

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

FESTO



Selection aid

Overview of toothed belt and ball screw axes

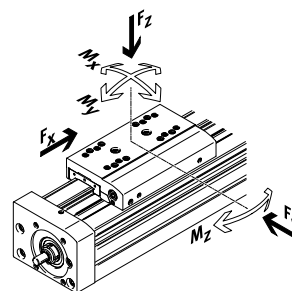
Toothed belt axes

- 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 8500 mm (longer strokes on request)
- Flexible motor mountings

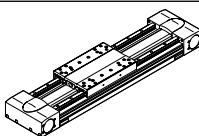
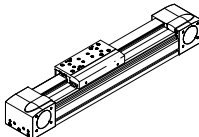
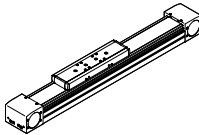
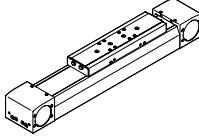
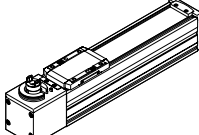
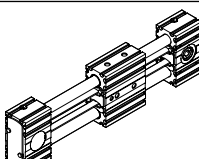
Ball screw axes

- Speeds of up to 2 m/s
- Acceleration of up to 20 m/s²
- Repetition accuracy of up to ±0.003 mm
- Strokes up to 3000 mm

Coordinate system



Toothed belt axes

Type	F _x [N]	v [m/s]	M _x [Nm]	M _y [Nm]	M _z [Nm]	Characteristics
Heavy-duty recirculating ball bearing guide						
EGC-HD-TB						
	450	3	140	275	275	• Flat drive unit with rigid, closed profile • Precision DUO guide rail with high load capacity • Ideal as a base axis for linear gantries and cantilever axes
	1000	5	300	500	500	
	1800	5	900	1450	1450	
Recirculating ball bearing guide						
EGC-TB-KF						
	50	3	3.5	10	10	• Rigid, closed profile • Precision guide rail with high load capacity • Small drive pinions reduce required driving torque • Space-saving position sensing
	100	5	16	132	132	
	350	5	36	228	228	
	800	5	144	680	680	
	2500	5	529	1820	1820	
ELGA-TB-KF						
	350	5	16	132	132	• Internal guide and toothed belt • Precision guide rail with high load capacity • Guide and toothed belt protected by cover strip • High feed forces
	800	5	36	228	228	
	1300	5	104	680	680	
	2000	5	167	1150	1150	
ELGA-TB-KF-F1						
	260	5	16	132	132	• Suitable for use in the food zone • "Clean look": smooth, easy-to-clean surfaces • Internal guide and toothed belt • Precision guide rail with high load capacity • Guide and toothed belt protected by cover strip
	600	5	36	228	228	
	1000	5	104	680	680	
ELGC-TB-KF						
	75	1.2	5.5	4.7	4.7	• Internal guide and toothed belt • Precision guide rail with high load capacity • Guide and toothed belt protected by cover strip
	120	1.5	29.1	31.8	31.8	
	250	1.5	59.8	56.2	56.2	
ELGR-TB						
	50	3	2.5	20	20	• Cost-optimised rod guide • Ready-to-install unit • Linear ball bearings with high load capacity for dynamic operation
	100	3	5	40	40	
	350	3	15	124	124	

Selection aid

Overview of toothed belt and ball screw axes

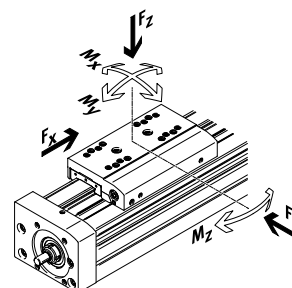
Toothed belt axes

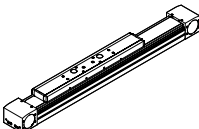
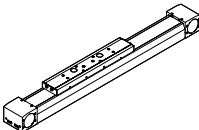
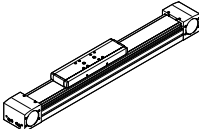
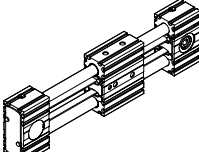
- Speeds of up to 10 m/s
- Acceleration of up to 50 m/s²
- Repetition accuracy of up to ± 0.08 mm
- Strokes of up to 8500 mm (longer strokes on request)
- Flexible motor mountings

Ball screw axes

- Speeds of up to 2 m/s
- Acceleration of up to 20 m/s²
- Repetition accuracy of up to ± 0.003 mm
- Strokes up to 3000 mm

Coordinate system



Toothed belt axes						
Type	F _x [N]	v [m/s]	M _x [Nm]	M _y [Nm]	M _z [Nm]	Characteristics
Roller bearing guide						
ELGA-TB-RF						
	350	10	11	40	40	• Heavy-duty 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	
	1300	10	100	640	640	
ELGA-TB-RF-F1						
	260	10	8.8	32	32	• Suitable for use in the food zone • "Clean look": smooth, easy-to-clean surfaces • Heavy-duty roller bearing guide • Guide and toothed belt protected by cover strip • Lower weight than axes with guide rails
	600	10	24	144	144	
	1000	10	80	512	512	
Plain-bearing guide						
ELGA-TB-G						
	350	5	5	30	10	• Guide and toothed belt protected by cover strip • For simple handling tasks • As a drive component for external guides • Insensitive to harsh ambient conditions
	800	5	10	60	20	
	1300	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 ambient conditions
	100	1	2.5	20	20	
	350	1	1	40	40	

Selection aid

Overview of toothed belt and ball screw axes

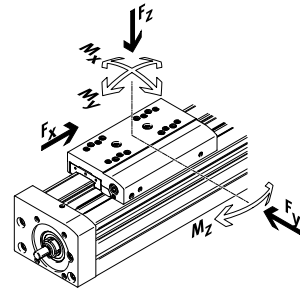
Toothed belt axes

- 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 8500 mm (longer strokes on request)
- Flexible motor mountings

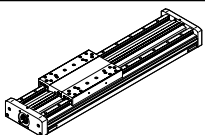
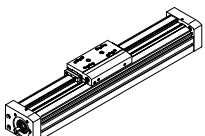
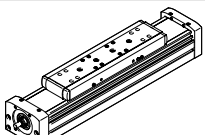
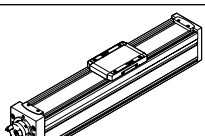
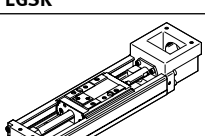
Ball screw axes

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- Strokes up to 3000 mm

Coordinate system



Ball screw axes

Type	F _x [N]	v [m/s]	M _x [Nm]	M _y [Nm]	M _z [Nm]	Characteristics
Heavy-duty recirculating ball bearing guide						
EGC-HD-BS						
	400	0.5	140	275	275	• Flat drive unit with rigid, closed profile • Precision DUO guide rail with high load capacity • Ideal as a base axis for linear gantries and cantilever axes
	650	1.0	300	500	500	
	1500	1.5	900	1450	1450	
Recirculating ball bearing guide						
EGC-BS-KF						
	400	0.5	16	132	132	• Rigid, closed profile • Precision guide rail with high load capacity • For the highest requirements in terms of feed force and accuracy • Space-saving position sensing
	650	1.0	36	228	228	
	1500	1.5	144	680	680	
	3000	2.0	529	1820	1820	
ELGA-BS-KF						
	650	0.5	16	132	132	• Internal guide and ball screw • Precision guide rail with high load capacity • For the highest requirements in terms of feed force and accuracy • Guide and ball screw protected by cover strip • Space-saving position sensing
	1600	1.0	36	228	228	
	3400	1.5	104	680	680	
	6400	2.0	167	1150	1150	
ELGC-BS-KF						
	40	0.6	1.3	1.1	1.1	• Internal guide and ball screw • Guide and ball screw protected by cover strip • Space-saving position sensing
	100	0.6	5.5	4.7	4.7	
	200	0.8	29.1	31.8	31.8	
	350	1.0	59.8	56.2	56.2	
EGSK						
	57	0.33	13	3.7	3.7	• Ball screw 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	

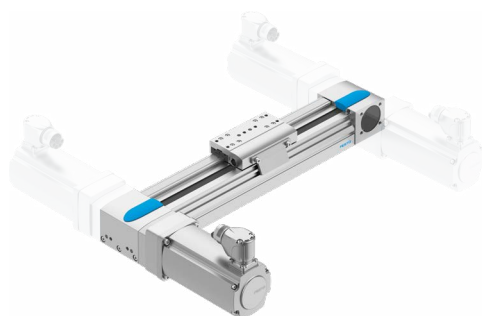
Key features

At a glance

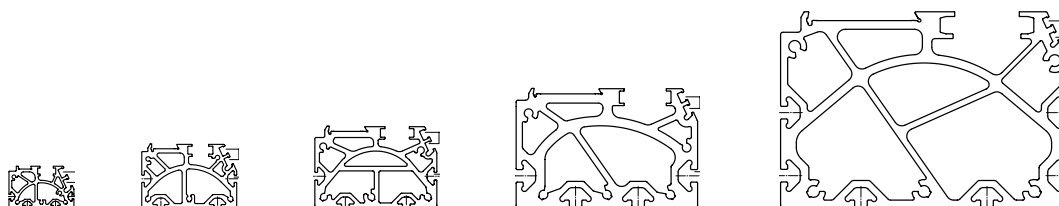
- Generously sized profiles with an optimised cross section enable maximum rigidity and load capacity
- Speed, acceleration and torque resistance set a new standard
- Numerous sizes and variants such as protected guides open up a broad range of applications
- Due to the EGC's high performance it is often possible to use a smaller size
- Space-saving position sensing with proximity switch in the profile slot is possible
- Toothed belt material can be selected from:
 - Chloroprene rubber for long service life
 - Coated PU with steel reinforcement cords for long service life and resistance to certain cooling lubricants
- Wide range of adaptation options on the drives
- Extensive mounting accessories for multi-axis combinations
- EX3: for use in potentially explosive areas

Flexible motor mounting

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



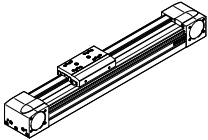
Wide range for various load cases

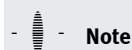


Characteristic values of the axes

The specifications shown in the table are maximum values.

The precise values for each of the variants can be found in the relevant data sheet in the catalogue.

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										
	50	50 ... 1900	3	±0.08	50	650	650	3.5	10	10
	70	50 ... 5000	5	±0.08	100	1850	1850	16	132	132
	80	50 ... 8500	5	±0.08	350	3050	3050	36	228	228
	120	50 ... 8500	5	±0.08	800	6890	6890	144	680	680
	185	50 ... 8500	5	±0.1	2500	15200	15200	529	1820	1820



Note

Engineering software
Electric Motion Sizing
www.festo.com/x/electric-motion-sizing

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

→ Page 22



- The lubrication adapters enable the guide to be permanently lubricated using semi- or fully automatic relubrication devices
- The adapters are suitable for oils and greases
- All lubrication connections must be connected or closed

Displacement encoder

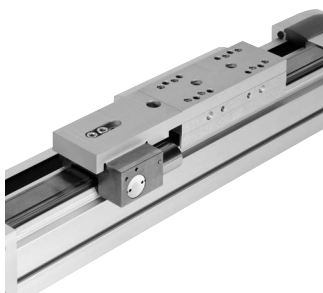
→ Page 13



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

Clamping unit

→ Page 14



- 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 sizes 120 and 185

Key features

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

Toothed belt axis with recirculating ball bearing guide



Motor



Servo motor:
EMMT-AS
Stepper motor:
EMMB-ST, EMMT-ST



Note

There are specially matched complete solutions for the toothed belt axis EGC and the motors.

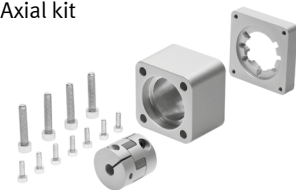
Servo drives



Servo drive:
CMMT-AS
Servo drive for extra-low voltage:
CMMT-ST

Motor mounting kit

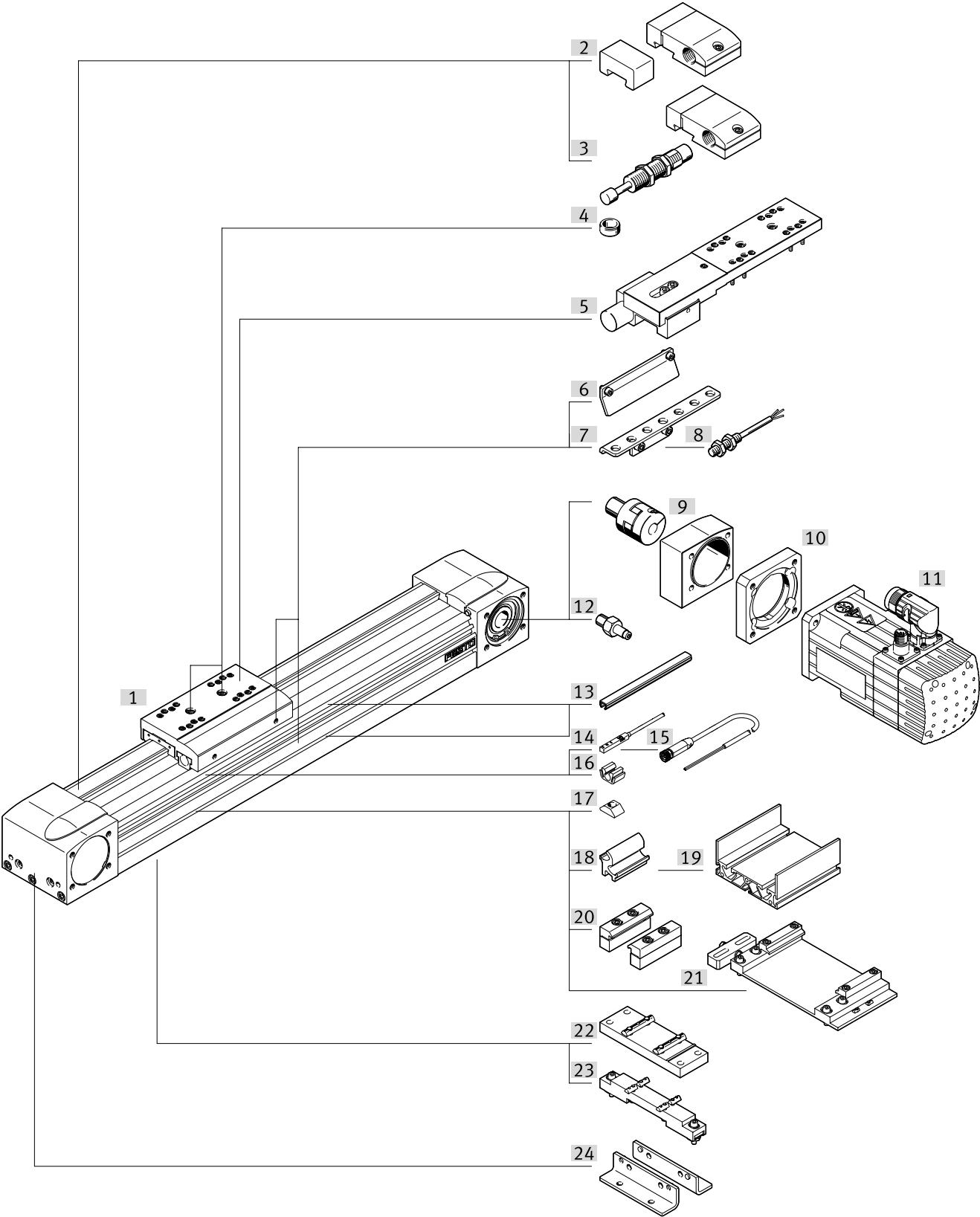
Axial kit



Kit consists of:

- Motor flange
- Coupling housing
- Coupling
- Screws

Peripherals overview



Peripherals overview

Variants and accessories		
Type	Description	→ Page/Internet
[1] Toothed belt axis EGC-TB-KF	Electric drive	10
[2] Emergency buffer with retaining bracket NPE	For avoiding damage at the end stop in the event of malfunction	54
[3] Shock absorber with retaining bracket KYE	For avoiding damage at the end stop in the event of malfunction	54
[4] Centring pin/sleeve ZBS, ZBH	- For centring loads and attachments on the slide - Included in the scope of delivery: - With size 50, 70: 2x ZBS-5 - With size 80, 120, 185: 2x ZBH-9	54
[5] Clamping unit 1H...-PN, 2H-PN	For holding loads	14
[6] Switch lug SF-EGC-1	For sensing the slide position	51
[7] Sensor bracket HWS-EGC	Adapter for mounting the inductive proximity switches (round design) on the axis	52
[8] Proximity switch, M8 SIEN	Inductive proximity switch, round design	55
[9/ 10]] Axial kit EAMM	For axial motor mounting (comprising coupling, coupling housing and motor flange)	eamm-a
[11] Motor EMMT	Motors specially matched to the axis, with or without gear unit, with or without brake	emmt
[12] Drive shaft adapter EAMB	- Can be used as an alternative interface, as required - No drive shaft adapter is required for the axis/motor combinations → page 46 onwards	53
[13] Slot cover ABP	For protection against contamination	54
[14] Proximity switch, T-slot SIES	Inductive proximity switch, for T-slot	55
[15] Connecting cable NEBA	For proximity switches	56
[16] Clip SMBK	For mounting the proximity switch cable in the slot	54
[17] Slot nut NST	For mounting attachments	54
[18] Adapter kit DHAM	For mounting the support profile on the axis	55
[19] Support profile HMIA	For mounting and guiding an energy chain	55
[20] Profile mounting MUE	For mounting the axis on the side of the profile	47
[21] Adjusting kit EADC-E16	For mounting the axis on a vertical surface. Once mounted, the axis can be aligned horizontally	50
[22] Central support EAHF-L5	For mounting the axis on the profile from underneath	48
[23] Adjusting kit EADC-E15	Height-adjustable. Can be used to easily compensate for any unevenness in the bearing surface	49
[24] Foot mounting HPE	For mounting the axis on the end cap	46
– 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

Type codes

001	Series	
EGC	Electric linear axis	

002	Size	
50	50	
70	70	
80	80	
120	120	
185	185	

003	Stroke [mm]	
300	300	
400	400	
500	500	
600	600	
800	800	
1000	1000	
1200	1200	
1500	1500	
...	50 ... 8500	

004	Drive system	
TB	Toothed belt	

005	Guide	
KF	Recirculating ball bearing guide	

006	Stroke reserve [mm]	
...	0 ... 999	

007	Slide	
GK	Standard slide	
GP	Standard slide, protected	
GV	Extended slide	
GQ	Extended slide, protected	

008	Additional slide left	
	None	
KL	Additional slide, standard, left	

009	Additional slide, right	
	None	
KR	Additional slide standard, right	

010	Lubrication function	
	None	
C	Lubrication adapter	

011	Displacement encoder	
	None	
M1	With displacement encoder, incremental, resolution 2.5 µm	
M2	With displacement encoder, incremental, resolution 10 µm	

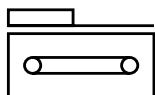
012	Clamping unit	
	None	
1HL	Holding function, 1-channel, left	
1HR	Single-channel holding function, right	
2H	Holding function, 2-channel	

013	Actuation type	
	None	
PN	Pneumatically actuated	

014	Toothed belt material	
	Chloroprene rubber	
PU2	Coated PU	

015	EU certification	
	None	
EX3	II 2G	

Datasheet



-  Size
50 ... 185
-  Stroke length
50 ... 8500 mm
-  www.festo.com
-  Repair service



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 ... 1900	50 ... 5000	50 ... 8500	50 ... 8500 (5000 ^{2b})	50 ... 8500
EGC-...-GV/-GQ	[mm]	–	50 ... 5000	50 ... 8500	50 ... 8400 (4900 ^{2b})	50 ... 8400
Max. feed force F _x	[N]	50	100	350	800	2500
Max. no-load torque ¹⁾	[Nm]	0.072	0.18	0.4	1.4	4.05
Max. no-load resistance to shifting ¹⁾	[N]	8	14.5	28	70	110
Max. driving torque	[Nm]	0.46	1.24	5	16	93
Max. speed	[m/s]	3	5			
Max. acceleration	[m/s ²]	50				
Repetition accuracy	[mm]	±0.08				±0.1

1) At 0.2 m/s, with variant GK or GV and toothed belt made of chloroprene rubber

2) Max. working stroke with ATEX.

Operating and environmental conditions	
Ambient temperature	[°C] –10 ... +60
Degree of protection	IP40
Duty cycle	[%] 100
UKCA marking (see declaration of conformity)	To UK explosion regulations

Weight [g]						
Size		50	70	80	120	185
Basic weight with 0 mm stroke ¹⁾						
EGC-...-GK/-GP		620	1850	3000	10500	32600
EGC-...-GV/-GQ		–	2470	3900	12600	36800
Additional weight per 10 mm stroke		19	44	62	150	300
Moving mass						
EGC-...-GK/-GP		130	370	620	2180	6500
EGC-...-GV/-GQ		–	550	900	2730	7720
Additional slide						
EGC-...-KL/-KR		80	300	550	2000	6000
Clamping unit						
EGC-...-1H...-PN		–	–	700	2300	4900
EGC-...-2H-PN		–	–	1300	4000	8300

1) Including slide

Datasheet

ATEX ¹⁾				
Size	50	70	80	120
ATEX category for gas	II 2G			
Type of (ignition) protection for gas	c IIB T4 X			
Explosion-proof ambient temperature	-10°C ≤ Ta ≤ +60°C			
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)			
Explosion protection certification outside the EU	EPL Db (GB)			
	EPL Gb (GB)			

1) Note the ATEX certification of the accessories.

Toothed belt					
Size	50	70	80	120	185
Pitch [mm]	2	3	3	5	8
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

Mass moment of inertia					
Size	50	70	80	120	185
J ₀					
EGC-...-GK [kg mm ²]	16.94	83.34	205.9	1241	17976
EGC-...-GV [kg mm ²]	–	110	265	1465	19690
J _H per metre stroke [kg mm ² /m]	2.6	10.6	18.8	93	760
J _L per kg payload [kg mm ² /Kg]	85	154	205	396	1363.5
J _W Additional slide [kg mm ²]	3.56	56.32	126.73	861	8846
J _F Clamping unit					
EGC-...-1H...-PN [kg mm ²]	–	–	143.5	911	6681
EGC-...-2H-PN [kg mm ²]	–	–	266.5	1584	11317

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

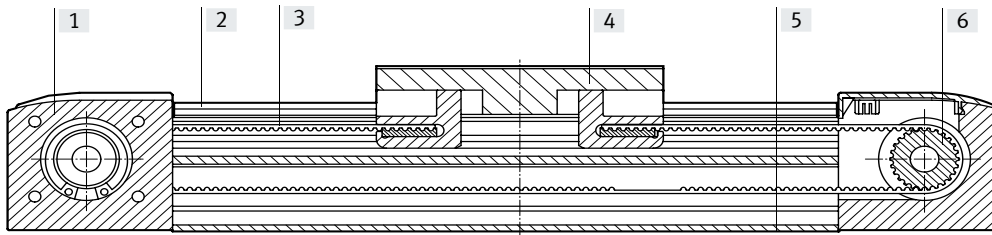
$$J_A = J_0 + K \times J_W + J_H \times \text{working stroke [m]} + J_L \times m_{\text{payload [kg]}} + J_F$$

K= Number of additional slides

Datasheet

Materials

Sectional view



Size	50	70	80	120	185
[1] Drive cover	Anodised wrought aluminium alloy				Painted wrought aluminium alloy
[2] Guide rail	High-alloy steel				
[3] Toothed belt					
EGC-...	Polychloroprene or NBR with glass cord and nylon coating				
EGC-...-PU2	Polyurethane with steel cord and nylon cover				
[4] Slide	Anodised wrought aluminium alloy				
[5] Profile	Anodised wrought aluminium alloy				
[6] Toothed belt pulley	High-alloy stainless steel				
Note on materials	RoHs-compliant				
	Contains paint-wetting impairment substances				

Technical data – Displacement encoder

Dimensions → page 41

Type	EGC-...-M1	EGC-...-M2
Resolution [μm]	2.5	10
Max. travel speed with displacement encoder [m/s]	4	4
Encoder signal	5 V TTL; A/A, B/B; reference signal (N/N) cyclically every 5 mm (zero pulse)	
Signal output	Line driver, alternating, resistant to sustained short circuit	
Electrical connection	8-pin plug connector, round design, M12	
Cable length [mm]	160	

Operating and environmental conditions – Displacement encoder

Ambient temperature [°C]	-10 ... +70
Degree of protection	IP64
CE marking (see declaration of conformity)	To EU EMC Directive ¹⁾

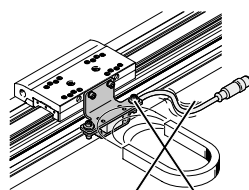
1) For information about the area of use, see the EC declaration of conformity at: www.festo.com/sp → Certificates.

If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

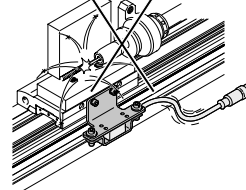
Application note

The toothed belt axis with displacement encoder is not designed for the following application examples

- Magnetic field



- Welding application



Datasheet

Technical data – Clamping unit		Dimensions → page 37		
Size		80	120	185
Pneumatic connection		M5	M5	M5
Clamping type		Clamping via spring force, release via compressed air		
Static holding force				
EGC-...-1H-...-PN	[N]	320	1200	1500
EGC-...-2H-PN	[N]	640	2400	3000
Max. number of emergency braking operations ¹⁾ at reference energy	[J]	–	750 35	750 70
Number of clamping operations under rated load	[millions of switching cycles]	0.45	0.05	> 1.4

1) Emergency braking refers to braking the payload if the drive axis loses power.

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

**Note**

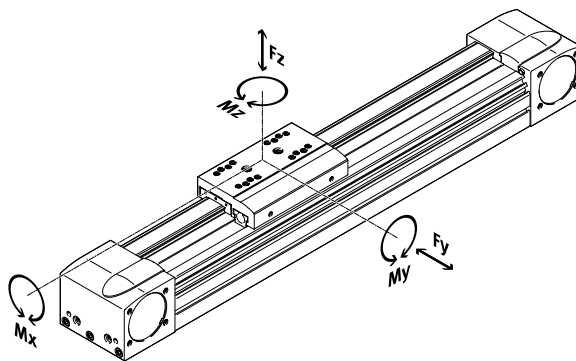
The axis can only be relubricated with the lubrication adapter (EGC-...-C) when used in combination with the clamping unit.

Datasheet

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 deceleration phase.



Max. permissible forces and torques at reference service life						
Size		50	70	80	120	185
Reference service life	[km]	5000				
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 guide system to have a service life of 5000 km, the load comparison factor must have a value of $f_v \leq 1$, based on the maximum permissible forces and torques for a service life of 5000 km.

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

Calculating the load comparison factor:

$$f_v = \frac{|F_{y1}|}{F_{y2}} + \frac{|F_{z1}|}{F_{z2}} + \frac{|M_{x1}|}{M_{x2}} + \frac{|M_{y1}|}{M_{y2}} + \frac{|M_{z1}|}{M_{z2}} \leq 1$$

F_1/M_1 = dynamic value

F_2/M_2 = maximum value

Datasheet

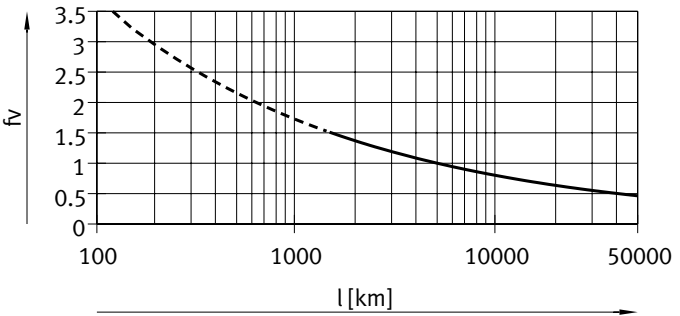
Calculating the service life

The service life of the guide depends on the load. To be able to make a statement as to the service life of the guide, the graph below plots the load comparison factor f_v against the service life.

These values are only theoretical. You must consult your local Festo contact for a load comparison factor 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 (→ page 15) 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 results in a service life of 5000 km.



**Note**

Engineering software
Electric Motion Sizing
www.festo.com/x/electric-motion-sizing

The engineering software can be used to calculate the guide workload for a service life of 5000 km.

$f_v > 1.5$ 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 the 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 of 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 maximum permissible forces and torques for a 5000 km service life cannot be compared with the dynamic forces and torques of bearing guides to ISO/JIS.

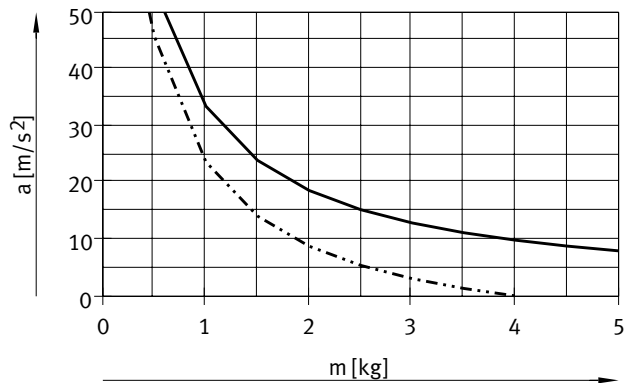
To make it easier to compare the guide capacity of linear axes EGC with bearing guides, the table below lists the theoretically permissible forces and torques for a calculated service life of 100 km. This corresponds to the dynamic forces and torques to ISO.
These 100 km values have been calculated mathematically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

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

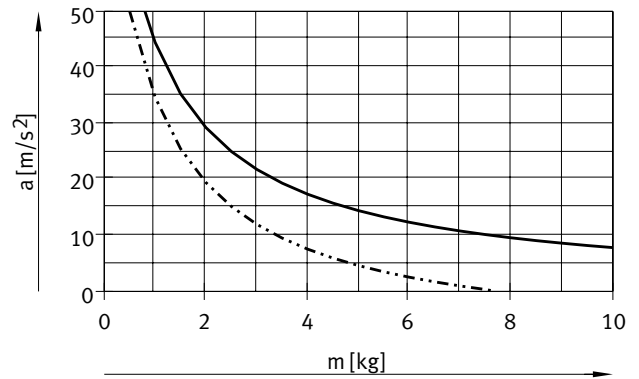
Datasheet

Max. acceleration a as a function of payload m

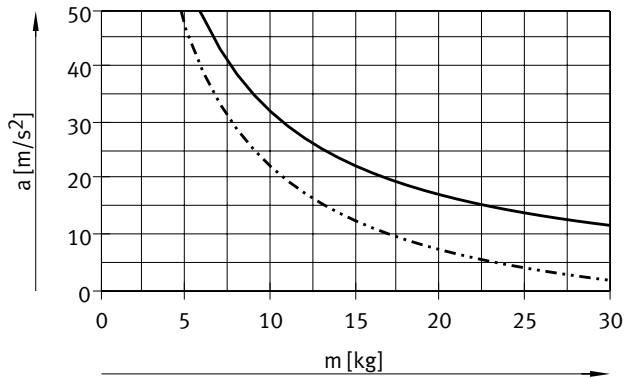
Size 50



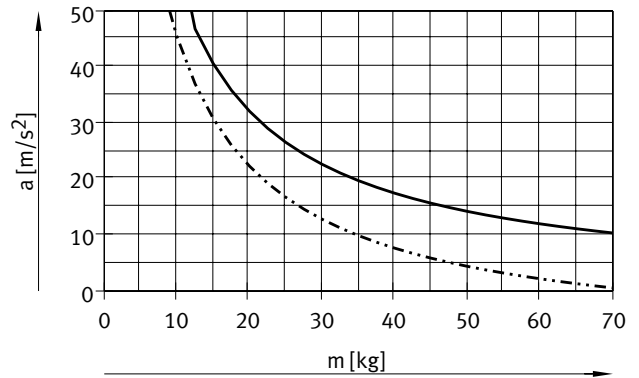
Size: 70



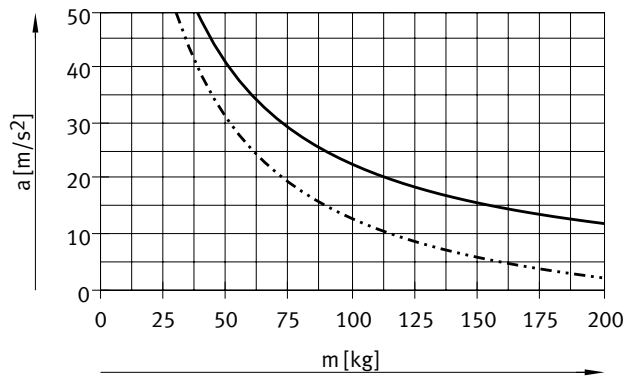
Size: 80



Size: 120



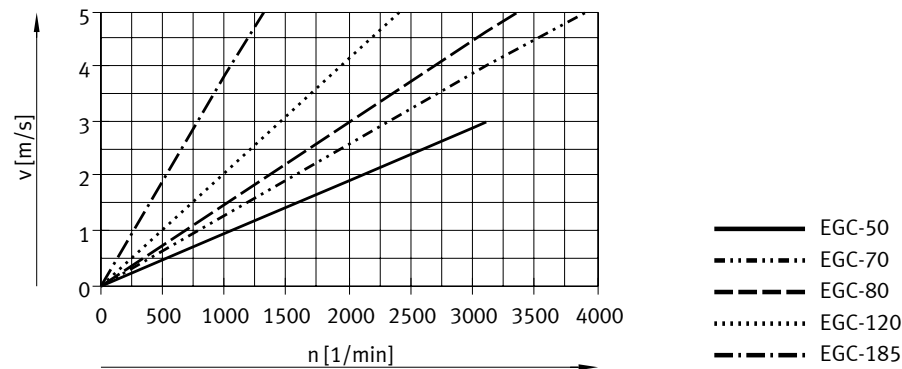
Size: 185



— Horizontal mounting position
 - - - Vertical mounting position

Datasheet

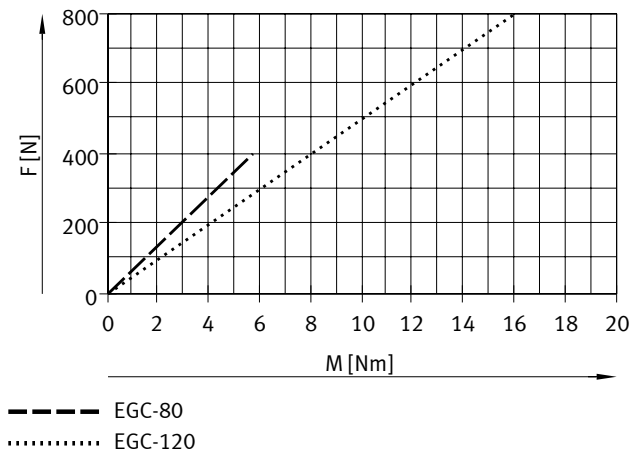
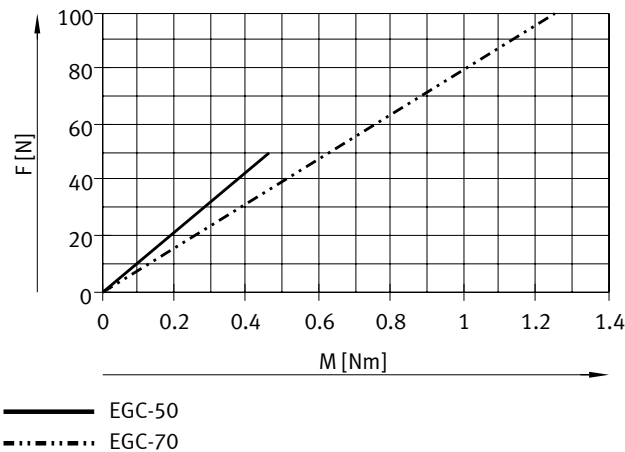
Speed v as a function of rotational speed n



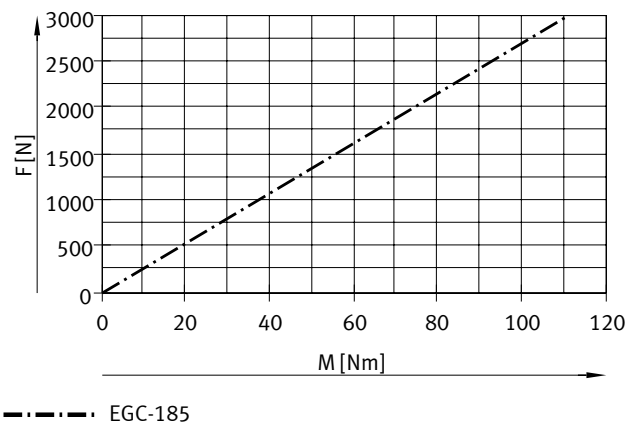
Theoretical feed force F as a function of the input torque M

Size 50/70

Size 80/120



Size 185



Datasheet

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 have an additional safety distance between the drive cover and slide that is not designated as part of the working stroke.	A safety distance (similar to GK/GV) between the drive cap and slide can be defined for the variants GP/GQ and GK-C/GV-C using the modular product system via the "stroke reserve" feature. With the variants GK/GV, the stroke reserve and safety distance are added for each end position.	• The stroke reserve length can be freely selected • The sum of the stroke length and 2x stroke reserve must not exceed the maximum working stroke	Example: 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

- For a toothed belt axis with additional slide, the working stroke is reduced by the length of the additional slide and the distance between the two 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 the two slides

[1] Additional slide

Example:

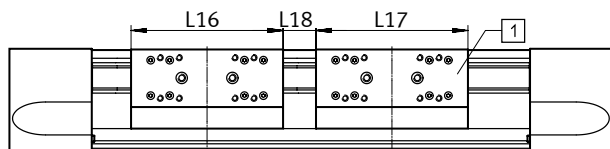
Type EGC-70-500-TB-...-GK-KL/KR

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 or GK-C/GV-C	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	125	120	146	200	236	280	308

Datasheet

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

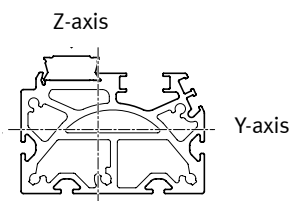
Working stroke reduction

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

2nd moment of area



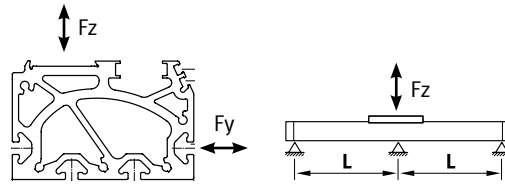
Size		50	70	80	120	185
I _y	[mm ⁴]	8.4x10 ⁴	3.95x10 ⁵	8.44x10 ⁵	4.62x10 ⁶	2.34x10 ⁷
I _z	[mm ⁴]	1.14x10 ⁵	5.77x10 ⁵	1.16x10 ⁶	5.65x10 ⁶	2.74x10 ⁷

Datasheet

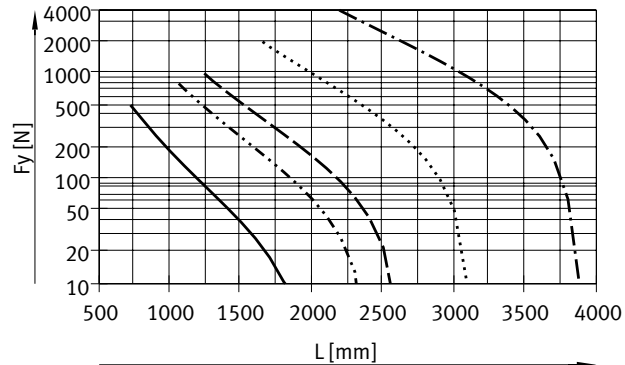
Maximum permissible support spacing L (without profile mounting MUE/central support EAHF) as a function of force F

The axis may need to be supported in order to limit deflection in the case of long strokes.

The following graphs can be used to determine the maximum permissible support spacing l as a function of force F acting on the axis. The deflection is $f = 0.5$ mm.

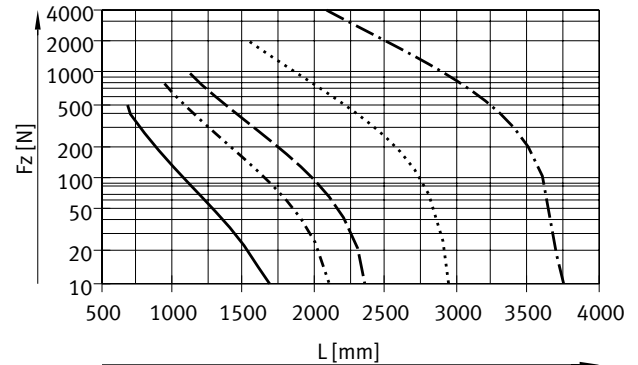


Force F_y



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

Size	Dynamic deflection (load moves)	Static deflection (stationary load)
50 ... 185	0.05% of the axis length, max. 0.5 mm	0.1% of the axis length

Datasheet

Central lubrication

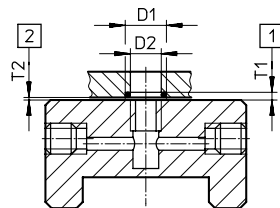
The lubrication adapters enable the guide of the toothed belt axis EGC-TB to be permanently lubricated in applications in humid or wet ambient conditions using semi or fully automatic relubrication devices.

- For size 70, 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.
- There are three connection options on each side
- Can be used in combination with:
 - Standard slide GK
 - Extended slide GV
 - Additional slide KL, KR
- Cannot be used in combination with:
 - Protected recirculating ball bearing guide GP, GQ

Slide dimensions
→ page 31

Connection option for customer design

The drawing on the right 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 $\varnothing 6 \times 1$ mm (DIN3771)

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

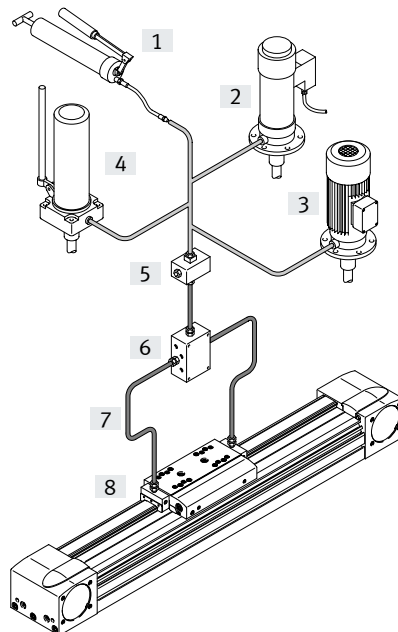
Additional dimensions → page 31

Design 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)

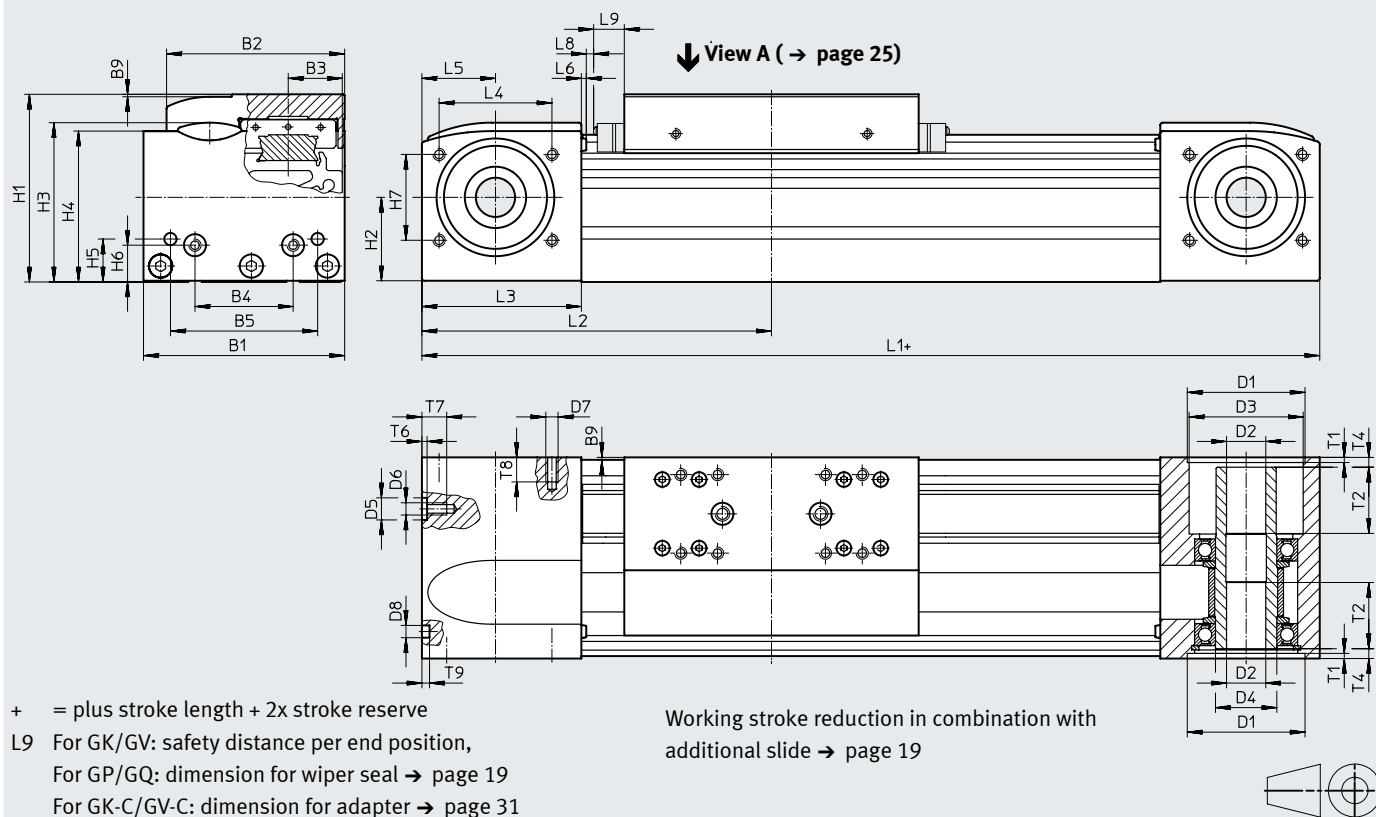
Festo recommends these companies because they can supply all the necessary components.



- [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

Datasheet

Dimensions

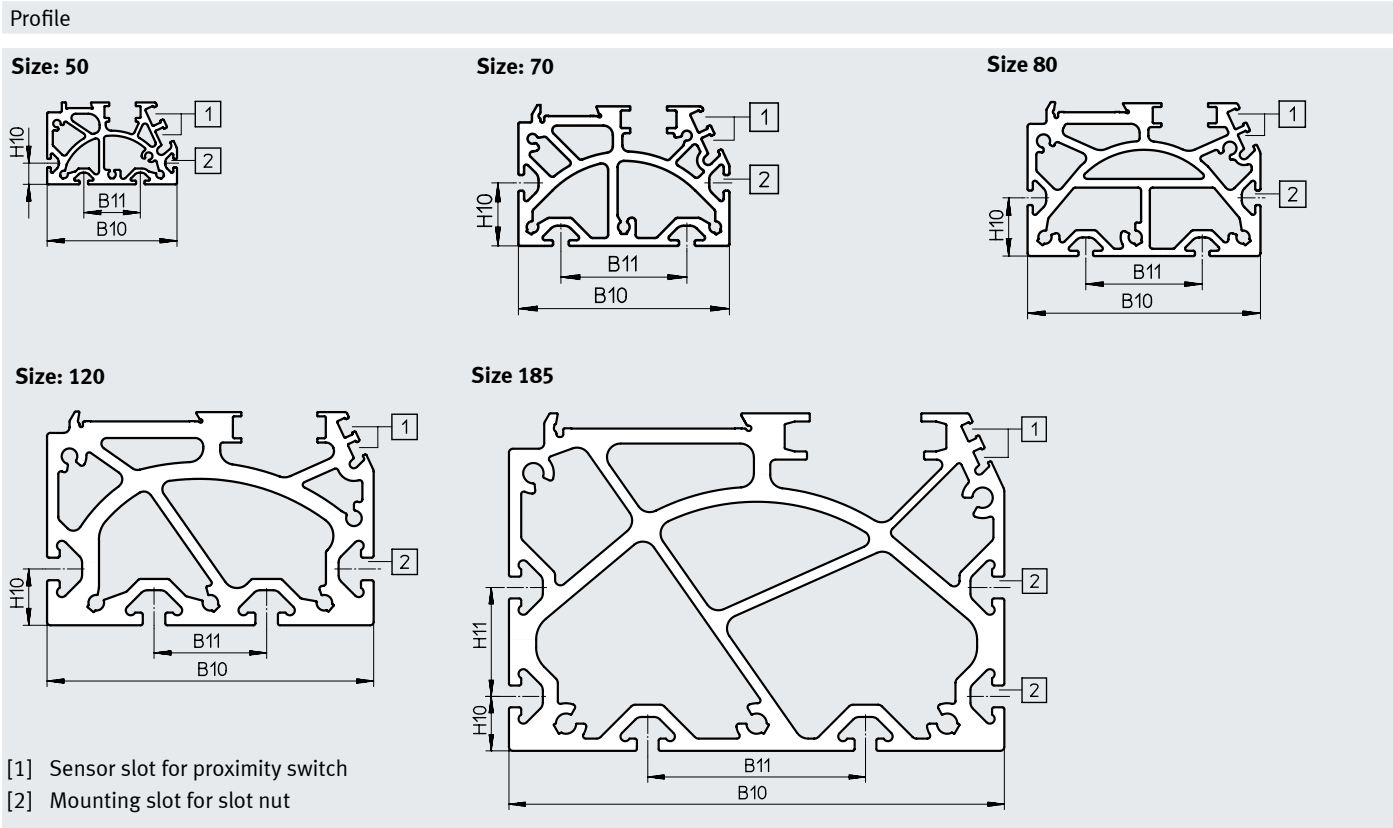
Download CAD data → www.festo.com

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

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

Size	L3	L4	L5	L6	L8	L9	T1	T2	T4	T6	T7	T8	T9
50	40	26	20	1.8	3	–	1.5	–	5.9	–	7	8	3.1
70	57.5	36	27.5	1.8	3	10.5	2.1	18	7.15	–	10	12	3.1
80	65	46	30	2	3	13	2.1	27	4	2.1	10	12	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

Datasheet



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**
Requirements for the flatness of the bearing surface and of attachments as well as for use in parallel structures can be found at www.festo.com/sp → User documentation

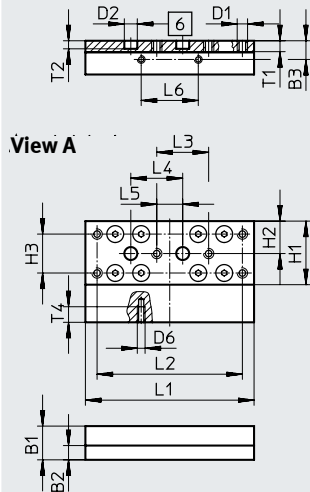
Datasheet

Dimensions

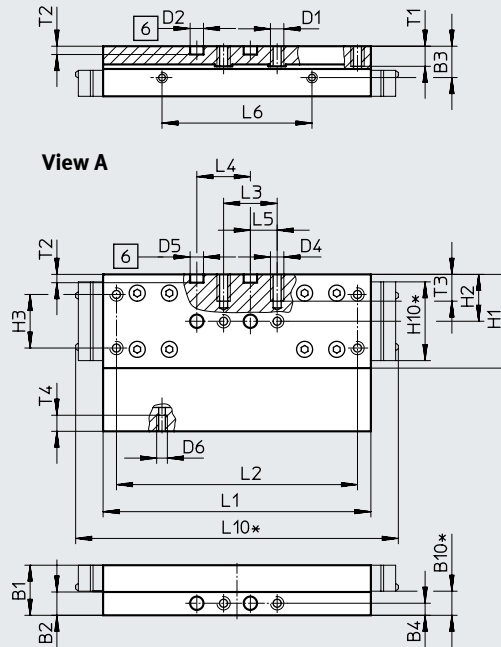
Download CAD data → www.festo.com

GK – Standard slide / GP – Standard slide, protected

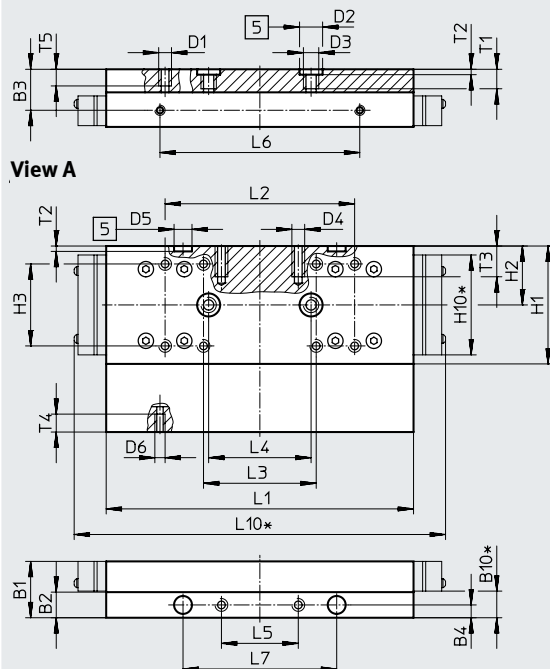
Size 50



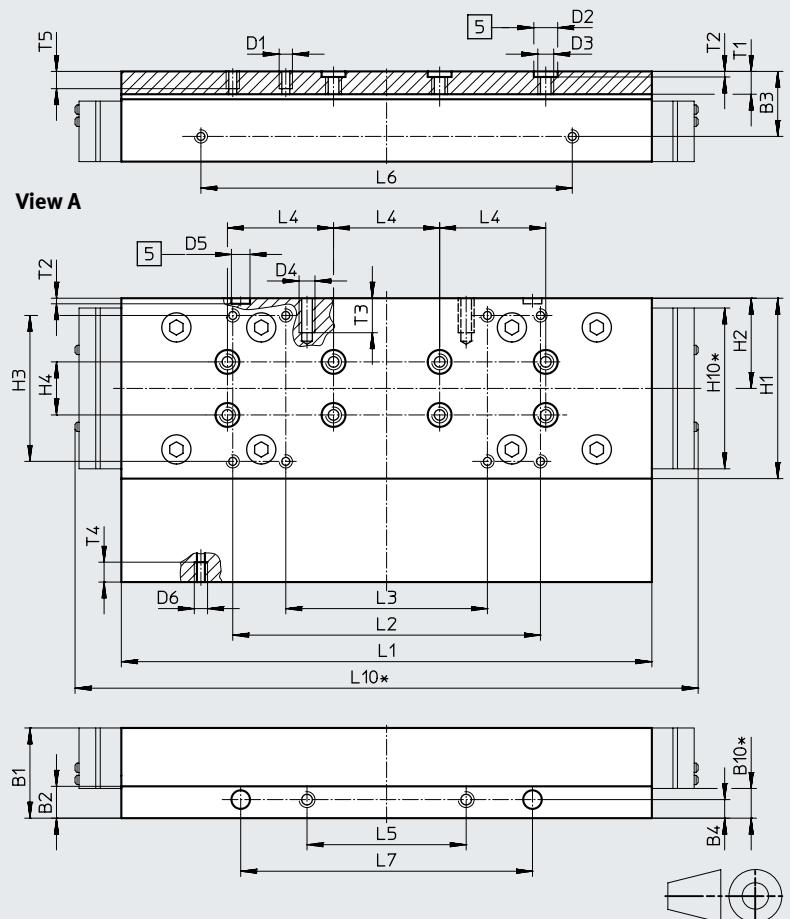
Size 70



Size 80



Size: 120



[5] Drill hole for centring sleeve

[6] Drilled hole for centring pin

* Protected version

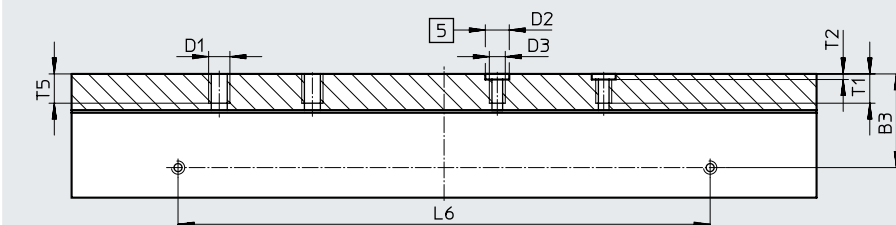
Datasheet

Dimensions

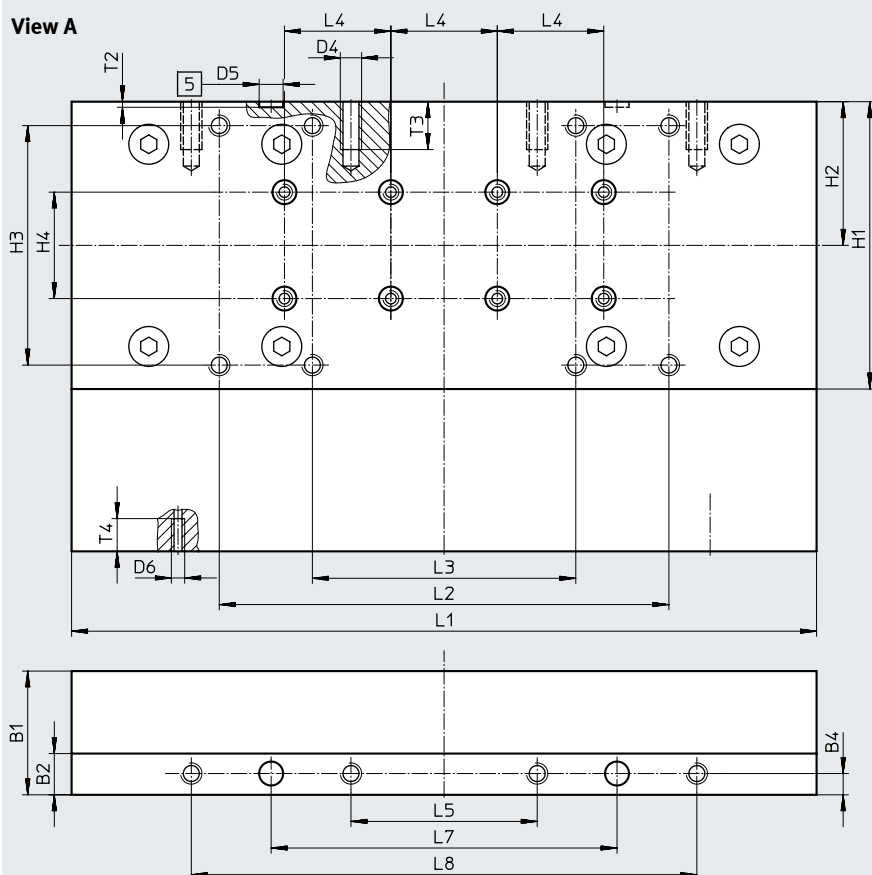
Download CAD data → www.festo.com

GK – Standard slide

Size 185



View A



[5] Drill hole for centring sleeve



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

Size	H10*	L1 ±0.1	L2	L3	L4 ±0.03	L5	L6 ±0.1	L7 ±0.05	L8 ±0.2	L10*	T1	T2 +0.1	T3	T4	T5
50	–	65	56 ±0.1	20 ±0.1	20	10 ±0.1	22	–	–	–	4.2	3.1	–	6	–
70	29.4	100	90 ±0.1	20 ±0.1	20	10 ±0.1	56	–	–	121	7.5	3.1	10	6	–
80	39	120	74 ±0.2	44 ±0.2	40	30 ±0.1	78	60	–	145	8.6	2.1	12	7	7.5
120	60.6	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

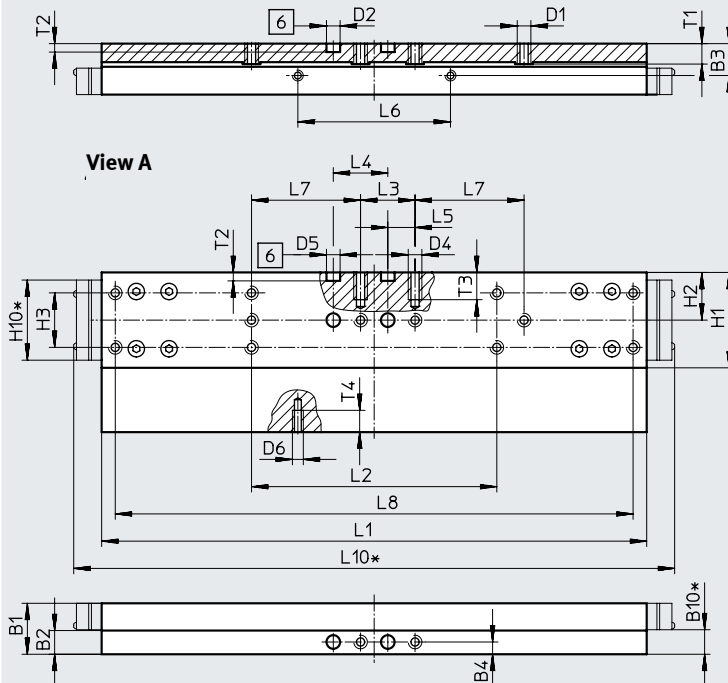
Datasheet

Dimensions

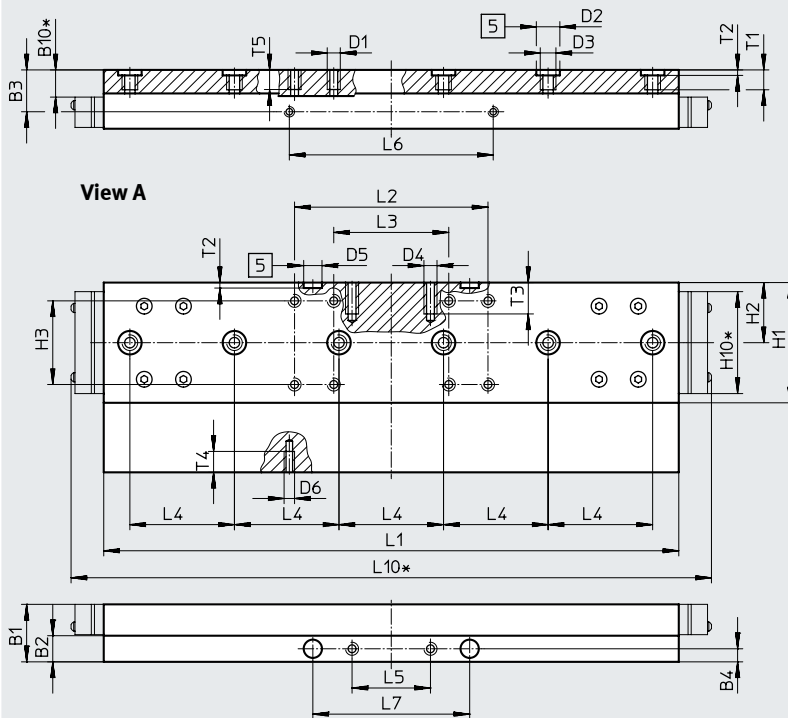
Download CAD data → www.festo.com

GV – Extended slide / GQ – Extended slide, protected

Size 70



Size 80



[5] Drill hole for centring sleeve

[6] Drilled hole for centring pin

* Protected version



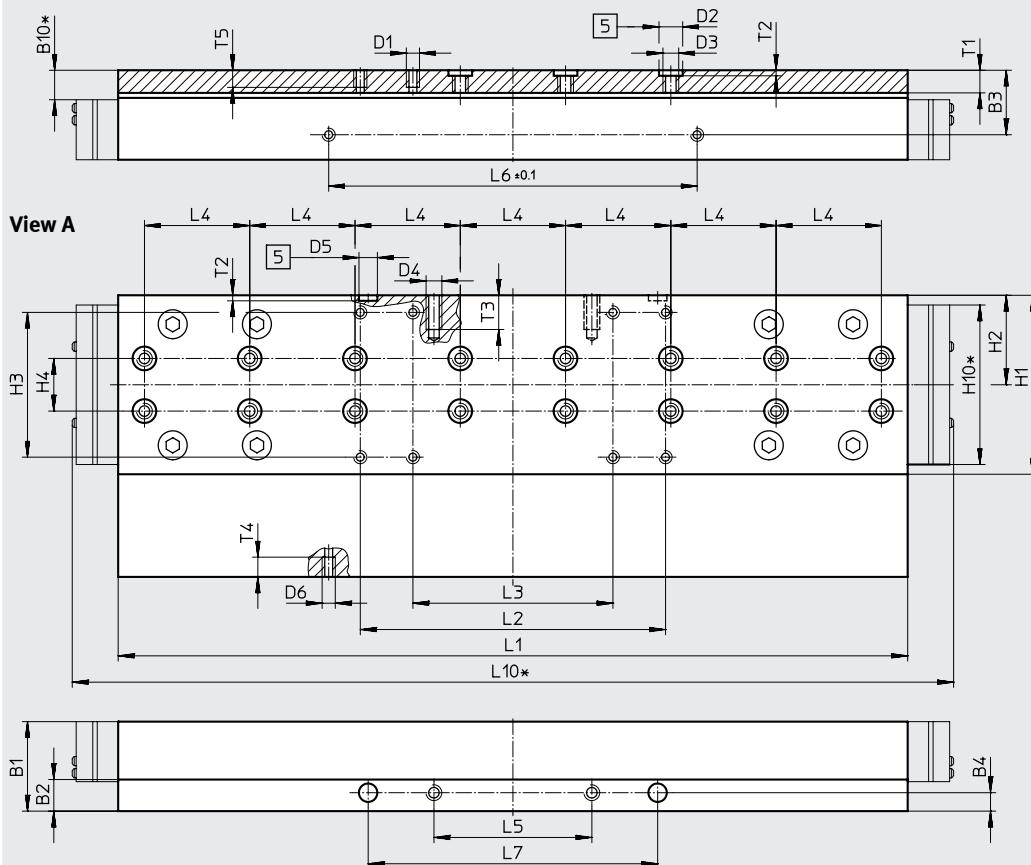
Datasheet

Dimensions

Download CAD data → www.festo.com

GV – Extended slide / GQ – Extended slide, protected

Size 120



Size	B1	B2	B3	B4	B10*	D1	D2 ø H7	D3	D4	D5 ø 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	L8 ±0.2	L10*	T1 ±0.1	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

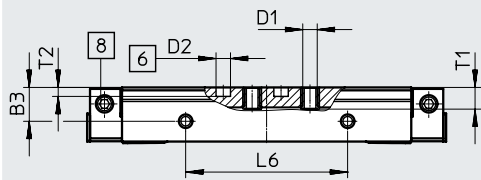
* Protected version

Datasheet

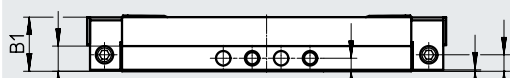
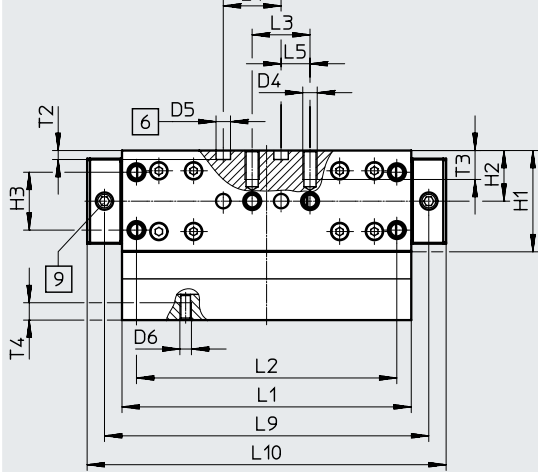
Dimensions Download CAD data → www.festo.com

GK-C – Standard slide with lubrication adapter

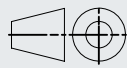
Size 70



View A



- [6] Drilled hole for centring pin
- [8] Lubricating hole for lubrication adapter
M6 threaded connection, 6 mm deep
- [9] Lubricating hole for lubrication adapter
M6 threaded connection, 5.5 mm deep



Size	B1	B2	B3	B4	B5	B6	D1	D2 Ø H7	D4
70	18.7	8.7	11.7	4.5	0.5	5.7	M5	5	M5

Size	D5 Ø H7	D6	H1	H2	H3	L1	L2	L3	L4
70	5	M4	35	17.5	20	100	90	20	20

Size	L5	L6	L9	L10	L11	T1	T2	T3	T4
70	10	56	112.1	124.1	30	7.5	3.1	10	6

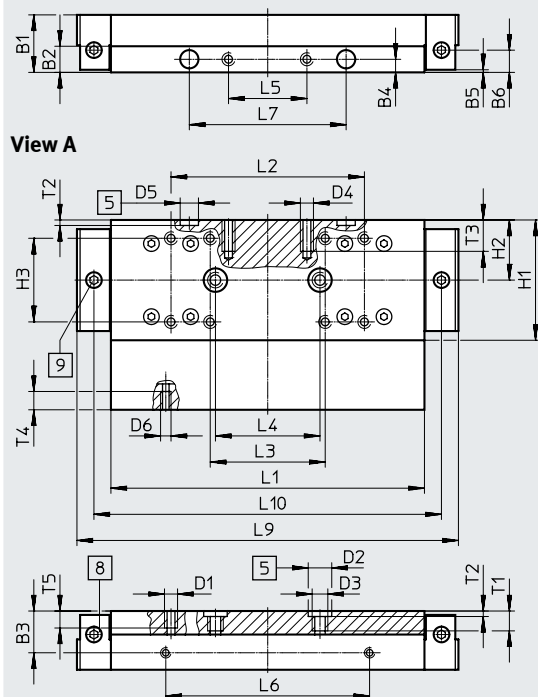
Datasheet

Dimensions

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

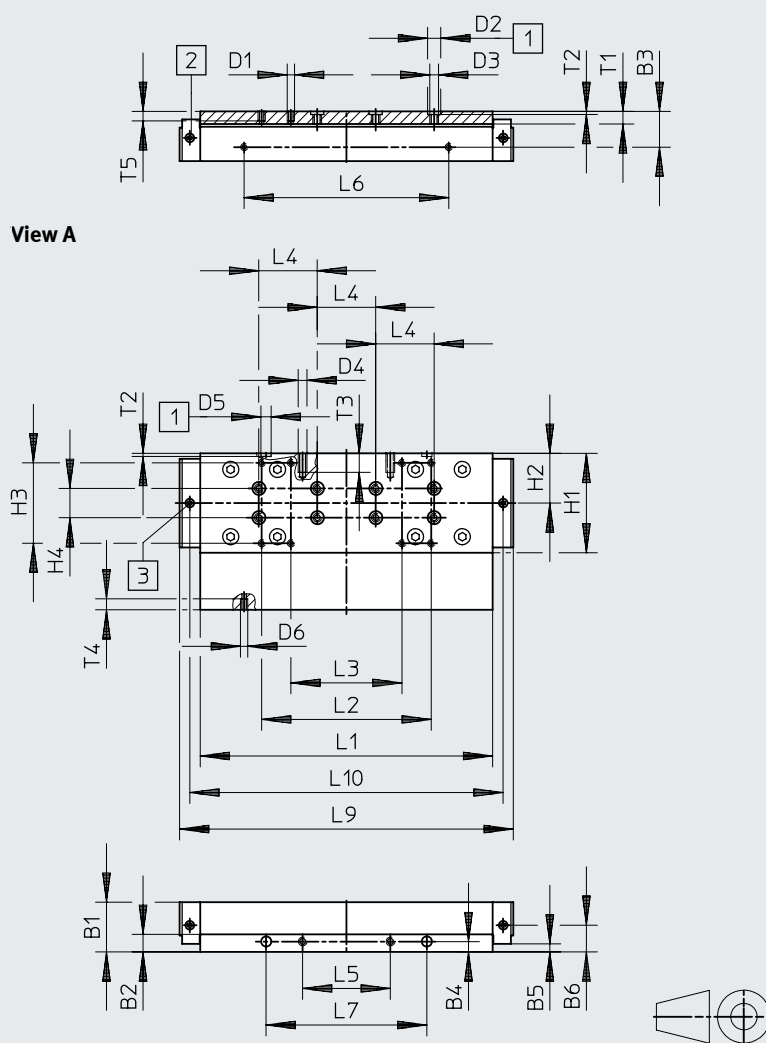
GK-C – Standard slide with lubrication adapter

Size 80



- [5] Drilled hole for centring sleeve
 [8] Lubricating hole for lubrication adapter
 M6 threaded connection, 6 mm deep
 [9] Lubricating hole for lubrication adapter
 M6 threaded connection, 5.5 mm deep

Size 120



Size	B1	B2	B3	B4	B5	B6	D1	D2 ø H7	D3	D4
80	22	10	16	5	1	8.5	M5	9	M6	M5
120	34	12	24.5	7	5.5	13.9	M5	9	M6	M6

Size	D5 ø H7	D6	H1	H2	H3	H4	L1	L2	L3	L4
80	7	M4	46	23	32	–	120	74	44	40
120	7	M5	68	34	55	20	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	228.3	214.3	8.6	2.1	13	7.5	7.5

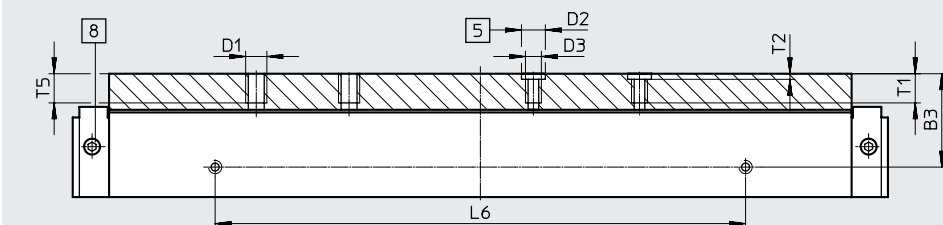
Datasheet

Dimensions

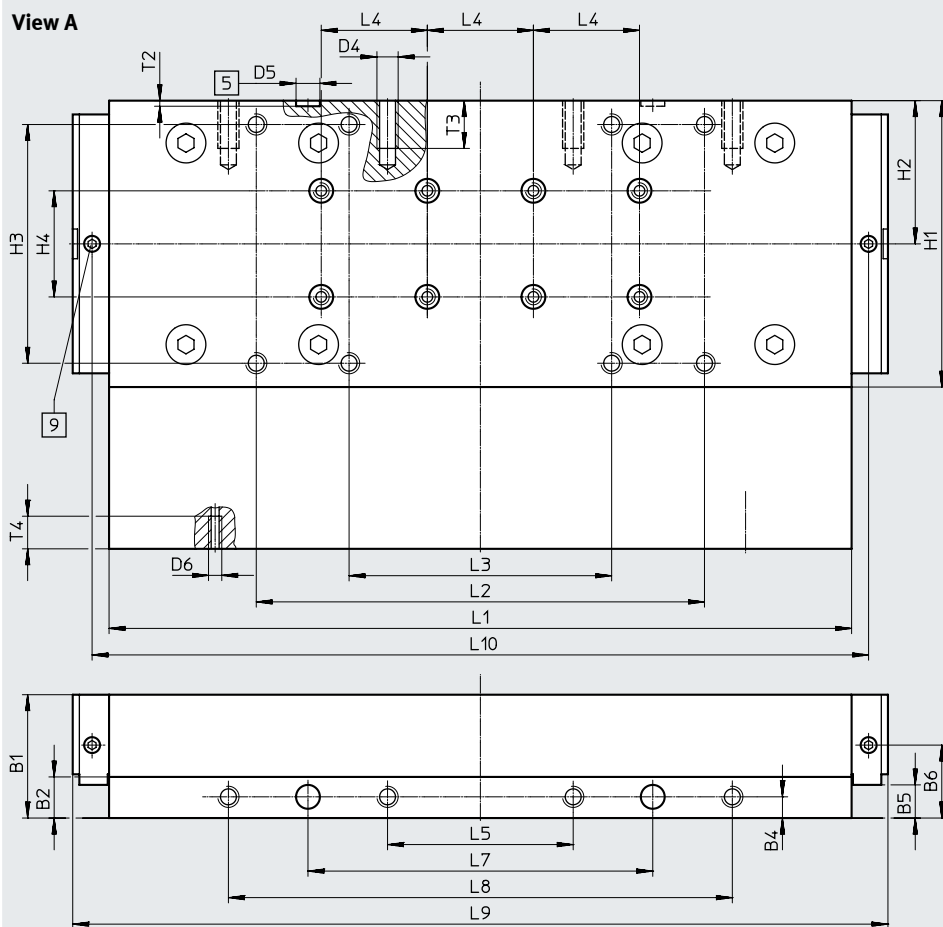
Download CAD data → www.festo.com

GK-C – Standard slide with lubrication adapter

Size 185



View A



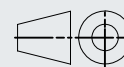
[5] Drilled hole for centring sleeve

[9] Lubricating hole for lubrication adapter

[8] Lubricating hole for lubrication adapter

M6 threaded connection, 5.5 mm deep

M6 threaded connection, 6 mm deep



Size	B1	B2	B3	B4	B5	B6	D1	D2 Ø H7	D3	D4	
185	46.5	15.5	35.2	8	±0.1 12.5	27.5	M8	9	M6	M8	
Size	D5 Ø H7	D6	H1	H2	H3	H4	L1	L2	L3	L4	
185	9	M5	108	54	±0.2 90	±0.03 40	±0.1 282.8	±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

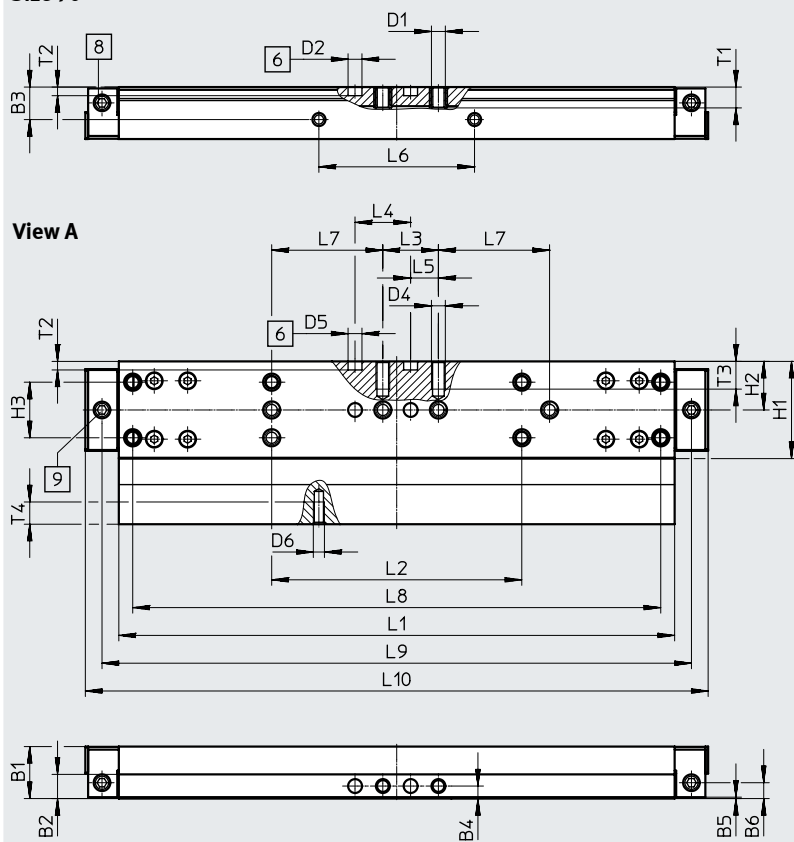
Datasheet

Dimensions

Download CAD data → www.festo.com

GV-C – Extended slide with lubrication adapter

Size 70



- [6] Drilled hole for centring pin
- [8] Lubricating hole for lubrication adapter
M6 threaded connection, 6 mm deep
- [9] Lubricating hole for lubrication adapter
M6 threaded connection, 5.5 mm deep

Size	B1	B2	B3	B4	B5	B6	D1	D2 ∅ H7	D4	D5 ∅ H7
70	18.7	8.7	11.7	4.5	0.5	5.7	M5	5	M5	5

Size	D6	H1	H2	H3	L1	L2	L3	L4	L5	L6
				±0.1	±0.1	±0.1	±0.1	±0.03		±0.1
70	M4	35	17.5	20	200	90	20	20	10	56

Size	L7	L8	L9	L10	L11	T1	T2	T3	T4
	±0.1	±0.2					+0.1		
70	40	190	212.1	224.1	30	7.5	3.1	10	6

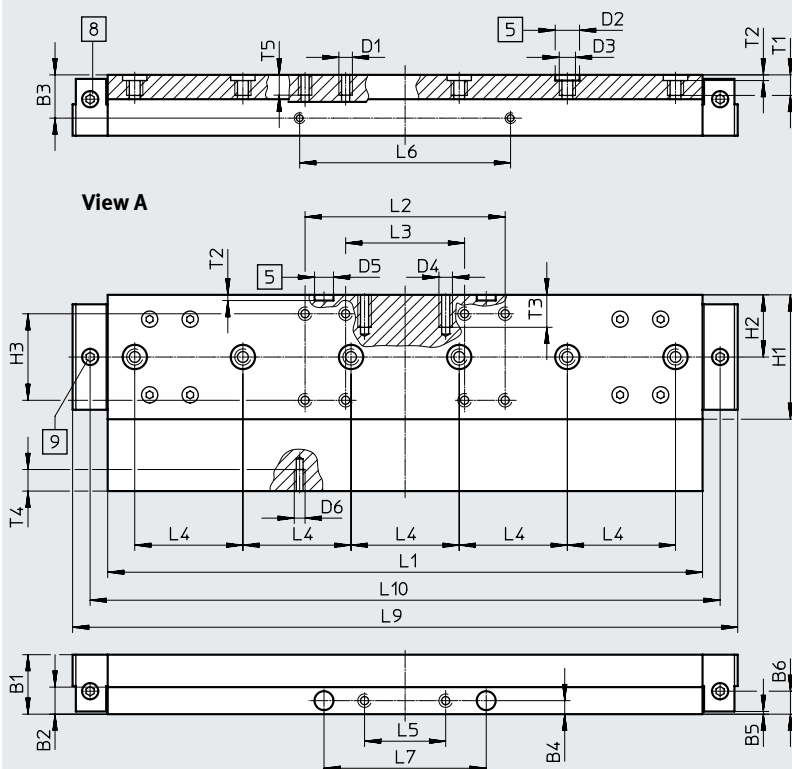
Datasheet

Dimensions

Download CAD data → www.festo.com

GV-C – Extended slide with lubrication adapter

Size: 80



[5] Drilled hole for centring sleeve

[8] Lubricating hole for lubrication adapter
M6 threaded connection, 6 mm deep[9] Lubricating hole for lubrication adapter
M6 threaded connection, 5.5 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	

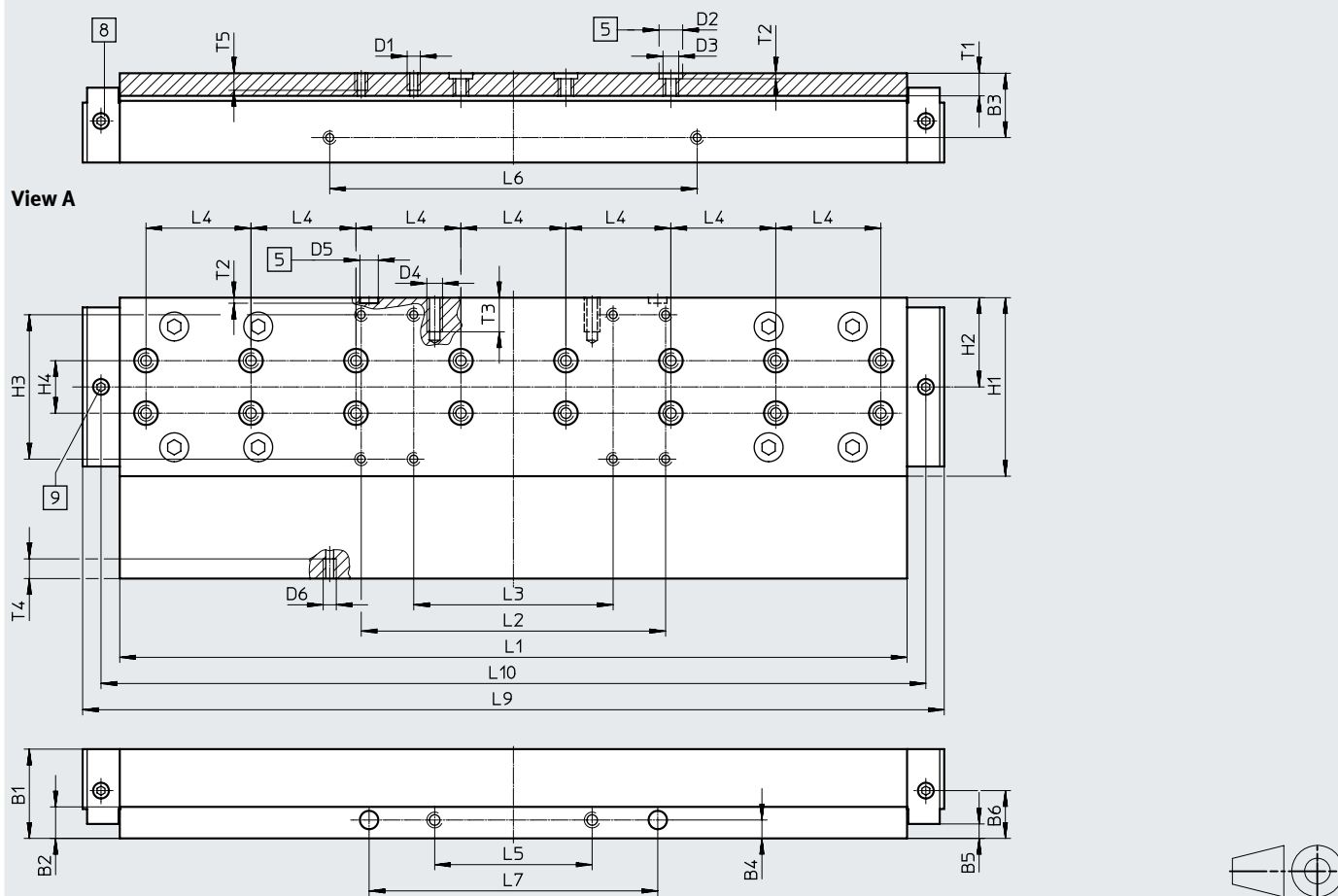
Datasheet

Dimensions

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

GV-C – Extended slide with lubrication adapter

Size: 120



[5] Drilled hole for centring sleeve

[8] Lubricating hole for lubrication adapter
M6 threaded connection, 6 mm deep[9] Lubricating hole for lubrication adapter
M6 threaded connection, 5.5 mm deep

Size	B1	B2	B3	B4	B5	B6	D1	D2 ∅ H7	D3	D4
120	34	12	24.5	7	5.5 ±0.1	13.9	M5	9	M6	M6
Size	D5 ∅ H7	D6	H1	H2	H3	H4	L1	L2	L3	L4
120	7	M5	68	34	55 ±0.2	20 ±0.03	303.3 ±0.1	116 ±0.2	76 ±0.2	40 ±0.03
Size	L5	L6	L7	L9	L10	T1	T2	T3	T4	T5
120	60 ±0.1	140 ±0.1	110 ±0.05	328.3	314.3	8.6	2.1 ±0.1	13	7.5	7.5

Datasheet

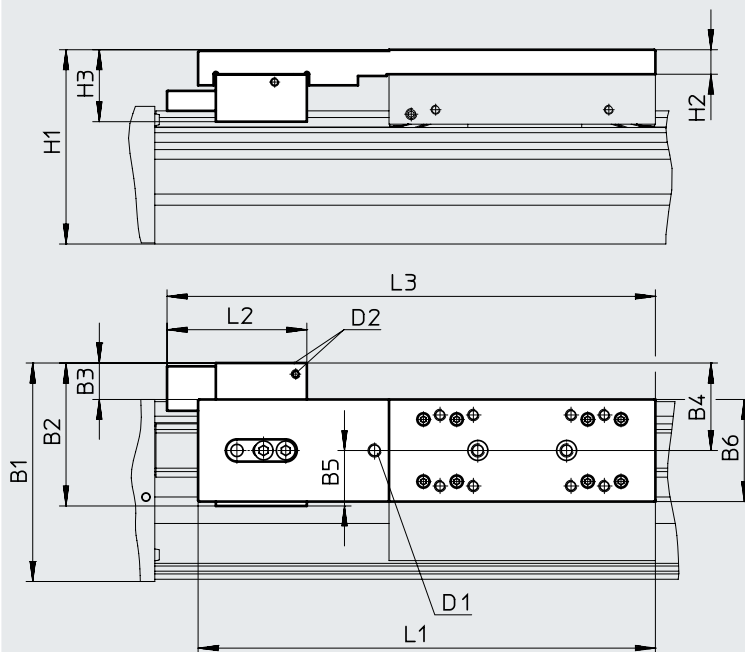
Dimensions

Download CAD data → www.festo.com

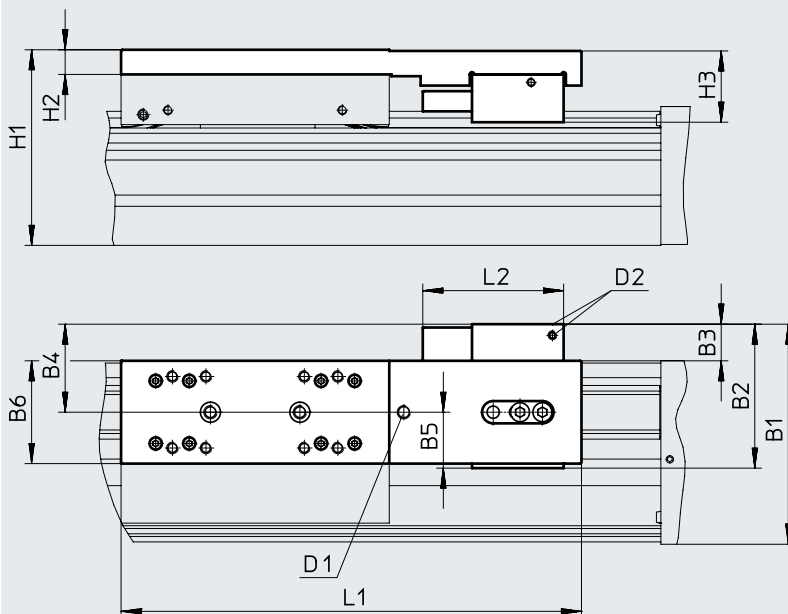
1HL/1HR – With clamping unit

Size 80

1-channel, left

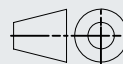


1-channel, right



D1 Optional: threaded connection for lubrication adapter

D2 Compressed air supply ports



Working stroke reduction in combination with clamping unit → page 20

Datasheet

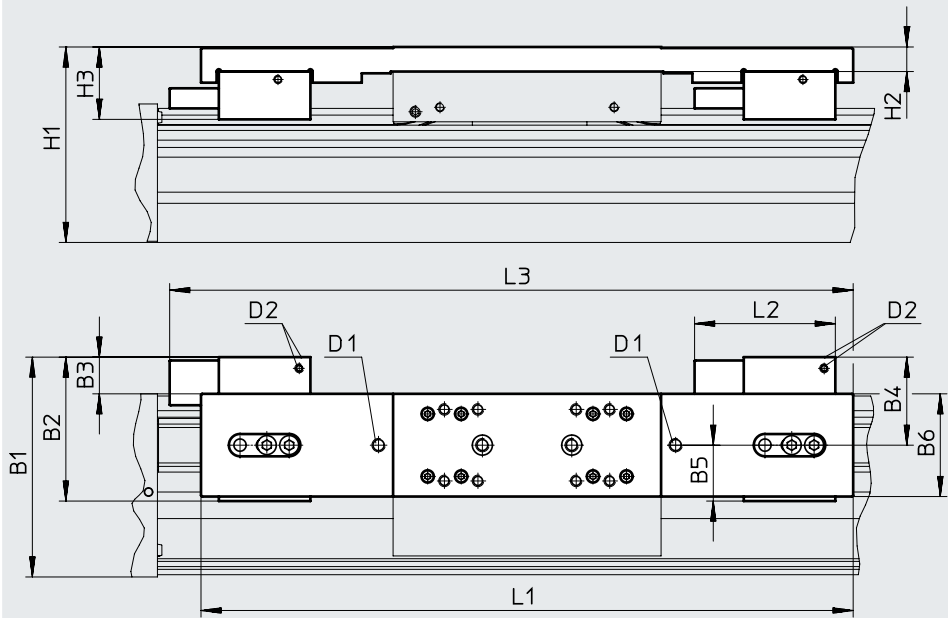
Dimensions

Download CAD data → www.festo.com

2H – With clamping unit

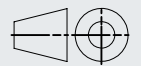
Size 80

2-channel



D1 Optional: threaded connection for lubrication adapter
D2 Compressed air supply ports

Working stroke reduction in combination with clamping unit → page 20



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														

Datasheet

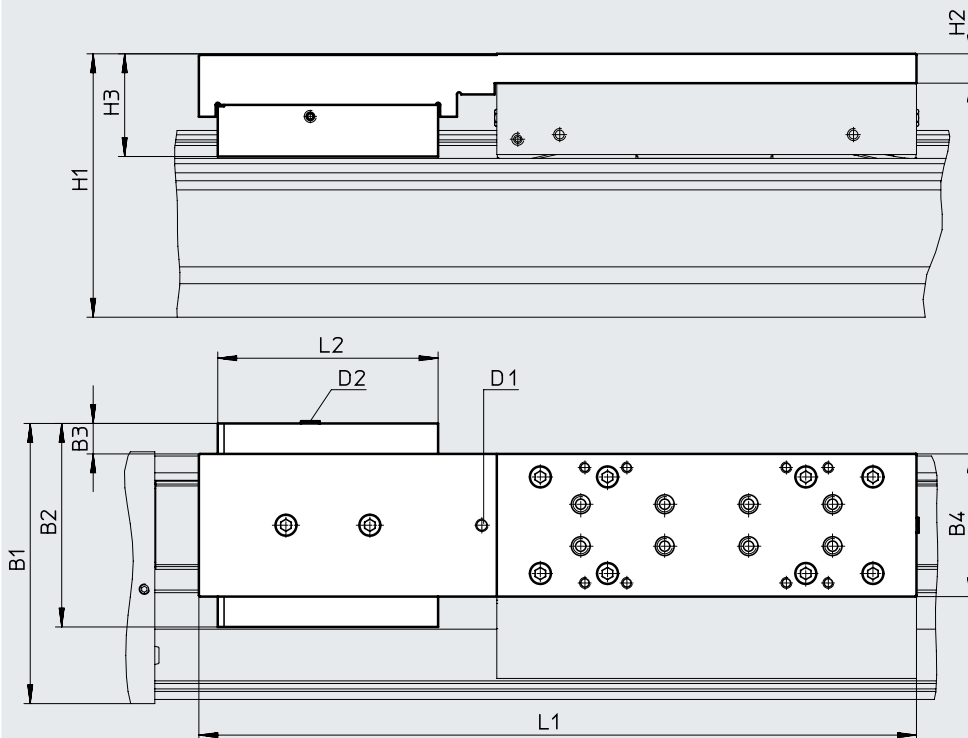
Dimensions

Download CAD data → www.festo.com

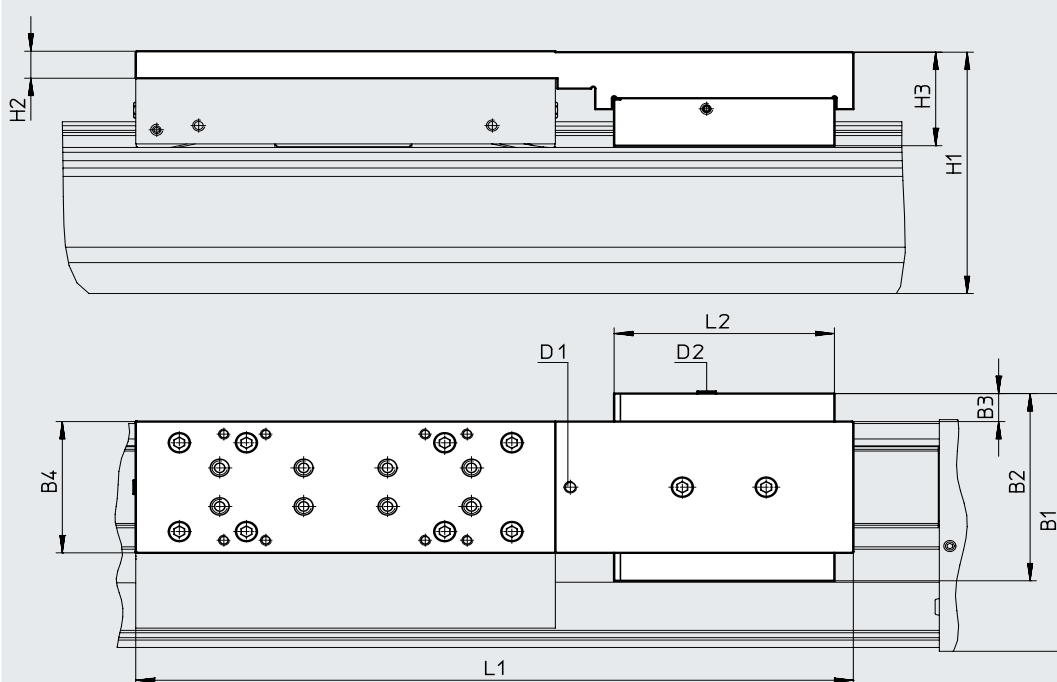
1HL/1HR – With clamping unit

Size 120/185

1-channel, left



1-channel, right



D1 Optional: threaded connection for lubrication adapter

D2 Compressed air supply port

Working stroke reduction in combination with clamping unit → page 20

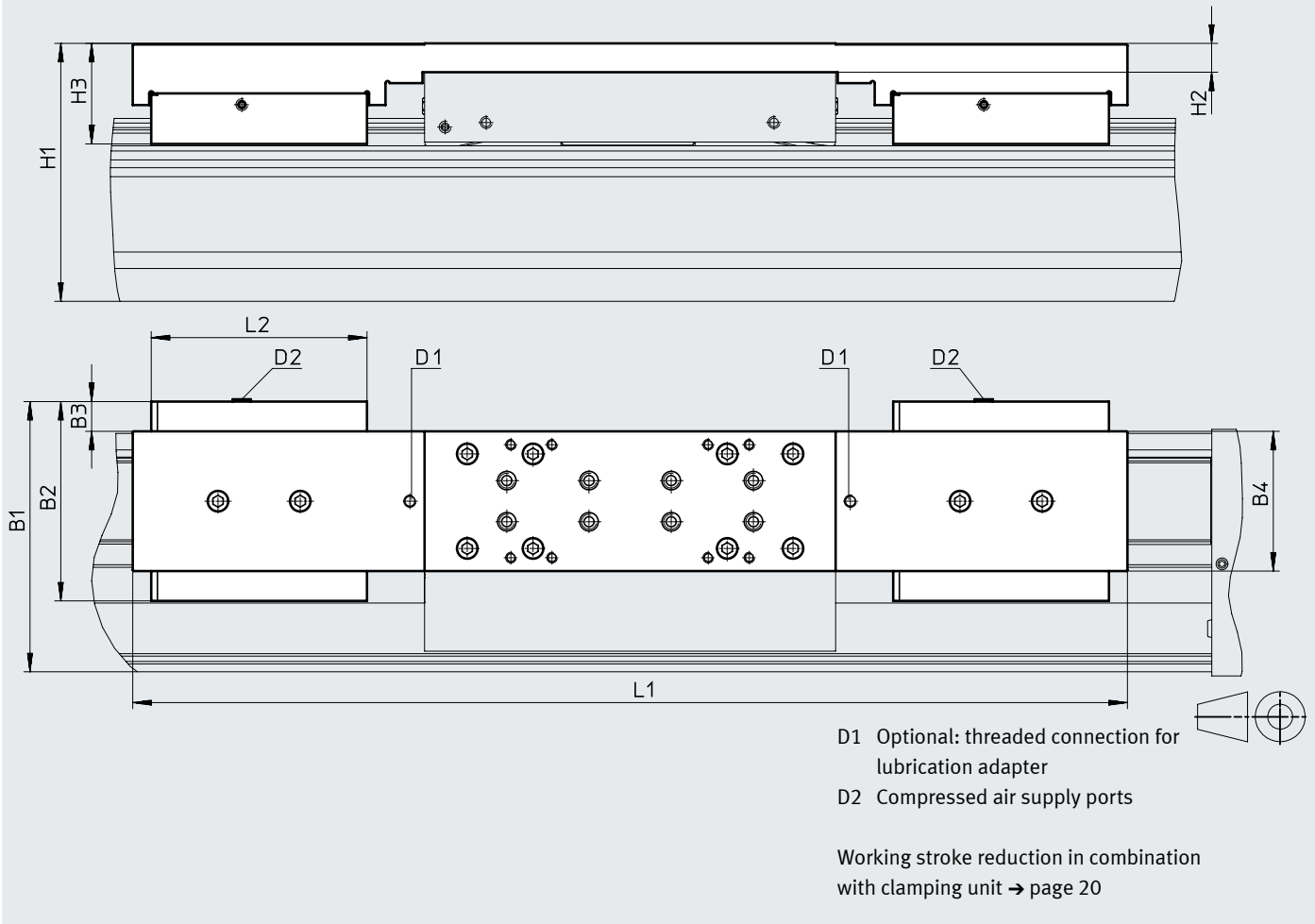
Datasheet

Dimensions Download CAD data → www.festo.com

2H – With clamping unit

Size 120/185

2-channel



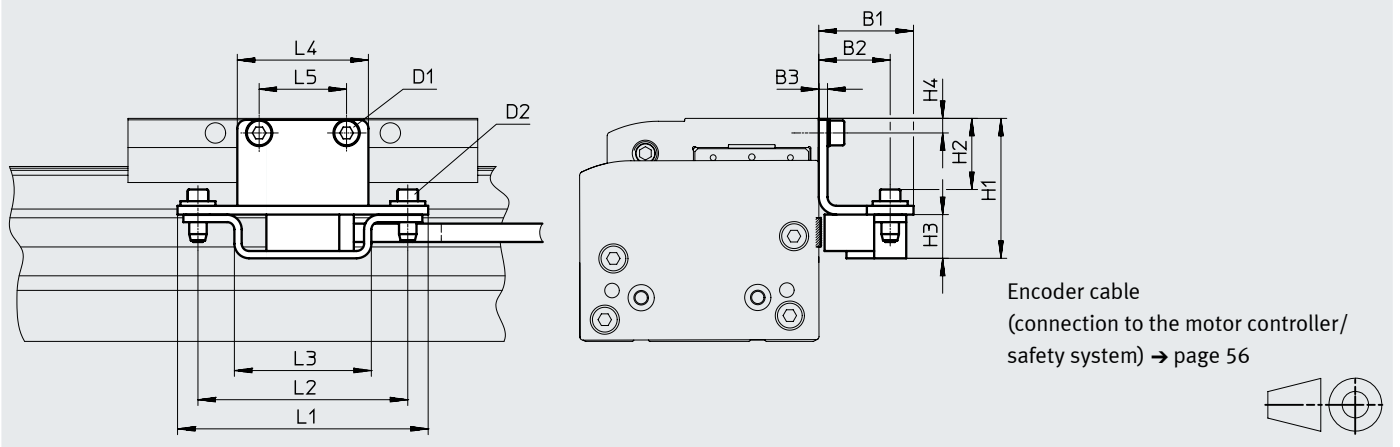
Type	B1	B2	B3	B4	H1	H2	H3	D1	D2	L1	L2
Size: 120											
EGC-120-...-1HL-PN	133.5	97	15.5	68	125.5	14	48.9	M6	M5	342	105
EGC-120-...-1HR-PN											
EGC-120-...-C-1HL-PN											
EGC-120-...-C-1HR-PN											
EGC-120-...-2H-PN										484	
EGC-120-...-C-2H-PN											
Size: 185											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

Datasheet

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

Datasheet

Ordering data

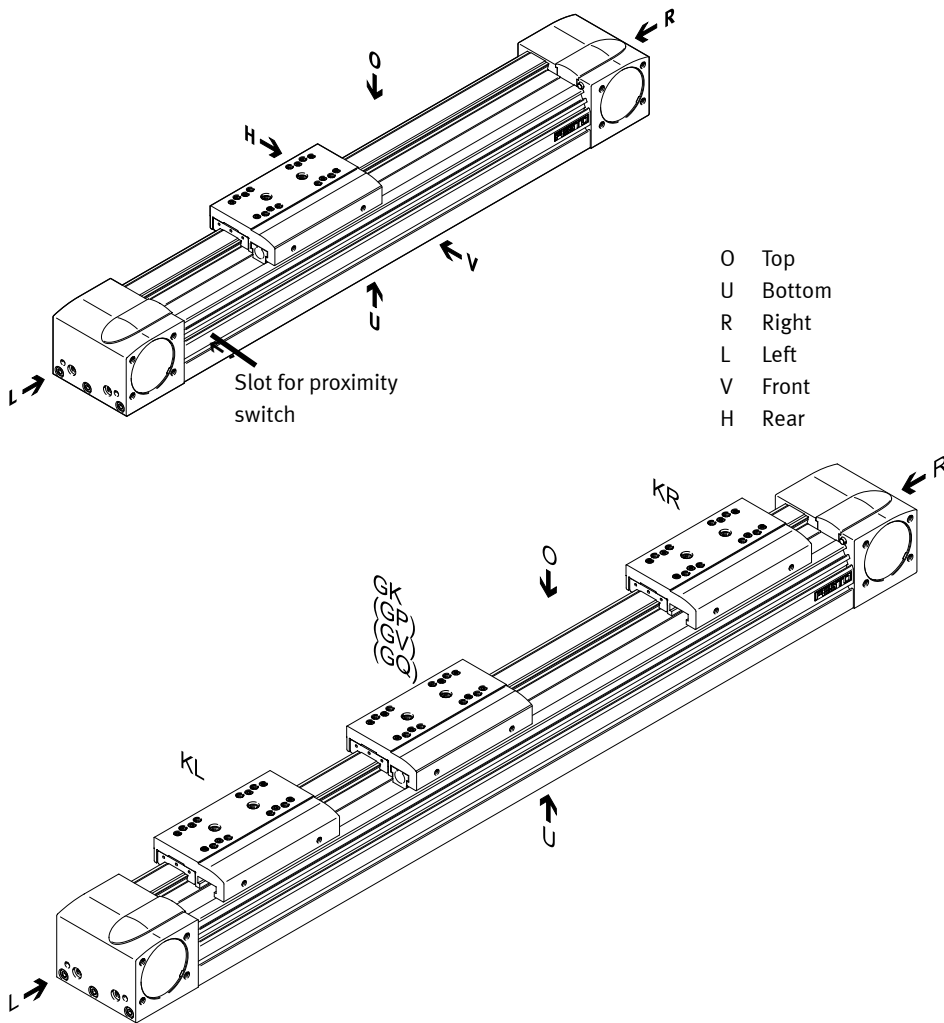
Key features:

- 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

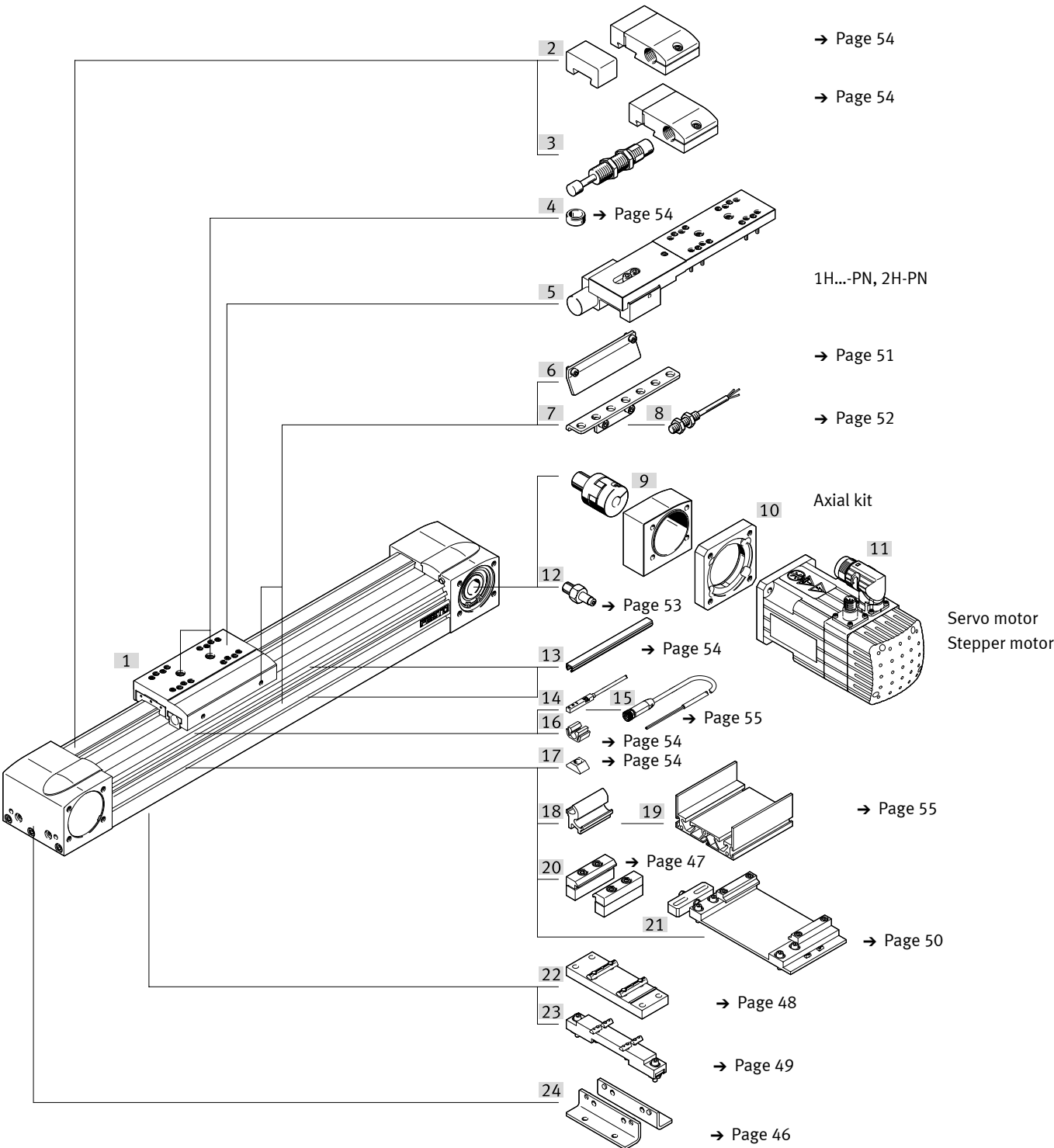
Ordering data – Modular product system

Orientation guide



Ordering data – Modular product system

Accessories



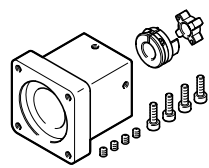
Ordering data – Modular product system

Ordering table								
Size	50	70	80	120	185	Conditions	Code	Enter code
Module no.	556812	556813	556814	556815	556817			
Design	Linear axis						EGC	EGC
Size	50	70	80	120	185		-...	-...
Stroke length [mm]	50 ... 1900	50 ... 5000	50 ... 8500	50 ... 8500 (50 ... 8400 with GV, GQ)	50 ... 8500 (50 ... 8400 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	
Additional slide	Left	Additional slide, standard, left				[2]	-KL	
	Right	Additional slide, standard, right				[2]	-KR	
Lubrication function	Standard							
Displacement encoder, incremental	–	Lubrication adapter				[3]	-C	
	–	None						
	–	Resolution: 2.5 ìm					-M1	
	–	Resolution: 10 ìm					-M2	
Clamping unit	–	None						
	–	1-channel, left				[4]	-1HL	
	–	1-channel, right				[4]	-1HR	
	–	2-channel				[4]	-2H	
Actuation type	–	None						
	–	Pneumatic					-PN	
Toothed belt material	Chloroprene rubber							
	–	Coated PU					-PU2	
EU certification	II 2G				–	[5]	-EX3	

- [1] ~... The sum of the nominal stroke and 2x stroke reserve must not exceed the maximum stroke length
- [2] **KL, KR** If the protected slide variant (GQ, GP) is selected, the additional slide (KL, KR) is also protected
If the extended slide variant (GQ, GV) is selected, 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) → page 19
- [3] **C** Not with standard slide, protected GP and extended slide, protected GQ
- [4] **1HL, 1HR, 2H** Not with slide GQ, GV or with additional slide KL, KR
Only with PN
Working stroke reduction in combination with clamping unit (1HL, 1HR, 2H) → page 20
- [5] **EX3** Not with M1, M2, 1HL, 1HR, 2H, PN

Accessories

Permitted axis/motor combinations for axial kits



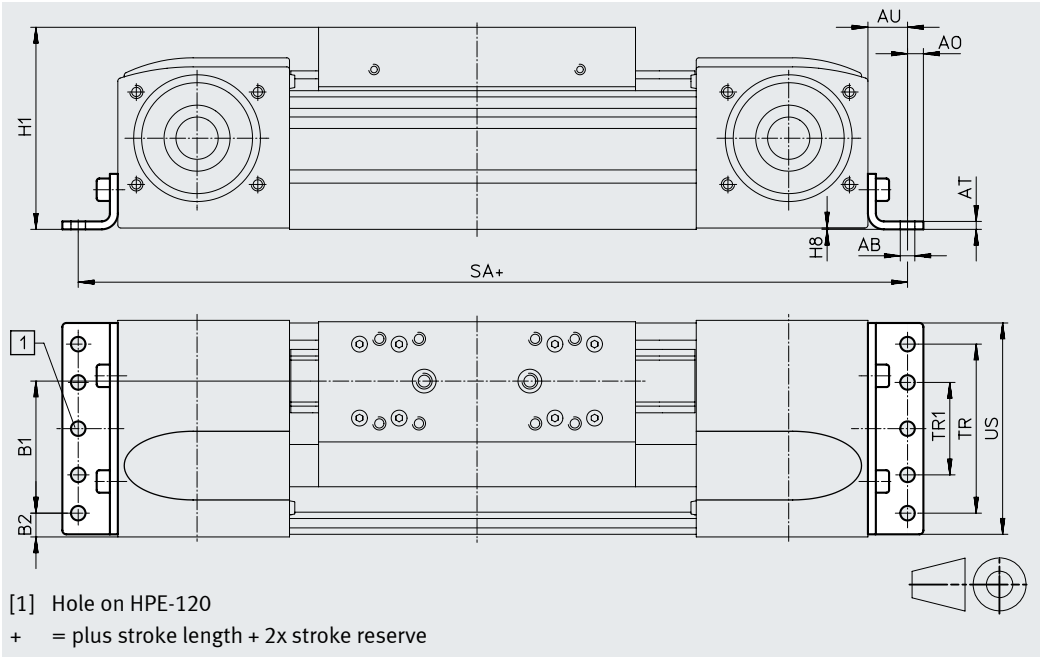
Under the following links you will find all information about:

- Axis/motor combinations
- Permitted third-party motors
- Technical data
- Dimensions

For axial kits → Internet: eamm-a

Foot mounting HPE

Material:
Galvanised steel
RoHS-compliant



Dimensions and ordering data								
For size	AB ø	A0	AT	AU	B1	B2	H1	H8
50	4.5	4.5	2	10.5	21.5	14	42.5	0.5
70	5.5	6	3	13	37	14.5	64	0.5
80	5.5	6	3	15	38	21	76.5	0.5
120	9	8	6	22	65	20	111.5	0.6
185	9	12	8	25	118	13	172.5	0.5

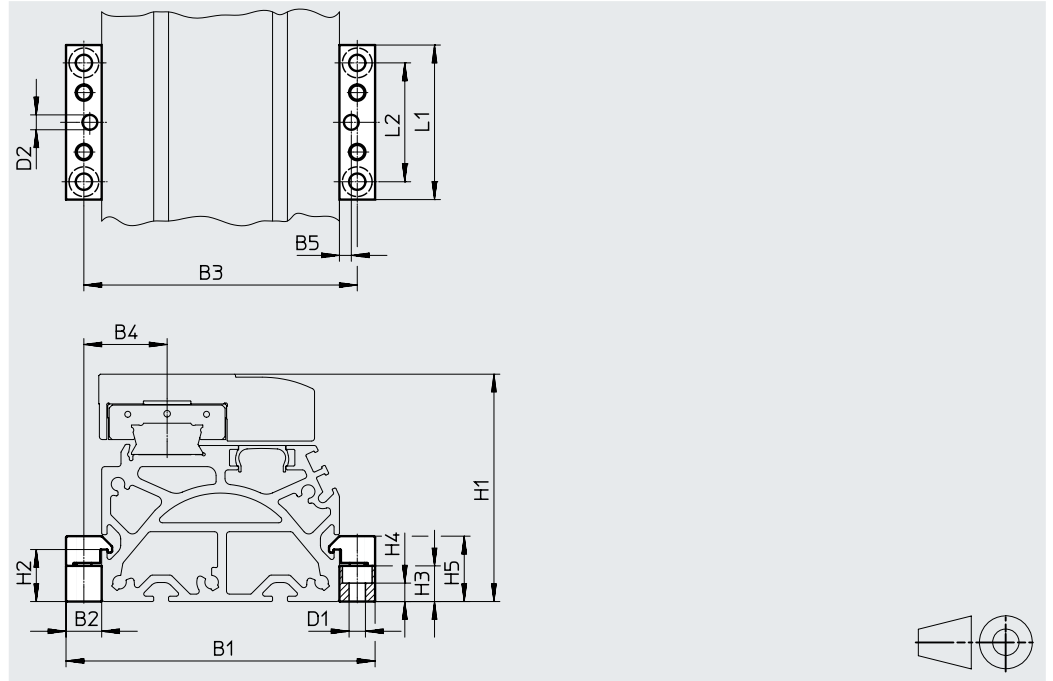
For size	SA		TR	TR1	US	Weight [g]	Part no.	Type ¹⁾
	EGC-...-GK	EGC-...-GV						
50	176	–	20	–	46	44	558320	HPE-50
70	272	372	40	–	67	115	558321	HPE-70
80	316	416	40	–	80	150	558322	HPE-80
120	490	590	80	–	116	578	558323	HPE-120
185	662	762	160	80	182	1438	558325	HPE-185

1) Suitable for ATEX

Accessories

Profile mounting MUE

Material:
Anodised aluminium
RoHS-compliant



Dimensions and ordering data

For size	B1	B2	B3	B4	B5	D1 ø	D2 ø H7	H1	H2
50	62	8	54	15.5	4	3.4	5	42.5	6
70	91	12	79	22.5	4	5.5	5	64	17.5
80	104	12	92	28	4	5.5	5	76.5	17.5
120	154	19	135	42.5	4	9	5	111.5	16
185	220	19	201	62.5	4	9	5	172.5	16

For size	H3	H4	H5	L1	L2	Weight [g]	Part no.	Type ¹⁾
50	5.5	2.3	11	40	20	20	558042	MUE-50
70	12	6.2	22	52	40	80	558043	MUE-70/80
80	12	6.2	22	52	40	80	558043	MUE-70/80
120	14	5.5	29.5	90	40	290	558044	MUE-120/185
185	14	5.5	29.5	90	40	290	558044	MUE-120/185

1) Suitable for ATEX

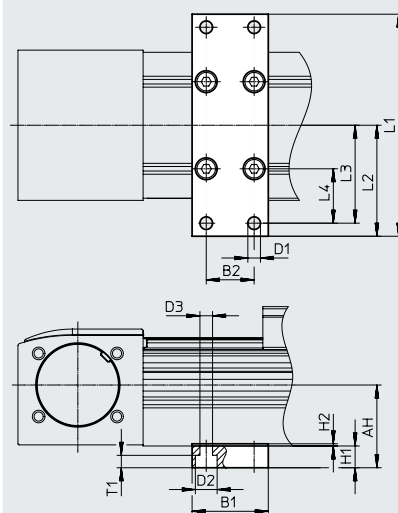
Accessories

Central support EAHF

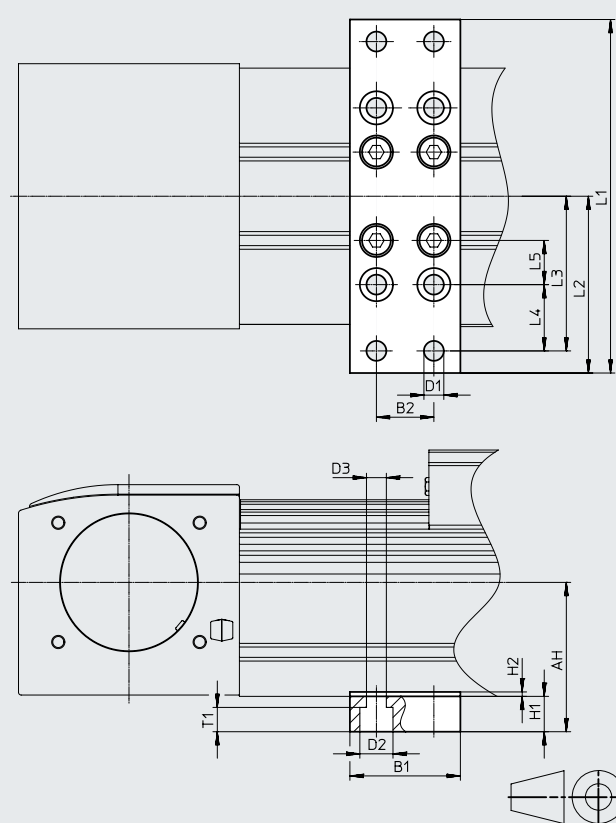
Material:
Anodised aluminium
RoHS-compliant



Size 70, 80



Size: 120



Dimensions and ordering data

For size	AH	B1	B2	D1 Ø	D2 Ø	D3 Ø	H1	L1
70	38	35	22	5.8	10	5.8	10	102
80	44.5							112
120	67.6	50	26	9	15	9	16	160

For size	L2	L3	L4	L5	T1	Weight [g]	Part no.	Type
70	51	45	25	–	5.7	113	2349256	EAHF-L5-70-P¹⁾
80	56	50	30			123	3535188	EAHF-L5-80-P¹⁾
120	80	70	30	20	11	384	2410274	EAHF-L5-120-P

1) Suitable for ATEX

Accessories

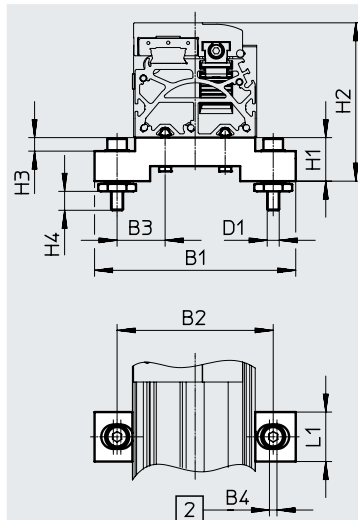
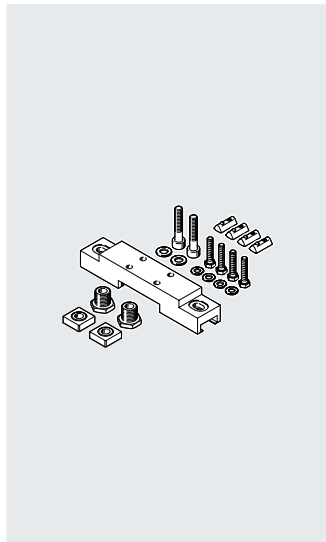
Adjusting kit EADC-E15

Material:

EADC-E15-50/80/120: Wrought aluminium alloy

EADC-E15-185: Steel

RoHS-compliant



[2] Width of elongated hole

Dimensions and ordering data

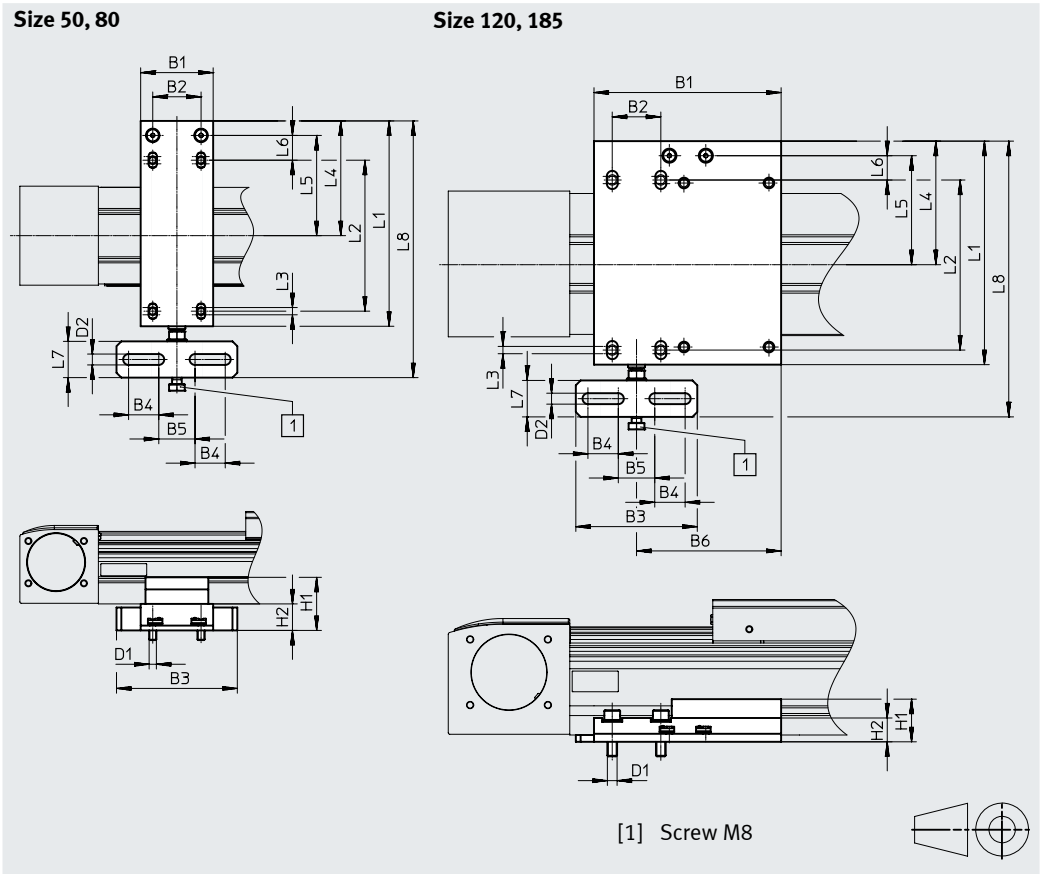
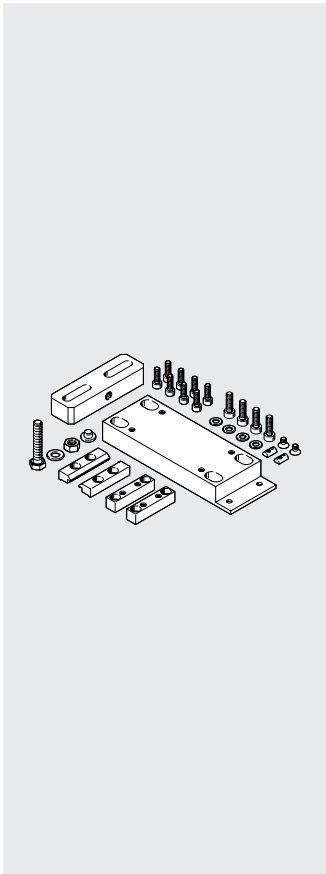
For size	B1	B2	B3	B4	D1	H1
50	84	62	21	5	M5	20
70	134	104	32	5	M8	29
80	134	104	32	5	M8	29
120	170	140	50	5	M8	29
185	236	209	64.5	5	M8	29

For size	H2	H3	H4	L1	Weight [g]	Part no.	Type
50	62.5	5	9.6	25	126	8047565	EADC-E15-50-E7
70	93	9	12.6	33	386	8047566	EADC-E15-80-E7
80	105.5	9	12.6	33	386	8047566	EADC-E15-80-E7
120	140.5	9	12.6	33	388	8047567	EADC-E15-120-E7
185	201.5	9	12.6	33	569	8047568	EADC-E15-185-E7

Accessories

Adjusting kit EADC-E16

Material:
Wrought aluminium alloy
RoHs-compliant



Dimensions and ordering data												
For size	B1	B2	B3	B4	B5	B6	D1	D2	H1	H2	L1	L2
50	60	40	100	25	30	–	M4	9	25.1	19.6	130	80
80	60	40	100	25	30	–	M6	9	44	22	170	125
120	154	40	100	25	30	119	M8	9	35.1	19.6	184	140
185	150	40	100	25	30	119	M8	9	35.1	19.6	272	220

For size	L3	L4	L5	L6	L7	L8	Weight [g]	Part no.	Type
50	6	78	66	26	30	173	498	8047576	EADC-E16-50-E7
80	6	95	83	20.5	30	212.5	828	8047577	EADC-E16-80-E7
120	6	101.7	89.7	20	30	227	1134	8047578	EADC-E16-120-E7
185	6	150	138	28	30	315	1457	8047579	EADC-E16-185-E7

Accessories

Shock absorber retainer KYE

Emergency buffer NPE → page 54

Shock absorber YSRW → page 54

Material:

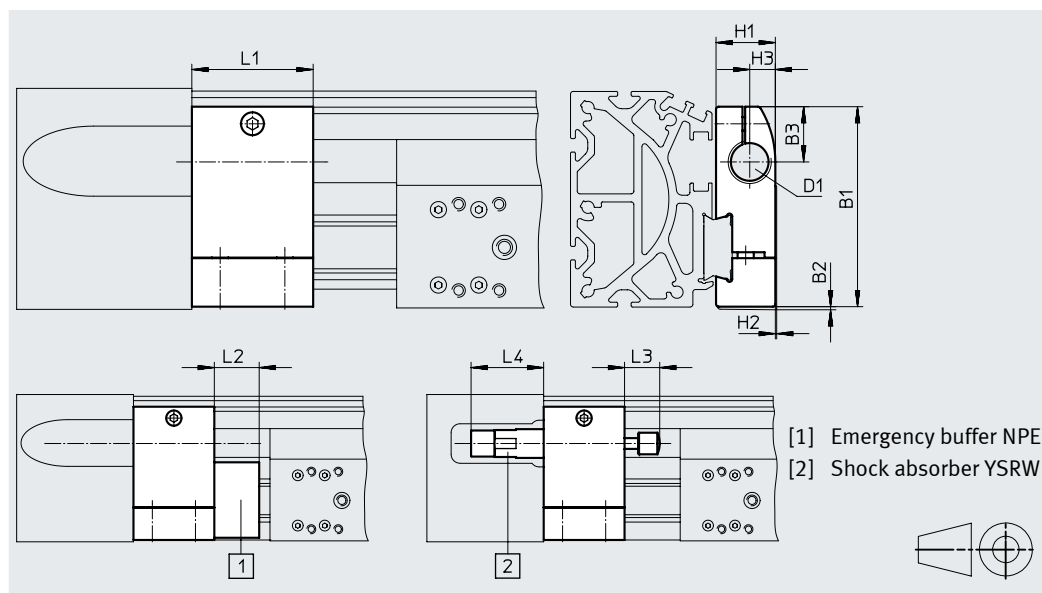
Anodised aluminium

RoHS-compliant

Cannot be used in combination

with the variants GP and GQ or

GK-C and GV-C and 1H...-PN, 2H-PN.



[1] Emergency buffer NPE

[2] Shock absorber YSRW

Dimensions and ordering data

For size	B1	B2	B3	D1	H1	H2	H3	L1	L2	L3	L4 min.	Weight [g]	Part no.	Type ¹⁾
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	1075	557587	KYE-185

1) Suitable for ATEX

Switch lug SF-EGC-1

For sensing via proximity switch
SIES-8M

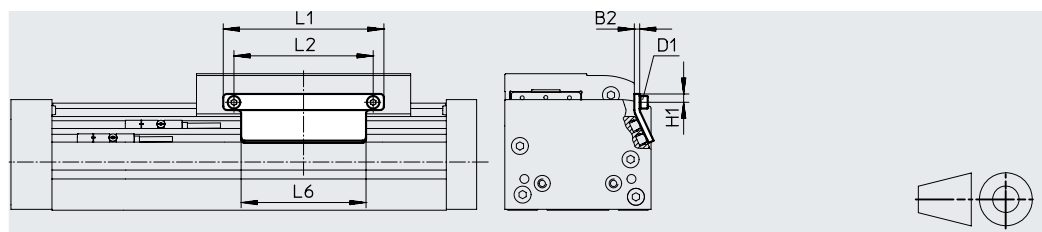
Material:

Galvanised steel

RoHS-compliant

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

A stroke reserve of 25 mm is required for additional proximity switches.



Dimensions and ordering data

For size	B2	D1	H1	L1	L2	L6	Weight [g]	Part no.	Type ¹⁾
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	63	558048	SF-EGC-1-80
120	3	M5	8	170	140	170	147	558049	SF-EGC-1-120
185	3	M5	10	230	200	230	246	558051	SF-EGC-1-185

1) Suitable for ATEX

Accessories

Switch lug SF-EGC-2

For sensing with proximity sensor
SIEN-M8B or SIES-8M

Material:

Galvanised steel
RoHs-compliant

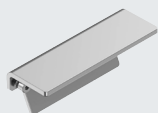
Sensor bracket HWS-EGC

For proximity switch SIEN-M8B

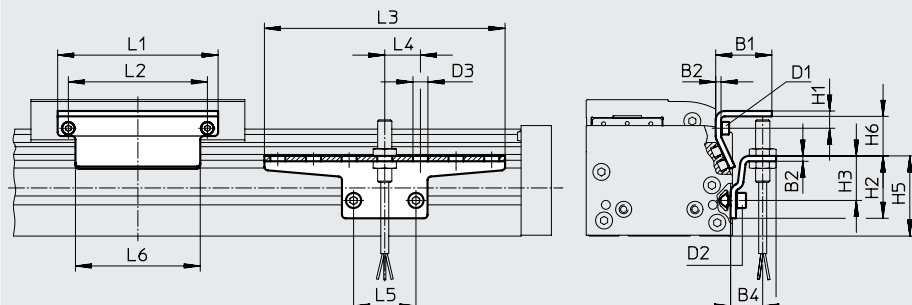
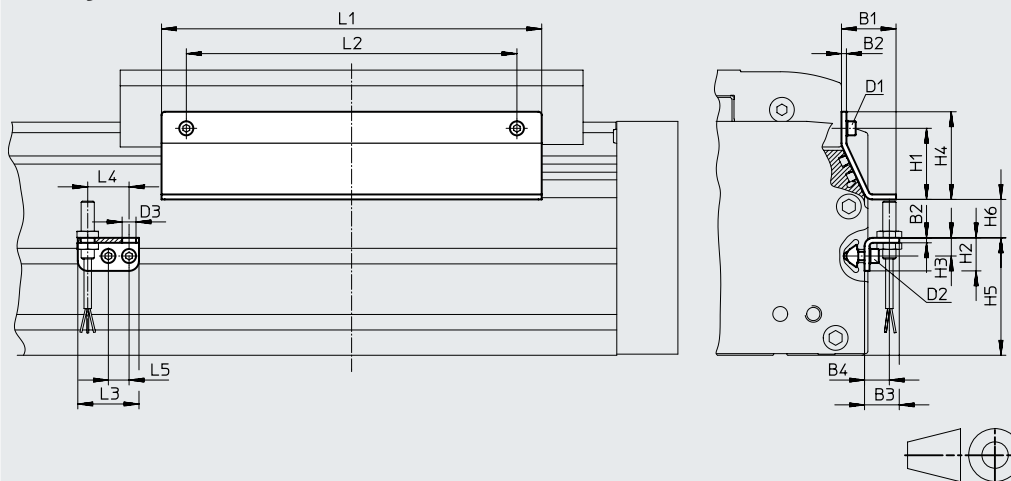
Material:

Galvanised steel
RoHS-compliant

Switch lug SF-EGC-2



Sensor bracket HWS-EGC

**Size 70 ... 120****Size: 185****Dimensions and ordering data**

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

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

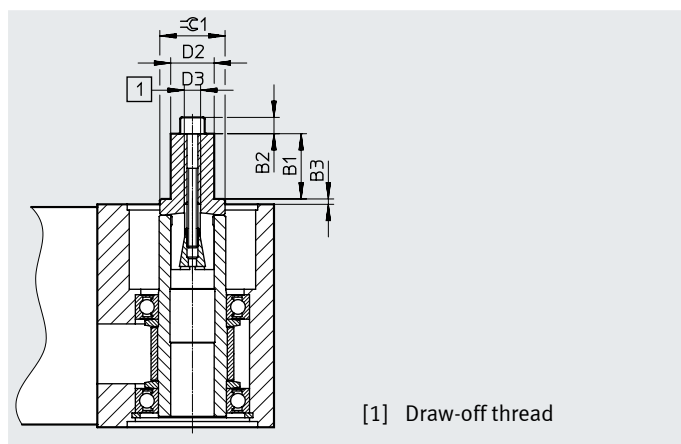
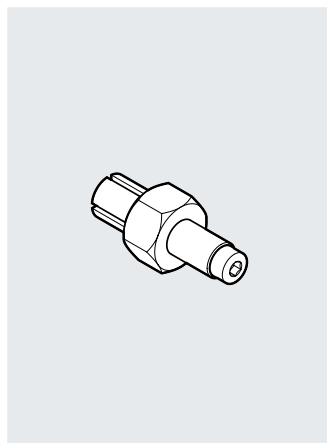
For size	Weight [g]	Part no.	Type
Switch lug			
70	100	558052	SF-EGC-2-70
80	130	558053	SF-EGC-2-80
120	277	558054	SF-EGC-2-120
185	390	558056	SF-EGC-2-185

For size	Weight [g]	Part no.	Type
Sensor bracket			
70	110	558057	HWS-EGC-M5
80	110	558057	HWS-EGC-M5
120	217	570365	HWS-EGC-M8-B
185	58	560517	HWS-EGC-M8:KURZ (SHORT)

Accessories

Drive shaft adapter EAMB

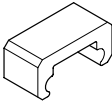
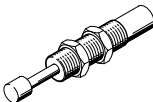
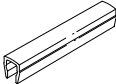
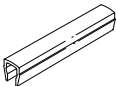
Alternative interface



Dimensions and ordering data									
For size	B1	B2	B3	D2 Ø	D3	≈G1	Weight [g]	Part no.	Type ¹⁾
50	12	3	1.1	8	M4	12	20	558034	EAMB-16-7-8X15-8X10
70	12	4	1.85	8	M5	15	29	558035	EAMB-18-9-8X16-10X12
80	21	–	2	15	M6	21	70	558036	EAMB-24-6-15X21-16X20
120	26	–	2	25	M10	30	201	558037	EAMB-34-6-25X26-23X27
185	30	–	3	35	M12	36	463	558038	EAMB-44-7-35X30-32X32

1) Suitable for ATEX

Accessories

Ordering data						
	For size	Description	Part no.	Type ²⁾	PU ¹⁾	
Emergency buffer NPE						
	50	For use in combination with shock absorber retainer KYE	564897	NPE-50	1	
	70		562581	NPE-70		
	80		562582	NPE-80		
	120		562583	NPE-120		
	185		562584	NPE-185		
Shock absorber YSRW			Datasheets → Internet: ysrw			
	50	For use in combination with shock absorber retainer KYE	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	558045	ABAN-3-1 M3-4-M-P1	1	
	70, 80	For mounting slot	150914	NST-5-M5	1	
			8047843	NST-5-M5-10	10	
			8047878	NST-5-M5-50	50	
	120, 185	For mounting slot	150915	NST-8-M6	1	
			8047868	NST-8-M6-10	10	
			8047869	NST-8-M6-50	50	
Centring pin/sleeve ZBS/ZBH						
	50, 70	For slide	150928	ZBS-5	10	
	80, 120, 185		8137184	ZBH-9-B		
Slot cover ABP						
	70, 80	For mounting slot Every 0.5 m	151681	ABP-5	2	
	120, 185		151682	ABP-8		
Slot cover ABP-S						
	50 ... 185	For sensor slot Every 0.5 m	563360	ABP-5-S1	2	

1) Packaging unit

2) Suitable for ATEX

Ordering data		For size	Description	Part no.	Type	PU ¹⁾
Clip SMBK						
	50 ... 185		For sensor slot, for mounting the proximity switch cables	534254	SMBK-8	10

1) Packaging unit

Accessories

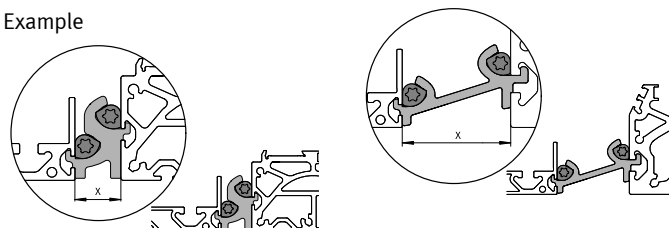
Mounting options between axis and support profile

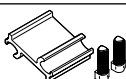
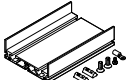
Depending on the adapter kit, the spacing between the axis and the support profile is:

$x = 20 \text{ mm}$ or 50 mm

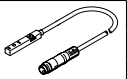
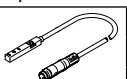
The support profile must be mounted using at least 2 adapter kits. For longer strokes, an adapter kit must be used every 500 mm.

Example



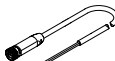
Ordering data					
	For size	Description	Part no.	Type	PU ¹⁾
Adapter kit DHAM					
	70, 80	• For mounting the support profile on the axis • Spacing between axis and profile is 20 mm	562241	DHAM-ME-N1-CL	1
	120, 185		562242	DHAM-ME-N2-CL	
	70, 80	• For mounting the support profile on the axis • Spacing between axis and profile is 50 mm	574560	DHAM-ME-N1-50-CL	
	120, 185		574561	DHAM-ME-N2-50-CL	
Support profile HMIA					
	70 ... 185	• For guiding an energy chain	539379	HMIA-E07-	1

1) Packaging unit

Ordering data – Proximity switches for T-slot, inductive						Datasheets → Internet: sies
	Type of mounting	Electrical connection	Switching output	Cable length [m]	Part no.	Type
N/O						
	Inserted in the slot from above, flush with the cylinder profile	Cable, 3-core	PNP	7.5	551386	SIES-8M-PS-24V-K-7.5-OE
		Plug M8x1, 3-pin		0.3	551387	SIES-8M-PS-24V-K-0.3-M8D
		Cable, 3-core	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						
	Inserted in the slot from above, flush with the cylinder profile	Cable, 3-core	PNP	7.5	551391	SIES-8M-PO-24V-K-7.5-OE
		Plug M8x1, 3-pin		0.3	551392	SIES-8M-PO-24V-K-0.3-M8D
		Cable, 3-core	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

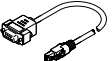
Accessories

Ordering data – Proximity switch M8 (round design), inductive						Datasheets → Internet: sien
	Electrical connection	LED	Switching output	Cable length [m]	Part no.	Type
N/O						
	Cable, 3-core		PNP	2.5	150386	SIEN-M8B-PS-K-L
			NPN	2.5	150384	SIEN-M8B-NS-K-L
	Plug M8x1, 3-pin		PNP	–	150387	SIEN-M8B-PS-S-L
			NPN	–	150385	SIEN-M8B-NS-S-L
N/C						
	Cable, 3-core		PNP	2.5	150390	SIEN-M8B-PO-K-L
			NPN	2.5	150388	SIEN-M8B-NO-K-L
	Plug M8x1, 3-pin		PNP	–	150391	SIEN-M8B-PO-S-L
			NPN	–	150389	SIEN-M8B-NO-S-L

Ordering data – Connecting cables						Datasheets → Internet: neba	
	Electrical connection 1, connection technology	Electrical connection 1, cable outlet	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length [m]	Part no.	Type
	M8x1 A-coded to EN 61076-2-104	Straight	Open end	3	2.5	8078223	NEBA-M8G3-U-2.5-N-LE3
					5.0	8078224	NEBA-M8G3-U-5-N-LE3
	M8x1 A-coded to EN 61076-2-104	Angled	Open end	3	2.5	8078230	NEBA-M8W3-U-2.5-N-LE3
					5.0	8078231	NEBA-M8W3-U-5-N-LE3

Ordering data – Encoder cables for displacement encoder, EGC-...-M1/-M2					Datasheets → Internet: nebm	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type	
	Displacement encoder EGC-...-M1/-M2	Motor controllers CMMP-AS and CMMT-AS	5.0	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	

1) Max. cable length: 25 m.

Ordering data – Adapter			
	Description	Part no.	Type
	Required in combination with the servo drive CMMT-AS as adapter between encoder cable NEBM-M12G8-...-V3 and interface X3 (position encoder 2)	8106112	NEFM-S1G9-K-0.5-R3G8