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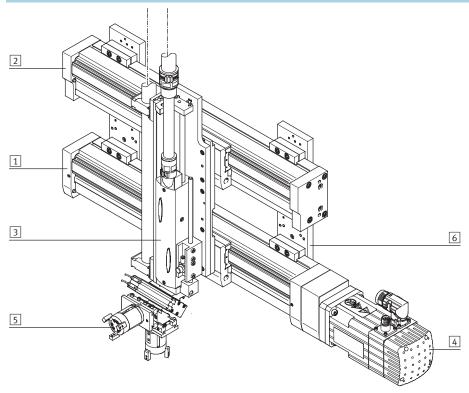
Passive guide axes EGC-FA, without drive Key features



At a glance

- Driveless linear guide unit with guide and freely movable slide
- Passive guide axes are designed to increase force and torque in multi-axis applications
- Higher torsional resistance
- Reduced vibrations with dynamic
- Drive axes and passive guide axes can be arranged adjacent to or above one another

System product for handling and assembly technology



Sys	System components and accessories							
		Brief description	→ Page/Internet					
1	Axes	Wide range of combinations possible within handling and assembly technology	axis					
2	Guide axes	For increasing force and torque in multi-axis applications	guide axis					
3	Drives	Wide range of combinations possible within handling and assembly technology	drive					
4	Motors	Servo and stepper motors, with or without gearing	motor					
5	Grippers	Wide range of variations possible within handling and assembly technology	gripper					
6	Adapters	For drive/drive and drive/gripper connections	adapter kit					

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Key features

Slide variants

Standard slide

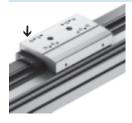


Additional slide



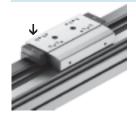
Guide options

Protected version



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

With central lubrication



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

Guide axes and the corresponding drives

Passive guide axis DGC-FA



- Can be combined with:
- Linear drive DGC-KF
- For size 8 ... 63
- Load capacity to max. 6,890 N or 380 Nm

Passive guide axis EGC-FA



- Can be combined with:
 - Toothed belt axis EGC-TB
 - Spindle axis EGC-BS
- For size 70 ... 185
- Load capacity to max. 15,200 N or 1,820 Nm

Passive guide axis FDG-ZR-RF



- Can be combined with:
 - Toothed belt axis DGE-ZR-RF
- For size 25 ... 63
- Load capacity to max. 1,500 N or 600 Nm

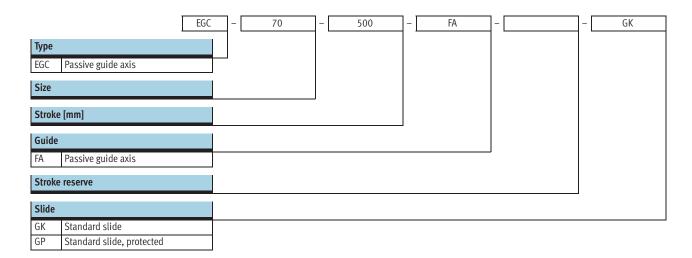
Passive guide axis FDG-P/-ZR/-SP



- Can be combined with:
 - Linear drive DGPL
 - Toothed belt axis DGE-ZR-KF
 - Spindle axis DGE-SP-KF
- For size 18 ... 63
- Load capacity to max. 14,050 N or 1,820 Nm

Passive guide axes EGC-FA, without drive Type codes

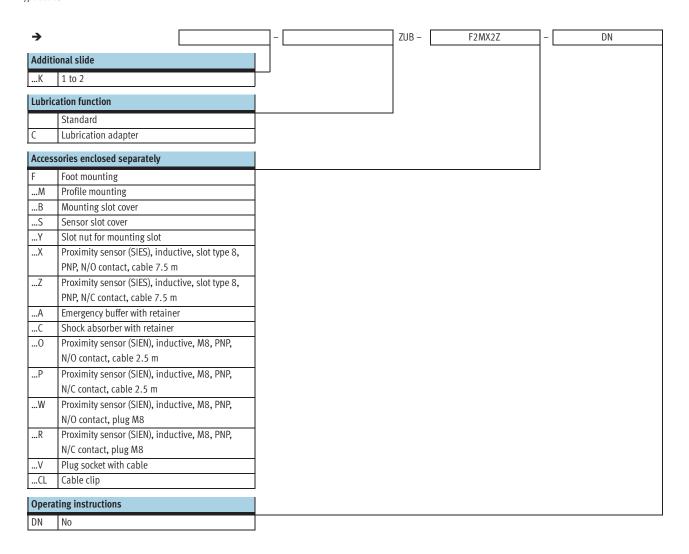






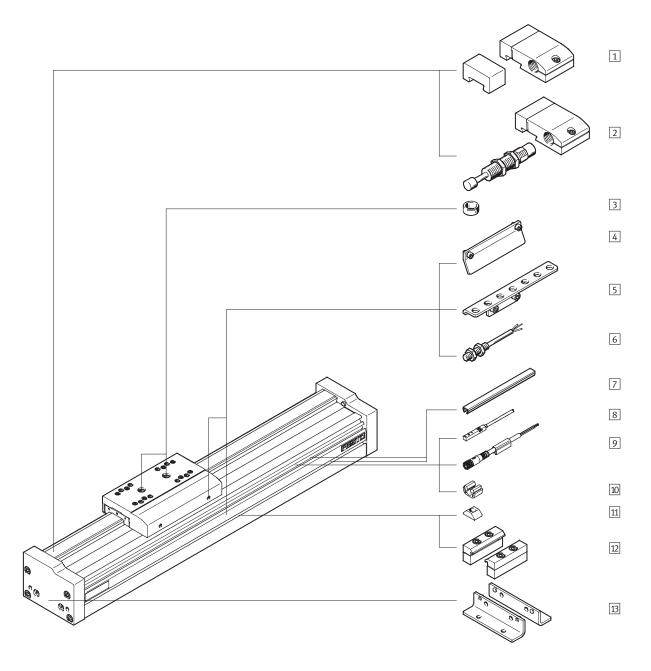
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Type codes



Passive guide axes EGC-FA, without drive Peripherals overview





Passive guide axes EGC-FA, without drive Peripherals overview



Varia	Variants and accessories							
	Туре	Brief description	→ Page/Internet					
1	Emergency buffer with retainer	For avoiding damage at the end stop in the event of malfunction	24					
	A							
2	Shock absorber with retainer	For avoiding damage at the end stop in the event of malfunction	24					
	C							
3	Centring pin/sleeve	For centring loads and attachments on the slide	26					
	ZBS, ZBH	6 centring pins/sleeves included in the scope of delivery of the axis						
4	Switching lug	For sensing the slide position	24					
	X, Z, O, P, W, R							
5	Sensor bracket	Adapter for mounting the inductive proximity sensors (round design) on the axis	25					
	O, P, W, R							
6	Proximity sensor, M8	Inductive proximity sensor, round design	27					
	O, P, W, R	• The order code O, P, W, R includes 1 switching lug and max. 2 sensor brackets in the scope						
		of delivery						
7	Slot cover	For protecting against ingress of dirt	26					
	B , S							
8	Proximity sensor, slot type 8	Inductive proximity sensor, for slot type 8	27					
	X, Z	The order code X, Z includes 1 switching lug in the scope of delivery						
9	Plug socket with cable	For proximity sensor (order code W and R)	27					
	V							
10	Clip	For mounting the proximity sensor cable in the slot	26					
	CL							
11	Slot nut	For mounting attachments	26					
	Υ							
12	Profile mounting	For mounting the axis on the profile	23					
	M	·						
13	Foot mounting	For mounting the axis on the end cap	22					
	F	·						



- **Ø** - Size 70 ... 185

Stroke length 50 ... 8,500 mm



General technical data							
Size			70	80	120	185	
Design			Passive axis				
Guide			Recirculating ball bearing guide				
Mounting position			Any				
Working stroke	GK/GP	[mm]	50 5,000	50 8,500	50 8,500	50 8,500	
Max. speed		[m/s]	5				
Max. acceleration		[m/s ²]	50			·	

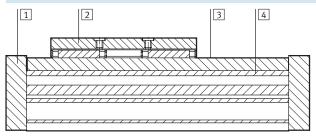
Operating and environmental cond	litions	
Ambient temperature	[°C]	-10 +60
Protection class		IP40

Weight [kg]					
Size		70	80	120	185
Basic weight with 0 mm stroke ¹⁾	GK/GP	1.2	2	7.3	20.8
Additional weight per 1,000 mm strok	се	4.2	6.2	15	29
Moving load	GK/GP	0.3	0.55	2	6
Additional slide	K	0.3	0.55	2	6

1) Incl. slide

Materials

Sectional view



Axis	
1 End cap	Anodised wrought aluminium alloy
2 Slide	Anodised wrought aluminium alloy
3 Guide rail	High-alloy steel
4 Profile	Anodised wrought aluminium alloy
Note on materials	RoHS-compliant
	Contains PWIS (paint-wetting impairment substances)

Technical data

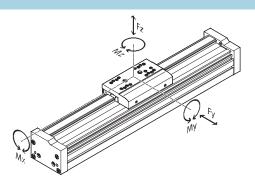


Characteristic load values

The indicated forces and torques refer to the slide surface. The point of application of force is the point where the centre of the guide and the longitudinal centre of the slide intersect.

These values must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.

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



Calculating the load comparison factor:

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

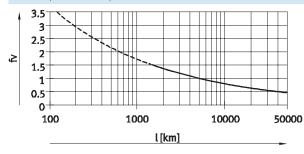
Permissible fo	Permissible forces and torques							
Size			70	80	120	185		
Fy _{max} .		[N]	1,850	3,050	6,890	15,200		
Fz _{max}		[N]	1,850	3,050	6,890	15,200		
Mx _{max} .		[Nm]	16	36	144	529		
My _{max} .	GK/GP	[Nm]	51	97	380	1,157		
Mz _{max} .	GK/GP	[Nm]	51	97	380	1,157		

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 $f_{\rm V}$ against the service life.

These values are only theoretical. Consultation with your local contact person at Festo is mandatory for load comparison factors f_{ν} 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 above formula gives a value of 1.5 for the load comparison factor. According to the graph, the guide would have a service life of

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

Note

PositioningDrives sizing software www.festo.com

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

 $f_{\text{V}} > 1.5$ are only theoretical comparison values for the recirculating ball bearing guide.

Technical data



Stroke reserveStroke lengthStroke reserve

The selected stroke corresponds in principle to the required working stroke. The variant GK does not have a wiper seal on the guide. This variant therefore additionally has a safety distance between the drive cap and slide that is not designated as part of the working stroke.

A safety distance (similar to GK) between the drive cap and slide can be defined for the variants GP and GK-C using the modular product system via the "stroke reserve" feature. With the variant 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:

EGC-70-500-FA-20H-...

Working stroke = 500 mm 2x stroke reserve = 40 mm

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

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

Working stroke reduction

With standard slide GK/GP with additional slide K

- With a guide axis with additional slide, the working stroke is reduced by the length of the additional slide and the distance between both slides
- With the variant GP, the additional slide is also protected
- If the variant GK-C is ordered, the additional slide is also supplied with lubrication adapters

L16 = Slide length L17 = Additional slide length L18 = Distance between both slides

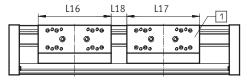
1 Additional slide

Example:

Type EGC-70-500-FA-...-GK-1K
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		70		80		120		185	
Variant		GK	GP	GK	GP or GK-C	GK	GP or GK-C	GK	GK-C
Length L17	[mm]	100	121	120	146	200	236	280	322
Min. distance between	[mm]	-	21	-	26	-	36	-	42
the slides L18									

Working stroke reduction per side

With integrated emergency buffer NPE/shock absorber YSRW with shock absorber retainer KYE

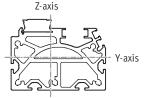
- With a guide axis with emergency buffer, the working stroke is reduced by the total dimension of the emergency buffer/shock absorber and shock absorber retainer
- The rubber buffer in the cap must be removed
- Shock absorbers must not be used in combination with GK-C

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



Technical data

2nd moment of area

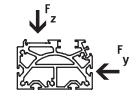


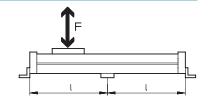
Size		70	80	120	185
ly [n	nm ⁴]	3.95x10 ⁵	8.44x10 ⁵	4.62x10 ⁶	2.34x10 ⁷
Iz [n	nm ⁴]	5.77x10 ⁵	1.16x10 ⁶	5.65x10 ⁶	2.74x10 ⁷

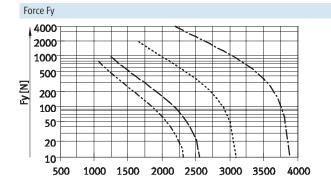
Maximum permissible support span L (without profile mounting) as a function of force F

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

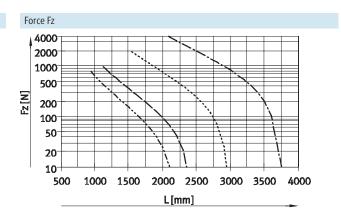
The following graphs can be used to determine the maximum permissible support span l as a function of force F acting on the axis. The deflection is $f=0.5\,$ mm.







L[mm]



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

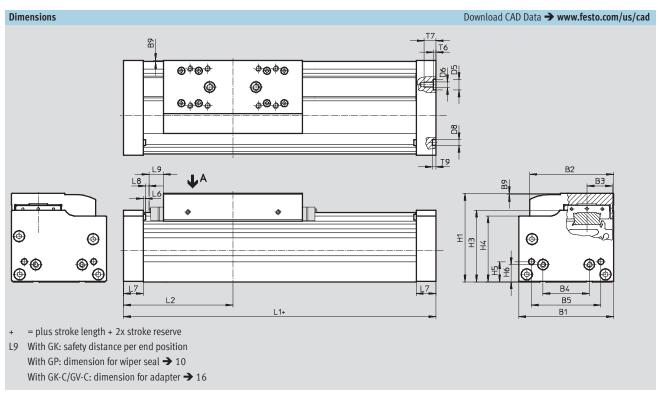
Recommended deflection limits

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.

	,	Stat. deflection (stationary load)
70 185	0.05% of the axis length, max. 0.5 mm	0.1% of the axis length



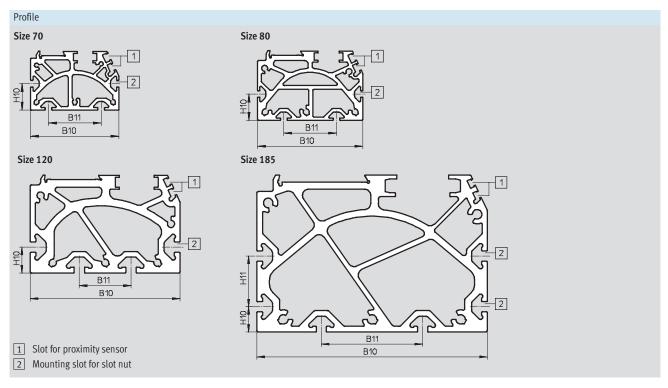


Size	B1	B2	В3	B4	B5	В9	D5 ∅ H7
70	69	58.6	16.5	30	45	1	-
80	82	72.6	22	40	60	1	9
120	120	107	33	80	40	1	-
185	186	169	53	120	80	1	-

Size	D6	D8 ∅ H7	H1	Н3	H4	Н5	Н6	L1
70	M5	5	64	50.5	47	13	13	163
80	M5	5	76.5	62	57	17.5	15	190
120	M8	9	111.5	89	82	22	22	306
185	M10	9	172.5	141	131.5	25	25	406

Size	L2	L6	L7	L8	L9	T6	Т7	Т9
70	81.5	1.8	16	3	10.5	_	10	3.1
80	95	2	17	3	13	2.1	10.1	3.1
120	153	2	30	3	18	_	16	2.1
185	203	2	37	3	21	-	20	2.1



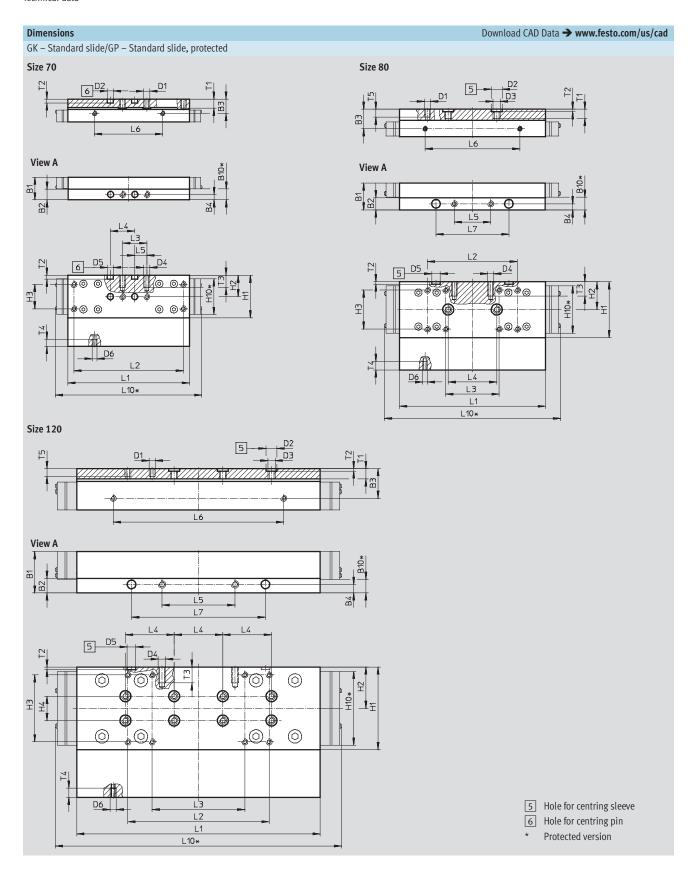


Size	B10	B11	H10	H11
70	67	40	20	-
80	80	40	20	-
120	116	40	20	-
185	182	80	20	40

Note

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

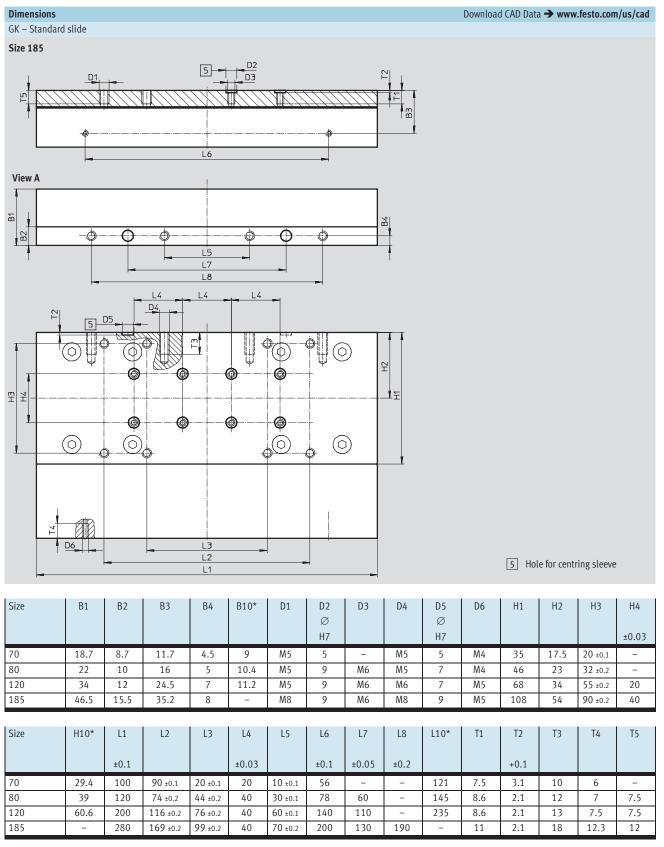






15

Technical data



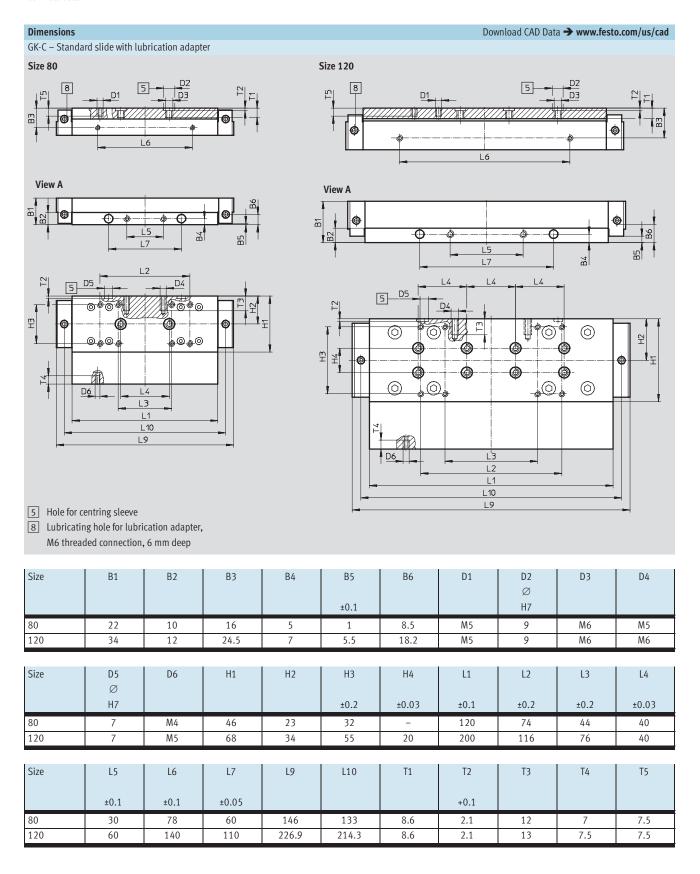
^{*} Protected version

· • New Lubrication adapter

Passive guide axes EGC-FA, without drive

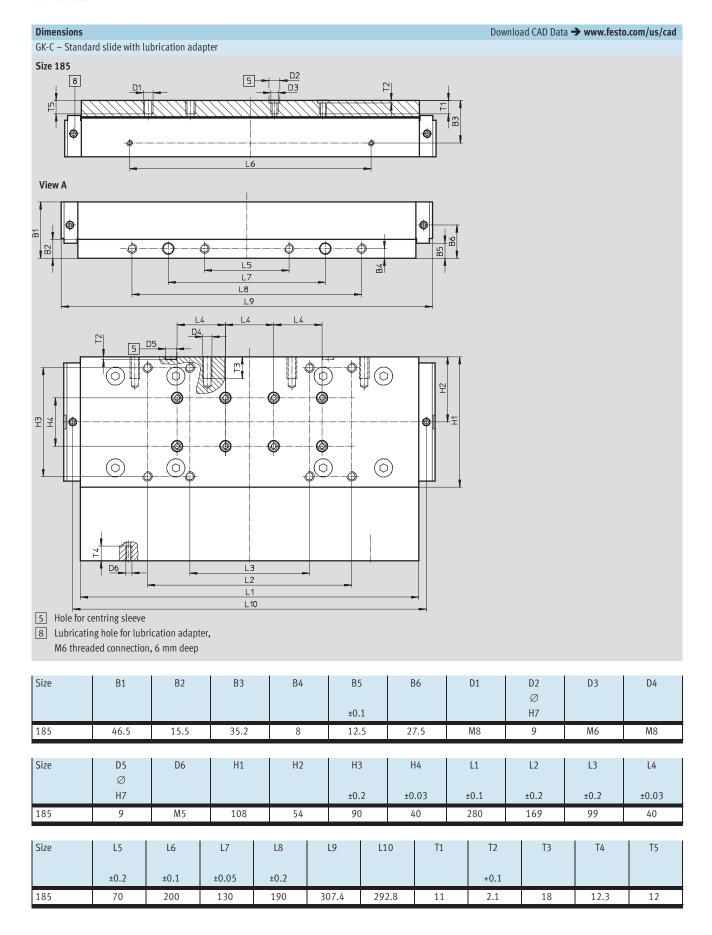
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Technical data





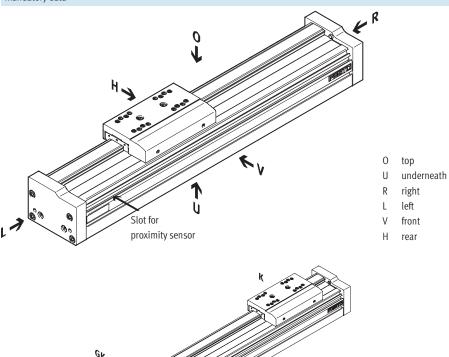
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Mandatory data





Order code Accessories X, Z, O, P, W, R O, P, W, R O, P, W, R B, S X, Z ٧ CL Μ F



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0	dering table							
Si	ze	70	80	120	185	Condition s	Code	Enter code
M	Module No.	558 864	558 865	558 866	558 868			
	Design	Passive guide ax	is				EGC	EGC
	Size	70	80	120	185			
	Stroke [mm]	50 5,000	50 8,500	50 8,500	50 8,500	1		
	Guide	Passive guide ax	is				-FA	-FA
	Stroke reserve [mm]	0 999 (0 = no	stroke reserve)			1	Н	
	Slide	Standard slide					-GK	
		Standard slide,	protected		-		-GP	
0	Additional slide	1 2				2	K	
	Lubrication function	Standard						
		-		-C				

The sum of the stroke length and 2x stroke reserve must not exceed the maximum stroke length.



^{1 -...} 2 ... **K** If the protected slide variant (GP) is selected, then the additional slide is also protected. If the slide with lubrication adapter (GK-C) is selected, then the additional slide (KL, KR) is also supplied with lubrication adapter.Additional slides (K) cannot be ordered for long strokes \Rightarrow product configurator. Please contact your local contact person at Festo if necessary.



01	dering table									
Si	ze		70	80	120	185	Condition s	Code	Enter code	
Ψ	Accessories		Accessories encl	osed separately				ZUB-	ZUB-	
0	Foot mounting		1			F				
	Profile mounting		1 50					M		
	Cover			nits, 500 mm)				В		
	Sensor slot		1 50 (1 = 2 ur	nits, 500 mm)				S		
	Slot nut for mounting slot		1 99					Ү		
	Proximity sensor (SIES),	oximity sensor (SIES), N/O contact, cable 7.5 m				X				
	inductive, slot type 8, PNP, incl. switch lug	nductive, slot type 8, PNP, N/C contact, cable 7.5 m ncl. switch lug		1 6						
	Emergency buffer with retain	ner	1 2				3	A		
	Shock absorber with retained	er	1 2				4	C		
	Proximity sensor (SIEN),	N/O contact, cable 2.5 m	1 99					0		
	inductive, M8, PNP, incl.	N/C contact, cable 2.5 m	1 99					Р		
	switch lug with sensor	N/O contact, plug M8	1 99					W		
	bracket	N/C contact, plug M8	1 99					R		
	Plug socket with cable 2.5 n	n, M8, 3-wire	1 99					V		
	Cable clip		10, 20, 30, 40, 50, 60, 70, 80, 90					CL		
	Operating instructions		Express waiver -	no operating inst	tructions to be inc	cluded (already		-DN		
		available) (operating instructions in PDF format are available free of								
			charge on the Internet at www.festo.com)							

2	Ι Δ	mergency buffer with retainer A cannot be combined with slide GP, GK-C and shock absorber with retainer C
3	A	mergency buller with retainer A cannot be combined with slide GP, GK-C and shock absorber with retainer C

Note

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

Transfer order	code								
ZUB	- 🗌								-

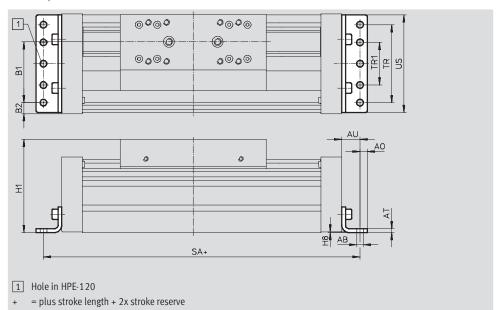
^{4 ...} **C** Shock absorber with retainer C cannot be combined with slide GP, GK-C and emergency buffer with retainer A.



Foot mounting HPE (order code F)

Material: Galvanised steel RoHS-compliant





Dimensions and o	Dimensions and ordering data											
For size	AB ∅	A0	AT	AU	B1	B2	H1	Н8				
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 GK	TR	TR1	US	Weight [g]	Part No. Type
70	189	40	-	67	115	558 321 HPE-70
80	220	40	-	80	150	558 322 HPE-80
120	350	80	-	116	578	558 323 HPE-120
185	456	160	80	182	1,438	558 325 HPE-185

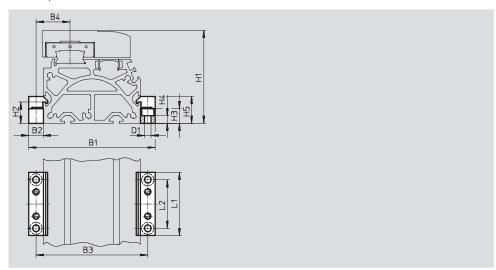


Profile mounting MUE

(order code M)

Material: Anodised aluminium RoHS-compliant





Dimensions and o	Dimensions and ordering data											
For size	B1	B2	В3	В4	D1 Ø	H1	H2	H3				
70	91	12	79	22.5	5.5	64	17.5	12				
80	104	12	92	28	5.5	76.5	17.5	12				
120	154	19	135	42.5	9	111.5	16	14				
185	220	19	201	62.5	9	172.5	16	14				

For size	H4	H5	L1	L2	Weight	Part No. Type
					[g]	
70	6.2	22	52	40	80	558 043 MUE-70/80
80	6.2	22	52	40	80	558 043 MUE-70/80
120	5.5	29.5	90	40	290	558 044 MUE-120/185
185	5.5	29.5	90	40	290	558 044 MUE-120/185

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Shock absorber retainer KYE

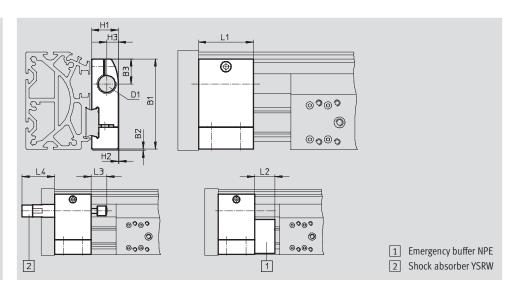
Emergency buffer NPE → 26

Shock absorber YSRW → 26 (order code A or C)

Material: Anodised aluminium RoHS-compliant

Cannot be used in combination with the variant GP or GK-C.





Dimensions and o	Dimensions and ordering data													
For size	B1	B2	В3	D1	H1	H2	Н3	L1	L2	L3	L4	Weight	Part No.	Туре
												[g]		
70	57.5	1	16.5	M12X1	18.2	0.5	7.5	30	15	14	32	75	557 584	KYE-70
80	74.2	1	20.5	M16X1	22	0.5	9.5	45	25	20	41	170	557 585	KYE-80
120	108.5	1	26	M22X1.5	31	1	14	60	40	26	48.5	680	557 586	KYE-120
185	168	1	37	M26X1.5	42	4	18	75	60	34	58.5	1,075	557 587	KYE-185

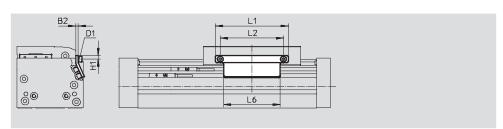
Switch lug SF-EGC-1

for sensing using proximity sensor SIES-8M

(order code X or Z)

Material: Galvanised steel RoHS-compliant





Dimensions and o	Dimensions and ordering data										
For size	B2	D1	H1	L1	L2	L6	Weight [g]	Part No.	Туре		
70	3	M4	4.65	70	56	50	50	558 047	SF-EGC-1-70		
80	3	M4	4.65	90	78	70	60	558 048	SF-EGC-1-80		
120	3	M5	8	170	140	170	150	558 049	SF-EGC-1-120		
185	_	M5	10	230	200	230	245	558 051	SF-EGC-1-185		

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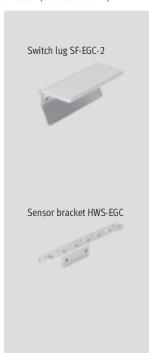
Switch lug SF-EGC-2

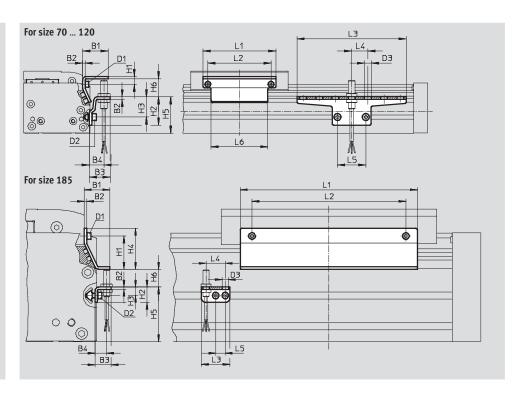
for sensing using proximity sensor SIEN-M8B (order code O, P, W or R) or SIES-8M (order code X or Z)

Material: Galvanised steel RoHS-compliant

Sensor bracket HWS-EGC for proximity sensor SIEN-M8B (order code O, P, W or R)

Material: Galvanised steel RoHS-compliant





Dimensions and o	Dimensions and ordering data									
For size	B1	B2	В3	B4	D1	D2	D3	H1	H2	
							Ø			
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	Н3	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.	Туре
	Switch lug		
70	100	558 052	SF-EGC-2-70
80	130	558 053	SF-EGC-2-80
120	280	558 054	SF-EGC-2-120
185	390	558 056	SF-EGC-2-185

Fo	or size	Weight [g]	Part No.	Туре
		Sensor bracket	t	
70	0	110	558 057	HWS-EGC-M5
80	0	110	558 057	HWS-EGC-M5
1	20	200	558 058	HWS-EGC-M8
18	85	60	560 517	HWS-EGC-M8:KURZ



Ordering data						
	For size	Remarks	Order code	Part No.	Туре	PU ¹⁾
Emergency buffer NPE						
\wedge	70	For use in combination with shock	A	562 581	NPE-70	1
	80	absorber retainer KYE		562 582	NPE-80	
	120			562 583	NPE-120	
	185			562 584	NPE-185	
Shock absorber YSRW					Technical data 👈	
	70	For use in combination with shock	С	191 194	YSRW-8-14	1
	80	absorber retainer KYE		191 196	YSRW-12-20	
	120			191 197	YSRW-16-26	
	185			191 198	YSRW-20-34	
Slot nut NST			Т			
	70,80	For mounting slot	Υ	150 914	NST-5-M5	1
\searrow	120, 185			150 915	NST-8-M6	1
Centring pin/sleeve ZBS/ZBH ²	l					
_	70	For slide	_	150 928	ZBS-5	10
9	80, 120, 185			150 927	ZBH-9	10
	•	-				
Slot cover ABP						
\sim	70,80	For mounting slot	В	151 681	ABP-5	2
	120, 185	every 0.5 m		151 682	ABP-8	
Slot cover ABP-S						
SIUL COVEL ADT-3	70 185	For sensor slot	S	563 360	ABP-5-S1	2
	/0 185	every 0.5 m	3	563 360	ADY-2-31	2
		every 0.5 III				
Clip SMBK						
A .	70 185	For sensor slot, for securing	CL	534 254	SMBK-8	1
		the proximity sensor cable				
	1	1 ' '		1		[

Packaging unit quantity
 6 centring pins/sleeves included in the scope of delivery of the axis



Ordering data	– Proximity sensors for T-slot, inductive					Technical data → Internet: sies
	Type of mounting	Switching	Electrical connection	Cable length	Part No.	Туре
		output		[m]		
N/O contact						
	Insertable in the slot lengthwise, flush	PNP	Cable, 3-wire	7.5	551 386	SIES-8M-PS-24V-K-7,5-0E
ST WIT	with the cylinder profile		Plug M8x1, 3-pin	0.3	551 387	SIES-8M-PS-24V-K-0,3-M8D
		NPN	Cable, 3-wire	7.5	551 396	SIES-8M-NS-24V-K-7,5-OE
			Plug M8x1, 3-pin	0.3	551 397	SIES-8M-NS-24V-K-0,3-M8D
N/C contact						
	Insertable in the slot lengthwise, flush	PNP	Cable, 3-wire	7.5	551 391	SIES-8M-PO-24V-K-7,5-OE
CT & I	with the cylinder profile		Plug M8x1, 3-pin	0.3	551 392	SIES-8M-PO-24V-K-0,3-M8D
		NPN	Cable, 3-wire	7.5	551 401	SIES-8M-NO-24V-K-7,5-0E
			Plug M8x1, 3-pin	0.3	551 402	SIES-8M-NO-24V-K-0,3-M8D

Ordering data	- Inductive proximity s	sensors M8					Technical data → Internet: sien		
	Electrical connection		Switching	LED	Cable length Part No.		Туре		
	Cable	Plug M8	output		[m]				
N/O contact									
	3-wire	-	PNP	•	2.5	150 386	SIEN-M8B-PS-K-L		
	-	3-pin	PNP	•	-	150 387	SIEN-M8B-PS-S-L		
N/C contact									
	3-wire	-	PNP	-	2.5	150 390	SIEN-M8B-PO-K-L		
	-	3-pin	PNP	•	-	150 391	SIEN-M8B-PO-S-L		

Ordering data	- Connecting cables		Technical data → Internet: nebu		
	Electrical connection, left	Electrical connection, right	Cable length	Part No.	Туре
			[m]		
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	159 420	SIM-M8-3GD-2,5-PU
			2.5	541 333	NEBU-M8G3-K-2.5-LE3
			5	541 334	NEBU-M8G3-K-5-LE3
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541 338	NEBU-M8W3-K-2.5-LE3
			5	541 341	NEBU-M8W3-K-5-LE3

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Complete Systems Shipment, stocking and storage services

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