

- Smallest dimensions
- Quick and easy installation
- Optimised mounting options
- Precise and reliable
- As individual component or for multi-axis applications



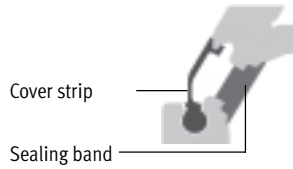
Linear drives DGC

Key features

General data

- Compact – fitting length relative to stroke
- Loads and devices can be directly mounted on the slide
- Three types of cushioning available:
 - Flexible cushioning
 - Pneumatic cushioning
 - Hydraulic cushioning
- All settings accessible from one side:
 - Precision end-position adjustment
 - Position of proximity sensors
 - Mounting of drive
 - Speed regulation
 - Pneumatic end-position cushioning

Sealing system

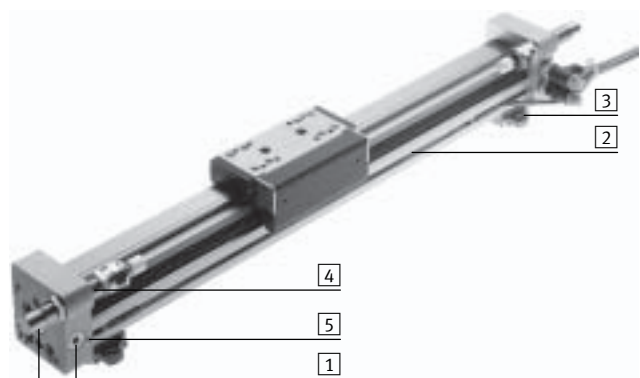


Advantages of the sealing system

- Long strokes without restrictions
- DGC-18 to 3000 mm
- Above DGC-25 to 5000 mm
- Virtually zero-leakage

Details

- 1 Air connection options on 2 sides (on the end face or from the front)
- 2 Proximity sensors can be integrated, therefore there is no protrusion. Cable can be guided through the slot behind a second sensor.
- 3 Profile mounting MUC remains on the base plate after the drive is dismantled. This means faster assembly and removal without repeat adjustment.
- 4 Precision end-position adjustment 0 ... 25 mm per side
- 5 Adjustable pneumatic end-position cushioning



Basic design DGC-G



- Piston \varnothing 8 ... 40 mm
- Stroke lengths from 1 ... 5000 mm¹⁾
- Guide backlash = 0.2 mm
- For small loads
- Operating behaviour with torque load = Average

Plain-bearing guide DGC-GF



- Piston \varnothing 18 ... 40 mm
- Stroke lengths from 1 ... 5000 mm¹⁾
- Guide backlash = 0.05 mm
- For small and medium loads
- Operating behaviour with torque load = Average

Recirculating ball bearing guide DGC-KF



- Piston \varnothing 8 ... 40 mm
- Stroke lengths from 1 ... 5000 mm¹⁾
- Guide backlash = 0 mm
- For medium and large loads
- Precision mounting interface with stainless steel slide
- Operating behaviour with torque load = Very good

Passive guide axis DGC-FA



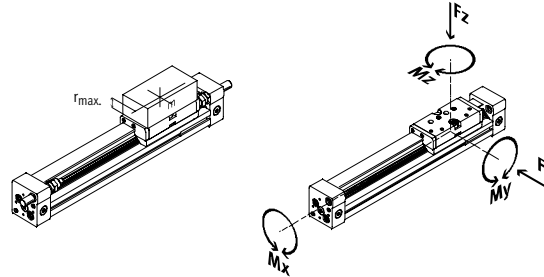
- Piston \varnothing 8 ... 40 mm
- Stroke lengths from 1 ... 5000 mm¹⁾
- Guide backlash = 0 mm
- Precision guide, suitable for DGC-KF. Can be used as machine component or as twin guide with DGC-KF.





1) Up to 8500 mm on request

Linear drives DGC

Key features

Product variants



	Piston Ø [mm]	Theoretical force at 6 bar [N]	Max. perm. applied load ¹⁾ m [kg] / at max. load distance r [mm]	Guide characteristics					→ Page
				F _y [N]	F _z [N]	M _x [Nm]	M _y [Nm]	M _z [Nm]	
Basic design DGC-G									
	8	30	0.06 / 25	150	150	0.5	2	2	1 / 3.1-6
	12	68	0.1 / 35	300	300	1.3	5	5	
	18	153	- / -	70	340	1.9	12	4	
	25	295	- / -	180	540	4	20	5	
	32	483	- / -	250	800	9	40	12	
	40	754	- / -	370	1100	12	60	25	
Plain-bearing guide DGC-GF									
	18	153	3 / 35	440	540	3.4	20	8.5	1 / 3.1-20
	25	295	8 / 50	640	1300	8.5	40	20	
	32	483	11 / 50	900	1800	15	70	33	
	40	754	15 / 50	1380	2000	28	110	54	
Recirculating ball bearing guide DGC-KF									
	8	30	0.7 / 25	300	300	1.7	4.5	4.5	1 / 3.1-34
	12	68	1.8 / 35	650	650	3.5	10	10	
	18	153	10 / 35	1850	1850	16	51	51	
	25	295	30 / 50	3050	3050	36	97	97	
	32	483	30 / 50	3310	3310	54	150	150	
	40	754	50 / 50	6890	6890	144	380	380	
Passive guide axis DGC-FA									
	8	0	0.7 / 25	300	300	1.7	4.5	4.5	Volume 5
	12	0	1.8 / 35	650	650	3.5	10	10	
	18	0	10 / 35	1850	1850	16	51	51	
	25	0	30 / 50	3050	3050	36	97	97	
	32	0	30 / 50	3310	3310	54	150	150	
	40	0	50 / 50	6890	6890	144	380	380	

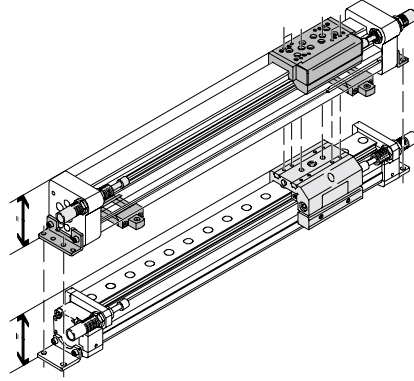
1) At v = 0.5 m/s with shock absorber YSRW

Linear drives DGC

Key features

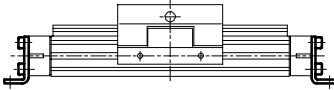
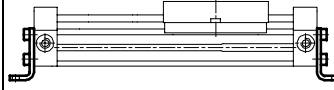
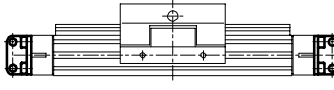

Interchangeability with linear drive DGPL

Special foot mountings for the drive DGC allow the linear drive DGPL to be replaced with the linear drive DGC-GF/-KF with identical slide position and identical interfaces.



Rodless cylinders
Mechanically coupled

3.1

Slide position	Linear drive DGPL	Linear drive DGC-GF/-KF	Foot mounting required → 1 / 3.1-50
On top			Type HPC-...-SO/ HPC-...-S
At rear			Type HPC-...-SH/ HPC-...-S

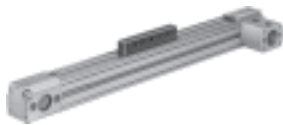
Alternatives

Electromechanical drives

Rodless cylinders,
magnetically coupled
Linear drives DGO

Toothed belt axes DGE-ZR

Spindle axes DGE-SP



Advantages:

Positioning drive for approaching several positions

→ Volume 5

Positioning drive for approaching several positions

→ Volume 5

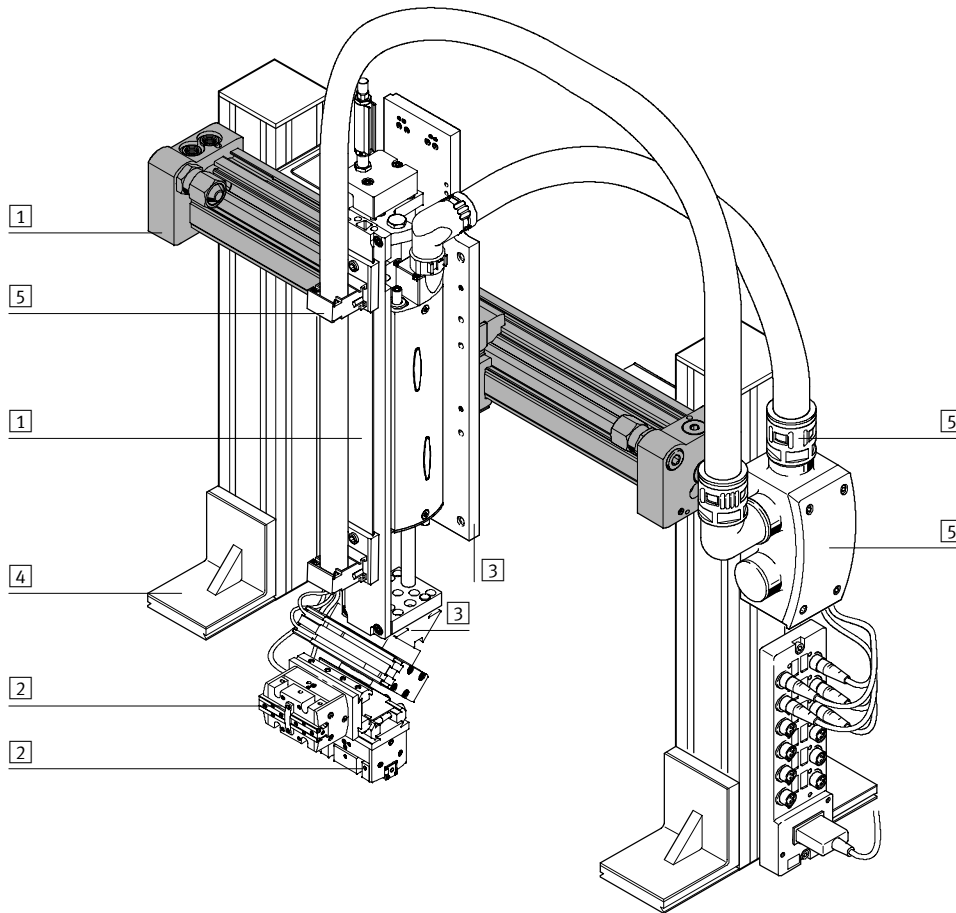
Hermetically sealed drive

→ 1 / 3.2-1

Linear drives DGC

Key features

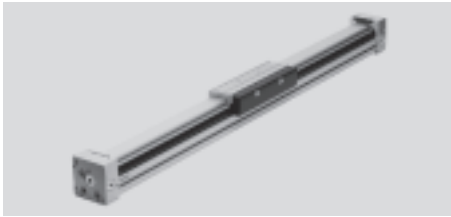
System product for handling and assembly technology




System elements and accessories			
	Brief description	→ Page	
1	Drives	Wide range of combinations options within handling and assembly technology	Volume 1
2	Grippers	Wide range of combinable options within handling and assembly technology	Volume 1
3	Adapters	For drive/drive and drive/gripper connections	Volume 5
4	Basic components	Profiles and profile connections as well as profile/drive connections	Volume 5
5	Installation components	For achieving a clear-cut, safe layout of electrical cables and tubing	Volume 5
-	Axes	Wide range of combinations options within handling and assembly technology	Volume 5
-	Motors	Servo and stepper motors, with or without gearing	Volume 5

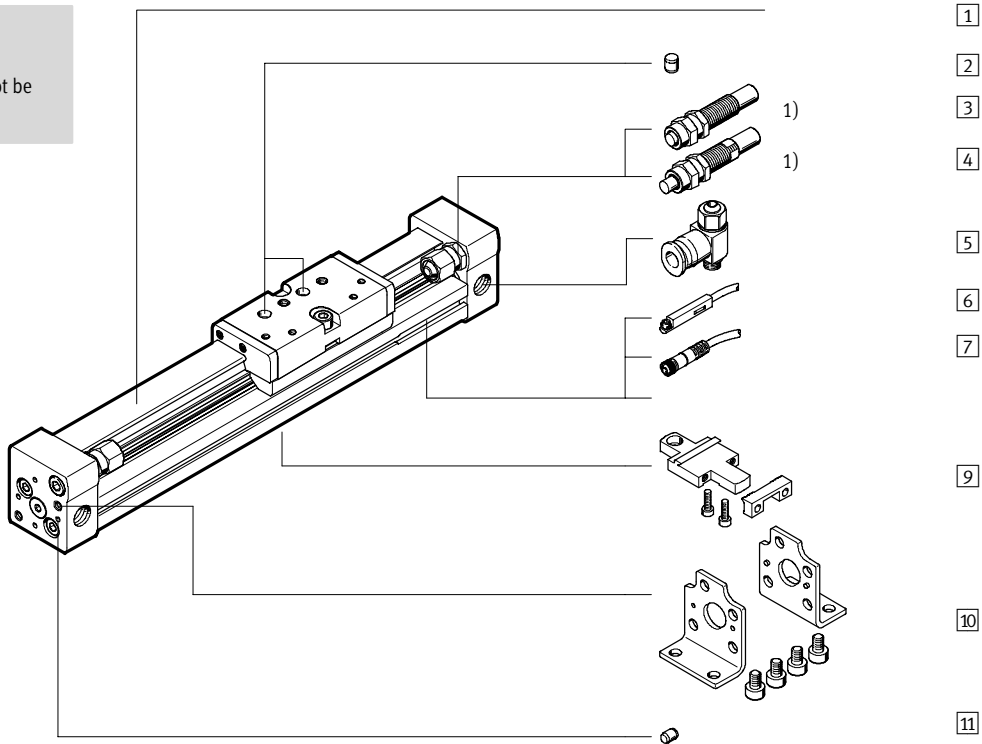
Linear drives DGC-G

Peripherals overview

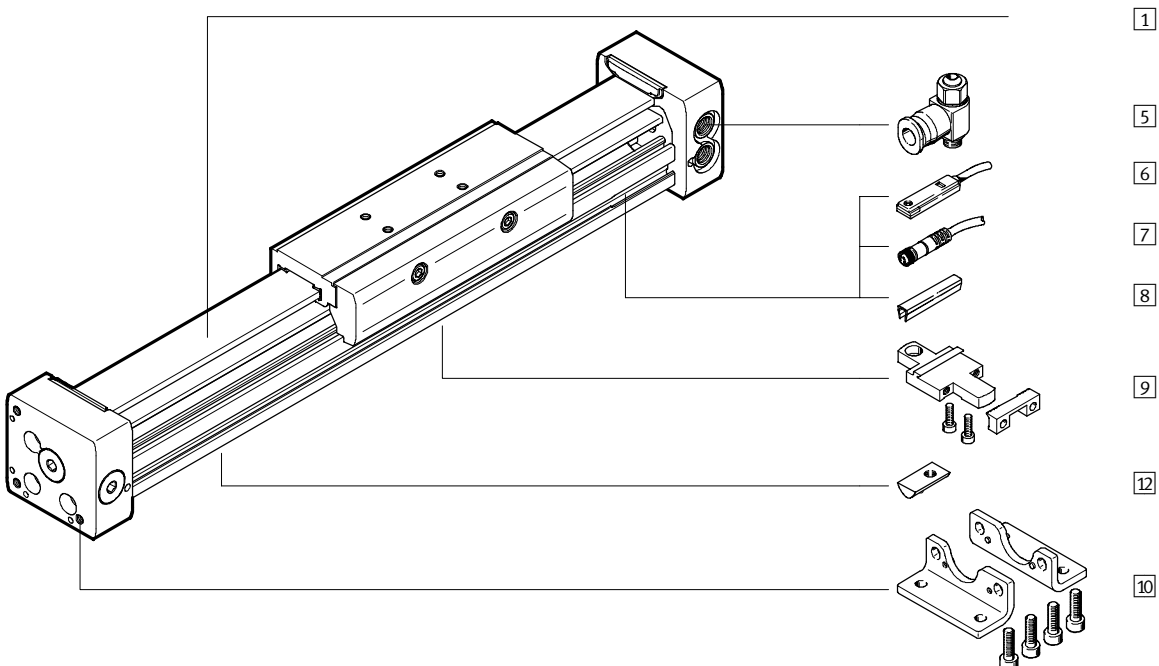


DGC-8/-12

 Note
1) End stops must not be removed.



DGC-18 ... 40



Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC-G

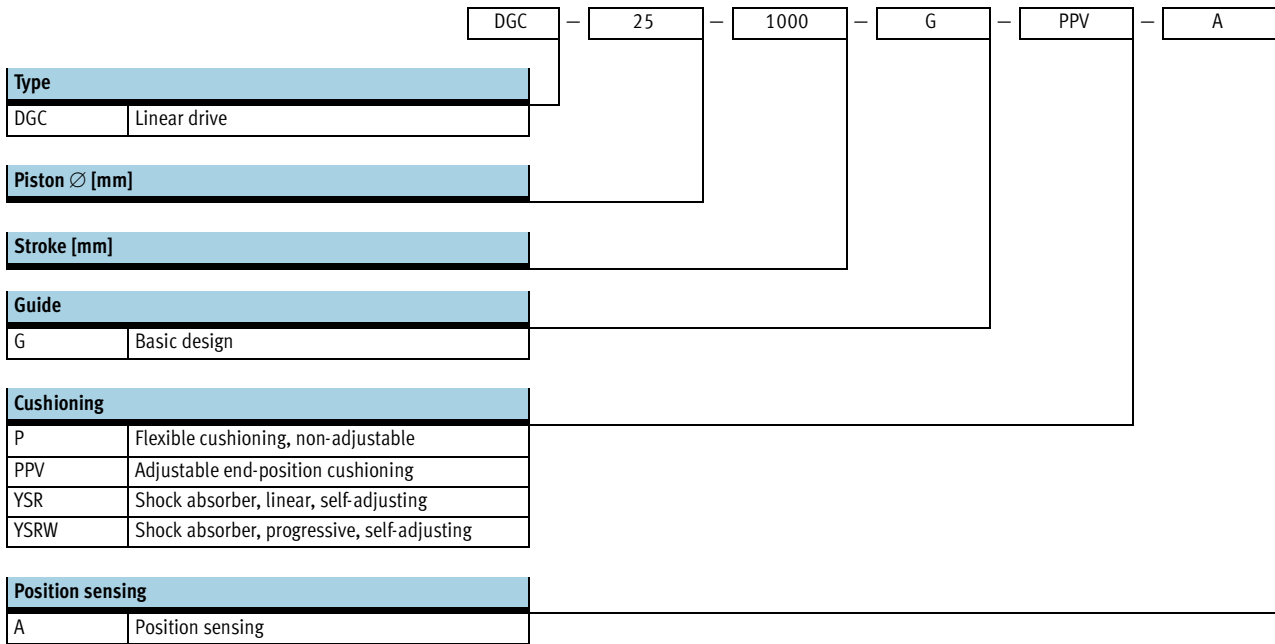
Peripherals overview

Variants and accessories			
Type	For piston \varnothing	Brief description	→ Page
1) Linear drive DGC-G	8 ... 40	Linear drive without accessories, basic design	1 / 3.1-10
2) Centring pin ¹⁾ ZBS	8, 12	For centring loads and attachments on the slide	1 / 3.1-55
– Cushioning P	8, 12	Non-adjustable flexible cushioning. Used only at low speeds.	1 / 3.1-19
– Cushioning PPV	18 ... 40	Adjustable pneumatic end-position cushioning. Used at medium speeds.	1 / 3.1-19
3) Shock absorber YSR	8, 12	Self-adjusting hydraulic shock absorber with return spring and linear cushioning characteristic.	1 / 3.1-19
4) Shock absorber YSRW	8, 12	Self-adjusting hydraulic shock absorber with return spring and progressive cushioning characteristic	1 / 3.1-19
5) One-way flow control valve GRLA	8 ... 40	To regulate speed	1 / 3.1-55
6) Proximity sensor G/H/I/J	8 ... 40	For sensing the slide position	1 / 3.1-56
7) Plug socket with cable V	8 ... 40	For proximity sensors	1 / 3.1-56
8) Slot cover L	18 ... 40	For protecting against ingress of dirt and securing proximity sensor cables	1 / 3.1-55
9) Profile mounting M	8 ... 40	Simple and precise mounting option via dovetail connection	1 / 3.1-54
10) Foot mounting F	8 ... 40	For mounting on end cap	1 / 3.1-50
11) Centring pin ¹⁾ ZBS	8, 12	For centring the drive without foot mountings (user-specific)	1 / 3.1-55
12) Slot nut B	25 ... 40	For mounting attachments	1 / 3.1-55

1) Included with the drive when ordered.

Linear drives DGC-G

Type codes



Linear drives DGC-G

Type codes

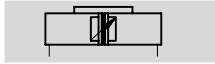


		+ ZUB	F		2B	2G		2L
Accessories								
ZUB	Accessories supplied loose							
Foot mounting								
F	Foot mounting							
Profile mounting								
...M	Profile mounting							
Slot nut								
...B	For mounting slot							
Proximity sensor								
...G	With cable, 2.5 m							
...H	With plug							
...I	Contactless with cable, 2.5 m							
...J	Contactless, plug							
Plug socket								
...V	With cable, 2.5 m							
Slot cover								
...L	For sensor slot							



Linear drives DGC-G

Technical data

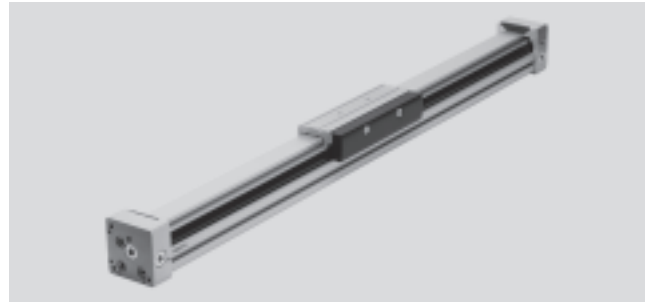
Function



www.festo.com/en/Spare_parts_service

-  Diameter
8 ... 40 mm
-  Stroke length
1 ... 5000 mm

Wearing parts kits
→ 1 / 3.1-19



General technical data							
Piston Ø		8	12	18	25	32	40
Stroke	[mm]	1 ... 1500	1 ... 2000	1 ... 3000	1 ... 5000 ¹⁾		
Pneumatic connection		M5			G ¹ / ₈		G ¹ / ₄
Mode of operation		Double-acting					
Design		Rodless drive					
Driver principle		Slotted cylinder, mechanically coupled					
Guide		Basic guide					
Assembly position		Any					
Cushioning → 1 / 3.1-13	P	Non-adjustable at both ends		-			
	PPV	-		Adjustable at both ends			
	YSR...	Self-adjusting at both ends		-			
Cushioning length with PPV cushioning	[mm]	-		16.5	15.5	17.5	29.5
Position sensing		Via proximity sensor					
Type of mounting		Profile mounting					
		Foot mounting					
		Direct mounting					
Max. speed	[m/s]	1	1.2	3			
Stroke tolerance	[mm]	0 ... 1.7		0 ... 2.5			

1) Strokes up to 8500 mm on request.

Operating and environmental conditions							
Piston Ø		8	12	18	25	32	40
Operating pressure	[bar]	2.5 ... 8			2 ... 8		1.5 ... 8
Operating medium		Filtered compressed air, lubricated or unlubricated					
Ambient temperature ¹⁾	[°C]	+5 ... +60	-10 ... +60				
Corrosion resistance CRC ²⁾		2					

1) Note operating range of proximity sensors.

2) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

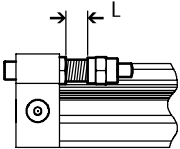
Forces [N] and impact energy [Nm]							
Piston Ø		8	12	18	25	32	40
Theoretical force at 6 bar		30	68	153	295	483	754
Perm. impact energy at end positions		→ 1 / 3.1-13					

Linear drives DGC-G

Technical data

Weight [g]						
Piston Ø	8	12	18	25	32	40
Basic weight with 0 mm stroke	170	290	546	1004	2126	4121
Additional weight per 10 mm stroke	9	12	22	34	54	77
Moving load	36	65	178	287	508	1312

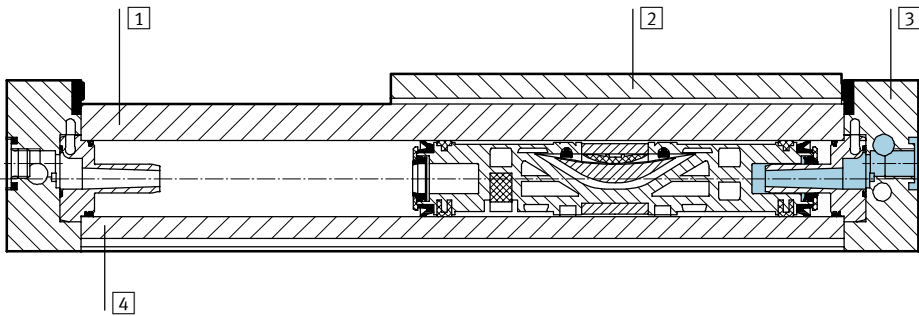
Adjustable end-position range L [mm]



Piston Ø	8	12	18	25	32	40
Cushioning P/PPV	0 ... 5					
Cushioning YSR/YSRW	0 ... 10					

Materials

Sectional view



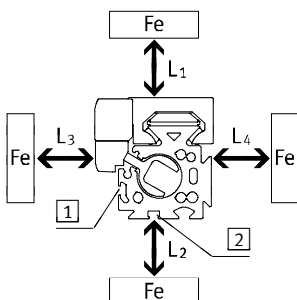
Cylinder		
1	Guide rail	Anodised aluminium
2	Slide	Anodised aluminium
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
-	Piston seal	Polyurethane
-	Sealing band/cover strip	Polyurethane
-	Slide elements	Polyacetate

Influence of ferritic materials on proximity sensors

Ferritic materials (steel parts or panels) directly next to the proximity sensors can cause sensing malfunc-

tions. The following safety distances must be observed.

The distance depends on the position of the proximity sensor (see 1 and 2).



Piston Ø		8	12	18	25	32	40
Distance L1	1 [mm]	0	0	0	0	0	0
	2 [mm]	-	-	0	0	0	0
Distance L2	1 [mm]	20	10	10	10	0	0
	2 [mm]	-	-	25	25	25	25
Distance L3	1 [mm]	30	25	25	25	25	25
	2 [mm]	-	-	10	10	0	0
Distance L4	1 [mm]	0	0	0	0	0	0
	2 [mm]	-	-	0	0	0	0

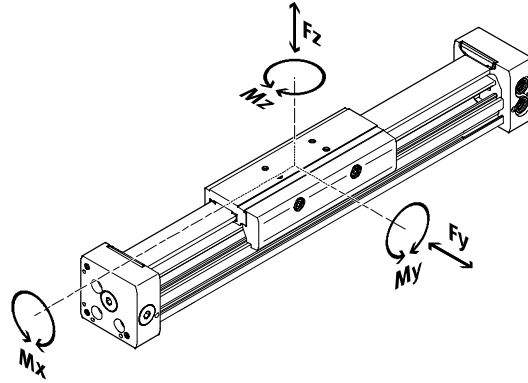
Linear drives DGC-G

Technical data

Characteristic load values

The indicated forces and torques refer to the centre of the guide rail and the middle of the slide.

They must not be exceeded in the dynamic range. Special attention must be paid to the cushioning phase.



 **Note**

In order to avoid frictional restraint of the guide in the case of the basic drive DGC-G when used in vertical mode and with a high torque load, the variant with the recirculating ball bearing guide DGC-KF → 1 / 3.1-34 is recommended.

Rodless cylinders
Mechanically coupled

3.1

If the drive is simultaneously subjected to several of the indicated forces and torques listed below, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} + \frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} \leq 1$$

Permissible forces and torques

Piston Ø		8	12	18	25	32	40
F _y _{max.}	[N]	150	300	70	180	250	370
F _z _{max.}	[N]	150	300	340	540	800	1100
M _x _{max.}	[Nm]	0.5	1.3	1.9	4	9	12
M _y _{max.}	[Nm]	2	5	12	20	40	60
M _z _{max.}	[Nm]	2	5	4	5	12	25

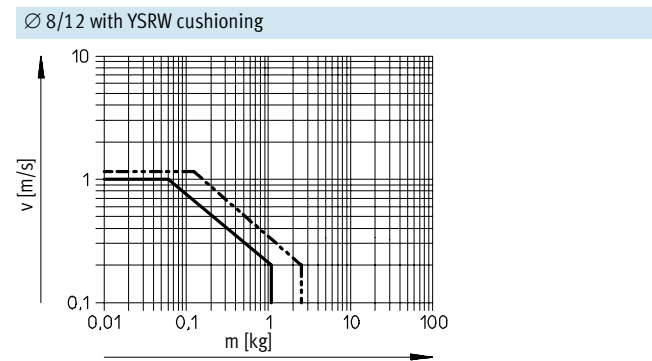
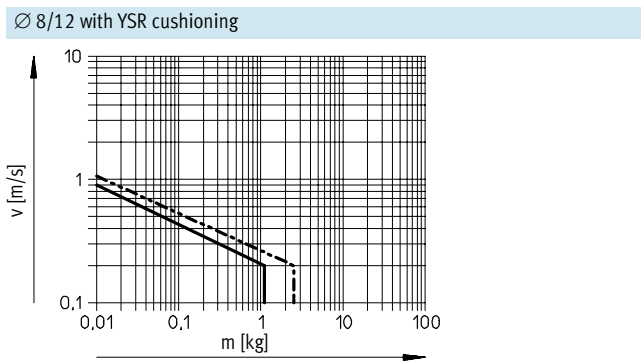
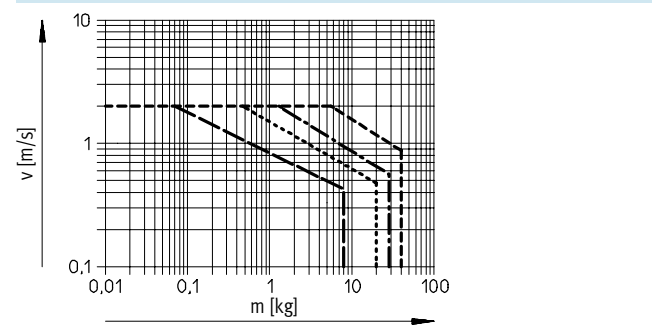
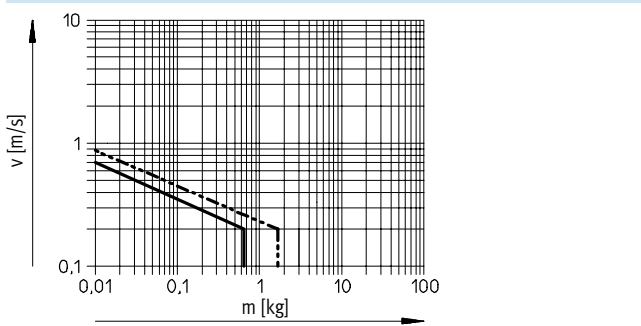


Selection and ordering aid
ProDrive
www.festo.com/en/engineering


Linear drives DGC-G

Technical data

Maximum permissible piston speed v as a function of working load m




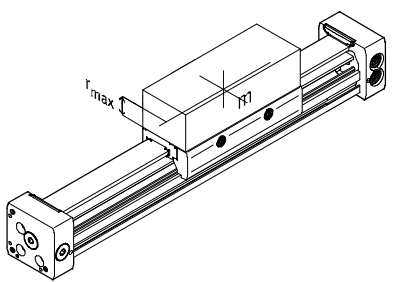
- ∅ 8 - - - - ∅ 25
- - - - ∅ 12 - · - · ∅ 32
- · - · ∅ 18 - - - - ∅ 40

 **Note**
 This data represents the maximum values that can be achieved. Values fluctuate in practice relative to the size of the working load.

Operating range of cushioning

The end-position cushioning must be adjusted to ensure jerk-free operation. If the operating conditions are outside the permissible range, the load to be moved must be cushioned using suitable equipment (external shock absorbers), preferably at the centre of gravity of the mass.

 **Note**
 To avoid distortion in the slide, the bearing surfaces of the attachments must maintain a flatness of at least 0.03 mm.



Data for horizontal mounting position:

Piston ∅	8	12	18	25	32	40
Distance r_{max} [mm]	25	35	35	50	50	50

Linear drives DGC-G

Technical data

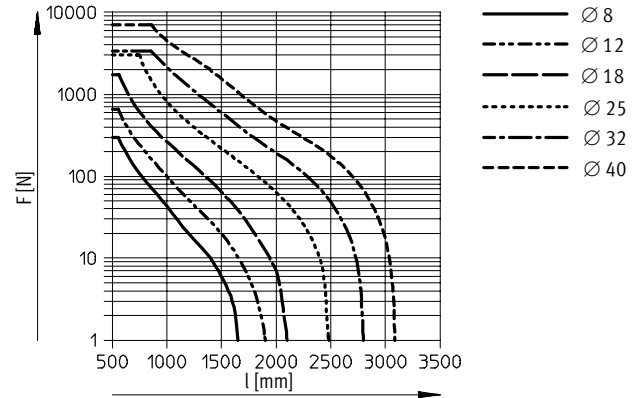
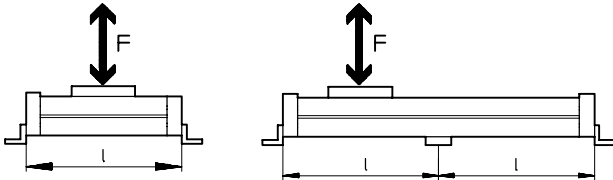
Number of profile mountings MUC dependent on force due to weight F and support span l

In order to limit deflection in the case of large strokes, the drive may need to be supported. The following diagrams

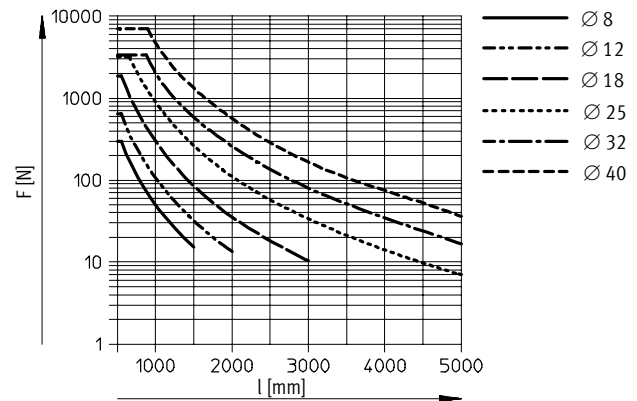
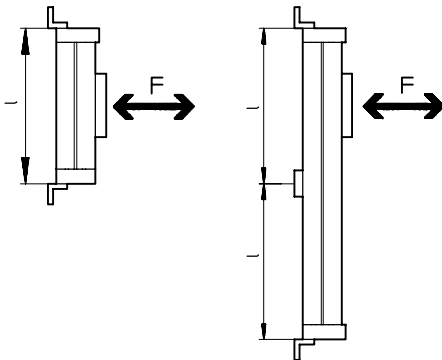
serve to determine the maximum permissible support span as a

function of the mounting position and the perpendicular weight force.

Horizontal mounting position



Vertical mounting position



Example:

The drive DGC-25-1500 is subjected to a force of 300 N in horizontal mounting position.

The drive has an overall length of:
 $l = \text{stroke length} + L1$
 (see dimensions)
 $= 1500 \text{ mm} + 200 \text{ mm}$
 $= 1700 \text{ mm}$

According to the diagram, the max. support span is 1300 mm for the drive DGC-25 with a force of 300 N.

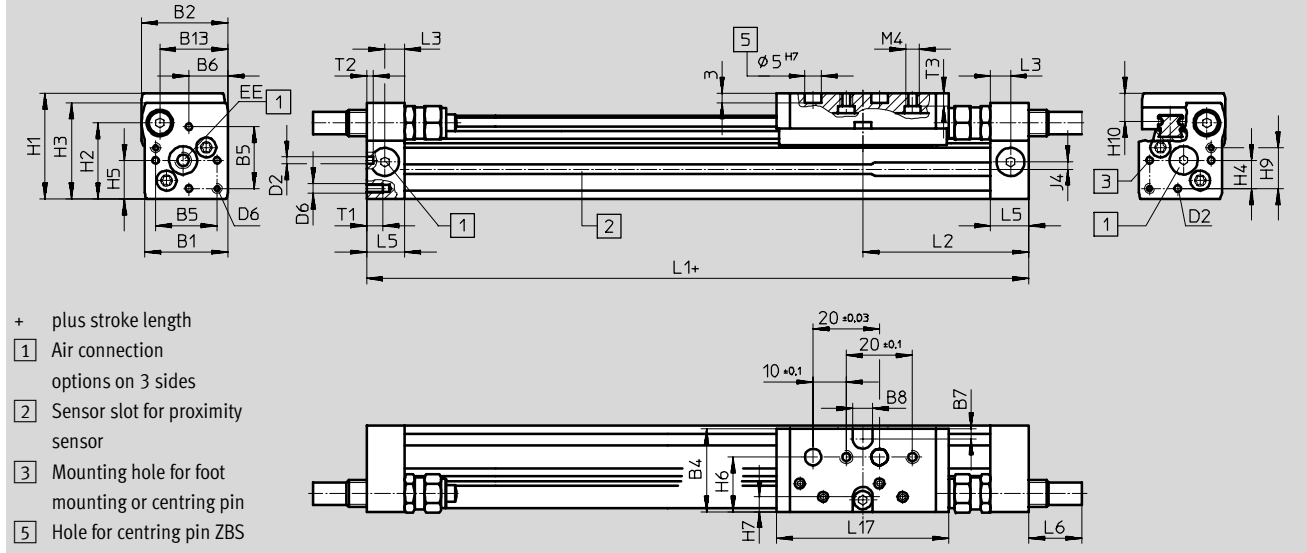
In this example, profile mountings are required as the max. support span (1300 mm) is smaller than the overall length of the drive (1700 mm).

Linear drives DGC-G

Technical data

Dimensions Download CAD data → www.festo.com/en/engineering

∅ 8 and 12



∅	B1	B2	B4	B5	B6	B7	B8	B13	D2	D6	EE	H1	H2	H3	H4	H5
[mm]							±0.05		∅							
8	25	26	25.5	18.6	11.7	3	6	20.5	2	M3	M5	32	23	29	8.5	11.7
12	30.2	31	31	20.6	13.5	3	8	25	2	M4	M5	37.5	28.5	34.5	8.7	13.5

∅	H6	H7	H9	H10	J4	L1	L2	L3	L5	L6			L7	T1	T2	T3
										P	YSR	YSRW				
[mm]																
8	16.5	4.5	12.3	8.7	2.2	100	50.1	6	11.5	0	16	16.2	52	5	2	4
12	20.5	5	14.7	9.8	3	125	62.1	8	16	0	11.3	12.3	65	6	2	5

Profile barrel

∅ 8

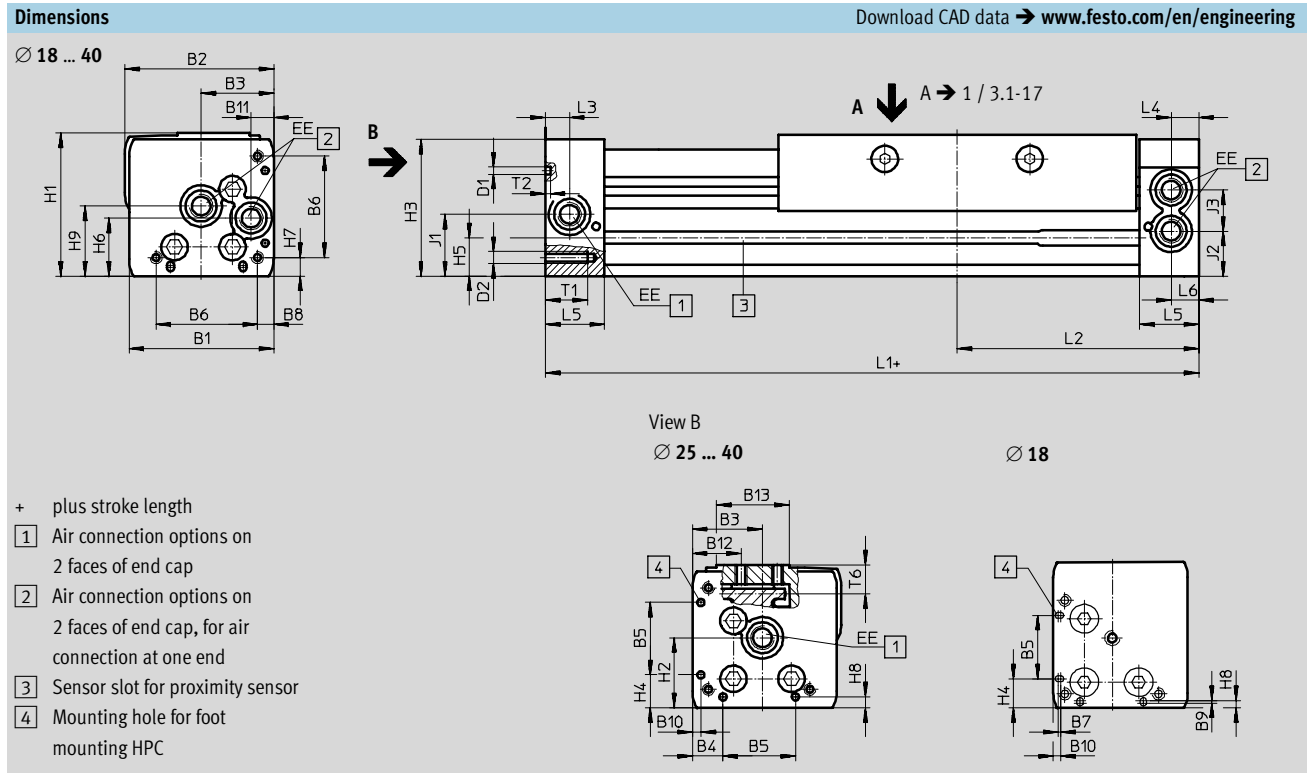
∅ 12



1 Sensor slot for proximity sensor

Linear drives DGC-G

Technical data



∅	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
[mm]			±0.05	±0.1	±0.05	±0.1		±0.1			±0.05		
18	44.5	46.3	19.5	8.8	21	31	0.3	3.8	0.4	2.4	5.5	19.3	20
25	59.8	61.6	30	12.65	30	42	-	6.65	-	3.5	9.3	20.15	30
32	73	75.5	38.5	5.7	63.1	57.5	-	8.5	-	14	14.9	20.5	35
40	91	94.5	45	17.2	55	65	-	12.2	-	8	16.5	19.8	45

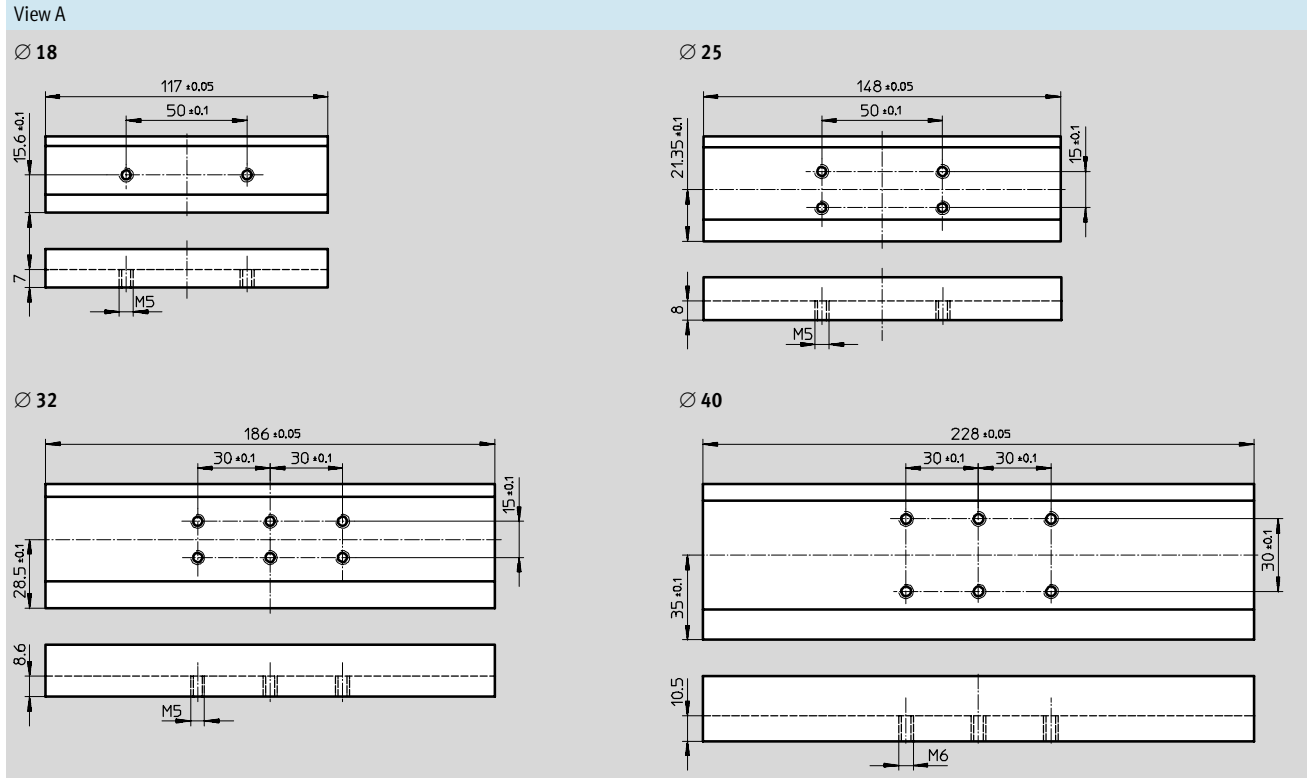
∅	D1	D2	EE	H1	H2	H3	H4	H5	H6	H7	H8	H9
[mm]	∅ ±0.05						±0.1		±0.1		±0.1	±0.1
18	2	M4	M5	49.8	23.1	48.3	10.3	13.4	20	5.3	2.4	25.2
25	3	M5	G $\frac{1}{8}$	58.5	29	56.5	13	15.8	24	7	4.5	29
32	3	M6	G $\frac{1}{8}$	73	30	71.5	5.7	17	27.7	8.5	14	35.2
40	4	M6	G $\frac{1}{4}$	88	41.5	85	17.2	25	36.5	12.2	8	44

∅	J1	J2	J3	L1	L2	L3	L4	L5	L6	T1	T2	T6
[mm]		±0.1	±0.1	+0.9/-0.2								
18	20	16.5	11	150	74.5	5.7	5.8	15	5.5	9	2	10.7
25	26.1	18.6	17	200	100	10.5	10.6	24.5	10.6	17.5	2	12
32	30	22	18.5	250	124.8	14.5	14.5	30.5	14.5	15	2	13.8
40	35	26	26	300	150	14.6	14.6	33.5	14.6	20	3	16.8

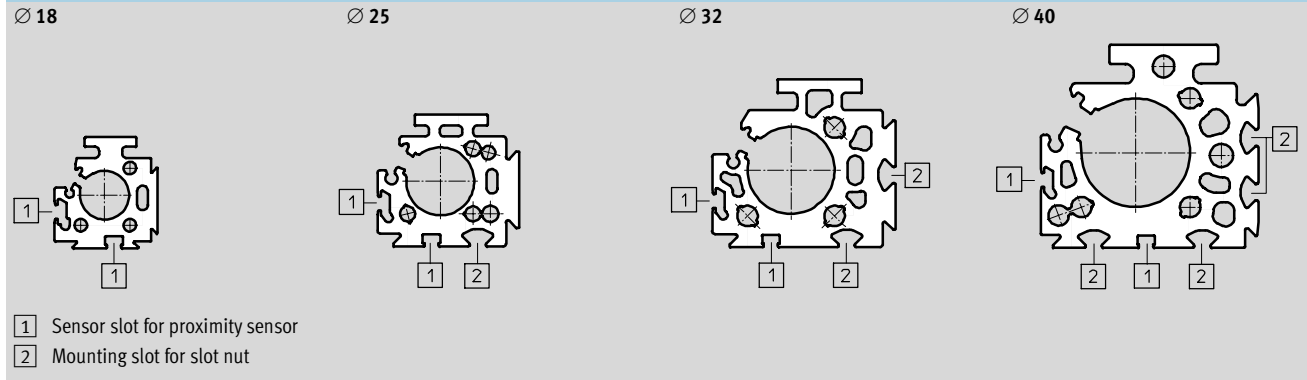
Linear drives DGC-G

Technical data

Dimensions – Slide Download CAD data → www.festo.com/en/engineering



Profile barrel



Rodless cylinders
 Mechanically coupled
3.1

Linear drives DGC-G

Ordering data – Modular products

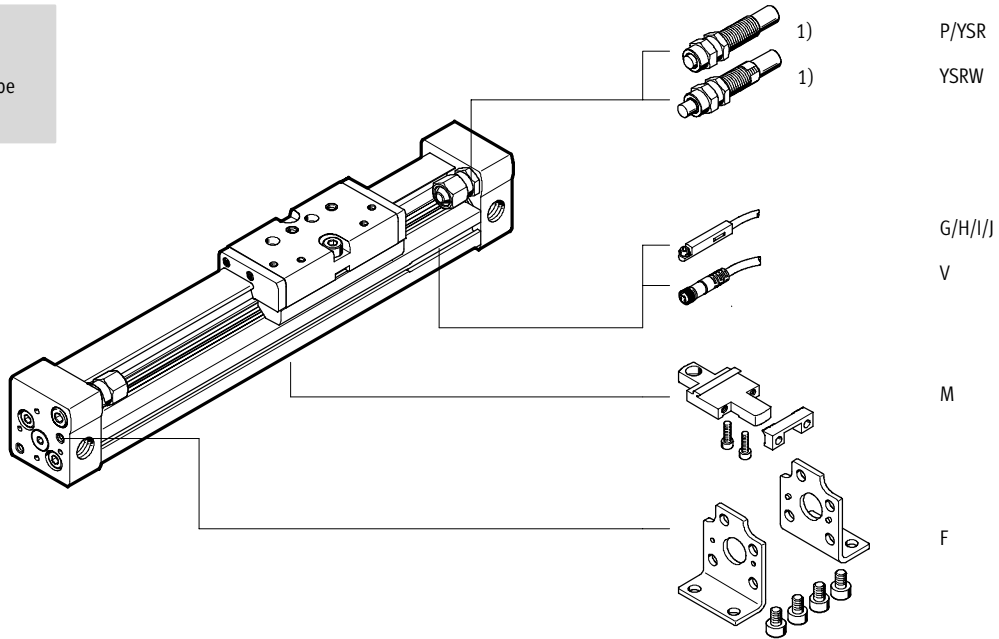
Ordering code

Mandatory data/options

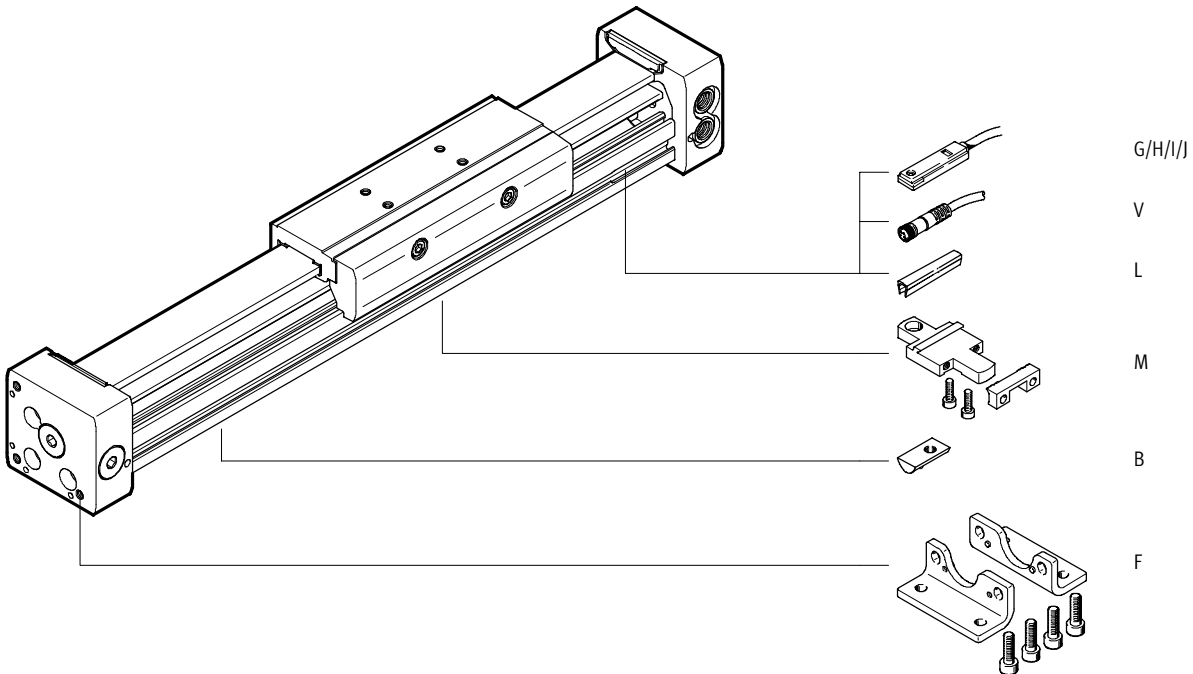
DGC-8/-12

-  - Note

1) End stops must not be removed.



DGC-18 ... 40



Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC-G

Ordering data – Modular products

Mandatory data							Options
Module No.	Function	Piston Ø	Stroke	Guide	Cushioning	Position sensing	Accessories
530 906	DGC	8	1 ... 5 000	G	P PPV YSR YSRW	A	F, ...M, ...B, ...G, ...H, ...I, ...J, ...V, ...L
530 907		12					
532 446		18					
532 447		25					
532 448		32					
532 449		40					
Ordering example							
530 906	DGC	- 8	- 300	- G	- P	- A	+ F2M

Ordering table										
Size	8	12	18	25	32	40	Condi- tions	Code	Enter code	
M Module No.	530 906	530 907	532 446	532 447	532 448	532 449				
Function	Rodless cylinder							DGC	DGC	
Piston Ø [mm]	8	12	18	25	32	40		-...		
Stroke [mm]	1 ... 1500	1 ... 2000	1 ... 3000	1 ... 5000			¹	-...		
Guide	Basic design							-G	-G	
Cushioning	Flexible cushioning rings/ plates at both ends		-	-	-	-		-P		
	-		Pneumatic cushioning, adjustable at both ends					-PPV		
	Shock absorber, self-adjusting		-	-	-	-		-YSR		
	Shock absorber, self-adjusting, progressive		-	-	-	-		-YSRW		
Position sensing	Via proximity sensor							-A	-A	
O Accessories	Supplied loose (can be retrofitted)							+	+	
Foot mounting	1							F		
Central support	1 ... 9							...M		
Slot nut for mounting slot	-	-	-	1 ... 9			...B			
Proximity sensor	Cable, 2.5 m	1 ... 9					...G			
	Plug M8	1 ... 9					...H			
Proximity sensor, contactless, PNP	Cable, 2.5 m	1 ... 9					...I			
	Plug M8	1 ... 9					...J			
Plug socket with cable	M8, 2.5 m	1 ... 9					...V			
Slot cover for sensor slot	-	-	1 ... 9			...L				

¹ Stroke Size 25, 32, 40: Strokes up to 8500 mm on request.

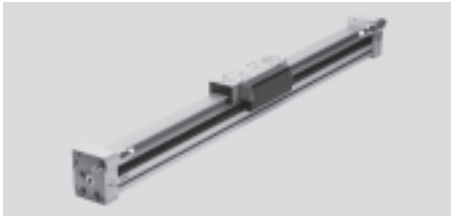
Transfer order code

DGC - - - **G** - - **A** +

Ordering data – Wearing parts kits					
Piston Ø [mm]	Part No.	Type	Piston Ø [mm]	Part No.	Type
8	665 333	DGC-8-G	25	684 408	DGC-25
12	665 334	DGC-12-G	32	684 409	DGC-32
18	684 407	DGC-18	40	684 410	DGC-40


Linear drives DGC-GF, with plain-bearing guide

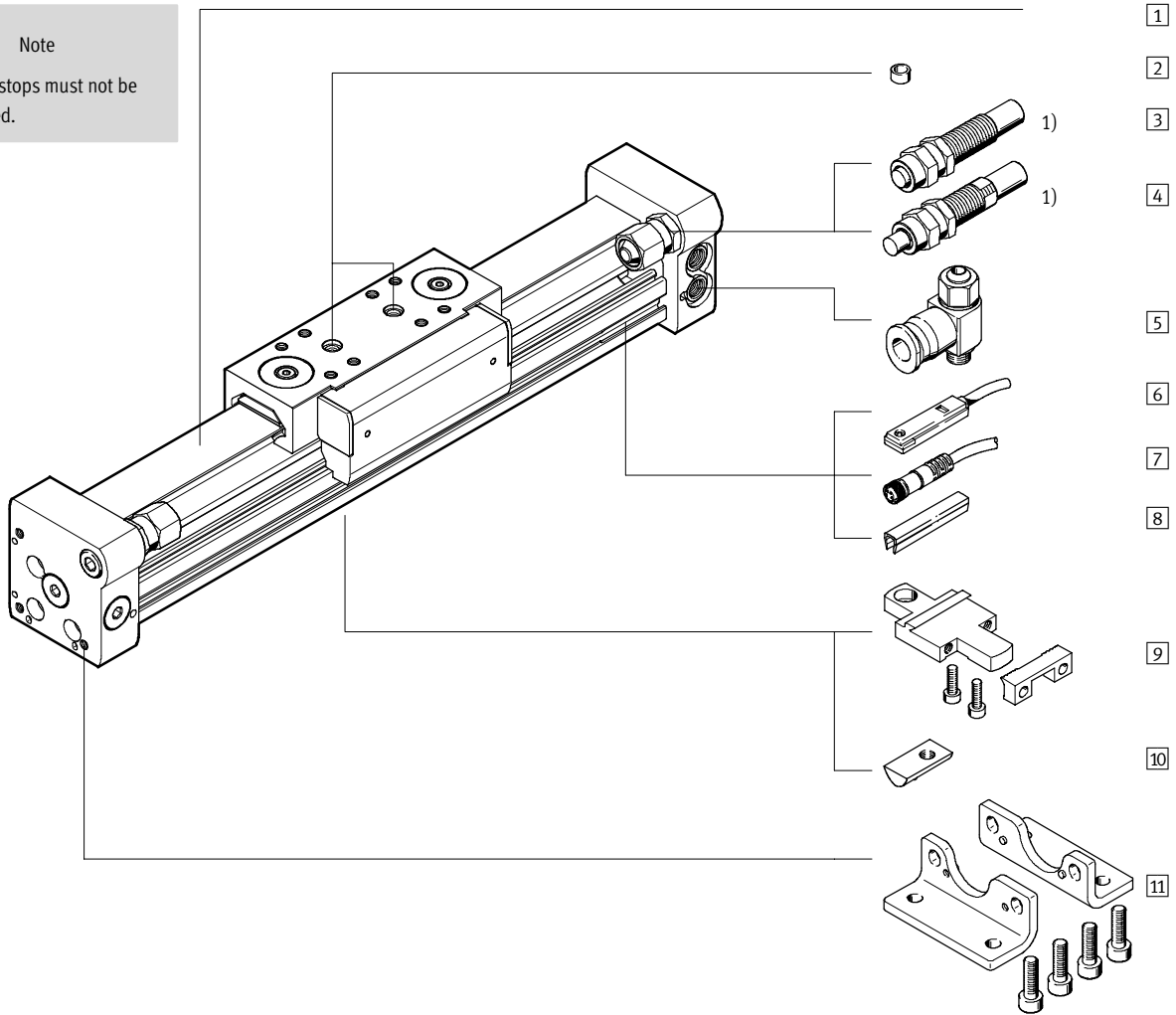
Peripherals overview



Rodless cylinders
Mechanically coupled

3.1

 Note
1) End stops must not be removed.



Linear drives DGC-GF, with plain-bearing guide

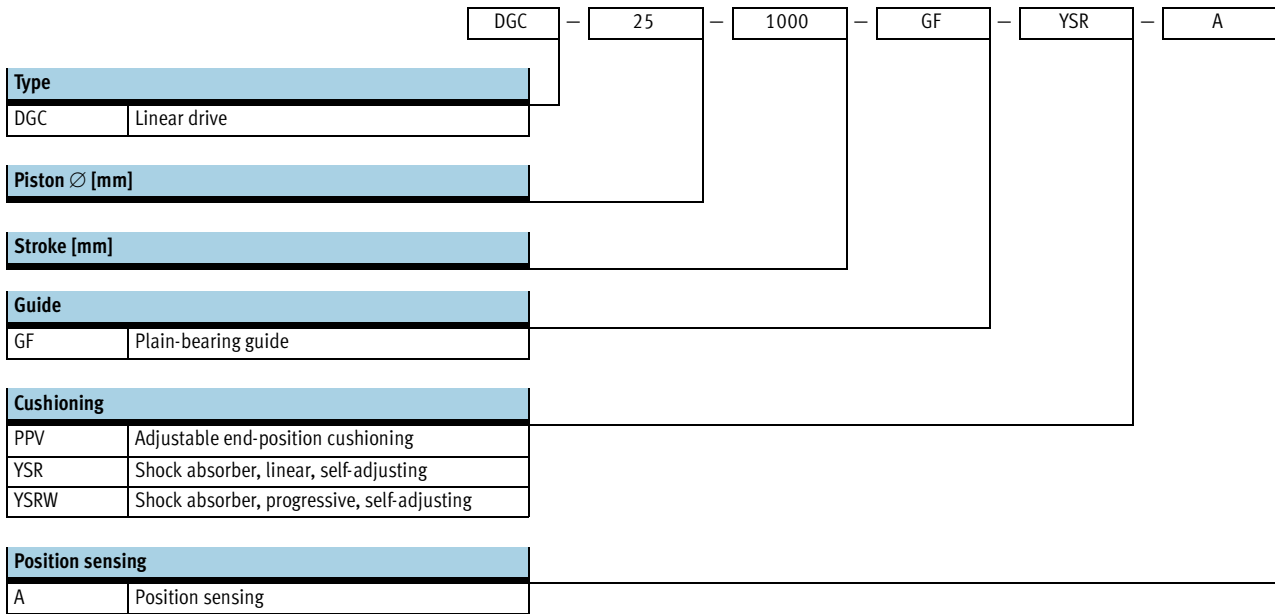
Peripherals overview

Variants and accessories			
Type	For piston \varnothing	Brief description	→ Page
1) Linear drive DGC-GF	18 ... 40	Linear drive without accessories, plain-bearing guide	1 / 3.1-24
2) Centring pin/sleeve ¹⁾ ZBS/ZBH	18 ... 40	For centring loads and attachments on the slide	1 / 3.1-55
– Cushioning PPV	18 ... 40	Adjustable pneumatic end-position cushioning. Used at medium speeds.	1 / 3.1-33
3) Shock absorber YSR	18 ... 40	Self-adjusting hydraulic shock absorber with return spring and linear cushioning characteristic.	1 / 3.1-33
4) Shock absorber YSRW	18 ... 40	Self-adjusting hydraulic shock absorber with return spring and progressive cushioning characteristic.	1 / 3.1-33
5) One-way flow control valve GRLA	18 ... 40	To regulate speed	1 / 3.1-55
6) Proximity sensor G/H/I/J	18 ... 40	For sensing the slide position	1 / 3.1-56
7) Plug socket with cable V	18 ... 40	For proximity sensors	1 / 3.1-56
8) Slot cover L	18 ... 40	For protecting against ingress of dirt and securing proximity sensor cables	1 / 3.1-55
9) Profile mounting M	18 ... 40	Simple and precise mounting option via dovetail connection	1 / 3.1-54
10) Slot nut B	25 ... 40	For mounting attachments	1 / 3.1-55
11) Foot mounting F	18 ... 40	For mounting on end cap	1 / 3.1-50

1) Included with the drive when ordered.

Linear drives DGC-GF, with plain-bearing guide

Type codes



Linear drives DGC-GF, with plain-bearing guide

Type codes

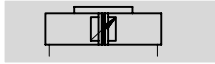


		+ ZUB	- F		2B	2G		2L
Accessories								
ZUB	Accessories supplied loose							
Foot mounting								
F	Foot mounting							
Profile mounting								
...M	Profile mounting							
Slot nut								
...B	For mounting slot							
Proximity sensor								
...G	With cable, 2.5 m							
...H	With plug							
...I	Contactless with cable, 2.5 m							
...J	Contactless, plug							
Plug socket								
...V	With cable, 2.5 m							
Slot cover								
...L	For sensor slot							

Linear drives DGC-GF, with plain-bearing guide

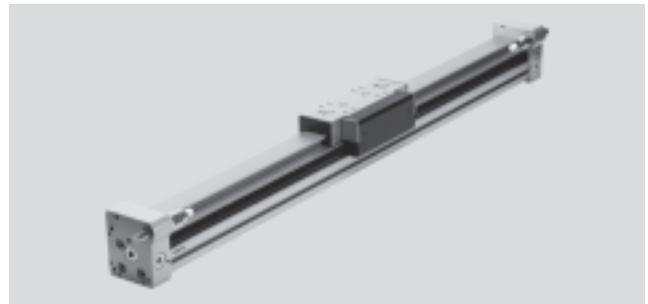
Technical data



Function



www.festo.com/en/Spare_parts_service

Wearing parts kits
→ 1 / 3.1-33



-  Diameter
18 ... 40 mm
-  Stroke length
1 ... 5000 mm

General technical data					
Piston Ø		18	25	32	40
Stroke	[mm]	1 ... 3000		1 ... 5000 ¹⁾	
Pneumatic connection		M5	G ¹ / ₈		G ¹ / ₄
Mode of operation		Double-acting			
Design		Rodless drive			
Driver principle		Slotted cylinder, mechanically coupled			
Guide		Plain-bearing guide			
Assembly position		Any			
Cushioning	PPV	Adjustable at both ends			
→ 1 / 3.1-27	YSR...	Self-adjusting at both ends			
Cushioning length with PPV cushioning	[mm]	16.5	15.5	17.5	29.5
Position sensing		Via proximity sensor			
Type of mounting		Profile mounting			
		Foot mounting			
		Direct mounting			
Max. speed	[m/s]	3			
Stroke tolerance	[mm]	0 ... 2.5			

1) Strokes up to 8500 mm on request.

Operating and environmental conditions					
Piston Ø		18	25	32	40
Operating pressure	[bar]	2 ... 8		1.5 ... 8	
Operating medium		Filtered compressed air, lubricated or unlubricated			
Ambient temperature ¹⁾	[°C]	-10 ... +60			
Corrosion resistance CRC ²⁾		2			

1) Note operating range of proximity sensors.

2) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

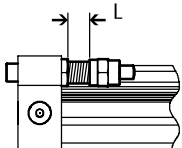
Forces [N] and impact energy [Nm]					
Piston Ø		18	25	32	40
Theoretical force at 6 bar		153	295	483	754
Perm. impact energy at end positions		→ 1 / 3.1-27			

Linear drives DGC-GF, with plain-bearing guide

Technical data

Weight [g]				
Piston Ø	18	25	32	40
Basic weight with 0 mm stroke	763	1609	2532	5252
Additional weight per 10 mm stroke	23	35	55	76
Moving load	267	526	824	1725

Adjustable end-position range L [mm]



Note

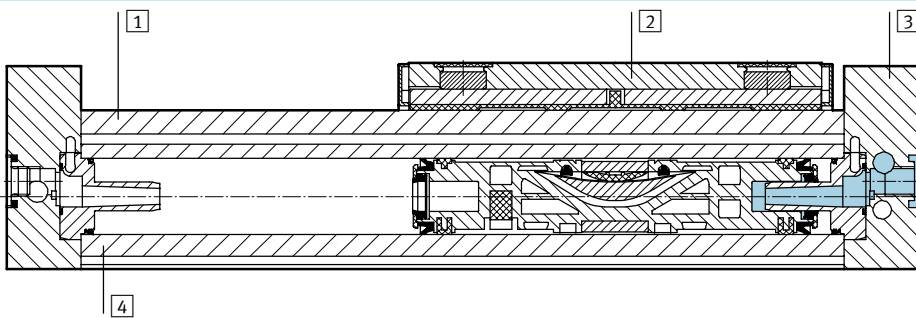
The permissible kinetic energy decreases if the stroke is reduced

with PPV adjustable cushioning at both ends.

Piston Ø	18	25	32	40
Cushioning PPV	0 ... 2	0 ... 4	0 ... 5	
Cushioning YSR/YSRW	0 ... 10			

Materials

Sectional view



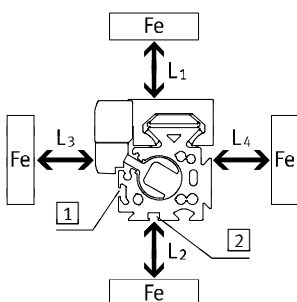
Cylinder		
1	Guide rail	Anodised aluminium
2	Slide	Anodised aluminium
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
-	Piston seal	Polyurethane
-	Sealing band/cover strip	Polyurethane
-	Slide elements	Polyacetate

Influence of ferritic materials on proximity sensors

Ferritic materials (steel parts or panels) directly next to the proximity sensors can cause sensing

malfunctions. The following safety distances must be observed.

The distance depends on the position of the proximity sensor (see [1] and [2]).



Piston Ø		8	12	18	25	32	40
Distance L1	[1] [mm]	0	0	0	0	0	0
	[2] [mm]	-	-	0	0	0	0
Distance L2	[1] [mm]	20	10	10	10	0	0
	[2] [mm]	-	-	25	25	25	25
Distance L3	[1] [mm]	30	25	25	25	25	25
	[2] [mm]	-	-	10	10	0	0
Distance L4	[1] [mm]	0	0	0	0	0	0
	[2] [mm]	-	-	0	0	0	0

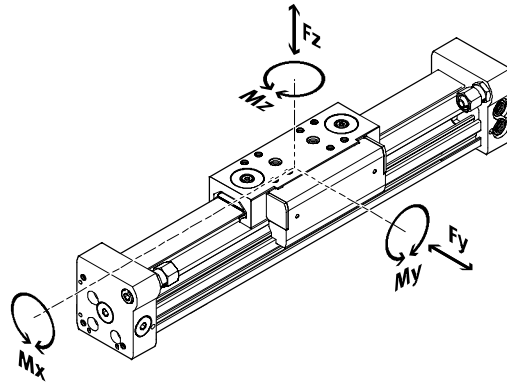
Linear drives DGC-GF, with plain-bearing guide

Technical data

Characteristic load values

The indicated forces and torques refer to the centre of the guide rail and the middle of the slide.

They must not be exceeded in the dynamic range. Special attention must be paid to the cushioning phase.



 Note

In order to avoid frictional restraint of the guide in the case of the drive DGC-GF with plain-bearing guide when used in vertical mode and with a high torque load, the variant with the recirculating ball bearing guide DGC-KF → 1 / 3.1-34 is recommended.

Rodless cylinders
Mechanically coupled

3.1

If the drive is simultaneously subjected to several of the indicated forces and torques listed below, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} + \frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} \leq 1$$

Permissible forces and torques referred to a speed of travel of 0.2 m/s

Piston Ø		18	25	32	40
F _y _{max.}	[N]	440	640	900	1380
F _z _{max.}	[N]	540	1300	1800	2000
M _x _{max.}	[Nm]	3.4	8.5	15	28
M _y _{max.}	[Nm]	20	40	70	110
M _z _{max.}	[Nm]	8.5	20	33	54

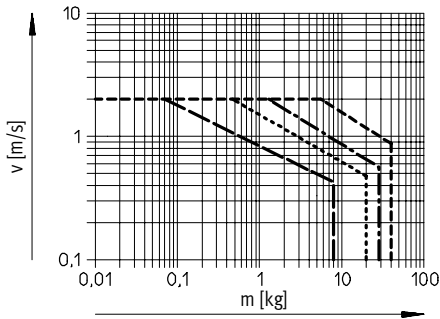


Selection and ordering aid
ProDrive
www.festo.com/en/engineering

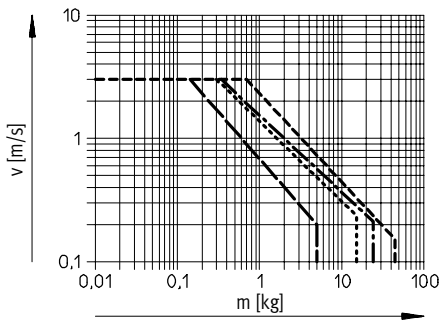
Linear drives DGC-GF, with plain-bearing guide

Technical data

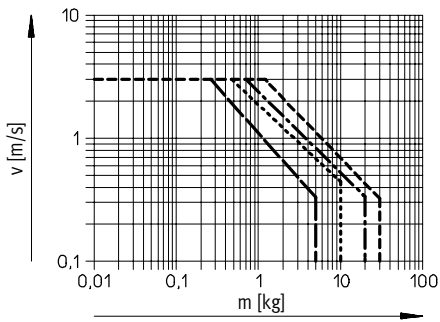
Maximum permissible piston speed v as a function of working load m with PPV cushioning



with YSR cushioning



with YSRW cushioning




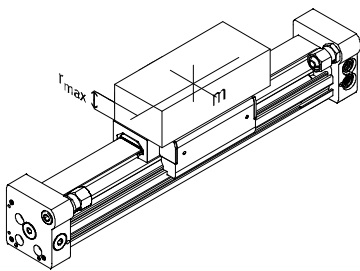
- Ø 18
- - - Ø 25
- · - · Ø 32
- · · · Ø 40

Operating range of cushioning

The end-position cushioning must be adjusted to ensure jerk-free operation. If the operating conditions are outside the permissible range, the

load to be moved must be cushioned using suitable equipment (external shock absorbers), preferably at the centre of gravity of the mass.

 Note
To avoid distortion in the slide, the bearing surfaces of the attachments must maintain a flatness of at least 0.03 mm.



Data for horizontal mounting position:

Piston Ø	8	12	18	25	32	40
Distance r_{max} [mm]	25	35	35	50	50	50

Linear drives DGC-GF, with plain-bearing guide

Technical data

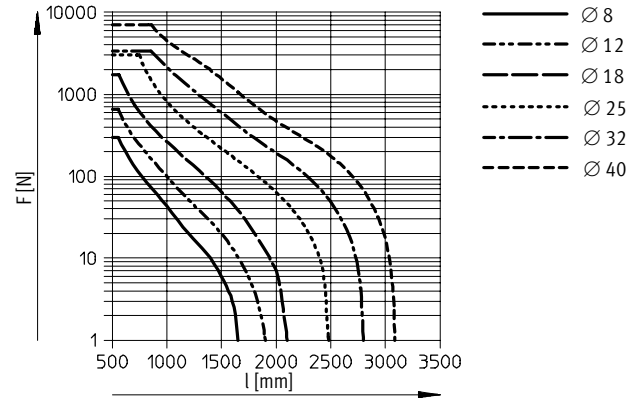
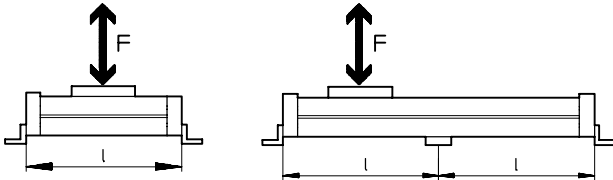
Number of profile mountings MUC dependent on force due to weight F and support span l

In order to limit deflection in the case of large strokes, the drive may need to be supported. The following diagrams

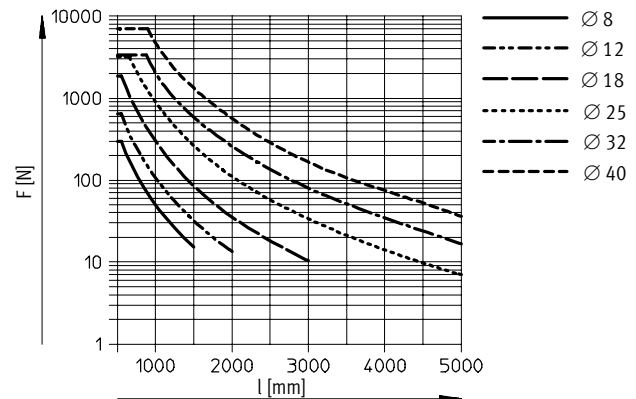
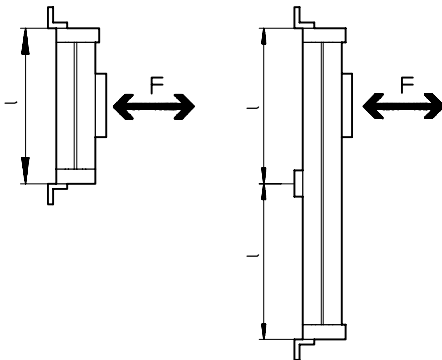
serve to determine the maximum permissible support span as a

function of the mounting position and the perpendicular weight force.

Horizontal mounting position



Vertical mounting position



Example:

The drive DGC-25-1500 is subjected to a force of 300 N in horizontal mounting position.

The drive has an overall length of:
 $l = \text{stroke length} + L1$
 (see dimensions)
 $= 1500 \text{ mm} + 200 \text{ mm}$
 $= 1700 \text{ mm}$

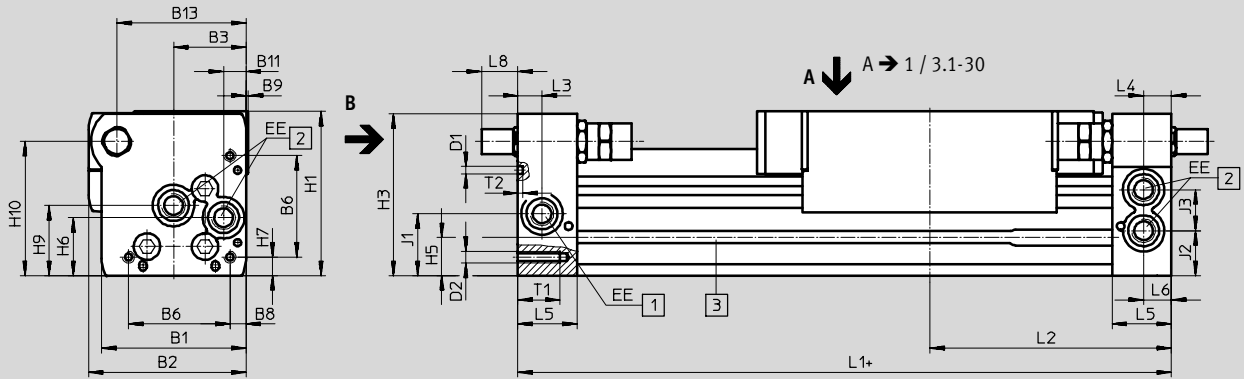
According to the diagram, the max. support span is 1300 mm for the drive DGC-25 with a force of 300 N.

In this example, profile mountings are required as the max. support span (1300 mm) is smaller than the overall length of the drive (1700 mm).

Linear drives DGC-GF, with plain-bearing guide

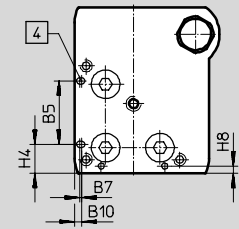
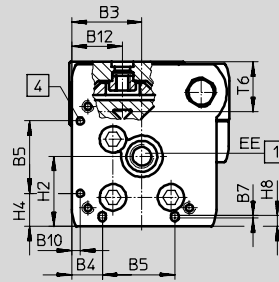
Technical data

Dimensions Download CAD data → www.festo.com/en/engineering



View B
∅ 25 ... 40

∅ 18



- + plus stroke length
- 1 Air connection options on 2 faces of end cap
- 2 Air connection options on 2 faces of end cap, for air connection at one end
- 3 Sensor slot for proximity sensor
- 4 Mounting hole for foot mounting HPC

∅	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
[mm]			±0.05	±0.1	±0.05	±0.1		±0.1			±0.05		±0.1
18	44.5	49.9	19.5	8.8	21	31	0.8	3.8	1	2.4	5.5	15.5	39
25	59.8	66	30	12.65	30	42	1	6.65	1	3.5	9.3	21	53.5
32	73	79	38.5	5.7	63.1	57.5	-	8.5	1.5	14	14.9	18	66.5
40	91	98.5	45	17.2	55	65	-	12.2	2	8	16.5	24.8	80.5

∅	D1	D2	EE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	J1
[mm]	∅ ±0.05				±0.1		±0.1		±0.1	±0.1	±0.1	±0.1	±0.1	±0.1
18	2	M4	M5	56.3	23.1	55	9.6	13.4	20	4.6	2.4	25.2	46	20
25	3	M5	G ¹ / ₈	68	29	67	13.65	15.8	24	7.65	4.5	29	55.5	26.1
32	3	M6	G ¹ / ₈	78.5	30	77	5.7	17	27.7	8.5	14	35.2	63.8	30
40	4	M6	G ¹ / ₄	99.5	41.5	97.5	17.2	25	36.5	12.2	8	44	81.5	35

∅	J2	J3	L1	L2	L3	L4	L5	L6	L8		T1	T2	T6
[mm]	±0.1	±0.1	+0.9/-0.2							YSR	YSRW		
18	16.5	11	150	74.5	5.7	5.8	15	5.5	15.9	19.4	9	2	17.1
25	18.6	17	200	100	10.5	10.6	24.5	10.6	12.5	15	17.5	2	20.5
32	22	18.5	250	124.8	14.5	14.5	30.5	14.5	8.5	15.5	15	2	21.3
40	26	26	300	150	14.6	14.6	33.5	14.6	12.8	21	20	3	30.7

Linear drives DGC-GF, with plain-bearing guide

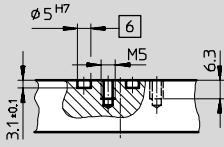
Technical data

Dimensions – Slide

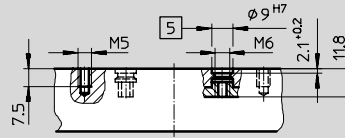
Download CAD data → www.festo.com/en/engineering

View A

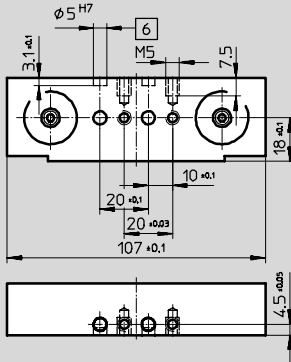
Ø 18



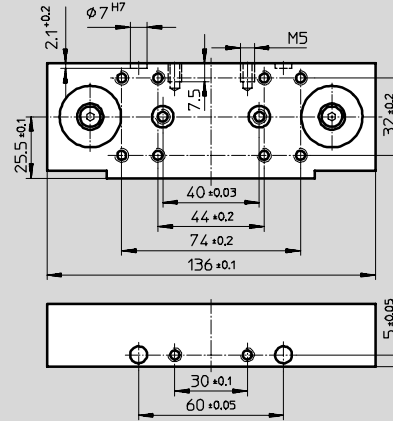
Ø 25



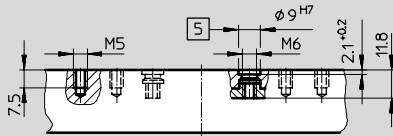
View A



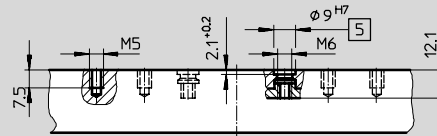
View A



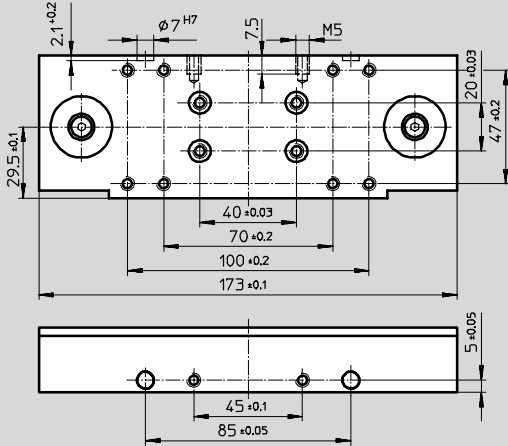
Ø 32



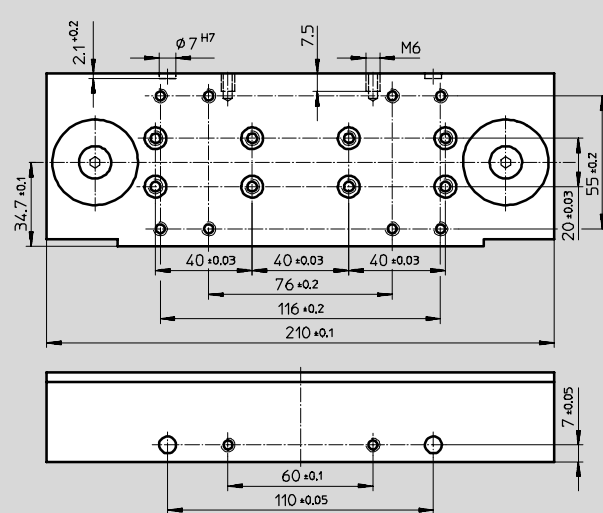
Ø 40



View A



View A

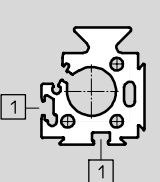
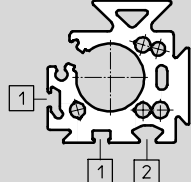
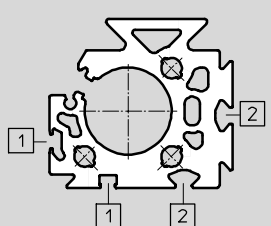
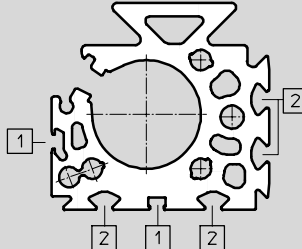


- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS

Linear drives DGC-GF, with plain-bearing guide

Technical data

Profile barrel

Ø 18	Ø 25	Ø 32	Ø 40
			
<p>1 Sensor slot for proximity sensor 2 Mounting slot for slot nut</p>			

Rodless cylinders
 Mechanically coupled

3.1

Linear drives DGC-GF, with plain-bearing guide

Ordering data – Modular products

Ordering code

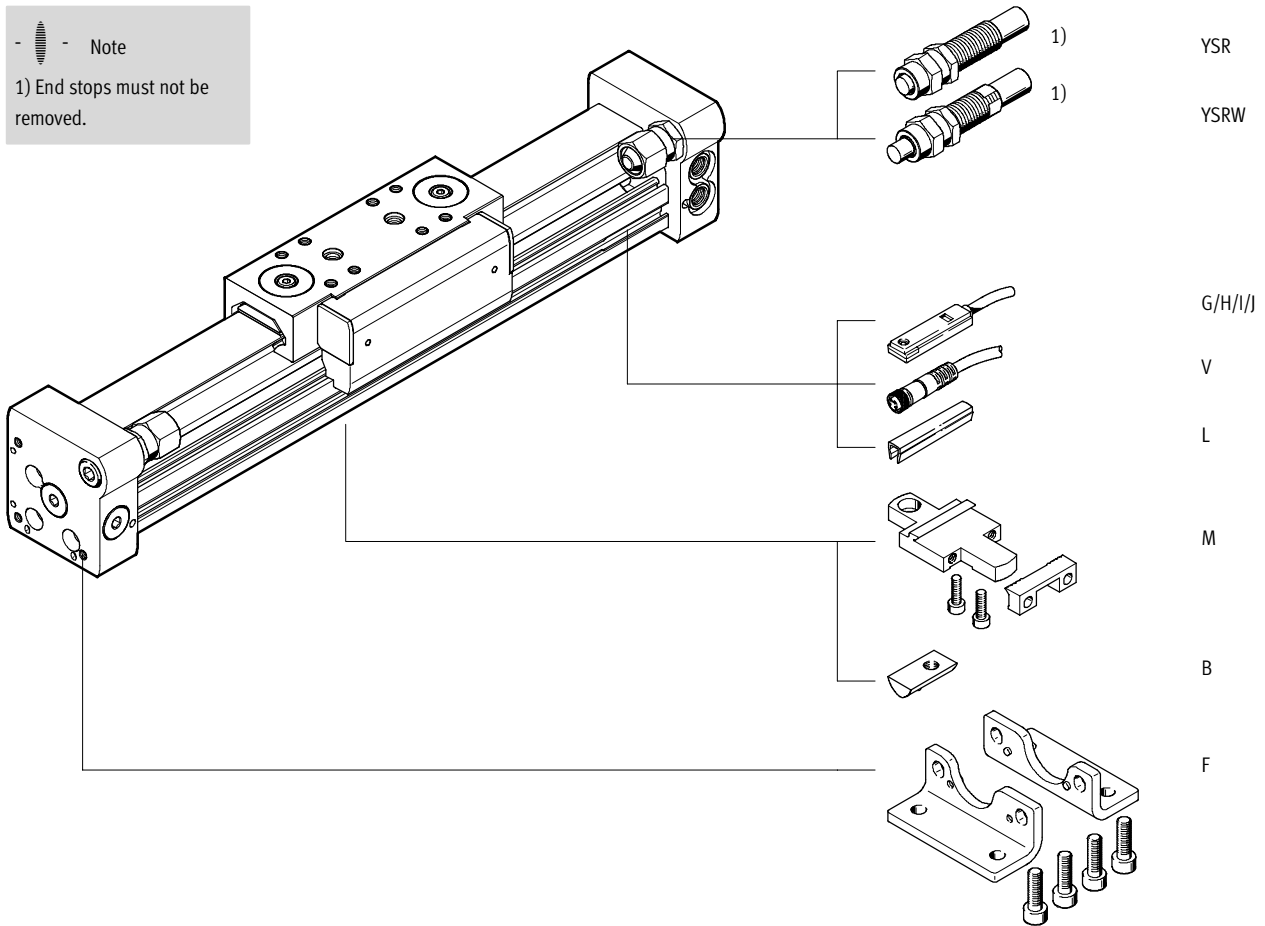
Mandatory data/options

-  - Note

1) End stops must not be removed.

Rodless cylinders
Mechanically coupled

3.1



Linear drives DGC-GF, with plain-bearing guide

Ordering data – Modular products

M Mandatory data							O Options
Module No.	Function	Piston Ø	Stroke	Guide	Cushioning	Position sensing	Accessories
532 446	DGC	18	1 ... 5000	GF	PPV YSR YSRW	A	F, ...M, ...B, ...G, ...H, ...I, ...J, ...V, ...L
532 447		25					
532 448		32					
532 449		40					
Ordering example							
532 446	DGC	- 18	- 250	- GF	- PPV	- A	+ F2M2I2V

Ordering table							
Size	18	25	32	40	Condi- tions	Code	Enter code
M Module No.	532 446	532 447	532 448	532 449			
Function	Rodless cylinder					DGC	DGC
Piston Ø [mm]	18	25	32	40		-...	
Stroke [mm]	1 ... 3000	1 ... 5000			¹	-...	
Guide	Plain-bearing guide					-GF	-GF
Cushioning	Pneumatic cushioning, adjustable at both ends					-PPV	
	Shock absorber, self-adjusting					-YSR	
	Shock absorber, self-adjusting, progressive					-YSRW	
Position sensing	For proximity sensor					-A	-A
O Accessories	Supplied loose (can be retrofitted)					+	+
Foot mounting	1					F	
Central support	1 ... 9					...M	
Slot nut for mounting slot	-	1 ... 9				...B	
Proximity sensor	Cable, 2.5 m	1 ... 9				...G	
	Plug M8	1 ... 9				...H	
Proximity sensor, contactless, PNP	Cable, 2.5 m	1 ... 9				...I	
	Plug M8	1 ... 9				...J	
Plug socket with cable	M8, 2.5 m	1 ... 9				...V	
Slot cover for sensor slot	1 ... 9					...L	

¹ **Stroke** Size 25, 32, 40: Strokes up to 8500 mm on request.

Transfer order code

DGC - - - **GF** - - **A** +

Ordering data – Wearing parts kits					
Piston Ø [mm]	Part No.	Type	Piston Ø [mm]	Part No.	Type
18	684 407	DGC-18	32	684 409	DGC-32
25	684 408	DGC-25	40	684 410	DGC-40


Linear drives DGC-KF, with recirculating ball bearing guide

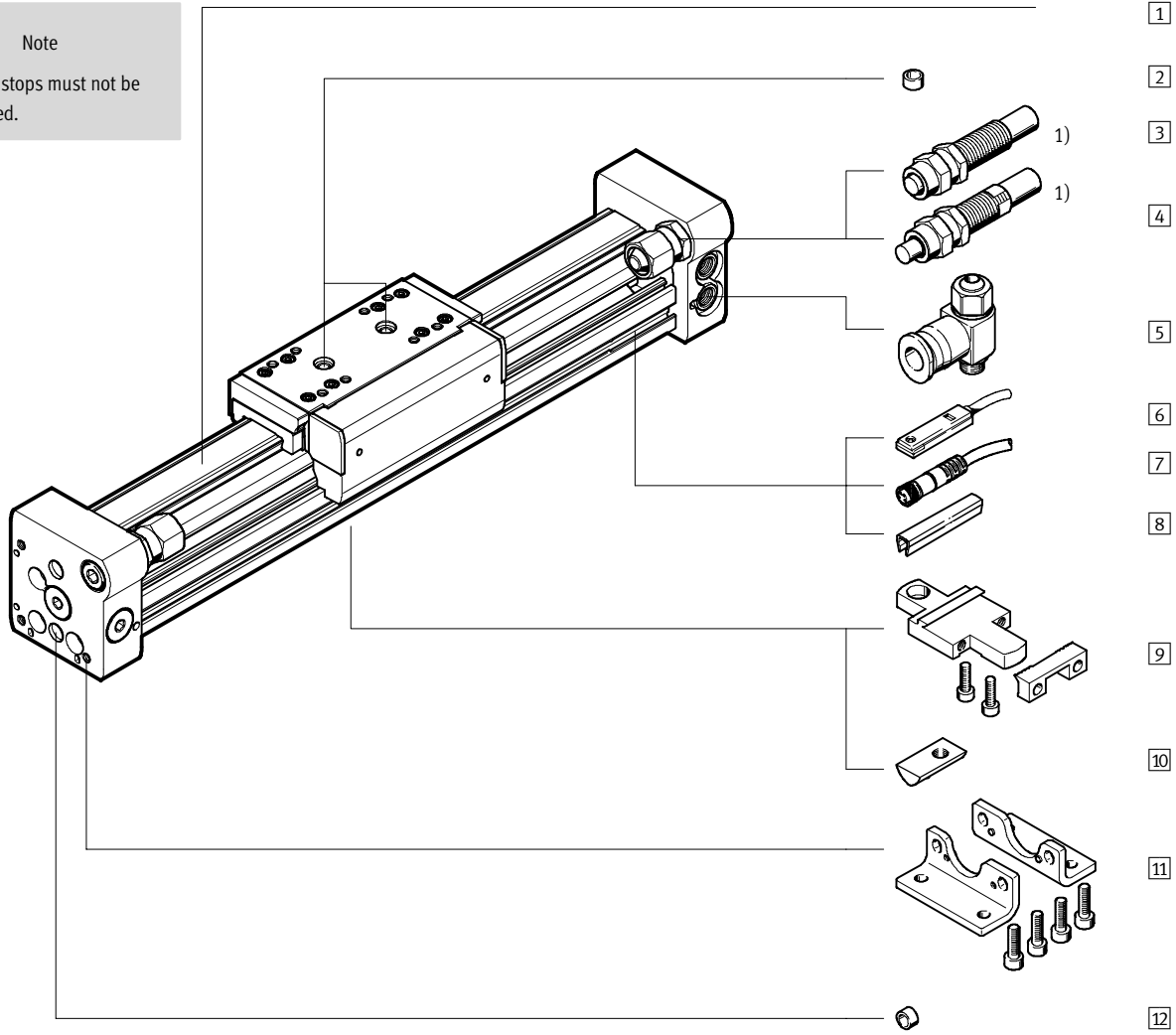
Peripherals overview



Rodless cylinders
Mechanically coupled

3.1

 Note
1) End stops must not be removed.



Linear drives DGC-KF, with recirculating ball bearing guide

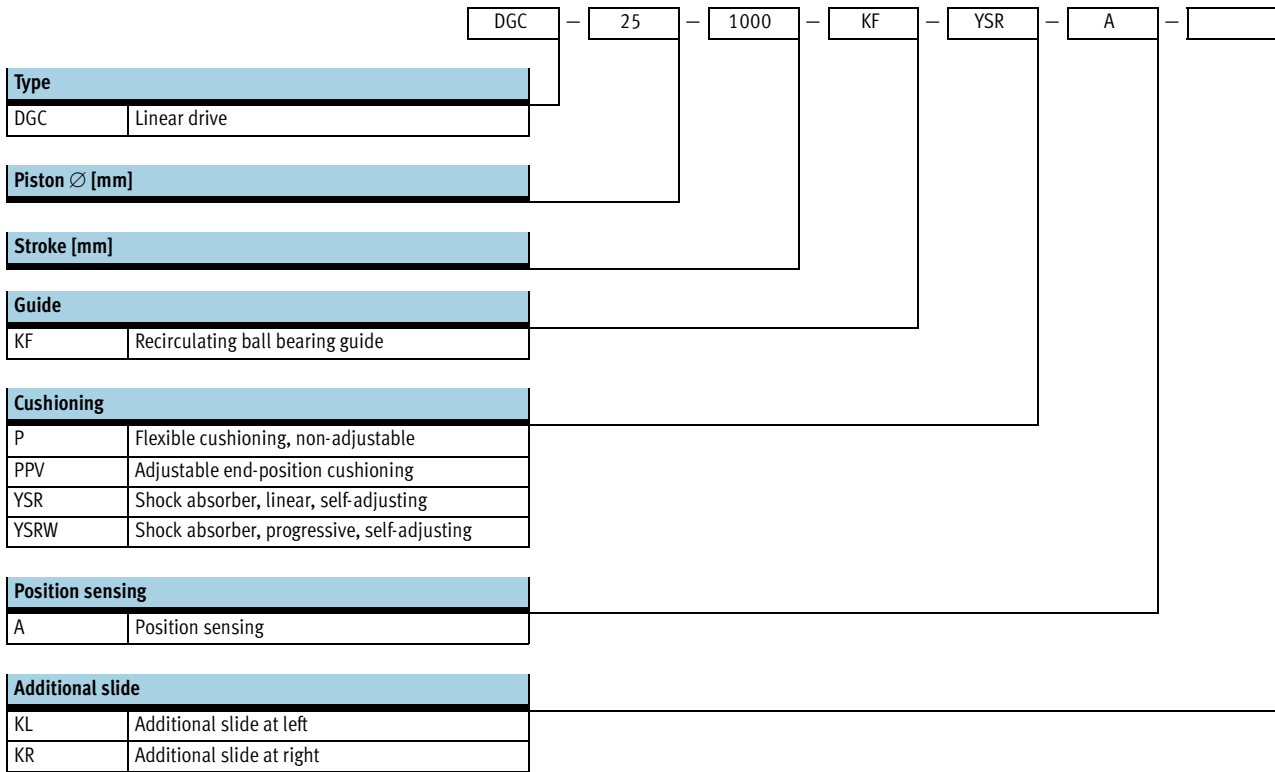
Peripherals overview

Variants and accessories			
Type	For piston \varnothing	Brief description	→ Page
1) Linear drive DGC-KF	8 ... 40	Linear drive without accessories, with recirculating ball bearing guide	1 / 3.1-38
2) Centring pin/sleeve ¹⁾ ZBS/ZBH	8 ... 40	For centring loads and attachments on the slide	1 / 3.1-55
- Cushioning P	8, 12	Non-adjustable flexible cushioning. Used only at low speeds.	1 / 3.1-49
- Cushioning PPV	18 ... 40	Adjustable pneumatic end-position cushioning. Used at medium speeds.	1 / 3.1-49
3) Shock absorber YSR	8 ... 40	Self-adjusting hydraulic shock absorber with return spring and linear cushioning characteristic.	1 / 3.1-49
4) Shock absorber YSRW	8 ... 40	Self-adjusting hydraulic shock absorber with return spring and progressive cushioning characteristic.	1 / 3.1-49
5) One-way flow control valve GRLA	8 ... 40	To regulate speed	1 / 3.1-55
6) Proximity sensor G/H/I/J	8 ... 40	For sensing the slide position	1 / 3.1-56
7) Plug socket with cable V	8 ... 40	For proximity sensors	1 / 3.1-56
8) Slot cover L	18 ... 40	For protecting against ingress of dirt and securing proximity sensor cables	1 / 3.1-55
9) Profile mounting M	8 ... 40	Simple and precise mounting option via dovetail connection	1 / 3.1-54
10) Slot nut B	25 ... 40	For mounting attachments	1 / 3.1-55
11) Foot mounting F	8 ... 40	For mounting on end cap	1 / 3.1-50
12) Centring pin/sleeve ¹⁾ ZBS/ZBH	8 ... 40	For centring the drive without foot mountings (user-specific)	1 / 3.1-55

1) Included with the drive when ordered.

Linear drives DGC-KF, with recirculating ball bearing guide

Type codes



Linear drives DGC-KF, with recirculating ball bearing guide

Type codes

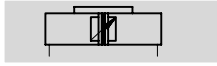


		+ ZUB	F		2B	2G		2L
Accessories								
ZUB	Accessories supplied loose							
Foot mounting								
F	Foot mounting							
Profile mounting								
...M	Profile mounting							
Slot nut								
...B	For mounting slot							
Proximity sensor								
...G	With cable, 2.5 m							
...H	With plug							
...I	Contactless with cable, 2.5 m							
...J	Contactless, plug							
Plug socket								
...V	With cable, 2.5 m							
Slot cover								
...L	For sensor slot							



Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

Function



www.festo.com/en/Spare_parts_service

-  Diameter
8 ... 40 mm
-  Stroke length
1 ... 5000 mm

Wearing parts kits
→ 1 / 3.1-49



General technical data							
Piston Ø		8	12	18	25	32	40
Stroke	[mm]	1 ... 1300	1 ... 1900	1 ... 3000	1 ... 5000 ¹⁾		
Pneumatic connection		M5			G ¹ / ₈	G ¹ / ₄	
Mode of operation		Double-acting					
Design		Rodless drive					
Driver principle		Slotted cylinder, mechanically coupled					
Guide		External recirculating ball bearing guide					
Assembly position		Any					
Cushioning → 1 / 3.1-41	P	Non-adjustable at both ends		-			
	PPV	-		Adjustable at both ends			
	YSR...	Self-adjusting at both ends					
Cushioning length with PPV cushioning	[mm]	-		16.5	15.5	17.5	29.5
Position sensing		Via proximity sensor					
Type of mounting		Profile mounting					
		Foot mounting					
		Direct mounting					
Max. speed	[m/s]	1	1.2	3			
Repetition accuracy	[mm]	0.02 (with cushioning YSR/YSRW)					
Stroke tolerance	[mm]	0 ... 1.7		0 ... 2.5			

1) Strokes up to 8500 mm on request.

Operating and environmental conditions							
Piston Ø		8	12	18	25	32	40
Operating pressure	[bar]	2.5 ... 8		2 ... 8		1.5 ... 8	
Operating medium		Filtered compressed air, lubricated or unlubricated					
Ambient temperature ¹⁾	[°C]	-10 ... +60					
Corrosion resistance CRC ²⁾		1					

1) Note operating range of proximity sensors

2) Corrosion resistance class 1 according to Festo standard 940 070

Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

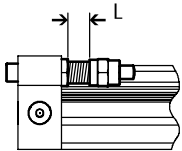
Forces [N]							
Piston Ø		8	12	18	25	32	40
Theoretical force at 6 bar		30	68	153	295	483	754
Perm. impact energy at end positions		→ 1 / 3.1-41					

Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

Weight [g]						
Piston Ø	8	12	18	25	32	40
Basic weight with 0 mm stroke	225	391	975	2113	2837	6996
Additional weight per 10mm stroke	11	16	31	49	74	117
Moving load	77	149	331	732	1146	2330

Adjustable end-position range L [mm]



 Note

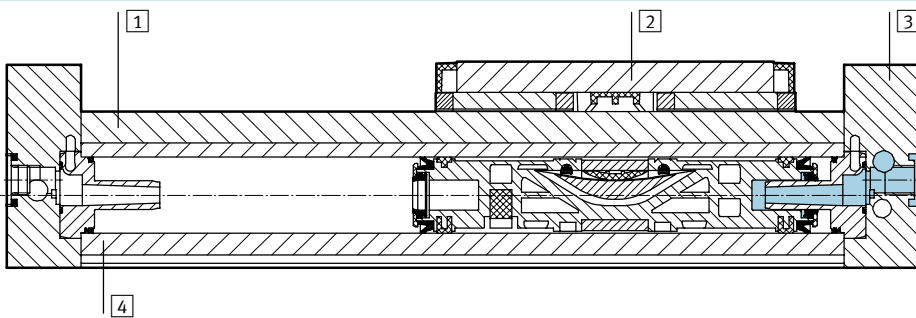
The permissible kinetic energy decreases if the stroke is reduced

with PPV adjustable cushioning at both ends.

Piston Ø	8	12	18	25	32	40
Cushioning P/PPV	0 ... 5		0 ... 2	0 ... 4	0 ... 5	
Cushioning YSR/YSRW	0 ... 10		0 ... 20	0 ... 25		

Materials

Sectional view



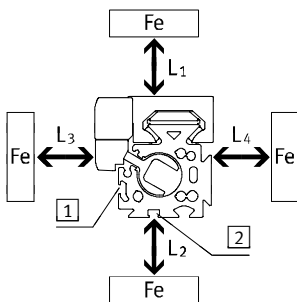
Cylinder		
1	Guide rail	High-alloy steel
2	Slide	High-alloy steel
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
-	Piston seal	Polyurethane
-	Sealing band/cover strip	Polyurethane
-	Note on materials	Free of copper, PTFE and silicone

Influence of ferritic materials on proximity sensors

Ferritic materials (steel parts or panels) directly next to the proximity sensors can cause sensing

malfunctions. The following safety distances must be observed.

The distance depends on the position of the proximity sensor (see **1** and **2**).



Piston Ø		8	12	18	25	32	40
Distance L1	1 [mm]	0	0	0	0	0	0
	2 [mm]	-	-	0	0	0	0
Distance L2	1 [mm]	20	10	10	10	0	0
	2 [mm]	-	-	25	25	25	25
Distance L3	1 [mm]	30	25	25	25	25	25
	2 [mm]	-	-	10	10	0	0
Distance L4	1 [mm]	0	0	0	0	0	0
	2 [mm]	-	-	0	0	0	0

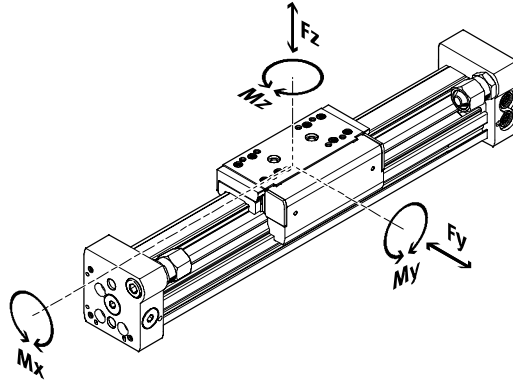
Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

Characteristic load values

The indicated forces and torques refer to the centre of the guide rail and the middle of the slide.

They must not be exceeded in the dynamic range. Special attention must be paid to the cushioning phase.



If the drive is simultaneously subjected to several of the indicated forces and torques listed below, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{F_y}{F_{y_{max}}} + \frac{F_z}{F_{z_{max}}} + \frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + \frac{M_z}{M_{z_{max}}} \leq 1$$

Permissible forces and torques

Piston \varnothing	8	12	18	25	32	40
$F_{y_{max}}$ [N]	300	650	1850	3050	3310	6890
$F_{z_{max}}$ [N]	300	650	1850	3050	3310	6890
$M_{x_{max}}$ [Nm]	1.7	3.5	16	36	54	144
$M_{y_{max}}$ [Nm]	4.5	10	51	97	150	380
$M_{z_{max}}$ [Nm]	4.5	10	51	97	150	380

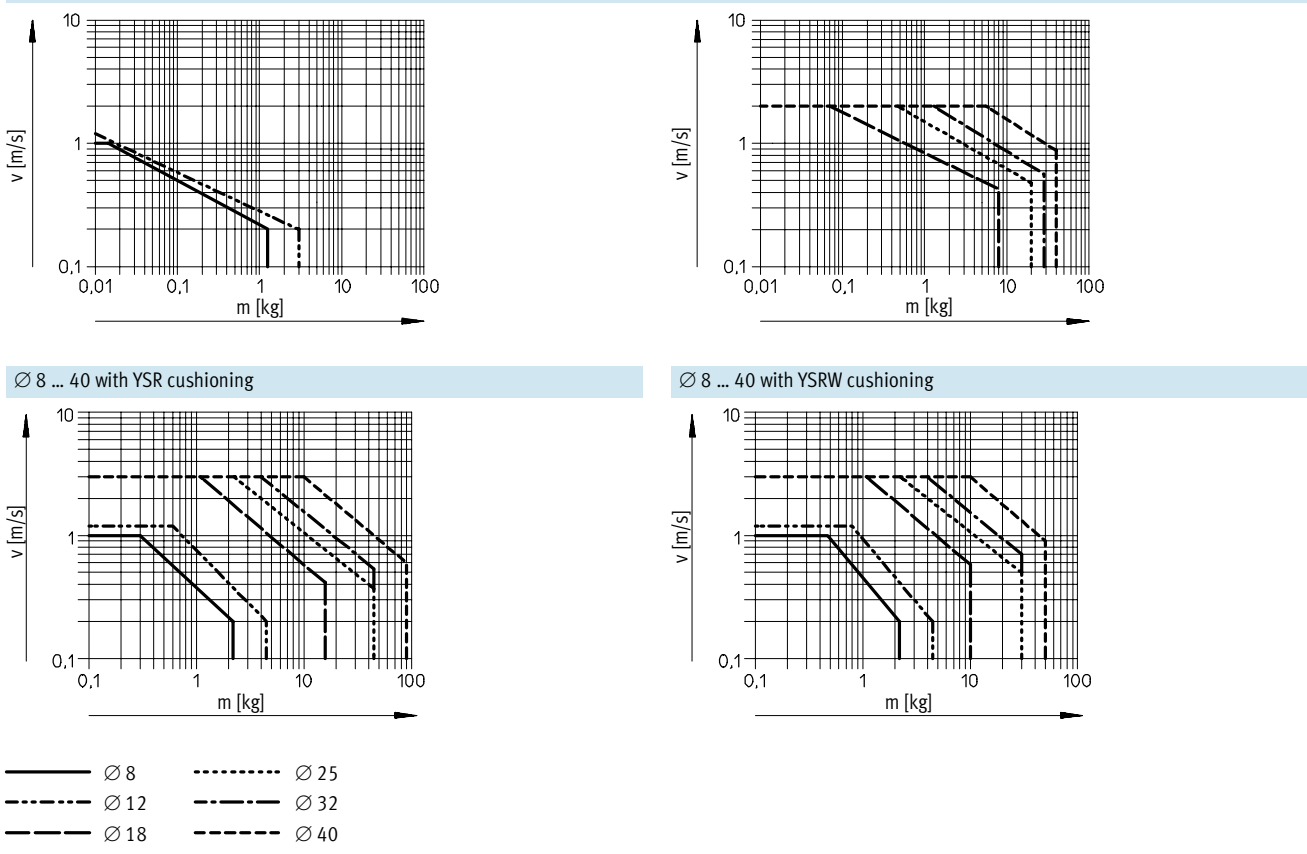



Selection and ordering aid
ProDrive
www.festo.com/en/engineering

Linear drives DGC-KF, with recirculating ball bearing guide

Technical data


Maximum permissible piston speed v as a function of working load m

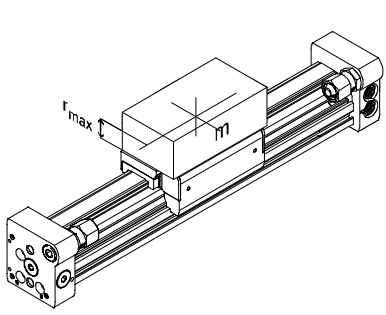


 **Note**
 This data represents the maximum values that can be achieved. Values fluctuate in practice relative to the size of the working load.

Operating range of cushioning

The end-position cushioning must be adjusted to ensure jerk-free operation. If the operating conditions are outside the permissible range, the load to be moved must be cushioned using suitable equipment (shock absorbers, stops, etc.), preferably at the centre of gravity of the mass.

 **Note**
 To avoid distortion in the slide, the bearing surfaces of the attachments must maintain a flatness of at least: with piston Ø 8 and 12: 0.03 mm with piston Ø 18 ... 40: 0.01 mm



The data applies to a horizontal mounting position:

Piston Ø	8	12	18	25	32	40
Distance r_{max} [mm]	25	35	35	50	50	50

Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

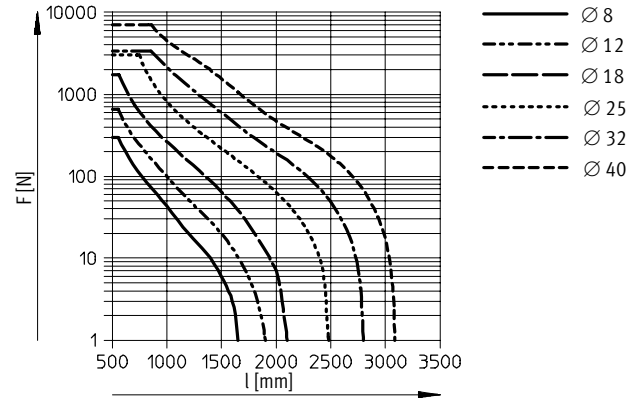
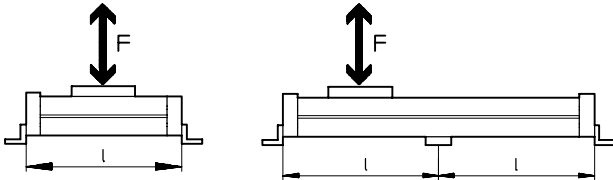
Number of profile mountings MUC dependent on force due to weight F and support span l

In order to limit deflection in the case of large strokes, the drive may need to be supported. The following diagrams

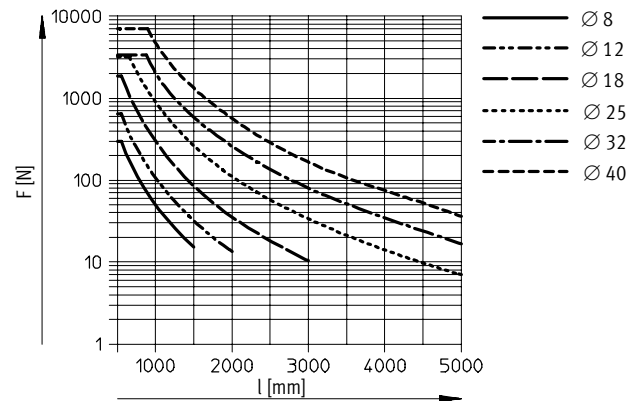
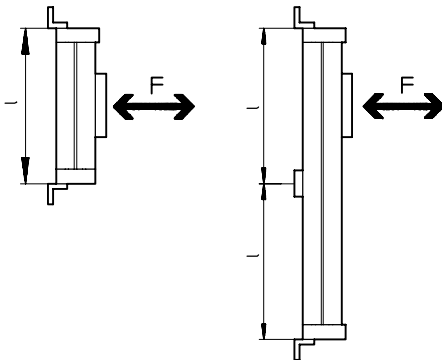
serve to determine the maximum permissible support span as a

function of the mounting position and the perpendicular weight force.

Horizontal mounting position



Vertical mounting position



Example:

The drive DGC-25-1500 is subjected to a force of 300 N in horizontal mounting position.

The drive has an overall length of:
 $l = \text{stroke length} + L1$
 (see dimensions)
 $= 1500 \text{ mm} + 200 \text{ mm}$
 $= 1700 \text{ mm}$

According to the diagram, the max. support span is 1300 mm for the drive DGC-25 with a force of 300 N.

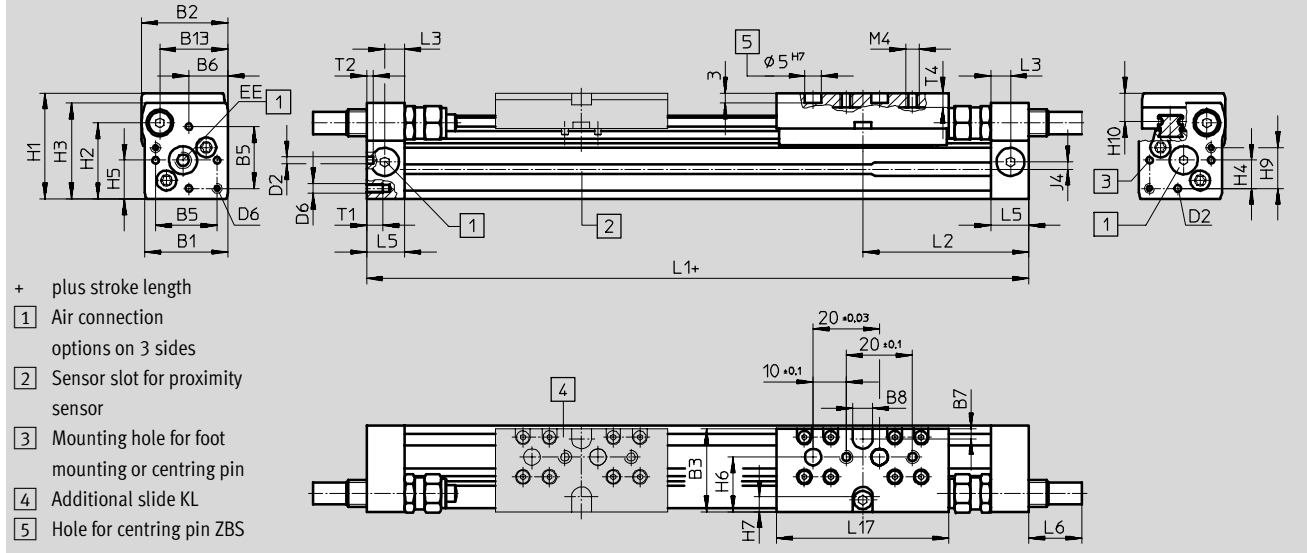
In this example, profile mountings are required as the max. support span (1300 mm) is smaller than the overall length of the drive (1700 mm).

Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

Dimensions Download CAD data → www.festo.com/en/engineering

∅ 8 and 12



∅	B1	B2	B3	B5	B6	B7	B8	B13	D2	D6	EE	H1	H2	H3	H4	H5
[mm]							±0.05		∅ H8							
8	25	26	25	18.6	11.7	3	6	20.5	2	M3	M5	32	23	29	8.5	11.7
12	30.2	31	30.5	20.6	13.5	3	8	25	2	M4	M5	37.5	28.5	34.5	8.7	13.5

∅	H6	H7	H9	H10	J4	L1	L2	L3	L5	L6			L7	T1	T2	T4
										P	YSR	YSRW				
[mm]																
8	16.5	4.5	12.3	8.7	2.2	100	50.1	6	11.5	0	16	16.2	52	5	2	4.3
12	20.5	5	14.7	9.8	3	125	62.1	8	16	0	11.3	12.3	65	6	2	5

Profile barrel

∅ 8

∅ 12



1 Sensor slot for proximity sensor

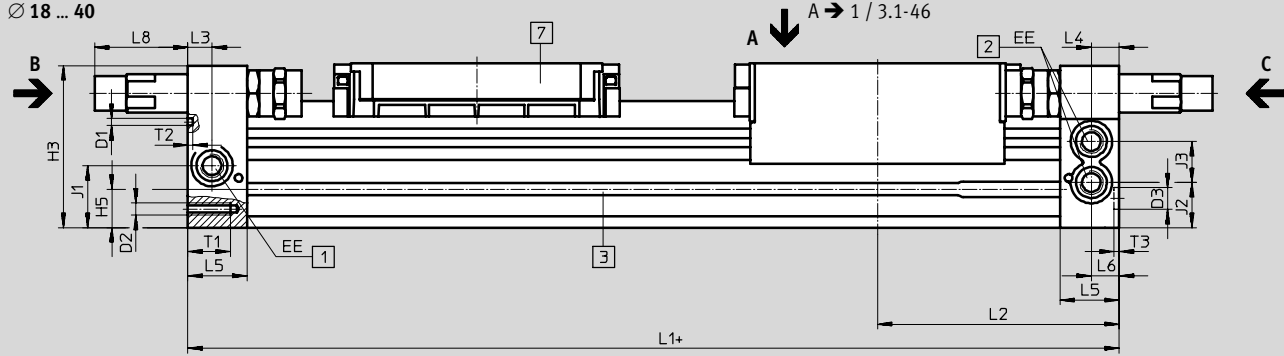
Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

Dimensions

Download CAD data → www.festo.com/en/engineering

∅ 18 ... 40



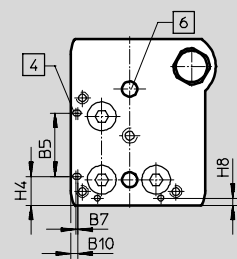
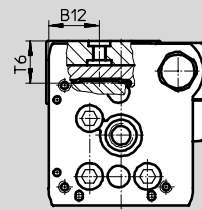
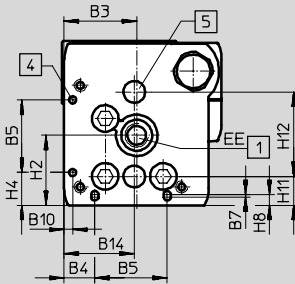
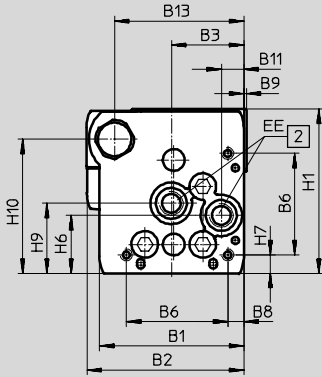
View C

∅ 18 ... 40

View B

∅ 25 ... 40

∅ 18



+ plus stroke length
 1 Air connection options on 2 faces of end cap

2 Air connection options on 2 faces of end cap, for air connection at one end
 3 Sensor slot for proximity sensor

4 Mounting hole for foot mounting HPC
 5 Hole for centring sleeve ZBH

6 Hole for centring pin ZBS
 7 Additional slide

Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

∅	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	D1
[mm]			±0.05	±0.1	±0.05	±0.1		±0.1			±0.05		±0.1	±0.05	∅
18	44.5	49.9	19.5	8.8	21	31	0.8	3.8	1	2.4	5.5	15.5	39	19.5	2
25	59.8	66	30	12.65	30	42	1	6.65	1	3.5	9.3	21	53	29	3
32	73	79	38.5	5.7	63.1	57.5	–	8.5	1.5	14	14.9	18	65	38.5	3
40	91	98.5	45	17.2	55	65	–	12.2	2	8	16.5	24.8	80.5	45	4

∅	D2	D3	EE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12
[mm]		∅ H7			±0.1		±0.1		±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05
18	M4	5	M5	56.3	23.1	55	9.6	13.4	20	4.6	2.4	25.2	46	8.5	30
25	M5	9	G1/8	68	29	67	13.65	15.8	24	7.65	4.5	29	55.5	12	35
32	M6	9	G1/8	78.5	30	77	5.7	17	27.7	8.5	14	35.2	63.8	11.45	50
40	M6	9	G1/4	99.5	41.5	97.5	17.2	25	36.5	12.2	8	44	81.5	15	60

∅	J1	J2	J3	L1	L2	L3	L4	L5	L6	L8		T1	T2	T3	T6
[mm]	±0.1	±0.1	±0.1	+0.9/–0.2						YSR	YSRW			+0.2	
18	20	16.5	11	150	74.5	5.7	5.8	15	5.5	29.9	32.4	9	2	3.1	15
25	26.1	18.6	17	200	100	10.5	10.6	24.5	10.6	35.6	38.6	17.5	2	2.1	17.3
32	30	22	18.5	250	124.8	14.5	14.5	30.5	14.5	19.5	28	15	2	2.1	20
40	35	26	26	300	150	14.6	14.6	33.5	14.6	38.5	43.5	20	3	2.1	25.7

Linear drives DGC-KF, with recirculating ball bearing guide

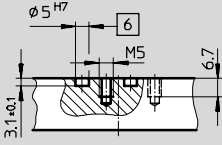
Technical data

Dimensions – Slide

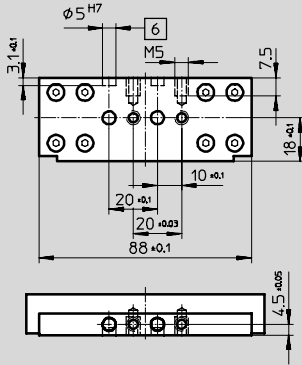
Download CAD data → www.festo.com/en/engineering

View A

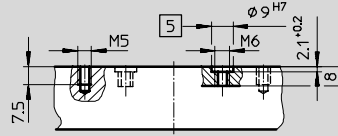
Ø 18



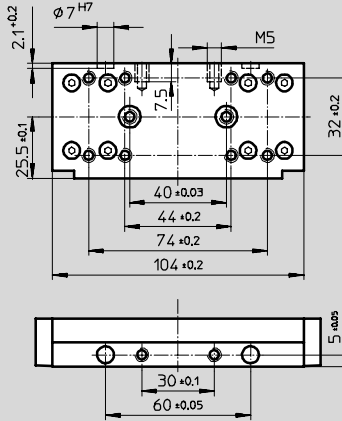
View A



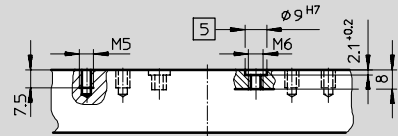
Ø 25



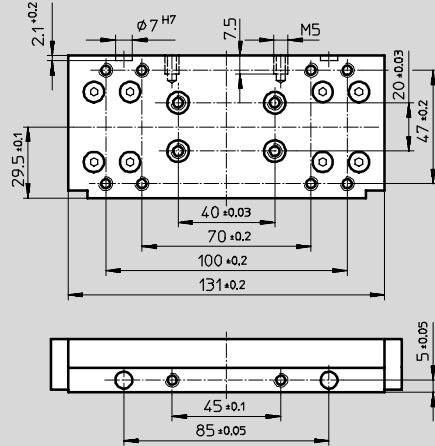
View A



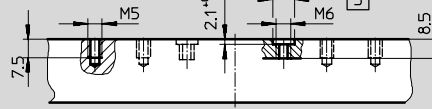
Ø 32



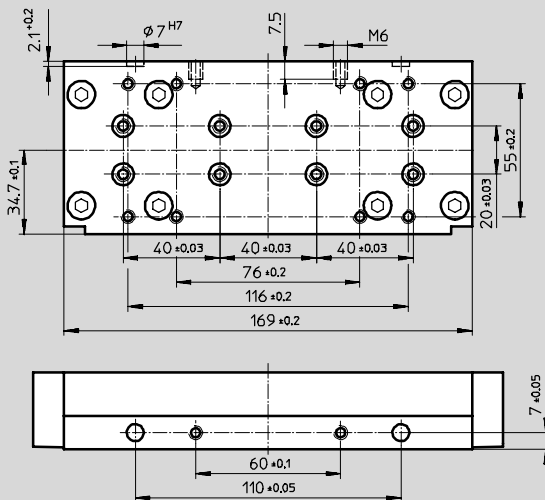
View A



Ø 40



View A

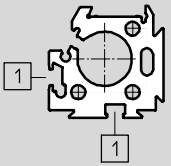
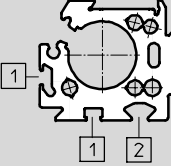
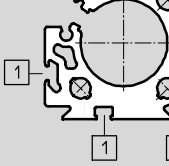
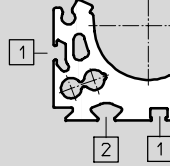


- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS

Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

Profile barrel

\varnothing 18	\varnothing 25	\varnothing 32	\varnothing 40
			

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

Linear drives DGC-KF, with recirculating ball bearing guide

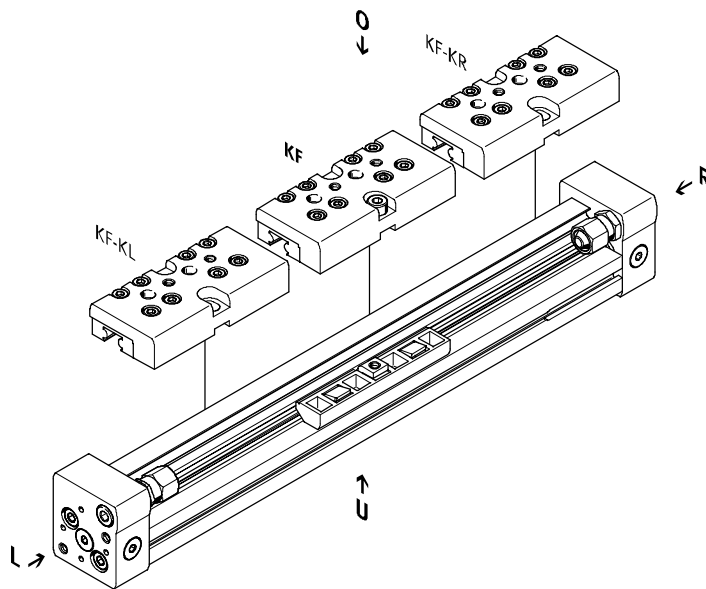
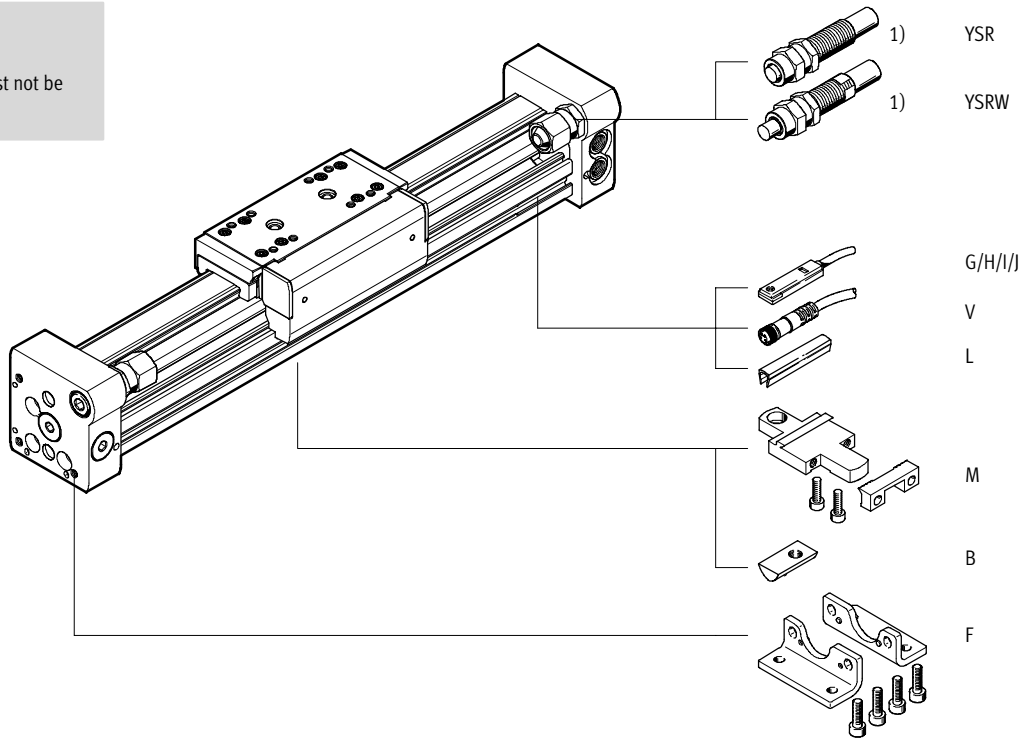
Ordering data – Modular products

Ordering code

Mandatory data/options

 Note

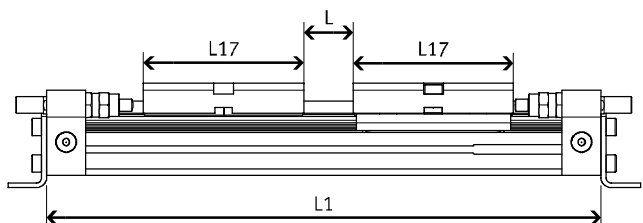
1) End stops must not be removed.



Effective stroke reduction when ordering an additional slide KL or KR

For a linear drive DGC with additional slide, the effective stroke is reduced by the length of the additional slide and the distance between both slides.

Example for DGC-12-500-KF-...-KR:
 (L = 20 mm/L17 = 65 mm)
 The effective stroke is reduced to 415 mm.
 (415 mm = 500 mm – 20 mm – 65 mm)



Linear drives DGC-KF, with recirculating ball bearing guide

Ordering data – Modular products

M Mandatory data							O Options			
Module No.	Function	Piston Ø	Stroke	Guide	Cushioning	Position sensing	Additional slide at left	Additional slide at right	Accessories	
530 906	DGC	8	1 ... 5000	KF	P	A	KL	KR	F, ...M, ...B, ...G, ...H, ...I, ...J, ...V, ...L	
530 907		12			PPV					
532 446		18			YSR					
532 447		25			YSRW					
532 448		32								
532 449		40								
Ordering example										
530 907	DGC	- 12	- 250	- KF	- YSRW	- A	- KL	- KR	+ F2M	

Ordering table										
Size	8	12	18	25	32	40	Condi- tions	Code	Enter code	
M Module No.	530 906	530 907	532 446	532 447	532 448	532 449				
Function	Rodless cylinder								DGC	DGC
Piston Ø [mm]	8	12	18	25	32	40		-...		
Stroke [mm]	1 ... 1300	1 ... 1900	1 ... 3000	1 ... 5000			1	-...		
Guide	Recirculating ball bearing guide								-KF	-KF
Cushioning	Flexible cushioning rings/ plates at both ends		-	-	-	-		-P		
	-		Pneumatic cushioning, adjustable at both ends					-PPV		
	Shock absorber, self-adjusting								-YSR	
	Shock absorber, self-adjusting, progressive								-YSRW	
Position sensing	For proximity sensor								-A	-A
O Additional slide at left	Additional slide, standard, left								-KL	
O Additional slide at right	Additional slide, standard, right								-KR	
Accessories	Supplied loose (can be retrofitted)								+	+
Foot mounting	1								F	
Central support	1 ... 9								...M	
Slot nut for mounting slot	-	-	-	1 ... 9				...B		
									...G	
Proximity sensor	Cable, 2.5 m	1 ... 9						...H		
	Plug M8	1 ... 9						...I		
Proximity sensor, contactless, PNP	Cable, 2.5 m	1 ... 9						...J		
	Plug M8	1 ... 9						...V		
Plug socket with cable	M8, 2.5 m								...L	
Slot cover for sensor slot	-	-	1 ... 9							

1 Stroke Size 25, 32, 40: Strokes up to 8500 mm on request.

Transfer order code

DGC - - - **KF** - - **A** - - +

Ordering data – Wearing parts kits					
Piston Ø [mm]	Part No.	Type	Piston Ø [mm]	Part No.	Type
8	665 335	DGC-8-KF	25	684 408	DGC-25
12	665 336	DGC-12-KF	32	684 409	DGC-32
18	684 407	DGC-18	40	684 410	DGC-40

Linear drives DGC

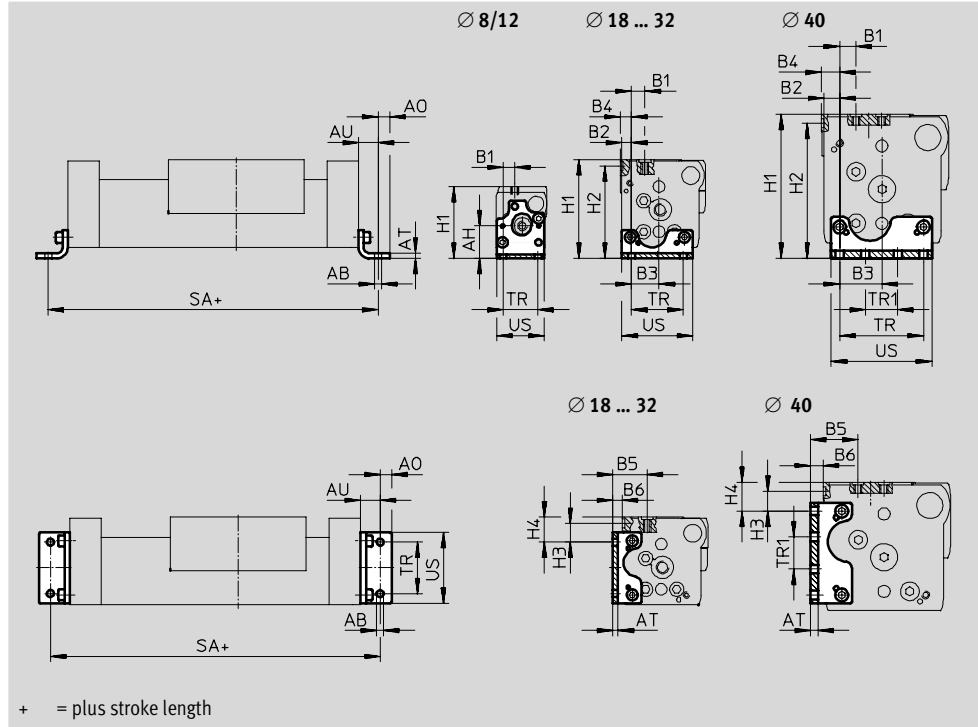
Accessories

Rodless cylinders
Mechanically coupled

3.1

Foot mounting HPC
(order code: F)

Material:
Galvanised steel



+ = plus stroke length

Dimensions and ordering data

For Ø [mm]	AB Ø	AH	AO	AT	AU	B1		B2	B3
						G	GF/KF		
8	3.4	16.7	3	2	9	6	6	-	-
12	4.5	18.5	4.5	2	11.5	5.4	5.4	-	-
18	5.5	-	6.75	3	13.25	15	11.2	4.3	15.2
25	5.5	-	9	4	15	12.5	13.35	7.65	21.35
32	6.6	-	10	5	19	19	11.5	9	29.5
40	6.6	-	10	6	20	7.6	12.6	12.2	32.8

For Ø [mm]	B4 GF/KF	B5		B6 GF/KF	H1		H2 GF/KF	H3 GF/KF
		G	GF/KF		G	GF/KF		
8	-	-	-	-	37	37	-	-
12	-	-	-	-	42.5	42.5	-	-
18	5.3	27	23.2	6.7	57.5	64	59.5	16.7
25	8.65	36.65	29.5	7.5	67	76.5	71.5	14.35
32	10.5	29.5	27	7.5	82	87.5	82.5	8
40	14.2	31.8	36.8	10	100	111.5	104.5	15.3

For Ø [mm]	H4		SA +0.9/-0.2	TR ±0.1	TR1 ±0.1	US	Weight [g]	Part No.	Type
	G	GF/KF							
8	-	-	118	18	-	24.4	26	526 385	HPC-8
12	-	-	148	20	-	29.6	38	526 388	HPC-12
18	14.7	21.5	176	30	-	38.6	58	533 677	HPC-18
25	9.85	19.35	230	40	-	55	131	533 668	HPC-25
32	7.5	13	288	56.5	19.5	68	239	533 669	HPC-32
40	10.8	22.3	340	65	25	78	348	533 670	HPC-40

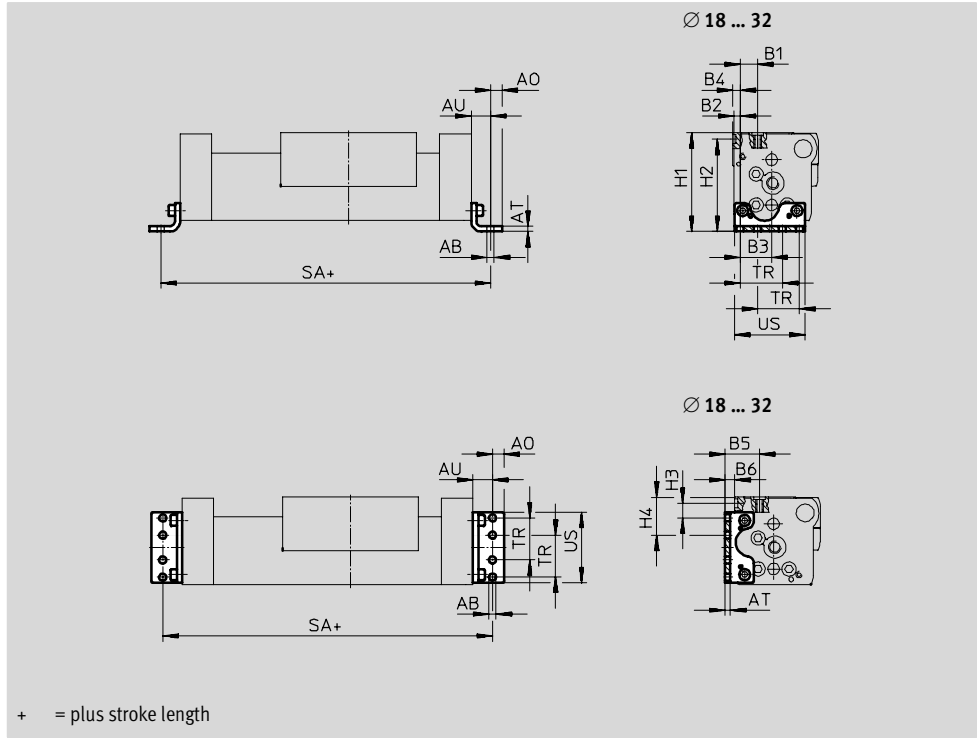
Linear drives DGC

Accessories



Foot mounting HPC-S
(when replacing linear drive DGPL with linear drive DGC-GF/-KF)

Material:
Galvanised steel



Dimensions and ordering data										
For Ø	AB	AO	AT	AU	B1	B2	B3	B4	B5	B6
[mm]	Ø									
18	5.5	4.75	3	13.25	12	3.5	15.6	4.5	24	7.5
25	5.5	6	3	13	16.25	4.75	24.25	5.75	29.5	7.5
32	6.6	7	4	17	9	9	29.5	10.5	27	7.5

For Ø	H1	H2	H3	H4	SA	TR	US	Weight	Part No.	Type
[mm]					+0.9/-0.2	±0.1		[g]		
18	64	59.5	16.7	28	176.5	24	40	54.5	535 600	HPC-18-S
25	75.5	70.5	11.45	29.75	226	32.5	55	89.5	535 601	HPC-25-S
32	87.5	82.5	8	31.5	284	38	68	180	538 413	HPC-32-S

Linear drives DGC

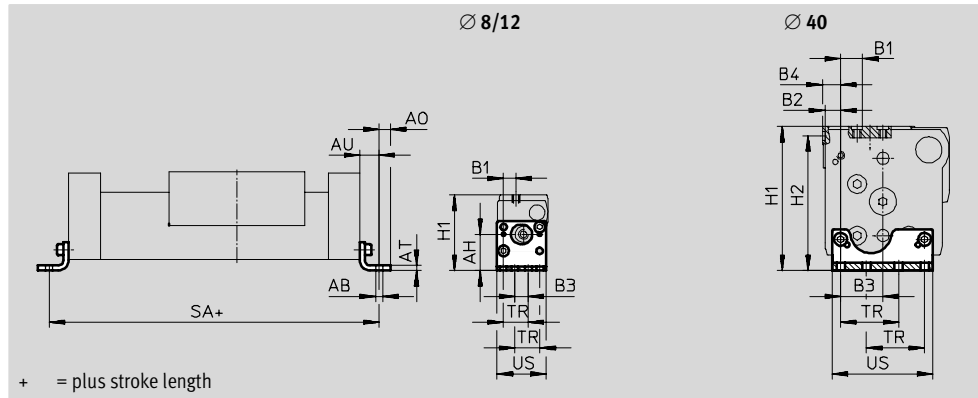
Accessories



Foot mounting HPC-SO

(when replacing linear drive DGPL with linear drive DGC-GF/-KF)

Material:
Galvanised steel



Rodless cylinders
Mechanically coupled

3.1

Dimensions and ordering data									
For \varnothing	AB \varnothing	AH	AO	AT	AU	B1	B2	B3	
[mm]									
8	3.4	18.7	3	2	9	6.5	-	7	
12	3.4	23.5	3	2	9	9.3	-	9.4	
40	6.6	-	8.5	5	17.5	12.5	12.3	32.7	

For \varnothing	B4	H1	H2	SA	TR	US	Weight	Part No.	Type
[mm]				+0.9/-0.2	± 0.1		[g]		
8	-	39	-	118	13	25.4	26	529 346	HPC-8-SO
12	-	47.5	-	143	18.6	33.8	42	529 348	HPC-12-SO
40	14.3	104.5	97.5	335	45	78	264	536 745	HPC-40-SO

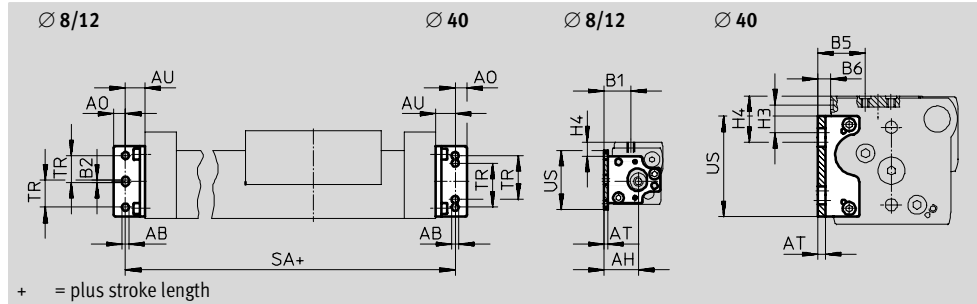
Linear drives DGC

Accessories



Foot mounting HPC-SH
(when replacing linear drive DGPL
with linear drive
DGC-GF/-KF)

Material:
Galvanised steel



Dimensions and ordering data								
For \varnothing	AB	AH	AO	AT	AU	B1	B2	B5
[mm]	\varnothing							
8	3.4	17.8	3	2	9	13.8	1.5	-
12	3.4	21.1	3	2	9	16.5	1.4	-
40	6.6	-	8.5	5	17.5	-	-	36

For \varnothing	B6	H3	H4	SA	TR	US	Weight	Part No.	Type
[mm]				+0.9/-0.2	± 0.1		[g]		
8	-	-	7.25	118	13	30.5	25	529 347	HPC-8-SH
12	-	-	4.5	143	18.6	41.8	41.5	529 349	HPC-12-SH
40	9.2	21.6	36	335	45	78	275	536 746	HPC-40-SH

Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC

Accessories

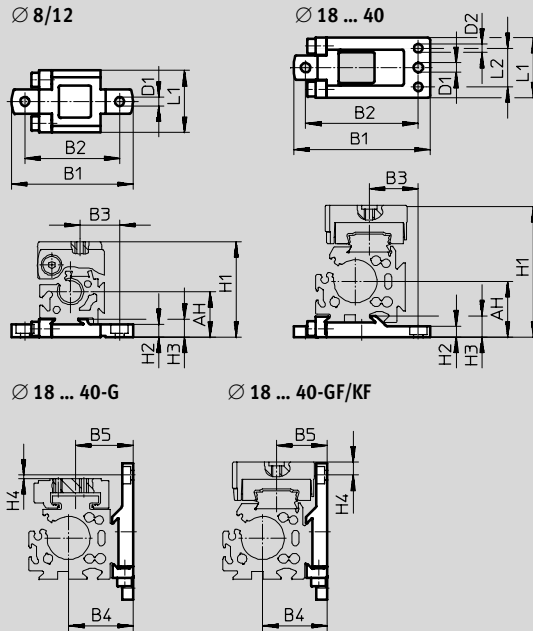
Rodless cylinders
Mechanically coupled

3.1

Profile mounting MUC (order code: M)

Material:
High-alloy steel

MUC-12



Position of the profile mounting
along the profile barrel is freely
selectable.



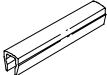
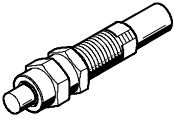
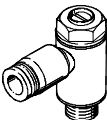
Dimensions and ordering data

For Ø [mm]	AH	B1	B2 ±0.2	B3		B4	B5		D1 Ø	D2 Ø H7
				G	GF/KF		G	GF/KF		
8	17.7	47	36.7	15.35	15.35	–	–	–	3.5	–
12	18.5	52.5	42.2	16.5	16.5	–	–	–	3.5	–
18	27.2	67.8	56	32.5	28.7	27.2	27	28.7	5.5	5
25	32.5	79.5	65.5	35.15	28.5	37.5	36.15	29.5	5.5	5
32	37.5	94	80	35	35	47.5	37	37	5.5	5
40	47	110.5	96	43	43	57	46.8	46.8	6.5	6

For Ø [mm]	H1		H2	H3	H4		L1	L2	Weight [g]	Part No.	Type
	G	GF/KF			G	GF/KF					
8	37	37	5	7	–	–	24	–	28	526 384	MUC-8
12	42.5	42.5	4.5	7	–	–	24	–	32	526 387	MUC-12
18	57.5	64	5.7	9.9	0.1	6.4	33	20.5	78	531 752	MUC-18
25	67	76.5	6.5	12.5	2.07	7.43	35	22.5	113	531 753	MUC-25
32	82	87.5	6.5	13	1.5	4	45	30	174	531 754	MUC-32
40	100	111.5	8.5	16	0.2	11.3	60	44	346	531 755	MUC-40

Linear drives DGC

Accessories

Ordering data for DGP/DGPL				Technical data → 1 / 10.1-3		
	for Ø [mm]	Remarks	Ordering code	Part No.	Type	PU ¹⁾
Slot nut NST						
	25 ... 40	For mounting slot	B	186 566	HMBN-5-2M5	1
Centring pin/sleeve ZBS/ZBH						
	8 ... 18	For slide	-	150 928	ZBS-5	10
	25 ... 40			150 927	ZBH-9	
	8. 12	For end cap	-	525 273	ZBS-2	
	18			150 928	ZBS-5	
	25 ... 40			150 927	ZBH-9	
Slot cover ABP-S						
	18 ... 40	For sensor slot every 0.5 m	L	151 680	ABP-5-S	2
Shock absorber						
	8. 12	For DGC basic design	YSRW	540 344	YSRW-DGC-8	1
	18 ... 40	For DGC with plain-bearing guide		540 345	YSRW-DGC-12	
				540 346	YSRW-DGC-18-GF	
				540 348	YSRW-DGC-25-GF	
				540 350	YSRW-DGC-32-GF	
				540 352	YSRW-DGC-40-GF	
	18 ... 40	For DGC with recirculating ball bearing guide		540 347	YSRW-DGC-18-KF	
				540 349	YSRW-DGC-25-KF	
				540 351	YSRW-DGC-32-KF	
540 353	YSRW-DGC-40-KF					
One-way flow control valve						
	8 ... 18	Metal design	-	193 137	GRLA-M5-QS-3-D	1
	25, 32			193 138	GRLA-M5-QS-4-D	
				193 142	GRLA-1/8-QS-3-D	
				193 143	GRLA-1/8-QS-4-D	
				193 144	GRLA-1/8-QS-6-D	
				193 145	GRLA-1/8-QS-8-D	
	40			193 146	GRLA-1/4-QS-6-D	
				193 147	GRLA-1/4-QS-8-D	
193 148		GRLA-1/4-QS-10-D				



1) Packaging unit quantity



 Core Range

Linear drives DGC




Accessories


Proximity sensors for piston \varnothing 8/12

Ordering data – Proximity sensors for slot type 10, magneto-resistive							Technical data → 1 / 10.2-47	
	Assembly	Electrical connection		Switch output	Cable length [m]	Connection direction	Part No.	Type
		Cable	Plug M8					
NO contact								
	Insertable from above	3-core	–	PNP	2.5	In-line	525 915	SMT-10F-PS-24V-K2,5L-OE
		–	3-pin	PNP	0.3	In-line	525 916	SMT-10F-PS-24V-K0,3L-M8D
	–	–	–	–	–	–	Lateral	526 675
	Flush	–	3-pin	PNP	0.3	In-line	173 220	SMT-10-PS-SL-LED-24
		3-core	–	–	2.5	–	173 218	SMT-10-PS-KL-LED-24
	–	–	–	–	–	–	–	–

Ordering data – Proximity sensors for slot type 10, magnetic reed							Technical data → 1 / 10.2-50	
	Assembly	Electrical connection		Cable length [m]	Connection direction	Part No.	Type	
		Cable	Plug M8					
NO contact								
	Insertable from above	–	3-pin	0.3	In-line	525 914	SME-10F-DS-24V-K0,3L-M8D	
		3-core	–	2.5	In-line	525 913	SME-10F-DS-24V-K2,5L-OE	
	–	–	–	–	–	–	526 672	SME-10F-ZS-24V-K2,5L-OE
	Flush	–	3-pin	0.3	In-line	173 212	SME-10-SL-LED-24	
		3-core	–	2.5	–	173 210	SME-10-KL-LED-24	
	–	–	–	–	–	–	–	–

Proximity sensors for piston \varnothing 18 ... 40









Ordering data – Proximity sensors for slot type 8, magneto-resistive						Technical data → 1 / 10.2-13		
	Assembly	Switch output	Electrical connection			Cable length [m]	Part No.	Type
			Cable	Plug M8	Plug M12			
NO contact								
	Insertable from above	PNP	3-core	–	–	2.5	525 898	SMT-8F-PS-24V-K2,5-OE
		NPN	–	–	–	–	525 909	SMT-8F-NS-24V-K2,5-OE
		–	2-core	–	–	2.5	525 908	SMT-8F-ZS-24V-K2,5-OE
		PNP	–	3-pin	–	0.3	525 899	SMT-8F-PS-24V-K0,3-M8D
		NPN	–	–	–	–	525 910	SMT-8F-NS-24V-K0,3-M8D
	Insertable from end, flush with the cylinder profile	PNP	3-core	–	–	2.5	175 436	SMT-8-PS-K-LED-24-B
		–	3-pin	–	–	0.3	175 484	SMT-8-PS-S-LED-24-B
		–	–	–	–	–	–	–
NC contact								
	Insertable from above	PNP	3-core	–	–	7.5	525 911	SMT-8F-PO-24V-K7,5-OE





 Core Range


Linear drives DGC

Accessories

Proximity sensors for piston \varnothing 18 ... 40

Ordering data – Proximity sensors for slot type 8, magnetic reed						Technical data → 1 / 10.2-16	
	Assembly	Electrical connection		Cable length [m]	Part No.	Type	
		Cable	Plug M8				
NO contact							
	Insertable from above	3-core	–	2.5	525 895	SME-8F-DS-24V-K2,5-OE	
			5.0	525 897	SME-8F-DS-24V-K5,0-OE		
		2-core	–	2.5	525 907	SME-8F-ZS-24V-K2,5-OE	
			3-pin	0.3	525 896	SME-8F-DS-24V-K0,3-M8D	
	Insertable from end, flush with the cylinder profile	3-core	–	2.5	150 855	SME-8-K-LED-24	
			3-pin	0.3	150 857	SME-8-S-LED-24	
		–					
NC contact							
	Insertable from above	3-core	–	7.5	525 906	SME-8F-DO-24V-K7,5-OE	

Ordering data – Plug sockets						Technical data → 1 / 10.2-100	
	Assembly	Switch output		Connection	Cable length [m]	Part No.	Type
		PNP	NPN				
Straight socket							
	Union nut M8	■	■	3-pin	2.5	159 420	SIM-M8-3GD-2,5-PU
					5	159 421	SIM-M8-3GD-5-PU
	Union nut M12	■	■	3-pin	2.5	159 428	SIM-M12-3GD-2,5-PU
					5	159 429	SIM-M12-3GD-5-PU
Angled socket							
	Union nut M8	■	■	3-pin	2.5	159 422	SIM-M8-3WD-2,5-PU
					5	159 423	SIM-M8-3WD-5-PU
	Union nut M12	■	■	3-pin	2.5	159 430	SIM-M12-3WD-2,5-PU
					5	159 431	SIM-M12-3WD-5-PU

 Core Range

Rodless cylinders
 Mechanically coupled
3.1

