sup>

- 1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: [www.festo.com](http://www.festo.com) → Support → User documentation.  
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

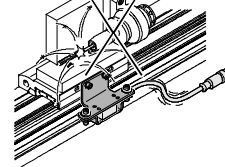
### Instructions for use

The toothed belt axis with displacement encoder is not designed for the following sample applications:

- Magnetic field



- Welding application



Technical data – Clamping unit				Dimensions → 30
Size		80	120	185
Pneumatic connection		M5	M5	M5
Clamping type	Clamping via spring force, released via compressed air			
Static holding force				
EGC-...-1H...-PN	[N]	320	1,200	1,500
EGC-...-2H-PN	[N]	640	2,400	3,000
Max. number of emergency braking operations <sup>1)</sup> at reference energy	[Nm]	-	750 35	750 70
Number of clamping operations under nominal load	[million switching cycles]	0.45	0.05	> 1.4

- 1) Emergency braking refers to braking the effective load if the drive axis loses power.

Operating and environmental conditions – Clamping unit	
Operating medium	Compressed air according to ISO 8573-1:2010 [7:4:4]
Operating pressure	
Clamping unit opened	[bar] 4.5 ... 8
Clamping unit closed	[bar] Pressureless
Ambient temperature	[°C] -10 ... +60

 Note

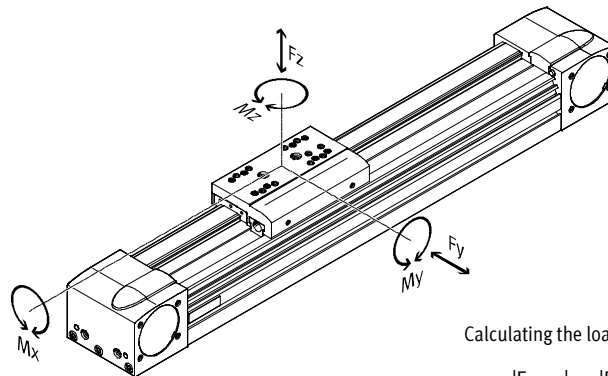
The axis can only be relubricated with the lubrication adapter when used in combination with the clamping unit (EGC-...-C).

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

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						
Size		50	70	80	120	185
F <sub>y,max.</sub>	[N]	650	1,850	3,050	6,890	15,200
F <sub>z,max</sub>	[N]	650	1,850	3,050	6,890	15,200
M <sub>x,max.</sub>	[Nm]	3.5	16	36	144	529
M <sub>y,max./M<sub>z,max.</sub></sub>						
EGC-...-GK/-GP	[Nm]	10	51	97	380	1,157
M <sub>y,max./M<sub>z,max.</sub></sub>						
EGC-...-GV/-GQ	[Nm]	-	132	228	680	1,820

## 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.

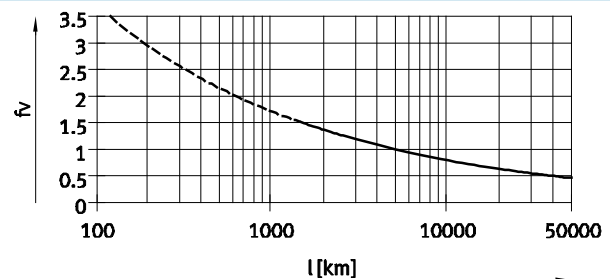
These values are only theoretical. You must consult your local Festo contact for load comparison factors  $f_v$  greater than 1.5.

### Load comparison factor $f_v$ as a function of service life

Example:

A user wants to move an X kg load. Using the formula → 13 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 Mz and My values. A load comparison factor  $f_v$  of 1 now gives a service life of 5,000 km.



Note

PositioningDrives  
sizing software  
www.festo.com

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

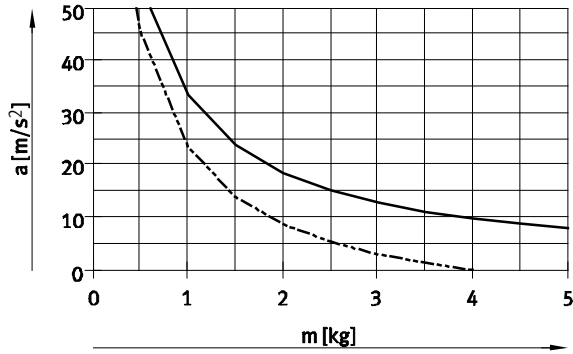
$f_v > 1.5$  are only theoretical comparison values for the recirculating ball bearing guide.

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

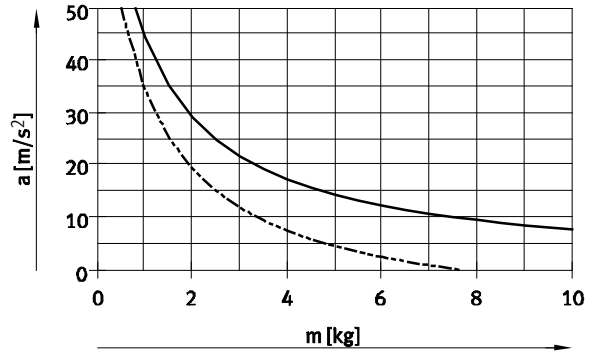
Technical data

## Maximum acceleration $a$ as a function of applied load $m$

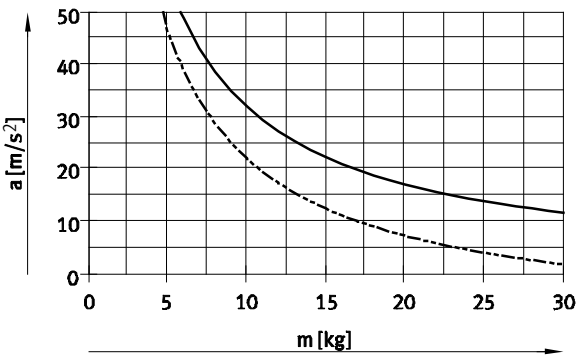
EGC-50



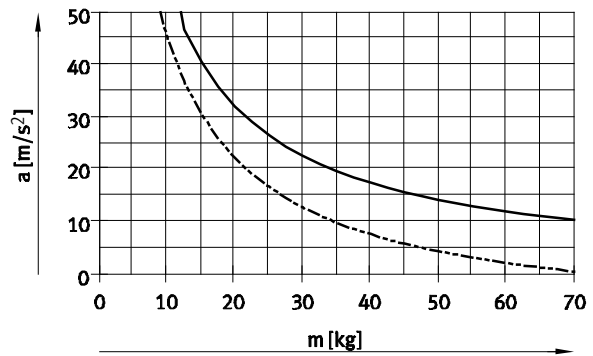
EGC-70



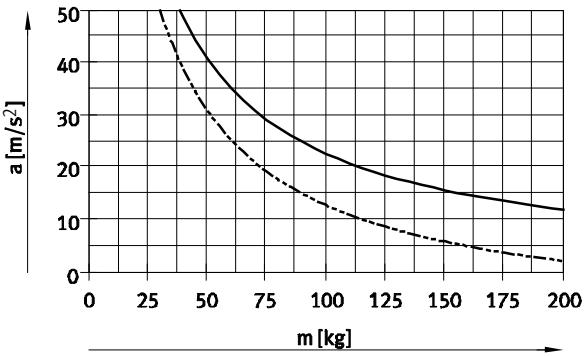
EGC-80



EGC-120



EGC-185

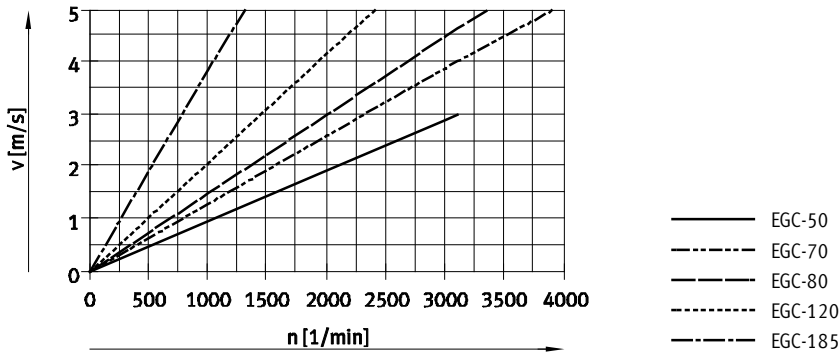


— Horizontal mounting position  
 - - - Vertical mounting position

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

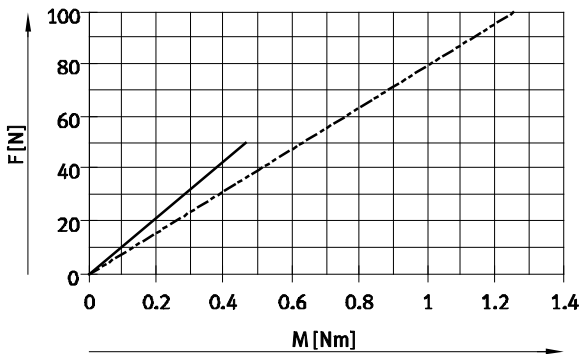
Technical data

Speed  $v$  as a function of rotational speed  $n$



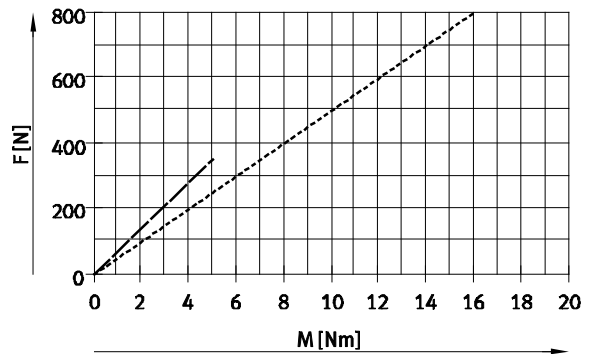
Theoretical feed force  $F$  as a function of input torque  $M$

EGC-50/-70



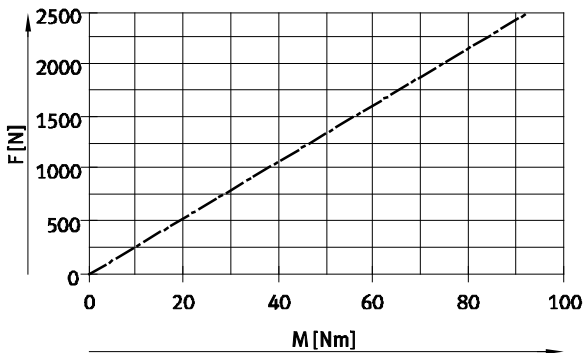
- EGC-50
- - - EGC-70

EGC-80/-120



- EGC-80
- - - EGC-120

EGC-185



- - - EGC-185

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

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.	<ul style="list-style-type: none"> <li>The stroke reserve length can be freely selected</li> <li>The sum of the stroke length and 2x stroke reserve must not exceed the maximum working stroke</li> </ul>	<b>Example:</b> 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)

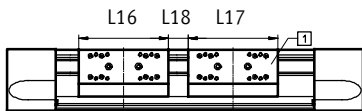
Size	50	70	80	120	185
L9 = safety distance with GK/GV (per end position) [mm]	-	10.5	13	18	21

## 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	<b>Example:</b>	
L17 = Additional slide length	<span style="border: 1px solid black; padding: 0 2px;">1</span> Additional slide	Type EGC-70-500-TB-...-GK-KR	Working stroke with additional slide = 380 mm
		Working stroke without additional slide = 500 mm	(500 mm - 20 mm - 100 mm)
		L18 = 20 mm	
		L16, L17 = 100 mm	



## Dimensions – Additional slide

Size	50		70		80		120		185	
	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

- The working stroke is reduced by the total dimension of the emergency buffer/shock absorber and shock absorber retainer.
- The rubber buffer in the cap must be removed.
- Shock absorbers must not be used in combination with lubrication adapters.

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



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

Technical data

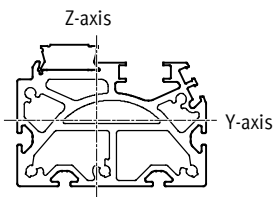
## Working stroke reduction

With integrated clamping unit

- The working stroke is reduced by the length of the clamping unit.
- With 1-channel clamping units, the stroke is reduced on one side with respect to the mounting surface.
- With 2-channel clamping units, the stroke is reduced symmetrically with respect to the mounting surface of the load.
- Shock absorbers must not be used in combination with the clamping unit.

Size	80	120	185
EGC-...-1H...-PN [mm]	87	124	131
EGC-...-2H...-PN [mm]	174	248	262

## Second moment of area

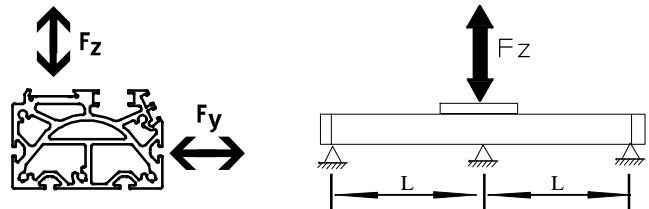


Size	50	70	80	120	185
$I_y$ [mm <sup>4</sup> ]	$8.4 \times 10^4$	$3.95 \times 10^5$	$8.44 \times 10^5$	$4.62 \times 10^6$	$2.34 \times 10^7$
$I_z$ [mm <sup>4</sup> ]	$1.14 \times 10^5$	$5.77 \times 10^5$	$1.16 \times 10^6$	$5.65 \times 10^6$	$2.74 \times 10^7$

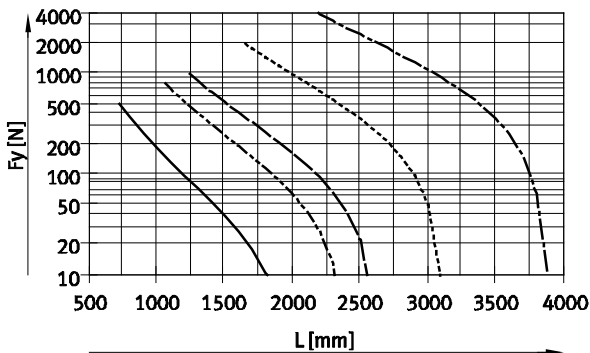
## Maximum permissible support span L (without profile mounting) as a function of force F

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

The following graphs can be used 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.

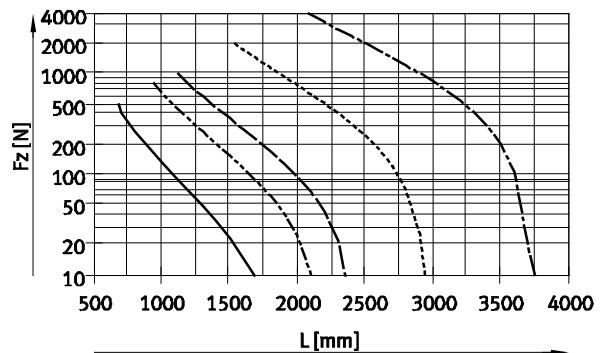


Force  $F_y$



— 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 (load stationary)
50 ... 185	0.05% of the axis length, max. 0.5 mm	0.1% of the axis length

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

Technical data

**Dimensions** Download CAD data → [www.festo.com](http://www.festo.com)

+ = plus stroke length + 2x stroke reserve  
 L9 With GK/GV: safety distance per end position  
 With GP/GQ: dimension for wiper seal → 16  
 With GK-C/GV-C: dimension for adapter → 25

Working stroke reduction in combination with additional slide → 16

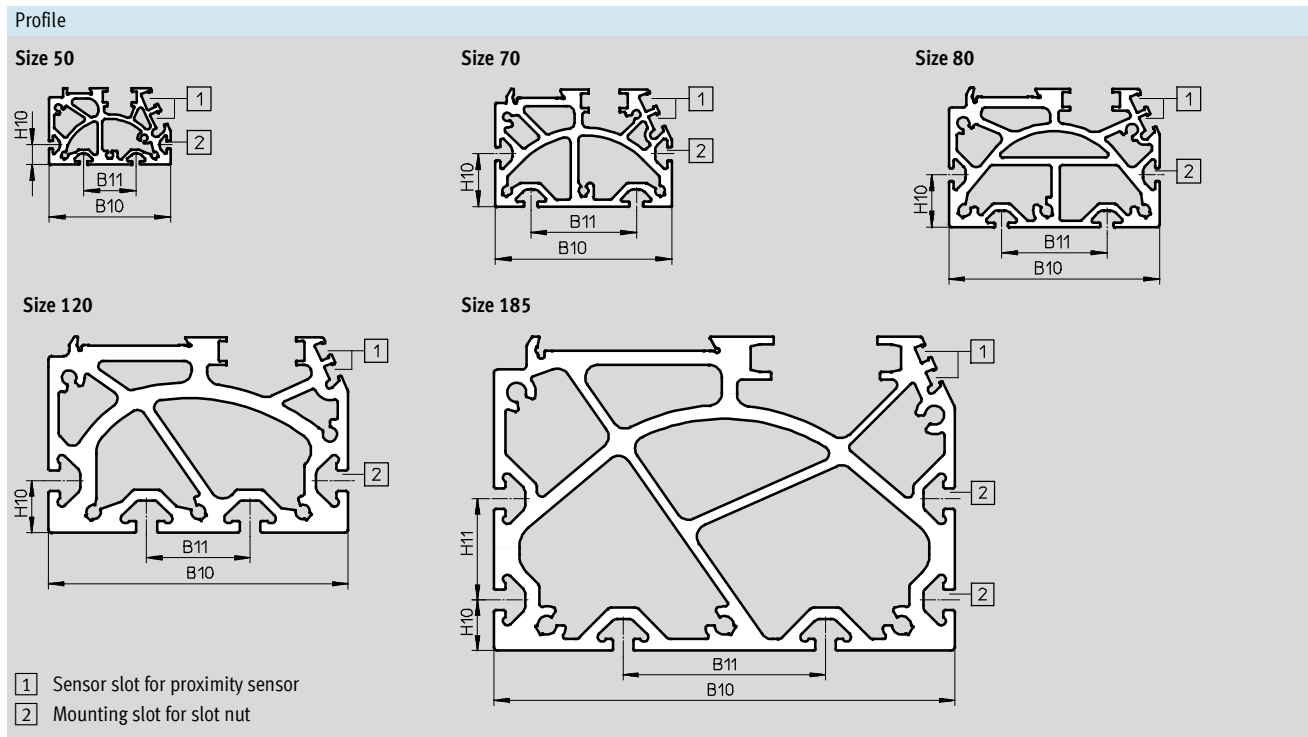
Size	B1	B2	B3	B4	B5	B9	D1	D2	D3	D4	D5	D6
							H7	∅ H7	∅	∅	∅ H7	
50	48	39	11.5	20	35	1	27	8	20	15	-	M4
70	69	58.6	16.5	30	45	1	38	10	28	20	-	M5
80	82	72.6	22	40	60	1	48	16	46.5	25	9	M5
120	120	107	33	80	40	1	62	23	59	35	-	M8
185	186	169	53	120	80	1	95	32	90	60	-	M10

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



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.

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

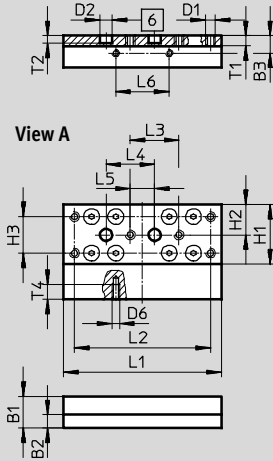
Technical data

## Dimensions

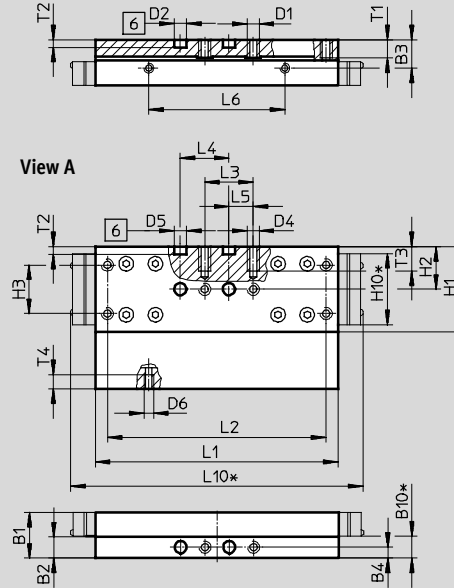
Download CAD data → [www.festo.com](http://www.festo.com)

GK – Standard slide/GP – Standard slide, protected

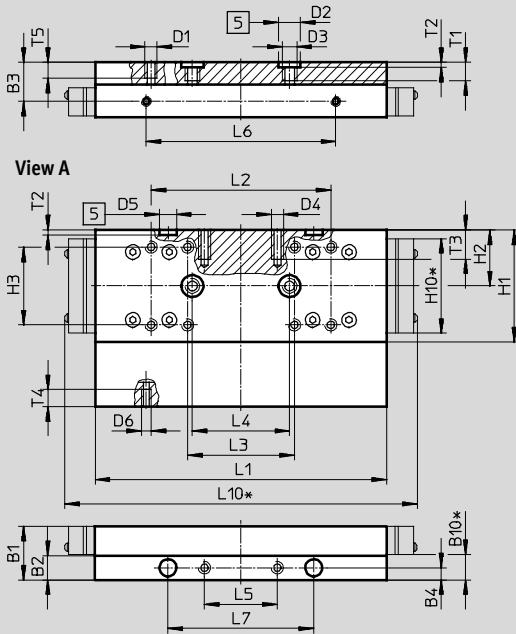
### Size 50



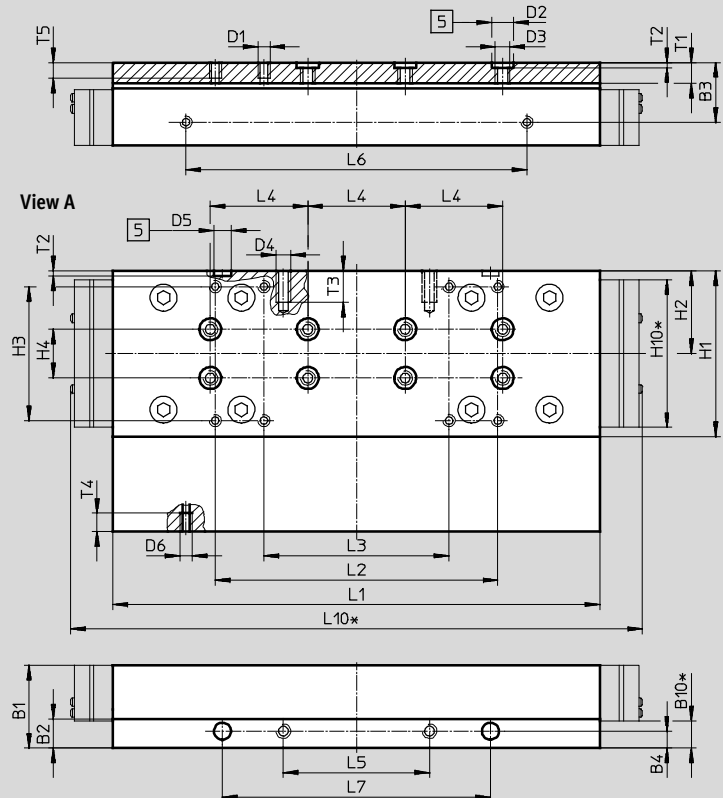
### Size 70



### Size 80



### Size 120



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

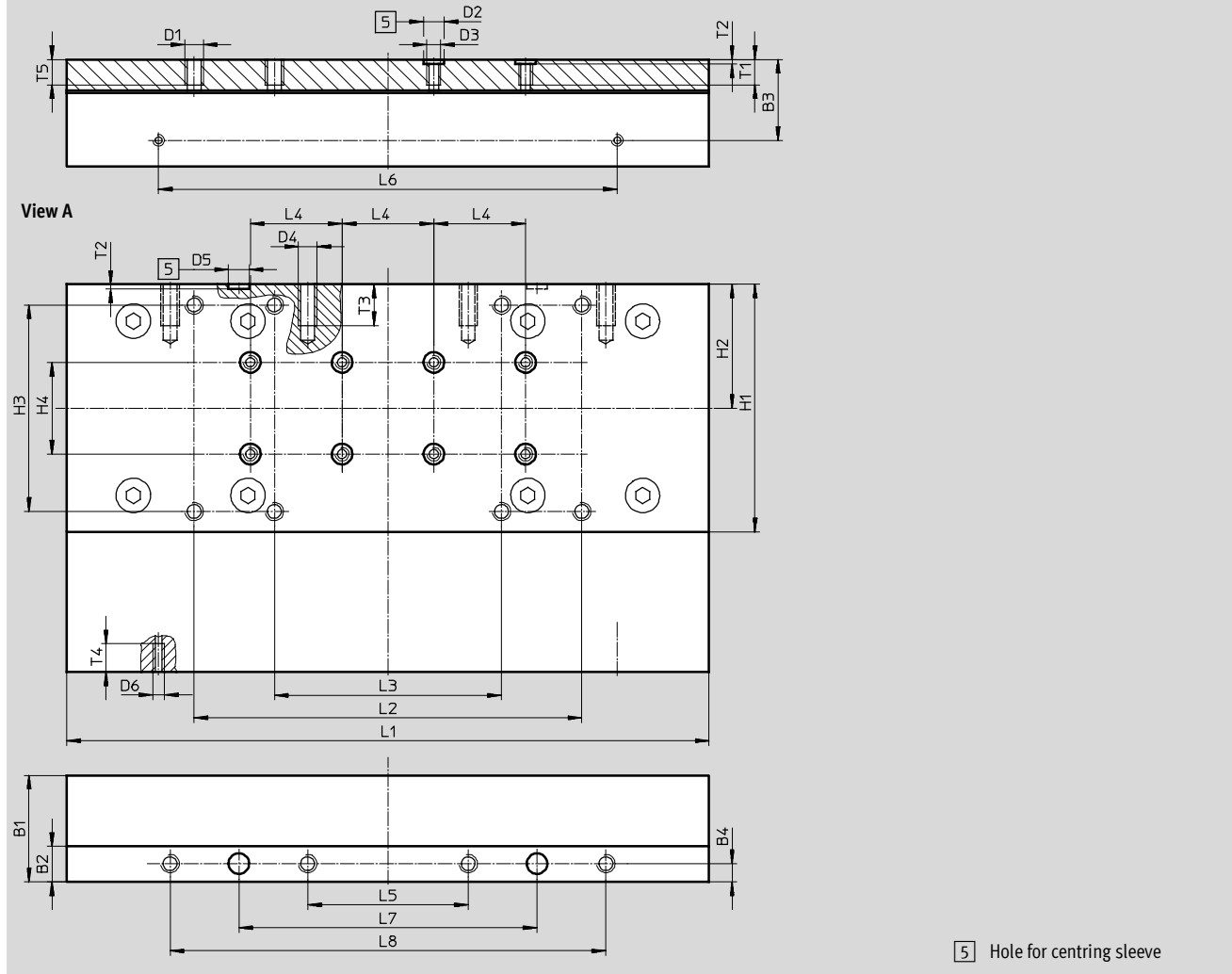
# Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Technical data

Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

GK – Standard slide

Size 185



Size	B1	B2	B3	B4	B10*	D1	D2 ∅ H7	D3	D4	D5 ∅ 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	203.3	116 ±0.2	76 ±0.2	40	60 ±0.1	140	110	–	235	8.6	2.1	13	7.5	7.5
185	–	282.8	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

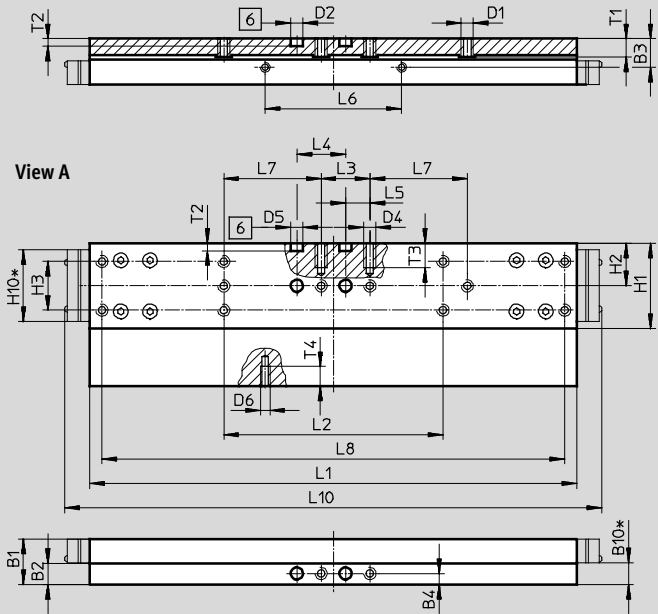
Technical data

**Dimensions**

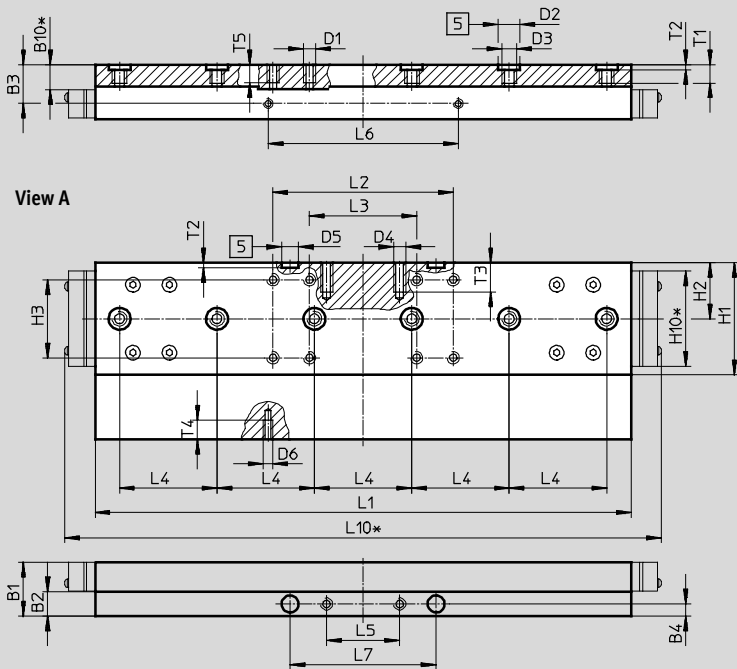
Download CAD data → [www.festo.com](http://www.festo.com)

GV – Extended slide/GQ – Extended slide, protected

**Size 70**



**Size 80**



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

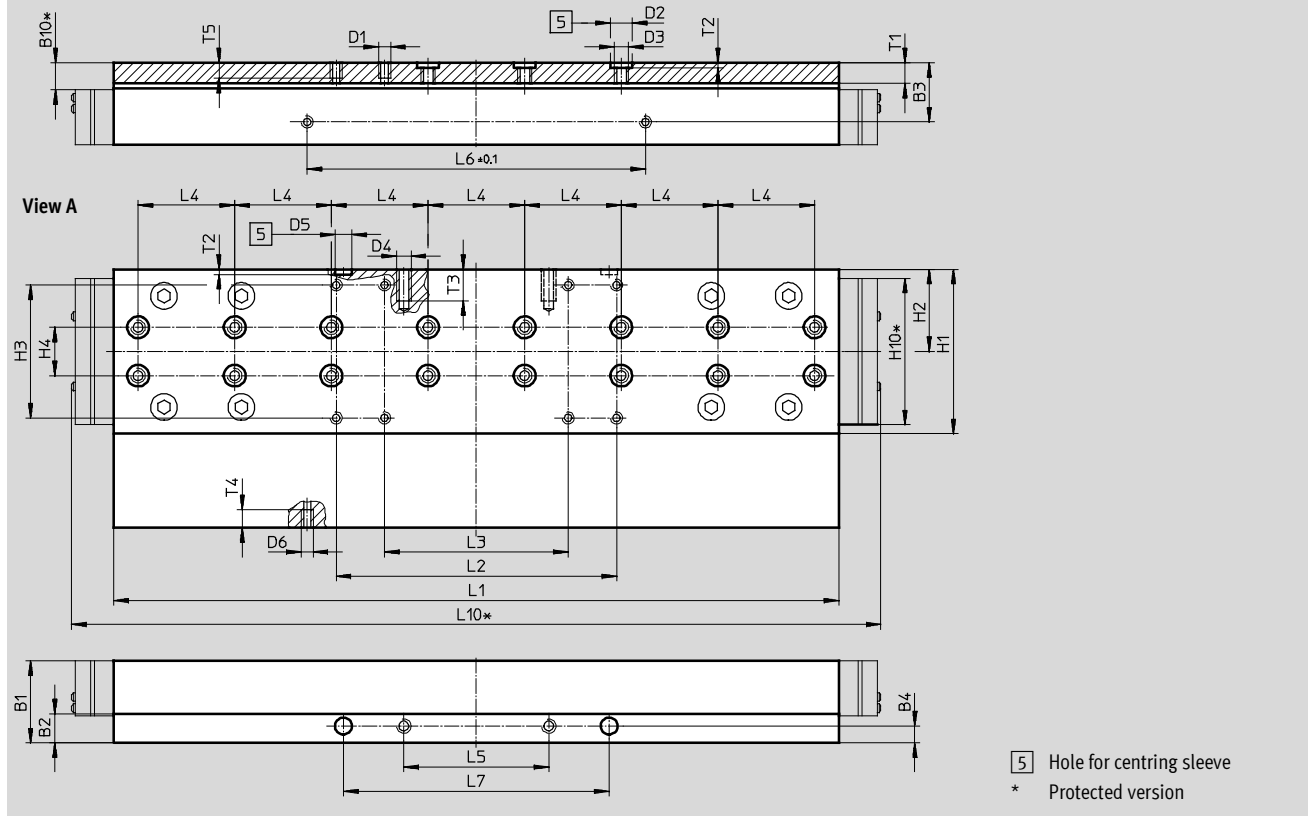
# Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Technical data

Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

GV – Extended slide/GQ – Extended slide, protected

Size 120



Size	B1	B2	B3	B4	B10*	D1	D2 ∅ H7	D3	D4	D5 ∅ H7
70	18.7	8.7	11.7	4.5	9	M5	5	–	M5	5
80	22	10	16	5	10.4	M5	9	M6	M5	7
120	34	12	24.5	7	11.2	M5	9	M6	M6	7

Size	D6	H1	H2	H3	H4 ±0.03	H10*	L1 ±0.1	L2	L3	L4 ±0.03
70	M4	35	17.5	20 ±0.1	–	29.4	200	90 ±0.1	20 ±0.1	20
80	M4	46	23	32 ±0.2	–	39	220	74 ±0.2	44 ±0.2	40
120	M5	68	34	55 ±0.2	20	60.6	303.3	116 ±0.2	76 ±0.2	40

Size	L5 ±0.1	L6 ±0.1	L7 ±0.2	L8	L10*	T1	T2 +0.1	T3	T4	T5
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

\* Protected version

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

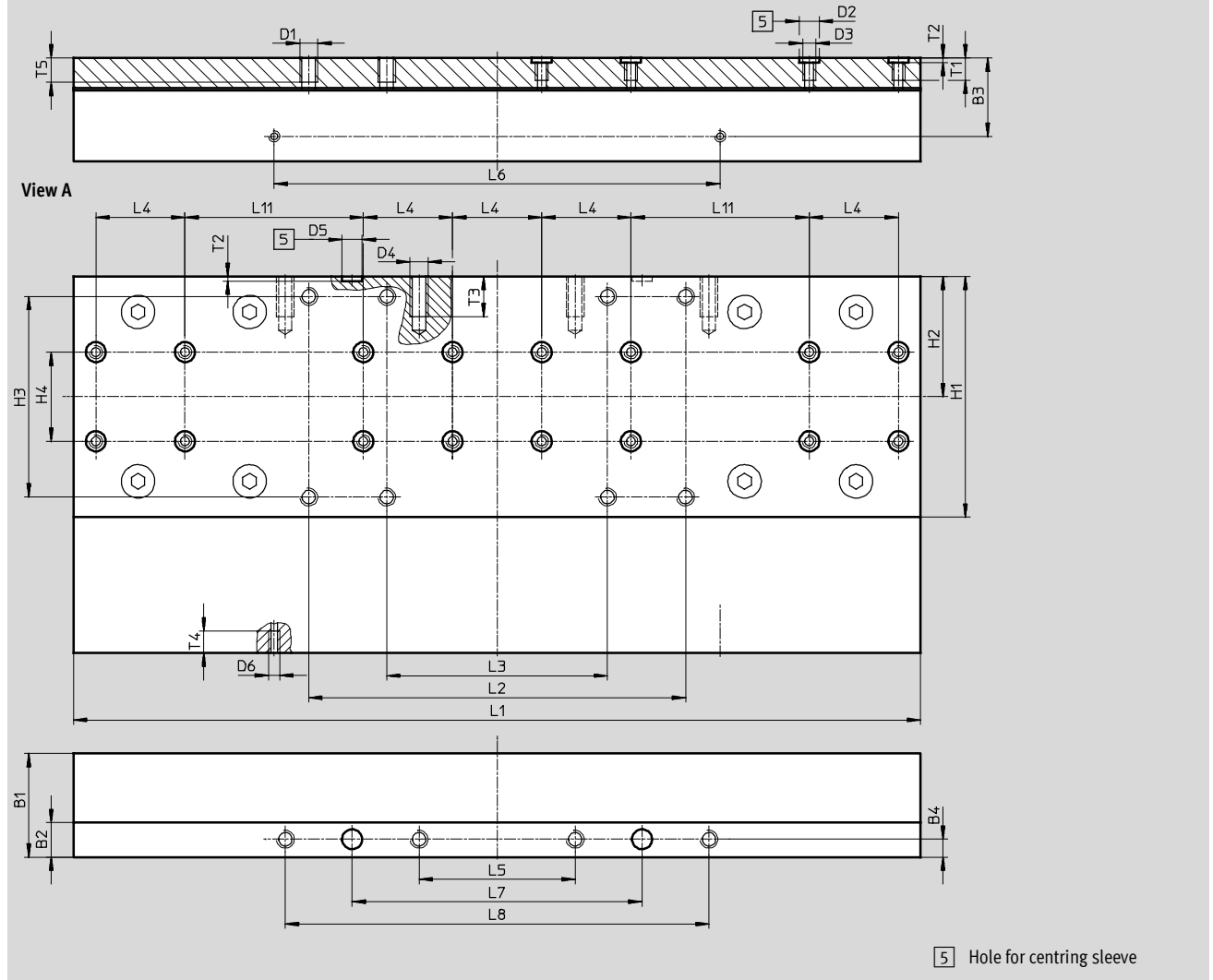
FESTO

Technical data

Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

GV – Extended slide

Size 185



Size	B1	B2	B3	B4	D1	D2 ∅ H7	D3	D4	D5 ∅ H7
185	46.5	15.5	35.2	8	M8	9	M6	M8	9

Size	D6	H1	H2	H3	H4	L1	L2	L3	L4
				±0.2	±0.03	±0.1	±0.2	±0.2	±0.03
185	M5	108	54	90	40	382.8	169	99	40

Size	L5	L6	L7	L8	L11	T1	T2	T3	T4	T5
	±0.2	±0.1	±0.05	±0.2	±0.03		+0.1			
185	70	200	130	190	80	11	2.1	18	10	12

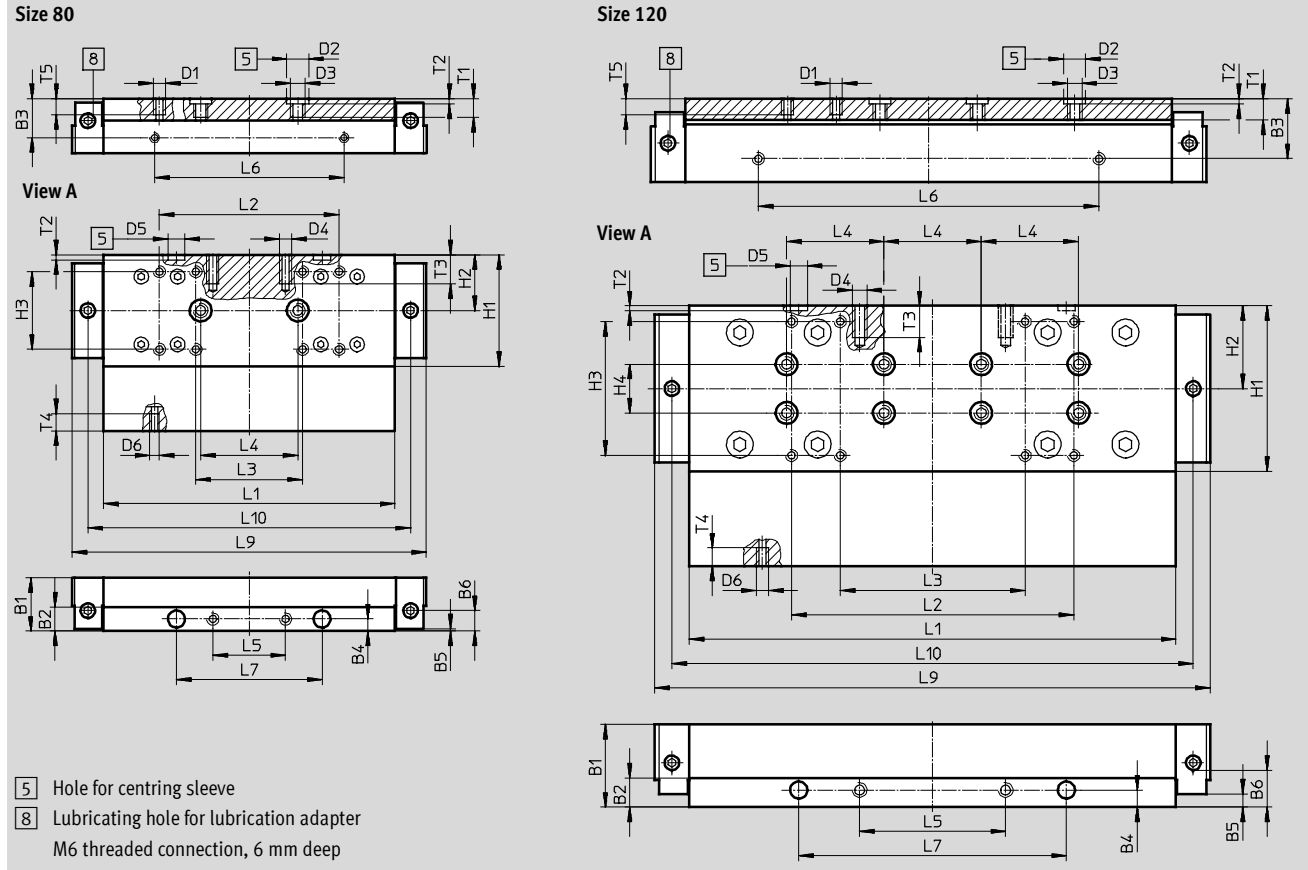


# Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Technical data

Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

GK-C – Standard slide with lubrication adapter



Size	B1	B2	B3	B4	B5	B6	D1	D2	D3	D4
					±0.1			∅ H7		
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	D6	H1	H2	H3	H4	L1	L2	L3	L4
	∅ H7				±0.2	±0.03	±0.1	±0.2	±0.2	±0.03
80	7	M4	46	23	32	–	120	74	44	40
120	7	M5	68	34	55	20	203.3	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

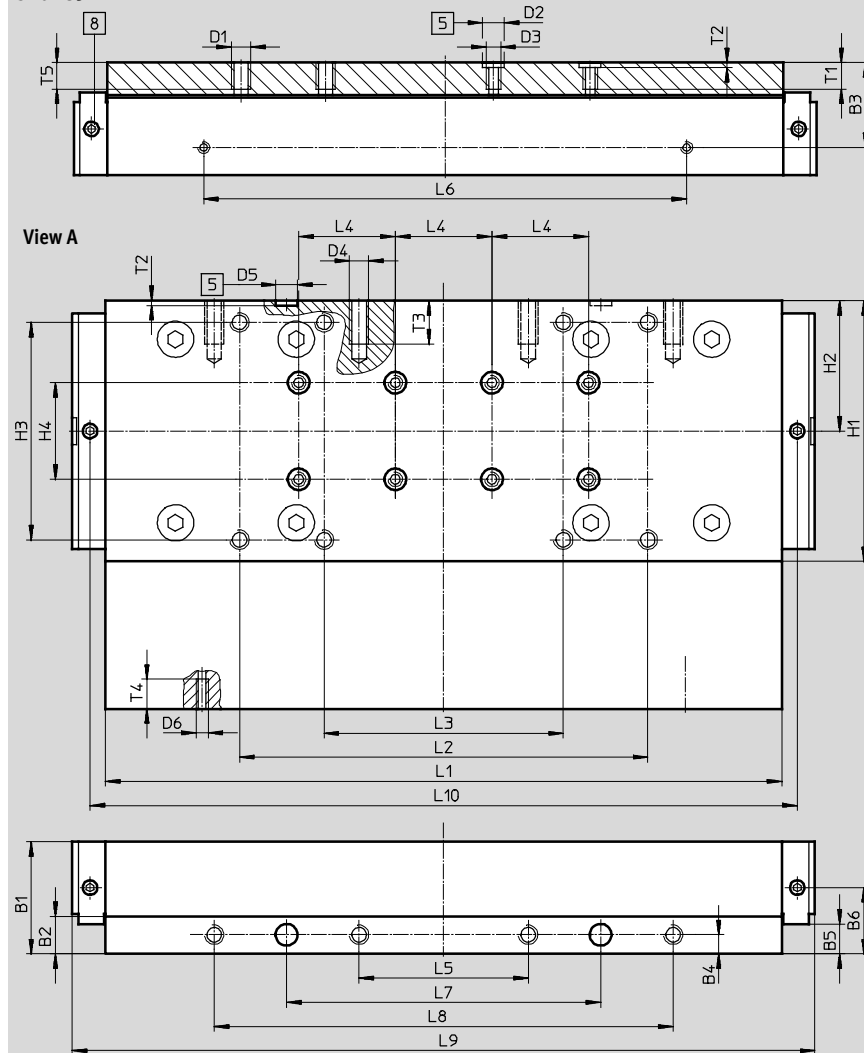
# Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Technical data

Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

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	D3	D4
185	46.5	15.5	35.2	8	±0.1 12.5	27.5	M8	∅ H7 9	M6	M8

Size	D5	D6	H1	H2	H3	H4	L1	L2	L3	L4
185	∅ H7 9	M5	108	54	±0.2 90	±0.03 40	±0.1 282.8	±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](http://www.festo.com)

GV-C – Extended slide with lubrication adapter

**Size 80**

**View A**

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	D3	D4
80	22	10	16	5	±0.1	8.5	M5	∅ H7	M6	M5

Size	D5	D6	H1	H2	H3	L1	L2	L3	L4	L5
80	∅ H7	M4	46	23	±0.2	±0.1	±0.2	±0.2	±0.03	±0.1

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

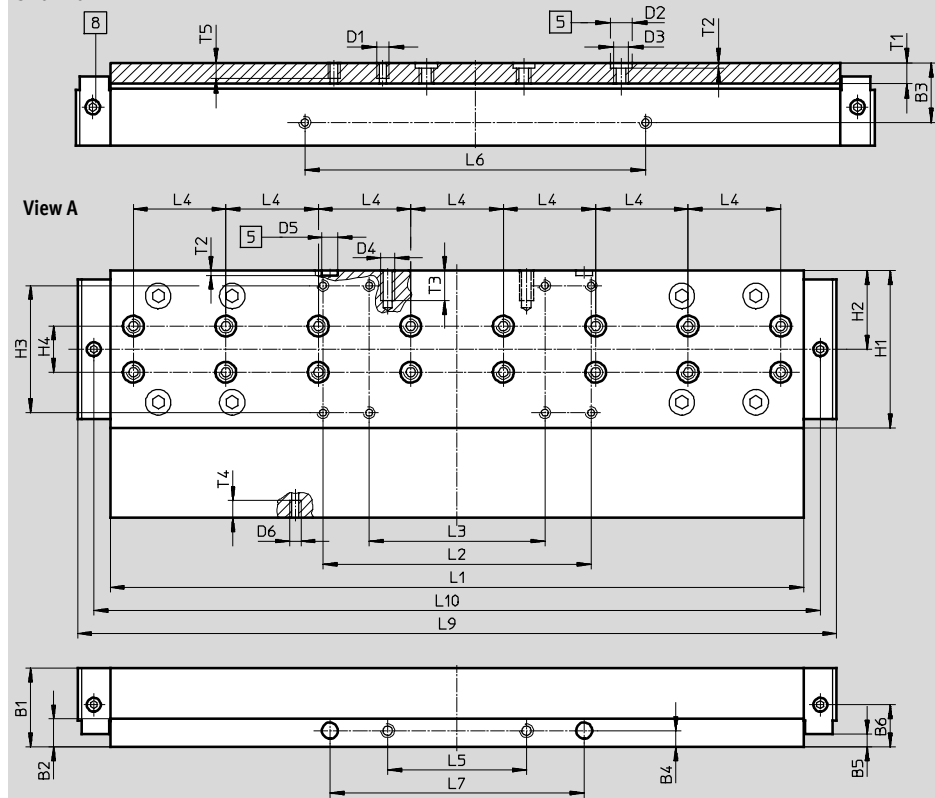
# Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Technical data

Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

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 ∅	D3	D4
120	34	12	24.5	7	±0.1 5.5	18.2	M5	H7 9	M6	M6

Size	D5 ∅	D6	H1	H2	H3	H4	L1	L2	L3	L4
120	H7 7	M5	68	34	±0.2 55	±0.03 20	±0.1 303.3	±0.2 116	±0.2 76	±0.03 40

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

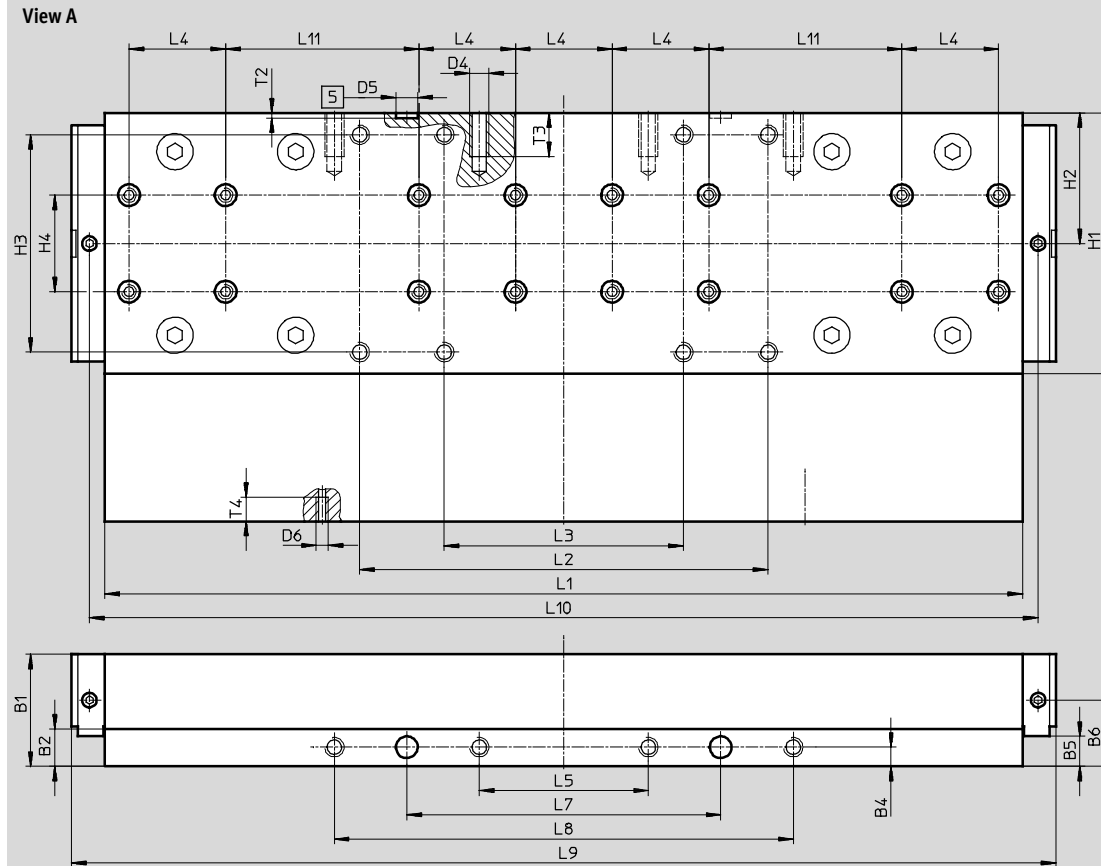
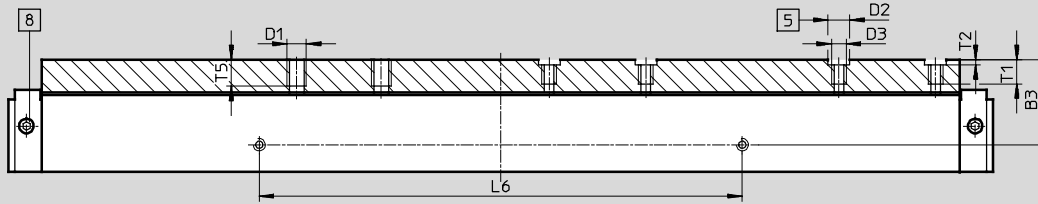
# Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Technical data

Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

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 ∅	D3	D4
185	46.5	15.5	35.2	8	±0.1 12.5	27.5	M8	H7 9	M6	M8

Size	D5 ∅	D6	H1	H2	H3	H4	L1	L2	L3	L4	L5
185	H7 9	M5	108	54	±0.2 90	±0.03 40	±0.1 382.8	±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

Technical data

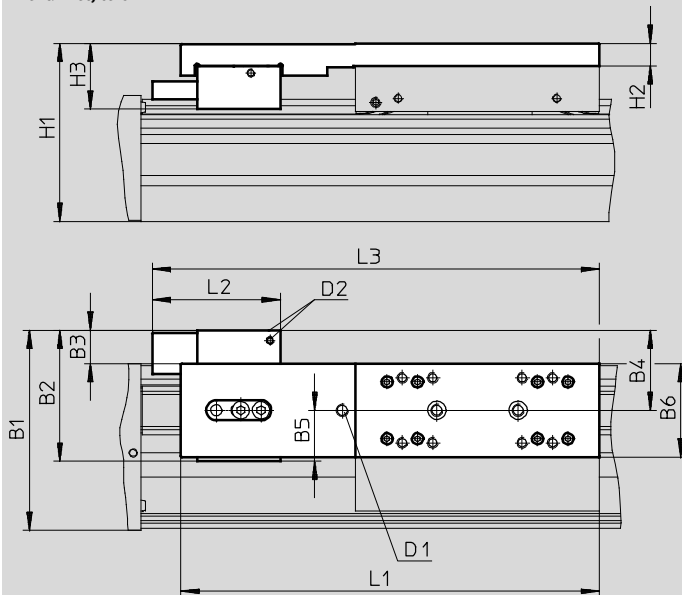
### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

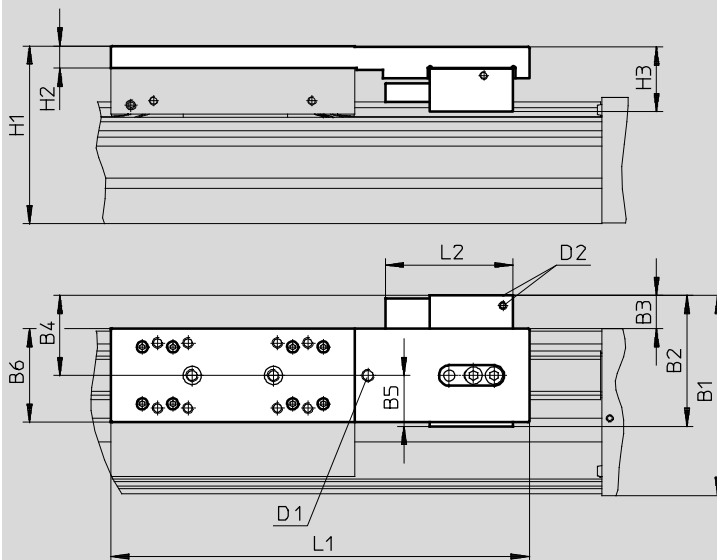
1HL/1HR – With clamping unit

Size 80

1-channel, left



1-channel, right



D2 Compressed air supply

Working stroke reduction in  
combination with additional slide  
→ 17

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

Technical data

**FESTO**

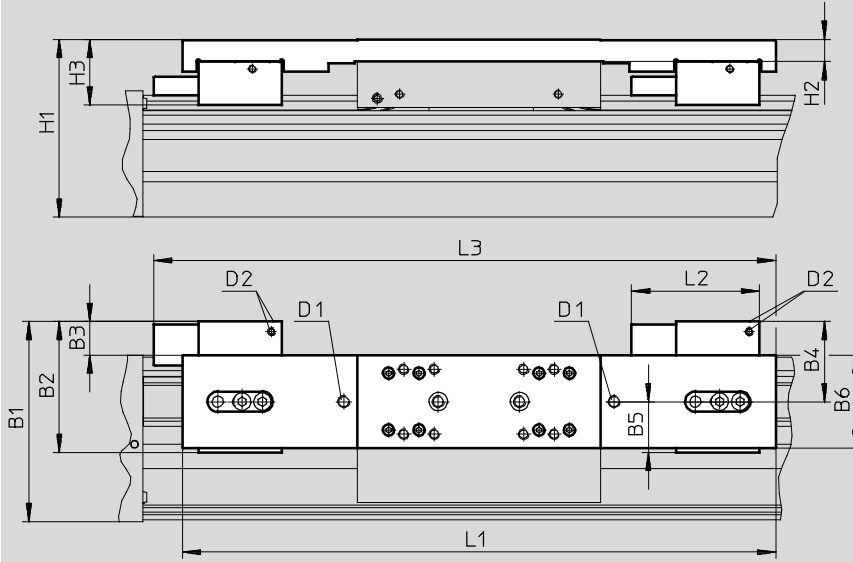
### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

2H – With clamping unit

Size 80

2-channel



D2 Compressed air supply

Working stroke reduction in combination with additional slide  
→ 17

Type	B1	B2	B3	B4	B5	B6	H1	H2	H3	D1	D2	L1	L2	L3
EGC-80-...-1HL-PN	98.4	64.4	17.4	39.4	25	46	87.5	11	32.4	M6	M5	206	63	220
EGC-80-...-1HR-PN														-
EGC-80-...-C-1HL-PN														220
EGC-80-...-C-1HR-PN														-
EGC-80-...-2H-PN												292	306	
EGC-80-...-C-2H-PN														

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

Technical data

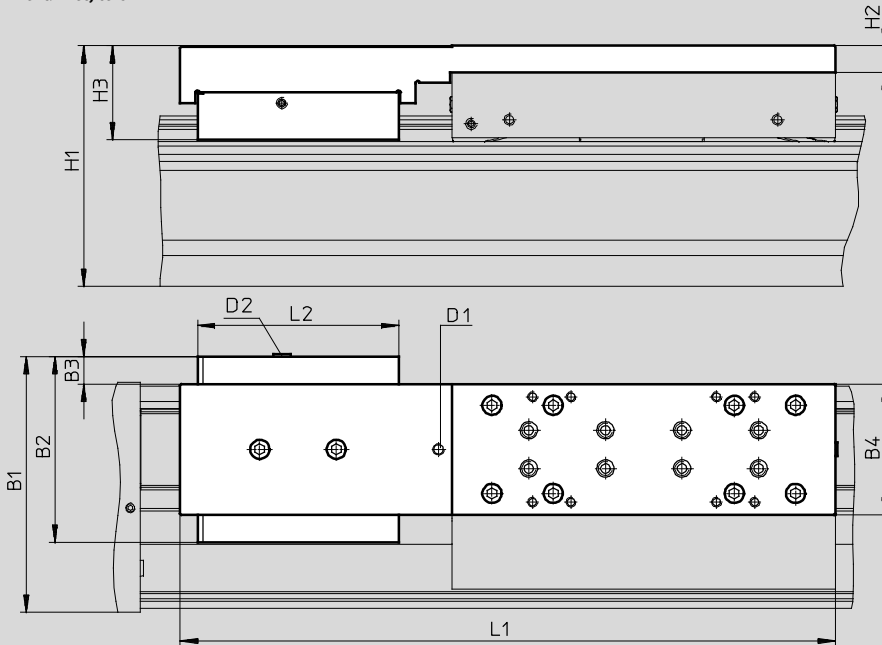
### Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

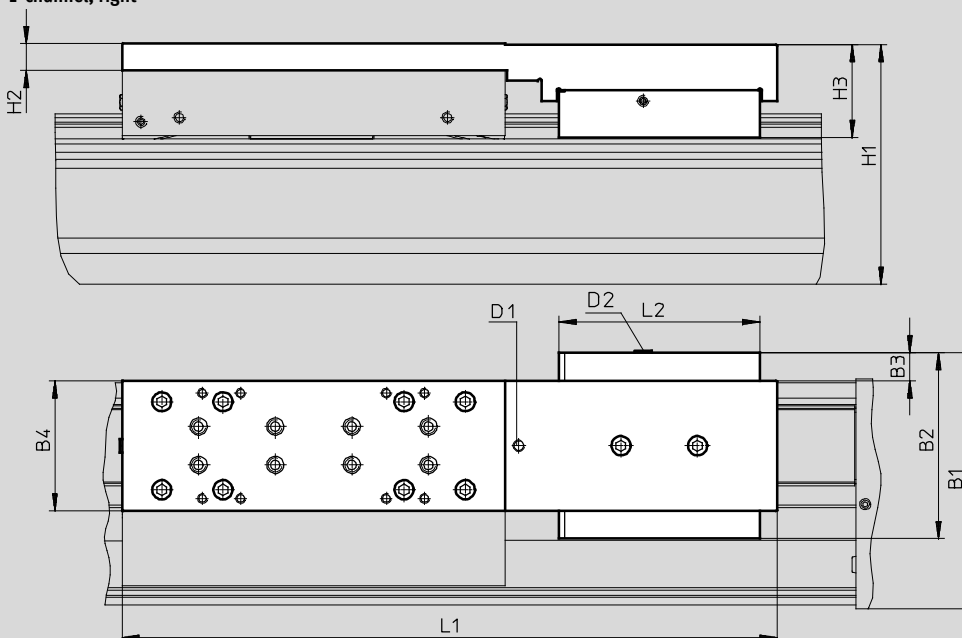
1HL/1HR – With clamping unit

Size 120/185

1-channel, left



1-channel, right



D2 Compressed air supply

Working stroke reduction in  
combination with additional slide  
→ 17



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

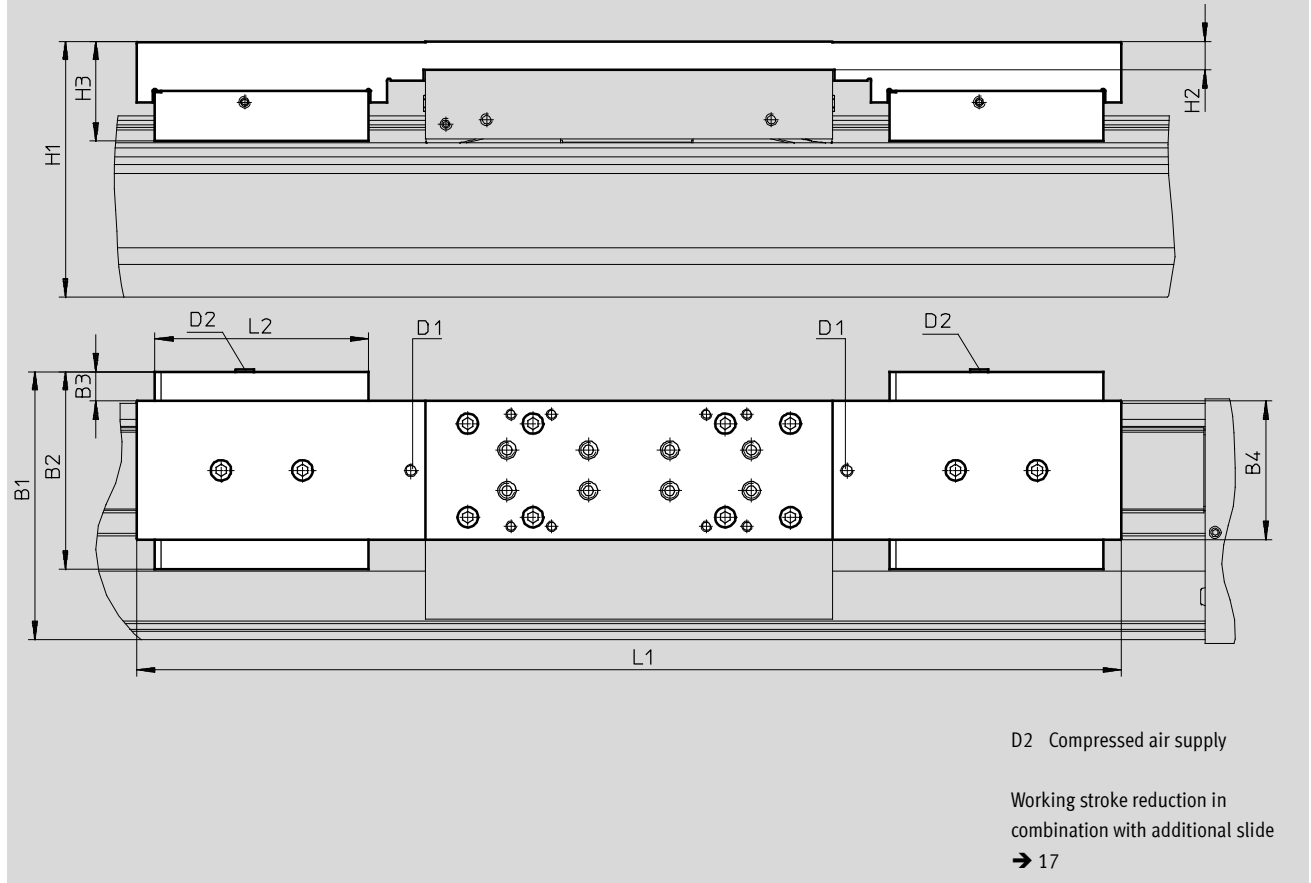
Technical data

**Dimensions** Download CAD data → [www.festo.com](http://www.festo.com)

2H – With clamping unit

Size 120/185

2-channel



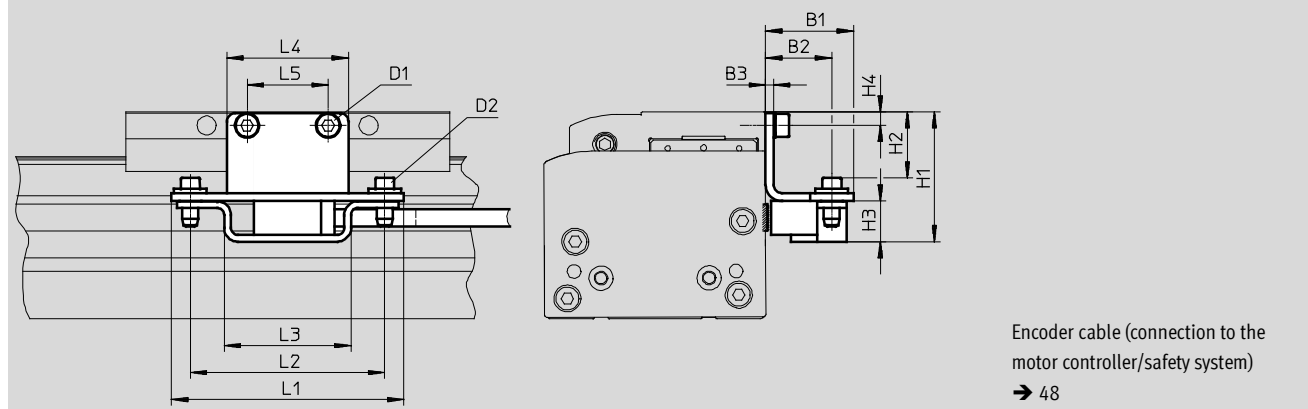
Type	B1	B2	B3	B4	H1	H2	H3	D1	D2	L1	L2
<b>Size 120</b>											
EGC-120-...-1HL-PN	133.5	97	15.5	68	125.5	14	48.9	M6	M5	342	105
EGC-120-...-1HR-PN											
EGC-120-...-C-1HL-PN											
EGC-120-...-C-1HR-PN											
EGC-120-...-2H-PN										484	
EGC-120-...-C-2H-PN											
<b>Size 185</b>											
EGC-185-...-1HL-PN	196.5	131	12.5	108	189.5	17	64.1	M6	M5	432	109
EGC-185-...-1HR-PN											
EGC-185-...-C-1HL-PN											
EGC-185-...-C-1HR-PN											
EGC-185-...-2H-PN										584	
EGC-185-...-C-2H-PN											

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

Technical data

Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

M1/M2 – With incremental displacement encoder



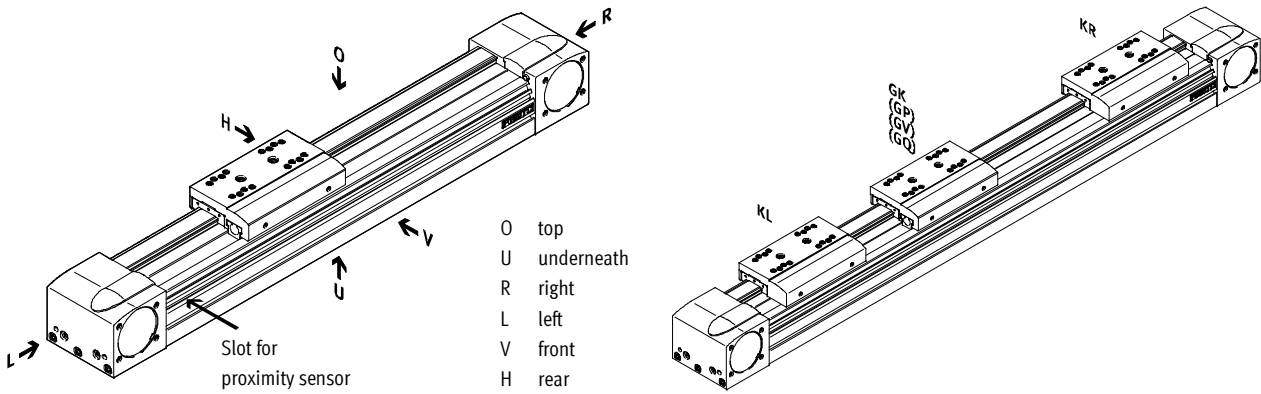
Type	B1	B2	B3	H1	H2	H3	H4
EGC-70-...-M1	32.5	24.5	3	39	18.4	15	4.5
EGC-70-...-M2				39	18.4		4.5
EGC-80-...-M1				48	24.4		5
EGC-80-...-M2				48	24.4		5
EGC-120-...-M1				60	36.4		7
EGC-120-...-M2				60	36.4		7
EGC-185-...-M1				78.5	54.9		8
EGC-185-...-M2				78.5	54.9		8

Type	D1	D2	L1	L2	L3	L4	L5
EGC-70-...-M1	M5x8	M4x14	86	72	47	35	20
EGC-70-...-M2	M5x8					35	20
EGC-80-...-M1	M5x8					45	30
EGC-80-...-M2	M5x8					45	30
EGC-120-...-M1	M6x10					86	60
EGC-120-...-M2	M6x10					86	60
EGC-185-...-M1	M8x12					86	70
EGC-185-...-M2	M8x12					86	70

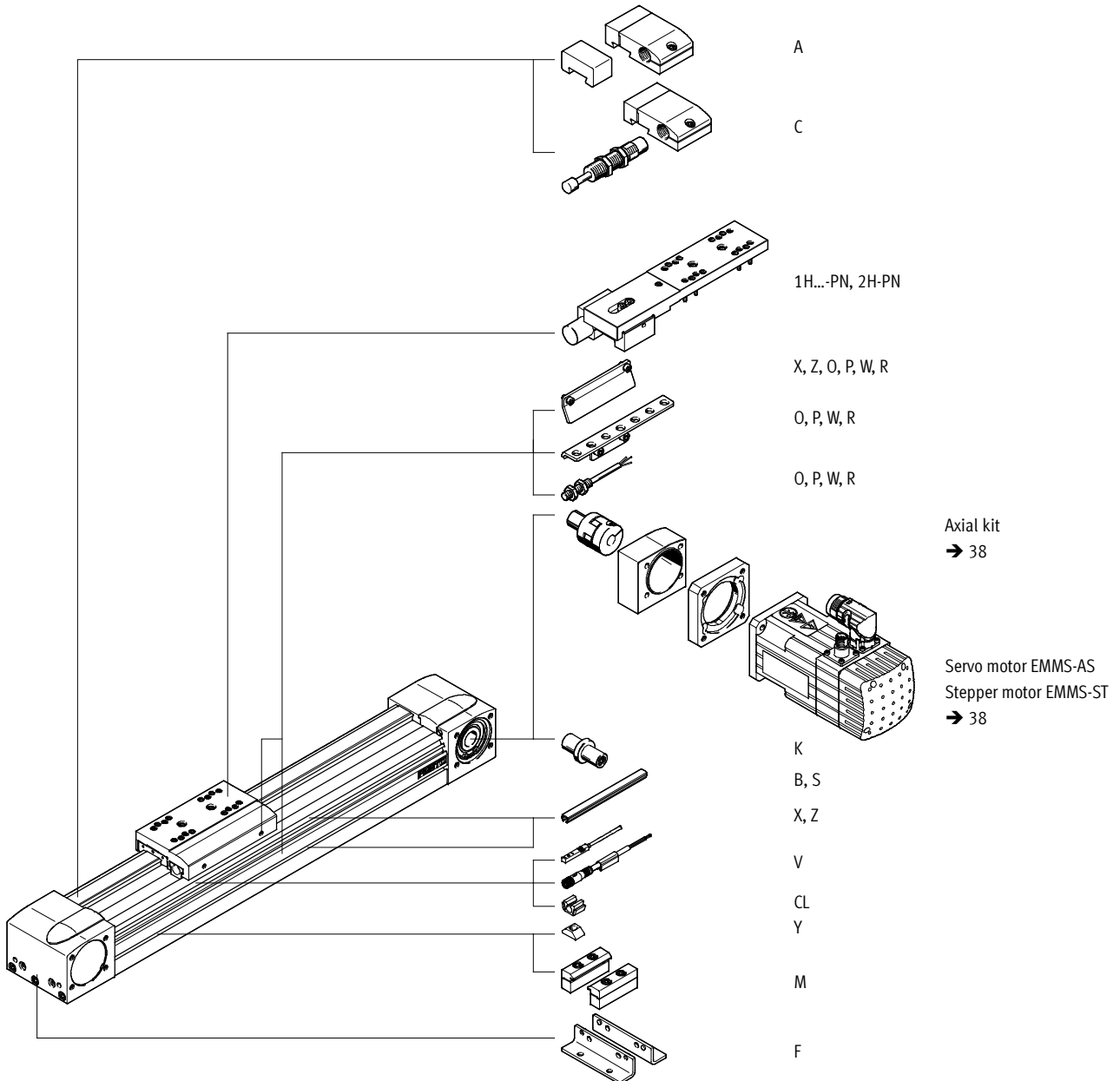
# Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

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	Condi- tions	Code	Enter code		
<b>M</b> Module No.	<b>556812</b>	<b>556813</b>	<b>556814</b>	<b>556815</b>	<b>556817</b>					
Design	Linear axis							<b>EGC</b>	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)	<b>1</b>	-...	-...		
Function	Toothed belt							<b>-TB</b>	-TB	
Guide	Recirculating ball bearing guide							<b>-KF</b>	-KF	
Stroke reserve [mm]	0 ... 999 (0 = no stroke reserve)						<b>1</b>	<b>-...H</b>		
Slide	Standard slide							<b>-GK</b>		
	-	Extended slide, protected				-		<b>-GQ</b>		
	-	Standard slide, protected				-		<b>-GP</b>		
	-	Extended slide				-		<b>-GV</b>		
<b>O</b> Additional slide	Left	Additional slide, standard, on left					<b>2</b>	<b>-KL</b>		
	Right	Additional slide, standard, on right					<b>2</b>	<b>-KR</b>		
Lubrication function	Standard									
	-	Lubrication adapter				-	<b>3</b>	<b>-C</b>		
Displacement encoder, incremental	-	Resolution: 2.5 µm				-		<b>-M1</b>		
	-	Resolution: 10 µm				-		<b>-M2</b>		
Clamping unit	-	1-channel, left				-	<b>4</b>	<b>-1HL</b>		
	-	1-channel, right				-	<b>4</b>	<b>-1HR</b>		
	-	2-channel				-	<b>4</b>	<b>-2H</b>		
Actuation type	-	Pneumatic				-		<b>-PN</b>		

- 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, then 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, 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  
Working stroke reduction in combination with additional slide (KL, KR) → 16
- 3** **C** Size 80: only up to stroke 4,800 mm (including 2x stroke reserve)  
Size 120/185: only up to stroke 6,000 mm (including 2x stroke reserve)
- 4** **1HL, 1HR, 2H** Not with slide GQ, GV as well as additional slide KL, KR  
Only with PN  
Working stroke reduction in combination with clamping unit (1HL, 1HR, 2H) → 17

**Order code**


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

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

Ordering data – Modular products

Ordering table									
Size	50	70	80	120	185	Condi- tions	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)		...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, PNP, incl. switch lug	N/O contact, 7.5 m cable	1 ... 6				...X			
	N/C contact, 7.5 m cable	1 ... 6				...Z			
Emergency buffer with retainer	–			1 ... 2		5 ...A			
Shock absorber with retainer	1 ... 2						6 ...C		
Proximity sensor (SIEN), inductive, M8, PNP, incl. switch lug	N/O contact, 2.5 m cable	–			1 ... 99		...O		
	N/C contact, 2.5 m cable	–			1 ... 99		...P		
with sensor bracket	N/O contact, plug M8	–			1 ... 99		...W		
	N/C contact, plug M8	–			1 ... 99		...R		
Connecting cable 2.5 m, M8, 3-wire	1 ... 99						...V		
Drive shaft	1 ... 4						7 ...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		

- 5 ...A Emergency buffer with retainer A cannot be combined with slide GP, GQ, GK-C, GV-C, shock absorber with retainer C and clamping unit 1H...-PN, 2H-PN
- 6 ... C Shock absorber with retainer C cannot be combined with slide GP, GQ, GK-C, GV-C, emergency buffer with retainer A and clamping unit 1H...-PN, 2H-PN
- 7 ... K No drive shaft is required for the axis/motor combinations → from 38.

 Note

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

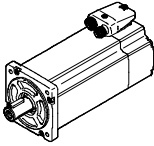
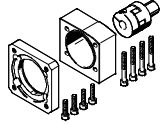
The code O, P, W, R includes one switch lug and max. two sensor brackets in the scope of delivery.

**Transfer order code**

ZUB  -                   -

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

Accessories

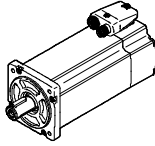
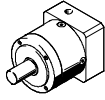
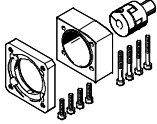
Permissible axis/motor combinations with axial kit – Without gear unit		Technical data → Internet: eamm-a	
Motor	Axial kit		
			
Type	Part No.	Type	
<b>EGC-50</b>			
With servo motor			
EMMS-AS-55-...	557975	EAMM-A-L27-55A	
With stepper motor			
EMMS-ST-57-...	560678	EAMM-A-L27-57A	
<b>EGC-70</b>			
With servo motor			
EMME-AS-60-...	2037246	EAMM-A-L38-60P	
EMMS-AS-70-...	557979	EAMM-A-L38-70A	
With stepper motor			
EMMS-ST-57-...	560679	EAMM-A-L38-57A	
EMMS-ST-87-...	560680	EAMM-A-L38-87A	
<b>EGC-80</b>			
With servo motor			
EMMS-AS-70-...	557982	EAMM-A-L48-70A	
EMME-AS-80-...	2042616	EAMM-A-L48-80P	
EMMS-AS-100-...	557984	EAMM-A-L48-100A	
With stepper motor			
EMMS-ST-87-...	560683	EAMM-A-L48-87A	
<b>EGC-120</b>			
With servo motor			
EMME-AS-100-...	557988	EAMM-A-L62-100A	
EMMS-AS-100-...	557988	EAMM-A-L62-100A	
EMMS-AS-140-...	557990	EAMM-A-L62-140A	
<b>EGC-185</b>			
With servo motor			
EMMS-AS-140-...	557994	EAMM-A-L95-140A	
EMMS-AS-190-...	1378474	EAMM-A-L95-190A	

-  - Note

For the optimum selection of axis/motor combinations → PositioningDrives sizing software [www.festo.com](http://www.festo.com)

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

Accessories

Permissible axis/motor combinations with axial kit – With gear unit		Technical data → Internet: eamm-a	
Motor	Gear unit	Axial kit	
			
Type	Type	Part No.	Type
<b>EGC-50</b>			
With servo motor			
EMME-AS-40-...	EMGA-40-P-G...-EAS-40	557974	EAMM-A-L27-40G
EMMS-AS-40-...	EMGA-40-P-G...-SAS-40	557974	EAMM-A-L27-40G
With stepper motor			
EMMS-ST-42-...	EMGA-40-P-G...-SST-42	557974	EAMM-A-L27-40G
<b>EGC-70</b>			
With servo motor			
EMMS-AS-55-...	EMGA-60-P-G...-SAS-55	557978	EAMM-A-L38-60G
EMMS-AS-70-...	EMGA-60-P-G...-SAS-70	557978	EAMM-A-L38-60G
With stepper motor			
EMMS-ST-57-...	EMGA-60-P-G...-SST-57	557978	EAMM-A-L38-60G
<b>EGC-80</b>			
With servo motor			
EMMS-AS-55-...	EMGA-60-P-G...-SAS-55	557983	EAMM-A-L48-60G
EMMS-AS-70-...	EMGA-60-P-G...-SAS-70	557983	EAMM-A-L48-60G
With stepper motor			
EMMS-ST-57-...	EMGA-60-P-G...-SST-57	557983	EAMM-A-L48-60G
<b>EGC-120</b>			
With servo motor			
EMMS-AS-70-...	EMGA-80-P-G...-SAS-70	557989	EAMM-A-L62-80G
EMME-AS-80-...	EMGA-80-P-G...-EAS-80	557989	EAMM-A-L62-80G
EMME-AS-100-...	EMGA-80-P-G...-SAS-100	557989	EAMM-A-L62-80G
EMMS-AS-100-...	EMGA-80-P-G...-SAS-100	557989	EAMM-A-L62-80G
With stepper motor			
EMMS-ST-87-...	EMGA-80-P-G...-SST-87	557989	EAMM-A-L62-80G
<b>EGC-185</b>			
With servo motor			
EMME-AS-100-...	EMGA-120-P-G...-SAS-100	557995	EAMM-A-L95-120G
EMMS-AS-100-...	EMGA-120-P-G...-SAS-100	557995	EAMM-A-L95-120G
EMMS-AS-140-...	EMGA-120-P-G...-SAS-140	557995	EAMM-A-L95-120G

 Note

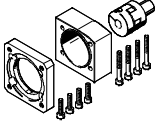

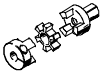


For the optimum selection of axis/motor combinations → [www.festo.com](http://www.festo.com)

PositioningDrives  
sizing software

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

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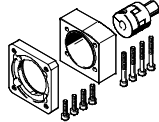




Accessories

Component parts of the axial kit – Without gear unit				
Axial kit	Consisting of:			
	Motor flange	Coupling	Coupling housing	Screw set
				
Part No. Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
<b>EGC-50</b>				
557975 EAMM-A-L27-55A	558016 EAMF-A-L27-55A	557999 EAMD-19-15-9-8X10	–	–
560678 EAMM-A-L27-57A	560690 EAMF-A-L27-57A	561292 EAMD-16-15-6,35-8X10	–	–
<b>EGC-70</b>				
2037246 EAMM-A-L38-60P	1987412 EAMF-A-38A-60P	1453861 EAMD-28-22-14-10X12	558011 EAMK-A-L38-38A	567485 EAHM-L2-M5-35
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
<b>EGC-80</b>				
2042616 EAMM-A-L48-80P	2043427 EAMF-A-48A-80P	558002 EAMD-42-40-19-16X25	558012 EAMK-A-L48-48A	567489 EAHM-L2-M5-55
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
<b>EGC-120</b>				
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
<b>EGC-185</b>				
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
1378474 EAMM-A-L95-190A	1378473 EAMF-A-95A-190A	1379269 EAMD-67-51-32-32X32	558014 EAMK-A-L95-95A	567497 EAHM-L2-M8-80



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

Accessories

Component parts of the axial kit – With gear unit				
Axial kit	Consisting of:			
	Motor flange	Coupling	Coupling housing	Screw set
				
Part No. Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
<b>EGC-50</b>				
557974 EAMM-A-L27-40G	558015 EAMF-A-L27-40G	557998 EAMD-19-15-10-8X10	–	–
<b>EGC-70</b>				
557978 EAMM-A-L38-60G	558017 EAMF-A-38A-60G/H	558000 EAMD-25-22-11-10X12	558011 EAMK-A-L38-38A	567485 EAHM-L2-M5-35
<b>EGC-80</b>				
557983 EAMM-A-L48-60G	558019 EAMF-A-48A-60G/H	558001 EAMD-32-32-11-16X20	558012 EAMK-A-L48-48A	567486 EAHM-L2-M5-40
<b>EGC-120</b>				
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
<b>EGC-185</b>				
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

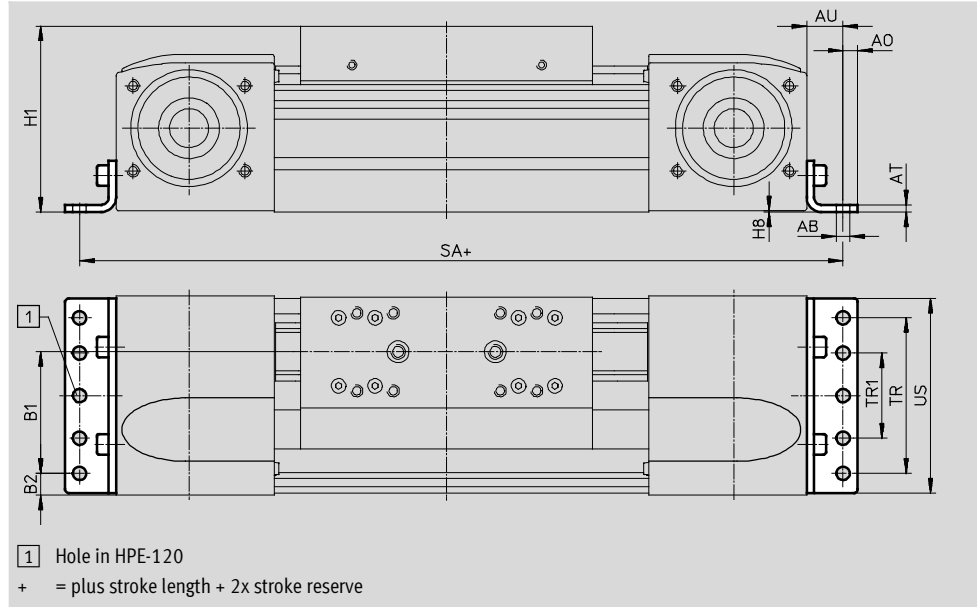
# Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

FESTO

Accessories

**Foot mounting HPE**  
(order code F)

Material:  
Galvanised steel  
RoHS-compliant



Dimensions and ordering data								
For size	AB ∅	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

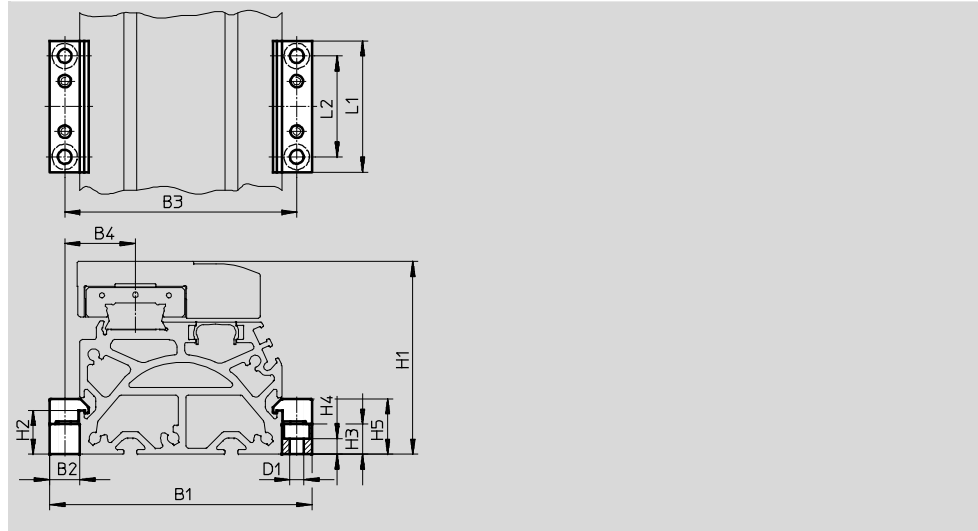
For size	SA		TR	TR1	US	Weight [g]	Part No.	Type
	GK	GV						
50	176	-	20	-	46	44	558320	HPE-50
70	272	372	40	-	67	115	558321	HPE-70
80	316	416	40	-	80	150	558322	HPE-80
120	490	590	80	-	116	578	558323	HPE-120
185	662	762	160	80	182	1,438	558325	HPE-185

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

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

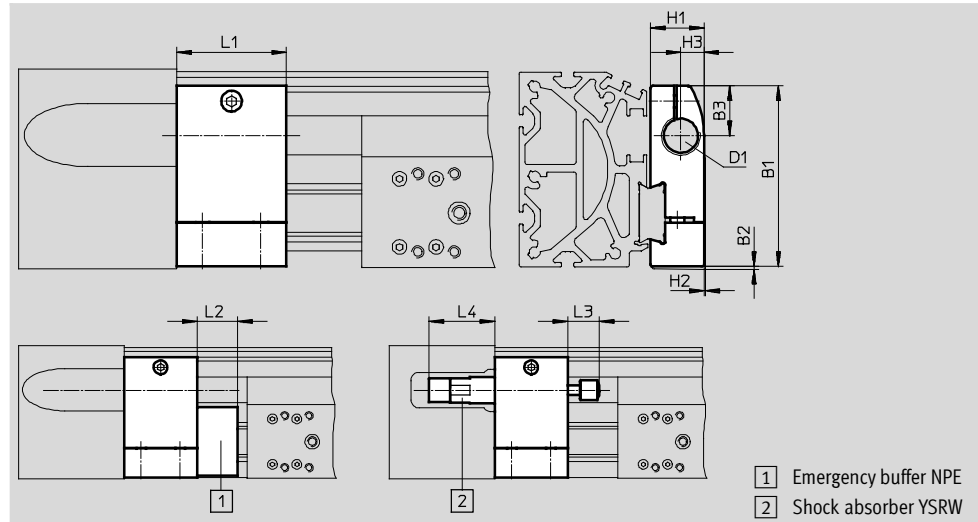
Accessories



**Shock absorber retainer KYE**  
 Emergency buffer NPE → 47  
 Shock absorber YSRW → 47  
 (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 and 1H...-PN, 2H-PN.



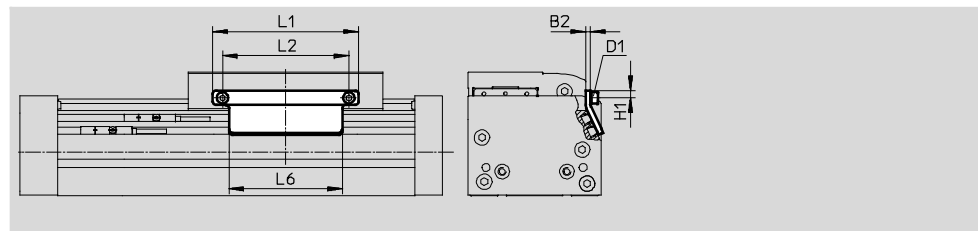
Dimensions and ordering data														
For size	B1	B2	B3	D1	H1	H2	H3	L1	L2	L3	L4	Weight [g]	Part No.	Type
50	38	1	13.5	M8X1	12	0.4	5	20	12	8	20	20	557583	KYE-50
70	57.5	1	16.5	M12X1	18.2	0.5	7.5	30	15	14	32	75	557584	KYE-70
80	74.2	1	20.5	M16X1	22	0.5	9.5	45	25	20	41	170	557585	KYE-80
120	108.5	1	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 via 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

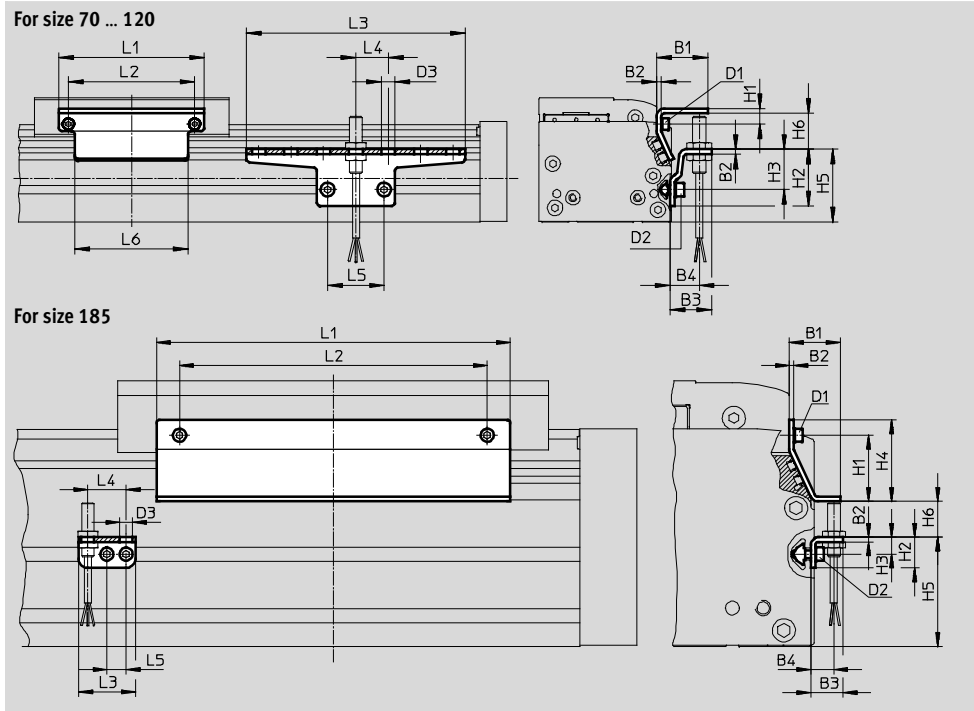
Accessories

**Switch lug SF-EGC-2**  
for sensing via 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 bracket 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	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

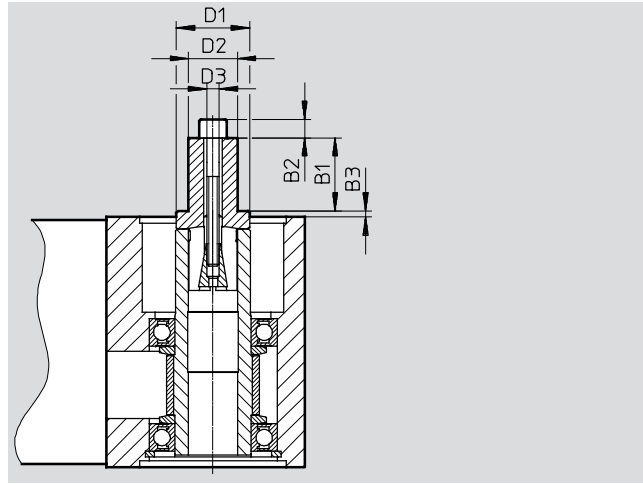
For size	Weight [g]	Part No.	Type
Switch lug			
70	100	558052	SF-EGC-2-70
80	130	558053	SF-EGC-2-80
120	280	558054	SF-EGC-2-120
185	390	558056	SF-EGC-2-185

For size	Weight [g]	Part No.	Type
Sensor bracket			
70	110	558057	HWS-EGC-M5
80	110	558057	HWS-EGC-M5
120	200	570365	HWS-EGC-M8-B
185	60	560517	HWS-EGC-M8-KURZ

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

Accessories

Drive shaft EAMB  
Alternative interface  
(order code K)

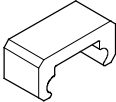
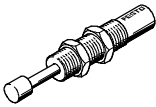


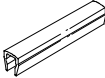
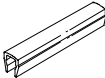



Dimensions and ordering data									
For size	B1	B2	B3	D1 ∅	D2 ∅	D3	Weight [g]	Part No.	Type
50	12	3	1.1	16	8	M4	20	558034	EAMB-16-7-8X15-8X10
70	12	4	1.85	18	8	M5	29	558035	EAMB-18-9-8X16-10X12
80	21	-	2	24	15	M6	70	558036	EAMB-24-6-15X21-16X20
120	26	-	2	34	25	M10	201	558037	EAMB-34-6-25X26-23X27
185	30	-	3	44	35	M10	463	558038	EAMB-44-7-35X30-32X32

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

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Accessories

Ordering data						
	For size	Comment	Order code	Part No.	Type	PU <sup>1)</sup>
<b>Emergency buffer NPE</b>						
	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	
<b>Shock absorber YSRW</b>			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	
<b>Slot nut NST</b>						
	50	For mounting slot	Y	558045	NST-3-M3	1
	70, 80			150914	NST-5-M5	
	120, 185			150915	NST-8-M6	
<b>Centring pin/sleeve ZBS/ZBH<sup>2)</sup></b>						
	50, 70	For slide	-	150928	ZBS-5	10
	80, 120, 185			150927	ZBH-9	
<b>Slot cover ABP</b>						
	70, 80	For mounting slot every 0.5 m	B	151681	ABP-5	2
	120, 185			151682	ABP-8	
<b>Slot cover ABP-S</b>						
	50 ... 185	For sensor slot every 0.5 m	S	563360	ABP-5-S1	2
<b>Clip SMBK</b>						
	50 ... 185	For sensor slot, for attaching the proximity sensor cables	CL	534254	SMBK-8	10

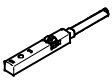
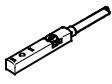
1) Packaging unit



2) 2 centring pins/sleeves included in the scope of delivery of 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
<b>N/O contact</b>							
	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
<b>N/C contact</b>							
	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 – Proximity sensors M8 (round design), inductive					Technical data → Internet: sien		
	Electrical connection	LED	Switching output	Cable length [m]	Order code	Part No.	Type
<b>N/O contact</b>							
	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
<b>N/C contact</b>							
	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

Ordering data – Encoder cables for displacement encoder, EGC...-M1/-M2				Technical data → Internet: nebm	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Displacement encoder EGC...-M1/-M2	Motor controller CMM...	5	1599105	NEBM-M12G8-E-5-S1G9-V3
			10	1599106	NEBM-M12G8-E-10-S1G9-V3
			15	1599107	NEBM-M12G8-E-15-S1G9-V3
			X <sup>1)</sup>	1599108	NEBM-M12G8-E...-S1G9-V3
	Displacement encoder EGC...-M1/-M2	Safety system CMGA...	5	1617289	NEBM-M12G8-E-5-S1G9-V4
			10	1617288	NEBM-M12G8-E-10-S1G9-V4
			15	1617287	NEBM-M12G8-E-15-S1G9-V4
			X <sup>1)</sup>	1617291	NEBM-M12G8-E...-S1G9-V4

1) Max. cable length 25 m.