

Toothed belt axes EGC-HD-TB, with heavy-duty guide

FESTO



Electromechanical drives

Selection aid

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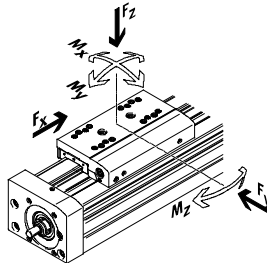
Overview of toothed belt and spindle axes

Toothed belt axes

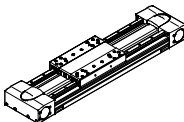
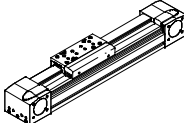
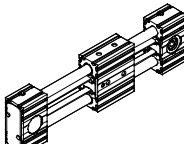
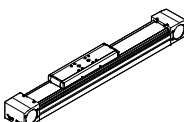
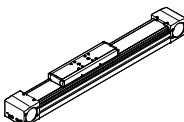
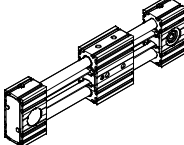
- Speeds of up to 10 m/s
- Acceleration of up to 50 m/s²
- Repetition accuracy of up to +0.08 mm
- Strokes of up to 8,500 mm (longer strokes on request)
- Flexible motor mounting

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



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	3	140	275	275	• Flat drive unit with rigid, closed profile • Precision, resilient DUO guide rail • Ideal as a basic axis for linear gantries and cantilever axes
	1,000	5	300	500	500	
	1,800	5	900	1,450	1,450	
Recirculating ball bearing guide						
EGC-TB-KF						
	50	3	3.5	10	10	• Rigid, closed profile • Precision, resilient guide rail • Small drive pinions reduce necessary driving torque • Space-saving position sensing
	100	5	16	132	132	
	350	5	36	228	228	
	800	5	144	680	680	
	2,500	5	529	1,820	1,820	
ELGR-TB						
	50	3	2.5	20	20	• Cost-optimised rod guide • Ready-to-install unit • Resilient ball bearings for dynamic operation
	100	3	5	40	40	
	350	3	15	124	124	
Roller bearing guide						
ELGA-TB-RF						
	350	10	11	40	40	• 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
	800	10	30	180	180	
	1 300	10	100	640	640	
Plain-bearing guide						
ELGA-TB-G						
	350	5	5	30	10	• Guide and toothed belt protected by cover strip • For simple handling tasks • As an actuator for external guides • Insensitive to harsh environmental conditions
	800	5	10	60	20	
	1,300	5	120	120	40	
ELGR-TB-GF						
	50	1	1	10	10	• Cost-optimised rod guide • Ready-to-install unit • Heavy-duty plain bearings for use in harsh environmental conditions
	100	1	2.5	20	20	
	350	1	1	40	40	

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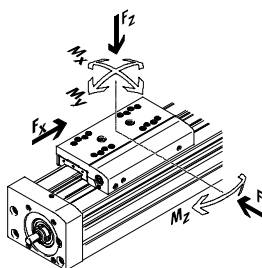
Overview of toothed belt and spindle axes

Toothed belt axes

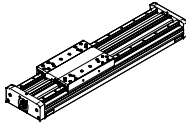
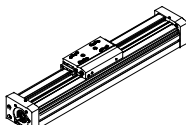
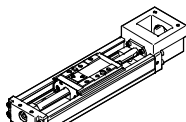
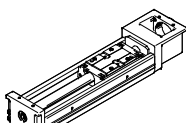
- Speeds of up to 10 m/s
- Acceleration of up to 50 m/s²
- Repetition accuracy of up to +0.08 mm
- Strokes of up to 8,500 mm
(longer strokes on request)
- Flexible motor mounting

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



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	• 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	• 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	• 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	
	392	1.48	231	77.3	77.3	
EGSP						
	112	0.6	36.3	12.5	12.5	• 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-HD-TB, with heavy-duty guide

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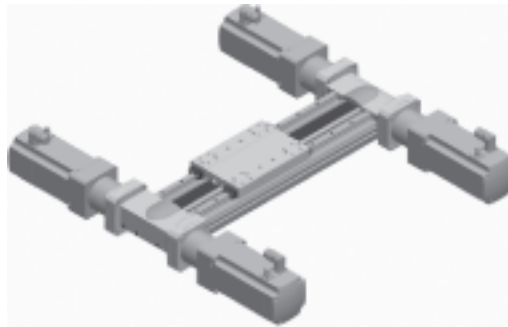
Key features

At a glance

- New heavy-duty guide for:
 - Maximum loads and torques
 - High feed forces and speeds
 - Long service life
- Precision, resilient DUO guide rail
- Ideal as a basic axis for linear gantries and cantilever axes
- In addition to its technical data, the toothed belt axis also offers an excellent price/performance ratio
- Space-saving position sensing with proximity sensor in the profile slot
- Wide range of options for mounting on drives

Flexible motor mounting

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

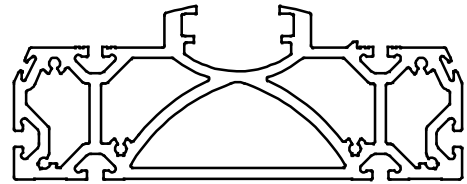
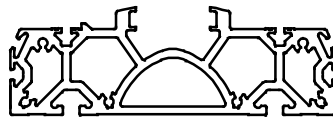
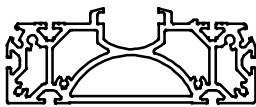


Flat unit with rigid, closed profile

EGC-HD-125

EGC-HD-160

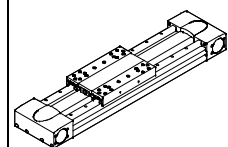
EGC-HD-220



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 section.

Version	Size	Working stroke [mm]	Speed [m/s]	Repetition accuracy [mm]	Feed force [N]	Guide characteristics				
						Forces and torques				
						F _y [N]	F _z [N]	M _x [Nm]	M _y [Nm]	M _z [Nm]
Recirculating ball bearing guide										
	125	50 ... 3 000	3	+0.08	450	3,650	3,650	140	275	275
	160	50 ... 5,000	5	+0.08	1,000	5,600	5,600	300	500	500
	220	50 ... 4,750	5	+0.1	1,800	13,000	13,000	900	1,450	1,450

 **Note**

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sizing software
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Toothed belt axes EGC-HD-TB, with heavy-duty guide

Key features

Slide variants

Standard slide



Standard slide, protected



With additional slide



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

Servo motor EMMS-AS



Gear unit

Gear unit EMGA



Motor controller

Servo motor controller
CMMP-AS, CMMS-AS



Note

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

Toothed belt axes EGC-HD-TB, with heavy-duty guide

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Type codes

		EGC	-	HD	-	125	-	500	-	TB	-	50H	-	GK
Type														
EGC	Toothed belt axis													
Guide														
HD	Heavy-duty guide													
Size														
Stroke [mm]														
Drive function														
TB	Toothed belt													
Stroke reserve														
Slide														
GK	Standard slide													
GP	Standard slide, protected													

Toothed belt axes EGC-HD-TB, with heavy-duty guide

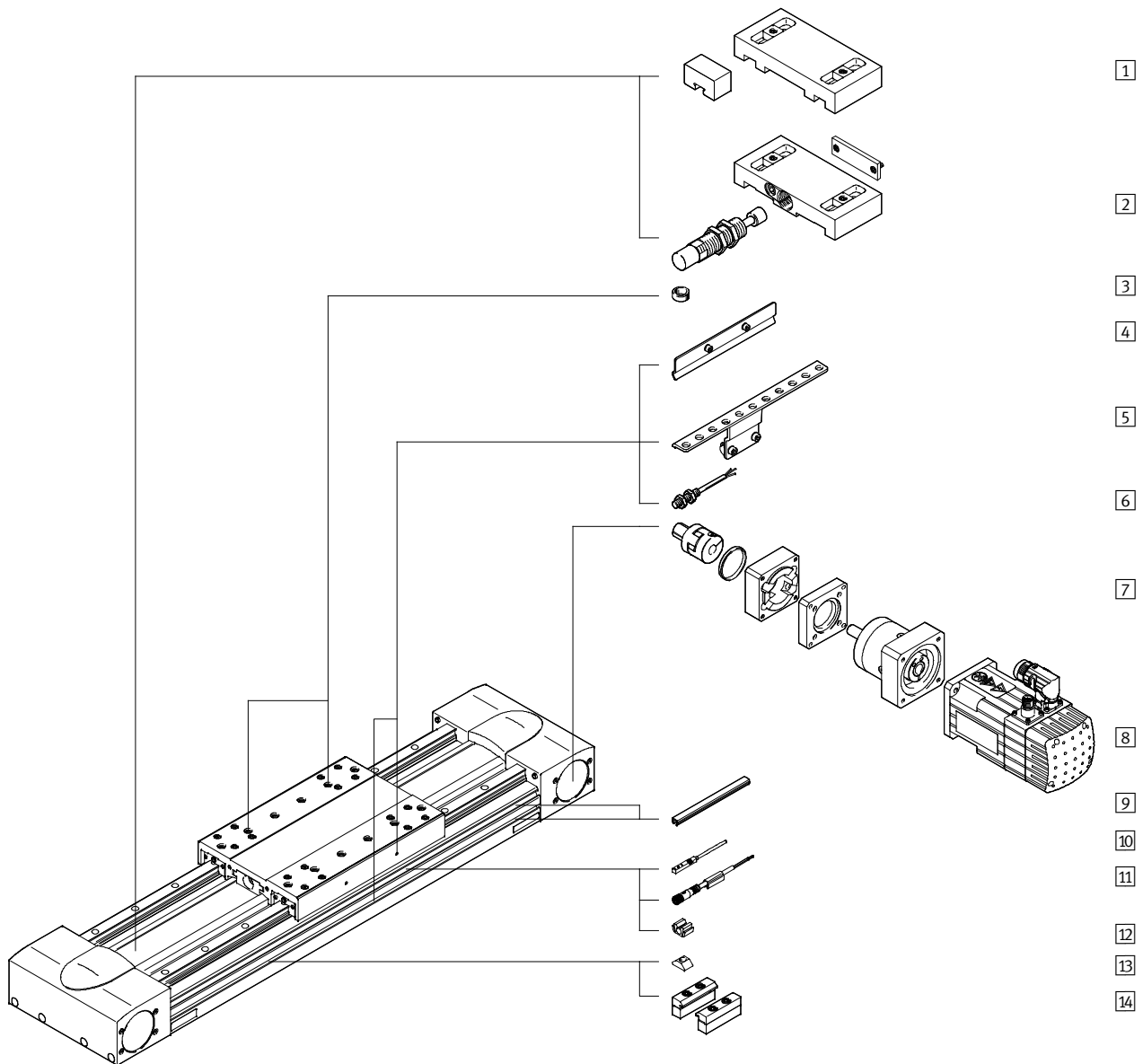
Type codes

→		-		ZUB -	2MX2Z	-	DN
Additional slide							
KL	Standard, left						
Additional slide							
KR	Standard, right						
Accessories enclosed separately							
...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						
...CL	Cable clip						
Operating instructions							
DN	None						

Toothed belt axes EGC-HD-TB, with heavy-duty guide

Peripherals overview

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Toothed belt axes EGC-HD-TB, with heavy-duty guide

Peripherals overview

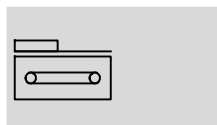
Variants and accessories		
Type	Brief description	→ Page/Internet
1 Emergency buffer with retainer A	For avoiding damage at the end stop in the event of malfunction	26
2 Shock absorber with retainer C	For avoiding damage at the end stop in the event of malfunction	26
3 Centring pin/sleeve ZBS, ZBH	- For centring loads and attachments on the slide 2 centring pins/sleeves included in the scope of delivery of the axis	28
4 Switch lug X, Z, O, P, W, R	For sensing the slide position	26
5 Sensor bracket O, P, W, R	Adapter for mounting the inductive proximity sensors (round design) on the axis	26
6 Proximity sensor, M8 O, P, W, R	- Inductive proximity sensor, round design - The order code O, P, W, R includes 1 switch lug and max. 2 sensor brackets	29
7 Axial kit EAMM	For axial motor mounting (consisting of: coupling, coupling housing and motor flange)	24
8 Motor EMMS	Motors specially matched to the axis, with gear unit, with or without brake	24
9 Slot cover B, S	For protecting against the ingress of dirt	28
10 Proximity sensor, T-slot X, Z	- Inductive proximity sensor, for T-slot - The order code X, Z includes 1 switch lug	29
11 Connecting cable V	For proximity sensor (order code W and R)	29
12 Clip CL	For mounting the proximity sensor cable in the slot	28
13 Slot nut Y	For mounting attachments	28
14 Profile mounting M	For mounting the axis on the profile	25

Toothed belt axes EGC-HD-TB, with heavy-duty guide

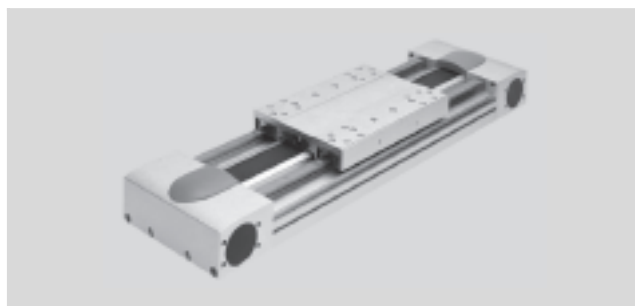
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Technical data

Function



-  - Size
125 ... 220
-  - Stroke length
50 ... 5,000 mm



General technical data				
Size		125	160	220
Design		Electromechanical axis with toothed belt		
Guide		Recirculating ball bearing guide		
Mounting position		Any		
Working stroke	[mm]	50 ... 3,000	50 ... 5,000	50 ... 4,750
Max. feed force F_x	[N]	450	1,000	1,800
Max. no-load torque ¹⁾	[Nm]	0.5	2.1	4.1
Max. no-load resistance to shifting ¹⁾	[N]	30.79	105.5	123.8
Max. driving torque	[Nm]	7.2	20	59.58
Max. speed				
EGC-...-GK	[m/s]	3	5	
EGC-...-GP	[m/s]	–	3	
Max. acceleration	[m/s ²]	40	50	
Repetition accuracy	[mm]	+0.08		+0.1

1) At 0.2 m/s

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

Weight [g]			
Size	125	160	220
Basic weight with 0 mm stroke ¹⁾	4,720	9,050	25,510
Additional weight per 10 mm stroke	73	107	210
Slide			
EGC-...-GK	1,218	2,571	6,317
EGC-...-GP	–	2,643	6,417
Additional slide			
EGC-...-GK	1,026	2,022	5,498
EGC-...-GP	–	2,134	5,598

1) Incl. slide

Toothed belt axes EGC-HD-TB, with heavy-duty guide

Technical data

Toothed belt				
Size		125	160	220
Pitch	[mm]	3	5	8
Width	[mm]	30.3	40.0	50.5
Expansion ¹⁾	[%]	0.31	0.23	0.29
Effective diameter	[mm]	32.47	39.79	66.21
Feed constant	[mm/rev.]	102	125	208

1) At max. feed force

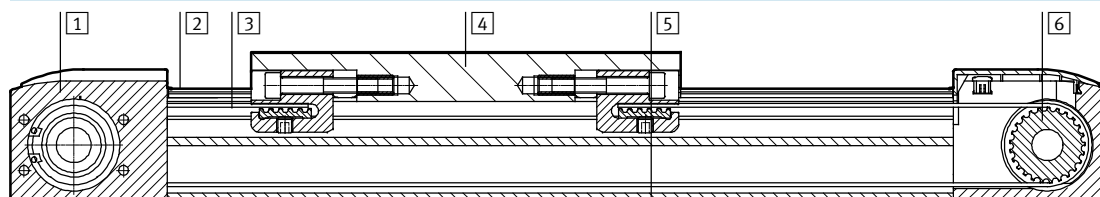
Mass moment of inertia				
Size		125	160	220
J_0	[kg cm ²]	4,639	14.49	108.99
J_S per metre stroke	[kg cm ² /m]	0.38	1.267	6.269
J_L per kg effective load	[kg cm ² /kg]	2.635	3.96	10.96
J_W Additional slide	[kg cm ²]	3.3	11.734	80.66

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

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

Materials

Sectional view



Axis		
1	Drive cover	Anodised wrought aluminium alloy
2	Guide rail	Coated and corrosion-resistant 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		Conforms to RoHS
		Contains PWIS (paint-wetting impairment substances)

Toothed belt axes EGC-HD-TB, with heavy-duty guide

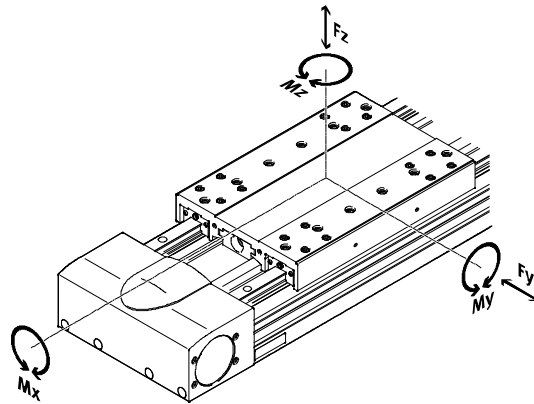
Technical data

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Characteristic load values

The indicated forces and torques refer to the slide surface. The point of application of force is the point where the centre of the guide and the 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 at the same time, the following equation must be satisfied in addition to the indicated maximum loads:

Calculating the load comparison factor:

$$f_v = \frac{|F_{y,dyn}|}{F_{y,max}} + \frac{|F_{z,dyn}|}{F_{z,max}} + \frac{|M_{x,dyn}|}{M_{x,max}} + \frac{|M_{y,dyn}|}{M_{y,max}} + \frac{|M_{z,dyn}|}{M_{z,max}} \leq 1$$

Permissible forces and torques				
Size		125	160	220
F _{y,max.}	[N]	3,650	5,600	13,000
F _{z,max.}	[N]	3,650	5,600	13,000
M _{x,max.}	[Nm]	140	300	900
M _{y,max.}	[Nm]	275	500	1,450
M _{z,max.}	[Nm]	275	500	1,450

Toothed belt axes EGC-HD-TB, with heavy-duty guide

Technical data

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Calculating the 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_c against the service life.

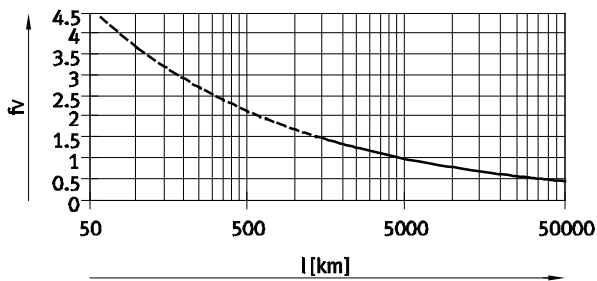
These values are only theoretical. You must consult with your local contact person at Festo for load comparison factors f_c greater than 1.5.

Load comparison factor f_c as a function of service life

Example:

A user wants to move a load of X kg. Calculation with the formula $\rightarrow 12$ produces a value of 1.5 for the load comparison factor f_c . According to the graph, the guide has a service life of

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



 Note

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sizing software
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The sizing software can be used to calculate a guide workload for a service life of 5,000 km.

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

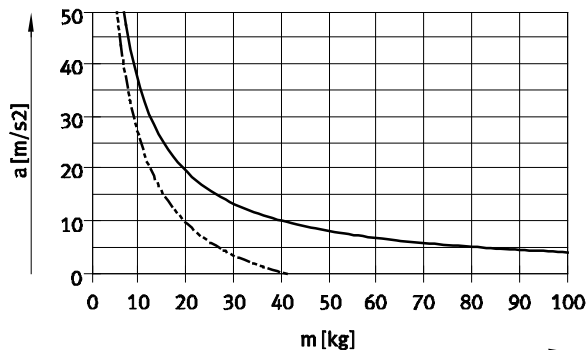
Toothed belt axes EGC-HD-TB, with heavy-duty guide

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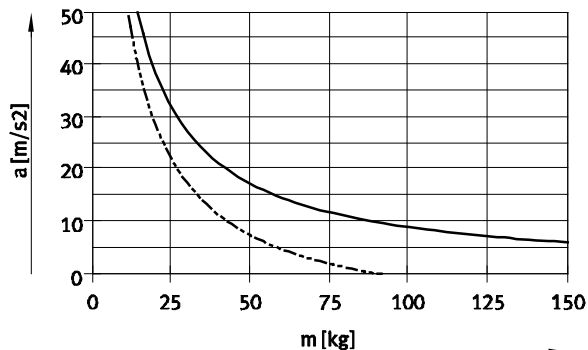
Technical data

Maximum acceleration a as a function of applied load m

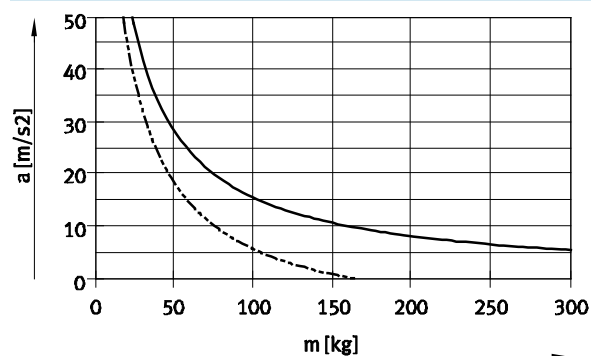
EGC-HD-125



EGC-HD-160

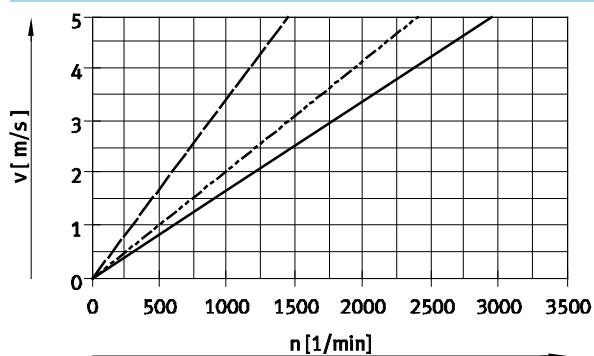


EGC-HD-220



— Horizontal mounting position
- - - Vertical mounting position

Speed v as a function of rotational speed n



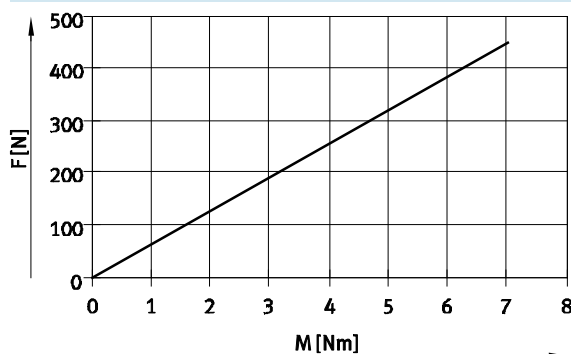
— EGC-HD-125
- - - EGC-HD-160
- . - EGC-HD-220

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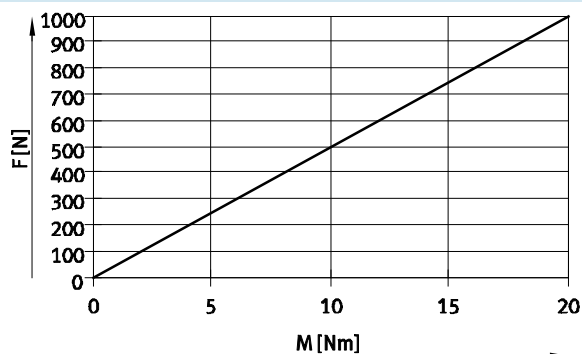
Technical data

Theoretical feed force F as a function of input torque M

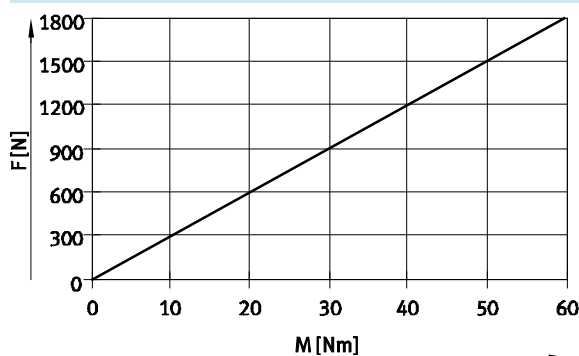
EGC-HD-125



EGC-HD-160



EGC-HD-220



Stroke reserve

Stroke length

The selected stroke corresponds in principle to the required working stroke. The variants GK do not have a long-term lubrication unit 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.

Stroke reserve

A safety distance (similar to GK) between the drive cap and slide can be defined for the variants GP using the modular product system via the stroke reserve feature. With the variants GK, the stroke reserve and safety distance are added for each end position.

- The stroke reserve length can be freely selected
- The sum of the stroke length and 2x stroke reserve must not exceed the maximum working stroke

Example:

Type:

EGC-HD-125-500-TB-20H-...

Working stroke = 500 mm

2x stroke reserve = 40 mm

Total stroke = 540 mm

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

Size	125	160	220
L9 = safety distance with GK [mm] (per end position)	12.5	15.5	20

Toothed belt axes EGC-HD-TB, with heavy-duty guide

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Technical data

Working stroke reduction

With standard slide GK/GP 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 L17 and the distance between both slides L18
- If the variant GP is ordered, the additional slide is also protected

L16 = Length of slide

L17 = Length of additional slide

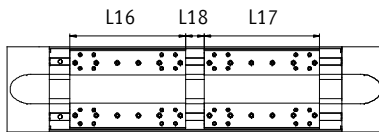
L18 = Distance between both slides

Example:

Type: EGC-HD-220-1000-TB-...-GP-KR

L18 = 100 mm

Working stroke = 1,000 mm – 328 mm – 100 mm = 572 mm



Dimensions – Additional slide

Size	125	160	220
Variant	GK	GK	GP
Length L17 [mm]	202	220	250

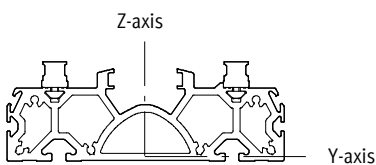
Working stroke reduction per side

With integrated emergency buffer NPE/shock absorber YSRW with shock absorber retainer EAYH-L2

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

Size	125	160	220
With emergency buffer [mm]	65	93	98
With shock absorber [mm]	66	94	99

Second moment of area



Size	125	160	220
I _y [mm ⁴]	6.89x10 ⁵	12.9x10 ⁵	55.8x10 ⁵
I _z [mm ⁴]	40.9x10 ⁵	98.9x10 ⁵	351x10 ⁵

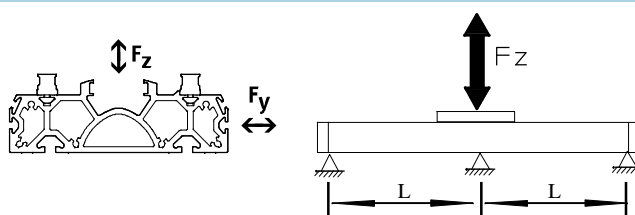
Toothed belt axes EGC-HD-TB, with heavy-duty guide

Technical data

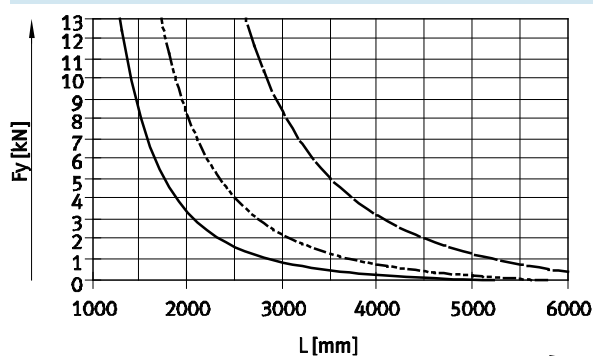
Maximum permissible support spacing L (without profile mounting) as a function of force F

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

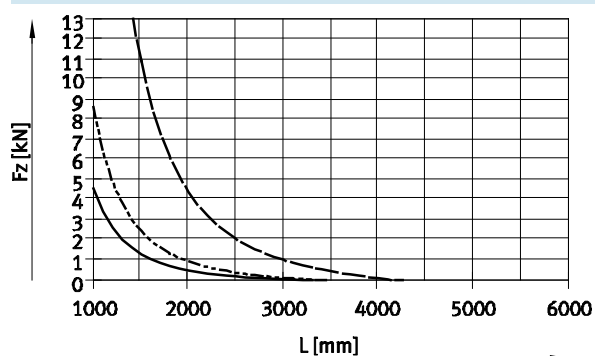
The following graphs help to determine the maximum permissible support spacing L as a function of force F acting on the axis. The deflection is $f = 0.5 \text{ mm}$.



Force F_y



Force F_z



- EGC-HD-125-TB
- - - EGC-HD-160-TB
- · - EGC-HD-220-TB

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 (moving load)	Stat. deflection (stationary load)
125 ... 220	0.05% of the axis length, max. 0.5 mm	0.1% of the axis length

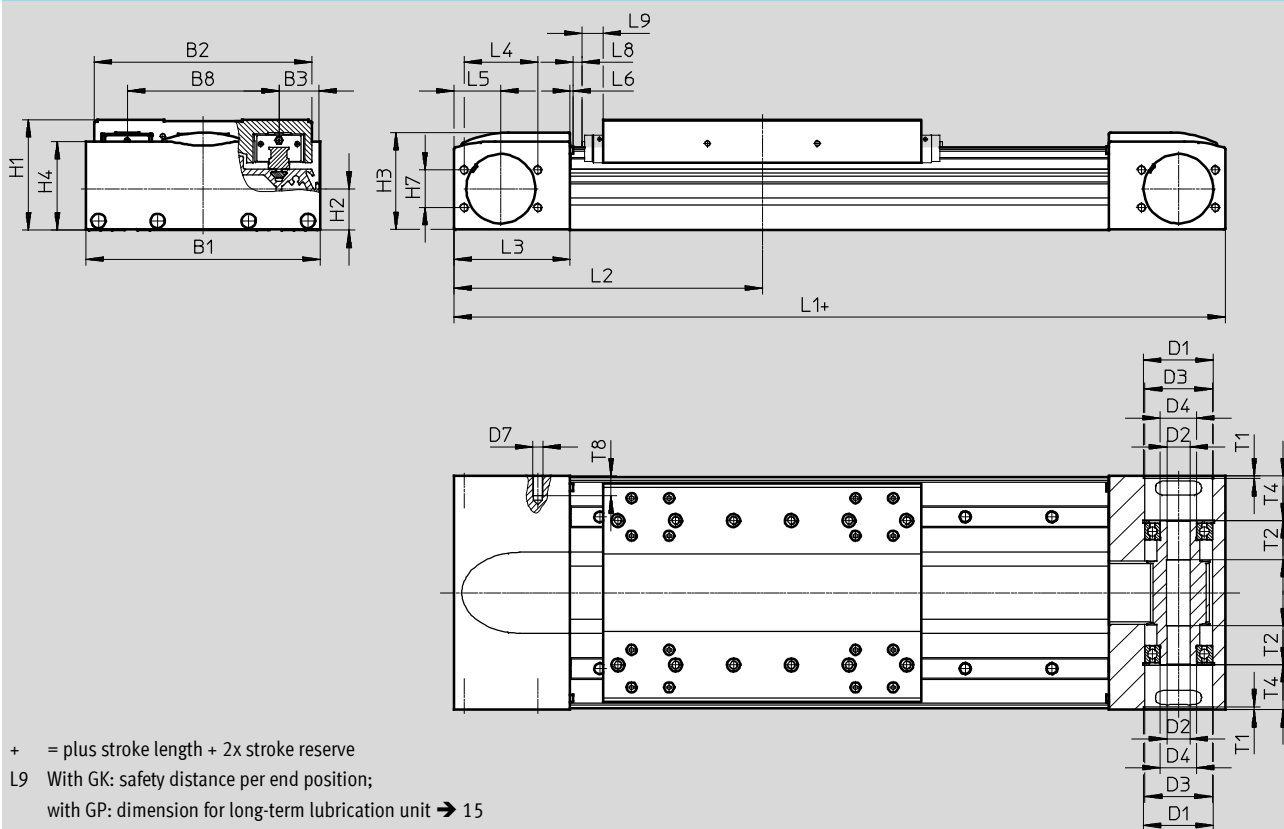
Toothed belt axes EGC-HD-TB, with heavy-duty guide

Technical data

FESTO

Dimensions

Download CAD data → www.festo.com



Size	B1	B2	B3	B8	D1 Ø H7	D2 Ø H7	D3 Ø	D4 Ø	D7
125	124	120	21	80	43	16	42	25	M6
160	162	156	27.5	105	48	16	47	25	M6
220	224	216	40	140	80	23	75	45	M8

Size	H1	H2	H3	H4	H7	L1	L2 min.	L3	L4
125	64	26.1	55.8	50.8	24	346	173	57.5	46
160	76.5	28.7	67.5	61.5	26	417	208.5	80.5	51
220	111.5	45.2	98	91.1	59	576	288	115	76

Size	L5	L6	L8	L9	T1	T2	T4	T8
125	27.5	1.8	2	–	2.1	27	23.65	13
160	32.5	2	0.55	14.9	3.1	27	31.1	14
220	50	2	2	18	3.1	29.5	47.5	16

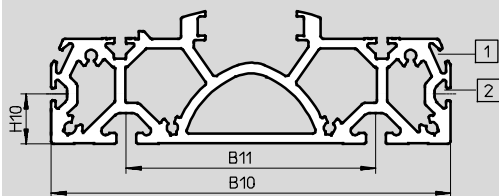
Toothed belt axes EGC-HD-TB, with heavy-duty guide

Technical data

Dimensions

Download CAD data → www.festo.com

Profile

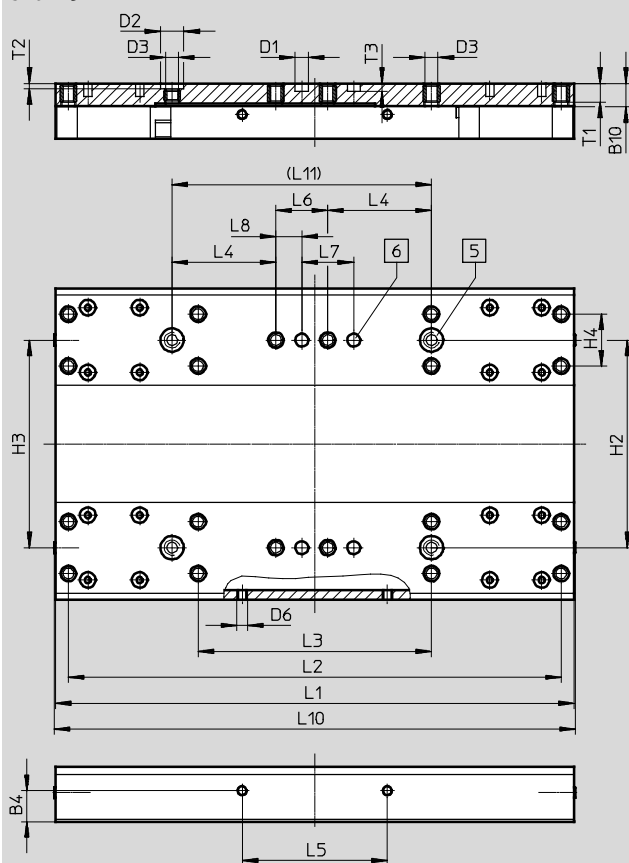


- 1 Sensor slot for proximity sensor
- 2 Mounting slot for slot nut

Size	B10	B11	H10
125	122	80	20
160	160	100	20
220	220	140	20

GK – Standard slide

Size 125



- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS

Size	B4	B10	D1 Ø	D2 Ø	D3	D6	H2	H3	H4	L1	L2	L3
	±0.1		H7	H7			±0.03	±0.05	±0.1	±0.1	±0.2	±0.1
125	12	9	5	9	M5	M4	80	80	20	200	190	90

Size	L4	L5	L6	L7	L8	L10	L11	T1	T2	T3
	±0.1	±0.2	±0.1	±0.03	±0.1		±0.03		+0.1	+0.1
125	40	56	20	20	10	202	100	7.8	2.1	3.1

Toothed belt axes EGC-HD-TB, with heavy-duty guide

Technical data

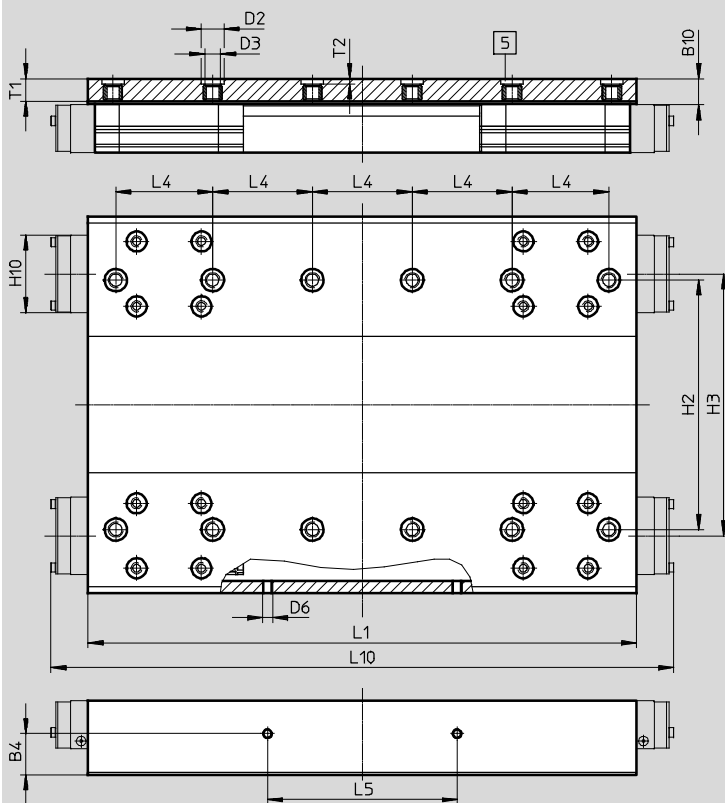
FESTO

Dimensions

Download CAD data → www.festo.com

GK – Standard slide/GP – Standard slide, protected

Size 160



[5] Hole for centring sleeve ZBH

Size	B4	B10 ^{*)}	D2 Ø H7	D3	D6	H2 ±0.03	H3 ±0.05
160	16.5	10.5	9	M6	M4	100	105

Size	H10 ^{*)}	L1 ±0.1	L4 ±0.03	L5 ±0.1	L10 ^{*)}	T1 9	T2 +0.1
160	31	220	40	76	250	9	2.1

^{*)} Protected version

Toothed belt axes EGC-HD-TB, with heavy-duty guide

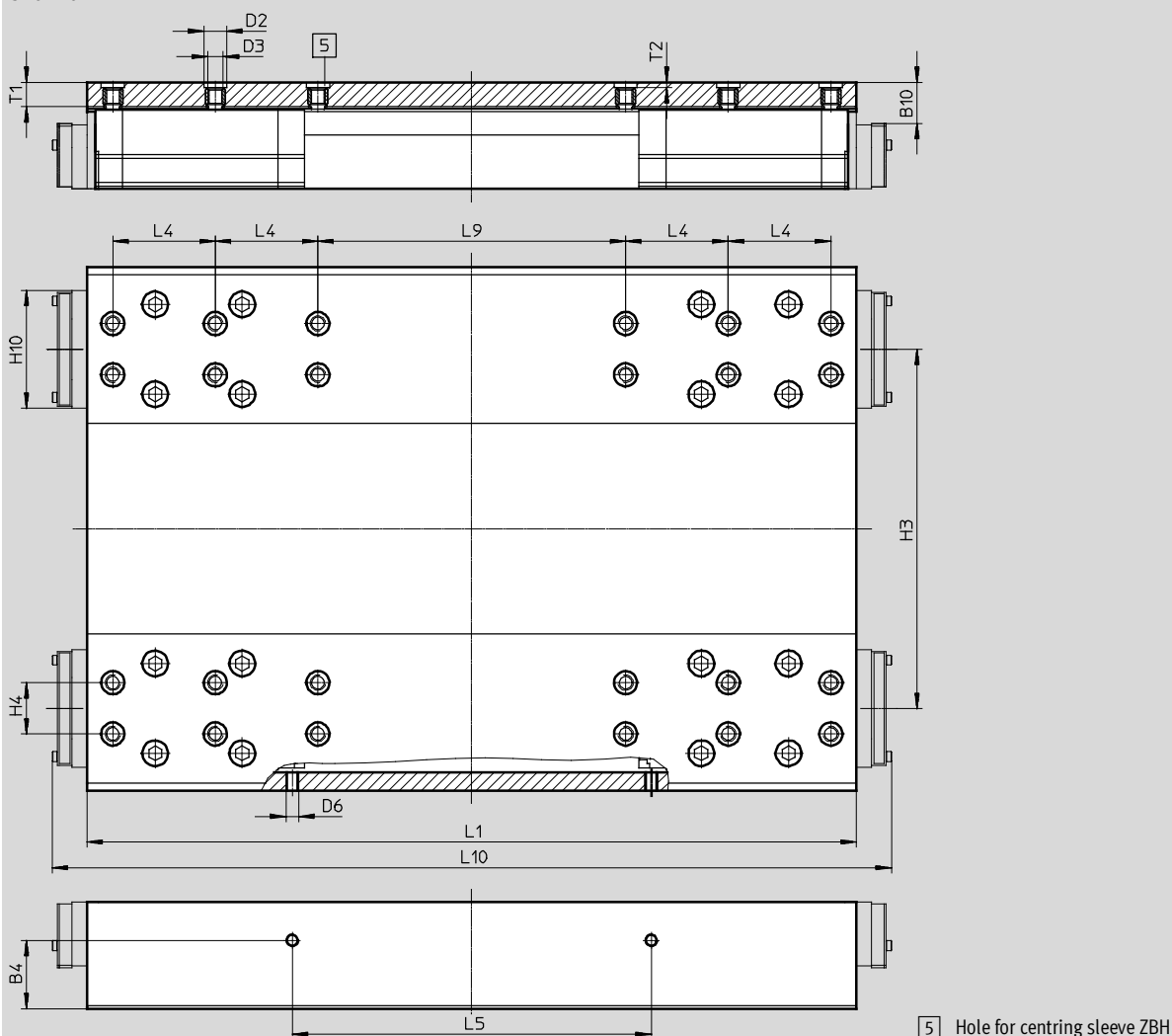
Technical data

Dimensions

Download CAD data → www.festo.com

GK – Standard slide/GP – Standard slide, protected

Size 220



Size	B4	B10 ^{*)}	D2 Ø H7	D3	D6	H3	H4	H10 ^{*)}
220	±0.1 26.6	16	9	M6	M5	±0.05 140	±0.03 20	45.95

Size	L1	L4	L5	L9	L10 ^{*)}	T1	T2
220	±0.1 302	±0.03 40	±0.1 140	±0.03 120	328	9.5	+0.1 2.1

^{*)} Protected version

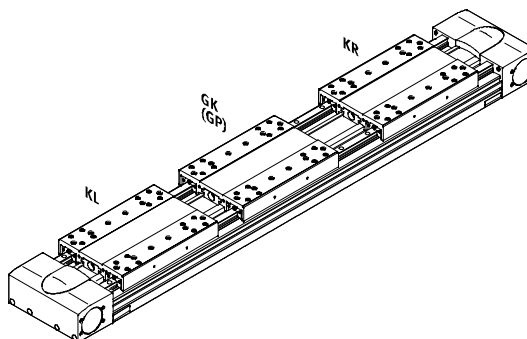
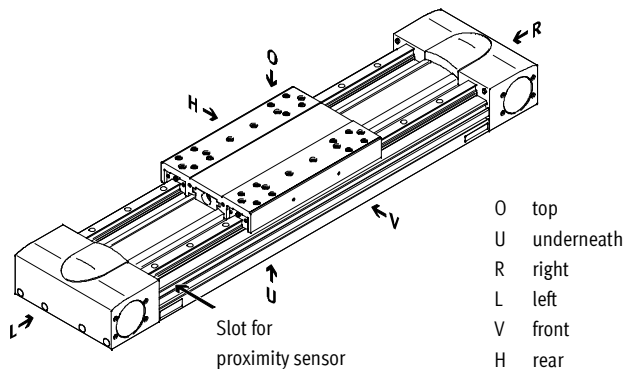
Toothed belt axes EGC-HD-TB, with heavy-duty guide

Ordering data – Modular products

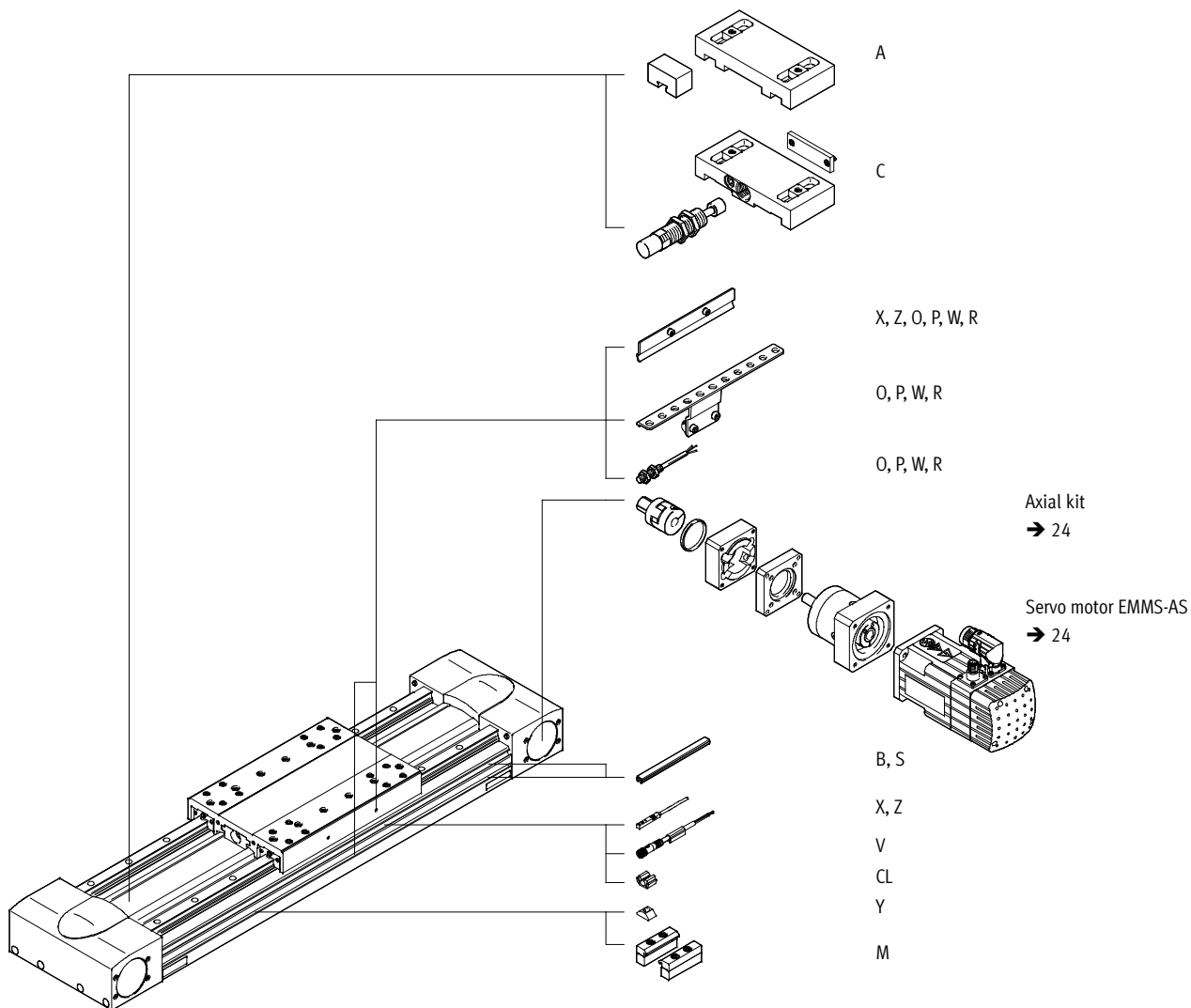
FESTO

Order code

Mandatory data



Accessories



Toothed belt axes EGC-HD-TB, with heavy-duty guide

Ordering data – Modular products

Ordering table									
Size		125	160	220	Condi- tions	Code	Enter code		
[M]	Module No.		556823	556824	556825				
	Design		Linear axis				EGC	EGC	
	Guide		Heavy-duty guide				-HD	-HD	
	Size		125	160	220		~...	~...	
	Stroke [mm]		50 ... 3,000	50 ... 5,000	50 ... 4,750	1	~...	~...	
	Function		Toothed belt				-TB	-TB	
	Stroke reserve [mm]		0 ... 999 (0 = no stroke reserve)			1	~...H		
	Slide		Standard slide				-GK		
– Standard slide, protected				-GP					
[O]	Additional slide		Left		Additional slide, standard, on left		2	-KL	
			Right		Additional slide, standard, on right		2	-KR	
	Accessories		Accessories enclosed separately				ZUB-	ZUB-	
	Profile mounting		1 ... 50				...M		
	Cover		Mounting slot		1 ... 50 (1 = 2x 500 mm pieces)		4	...B	
			Sensor slot		1 ... 50			...S	
	Slot nut for mounting slot		1 ... 99			4	...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			3	...A		
	Shock absorber with retainer		1 ... 2			3	...C		
	Proximity sensor (SIEN), inductive, M8, PNP, incl.		N/O contact, 2.5 m cable		1 ... 99			...O	
			N/C contact, 2.5 m cable		1 ... 99			...P	
	switch lug with sensor bracket		N/O contact, plug M8		1 ... 99			...W	
			N/C contact, plug M8		1 ... 99			...R	
	Connecting cable, M8, 3-wire, 2.5 m		1 ... 99				...V		
	Cable clip		10, 20, 30, 40, 50, 60, 70, 80, 90				...CL		
	Operating instructions		Express waiver - no user documentation to be included (already available) (operating instructions in PDF format are available free of charge on the Internet at http://www.festo.com)				-DN		

- [1] -... The sum of the stroke length in mm and 2x the stroke reserve in mm must not exceed the maximum stroke length in mm.

[2] **KL, KR** If the protected slide variant (GP) is selected, then the additional slide (KL, KR) is also protected.
- [3] ... **A**, ... **C** Cannot be combined with slide GP.

[4] **B, Y** Scope of delivery with size 160 for both slot sizes (→ 30).

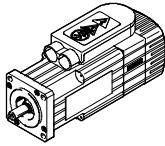
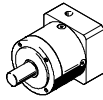
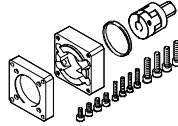
Order code

	EGC	-	HD	-		-		-	TB	-		-		-		-	
--	-----	---	----	---	--	---	--	---	----	---	--	---	--	---	--	---	--

Toothed belt axes EGC-HD-TB, with heavy-duty guide

Accessories

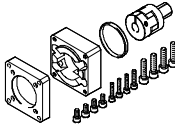
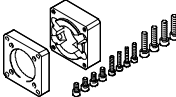
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Permissible axis/motor combinations with axial kit – With gear unit			Technical data → Internet: eamm-a	
Motor	Gear unit	Axial kit		
				
Type	Type	Part No.	Type	
EGC-HD-125				
With servo motor				
EMMS-AS-70-...	EMGA-60-P-G...-SAS-70	1190076	EAMM-A-M43-60G	
EGC-HD-160				
With servo motor				
EMMS-AS-100-...	EMGA-80-P-G...-SAS-100	1190421	EAMM-A-M48-80G	
EGC-HD-220				
With servo motor				
EMMS-AS-140-...	EMGA-120-P-G...-SAS-140	1190774	EAMM-A-M80-120G	

 **Note**

For the optimum selection of axis/
motor combinations →

PositioningDrives
sizing software
www.festo.com

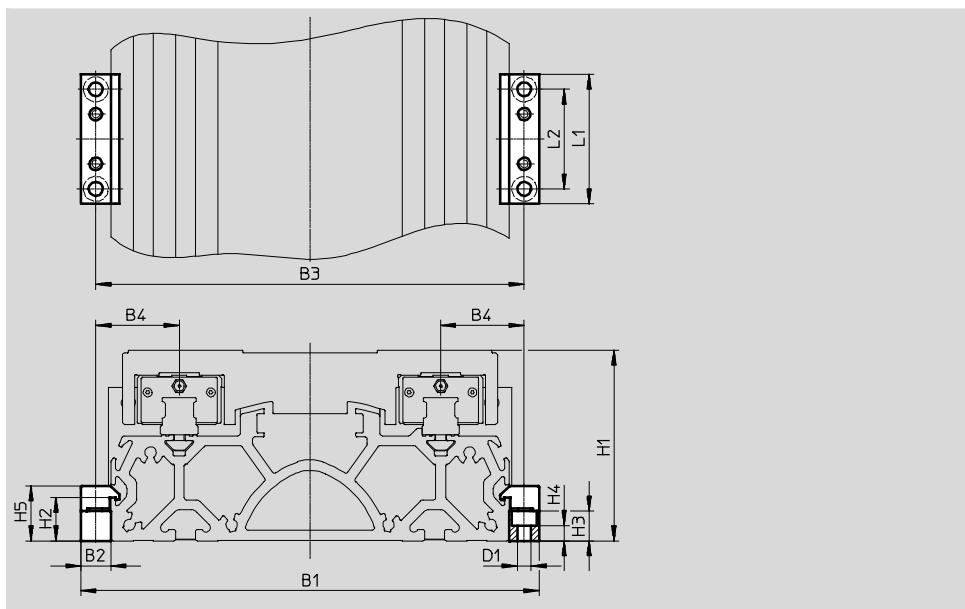
Component parts of the axial kit			
Axial kit	Comprising:		
	Motor flange	Coupling	Centring ring
			
Part No.	Part No.	Part No.	Part No.
Type	Type	Type	Type
EGC-HD-125			
1190076	1597579	558001	575962
EAMM-A-M43-60G	EAMF-A-43D-60G	EAMD-32-32-11-16X20	EAML-43-4-43
EGC-HD-160			
1190421	1190375	1781043	558031
EAMM-A-M48-80G	EAMF-A-48C-80G	EAMD-42-40-20-16X25-U	EAML-48-4-48
EGC-HD-220			
1190774	1190702	1781045	1209006
EAMM-A-M80-120G	EAMF-A-80A-120G	EAMD-56-46-25-23X27-U	EAML-80-6-80

Toothed belt axes EGC-HD-TB, with heavy-duty guide

Accessories

Profile mounting MUE
(order code M)

Material:
Anodised aluminium
Conforms to RoHS



Dimensions and ordering data								
For size	B1	B2	B3	B4	D1 Ø	H1	H2	H3
125	146	12	134	27	5.5	64	17.5	12
160	184	12	172	33.5	5.5	76.5	17.5	12
220	258	19	239	49.5	9	111.5	16	14

For size	H4	H5	L1	L2	Weight [g]	Part No.	Type
125	6.2	22	52	40	80	558043	MUE-70/80
160	6.2	22	52	40	80	558043	MUE-70/80
220	5.5	29.5	90	40	290	558044	MUE-120/185

Toothed belt axes EGC-HD-TB, with heavy-duty guide

Accessories

FESTO

Shock absorber retainer, retainer EAYH

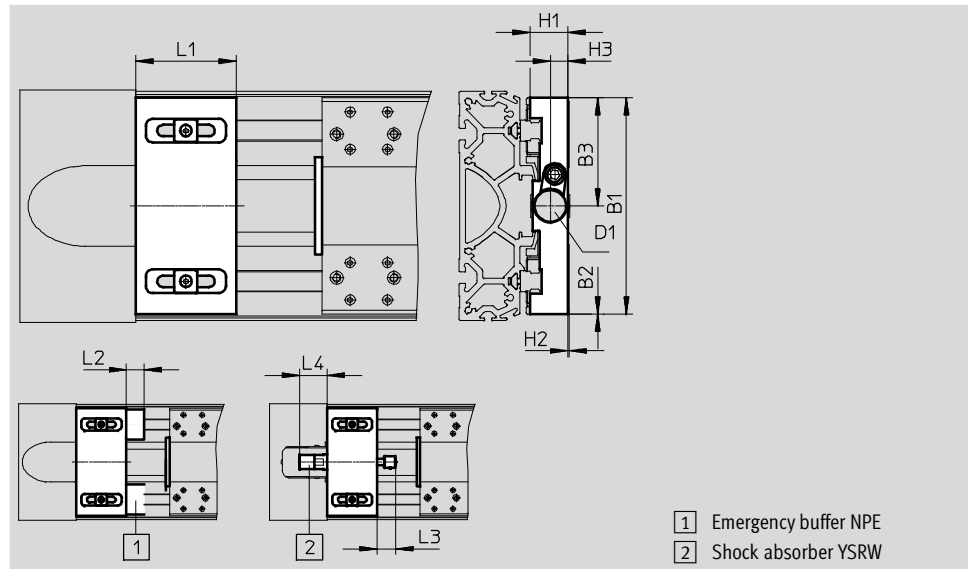
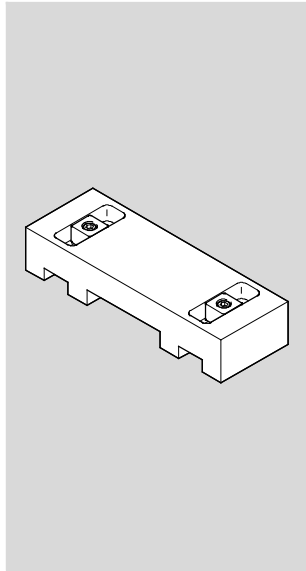
Emergency buffer NPE → 28

Shock absorber YSRW → 28

(order code A or C)

Material:
Anodised aluminium
Conforms to RoHS

Cannot be used in combination with
the variants GP.



Dimensions and ordering data														
For size	B1	B2	B3	D1	H1	H2	H3	L1	L2	L3	L4 min.	Weight [g]	Part No.	Type
Shock absorber retainer														
125	120	0	60	M16x1	19.8	0.4	9.7	50	–	20	31	286	1653251	EAYH-L2-125
160	150.7	2.65	75.3	M22x1.5	26.2	0.8	12.2	70	–	26	38.5	622	1653250	EAYH-L2-160
220	204	6	102	M26x1.5	38.7	0.1	15	70	–	34	63.5	1,218	1653253	EAYH-L2-220
Retainer for emergency buffer														
125	120	0.2	–	–	19.8	0.9	–	45	17	–	–	260	1662803	EAYH-L2-125-N
160	150.7	–	–	–	26.2	0.4	–	60	25	–	–	617	1669259	EAYH-L2-160-N
220	204	0.5	–	–	38.7	0.9	–	75	30	–	–	1,195	1669260	EAYH-L2-220-N

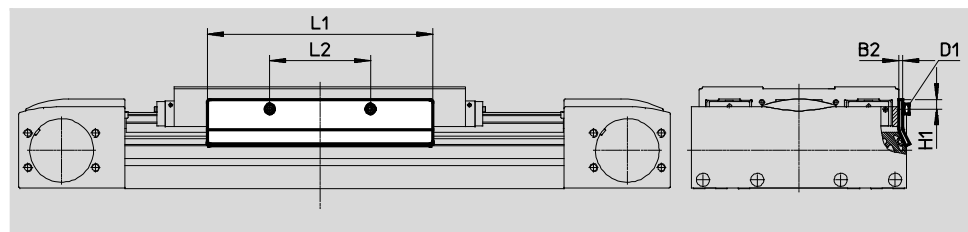
Switch lug SF-EGC-HD-1

for sensing via proximity sensor

SIES-8M

(order code X or Z)

Material:
Galvanised steel
Conforms to RoHS



Dimensions and ordering data								
For size	B2	D1	H1	L1	L2	Weight [g]	Part No.	Type
125	2	M4x8	7.8	150	56	70	570027	SF-EGC-HD-1-125
160	3	M4x8	7.3	170	76	160	1645872	SF-EGC-HD-1-160
220	3	M5x10	11.5	250	140	310	1645866	SF-EGC-HD-1-220

Toothed belt axes EGC-HD-TB, with heavy-duty guide

Accessories

Switch lug SF-EGC-HD-2

For sensing via proximity sensor
SIEN-M8B (order code O, P, W or R) or
SIES-8M (order code X or Z)

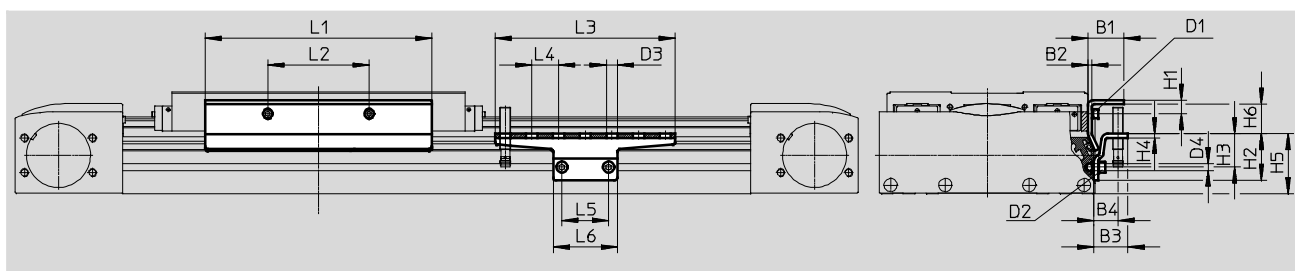
Material:
Galvanised steel
Conforms to RoHS



Sensor bracket HWS-EGC

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

Material:
Galvanised steel
Conforms to RoHS



Dimensions and ordering data

For size	B1	B2	B3	B4	D1	D2	D3 Ø	D4 Ø	H1	H2
125	24	2	25.5	18	M4x8	M5x8	8.4	5.2	9	35
160	27	3	25.5	18	M4x8	M5x8	8.4	5.2	10.3	35
220	31	3	25.5	18	M5x10	M5x14	8.4	5.2	11.5	65

For size	H3	H4	H5	H6	L1	L2	L3	L4	L5	L6
125	25	3	45	14	150	56	135	20	35	48
160	25	3	45	22.2	170	76	135	20	35	48
220	55	3	75	18.4	250	140	215	20	35	48

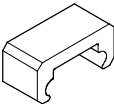
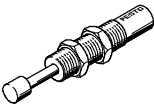
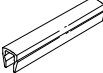
For size	Weight [g]	Part No.	Type
Switch lug			
125	122	570030	SF-EGC-HD-2-125
160	261	1645865	SF-EGC-HD-2-160
220	430	1645868	SF-EGC-HD-2-220

For size	Weight [g]	Part No.	Type
Sensor bracket			
125	110	558057	HWS-EGC-M5
160	110	558057	HWS-EGC-M5
220	217	570365	HWS-EGC-M8-B

Toothed belt axes EGC-HD-TB, with heavy-duty guide

Accessories

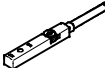
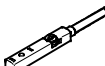
FESTO

Ordering data						
	For size	Remark	Order code	Part No.	Type	PU ¹⁾
Emergency buffer NPE						
	125	Use in combination with retainer EAYH	A	1662475	NPE-125	1
	160			1672593	NPE-160	
	220			1672598	NPE-220	
Shock absorber YSRW						
	125	Use in combination with shock absorber retainer EAYH	C	191196	YSRW-12-20	1
	160			191197	YSRW-16-26	
	220			191198	YSRW-20-34	
Slot nut NST						
	125, 160 ³⁾	For mounting slot	Y	150914	NST-5-M5	1
	160 ⁴⁾ , 220			150915	NST-8-M6	
Centring pin/sleeve ZBS/ZBH ²⁾						
	125	For slide	–	150928	ZBS-5	10
	125 ... 220			150927	ZBH-9	
Slot cover ABP						
	125, 160 ³⁾	For mounting slot every 0.5 m	B	151681	ABP-5	2
	160 ⁴⁾ , 220			151682	ABP-8	
Slot cover ABP-S						
	125 ... 220	For sensor slot every 0.5 m	S	563360	ABP-5-S1	2
Clip SMBK						
	125 ... 220	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
 3) For mounting slot at side
 4) For mounting slot underneath

Toothed belt axes EGC-HD-TB, with heavy-duty guide

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