

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

FESTO



Electromechanical drives

Selection aid



Overview of toothed belt and spindle axes

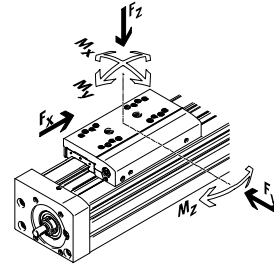
Toothed belt axes

- Speeds of up to 10 m/s
- Acceleration of up to 50 m/s²
- Repetition accuracy of up to +0.08 mm
- Strokes of up to 8,500 mm (longer strokes on request)
- Flexible motor mounting

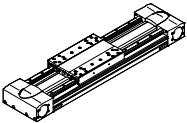
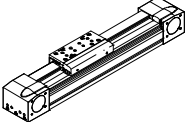
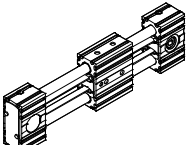
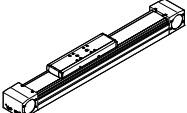
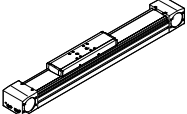
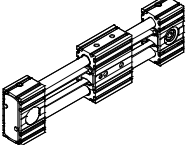
Spindle axes

- Speeds of up to 2 m/s
- Acceleration of up to 20 m/s²
- Repetition accuracy of up to +0.003 mm
- Strokes of up to 3,000 mm

Coordinate system



Toothed belt axes

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

Electromechanical drives

Selection aid

Overview of toothed belt and spindle axes

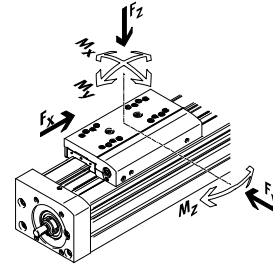
Toothed belt axes

- Speeds of up to 10 m/s
- Acceleration of up to 50 m/s²
- Repetition accuracy of up to +0.08 mm
- Strokes of up to 8,500 mm (longer strokes on request)
- Flexible motor mounting

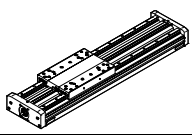
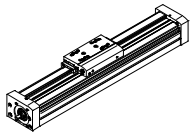
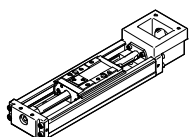
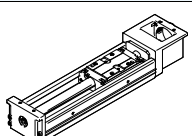
Spindle axes

- Speeds of up to 2 m/s
- Acceleration of up to 20 m/s²
- Repetition accuracy of up to +0.003 mm
- Strokes of up to 3,000 mm

Coordinate system



Spindle axes

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

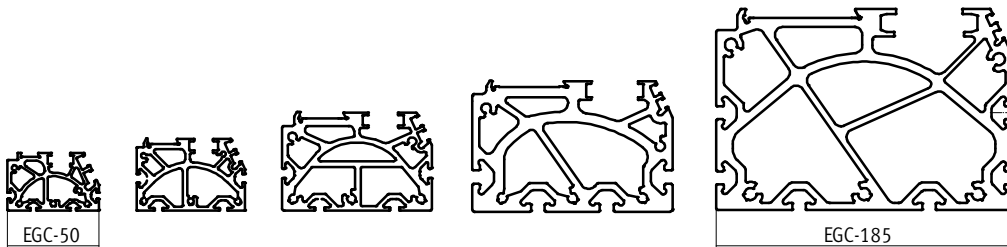
At a glance			
Powerful	Economical	Versatile	
<ul style="list-style-type: none"> Generously sized profiles with an optimised cross section afford maximum rigidity and load capacity Speed, acceleration and torque resistance set a new standard 	<ul style="list-style-type: none"> In addition to its technical 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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]
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
www.festo.com

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

Key features

Slide variants

Standard slide



Extended slide



Additional slide



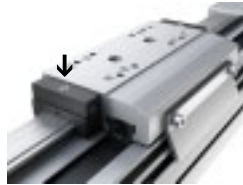
Guide options

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

→ 21

Displacement encoder

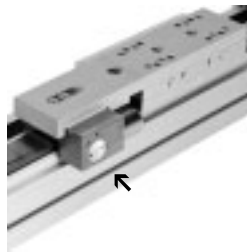
→ 12



- 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

→ 13



- 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

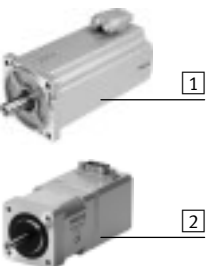
Axial kit



Kit comprising:

- Motor flange
- Coupling housing
- Coupling
- Screws

Motor

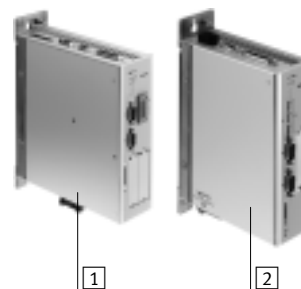


- 1 Servo motor EMME-AS, EMMS-AS
- 2 Stepper motor EMMS-ST

- - Note

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

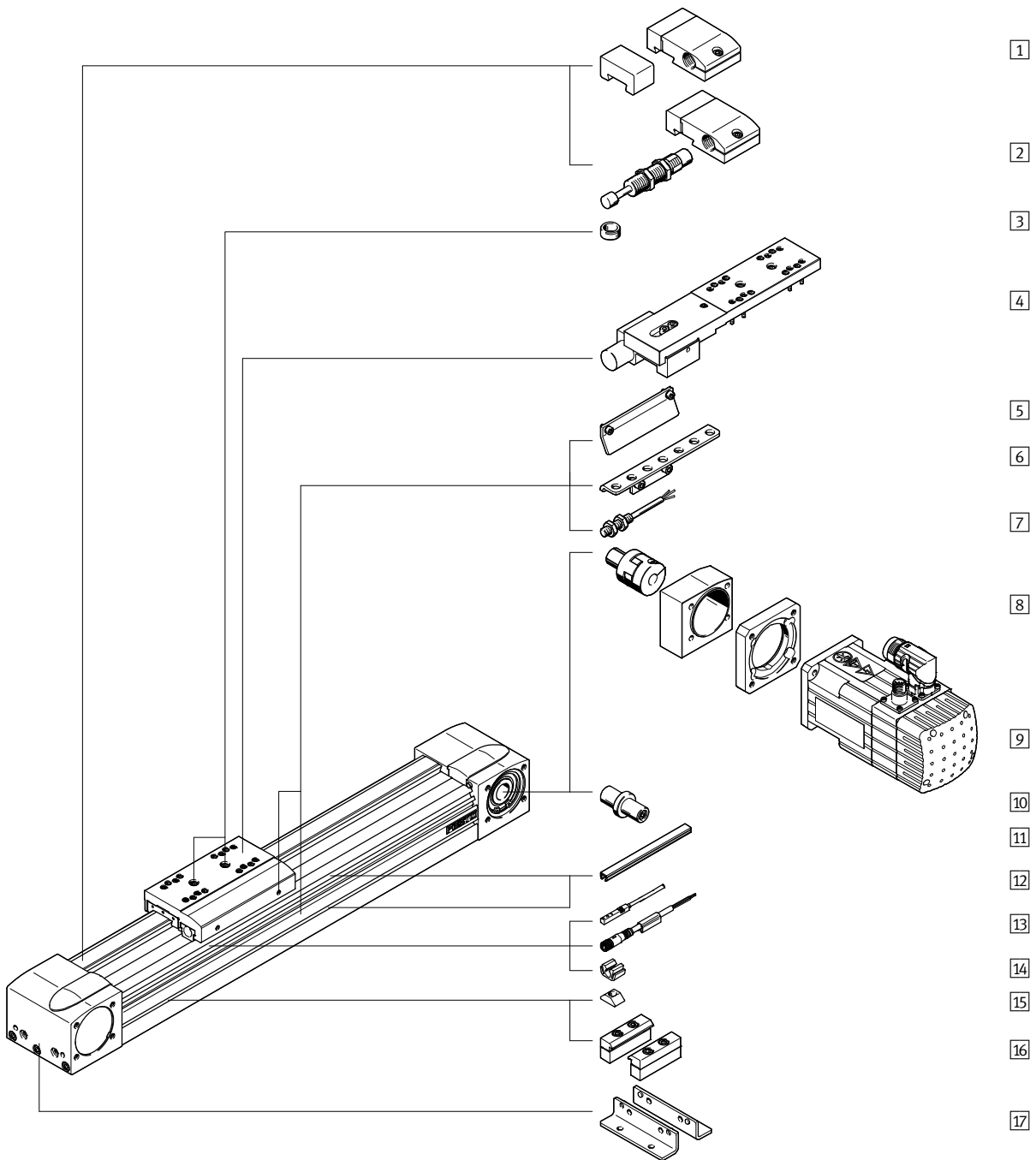
Motor controller



- 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



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	50
2	Shock absorber with retainer C	For avoiding damage at the end stop in the event of malfunction	50
3	Centring pin/sleeve ZBS, ZBH	<ul style="list-style-type: none"> For centring loads and attachments on the slide 2 centring pins/sleeves included in the scope of delivery of the axis 	53
4	Clamping unit 1H...-PN, 2H-PN	For holding loads	13
5	Switch lug X, Z, O, P, W, R	For sensing the slide position	50
6	Sensor bracket O, P, W, R	Adapter for mounting the inductive proximity sensors (round design) on the axis	51
7	Proximity sensor, M8 O, P, W, R	<ul style="list-style-type: none"> Inductive proximity sensor, round design The order code O, P, W, R includes 1 switch lug and max. 2 sensor brackets in the scope of delivery 	54
8	Axial kit EAMM	For axial motor mounting (consisting of: coupling, coupling housing and motor flange)	44
9	Motor EMMS	Motors specially matched to the axis, with or without gear unit, with or without brake	44
10	Drive shaft K	<ul style="list-style-type: none"> Can, if required, be used as an alternative interface No drive shaft is required for the axis/motor combinations → from 44 	52
11	Slot cover B, S	<ul style="list-style-type: none"> For protecting against ingress of dirt 	53
12	Proximity sensor, T-slot X, Z	<ul style="list-style-type: none"> Inductive proximity sensor, for T-slot The order code X, Z includes 1 switch lug in the scope of delivery 	54
13	Connecting cable V	For proximity sensor (order code W and R)	54
14	Clip CL	For mounting the proximity sensor cable in the slot	53
15	Slot nut Y	For mounting attachments	53
16	Profile mounting M	For mounting the axis on the profile	49
17	Foot mounting F	For mounting the axis on the end cap	48
-	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

	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

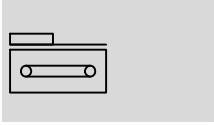
→							ZUB -	F2MX2Z	-	DN
Additional slide										
KL	Standard, left									
Additional slide										
KR	Standard, right									
Lubrication function										
-	Standard									
C	Lubrication adapter									
Displacement encoder, incremental										
M1	Resolution: 2.5 µm									
M2	Resolution: 10 µm									
Clamping unit										
1HL	1-channel, left									
1HR	1-channel, right									
2H	2-channel									
Actuation type										
PN	Pneumatically actuated									
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, 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									
Operating instructions										
DN	None									




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

FESTO

Technical data

Function



-  - Size
50 ... 185
-  - Stroke length
50 ... 8,500 mm
-  - www.festo.com



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 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 0.2m/s, with variant GK or GV

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

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

Technical data

Weight [g]					
Size	50	70	80	120	185
Basic weight with 0 mm stroke ¹⁾					
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						
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
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
J_0						
EGC-...-GK	[kg mm ²]	16.94	83.34	205.9	1,241	17,976
EGC-...-GV	[kg mm ²]	–	110	265	1,465	19,690
J_H per metre stroke	[kg mm ² /m]	2.6	10.6	18.8	93	760
J_L per kg effective load	[kg mm ² /kg]	85	154	205	396	1,363.5
J_W Additional slide	[kg mm ²]	3.56	56.32	126.73	861	8,846
J_F Clamping unit						
EGC-...-1H...-PN	[kg mm ²]	–	–	143.5	911	6,681
EGC-...-2H-PN	[kg mm ²]	–	–	266.5	1,584	11,317

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

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

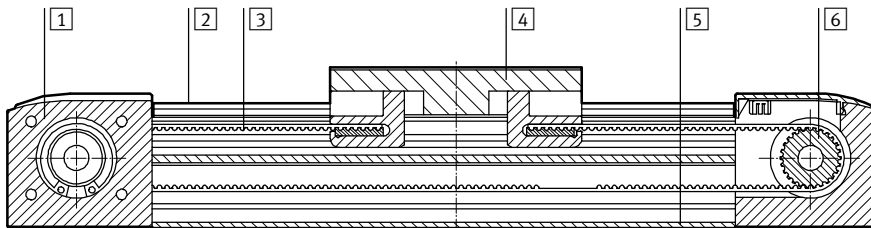
$K =$ Number of additional slides

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

Technical data

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 PWS (paint-wetting impairment substances)	

Technical data – Displacement encoder		Dimensions → 38	
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	

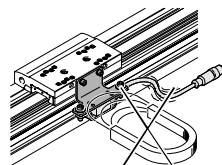
Operating and environmental conditions – Displacement encoder	
Ambient temperature	[°C] -10 ... +70
Protection class	IP64
CE marking (see declaration of conformity)	To EU EMC Directive ¹⁾

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp → 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.

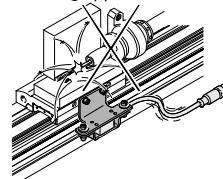
Instructions for use

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

- Magnetic field



- Welding application




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

Technical data

Technical data – Clamping unit		Dimensions → 34		
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 ¹⁾ 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

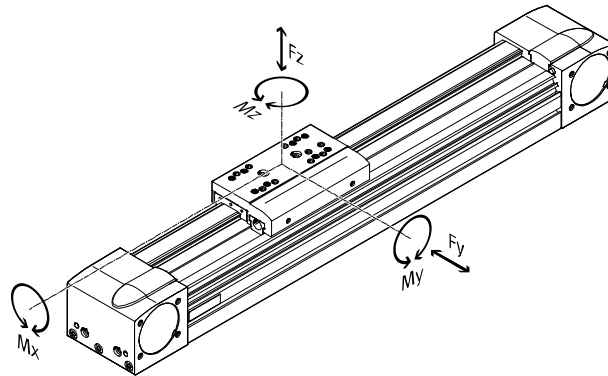
Technical data



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.



Max. permissible forces and torques for a service life of 5000 km						
Size		50	70	80	120	185
F _{y,max.}	[N]	650	1850	3050	6890	15200
F _{z,max.}	[N]	650	1850	3050	6890	15200
M _{x,max.}	[Nm]	3.5	16	36	144	529
M _{y,max./M_{z,max.}}						
EGC-...-GK/-GP	[Nm]	10	51	97	380	1157
M _{y,max./M_{z,max.}}						
EGC-...-GV/-GQ	[Nm]	–	132	228	680	1820

- - Note

For a service life of 5000 km for the guide system, the load comparison factor must have a value of $f_v < 1$,

based on the maximum permissible forces and torques for a service life of 5000 km.

If the axis is simultaneously subjected to several of the indicated forces and torques, the following equation

must be satisfied in addition to the indicated maximum loads:

Calculating the load comparison factor:

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

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

Technical data

Calculating service life

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

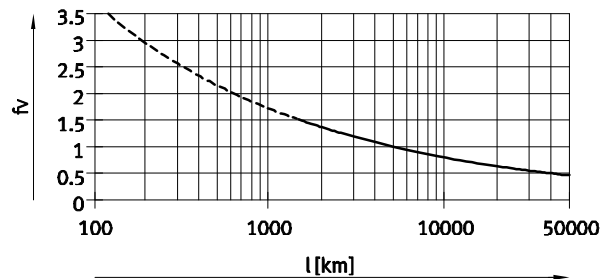
guide, the graph below plots the load comparison factor f_v against the service life.

These values are only theoretical. You must consult your local contact person at Festo 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 $\rightarrow 14$ 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. 1500 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 5000 km.



Note

PositioningDrives
sizing software
www.festo.com

The guide workload for a service life of 5000 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.

Comparison of the characteristic load values for 5000 km with dynamic forces and torques of recirculating ball bearing guides

The characteristic load values of roller bearing guides are standardised to ISO and JIS using dynamic and static forces and torques. These forces and torques are based on an expected service life for the guide system of 100 km to ISO or 50 km to JIS.

As the characteristic load values are dependent on the service life, the max. permissible forces and torques for a service life of 5000 km cannot be compared with the dynamic forces and torques of roller bearing guides to ISO/JIS.

To make it easier to compare the guide capacity of linear axes EGC with roller bearing guides, the table below lists the theoretically permissible forces and torques for a calculated service life of 100 km. This corresponds to the dynamic forces and torques to ISO.

These 100 km values have been calculated mathematically and are only to be used for comparing with dynamic forces and torques to ISO. The drives must not be loaded with these characteristic values as this could damage them.

Max. permissible forces and torques for a theoretical service life of 100 km (from a guide perspective only)

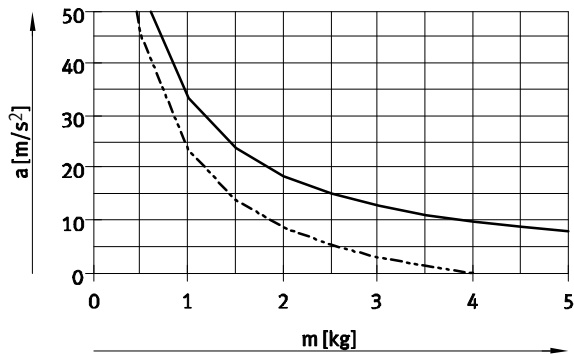
Size		50	70	80	120	185
$F_{y_{max}}$	[N]	2395	6815	11236	25383	55997
$F_{z_{max}}$	[N]	2395	6815	11236	25383	55997
$M_{x_{max}}$	[Nm]	13	59	133	531	1949
$M_{y_{max}}/M_{z_{max}}$						
EGC-...-GK/-GP	[Nm]	37	188	357	1400	4262
$M_{y_{max}}/M_{z_{max}}$						
EGC-...-GV/-GQ	[Nm]	-	486	840	2505	6705

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

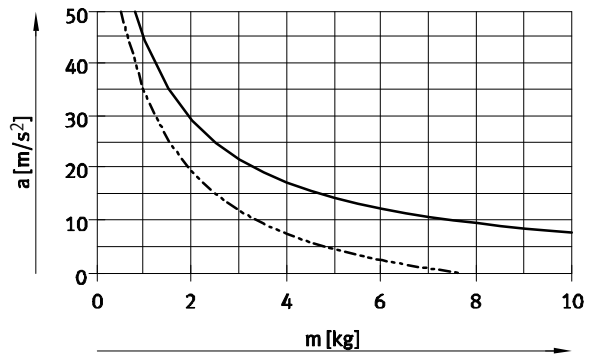
Technical data

Maximum acceleration a as a function of applied load m

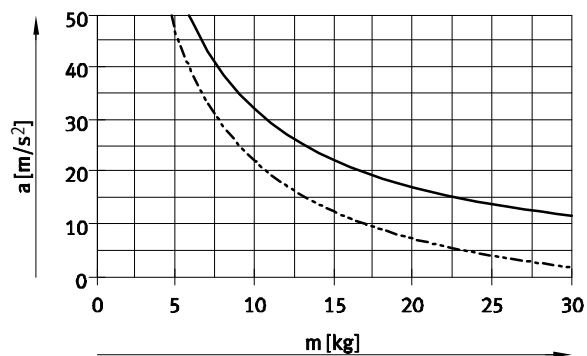
EGC-50



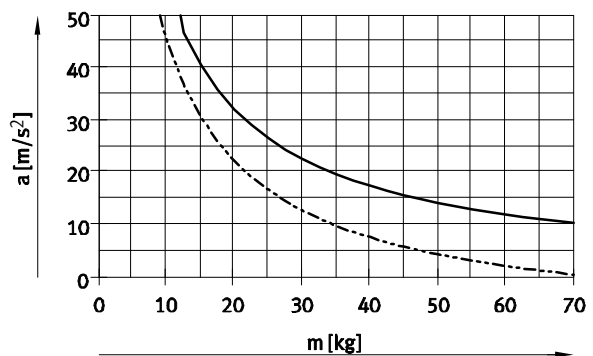
EGC-70



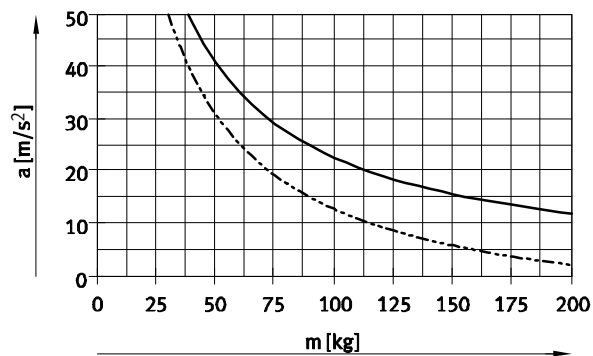
EGC-80



EGC-120



EGC-185

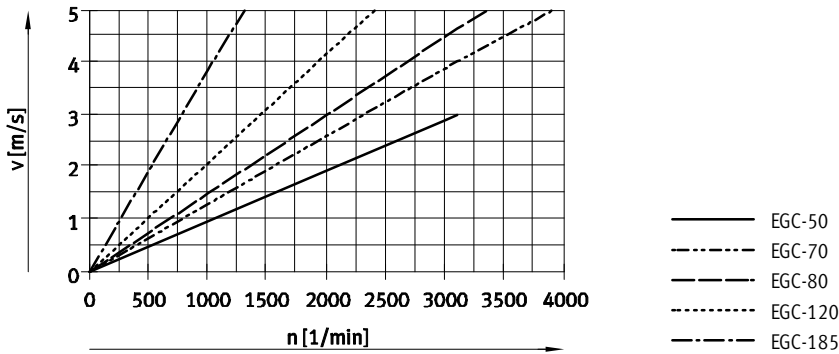


— Horizontal mounting position
 - - - Vertical mounting position

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

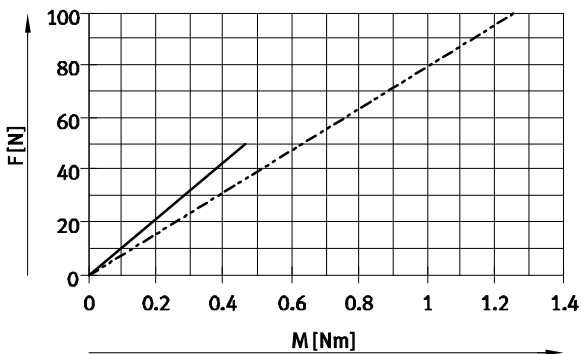
Technical data

Speed v as a function of rotational speed n



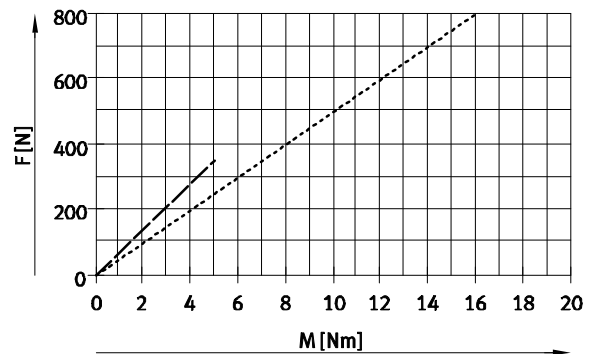
Theoretical feed force F as a function of input torque M

EGC-50/-70



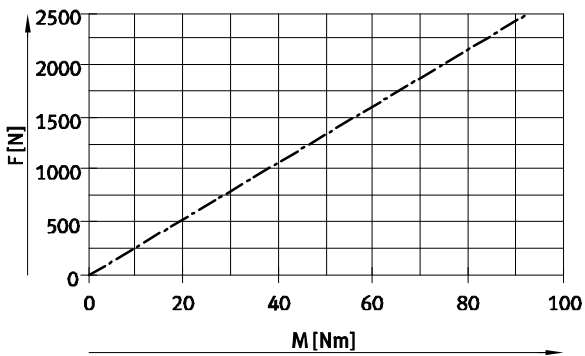
EGC-50
EGC-70

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"> 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: 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

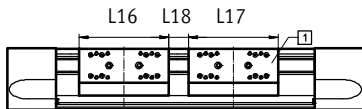
With standard slide GK/GP / extended slide GV/GQ with additional slide KL/KR

- 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
 L17 = Additional slide length

L18 = Distance between both slides
 1 Additional slide

Example:
 Type EGC-70-500-TB-...-GK-KR
 Working stroke without additional slide = 500 mm
 L18 = 20 mm
 L16, L17 = 100 mm
 Working stroke with additional slide = 380 mm
 (500 mm - 20 mm - 100 mm)



Dimensions – Additional slide									
Size	50	70	80		120		185		
Variant	GK/GV	GK/GV	GP/GQ	GK/GV	GP/GQ 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	203.3	236	282.8	322
Min. distance between the slides L18 [mm]	-	-	21	-	26	-	36	-	42

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

Technical data

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

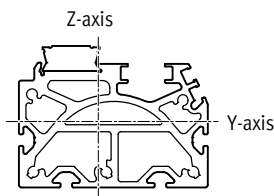
Working stroke reduction

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 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

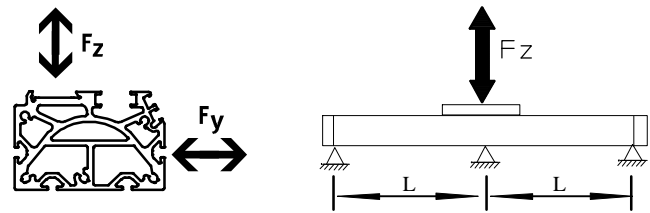
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Technical data

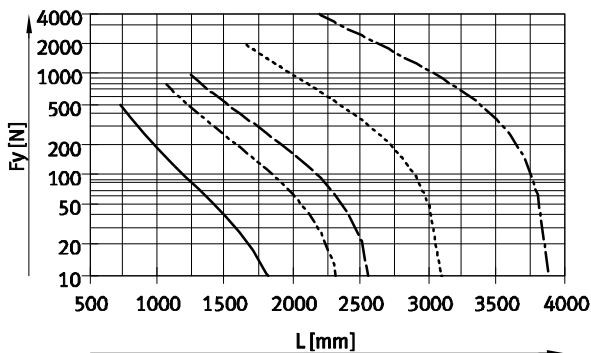
Maximum permissible support span L (without profile mounting) as a function of force F

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 $f = 0.5 \text{ mm}$.

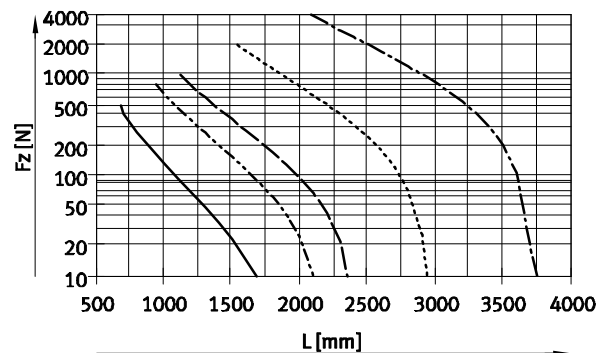


Force F_y



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

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

Central lubrication

The lubrication adapter enables the guide of the toothed belt axis EGC-TB to be permanently lubricated in applications in humid or wet ambient conditions using semi or fully automatic relubrication devices.

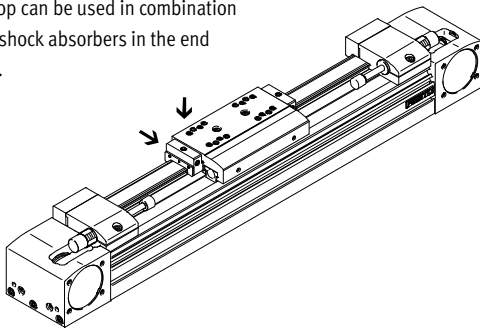
- For size 80, 120, 185
- The modules are suitable for oils and greases
- The dimensions of the toothed belt axis EGC-TB are the same with and without central lubrication modules
- Both lubrication adapters must be connected
- There are three connection options on each side
- Can be used in combination with:
 - Standard slide GK
 - Additional slide KL, KR
- Cannot be used in combination with:
 - Protected recirculating ball bearing guide GP

Slide dimensions
→ 29

Order code C in the modular product system → 42

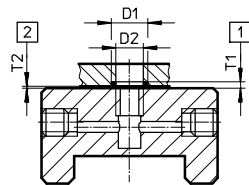
Connection options

Only the connection at the rear or on the top can be used in combination with shock absorbers in the end caps.



Connection option for customer design

The drawing opposite shows the connection option on the top lubrication interface using a customer design.



- D1 8^{+0.2} mm
- D2 6 mm
- T1 0.6^{-0.05} mm
- T2 0.1^{+0.2} mm
- O-ring ∅ 6x1 mm (DIN3771)

- 1 Slot depth for O-ring
- 2 Required air gap

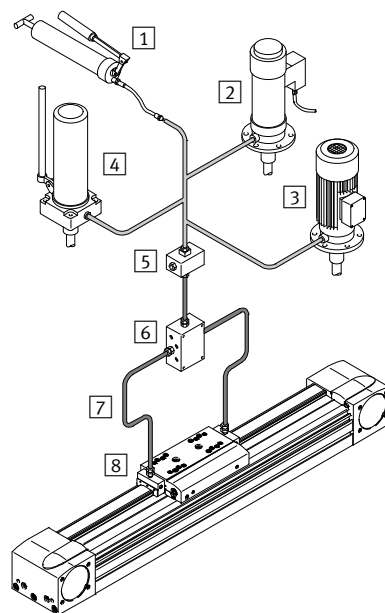
Additional dimensions → 29

Structure of a central lubrication system

A central lubrication system requires various additional components. The illustration shows different options (using a hand pump, pneumatic container pump or electric container pump) required as a minimum for designing a central lubrication system. Festo does not sell these additional components, however they can be obtained from the following companies:

- Lincoln
- Bielomatik
- SKF (Vogel)

Festo recommends these companies because they can supply all the necessary components.



- 1 Hand pump
- 2 Pneumatic container pump
- 3 Electric container pump
- 4 Manually operated container pump
- 5 Nipple block
- 6 Distributor block
- 7 Tubing or piping
- 8 Fittings

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



Technical data

Dimensions Download CAD data → 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 → 18
 With GK-C/GV-C: dimension for adapter → 29

Working stroke reduction in combination with additional slide → 18

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

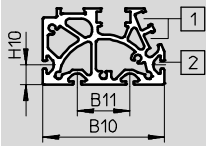
Size	L3	L4	L5	L6	L8	L9	T1	T2	T4	T6	T7	T8	T9
50	40	26	20	1.8	3	–	1.5	–	5.9	–	7	8	3.1
70	57.5	36	27.5	1.8	3	10.5	2.1	18	7.15	–	10	12	3.1
80	65	46	30	2	3	13	2.1	27	4	2.1	10	10	3.1
120	100	64	50	2	3	18	3.1	29.5	4	–	16	14	2.1
185	140	80	70	2	3	21	2.8	34.5	4	–	20	17	2.1

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

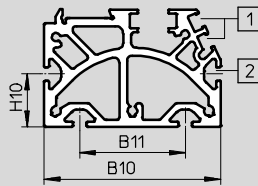
Technical data

Profile

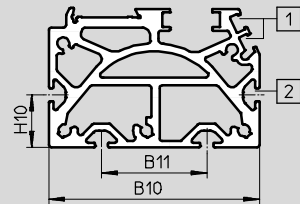
Size 50



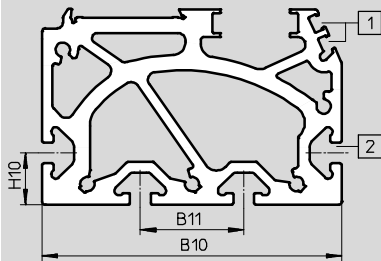
Size 70



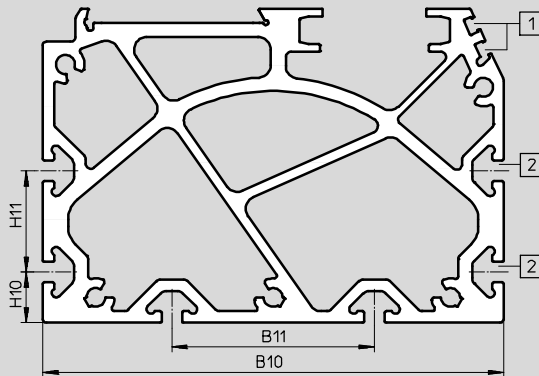
Size 80



Size 120



Size 185



- 1 Sensor 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.

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

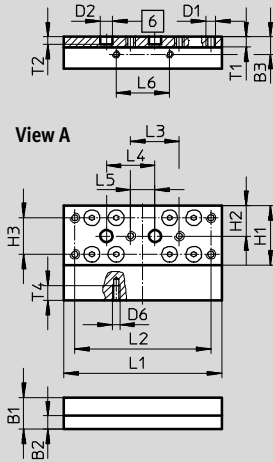
Technical data

Dimensions

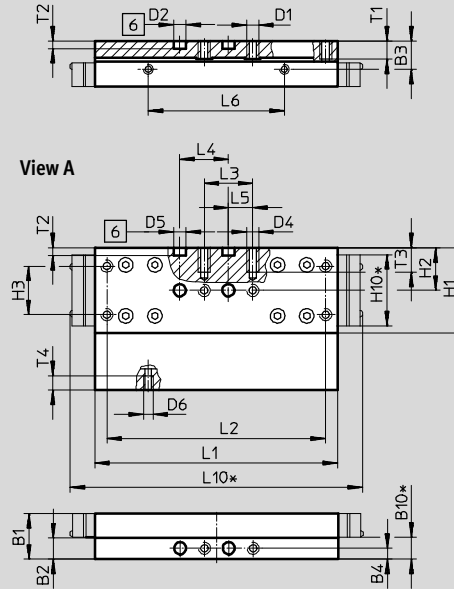
Download CAD data → www.festo.com

GK – Standard slide/GP – Standard slide, protected

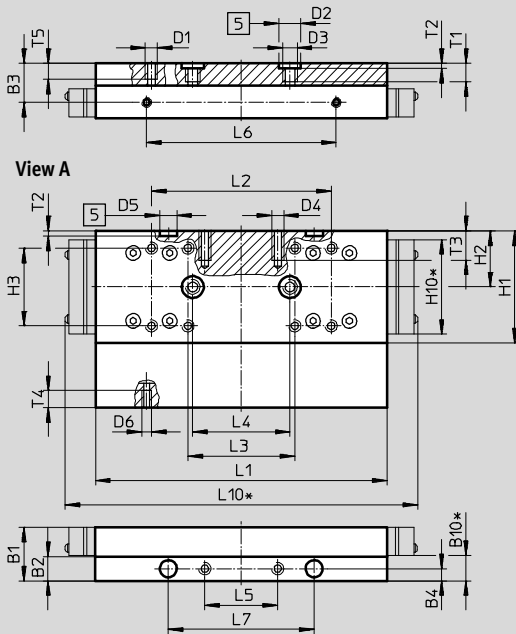
Size 50



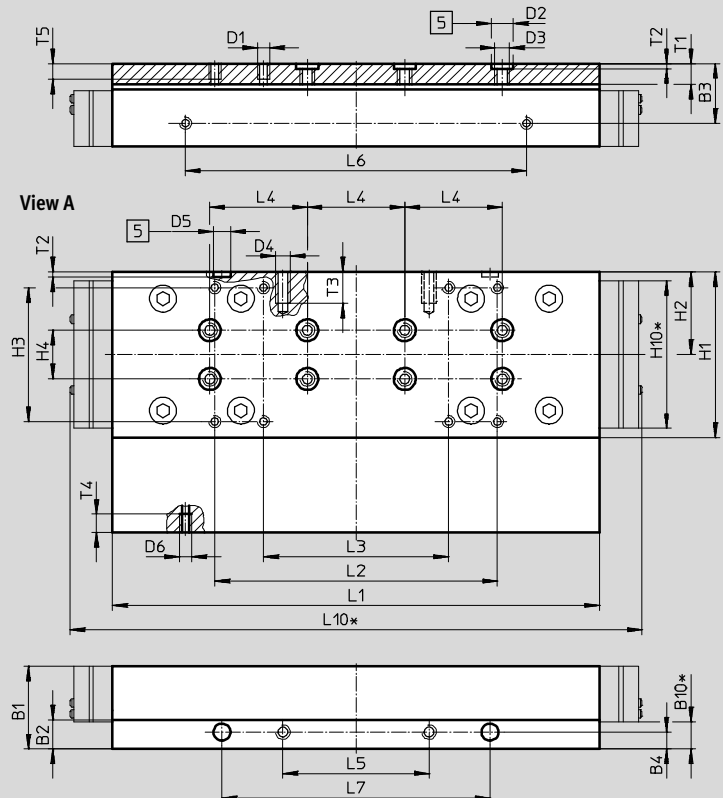
Size 70



Size 80



Size 120



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

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

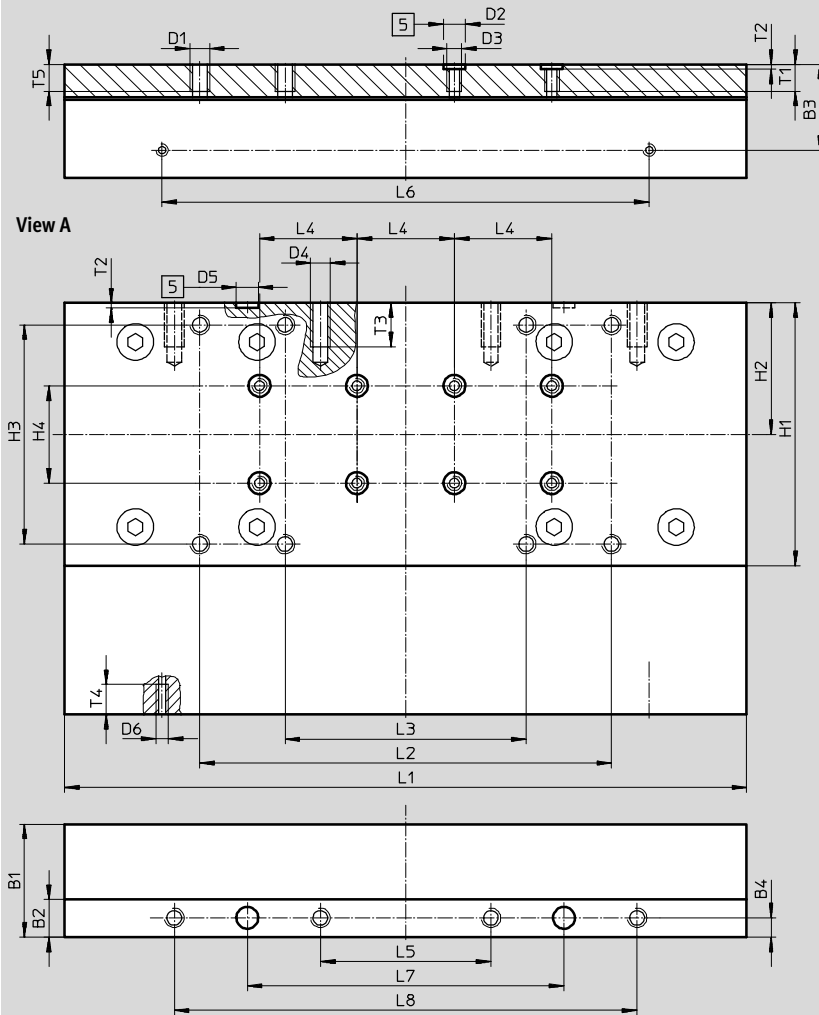
Technical data

Dimensions

Download CAD data → www.festo.com

GK – Standard slide

Size 185



□ Hole for centring sleeve

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

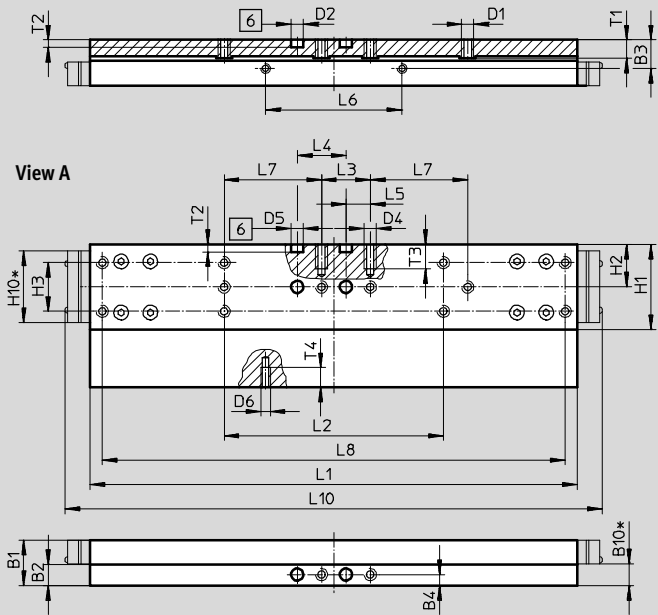
Technical data

Dimensions

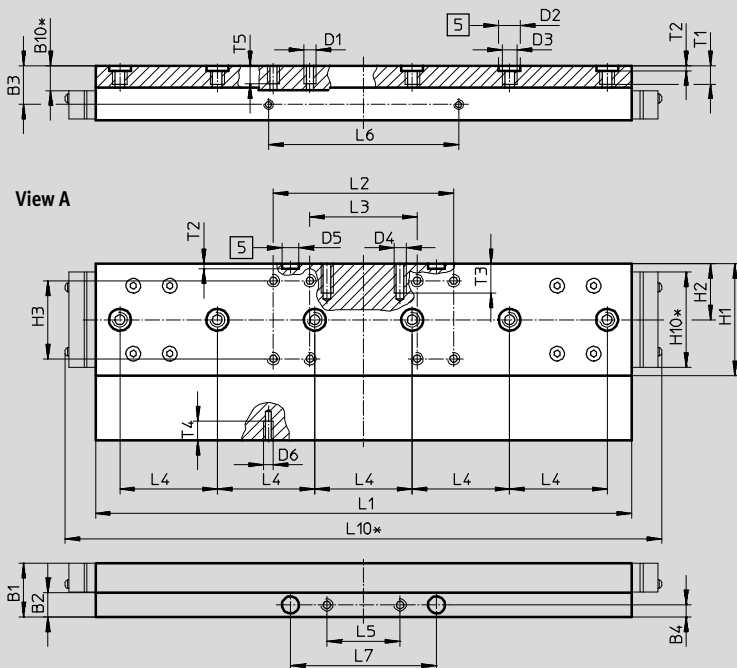
Download CAD data → www.festo.com

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

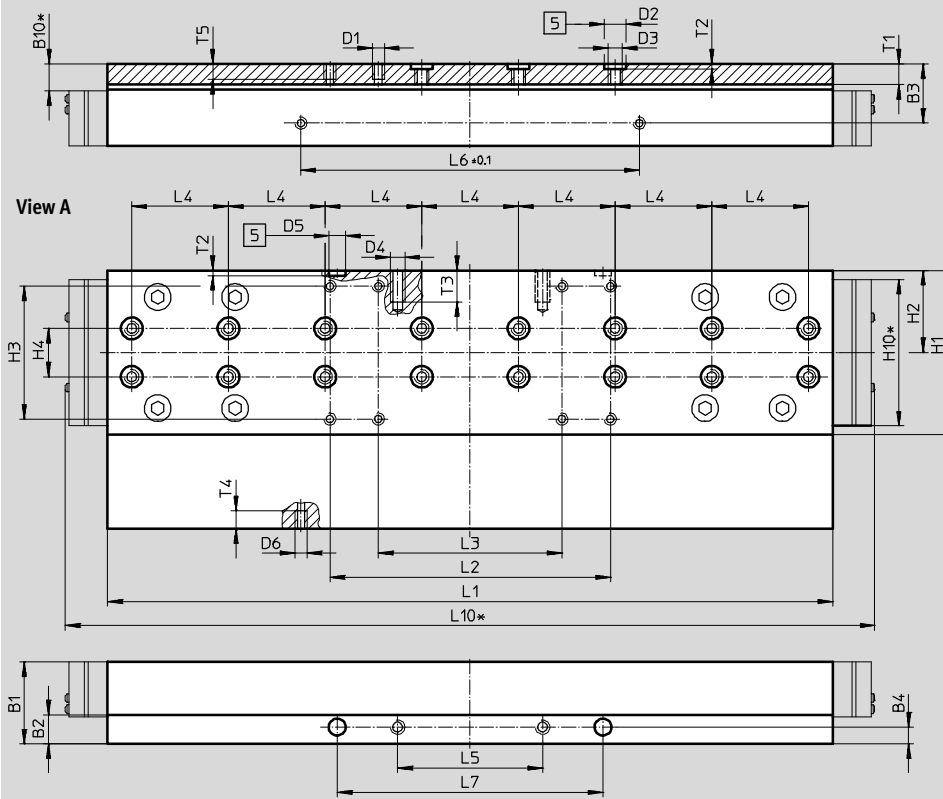
Technical data

Dimensions

Download CAD data → www.festo.com

GV – Extended slide/GQ – Extended slide, protected

Size 120



□ Hole for centring sleeve
* Protected version

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 ±0.2	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

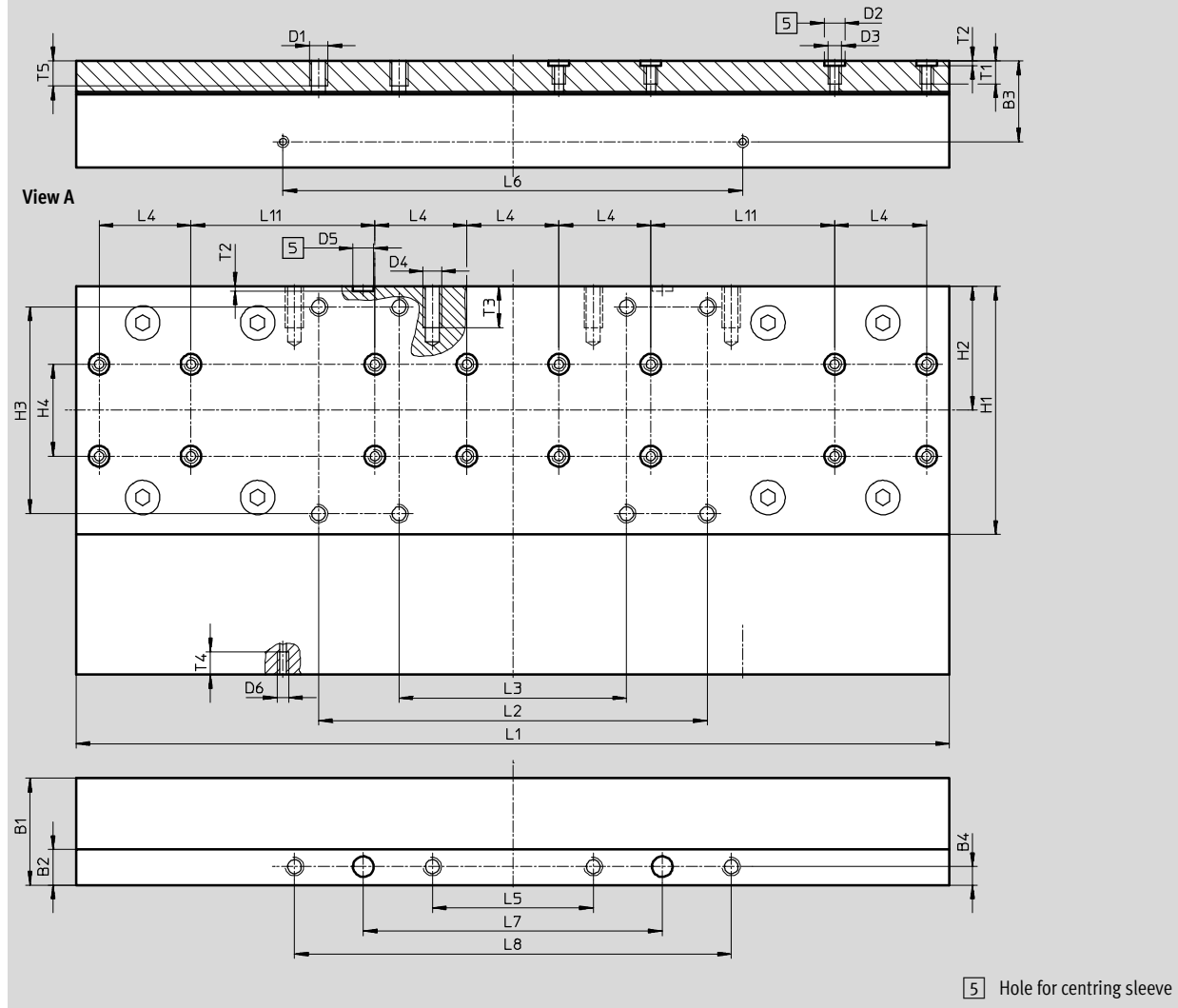
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Technical data

Dimensions Download CAD data → 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

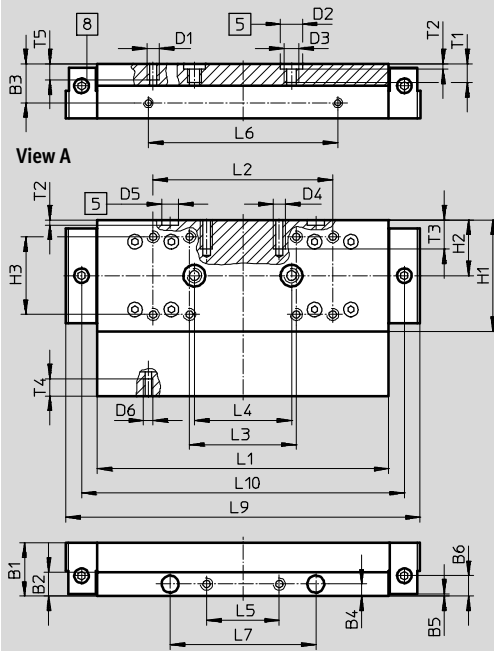
Technical data

Dimensions

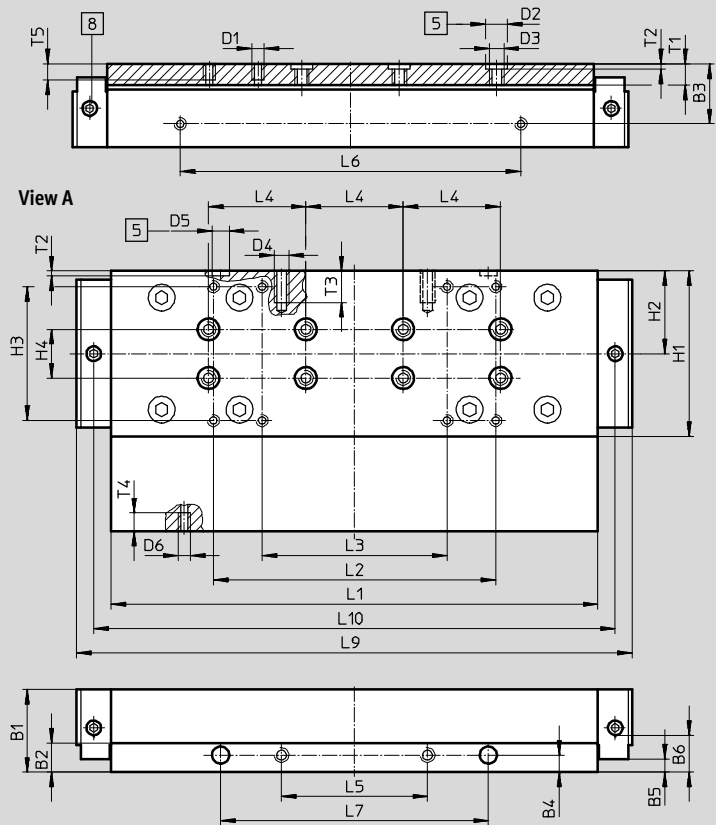
Download CAD data → www.festo.com

GK-C – Standard slide with lubrication adapter

Size 80



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
					±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

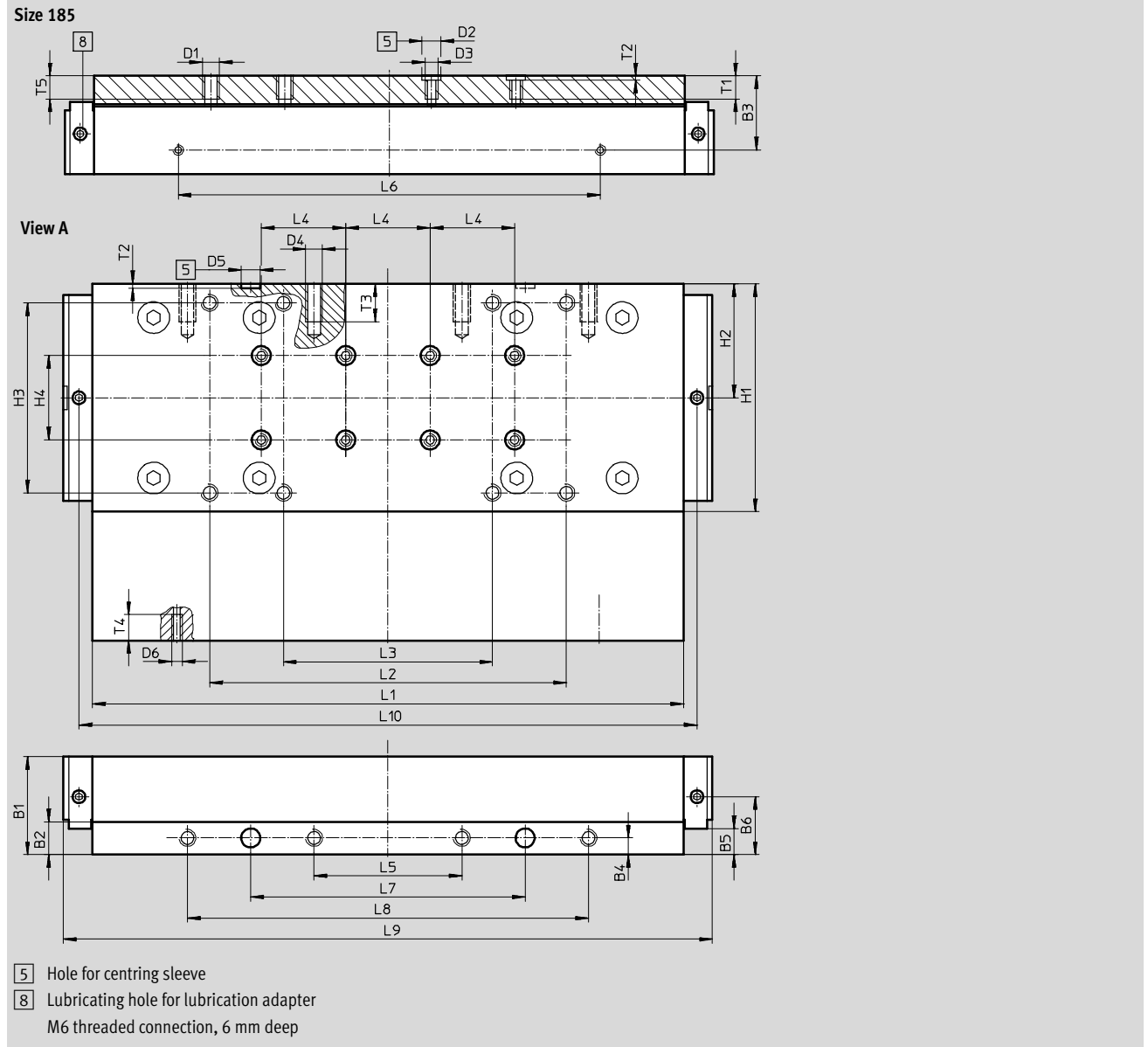
Size	L5	L6	L7	L9	L10	T1	T2	T3	T4	T5
	±0.1	±0.1	±0.05				+0.1			
80	30	78	60	146	133	8.6	2.1	12	7	7.5
120	60	140	110	226.9	214.3	8.6	2.1	13	7.5	7.5

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

Technical data

Dimensions Download CAD data → www.festo.com

GK-C – Standard slide with lubrication adapter



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

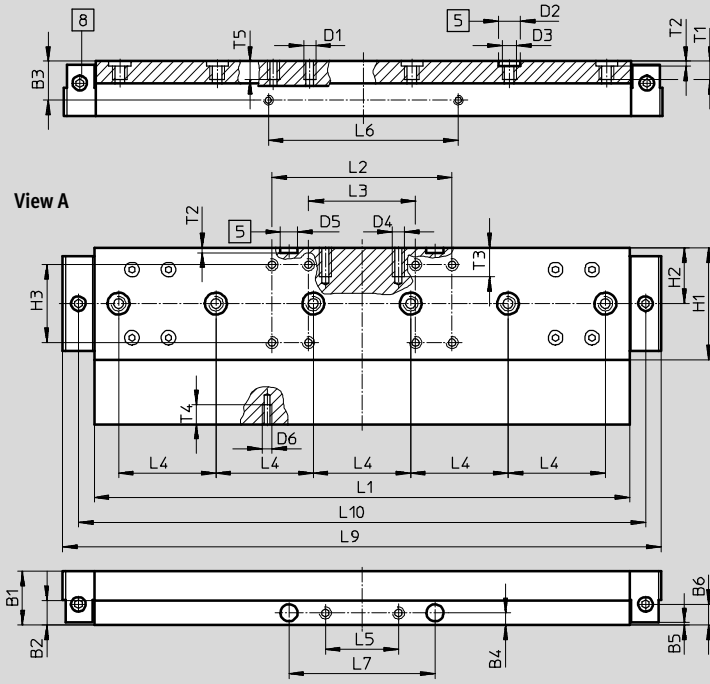
Technical data

Dimensions

Download CAD data → www.festo.com

GV-C – Extended slide with lubrication adapter

Size 80



- 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 ∅ H7	D3	D4
80	22	10	16	5	±0.1 1	8.5	M5	9	M6	M5

Size	D5 ∅ 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

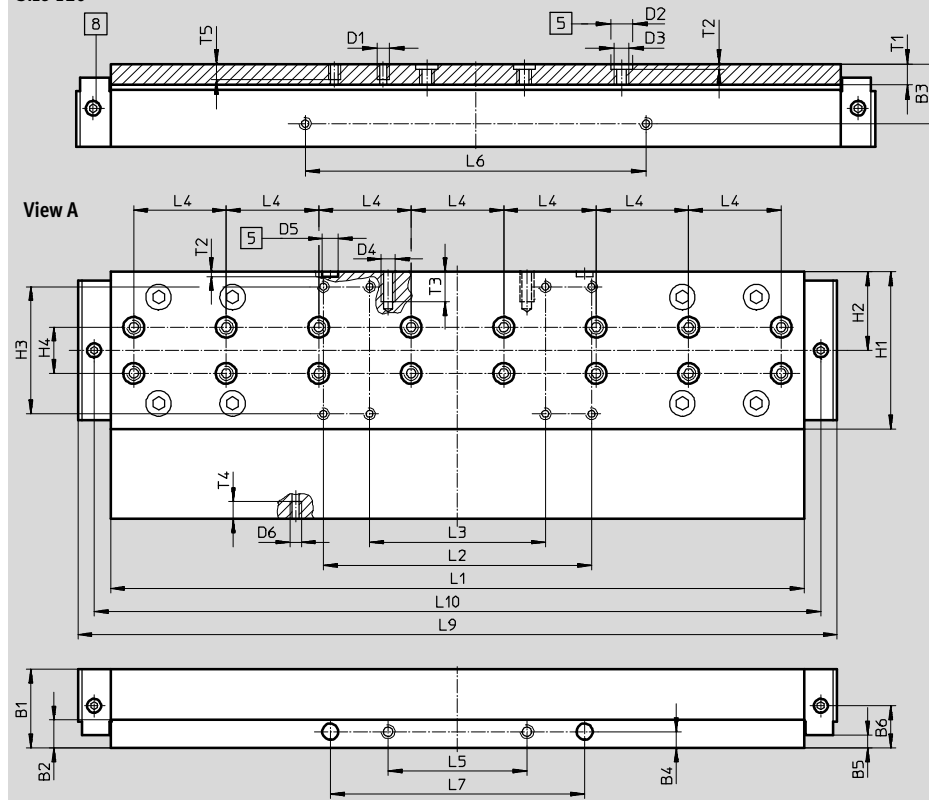
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Technical data

Dimensions Download CAD data → www.festo.com

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

Size	D5 ∅ H7	D6	H1	H2	H3	H4	L1	L2	L3	L4
120	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

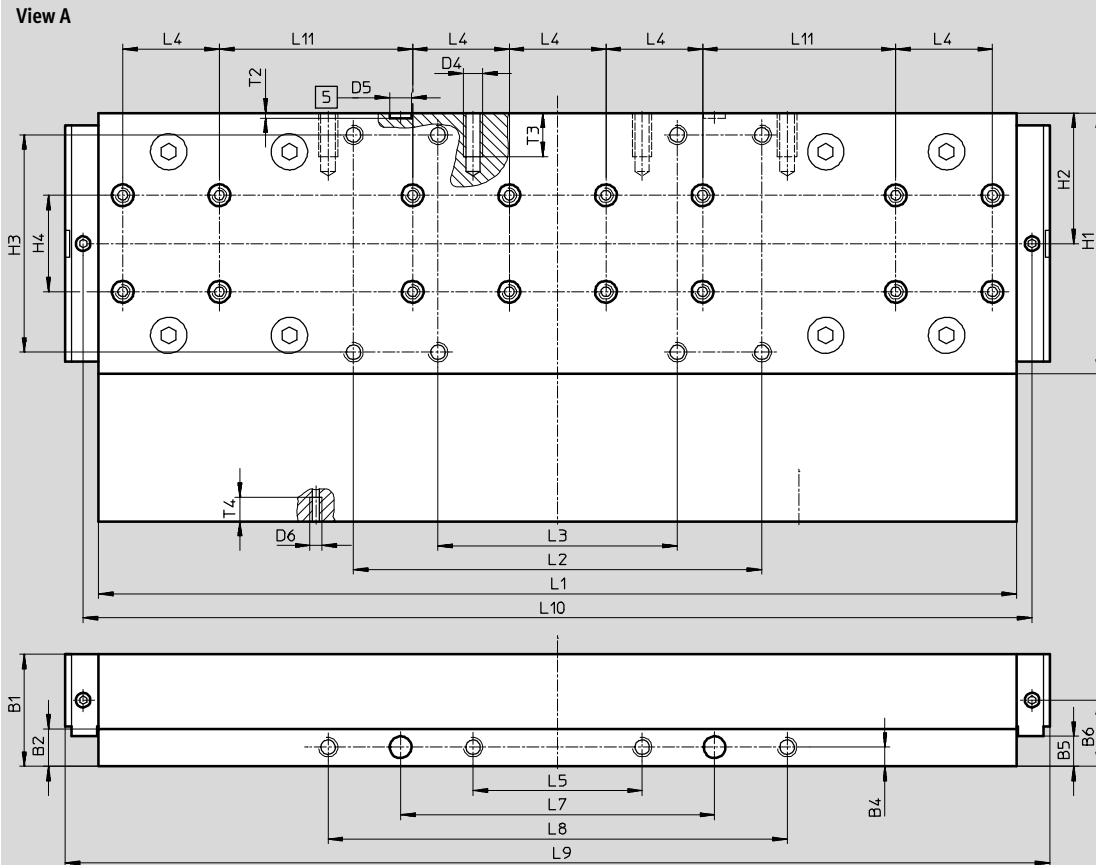
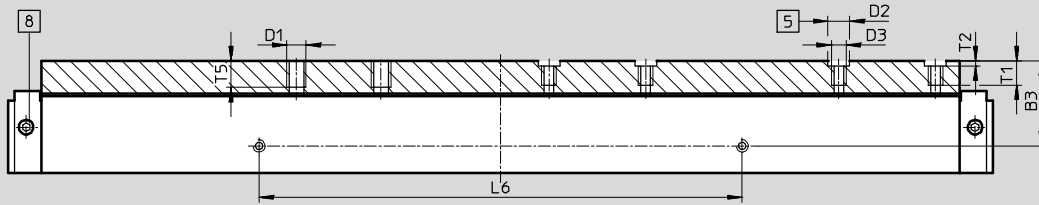
Technical data

Dimensions

Download CAD data → www.festo.com

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	80	±0.03 11	+0.1 2.1	18	10	12

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

Technical data

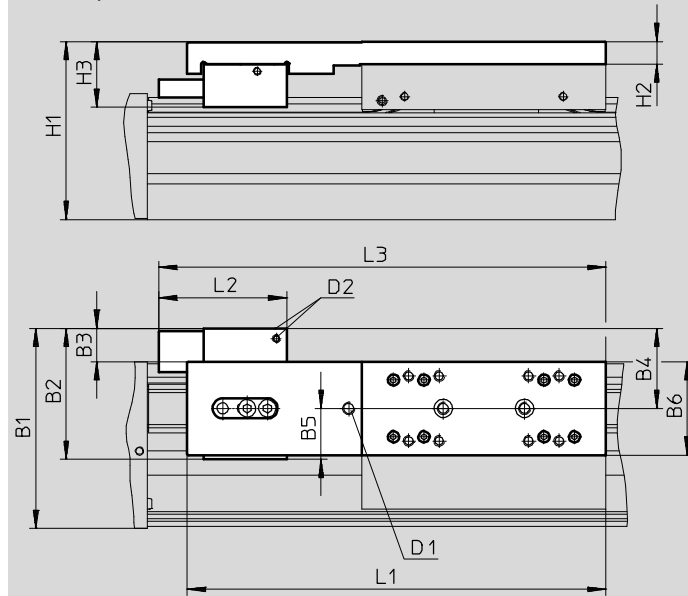
Dimensions

Download CAD data → www.festo.com

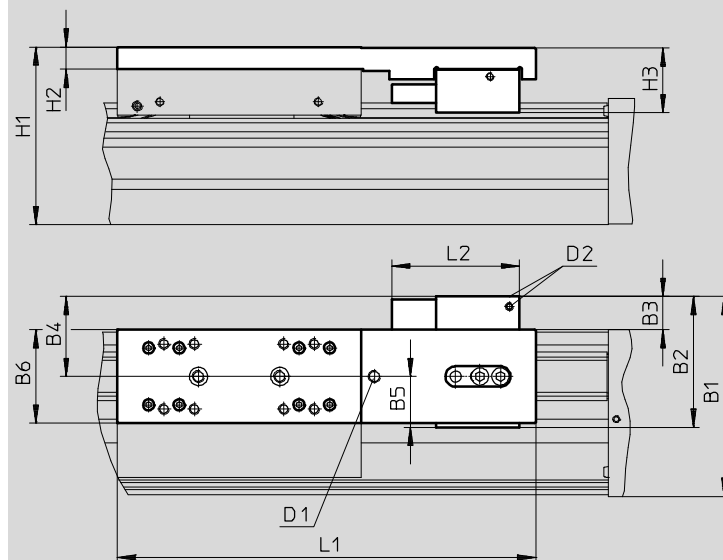
1HL/1HR – With clamping unit

Size 80

1-channel, left



1-channel, right



D2 Compressed air supply

Working stroke reduction in combination with additional slide

→ 19

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

Technical data

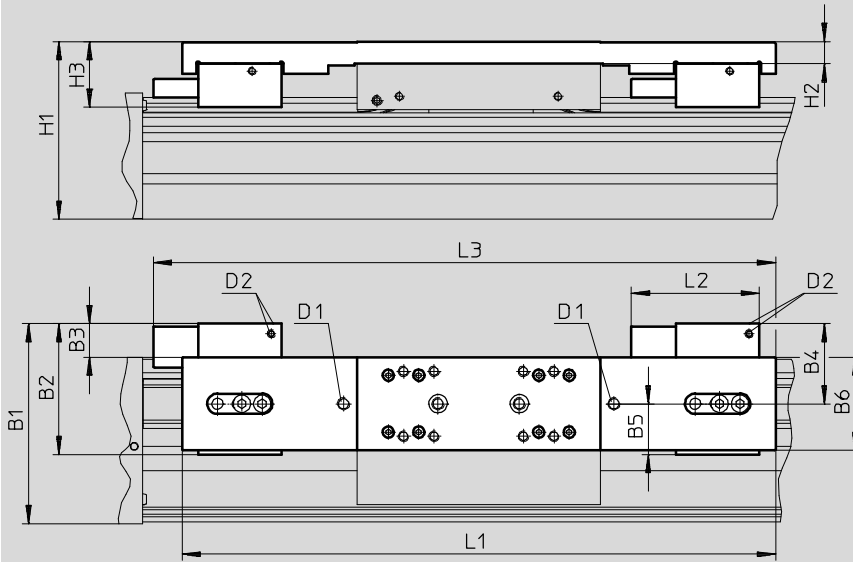
Dimensions

Download CAD data → www.festo.com

2H – With clamping unit

Size 80

2-channel



D2 Compressed air supply

Working stroke reduction in combination with additional slide → 19

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

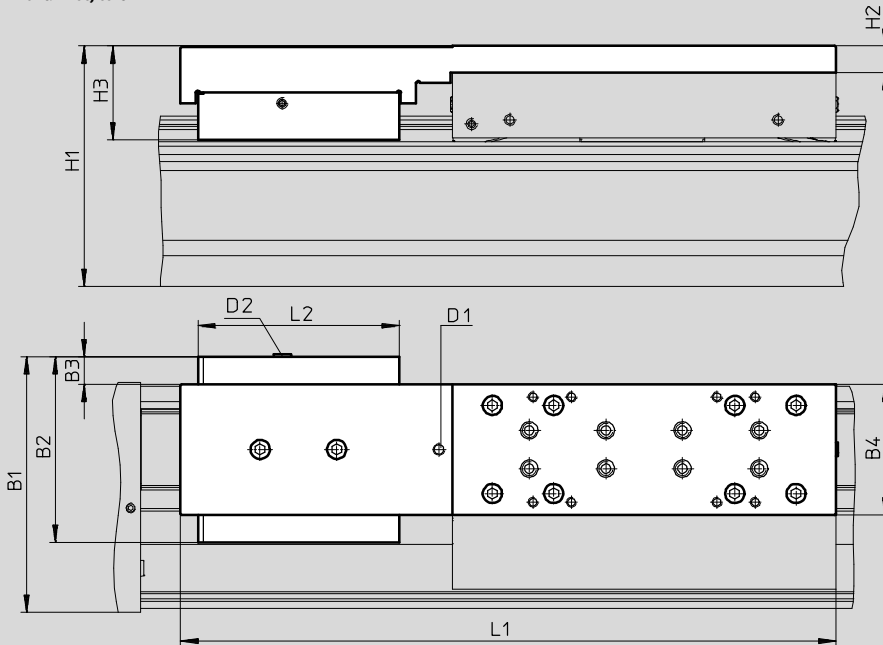
Dimensions

Download CAD data → www.festo.com

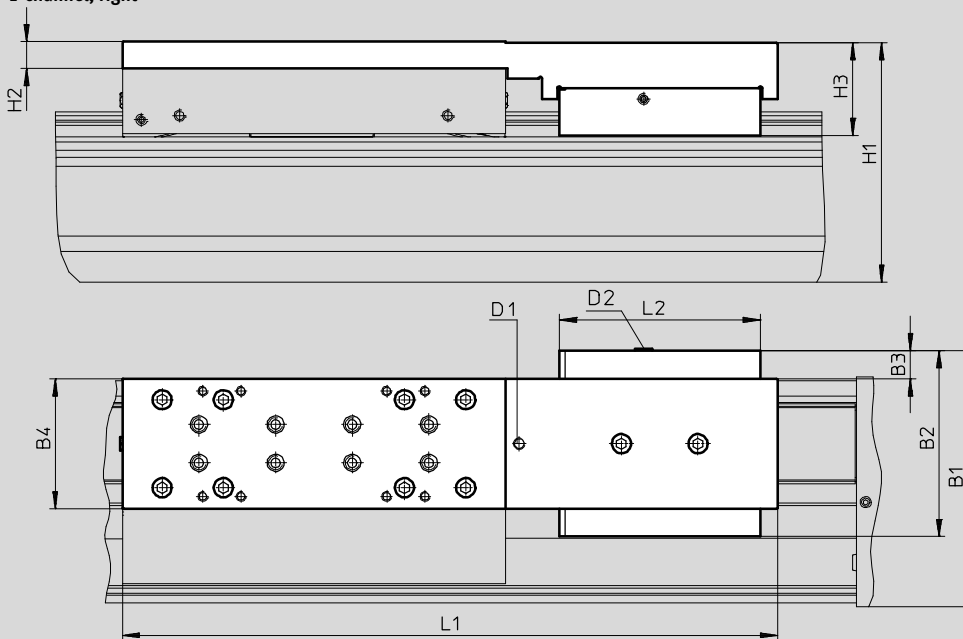
1HL/1HR – With clamping unit

Size 120/185

1-channel, left



1-channel, right



D2 Compressed air supply

Working stroke reduction in combination with additional slide → 19

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

Technical data

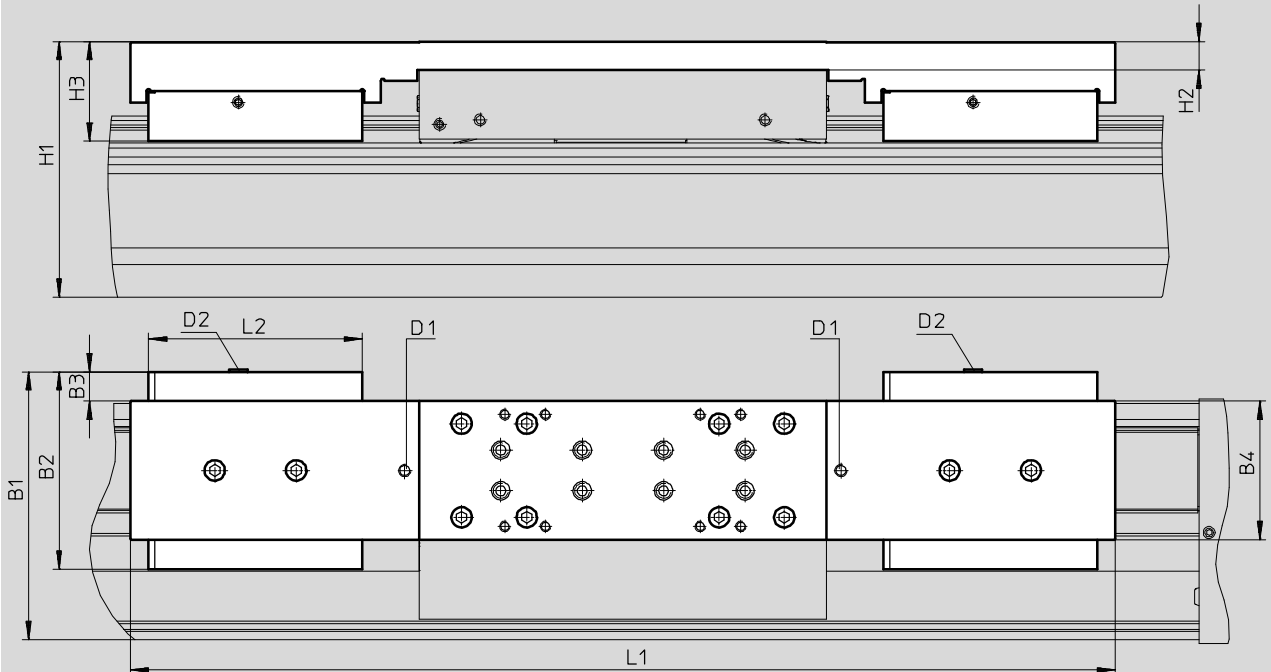
Dimensions

Download CAD data → www.festo.com

2H – With clamping unit

Size 120/185

2-channel



D2 Compressed air supply

Working stroke reduction in combination with additional slide → 19

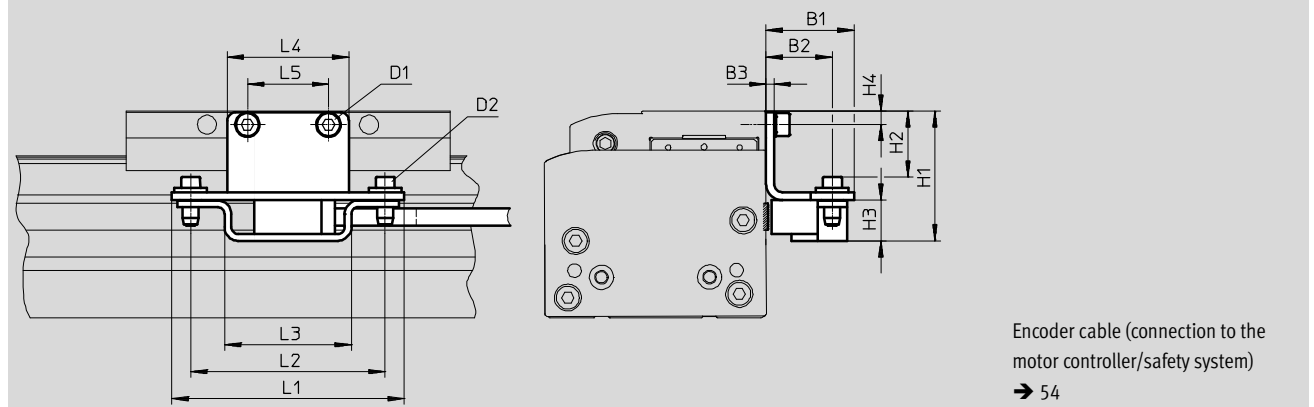
Type	B1	B2	B3	B4	H1	H2	H3	D1	D2	L1	L2
Size 120											
EGC-120-...-1HL-PN	133.5	97	15.5	68	125.5	14	48.9	M6	M5	342	105
EGC-120-...-1HR-PN											
EGC-120-...-C-1HL-PN											
EGC-120-...-C-1HR-PN											
EGC-120-...-2H-PN											
EGC-120-...-C-2H-PN										484	
Size 185											
EGC-185-...-1HL-PN	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											
EGC-185-...-C-2H-PN										584	

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

Technical data

Dimensions Download CAD data → 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

Technical data

Ordering data – Stock items

Features:

- Stroke reserve: 0 mm
- Standard slide

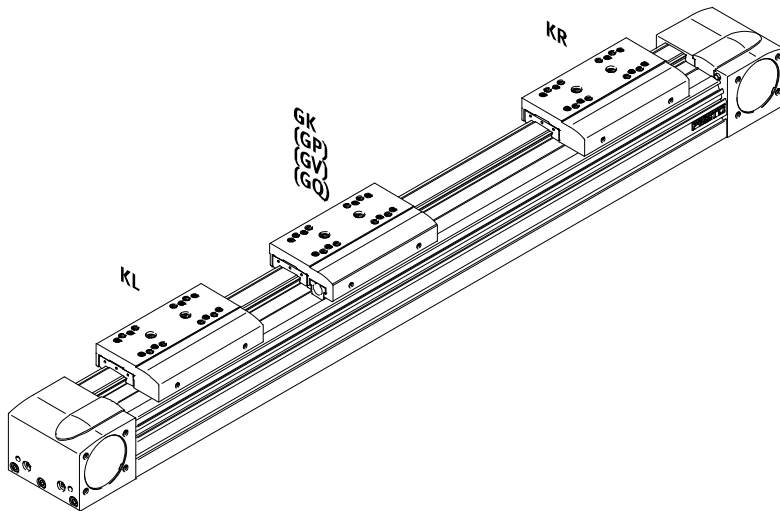
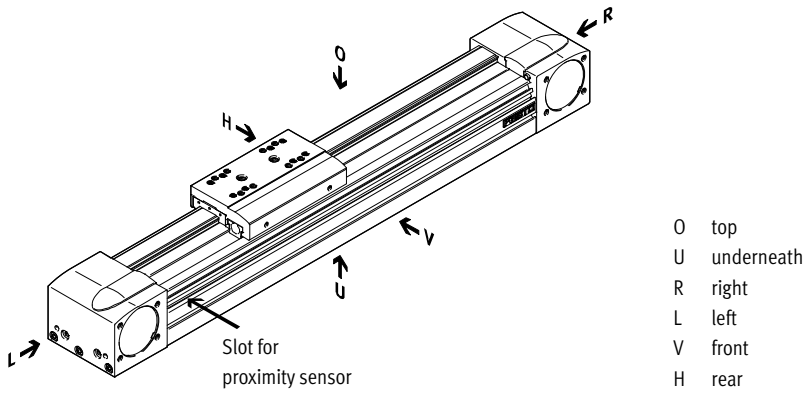
Size	Stroke [mm]	Part No.	Type
70	300	3012492	EGC-70-300-TB-KF-0H-GK
	400	3012493	EGC-70-400-TB-KF-0H-GK
	500	3012494	EGC-70-500-TB-KF-0H-GK
	600	3012495	EGC-70-600-TB-KF-0H-GK
	800	3012496	EGC-70-800-TB-KF-0H-GK
	1000	3012497	EGC-70-1000-TB-KF-0H-GK
	1200	3012498	EGC-70-1200-TB-KF-0H-GK
80	400	575832	EGC-80-400-TB-KF-0H-GK
	500	3013354	EGC-80-500-TB-KF-0H-GK
	600	3013355	EGC-80-600-TB-KF-0H-GK
	800	3013356	EGC-80-800-TB-KF-0H-GK
	1000	3013357	EGC-80-1000-TB-KF-0H-GK
	1200	3013359	EGC-80-1200-TB-KF-0H-GK
120	400	3013364	EGC-120-400-TB-KF-0H-GK
	500	3013365	EGC-120-500-TB-KF-0H-GK
	600	3013366	EGC-120-600-TB-KF-0H-GK
	800	3013367	EGC-120-800-TB-KF-0H-GK
	1000	3013368	EGC-120-1000-TB-KF-0H-GK
	1200	3013369	EGC-120-1200-TB-KF-0H-GK
	1500	3013370	EGC-120-1500-TB-KF-0H-GK

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

Ordering data – Modular products

Order code

Mandatory data

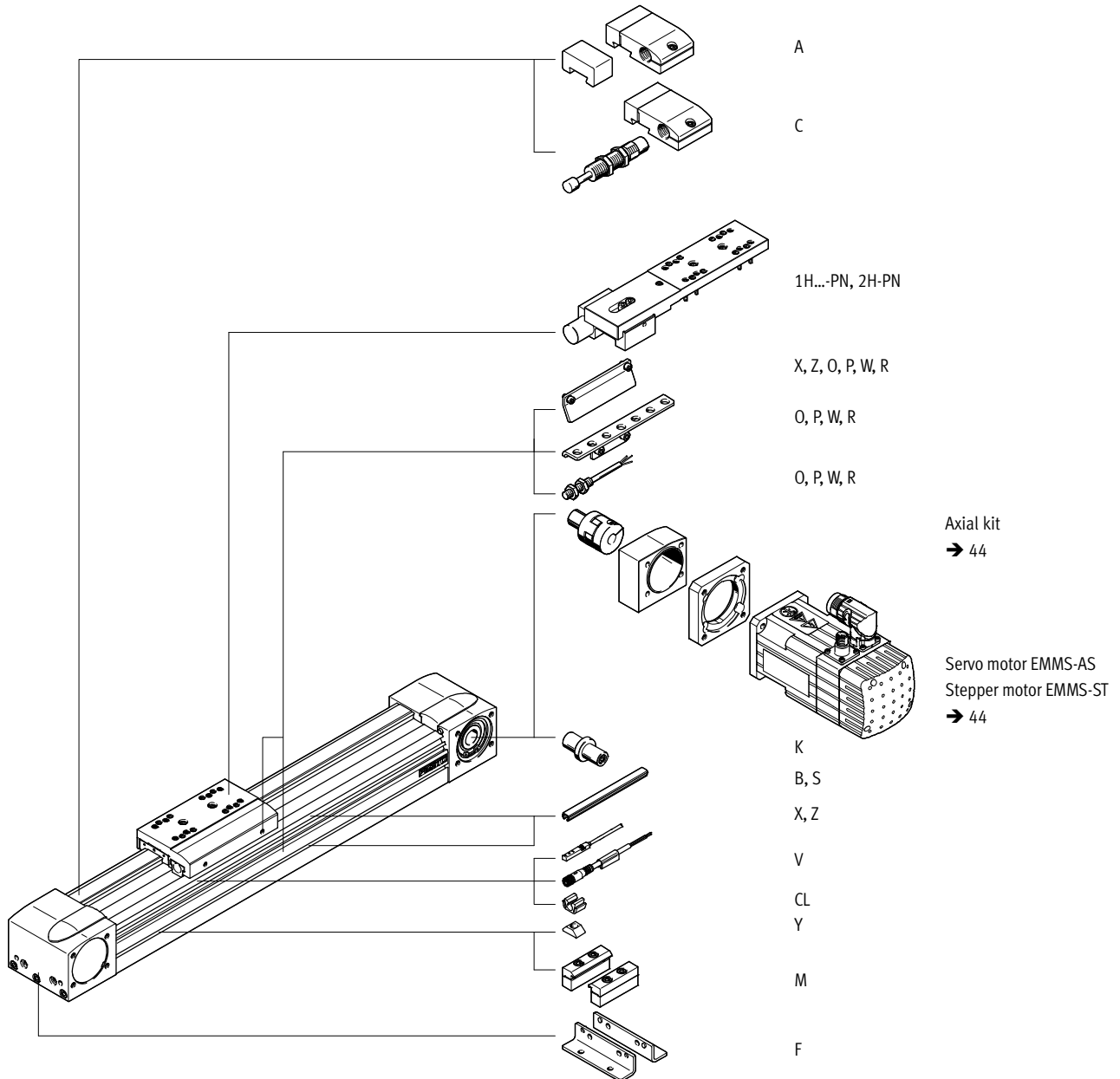


Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide

Ordering data – Modular products

Order code

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	
M Module No.	556812	556813	556814	556815	556817				
Design	Linear axis							EGC	EGC
Size	50	70	80	120	185		-...	-...	
Stroke length [mm]	50 ... 1,900	50 ... 5,000	50 ... 8,500	50 ... 8,500 (50 ... 8,400 with GV, GQ)	50 ... 8,500 (50 ... 8,400 with GV, GQ)	1	-...	-...	
Function	Toothed belt							-TB	-TB
Guide	Recirculating ball bearing guide							-KF	-KF
Stroke reserve [mm]	0 ... 999 (0 = no stroke reserve)						1	-...H	
Slide	Standard slide							-GK	
	-	Extended slide, protected				-		-GQ	
	-	Standard slide, protected				-		-GP	
	-	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	
	Displacement encoder, incremental	-	Resolution: 2.5 µm					-M1	
-		Resolution: 10 µm					-M2		
Clamping unit	-	1-channel, left				3	-1HL		
	-	1-channel, right				3	-1HR		
	-	2-channel				3	-2H		
Actuation type	-	Pneumatic					-PN		

- 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
Working stroke reduction in combination with additional slide (KL, KR) → 18
- 3** **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) → 19

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), N/O contact, 7.5 m cable inductive, slot type 8, PNP, incl. switch lug	–			1 ... 6			...X		
	N/C contact, 7.5 m cable			1 ... 6			...Z		
Emergency buffer with retainer	–			1 ... 2		4	...A		
Shock absorber with retainer	1 ... 2					5	...C		
Proximity sensor (SIEN), inductive, M8, PNP, incl. switch lug with sensor bracket	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					6	...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		

- 4 ...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
- 5 ...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
- 6 ...K No drive shaft is required for the axis/motor combinations → from 44.

 Note

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

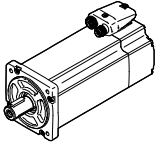
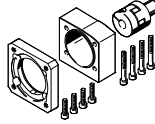
The code O, P, W, R includes one switch lug and max. two sensor brackets in the scope of delivery.

Transfer order code

ZUB - -

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

Accessories

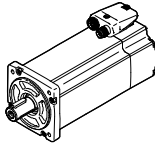
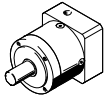
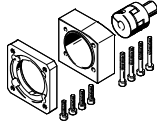
Permissible axis/motor combinations with axial kit – Without gear unit		Technical data → Internet: eamm-a	
Motor	Axial kit		
			
Type	Part No.	Type	
EGC-50			
With servo motor			
EMMS-AS-55-...	557975	EAMM-A-L27-55A	
With stepper motor			
EMMS-ST-57-...	560678	EAMM-A-L27-57A	
EGC-70			
With servo motor			
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	
EGC-80			
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	
EGC-120			
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	
EGC-185			
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

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

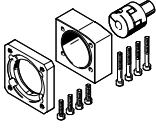




For the optimum selection of axis/
motor combinations →

PositioningDrives
sizing software
www.festo.com

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

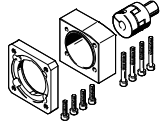




FESTO

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
EGC-50				
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	–	–
EGC-70				
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
EGC-80				
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
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-U	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-U	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
EGC-50				
557974 EAMM-A-L27-40G	558015 EAMF-A-L27-40G	557998 EAMD-19-15-10-8X10	–	–
EGC-70				
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
EGC-80				
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
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-U	558014 EAMK-A-L95-95A	567496 EAHM-L2-M8-70

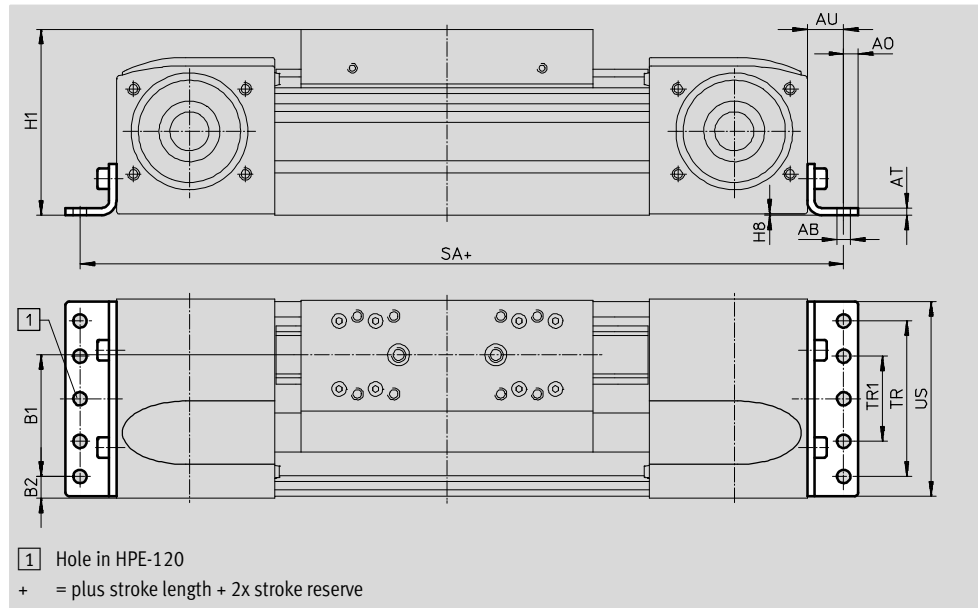
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide



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

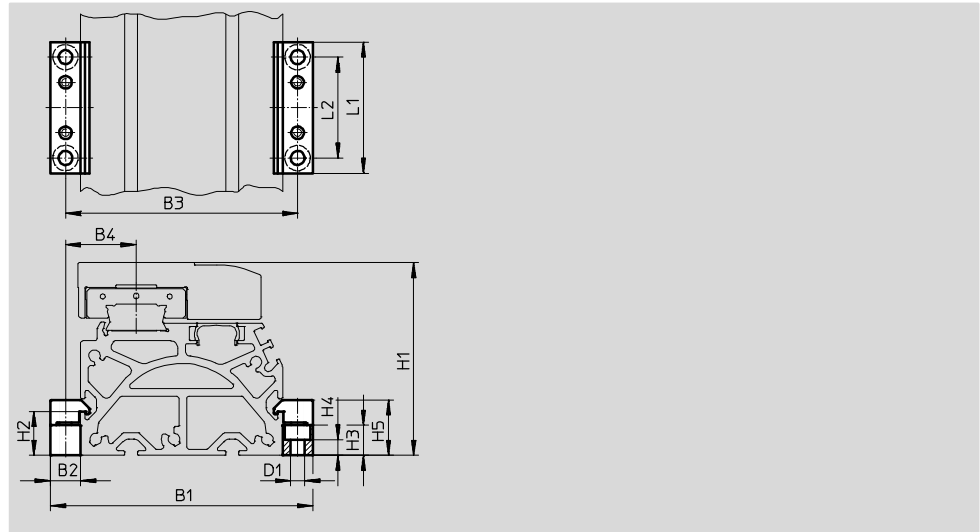
Toothed belt axes EGC-TB-KF, with recirculating ball bearing guide



Accessories

Profile mounting MUE
(order code M)

Material:
Anodised aluminium
RoHS-compliant



Dimensions and ordering data								
For size	B1	B2	B3	B4	D1 ∅	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

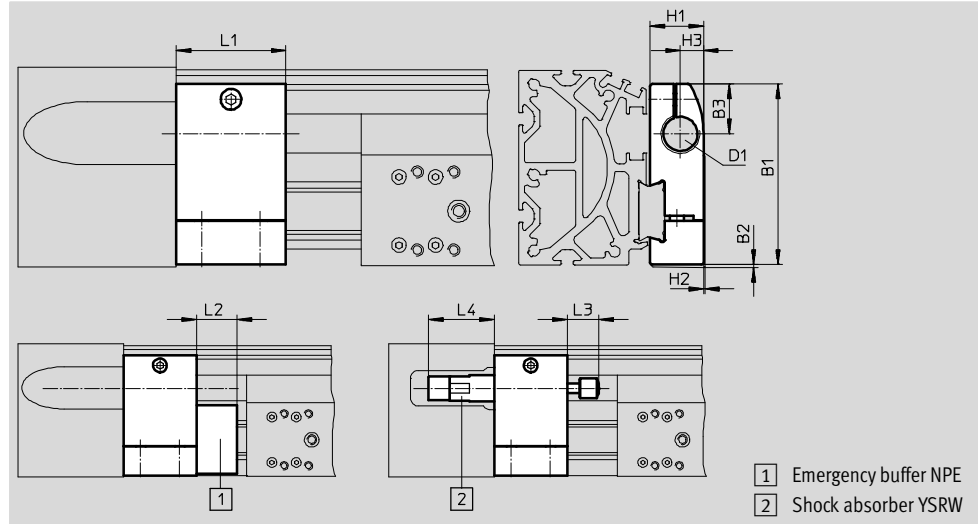
Accessories



Shock absorber retainer KYE
Emergency buffer NPE → 53
Shock absorber YSRW → 53
(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.



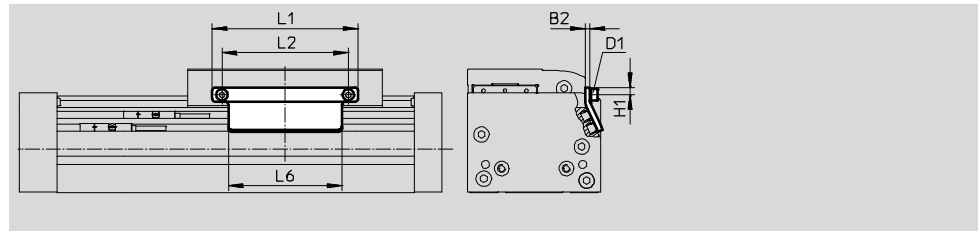
Dimensions and ordering data														
For size	B1	B2	B3	D1	H1	H2	H3	L1	L2	L3	L4 min.	Weight [g]	Part No.	Type
50	38	1	13.5	M8X1	12	0.4	5	20	12	8	20	20	557583	KYE-50
70	57.5	1	16.5	M12X1	18.2	0.5	7.5	30	15	14	32	75	557584	KYE-70
80	74.2	1	20.5	M16X1	22	0.5	9.5	45	25	20	41	170	557585	KYE-80
120	108.5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

Switch lug SF-EGC-1
for sensing 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

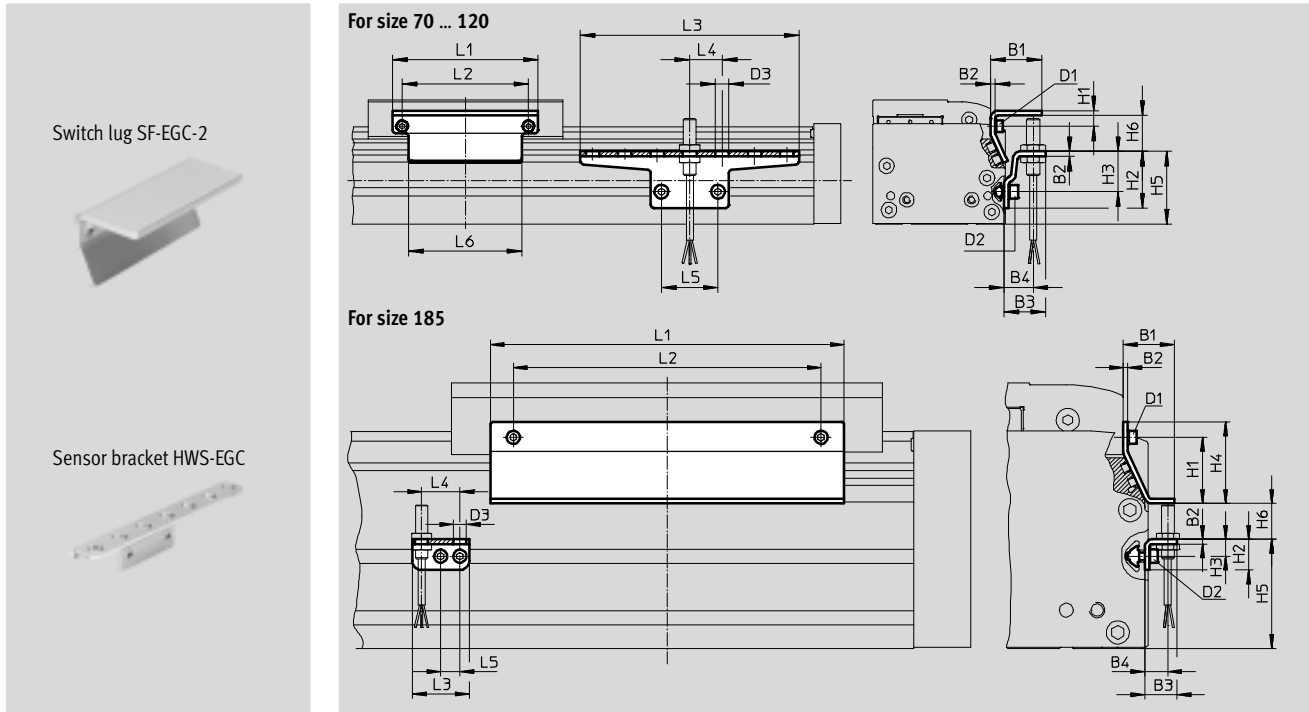
Accessories

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

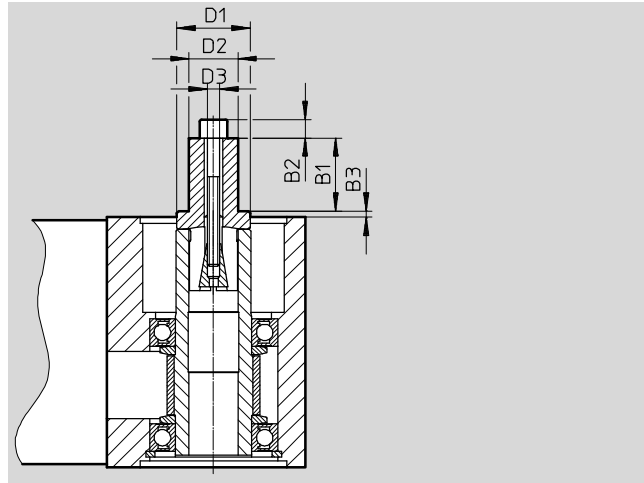
For size	Weight [g]	Part No.	Type
Switch lug			
70	100	558052	SF-EGC-2-70
80	130	558053	SF-EGC-2-80
120	280	558054	SF-EGC-2-120
185	390	558056	SF-EGC-2-185

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

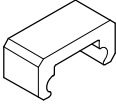
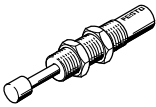


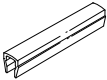
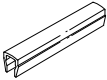

Drive shaft EAMB
Alternative interface
(order code K)



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

Accessories

Ordering data						
	For size	Comment	Order code	Part No.	Type	PU ¹⁾
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/ZBH²⁾						
	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 attaching the proximity sensor cables	CL	534254	SMBK-8	10

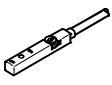
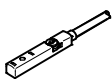
1) Packaging unit



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
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 – Proximity sensors M8 (round design), inductive					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	

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 ¹⁾	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 ¹⁾	1617291	NEBM-M12G8-E-...-S1G9-V4	

1) Max. cable length 25 m.