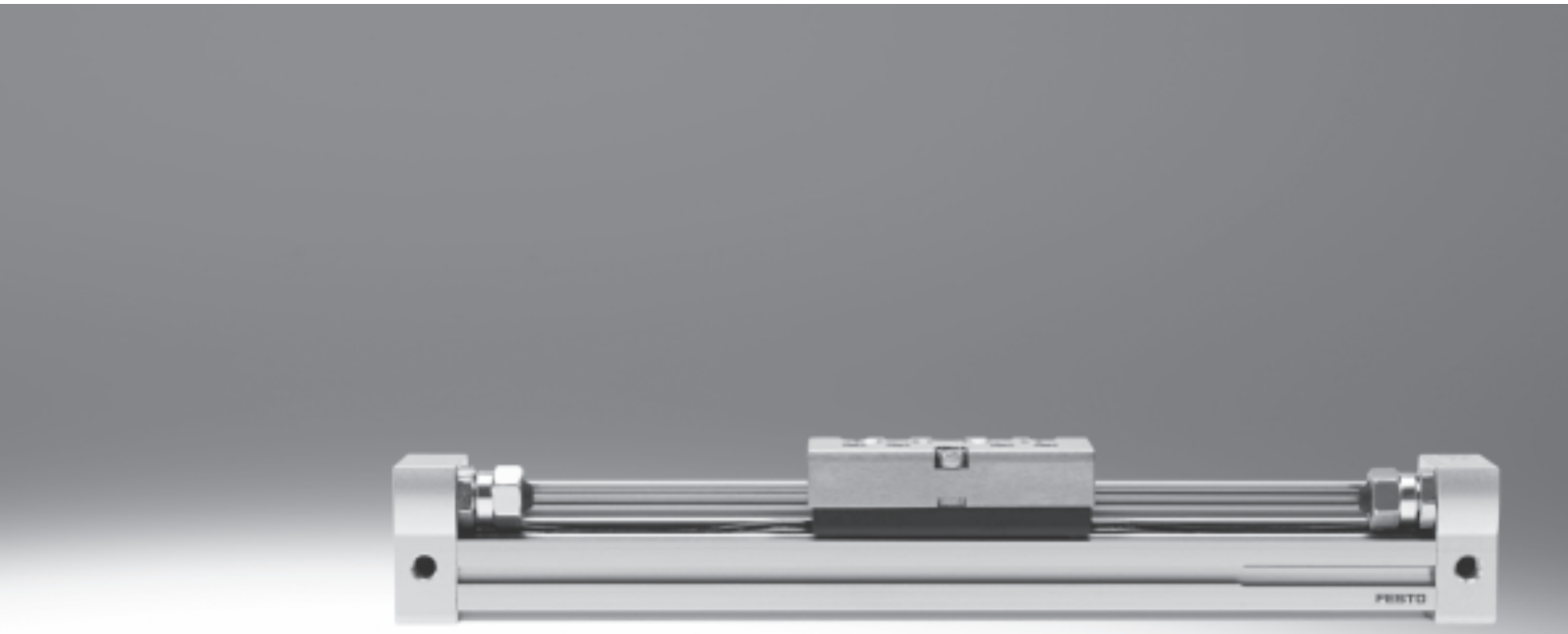
Linear drives DGC-N

FESTO



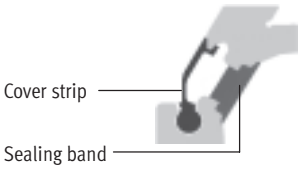
New

Linear drives DGC-N

Key features

General

- 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
- Virtually zero leakage

Wide choice of variants

Basic design DGC-N-G

- Piston ∅ 8 ... 63 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0.2 mm
- For small loads
- Operating behaviour with torque load = average

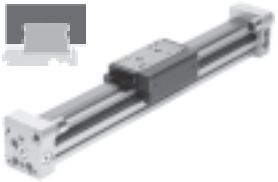
Plain-bearing guide DGC-N-GF

- Piston ∅ 18 ... 63 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0.05 mm
- For small and medium loads
- Operating behaviour with torque load = average

Recirculating ball bearing guide DGC-N-KF

- Piston ∅ 8 ... 63 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0 mm
- For medium and large loads
- Precision mounting interface with stainless steel slide
- Operating behaviour with torque load = very good

Recirculating ball bearing guide with protected guide DGC-N-KF-GP



- Piston ∅ 18 ... 40 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0 mm
- The protected guide cleans the guide rail and protects the recirculating ball bearing guide by means of an additional wiper seal and lubrication unit

Passive guide axis DGC-N-FA

- Without drive
- Piston ∅ 8 ... 63 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0 mm
- Precision guide, suitable for DGC-N-KF. Can be used as machine component or as twin guide with DGC-KF

Passive guide axis with protected guide DGC-N-FA-GP

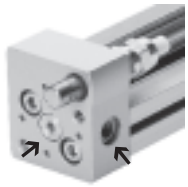
- Without drive
- Piston ∅ 18 ... 40 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0 mm
- The protected guide cleans the guide rail and protects the recirculating ball bearing guide by means of an additional wiper seal and lubrication unit

Linear drives DGC-N

Key features

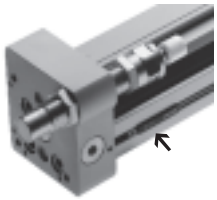
Versatile

1 Supply ports



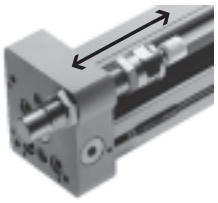
- Optionally on two sides (on the end face or on the front)
- For DGC-N-G/DGC-N-GF/DGC-N-KF

2 Proximity sensor G/H/I/J



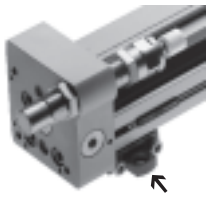
- Proximity sensors can be integrated, which means there is no projection. Cable can be guided through the slot behind a second sensor
- For DGC-N-G/DGC-N-GF/DGC-N-KF

3 Precision end-position adjustment



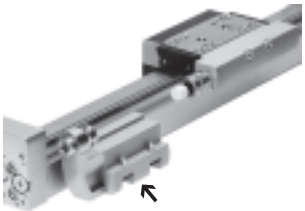
- Between 0 ... 25 mm per side
- For DGC-N-GF/DGC-N-KF/DGC-N-FA

4 Profile mounting M



- Profile mounting attachment remains on the base plate after the drive is dismantled. This means faster assembly and removal without repeat adjustment
- For DGC-N-G/DGC-N-GF/ DGC-N-KF/DGC-N-FA

5 Mechanical end-position limiter YWZ

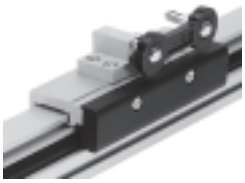


- For variable stroke adjustment, e.g. for format adjustments
- The end stop can be mounted at any position along the stroke
- For DGC-N-GF/DGC-N-KF/DGC-N-FA

6 Intermediate position module Z1/Z2/Z3

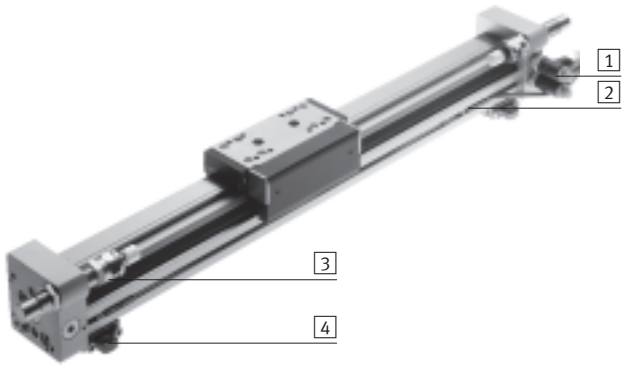
- Enables variable intermediate positions
- The intermediate position module can be mounted at any position along the stroke
- Precision repetition accuracy (0.02 mm) with high dynamic response
- For DGC-N-KF

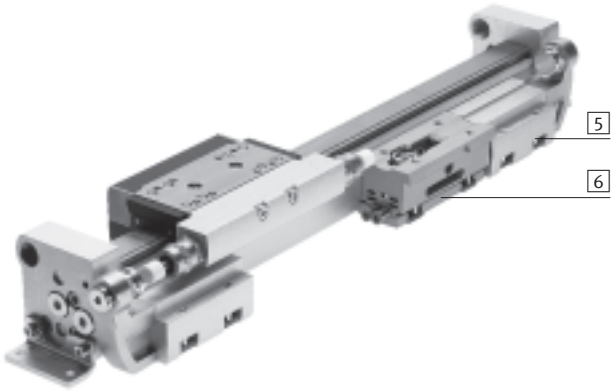
Moment compensator FK



- Compensates for inaccuracies during mounting of the linear drive and external guide
- Max. offset 2.5 mm
- For DGC-N-G

Example





Linear drives DGC-N

Key features

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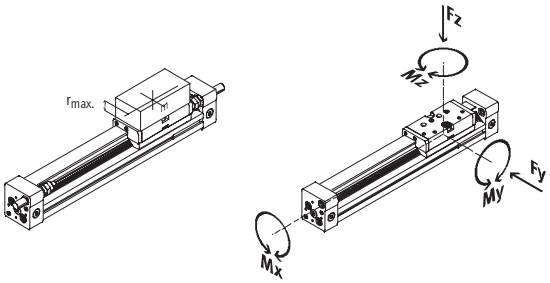
Product variants



	Piston ∅ [mm]	Theoretical force at 6 bar [N]	Max. perm. effective load[1] m [kg]/ at max. load distance r [mm]	Guide characteristics Fy [N]	Fz [N]	Mx [Nm]	My [Nm]	Mz [Nm]	→ Page/ Internet
Basic design DGC-N-G									
	8	30	0.06/25	150	150	0.5	2	2	8
	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	1,100	12	60	25	
	50	1,178	–/–	480	1,600	20	150	37	
	63	1,870	–/–	650	2,000	26	150	48	
Plain-bearing guide DGC-N-GF									
	18	153	3/35	440	540	3.4	20	8.5	24
	25	295	8/50	640	1,300	8.5	40	20	
	32	483	11/50	900	1,800	15	70	33	
	40	754	15/50	1,380	2,000	28	110	54	
	50	1,178	48/50	1,500	2,870	54	270	103	
	63	1,870	75/50	2,300	4,460	96	450	187	
Recirculating ball bearing guide DGC-N-KF/DGC-N-KF-GP									
	8	30	0.7/25	300	300	1.7	4.5	4.5	40
	12	68	1.8/35	650	650	3.5	10	10	
	18	153	10/35	1,850	1,850	16	51	51	
	25	295	30/50	3,050	3,050	36	97	97	
	32	483	30/50	3,310	3,310	54	150	150	
	40	754	50/50	6,890	6,890	144	380	380	
	50	1,178	90/50	6,890	6,890	144	634	634	
	63	1,870	130/50	15,200	15,200	529	1,157	1,157	
Passive guide axis without drive DGC-N-FA/DGC-N-FA-GP									
	8	0	0.7/25	300	300	1.7	4.5	4.5	4
	12	0	1.8/35	650	650	3.5	10	10	
	18	0	10/35	1,850	1,850	16	51	51	
	25	0	30/50	3,050	3,050	36	97	97	
	32	0	30/50	3,310	3,310	54	150	150	
	40	0	50/50	6,890	6,890	144	380	380	
	50	0	90/50	6,890	6,890	144	634	634	
	63	0	130/50	15,200	15,200	529	1,157	1,157	

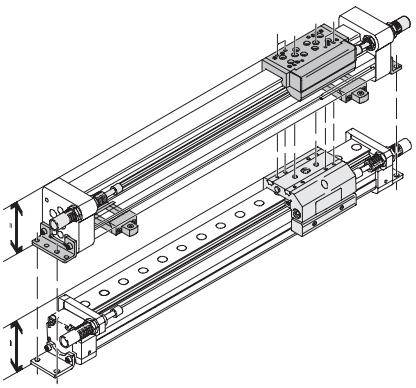
1) At v = 0.5 m/s with shock absorber YSR or YSRW

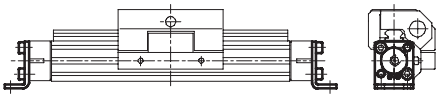
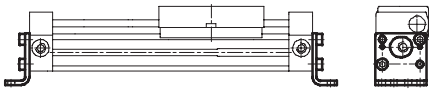
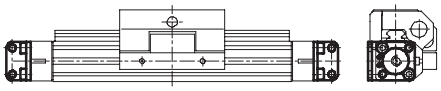
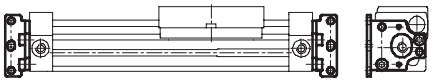
Linear drives DGC-N

Key features

Interchangeability with linear drive DGPL

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



Slide position	Linear drive DGPL	Linear drive DGC-N-GF/-KF	Foot mounting required ➔ Internet: hpc
Top			Type HPC-...-SO/ HPC-...-S
Rear			Type HPC-...-SH/ HPC-...-S

Alternatives

Electro-mechanical drives

Toothed belt axes DGE-ZR

Advantages:
Positioning drive for approaching several positions
➔ Internet: dge-zr

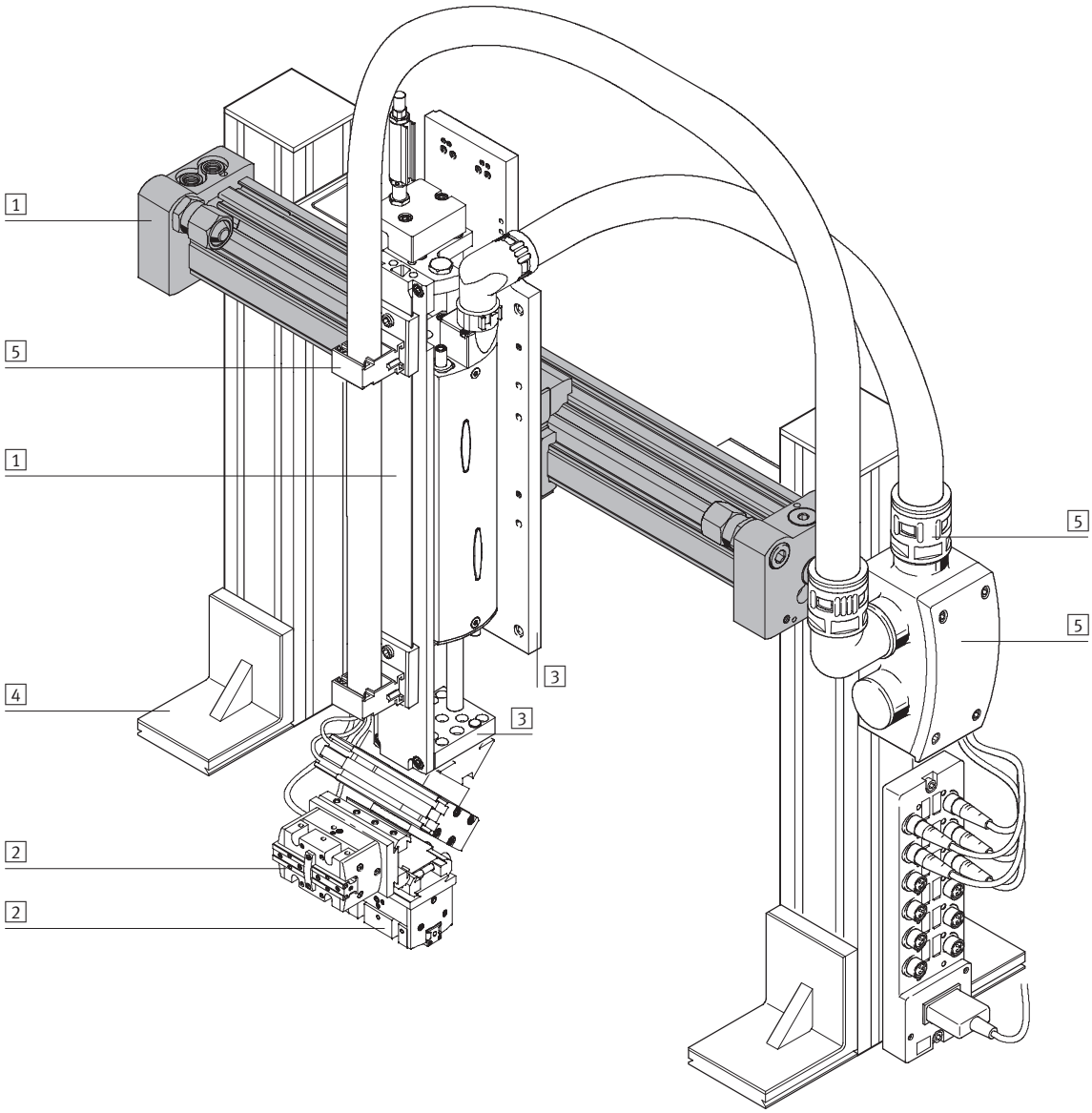
Spindle axes DGE-SP

Positioning drive for approaching several positions
➔ Internet: dge-sp

Linear drives DGC-N

Key features

System product for handling and assembly technology



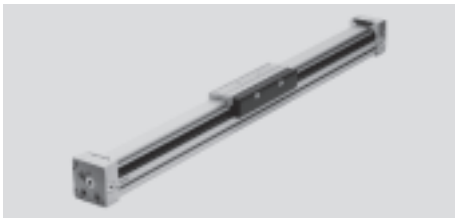
Linear drives DGC-N

Key features

System components and accessories			
		Brief description	➔ Page/Internet
1	Drives	Wide range of combinations possible within handling and assembly technology	drive
2	Grippers	Wide range of variations possible within handling and assembly technology	gripper
3	Adapters	For drive/drive and drive/gripper connections	adapter kit
4	Basic components	Profiles and profile connections as well as profile/drive connections	basic component
5	Installation components	For a clear, safe layout of electrical cables and tubing	installation component
–	Axes	Wide range of combinations possible within handling and assembly technology	axis
–	Motors	Servo and stepper motors, with or without gearing	motor

Linear drives DGC-N-G

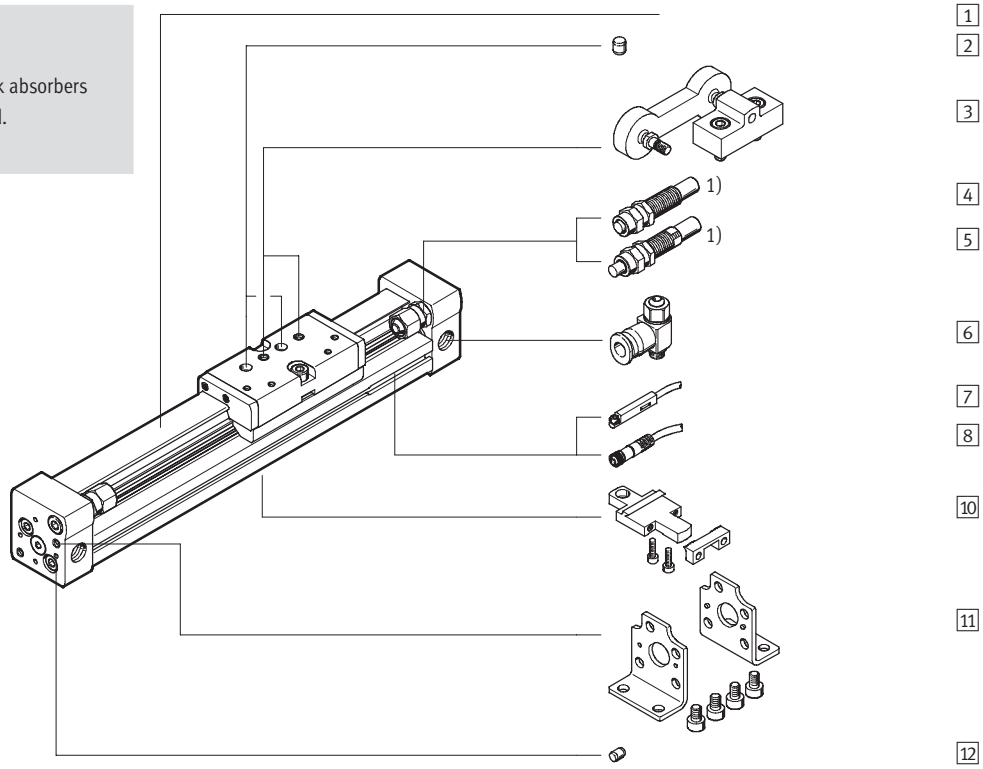
Peripherals overview



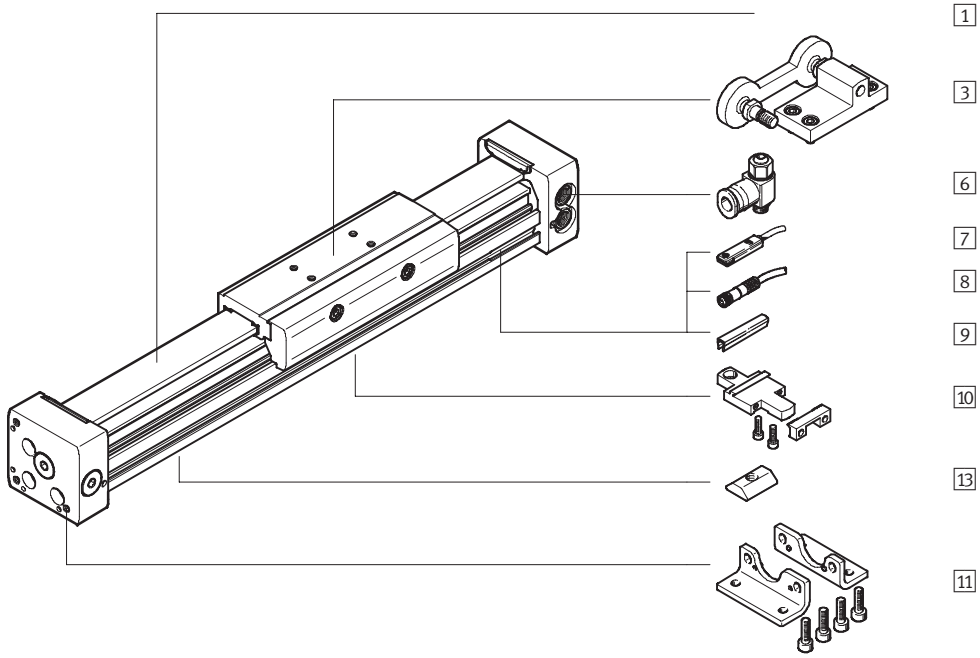
DGC-N-8/-12

Note

1) End stops or shock absorbers must not be removed.



DGC-N-18 ... 63



Linear drives DGC-N-G

Peripherals overview

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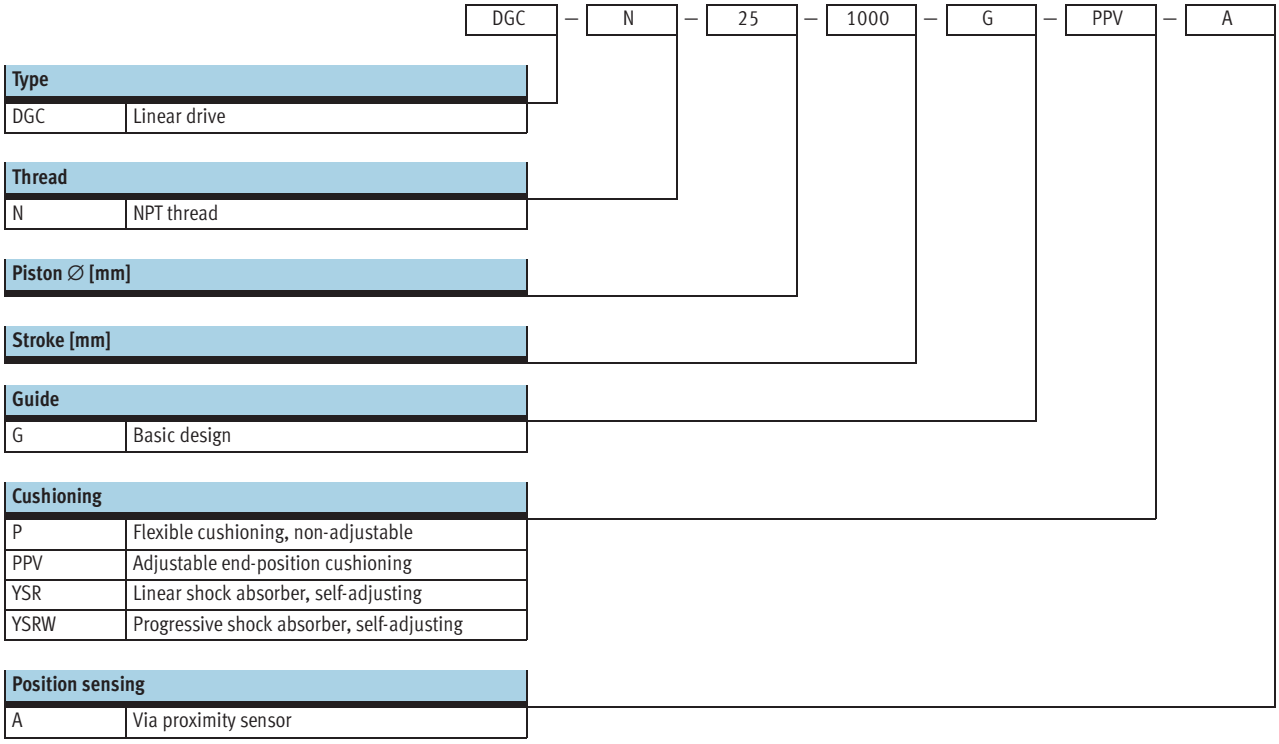
Variants and accessories				
	Type	For piston ∅	Brief description	→ Page/Internet
1	Linear drive DGC-N-G	8 … 63	Linear drive without accessories, basic design.	12
2	Centring pin[1)] ZBS	8, 12	For centring loads and attachments on the slide.	72
3	Moment compensator FK	8 … 63	Compensates for inaccuracies in the mounting of the linear drive and external guide.	66
–	Cushioning P	8, 12	Non-adjustable, flexible cushioning. Used only at low speeds.	23
–	Cushioning PPV	18 … 63	Adjustable pneumatic end-position cushioning. Used at medium speeds.	23
4	Shock absorber YSR	8, 12	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic.	23
5	Shock absorber YSRW	8, 12	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic.	23
6	One-way flow control valve GRLA	8 … 63	For regulating speed.	72
7	Proximity sensor G/H/I/J	8 … 63	For sensing the slide position.	73
8	Plug socket with cable V	8 … 63	For proximity sensor.	74
9	Slot cover L	18 … 63	For protecting against ingress of dirt and securing proximity sensor cables.	72
10	Profile mounting M	8 … 63	Simple and precise mounting option via dovetail connection.	64
11	Foot mounting F	8 … 63	For mounting on end cap.	60
12	Centring pin[1)] ZBS	8, 12	For centring the drive without foot mountings (user-specific).	72
13	Slot nut B	25 … 63	For mounting attachments.	72

1) Included in the scope of delivery of the drive

Linear drives DGC-N-G

Type codes



Type	
DGC	Linear drive

Thread	
N	NPT thread

Piston ∅ [mm]

Stroke [mm]

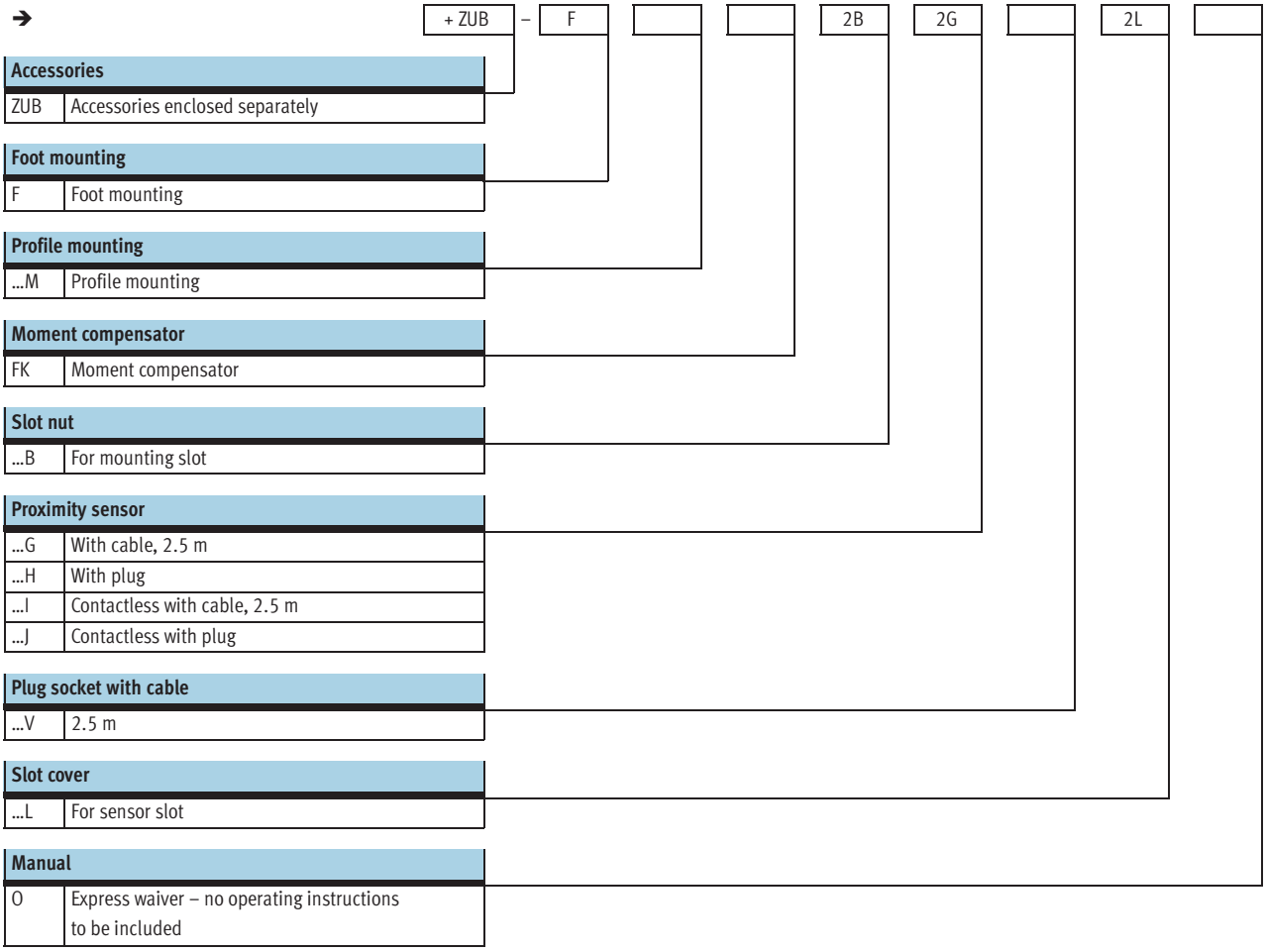
Guide	
G	Basic design

Cushioning	
P	Flexible cushioning, non-adjustable
PPV	Adjustable end-position cushioning
YSR	Linear shock absorber, self-adjusting
YSRW	Progressive shock absorber, self-adjusting

Position sensing	
A	Via proximity sensor

Linear drives DGC-N-G

Type codes



New

Linear drives DGC-N-G

Technical data

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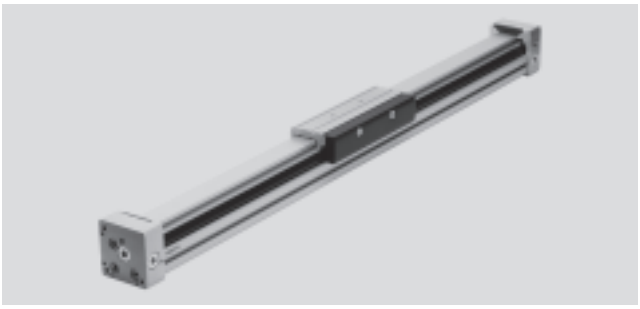
Function

Diameter
8 ... 63 mm

Stroke length
1 ... 8,500 mm

www.festo.com

Wearing parts kits
➔ 23



General technical data									
Piston ∅		8	12	18	25	32	40	50	63
Stroke	[mm]	1 ... 1,500	1 ... 2,000	1 ... 3,000	1 ... 8,500			1 ... 5,000	
Pneumatic connection		M5, suitable for 10-32 UNF			1/8 NPT		1/4 NPT		3/8 NPT
Mode of operation		Double-acting							
Constructional design		Rodless drive							
Driver principle		Slotted cylinder, mechanically coupled							
Guide		Basic design							
Mounting position		Any							
Cushioning ➔15	P	Non-adjustable at either end		–					
	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	29.8	31.1
Position sensing		Via proximity sensor							
Type of mounting		Profile mounting							
		Foot mounting							
		Direct mounting							
Max. speed	[m/s]	1	1.2	3					

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Operating and environmental conditions									
Piston ∅		8	12	18	25	32	40	50	63
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 class CRC[2]		2							

1) Note operating range of proximity sensors
2) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Force [N] and impact energy [J]									
Piston ∅		8	12	18	25	32	40	50	63
Theoretical force at 6 bar		30	68	153	295	483	754	1,178	1,870
Impact energy at the end positions		➔ 15							

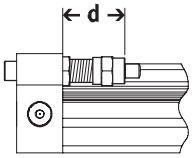
Weight [g]									
Piston ∅		8	12	18	25	32	40	50	63
Basic weight with 0 mm stroke		170	290	546	1,004	2,126	4,121	9,050	14,040
Additional weight per 10 mm stroke		9	12	22	34	54	77	116	150
Moving load		36	65	178	287	508	1,312	2,850	4,330

Linear drives DGC-N-G

Technical data

FESTO

Adjustable end-position range d [mm]



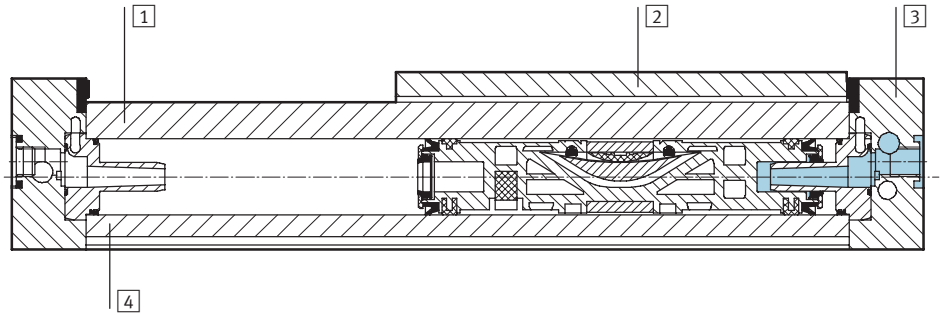
Note

The permissible kinetic energy decreases if the stroke is reduced with PPV adjustable cushioning at both ends.

Piston ∅	8	12	18	25	32	40	50	63
Cushioning P/PPV	11.3 … 16.3	12.7 … 17.7	–					
Cushioning YSR/YSRW	12.8 … 22.8	14 … 24	–					

Materials

Sectional view

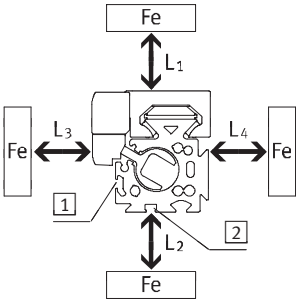


Linear drives		
1	Guide rail	Anodised aluminium
2	Slide	Anodised aluminium
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
–	Piston seal	Polyurethane
–	Sealing band/cover strip	Polyurethane
–	Slide elements	Polyacetal

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 ∅			8	12	18	25	32	40	50	63
Distance L1	1	[mm]	0	0	0	0	0	0	0	0
	2	[mm]	–	–	0	0	0	0	0	0
Distance L2	1	[mm]	20	10	10	10	0	0	0	0
	2	[mm]	–	–	25	25	25	25	25	25
Distance L3	1	[mm]	30	25	25	25	25	25	25	25
	2	[mm]	–	–	10	10	0	0	0	0
Distance L4	1	[mm]	0	0	0	0	0	0	0	0
	2	[mm]	–	–	0	0	0	0	0	0

Linear drives DGC-N-G

Technical data

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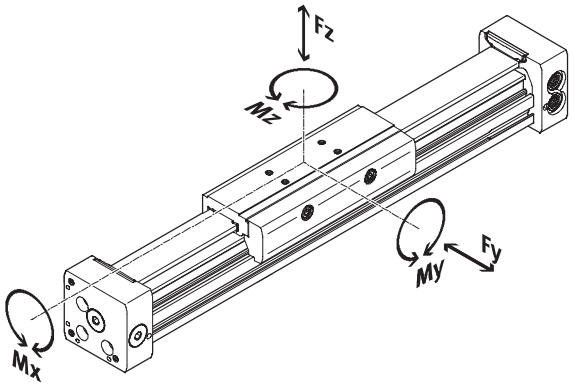
Characteristic load values

The indicated forces and torques refer to the centre of the slide surface.
They must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



Note

In order to avoid frictional restraint of the guide when using the basic drive DGC-N-G in a vertical position and with a high torque load, the variant with recirculating ball bearing guide DGC-N-KF ➔ 40 is recommended.

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

$$\frac{Fy}{Fy_{max.}} + \frac{Fz}{Fz_{max.}} + \frac{Mx}{Mx_{max.}} + \frac{My}{My_{max.}} + \frac{Mz}{Mz_{max.}} \leq 1$$

Permissible forces and torques

Piston ∅		8	12	18	25	32	40	50	63
$Fy_{max.}$	[N]	150	300	70	180	250	370	480	650
$Fz_{max.}$	[N]	150	300	340	540	800	1,100	1,600	2,000
$Mx_{max.}$	[Nm]	0.5	1.3	1.9	4	9	12	20	26
$My_{max.}$	[Nm]	2	5	12	20	40	60	150	150
$Mz_{max.}$	[Nm]	2	5	4	5	12	25	37	48

Note

ProDrive
sizing software
➔ www.festo.com

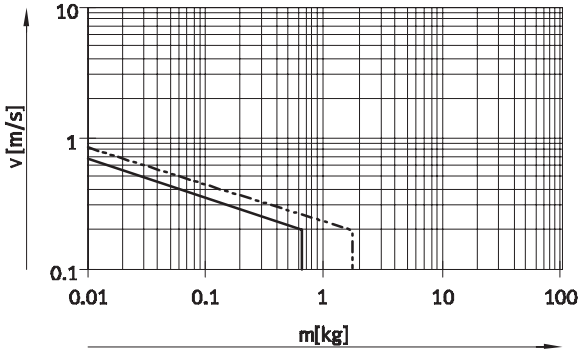
Linear drives DGC-N-G

Technical data

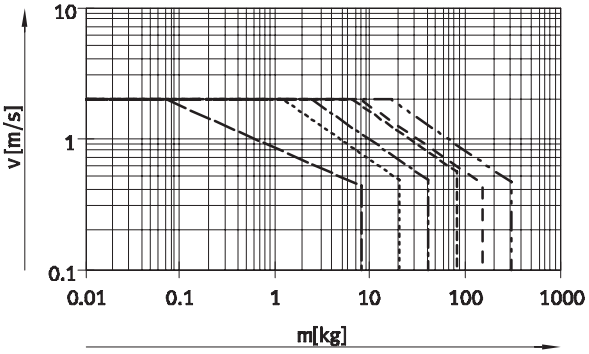
FESTO

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

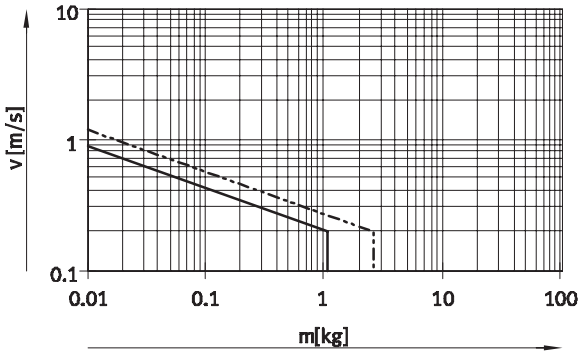
Piston ∅ 8/12 with P cushioning



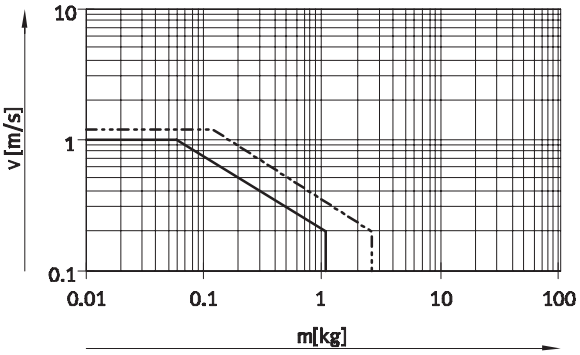
Piston ∅ 18 ... 63 with PPV cushioning



Piston ∅ 8/12 with YSR cushioning



Piston ∅ 8/12 with YSRW cushioning



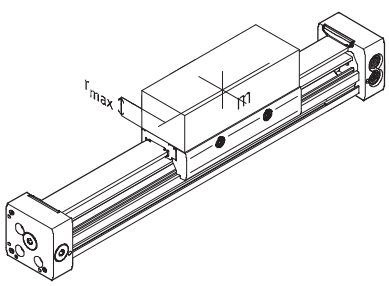
∅ 8 ∅ 12 ∅ 18 ∅ 25 ∅ 32 ∅ 40 ∅ 50 ∅ 63

Note

This data represents the maximum values that can be achieved. Values fluctuate in practice relative to the position of the effective load and mounting position.

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	50	63
Distance $r_{max.}$	[mm]	25	35	35	50	50	50	50	50

Linear drives DGC-N-G

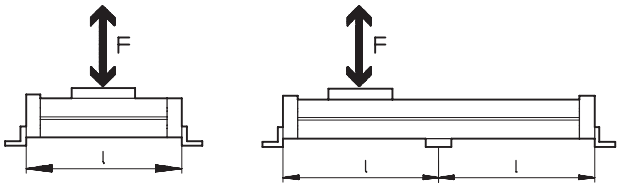
Technical data

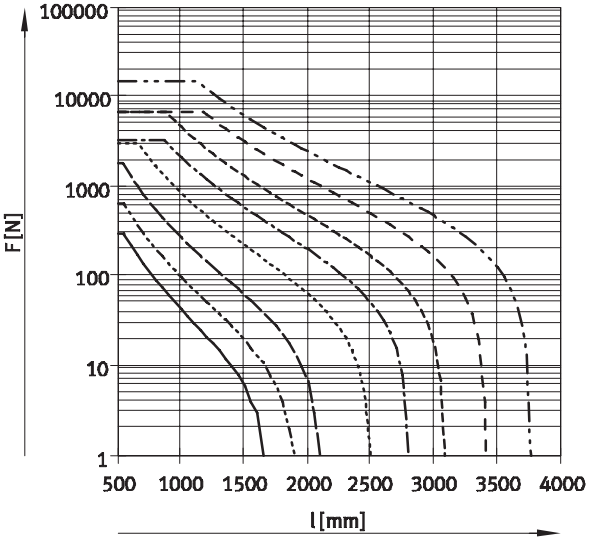
FESTO

Number of profile mountings MUC as a function of force due to weight F and support span l

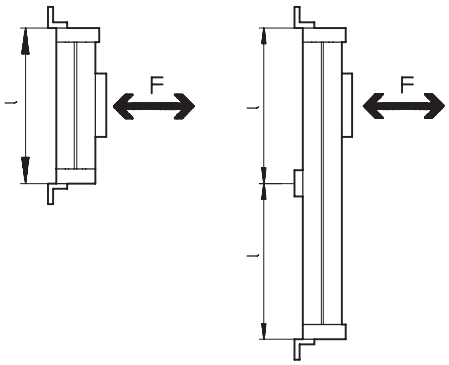
In order to limit deflection in the case of large strokes, the drive may need to be supported. The following graphs help to determine the maximum permissible support span as a function of mounting position, force due to weight and normal force.

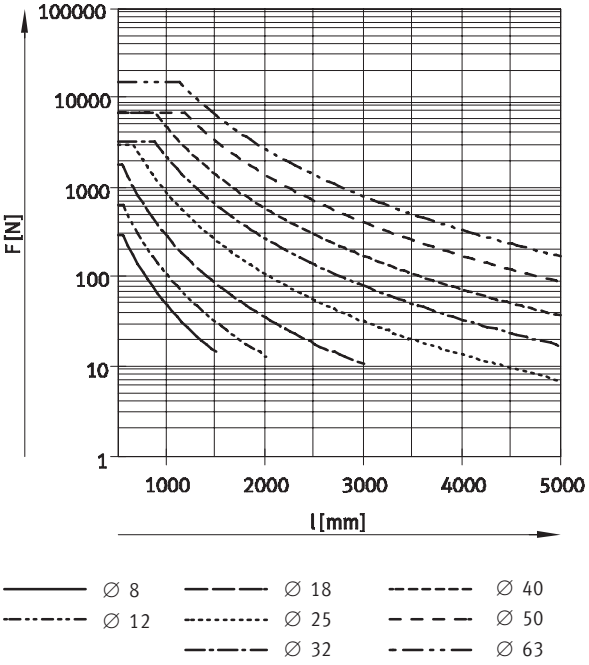
Horizontal mounting position





Vertical mounting position





Example:

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

The drive has an overall length of:
l = stroke length + L1 (see dimensions)
= 1,500 mm + 200 mm
= 1,700 mm

According to the graph, the max. support span for the drive DGC-N-25 with a force of 300 N is 1,300 mm.

In this example, profile mountings are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).

Linear drives DGC-N-G

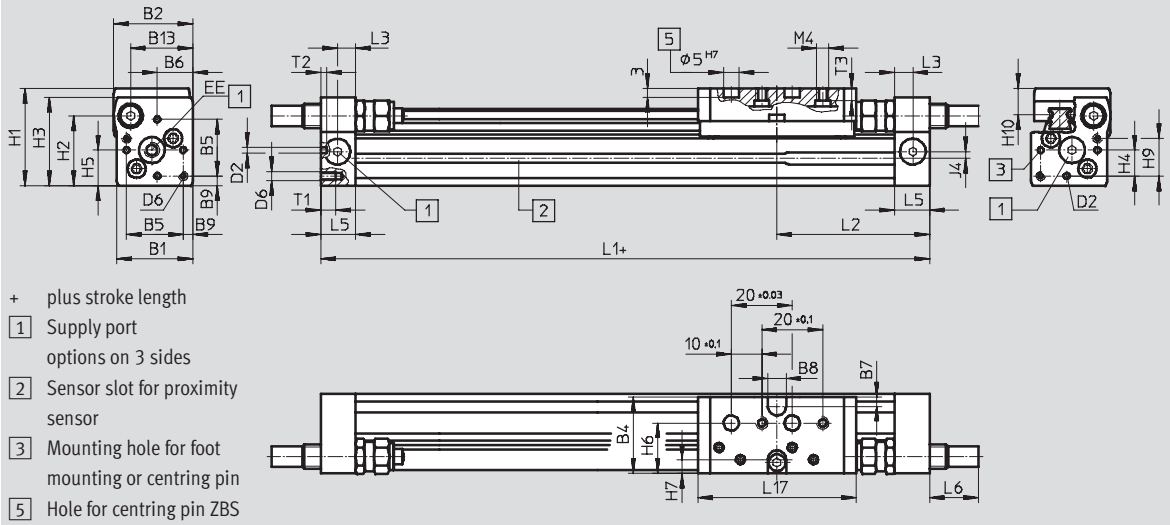
Technical data

FESTO

Dimensions

Download CAD data ➔ **www.festo.com**

∅ 8 and 12



\+ plus stroke length

[1] Supply port options on 3 sides

[2] Sensor slot for proximity sensor

[3] Mounting hole for foot mounting or centring pin

[5] Hole for centring pin ZBS

∅ [mm]	B1	B2	B4	B5	B6	B7	B8 ±0.05	B9 ±0.1	B13	D2 ∅ H8	D6	EE[1]
8	25	26	25.5	18.6	11.7	3	6	3.2	20.5	2	M3	M5
12	30.2	31	30.5	20.6	13.5	3	8	4.8	25	2	M4	M5

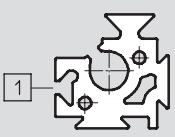
∅ [mm]	H1	H2	H3	H4	H5	H6	H7	H9	H10	J4	L1 +0.5/ −0.4	L2
8	32	23	29	8.5	11.7	16.5	4.5	12.3	8.7	2.2	100	50.1
12	37.5	28.5	34.5	8.7	13.5	20.5	5	14.7	9.8	3	125	62.1

∅ [mm]	L3	L5	L6			L17	T1	T2	T3	Stroke tolerance
			P	YSR	YSRW					
8	6	11.5	0	16	16.2	52	5	2	4	0 ... 1.7
12	8	16	0	11.3	12.3	65	6	2	5	

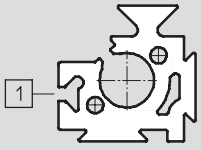
1) Suitable for 10-32 UNF

Profile barrel

∅ 8



∅ 12



[1] Sensor slot for proximity sensor

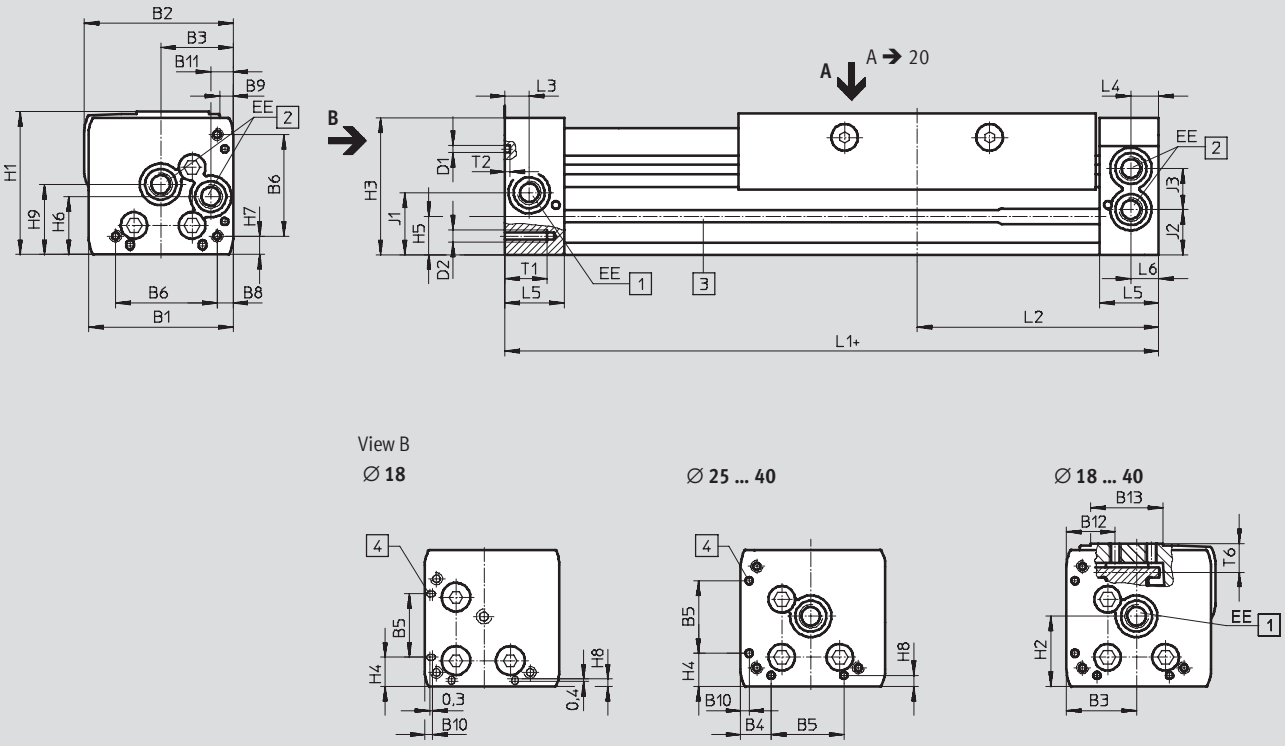
Linear drives DGC-N-G

Technical data

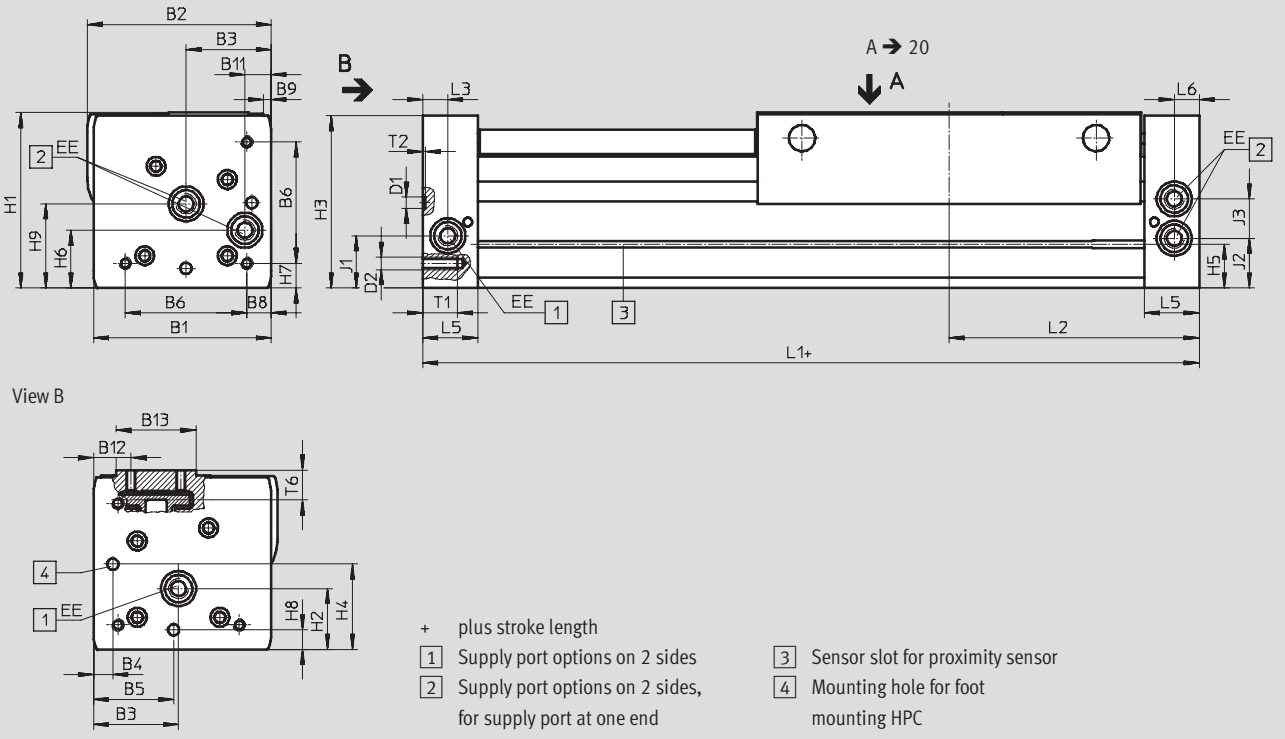
FESTO

Dimensions Download CAD data ➔ **www.festo.com**

∅ 18 ... 40



∅ 50/63



\+ plus stroke length

1 Supply port options on 2 sides

2 Supply port options on 2 sides, for supply port at one end

3 Sensor slot for proximity sensor

4 Mounting hole for foot mounting HPC

Linear drives DGC-N-G

Technical data

FESTO

∅ [mm]	B1	B2	B3	B4	B5 ±0.05	B6	B8	B9
18	44.5	46.3	19.5	8.8	21	31	3.8	3.3
25	59.8	61.6	30	12.65	30	42	6.65	5.6
32	73	75.5	38.5	5.7	63.1	57.5	8.5	5
40	91	94.5	45	17.2	55	65	12.2	5.3
50	113	127	60	8	52.8	81.6	12	0
63	142	147	68	15.5	68	97	19.5	6

∅ [mm]	B10	B11	B12	B13	D1 ∅	D2	EE	H1	H2
18	2.4	5.5	19.3	20	2±0.05	M4	M5[1)]	49.8	23.1
25	3.5	9.3	20.15	30	3±0.05	M5	⅛ NPT	58.5	29
32	14	14.9	20.5	35	3±0.05	M6	⅛ NPT	73	30
40	8	16.5	19.8	45	4±0.05	M6	¼ NPT	88	41.5
50	–	21	24	64	9^{H7}	M8	¼ NPT	120	38.5
63	–	21	30	64	9^{H7}	M10	⅜ NPT	140	48.5

∅ [mm]	H3	H4 ±0.2	H5	H6	H7	H8	H9	J1	J2
18	48.3	10.3	13.4	20	5.3	2.4	25.2	20	16.5
25	56.5	13	15.8	24	7	4.5	29	26.1	18.6
32	71.5	5.7	17	27.7	8.5	14	35.2	30	22
40	85	17.2	25	36.5	12.2	8	44	35	26
50	116	52.8	29.3	36	12	8	53	30.5	30.5
63	137.5	68	34.8	46	19.5	15.5	67	41.5	39.5

∅ [mm]	J3	L1 +0.9/–0.2	L2	L3	L4	L5	L6	T1	T2	T6	Stroke tolerance
18	11	150	74.5	5.7	5.8	15	5.5	9	2	10.7	0 ... 2.5
25	17	200	100	10.5	10.6	24.5	10.6	17.5	2	12	
32	18.5	250	124.8	14.5	14.5	30.5	14.5	15	2	13.8	
40	26	300	150	14.6	14.6	33.5	14.6	20	3	16.8	
50	28	350	175	17	–	41	17	24	$2.1^{+0.2}$	20.75	
63	31.5	400	200	20	–	44	20	27.5	$2.1^{+0.2}$	20.75	

1) Suitable for 10-32 UNF

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Linear drives DGC-N-G

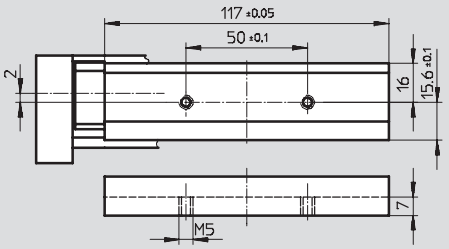
Technical data

FESTO

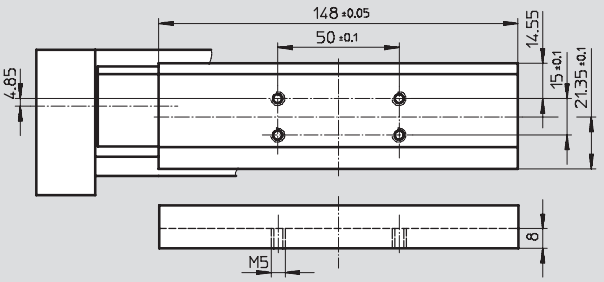
Dimensions Download CAD data ➔ **www.festo.com**

Slide – View A

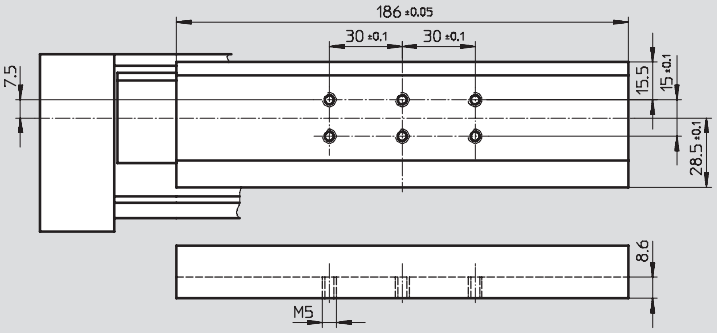
Ø 18



Ø 25



Ø 32



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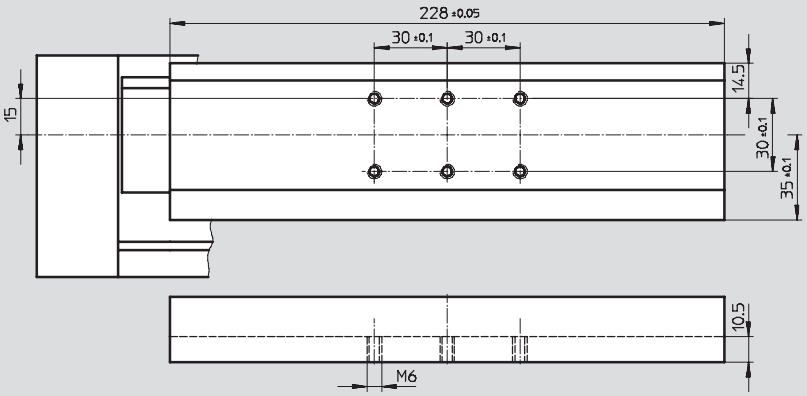
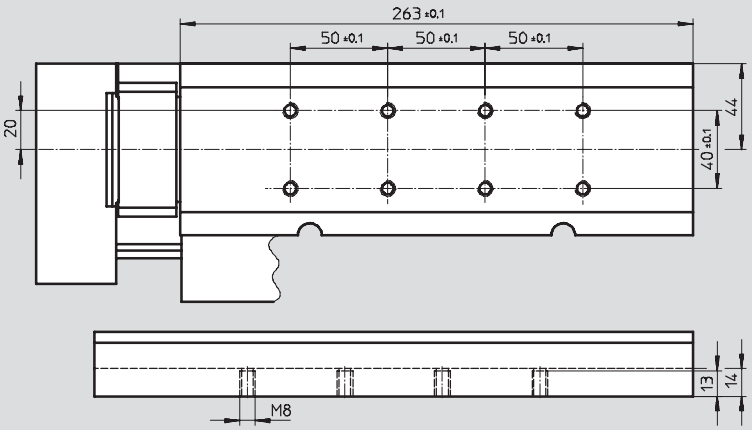


Ø 50



Linear drives DGC-N-G

Technical data

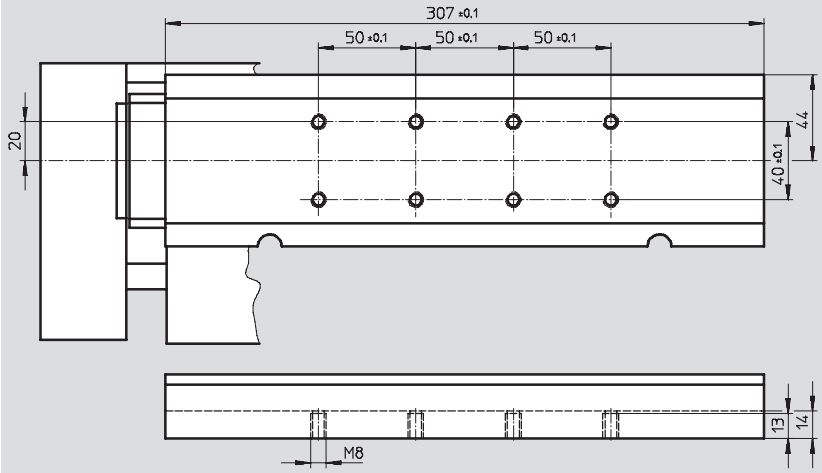
FESTO

Dimensions

Download CAD data ➔ **www.festo.com**

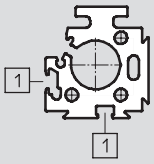
Slide – View A

∅ 63

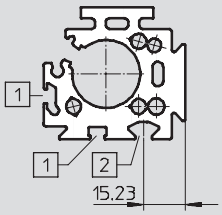


Profile barrel

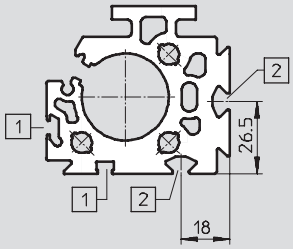
∅ 18



∅ 25



∅ 32



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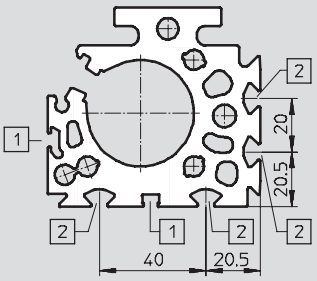

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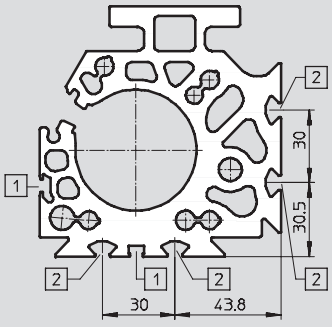
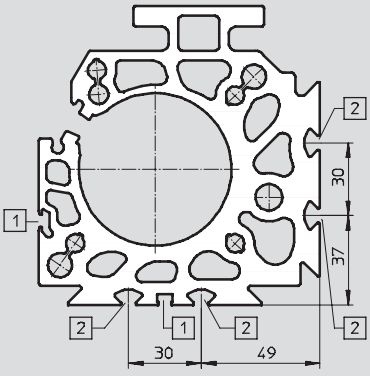


∅ 63



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

Linear drives DGC-N-G

Ordering data – Modular products

FESTO

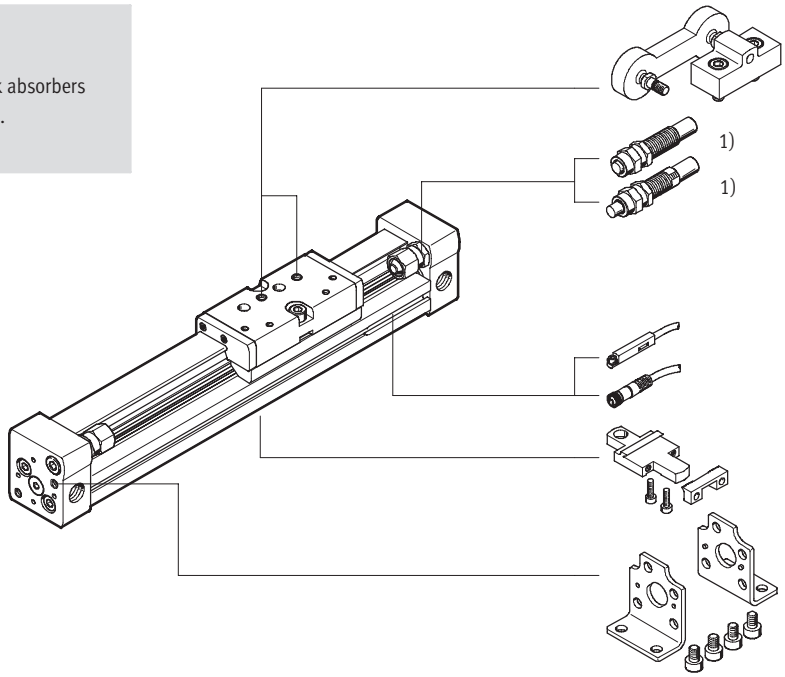
Order code

Mandatory data/options

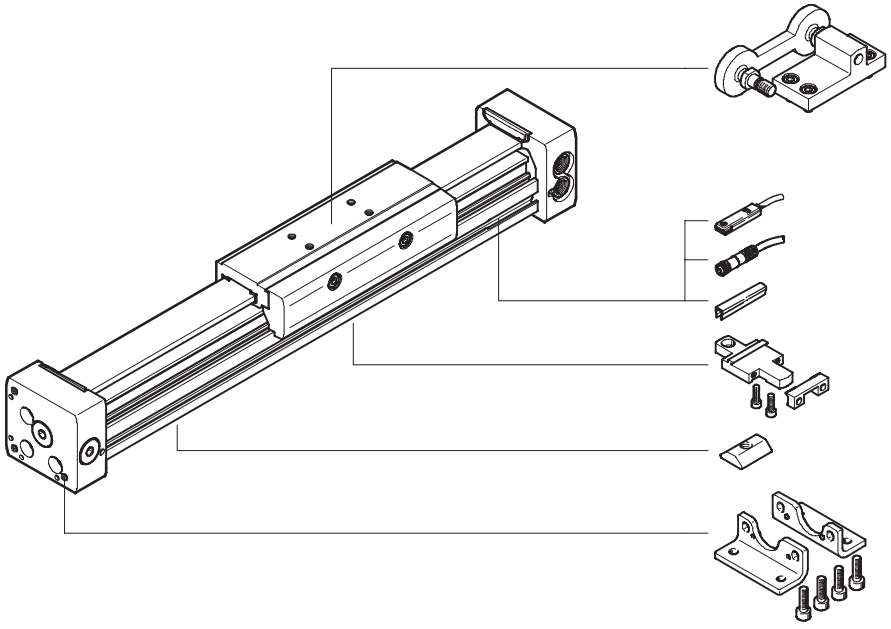
DGC-N-8/-12

Note

1) End stops or shock absorbers must not be removed.



DGC-N-18 … 63



Linear drives DGC-N-G

Ordering data – Modular products

FESTO

Ordering table

Size			8	12	18	25	32	40	50	63	Condi-tions	Code		Enter code
M	Module No.		**530 906**	**530 907**	**532 446**	**532 447**	**532 448**	**532 449**	**532 450**	**532 451**				
	Function		Linear drive									**DGC**		DGC
	Thread		NPT thread									**-N**		-N
	Piston ∅	[mm]	8	12	18	25	32	40	50	63		**-...**		
	Stroke	[mm]	1 ... 1,500	1 ... 2,000	1 ... 3,000	1 ... 8,500			1 ... 5,000			**-...**		
	Guide		Basic design									**-G**		-G
	Cushioning	At both ends	Flexible cushioning rings/pads		–	–	–	–	–	–		**-P**		
		Adjustable at both ends	–	–	Pneumatic cushioning							**-PPV**		
		Self-adjusting	Shock absorber		–	–	–	–	–	–		**-YSR**		
			Shock absorber, progressive		–	–	–	–	–	–		**-YSRW**		
	Position sensing		Via proximity sensor									**-A**		-A
O	Accessories		Enclosed separately (can be retrofitted)									**ZUB-**		ZUB-
	Foot mounting		1									**F**		
	Profile mounting		1 ... 9									**...M**		
	Moment compensator		Moment compensator									**FK**		
	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**		
	Manual		Express waiver – no operating instructions to be included (already available)									**-O**		

Transfer order code

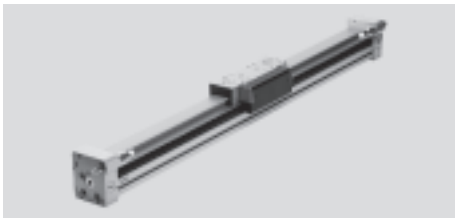
	DGC	–	N	–		–		–	G	–		–	A		ZUB	–		–	

Ordering data – Wearing parts kits

Piston ∅	Part No.	Type
8	665 333	DGC-8-G
12	665 334	DGC-12-G
18	684 486	DGC-18
25	684 487	DGC-25
32	684 488	DGC-32
40	684 489	DGC-40
50	719 825	DGC-50
63	719 826	DGC-63

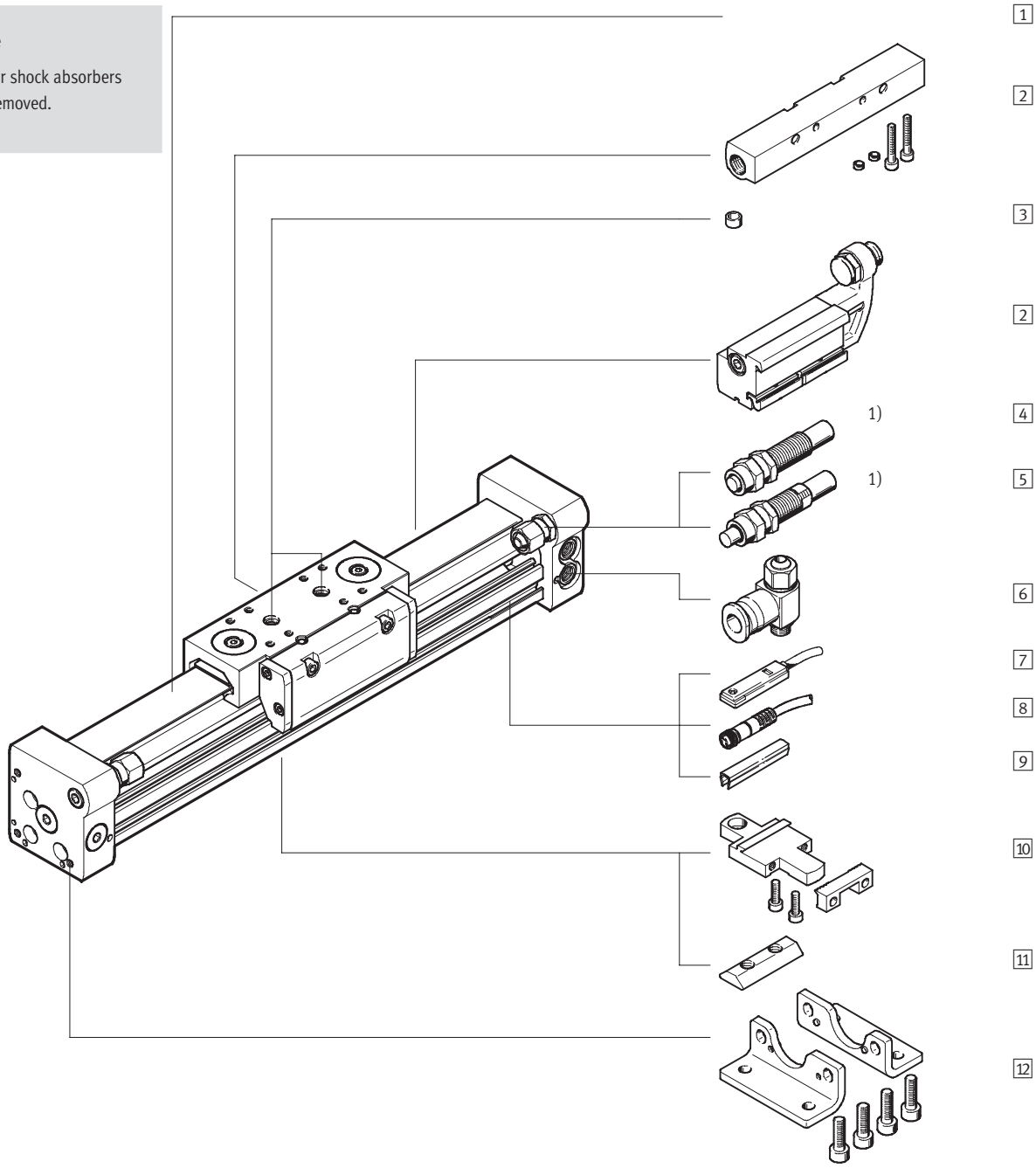
Linear drives DGC-N-GF, with plain-bearing guide

Peripherals overview



Note

1) End stops or shock absorbers must not be removed.



Linear drives DGC-N-GF, with plain-bearing guide

Peripherals overview

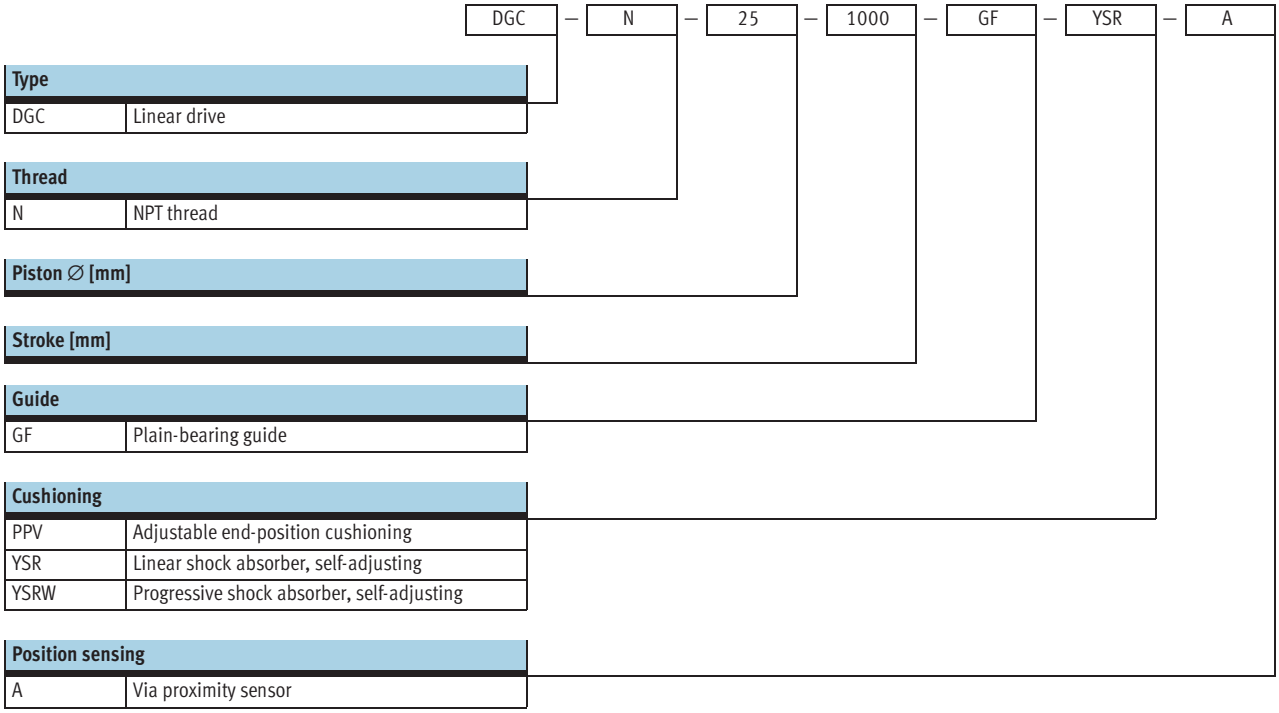
FESTO

Variants and accessories				
	Type	For piston ∅	Brief description	→ Page/Internet
1	Linear drive DGC-N-GF	18 … 63	Linear drive without accessories, plain-bearing guide.	28
2	Mechanical end-position limiter YWZ	18 … 63	For variable end-position adjustment, e.g. for format adjustments.	68
3	Centring pin/sleeve[1)] ZBS/ZBH	18 … 63	For centring loads and attachments on the slide.	72
–	Cushioning PPV	18 … 63	Adjustable pneumatic end-position cushioning. Used at medium speeds.	39
4	Shock absorber YSR	18 … 63	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic.	39
5	Shock absorber YSRW	18 … 63	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic.	39
6	One-way flow control valve GRLA	18 … 63	For regulating speed.	72
7	Proximity sensor G/H/I/J	18 … 63	For sensing the slide position.	73
8	Plug socket with cable V	18 … 63	For proximity sensor.	74
9	Slot cover L	18 … 63	For protecting against ingress of dirt and securing proximity sensor cables.	72
10	Profile mounting M	18 … 63	Simple and precise mounting option via dovetail connection.	64
11	Slot nut B	25 … 63	For mounting attachments.	72
12	Foot mounting F	18 … 63	For mounting on end cap.	60

1) Included in the scope of delivery of the drive

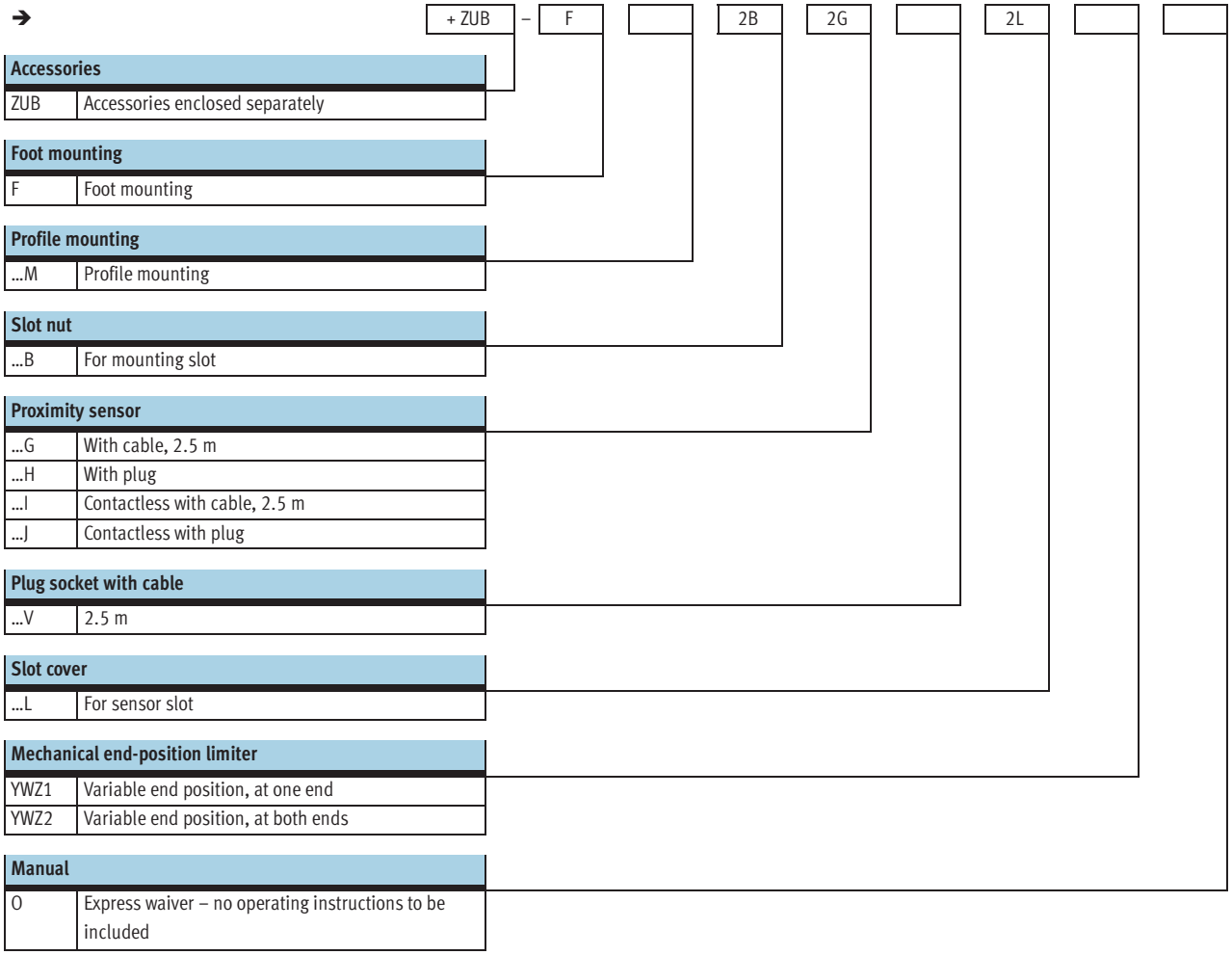
Linear drives DGC-N-GF, with plain-bearing guide

Type codes



Linear drives DGC-N-GF, with plain-bearing guide

Type codes



Accessories	
ZUB	Accessories enclosed separately

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 with plug

Plug socket with cable	
...V	2.5 m

Slot cover	
...L	For sensor slot

Mechanical end-position limiter	
YWZ1	Variable end position, at one end
YWZ2	Variable end position, at both ends

Manual	
O	Express waiver – no operating instructions to be included

New

Linear drives DGC-N-GF, with plain-bearing guide

Technical data

FESTO

Function

Diameter
18 ... 63 mm

Stroke length
1 ... 8,500 mm

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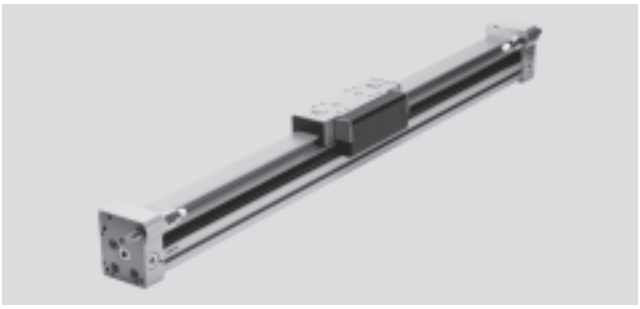
Wearing parts kits
➔ 39



General technical data							
Piston ∅		18	25	32	40	50	63
Stroke	[mm]	1 ... 3,000	1 ... 8,500			1 ... 5,000	
Pneumatic connection		M5, suitable for 10-32 UNF	⅛ NPT		¼ NPT		⅜ NPT
Mode of operation		Double-acting					
Constructional design		Rodless drive					
Driver principle		Slotted cylinder, mechanically coupled					
Guide		Plain-bearing guide					
Mounting position		Any					
Cushioning	PPV	Adjustable at both ends					
➔ 31	YSR...	Self-adjusting at both ends					
Cushioning length with PPV cushioning	[mm]	16.5	15.5	17.5	29.5	29.8	31.1
Position sensing		Via proximity sensor					
Type of mounting		Profile mounting					
		Foot mounting					
		Direct mounting					
Max. speed	[m/s]	3					

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Operating and environmental conditions							
Piston ∅		18	25	32	40	50	63
Operating pressure	[bar]	2 ... 8			1.5 ... 8		
Operating medium		Filtered compressed air, lubricated or unlubricated					
Ambient temperature[1]	[°C]	–10 ... +60					
Corrosion resistance class CRC[2]		2					

1) Note operating range of proximity sensors
2) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Force [N] and impact energy [J]							
Piston ∅		18	25	32	40	50	63
Theoretical force at 6 bar		153	295	483	754	1,178	1,870
Impact energy at the end positions		➔ 31					

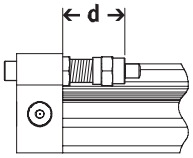
Weight [g]							
Piston ∅		18	25	32	40	50	63
Basic weight with 0 mm stroke		763	1,609	2,532	5,252	10,065	16,308
Additional weight per 10 mm stroke		23	35	55	76	117	180
Moving load		267	526	824	1,725	3,319	5,226

Linear drives DGC-N-GF, with plain-bearing guide

Technical data

FESTO

Adjustable end-position range d [mm]



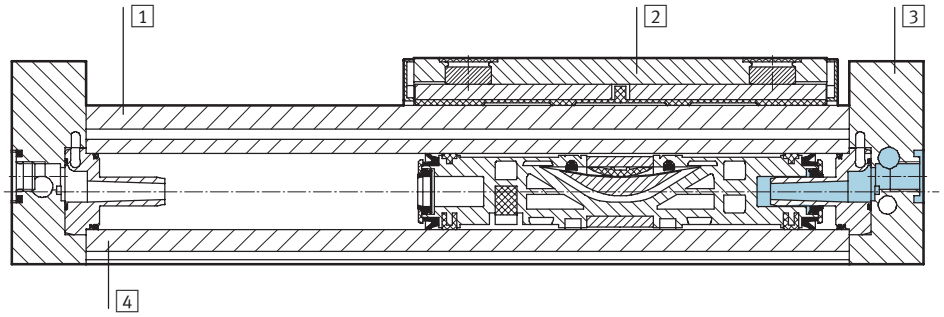
Note

The permissible kinetic energy decreases if the stroke is reduced with PPV adjustable cushioning at both ends.

Piston ∅	18	25	32	40	50	63
Cushioning PPV	13.8 … 15.8	21.1 … 25.1	25.2 … 30.2	28.7 … 33.7	28.7 … 33.7	38.8 … 43.8
Cushioning YSR/YSRW	14.5 … 24.5	22.5 … 32.5	27.3 … 37.3	31 … 41	31 … 56	41 … 76

Materials

Sectional view

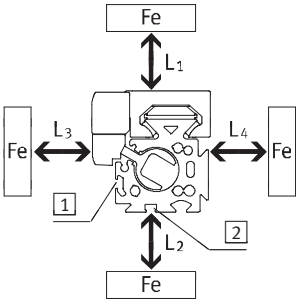


Linear drives		
1	Guide rail	Anodised aluminium
2	Slide	Anodised aluminium
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
–	Piston seal	Polyurethane
–	Sealing band/cover strip	Polyurethane
–	Slide elements	Polyacetal

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 ∅			8	12	18	25	32	40	50	63
Distance L1	1	[mm]	0	0	0	0	0	0	0	0
	2	[mm]	–	–	0	0	0	0	0	0
Distance L2	1	[mm]	20	10	10	10	0	0	0	0
	2	[mm]	–	–	25	25	25	25	25	25
Distance L3	1	[mm]	30	25	25	25	25	25	25	25
	2	[mm]	–	–	10	10	0	0	0	0
Distance L4	1	[mm]	0	0	0	0	0	0	0	0
	2	[mm]	–	–	0	0	0	0	0	0

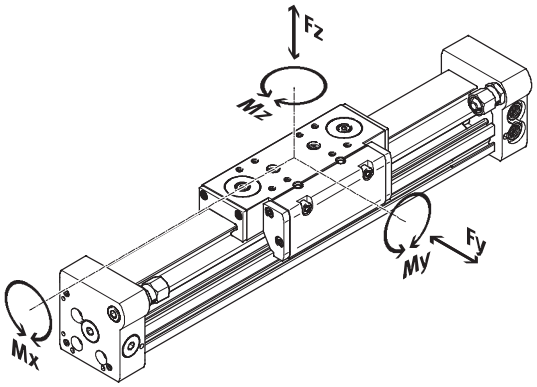
Linear drives DGC-N-GF, with plain-bearing guide

Technical data

FESTO

Characteristic load values

The indicated forces and torques refer to the centre of the slide surface.
They must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



Note

In order to avoid frictional restraint of the guide when using the drive DGC-N-GF with plain-bearing guide in a vertical position and with a high torque load, the variant with recirculating ball bearing guide DGC-N-KF ➔ 40 is recommended.

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

$$\frac{Fy}{Fy_{max.}} + \frac{Fz}{Fz_{max.}} + \frac{Mx}{Mx_{max.}} + \frac{My}{My_{max.}} + \frac{Mz}{Mz_{max.}} \leq 1$$

Permissible forces and torques referred to a speed of travel of 0.2 m/s							
Piston ∅		18	25	32	40	50	63
$Fy_{max.}$	[N]	440	640	900	1,380	1,500	2,300
$Fz_{max.}$	[N]	540	1,300	1,800	2,000	2,870	4,460
$Mx_{max.}$	[Nm]	3.4	8.5	15	28	54	96
$My_{max.}$	[Nm]	20	40	70	110	270	450
$Mz_{max.}$	[Nm]	8.5	20	33	54	103	187

Note

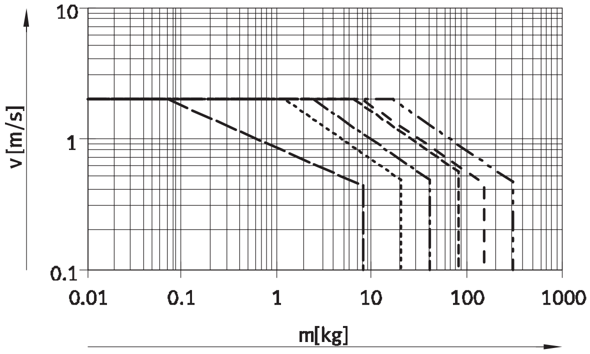
ProDrive
sizing software
➔ www.festo.com

Linear drives DGC-N-GF, with plain-bearing guide

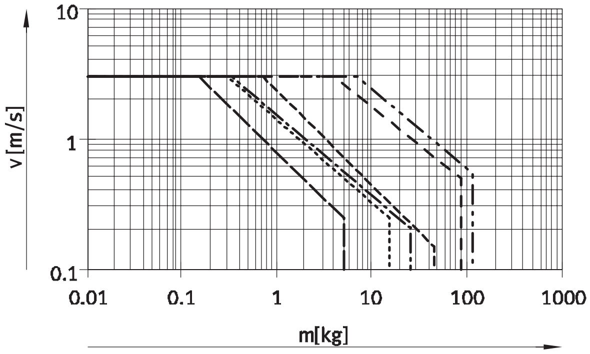
Technical data

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

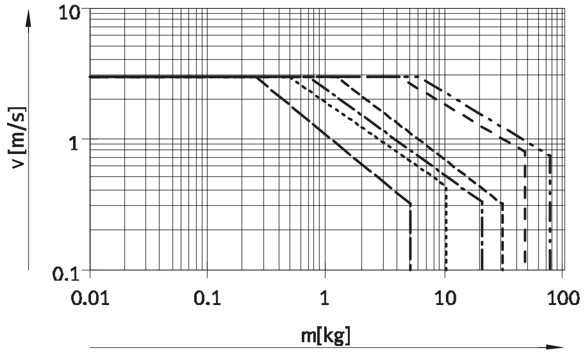
With PPV cushioning



With YSR cushioning



With YSRW cushioning



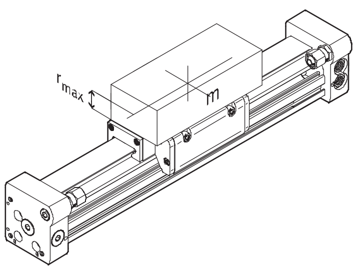
∅ 18
∅ 25
∅ 32
∅ 40
∅ 50
∅ 63

Note

This data represents the maximum values that can be achieved. Values fluctuate in practice relative to the position of the effective load and mounting position.

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.

Piston ∅		8	12	18	25	32	40	50	63
Distance $r_{max.}$	[mm]	25	35	35	50	50	50	50	50

Linear drives DGC-N-GF, with plain-bearing guide

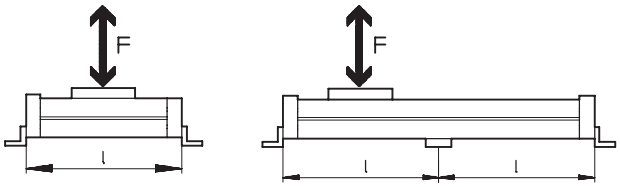
Technical data

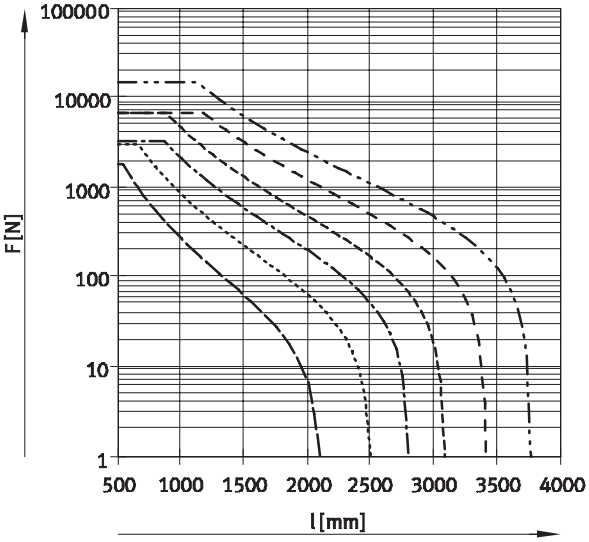
FESTO

Number of profile mountings MUC as a function of force due to weight F and support span l

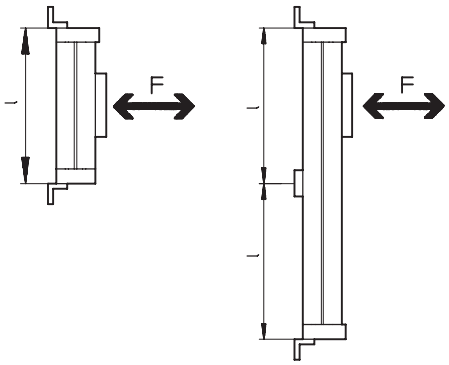
In order to limit deflection in the case of large strokes, the drive may need to be supported. The following graphs help to determine the maximum permissible support span as a function of mounting position, force due to weight and normal force.

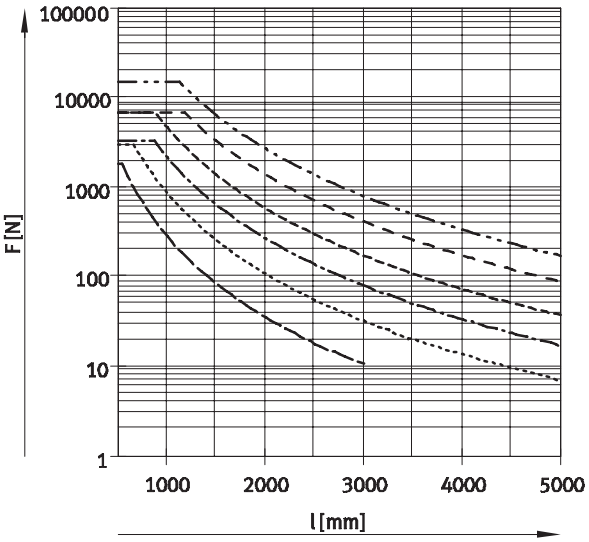
Horizontal mounting position





Vertical mounting position





——— ∅ 18 ------ ∅ 40
---------- ∅ 25 – – – – ∅ 50
—·—·— ∅ 32 -—··— ∅ 63

Example:

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

The drive has an overall length of:
l = stroke length + L1 (see dimensions)
= 1,500 mm + 200 mm
= 1,700 mm

According to the graph, the max. support span for the drive DGC-N-25 with a force of 300 N is 1,300 mm.

In this example, profile mountings are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).

Linear drives DGC-N-GF, with plain-bearing guide

Technical data

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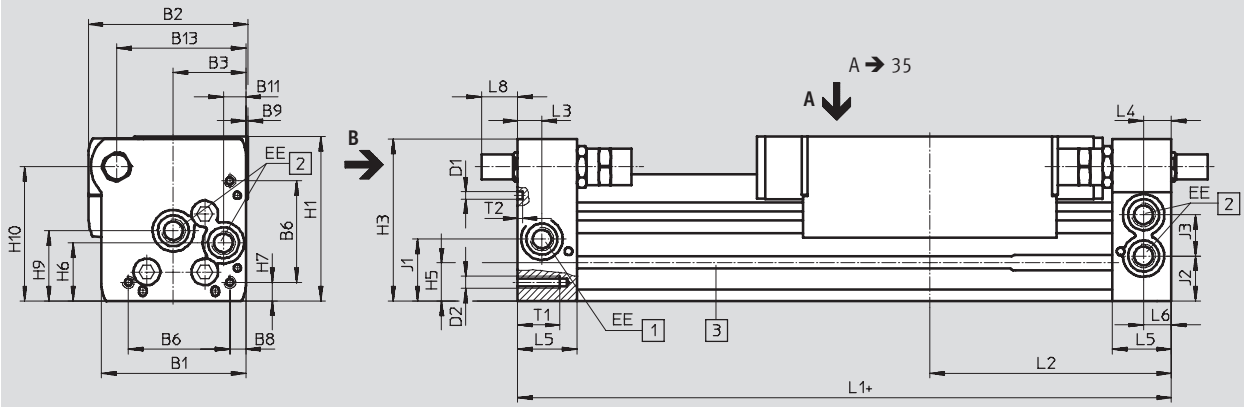
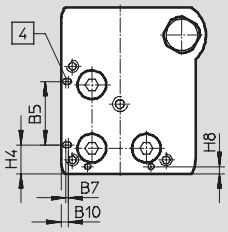
Dimensions Download CAD data ➔ **www.festo.com**

∅ 18 ... 40

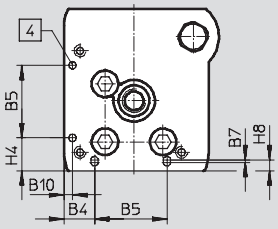


View B

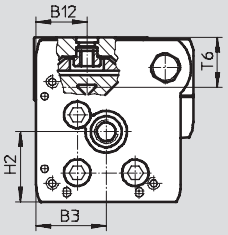
∅ 18



∅ 25 ... 40



∅ 18 ... 40



\+ plus stroke length
1 Supply port options on 2 sides
2 Supply port options on 2 sides, for supply port at one end
3 Sensor slot for proximity sensor
4 Mounting hole for foot mounting HPC

∅ [mm]	B1	B2	B3	B4	B5 ±0.05	B6	B7	B8	B9	B10	B11	B12	B13	D1 ∅ ±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	2
25	59.8	66	30	12.65	30	42	1	6.65	1	3.5	9.3	21	53.5	3
32	73	79	38.5	5.7	63.1	57.5	–	8.5	1.5	14	14.9	18	66.5	3
40	91	98.5	45	17.2	55	65	–	12.2	2	8	16.5	24.8	80.5	4

∅ [mm]	D2	EE	H1	H2	H3	H4 ±0.2	H5	H6	H7	H8	H9	H10	J1	J2
18	M4	M5[1)]	56.3	23.1	55	9.6	13.4	20	4.6	2.4	25.2	46	20	16.5
25	M5	1/8 NPT	68	29	67	13.65	15.8	24	7.65	4.5	29	55.5	26.1	18.6
32	M6	1/8 NPT	78.5	30	77	5.7	17	27.7	8.5	14	35.2	63.8	30	22
40	M6	1/4 NPT	99.5	41.5	97.5	17.2	25	36.5	12.2	8	44	81.5	35	26

∅ [mm]	J3	L1 +0.9/–0.2	L2	L3	L4	L5	L6	L8			T1	T2	T6	Stroke tolerance
								PPV	YSR	YSRW				
18	11	150	74.5	5.7	5.8	15	5.5	0	15.9	19.4	9	2	17.1	0 ... 2.5
25	17	200	100	10.5	10.6	24.5	10.6	0	12.5	15	17.5	2	20.5	
32	18.5	250	124.8	14.5	14.5	30.5	14.5	0	8.5	15.5	15	2	21.3	
40	26	300	150	14.6	14.6	33.5	14.6	0	12.8	21	20	3	30.7	

1) Suitable for 10-32 UNF

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Linear drives DGC-N-GF, with plain-bearing guide

Technical data

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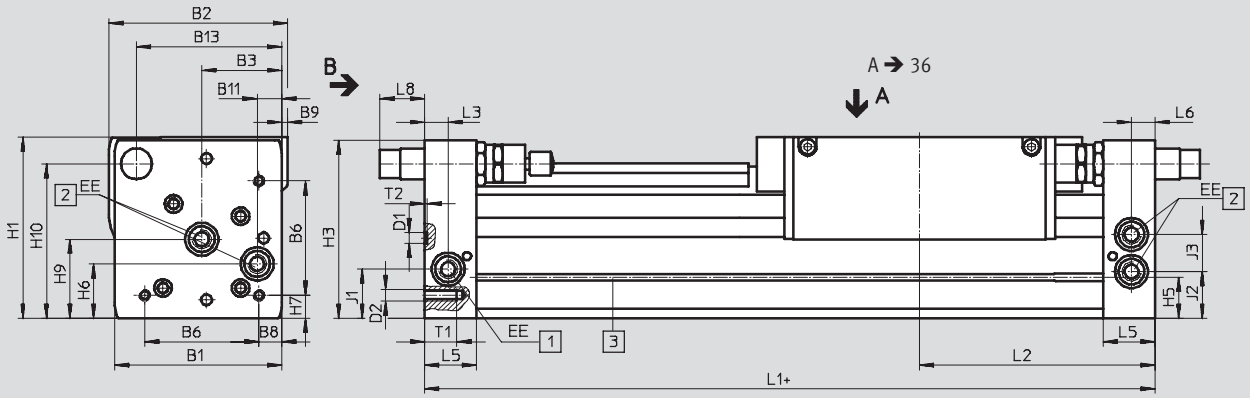
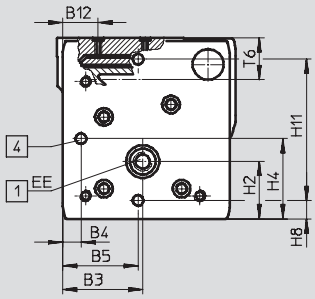
Dimensions Download CAD data ➔ **www.festo.com**

∅ 50/63



View B



\+ plus stroke length
1 Supply port options on 2 sides
2 Supply port options on 2 sides, for supply port at one end
3 Sensor slot for proximity sensor
4 Mounting hole for foot mounting HPC

∅ [mm]	B1	B2	B3	B4	B5 ±0.05	B6	B8	B9	B11	B12	B13	D1 ∅ H7	D2
50	113	126.5	60	8	52.8	81.6	12	–	21	24	97	9	M8
63	142	149	68	15.5	68	97	19.5	5	21	30	123.5	9	

∅ [mm]	EE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11 ±0.05	J1
50	¼ NPT	124.5	38.5	122.5	52.8	29.3	36	12	8	53	104.5	100	30.5
63	⅜ NPT	153.5	48.5	151	68	34.8	46	19.5	15.5	67	131	120	41.5

∅ [mm]	J2	J3	L1 +0.9/–0.2	L2	L3	L5	L6	L8			T1	T2 +0.2	T6	Stroke tolerance
								PPV	YSR	YSRW				
50	30.5	28	350	175	17	41	17	0	31	36.3	24	2.1	30.4	0 … 2.5
63	39.5	31.5	400	200	20	44	20	0	38.3	48.3	27.5	2.1	36.2	

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Linear drives DGC-N-GF, with plain-bearing guide

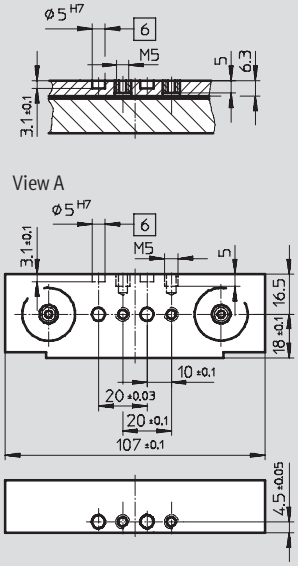
Technical data

FESTO

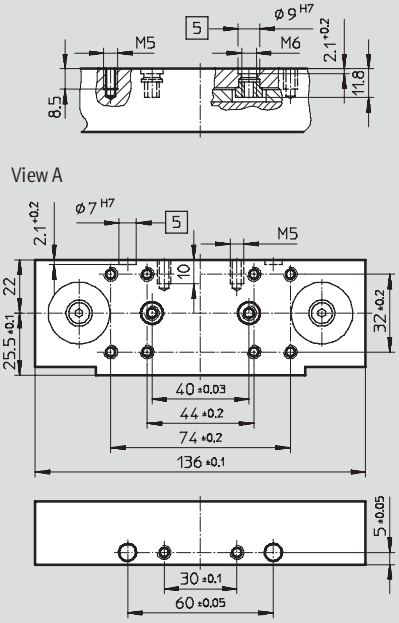
Dimensions Download CAD data ➔ **www.festo.com**

Slide

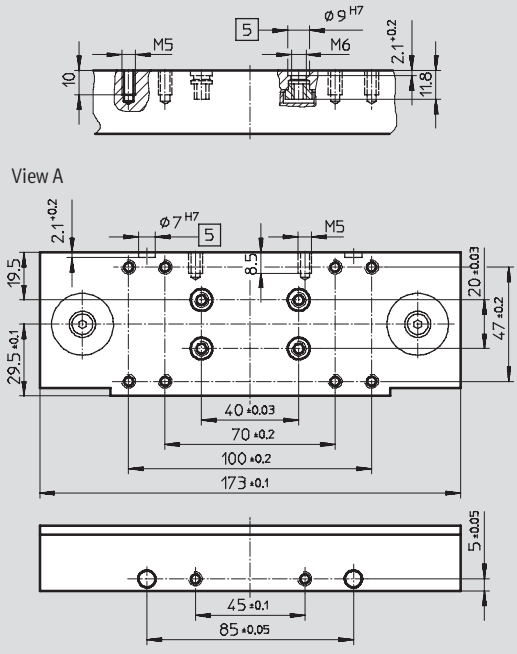
∅ 18



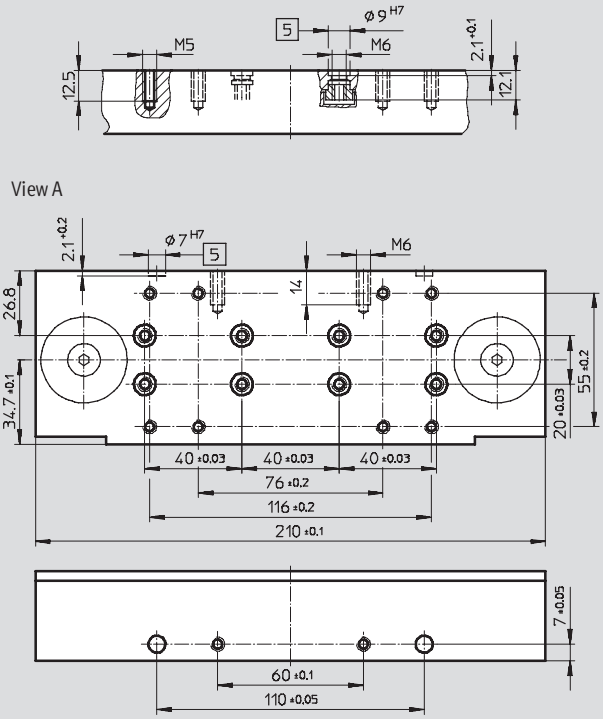
∅ 25



∅ 32



∅ 40



5 Hole for centring sleeve ZBH

6 Hole for centring pin ZBS

Linear drives DGC-N-GF, with plain-bearing guide

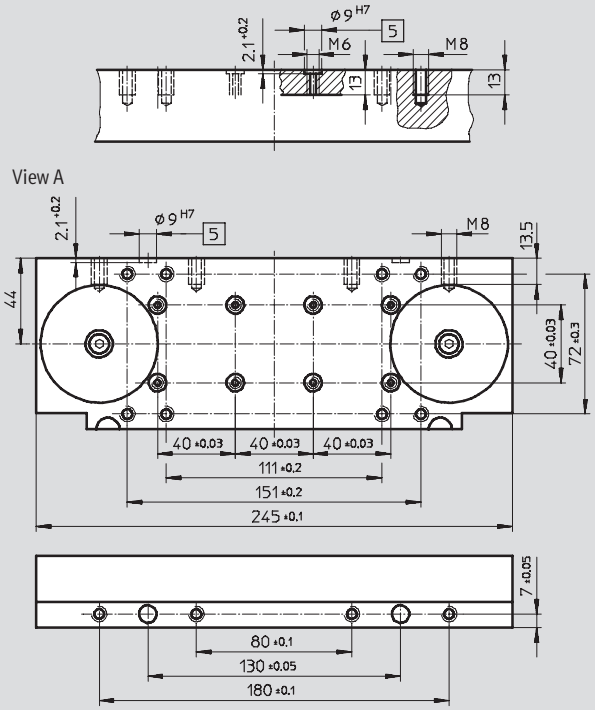
Technical data

FESTO

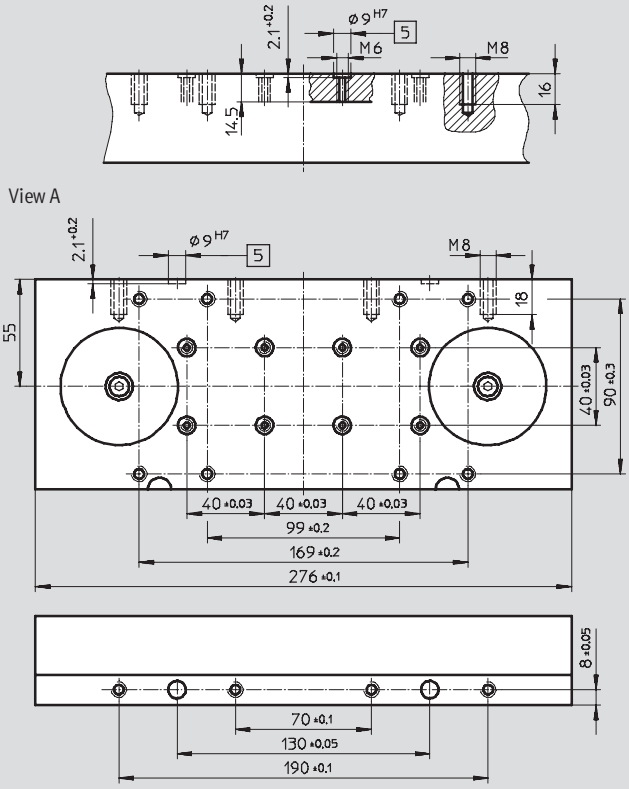
Dimensions Download CAD data ➔ **www.festo.com**

Slide

∅ 50



∅ 63



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

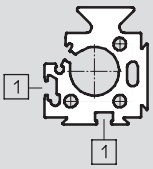
Linear drives DGC-N-GF, with plain-bearing guide

Technical data

FESTO

Profile barrel

Ø 18



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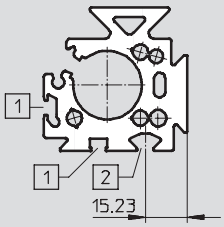
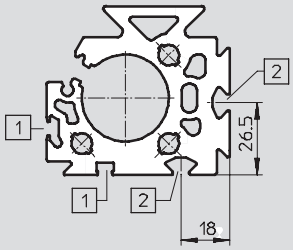
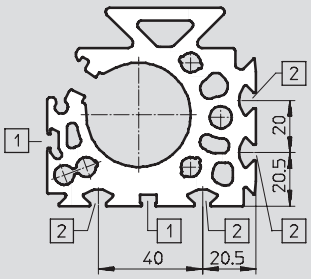


Ø 32



Ø 40



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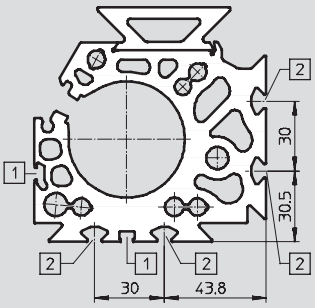

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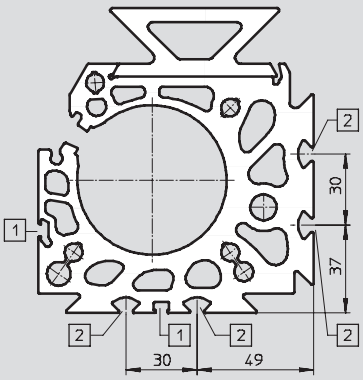


1 Sensor slot for proximity sensor
2 Mounting slot for slot nut

Linear drives DGC-N-GF, with plain-bearing guide

Ordering data – Modular products

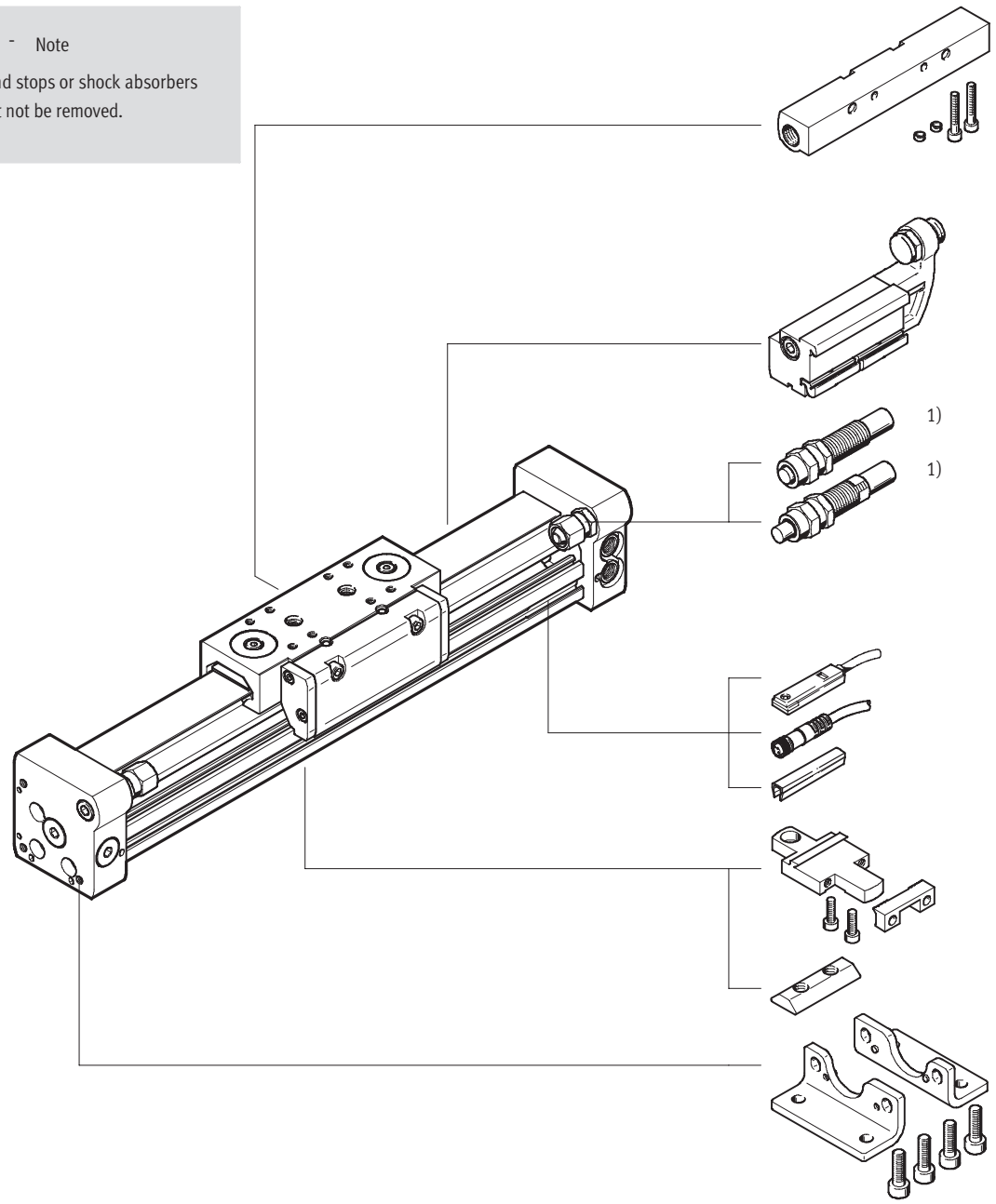
FESTO

Order code

Mandatory data/options

Note

1) End stops or shock absorbers must not be removed.



YWZ1/YWZ2

YWZ1/YWZ2

1) YSR

1) YSRW

G/H/I/J

V

L

M

B

F

Linear drives DGC-N-GF, with plain-bearing guide

Ordering data – Modular products

FESTO

Ordering table

Size			18	25	32	40	50	63	Condi-tions	Code		Enter code
M	Module No.		**532 446**	**532 447**	**532 448**	**532 449**	**532 450**	**532 451**				
	Function		Linear drive							**DGC**		DGC
	Thread		NPT thread							**-N**		-N
	Piston ∅	[mm]	18	25	32	40	50	63		**-...**		
	Stroke	[mm]	1 ... 3,000	1 ... 8,500			1 ... 5,000			**-...**		
	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		Via proximity sensor							**-A**		-A
O	Accessories		Enclosed separately (can be retrofitted)							**ZUB-**		ZUB-
	Foot mounting		1							**F**		
	Profile mounting		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**		
	Mechanical end-position limiter		Variable end position, at one end						[1]	**YWZ1**		
			Variable end position, at both ends						[1]	**YWZ2**		
	Manual		Express waiver – no operating instructions to be included (already available)							**-O**		

[1] **YWZ1, YWZ2** Only with cushioning YSR or YSRW

Transfer order code

	DGC	–	N	–		–		–	GF	–		–	A		ZUB	–		–	

Ordering data – Wearing parts kits

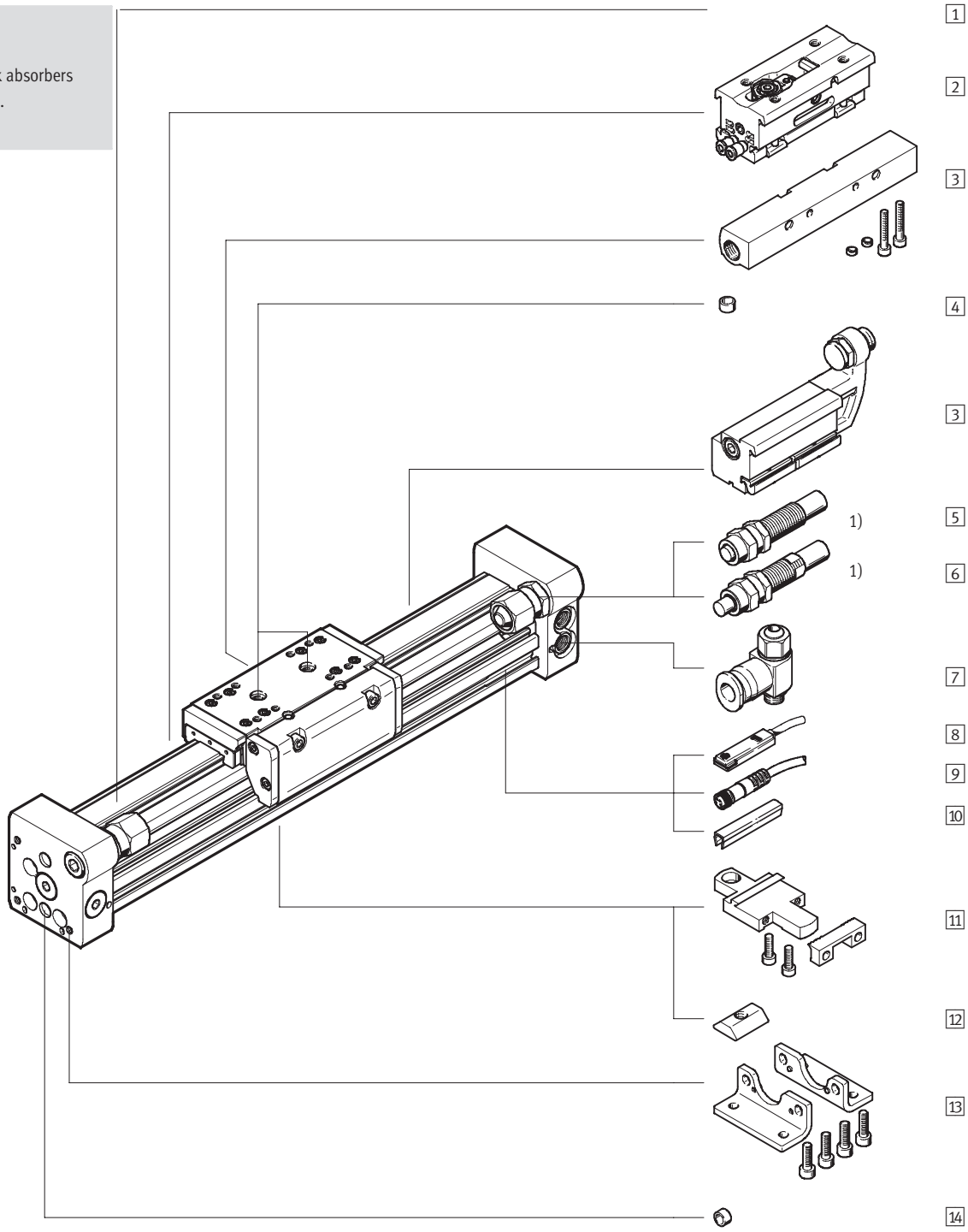
Piston ∅	Part No.	Type
18	684 486	DGC-18
25	684 487	DGC-25
32	684 488	DGC-32
40	684 489	DGC-40
50	719 825	DGC-50
63	719 826	DGC-63

Linear drives DGC-N-KF, with recirculating ball bearing guide

Peripherals overview

Note

1) End stops or shock absorbers must not be removed.



Linear drives DGC-N-KF, with recirculating ball bearing guide

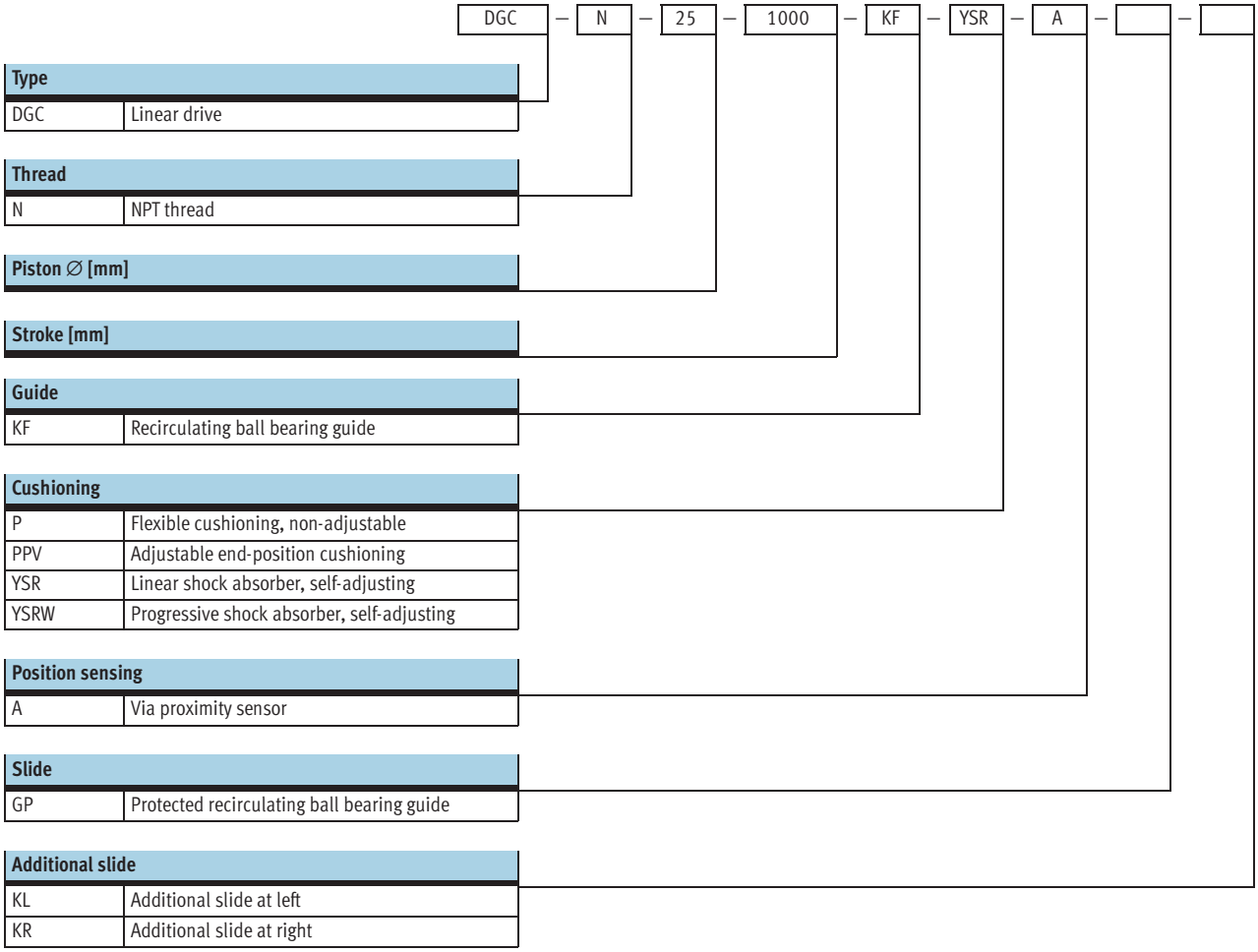
Peripherals overview

Variants and accessories				
	Type	For piston ∅	Brief description	→ Page/Internet
1	Linear drive DGC-N-KF	8 … 63	Linear drive without accessories, with recirculating ball bearing guide.	44
2	Intermediate position module Z1/Z2/Z3	25, 32, 40	Enables up to three intermediate positions.	70
3	Mechanical end-position limiter YWZ	18 … 63	For variable end-position adjustment, e.g. for format adjustments.	68
4	Centring pin/sleeve[1)] ZBS/ZBH	8 … 63	For centring loads and attachments on the slide.	72
–	Cushioning P	8, 12	Non-adjustable, flexible cushioning. Used only at low speeds.	58
–	Cushioning PPV	18 … 63	Adjustable pneumatic end-position cushioning. Used at medium speeds.	58
5	Shock absorber YSR	8 … 63	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic.	58
6	Shock absorber YSRW	8 … 63	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic.	58
7	One-way flow control valve GRLA	8 … 63	For regulating speed.	72
8	Proximity sensor G/H/I/J	8 … 63	For sensing the slide position.	73
9	Plug socket with cable V	8 … 63	For proximity sensor.	74
10	Slot cover L	18 … 63	For protecting against ingress of dirt and securing proximity sensor cables.	72
11	Profile mounting M	8 … 63	Simple and precise mounting option via dovetail connection.	64
12	Slot nut B	25 … 63	For mounting attachments.	72
13	Foot mounting F	8 … 63	For mounting on end cap.	60
14	Centring pin/sleeve[1)] ZBS/ZBH	8 … 63	For centring the drive without foot mountings (user-specific).	72

1) Included in the scope of delivery of the drive

Linear drives DGC-N-KF, with recirculating ball bearing guide

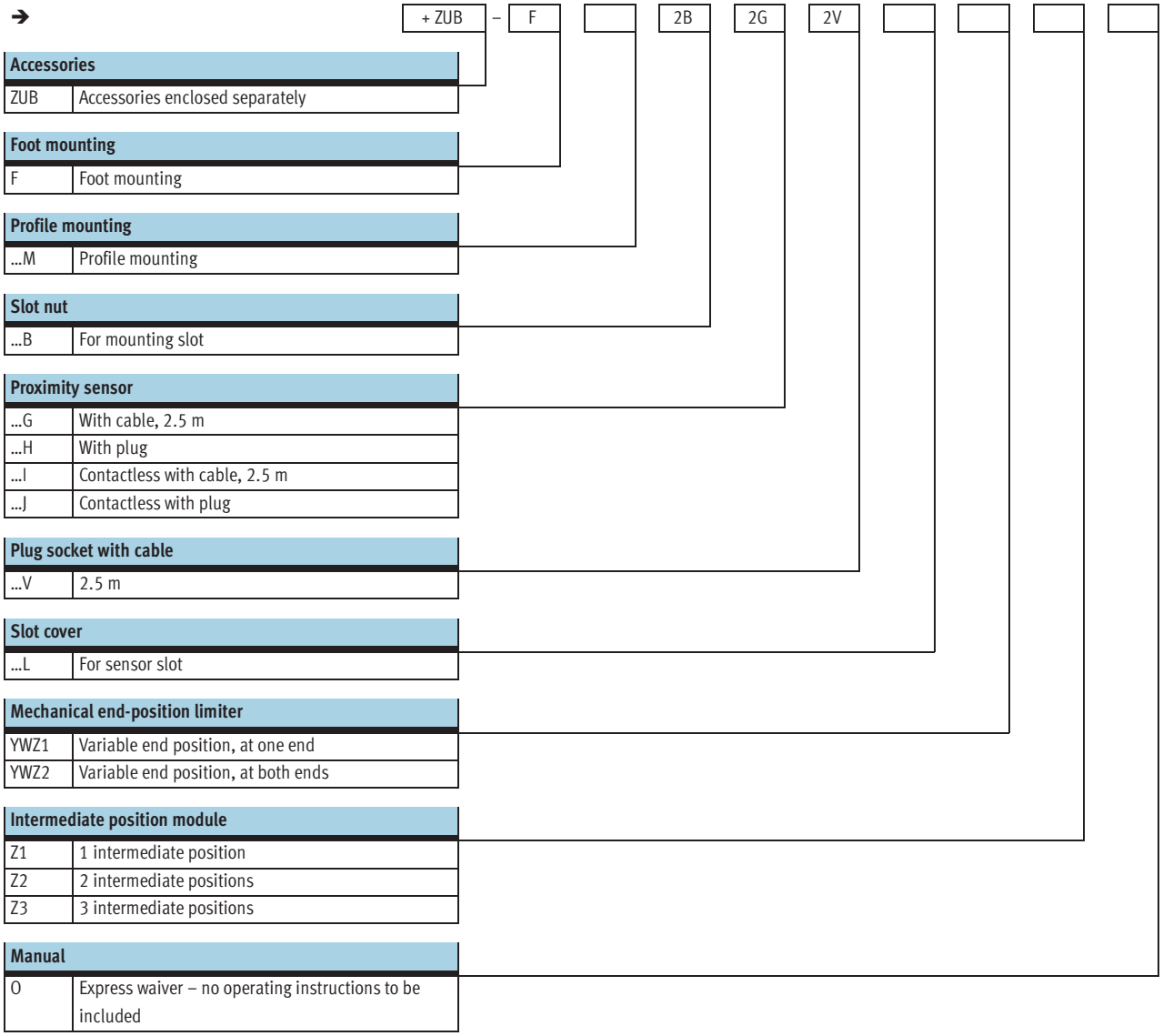
Type codes



Linear drives DGC-N-KF, with recirculating ball bearing guide

FESTO

Type codes



Accessories	
ZUB	Accessories enclosed separately

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 with plug

Plug socket with cable	
...V	2.5 m

Slot cover	
...L	For sensor slot

Mechanical end-position limiter	
YWZ1	Variable end position, at one end
YWZ2	Variable end position, at both ends

Intermediate position module	
Z1	1 intermediate position
Z2	2 intermediate positions
Z3	3 intermediate positions

Manual	
O	Express waiver – no operating instructions to be included

New

Linear drives DGC-N-KF, with recirculating ball bearing guide

Technical data

FESTO

Function

Diameter
8 … 63 mm

Stroke length
1 … 8,500 mm

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Wearing parts kits
➔ 58

General technical data									
Piston ∅		8	12	18	25	32	40	50	63
Stroke	[mm]	1 … 1,300	1 … 1,900	1 … 3,000	1 … 8,500			1 … 5,000	
Pneumatic connection		M5, suitable for 10-32 UNF			1/8 NPT		1/4 NPT		3/8 NPT
Mode of operation		Double-acting							
Constructional design		Rodless drive							
Driver principle		Slotted cylinder, mechanically coupled							
Guide		External recirculating ball bearing guide							
Mounting position		Any							
Cushioning	P	Non-adjustable at both ends		–					
➔ 47	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	29.8	31.1
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 shock absorber YSR/YSRW)							

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Operating and environmental conditions									
Piston ∅		8	12	18	25	32	40	50	63
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 class CRC[2]		1							

1) Note operating range of proximity sensors
2) Corrosion resistance class 1 as per Festo standard 940 070
Components subject to low corrosion stress. 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.

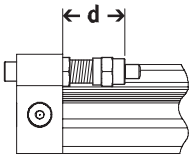
Force [N]									
Piston ∅		8	12	18	25	32	40	50	63
Theoretical force at 6 bar		30	68	153	295	483	754	1,178	1,870
Impact energy at the end positions		➔ 47							

Linear drives DGC-N-KF, with recirculating ball bearing guide

Technical data

Weight [g]								
Piston ∅	8	12	18	25	32	40	50	63
Basic weight with 0 mm stroke	225	391	975	2,113	2,837	6,996	13,342	22,220
Additional weight per 10 mm stroke	11	16	31	49	74	117	153	236
Moving load	77	149	331	732	1,146	2,330	4,511	8,225

Adjustable end-position range d [mm]



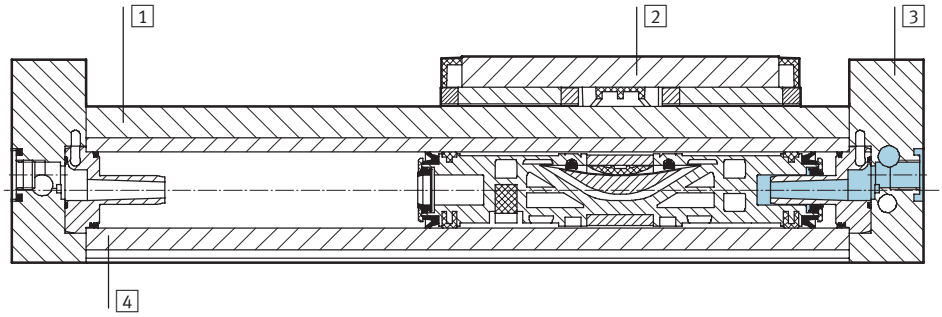
Note

The permissible kinetic energy decreases if the stroke is reduced with PPV adjustable cushioning at both ends.

Piston ∅	8	12	18	25	32	40	50	63
Cushioning P/PPV	11.3 … 16.3	12.7 … 17.7	13.8 … 15.8	21.1 … 25.1	25.2 … 30.2	28.7 … 33.7	28.7 … 33.7	38.8 … 43.8
Protected guide with cushioning P/PPV	–	–	16.9 … 18.9	23.6 … 27.6	25.2 … 30.2	34.7 … 39.7	–	–
Cushioning YSR/YSRW	12.8 … 22.8	14 … 24	14.5 … 34.5	22.5 … 47.5	27.3 … 52.3	31 … 56	31 … 56	41 … 76

Materials

Sectional view



Linear drives		
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

Linear drives DGC-N-KF, with recirculating ball bearing guide

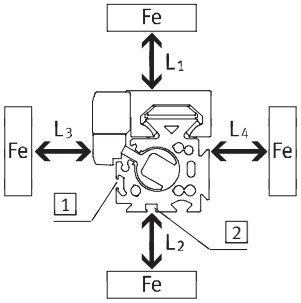
Technical data

FESTO

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.

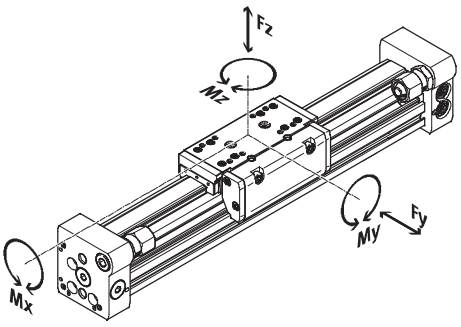
The distance depends on the position of the proximity sensor (see 1 and 2).



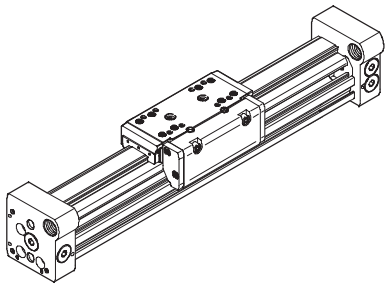
Piston ∅			8	12	18	25	32	40	50	63
Distance L1	1	[mm]	0	0	0	0	0	0	0	0
	2	[mm]	–	–	0	0	0	0	0	0
Distance L2	1	[mm]	20	10	10	10	0	0	0	0
	2	[mm]	–	–	25	25	25	25	25	25
Distance L3	1	[mm]	30	25	25	25	25	25	25	25
	2	[mm]	–	–	10	10	0	0	0	0
Distance L4	1	[mm]	0	0	0	0	0	0	0	0
	2	[mm]	–	–	0	0	0	0	0	0

Characteristic load values for linear drive with recirculating ball bearing guide and guide

The indicated forces and torques refer to the centre of the slide surface.
They must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



GP – Protected guide



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

$$\frac{Fy}{Fy_{max.}} + \frac{Fz}{Fz_{max.}} + \frac{Mx}{Mx_{max.}} + \frac{My}{My_{max.}} + \frac{Mz}{Mz_{max.}} \leq 1$$

Permissible forces and torques									
Piston ∅		8	12	18	25	32	40	50	63
$Fy_{max.}$	[N]	300	650	1,850	3,050	3,310	6,890	6,890	15,200
$Fz_{max.}$	[N]	300	650	1,850	3,050	3,310	6,890	6,890	15,200
$Mx_{max.}$	[Nm]	1.7	3.5	16	36	54	144	144	529
$My_{max.}$	[Nm]	4.5	10	51	97	150	380	634	1,157
$Mz_{max.}$	[Nm]	4.5	10	51	97	150	380	634	1,157

Note

ProDrive
sizing software
➔ www.festo.com

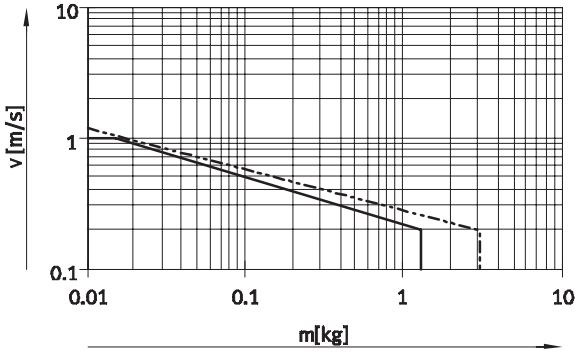
Linear drives DGC-N-KF, with recirculating ball bearing guide

Technical data

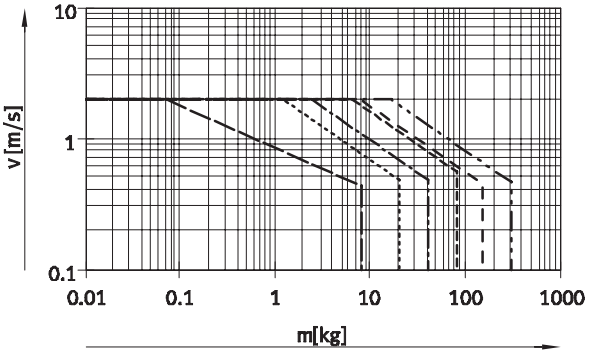
FESTO

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

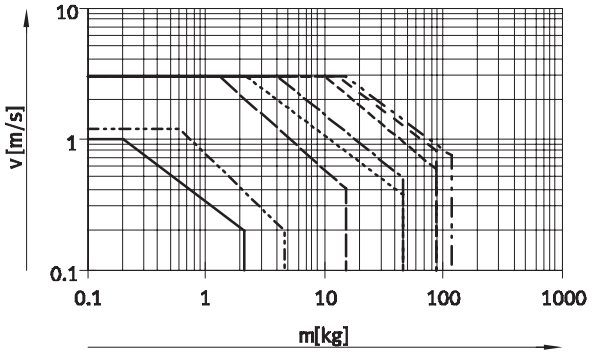
Piston ∅ 8/12 with P cushioning



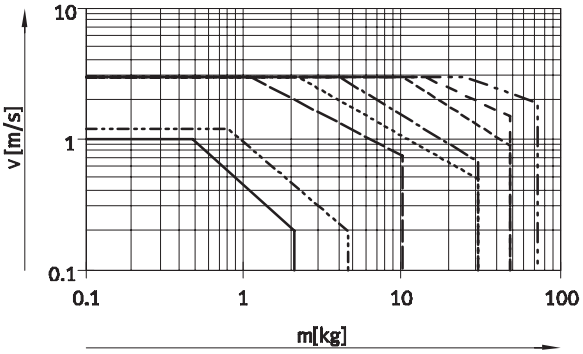
Piston ∅ 18 ... 63 with PPV cushioning



Piston ∅ 8 ... 63 with YSR cushioning



Piston ∅ 8 ... 63 with YSRW cushioning



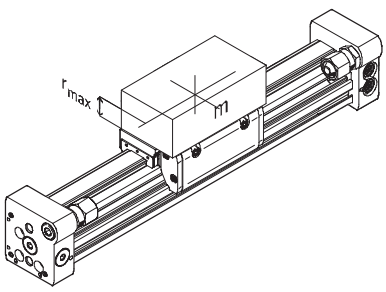
∅ 8 ∅ 12 ∅ 18 ∅ 25 ∅ 32 ∅ 40 ∅ 50 ∅ 63

- Note

This data represents the maximum values that can be achieved. Values fluctuate in practice relative to the position of the effective load and mounting position.

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 0.01 mm.

The data applies to a horizontal mounting position:

Piston ∅		8	12	18	25	32	40	50	63
Distance $r_{max.}$	[mm]	25	35	35	50	50	50	50	50

Linear drives DGC-N-KF, with recirculating ball bearing guide

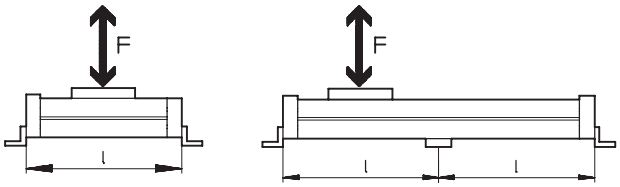
Technical data

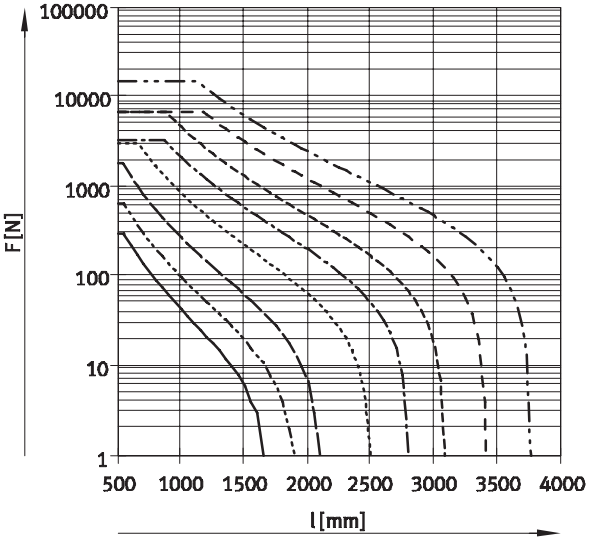
FESTO

Number of profile mountings MUC as a function of force due to weight F and support span l

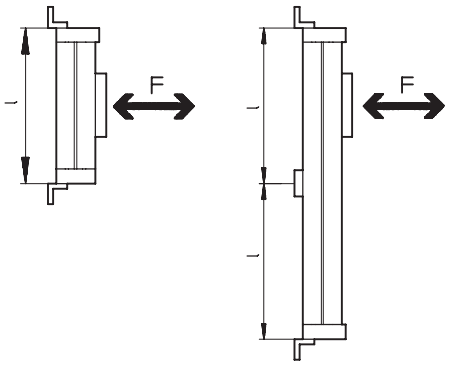
In order to limit deflection in the case of large strokes, the drive may need to be supported. The following graphs help to determine the maximum permissible support span as a function of mounting position, force due to weight and normal force.

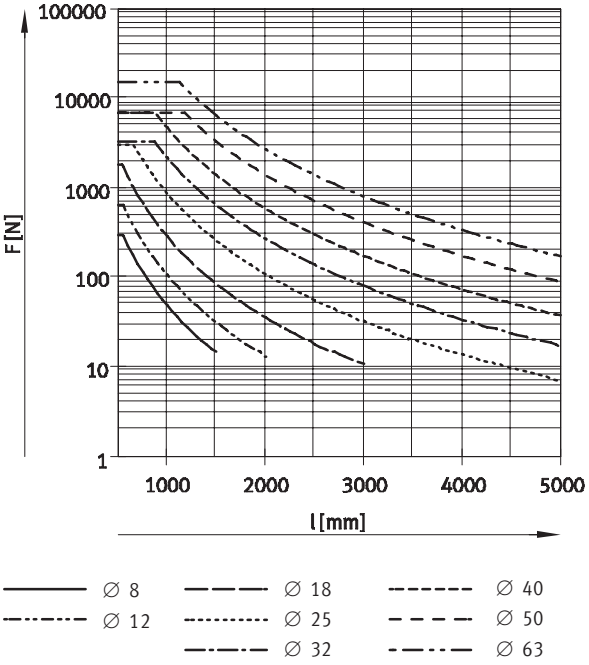
Horizontal mounting position





Vertical mounting position





Example:

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

The drive has an overall length of:
l = stroke length + L1 (see dimensions)
= 1,500 mm + 200 mm
= 1,700 mm

According to the graph, the max. support span for the drive DGC-N-25 with a force of 300 N is 1,300 mm.

In this example, profile mountings are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).

Linear drives DGC-N-KF, with recirculating ball bearing guide

Technical data

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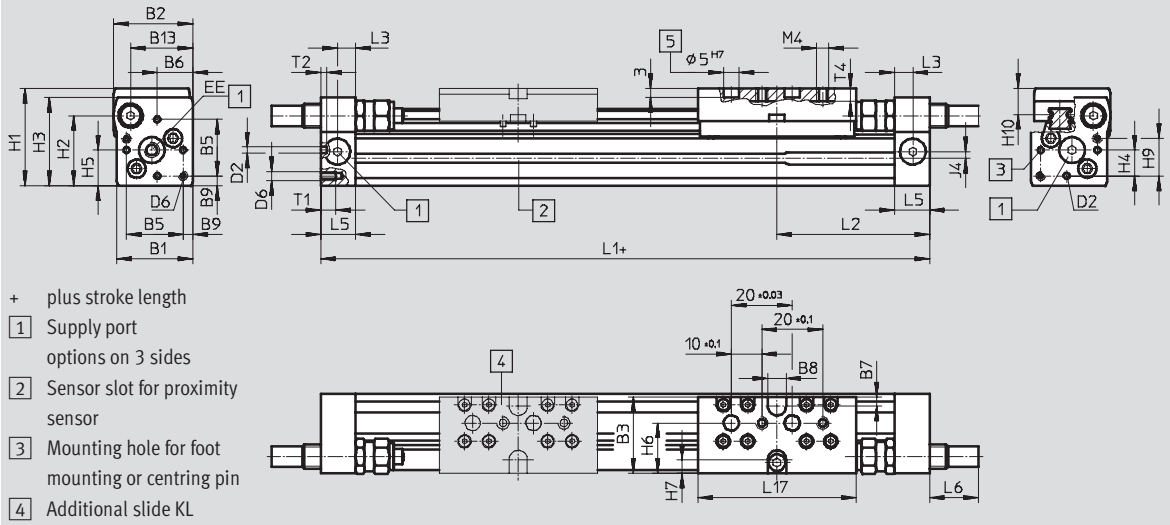
Dimensions

Download CAD data ➔ www.festo.com

∅ 8 and 12



\+ plus stroke length
1 Supply port options on 3 sides
2 Sensor slot for proximity sensor
3 Mounting hole for foot mounting or centring pin
4 Additional slide KL
5 Hole for centring pin ZBS

∅ [mm]	B1	B2	B3	B5	B6	B7	B8 ±0.05	B9 ±0.1	B13	D2 ∅ H8	D6	EE[1]
8	25	26	25	18.6	11.7	3	6	3.2	20.5	2	M3	M5
12	30.2	31	31	20.6	13.5	3	8	4.8	25	2	M4	M5

∅ [mm]	H1	H2	H3	H4	H5	H6	H7	H9	H10	J4	L1 +0.5/ −0.4	L2
8	32	23	29	8.5	11.7	16.5	4.5	12.3	8.7	2.2	100	50.1
12	37.5	28.5	34.5	8.7	13.5	20.5	5	14.7	9.8	3	125	62.1

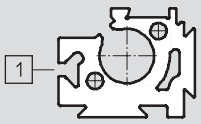
∅ [mm]	L3	L5	L6			L17	T1	T2	T4	Stroke tolerance
			P	YSR	YSRW					
8	6	11.5	0	16	16.2	52	5	2	4.3	0 ... 1.7
12	8	16	0	11.3	12.3	65	6	2	5	

1) Suitable for 10-32 UNF

Profile barrel

∅ 8

∅ 12



1 Sensor slot for proximity sensor

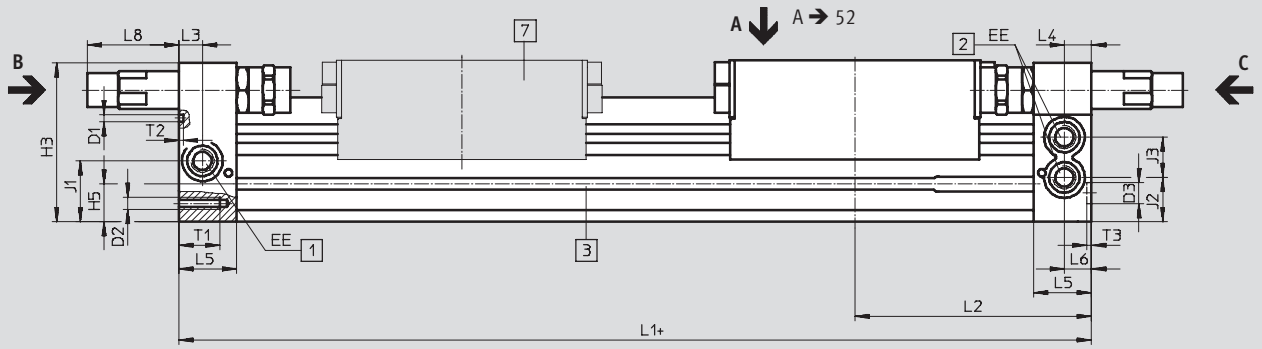
Linear drives DGC-N-KF, with recirculating ball bearing guide

Technical data

FESTO

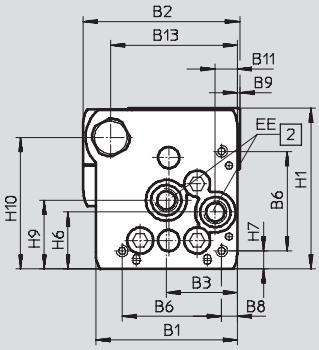
Dimensions Download CAD data ➔ **www.festo.com**

∅ 18 ... 40



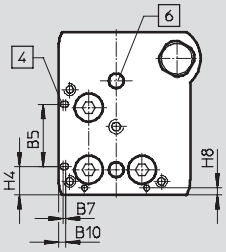
View C

∅ 18 ... 40

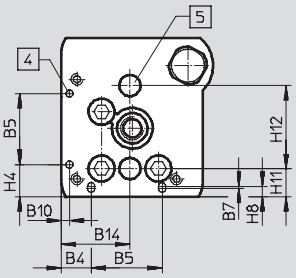


View B

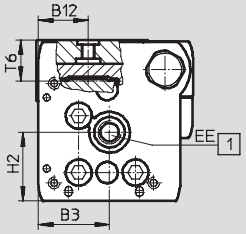
∅ 18



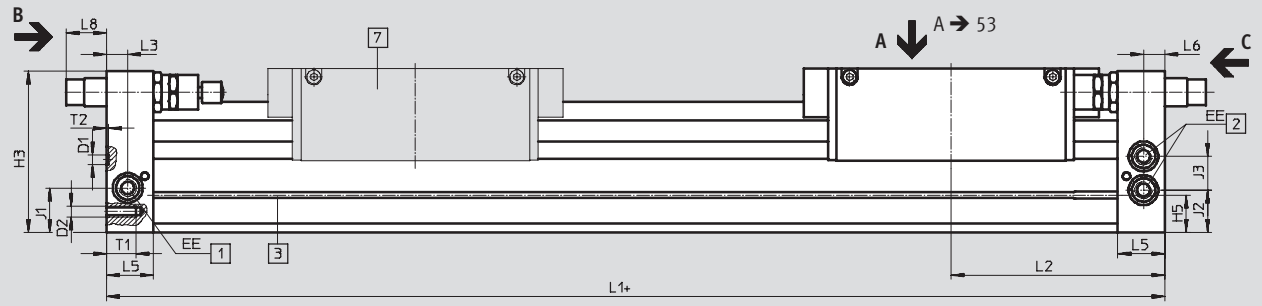
∅ 25 ... 40



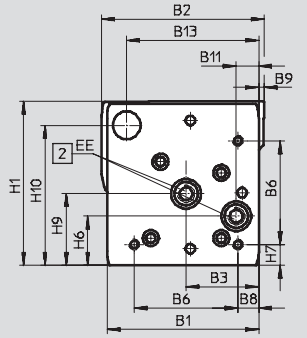
∅ 18 ... 40



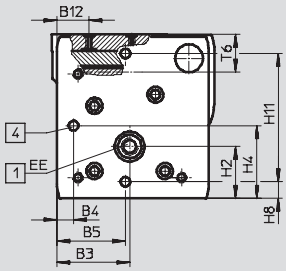
∅ 50/63



View C



View B



\+ plus stroke length

1 Supply port options on 2 sides

2 Supply port options on 2 sides, for supply port 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-N-KF, with recirculating ball bearing guide

Technical data

∅ [mm]	B1	B2	B3	B4	B5 ±0.05	B6	B7	B8	B9	B10	B11	B12
18	44.5	49.9	19.5	8.8	21	31	0.8	3.8	1	2.4	5.5	15.5
25	59.8	66	30	12.65	30	42	1	6.65	1	3.5	9.3	21
32	73	79	38.5	5.7	63.1	57.5	–	8.5	1.5	14	14.9	18
40	91	98.5	45	17.2	55	65	–	12.2	2	8	16.5	24.8
50	113	126.5	60	8	52.8	81.6	–	12	–	–	21	24
63	142	149	68	15.5	68	97	–	19.5	5	–	21	30

∅ [mm]	B13	B14	D1 ∅	D2	D3 ∅ H7	EE	H1	H2	H3	H4 ±0.2	H5	H6
18	39	19.5	2±0.05	M4	5	M5[1)]	56.3	23.1	55	9.6	13.4	20
25	53	30	3±0.05	M5	9	⅛ NPT	68	29	67	13.65	15.8	24
32	65	38.5	3±0.05	M6	9	⅛ NPT	78.5	30	77	5.7	17	27.7
40	80.5	45	4±0.05	M6	9	¼ NPT	99.5	41.5	97.5	17.2	25	36.5
50	97	–	9H7	M8	–	¼ NPT	124.5	38.5	122.5	52.8	29.3	36
63	123.5	–	9H7	M10	–	⅜ NPT	153.5	48.5	151	68	34.8	46

∅ [mm]	H7	H8	H9	H10	H11	H12 ±0.05	J1	J2	J3	L1 KF +0.9/–0.2	L1 KF-GP +0.9/–0.2
18	4.6	2.4	25.2	46	8.5±0.15	30	20	16.5	11	150	157
25	7.65	4.5	29	55.5	12±0.15	35	26.1	18.6	17	200	205
32	8.5	14	35.2	63.8	11.45±0.15	50	30	22	18.5	250	250
40	12.2	8	44	81.5	15±0.15	60	35	26	26	300	312
50	12	8	53	104.5	100±0.05	–	30.5	30.5	28	350	–
63	19.5	15.5	67	131	120±0.05	–	41.5	39.5	31.5	400	–

∅ [mm]	L2 KF	L2 KF-GP	L3	L4	L5	L6	L8 PPV	L8 YSR	L8 YSRW	T1	T2	T3	T6	Stroke tolerance
18	74.5	78	5.7	5.8	15	5.5	0	29.9	32.4	9	2	$3.1^{+0.2}$	15	0 … 2.5
25	100	102.5	10.5	10.6	24.5	10.6	0	35.6	38.6	17.5	2	$2.1^{+0.2}$	17.3	
32	124.8	124.8	14.5	14.5	30.5	14.5	0	19.5	28	15	2	$2.1^{+0.2}$	20	
40	150	156	14.6	14.6	33.5	14.6	0	38.5	43.5	20	3	$2.1^{+0.2}$	25.7	
50	175	–	17	–	41	17	0	31	36.3	24	$2.1^{+0.2}$	–	28.75	
63	200	–	20	–	44	20	0	38.3	48.3	27.5	$2.1^{+0.2}$	–	36.1	

1) Suitable for 10-32 UNF

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Linear drives DGC-N-KF, with recirculating ball bearing guide

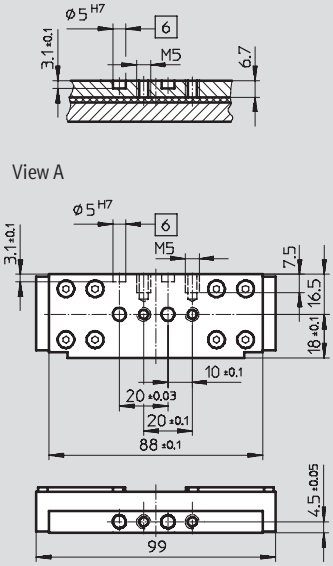
Technical data

FESTO

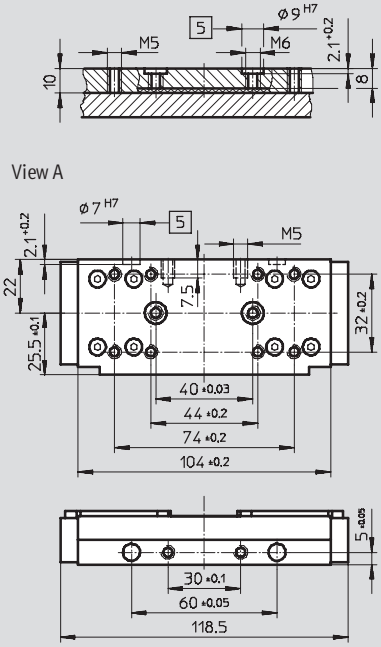
Dimensions Download CAD data ➔ **www.festo.com**

Slide

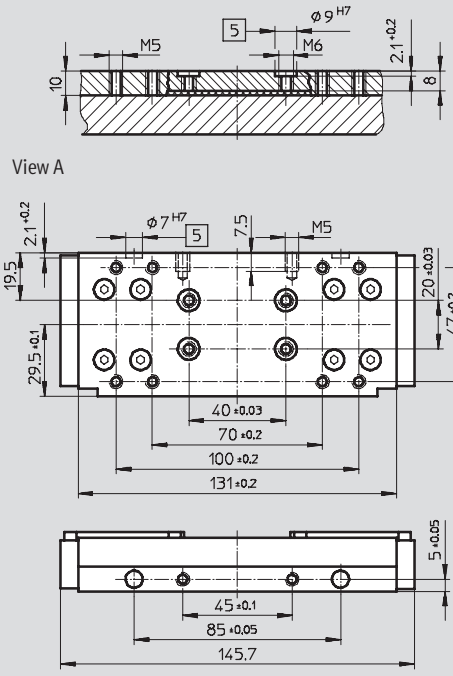
∅ 18



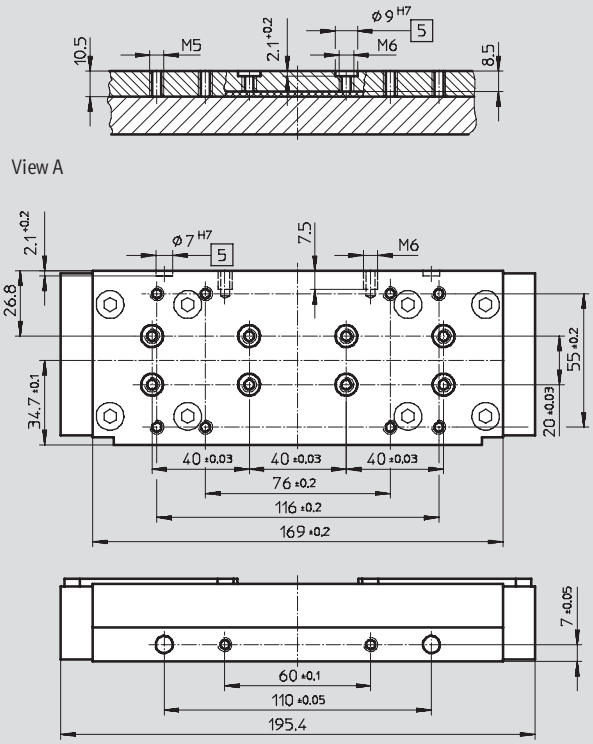
∅ 25



∅ 32



∅ 40



5 Hole for centring sleeve ZBH

6 Hole for centring pin ZBS

Linear drives DGC-N-KF, with recirculating ball bearing guide

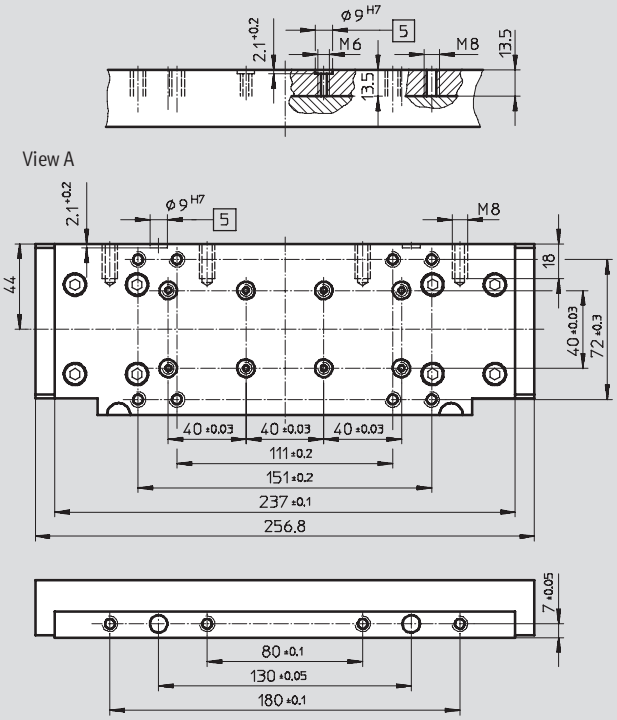
Technical data

FESTO

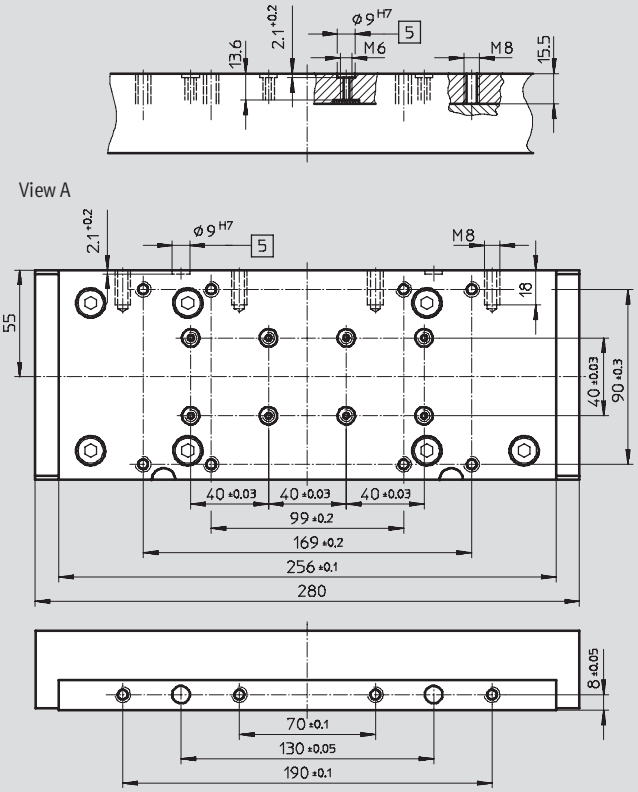
Dimensions Download CAD data ➔ **www.festo.com**

Slide

∅ 50



∅ 63



5 Hole for centring sleeve ZBH

6 Hole for centring pin ZBS

Linear drives DGC-N-KF, with recirculating ball bearing guide

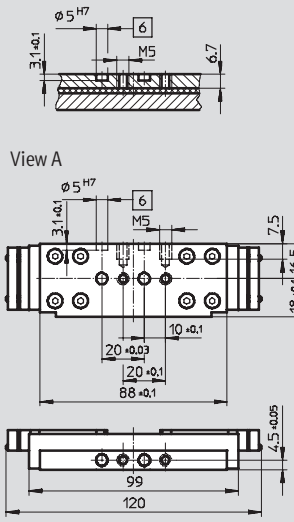
Technical data

FESTO

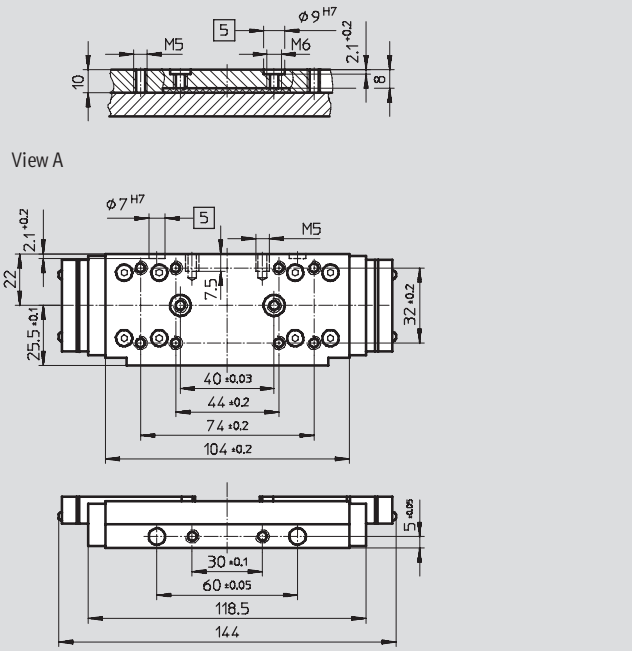
Dimensions Download CAD data ➔ **www.festo.com**

Slide, variant GP – Protected recirculating ball bearing guide

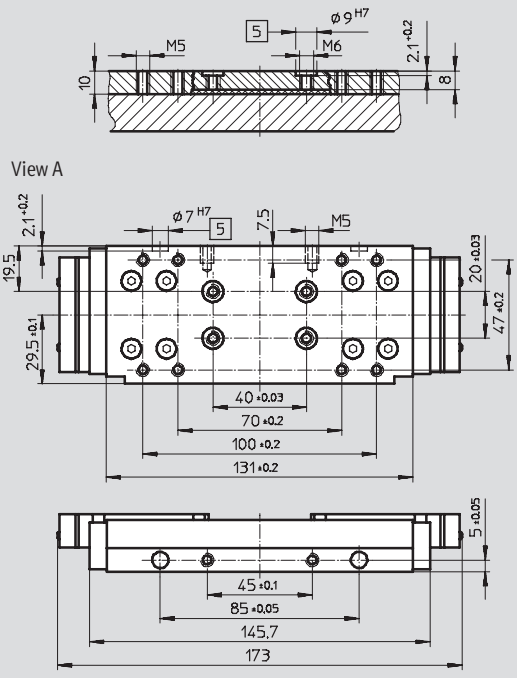
∅ 18



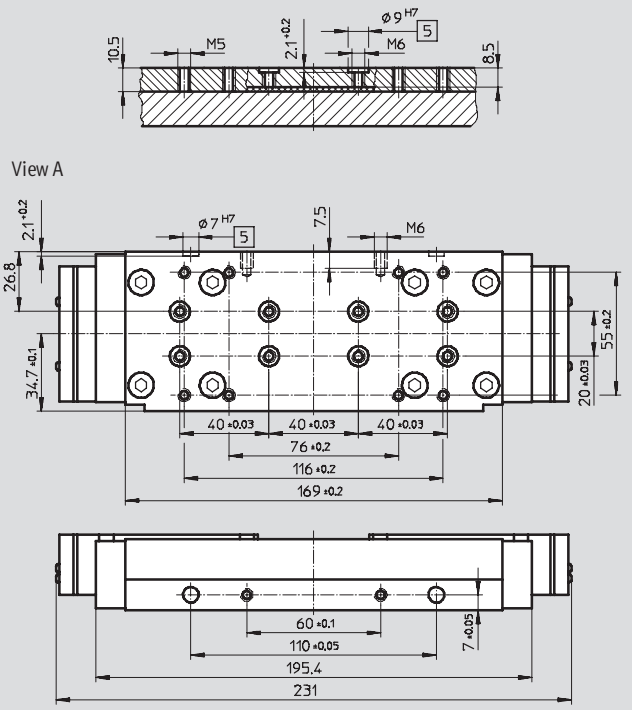
∅ 25



∅ 32



∅ 40



5 Hole for centring sleeve ZBH

6 Hole for centring pin ZBS

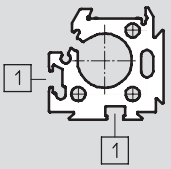
Linear drives DGC-N-KF, with recirculating ball bearing guide

Technical data

FESTO

Profile barrel

Ø 18



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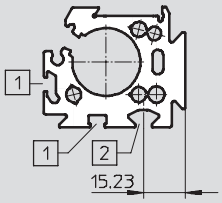
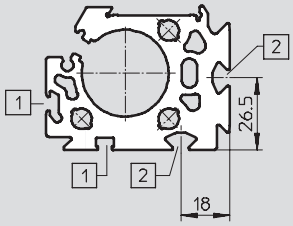


Ø 32



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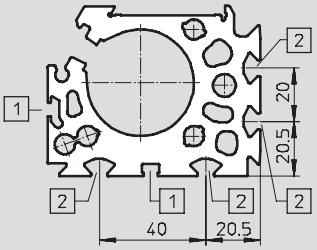
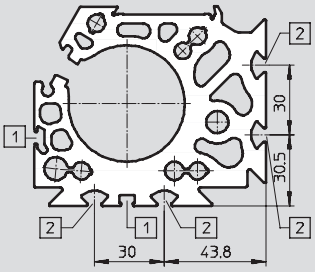
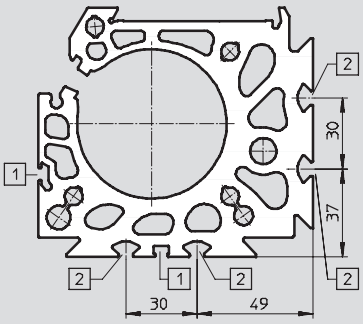


Ø 50



Ø 63



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

Linear drives DGC-N-KF, with recirculating ball bearing guide

Ordering data – Modular products

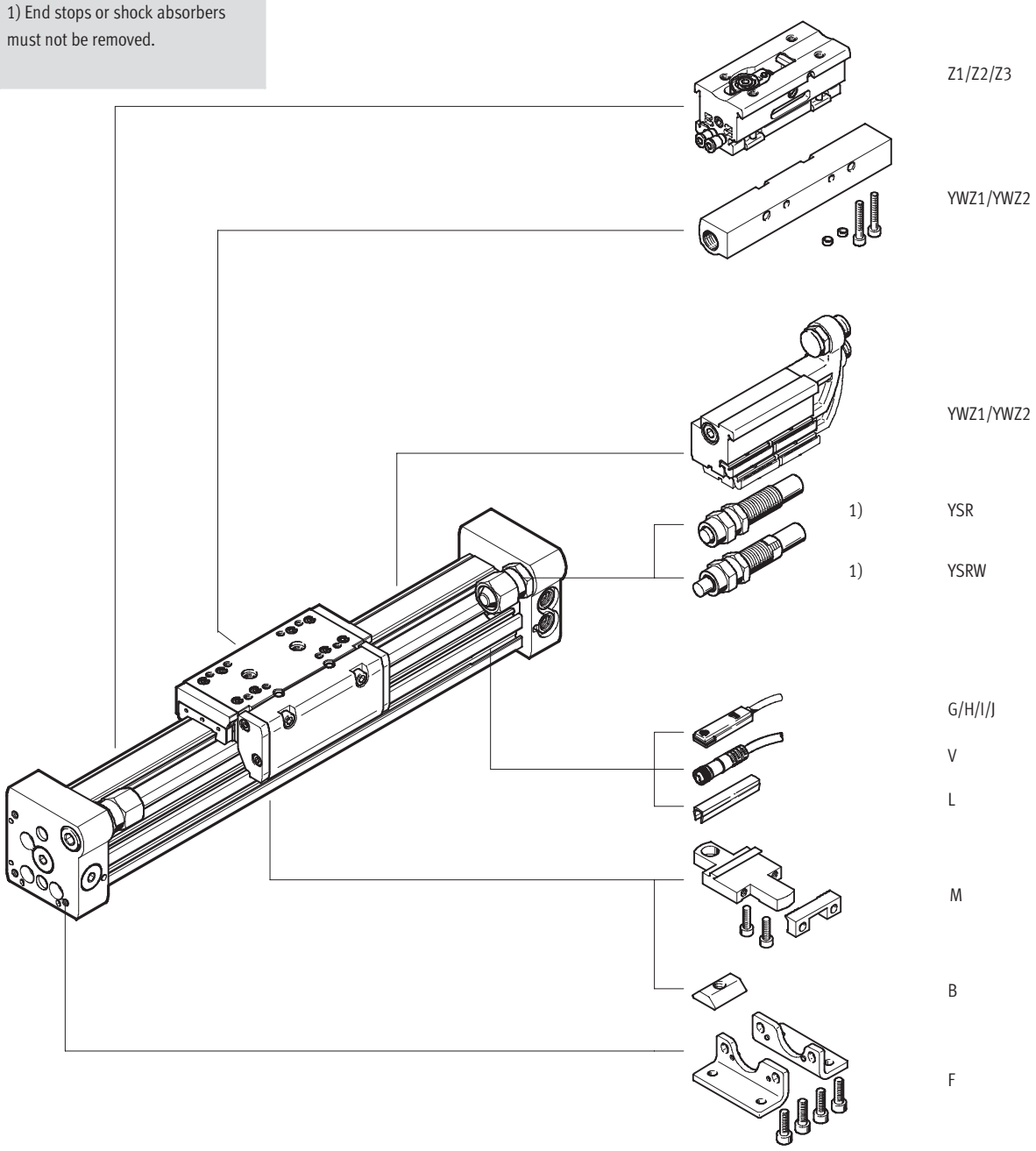
FESTO

Order code

Mandatory data/options

Note

1) End stops or shock absorbers must not be removed.



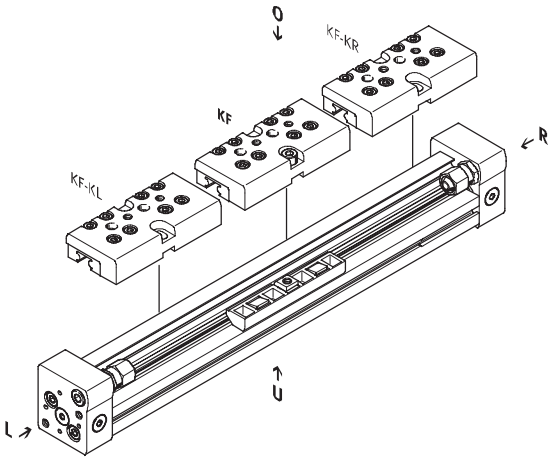
Linear drives DGC-N-KF, with recirculating ball bearing guide

Ordering data – Modular products

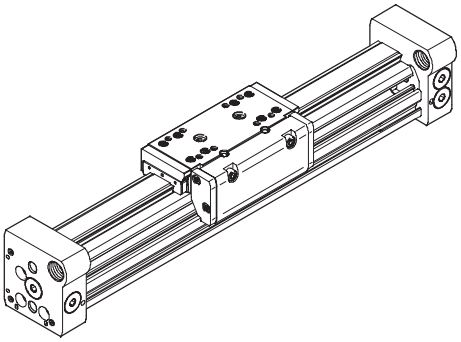
FESTO

Order code

KL/KR – With additional slide



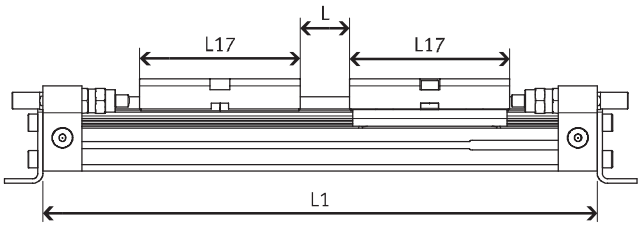
GP – With protected recirculating ball bearing guide



Effective stroke reduction when ordering an additional slide KL or KR

With a guide axis DGC with additional slide, the effective stroke is reduced by the length of the additional slide and the distance between both slides.

Given:
DGC-N-12-500-...
L = 20 mm
L17= 65 mm



∅ [mm]	8	12	18	25	32	40	50	63
L17	52	65	99	118.5	145.7	195.4	256.8	280

The effective stroke is reduced to
415 mm = 500 mm – 20 mm – 65 mm

New

Linear drives DGC-N-KF, with recirculating ball bearing guide

Ordering data – Modular products

FESTO

Ordering table

Size		8	12	18	25	32	40	50	63	Condi-tions	Code		Enter code
M	Module No.	**530 906**	**530 907**	**532 446**	**532 447**	**532 448**	**532 449**	**532 450**	**532 451**				
	Function	Linear drive									**DGC**		DGC
	Thread	NPT thread									**-N**		-N
	Piston ∅ [mm]	8	12	18	25	32	40	50	63		**-...**		
	Stroke [mm]	1 ... 1,300	1 ... 1,900	1 ... 3,000	1 ... 8,500			1 ... 5,000			**-...**		
	Guide	Recirculating ball bearing guide									**-KF**		-KF
	Cushioning	Flexible cushioning rings/pads 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

Transfer order code

	DGC	–	N	–		–		–	KF	–		–	A	–

Linear drives DGC-N-KF, with recirculating ball bearing guide

Ordering data – Modular products

FESTO

Ordering table

Size			8	12	18	25	32	40	50	63	Condi-tions	Code		Enter code
0	Slide		–	–	Protected recirculating ball bearing guide				–	–	1	-GP		
	Additional slide at left		Additional slide, standard, at left								2	-KL		
	Additional slide at right		Additional slide, standard, at right								2	-KR		
	Accessories		Enclosed separately (can be retrofitted)									ZUB-		ZUB-
	Foot mounting		1									F		
	Profile mounting		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		
	Mechanical end-position limiter		–	–	Variable end position, at one end						3	YWZ1		
			–	–	Variable end position, at both ends						3	YWZ2		
	Intermediate position module		–	–	–	1 intermediate position			–	–	4	-Z1		
			–	–	–	2 intermediate positions			–	–	4	-Z2		
			–	–	–	3 intermediate positions			–	–	4	-Z3		
	Manual		Express waiver – no operating instructions to be included (already available)									-O		

1 **GP** Not with cushioning YSR and YSRW
Not with additional slide at left KL or additional slide at right KR

2 **KL, KR** With 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
Not with cushioning PPV

3 **YWZ1, YWZ2** Only with cushioning YSR or YSRW

4 **Z1, Z2, Z3** Only with cushioning YSR or YSRW and mechanical end-position limiter YWZ1 or YWZ2

Transfer order code

– [ ] – [ ] – [ ] **ZUB** – [ ] – [ ] – [ ]

Ordering data – Wearing parts kits

Piston ∅	Part No.	Type
8	665 335	DGC-8-KF
12	665 336	DGC-12-KF
18	684 486	DGC-18
25	684 487	DGC-25

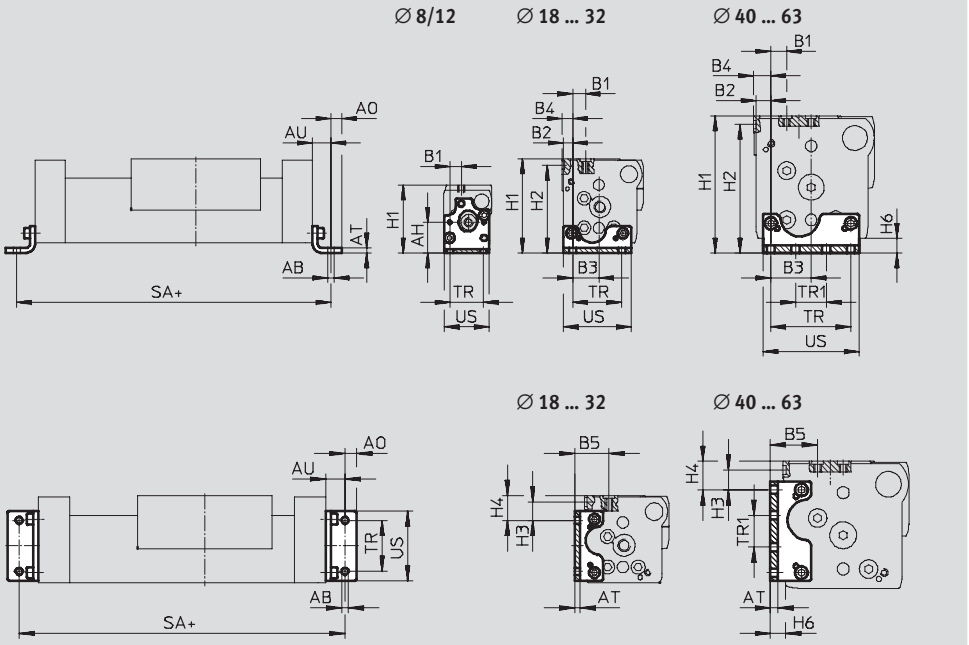
Piston ∅	Part No.	Type
32	684 488	DGC-32
40	684 489	DGC-40
50	719 825	DGC-50
63	719 826	DGC-63

Linear drives DGC-N

Accessories

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	B4		B5		H1	
						G	GF/KF			GF	KF	G	GF/KF	G	GF/KF
8	3.4	16.7	3	2	9	6	6	–	–	–	–	–	–	37	37
12	4.5	18.5	4.5	2	11.5	5.4	5.4	–	–	–	–	–	–	42.5	42.5
18	5.5	–	6.75	3	13.25	15	11.2	4.3	15.2	–	5.3	27	23.2	57.5	64
25	5.5	–	9	4	15	12.5	13.35	7.65	21.35	–	8.65	28.65	29.5	67	76.5
32	6.6	–	10	5	19	11.5	9	9	29.5	–	10.5	29.5	27	82	87.5
40	6.6	–	10	6	20	7.6	12.6	12.2	32.8	–	14.2	31.8	36.8	100	111.5
50	9	–	11	8	25	12.5	12.5	11.5	48.5	11.5	11.5	41	41	137	141.5
63	11	–	13.5	8	28	17.5	17.5	12.5	55.5	6.5	17.5	49	49	159	172.5

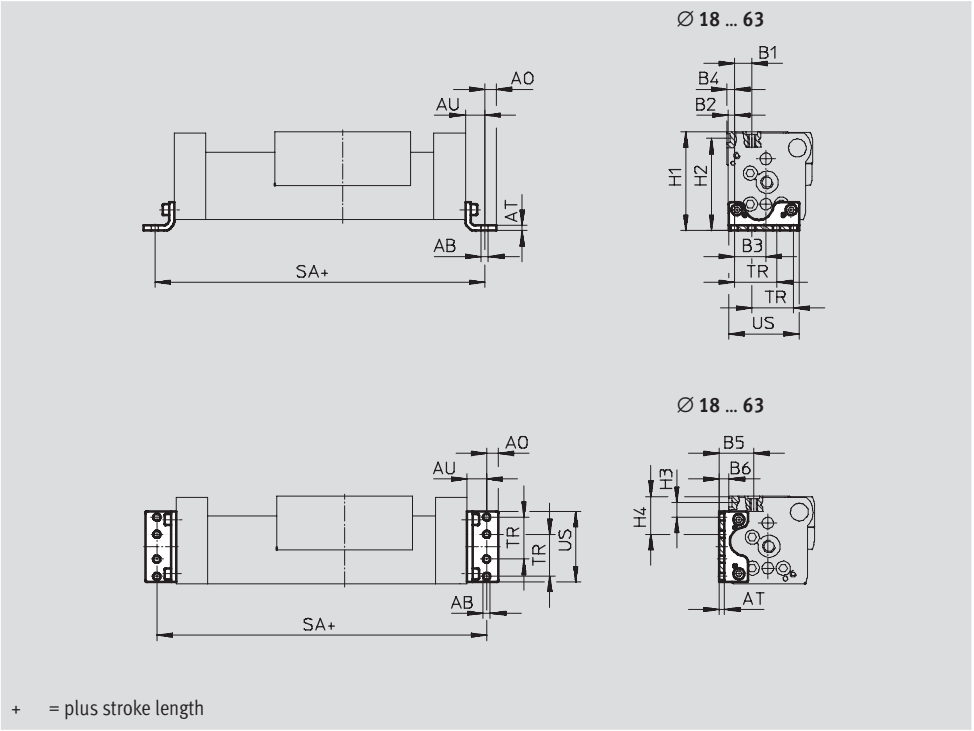
For Ø [mm]	H2	H3	H4		H6	SA	TR	TR1	US	Weight	Part No.	Type
	GF/KF	GF/KF	G	GF/KF		+0.9/–0.2	±0.1	±0.1		[g]		
8	–	–	–	–	5	118	18	–	24.4	25	**526 385**	**HPC-8**
12	–	–	–	–	5	148	20	–	29.6	41	**526 388**	**HPC-12**
18	59.5	16	14	21.2	7.7	176.5	30	–	38.6	58	**533 667**	**HPC-18**
25	71.5	14.35	9.85	19.35	8.5	230	40	–	55	131	**533 668**	**HPC-25**
32	82.5	8	7.5	13	9	288	56.5	19.5	68	239	**533 669**	**HPC-32**
40	104.5	15.3	10.8	22.3	12	340	65	25	78	348	**533 670**	**HPC-40**
50	134.5	23.4	25.9	30.4	17	400	82.6	47.4	102	754	**545 236**	**HPC-50**
63	164.5	22	24	30	19	456	111	39	133	1,245	**545 237**	**HPC-63**

Linear drives DGC-N

Accessories

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

Material:
Galvanised steel



\+ = plus stroke length

Dimensions and ordering data

For ∅ [mm]	AB ∅	AO	AT	AU	B1	B2	B3	B4	B5	B6
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
50	9	11	8	25	12.5	11.5	48.5	11.5	38	14
63	11	13.5	8	28	17.5	12.5	55.5	17.5	37	2

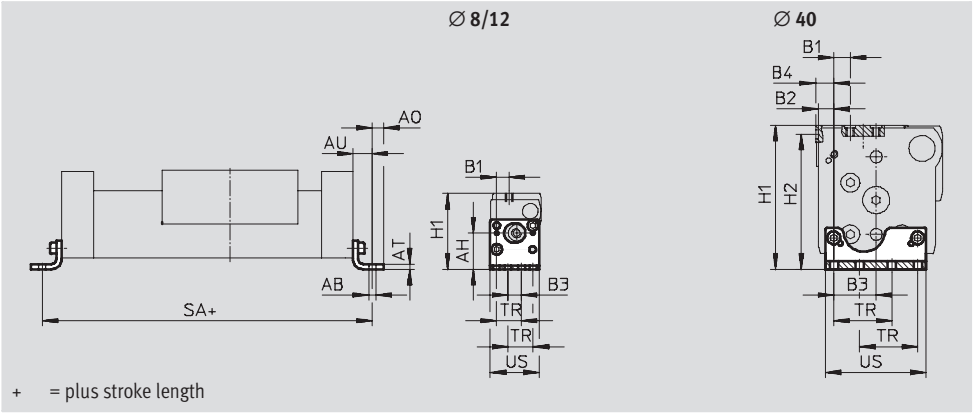
For ∅ [mm]	H1	H2	H3	H4	SA	TR ±0.1	US	Weight [g]	Part No.	Type
18	64	59.5	15.9	28	$176.5^{+0.9/-0.2}$	24	40	54	**535 600**	**HPC-18-S**
25	75.5	70.5	11.45	29.75	$226^{+0.9/-0.2}$	32.5	55	89	**535 601**	**HPC-25-S**
32	87.5	82.5	8	31.5	$284^{+0.9/-0.2}$	38	68	180	**538 413**	**HPC-32-S**
50	138.5	131.5	23.4	48	$400^{+1.7/-0.2}$	65	102	754	**545 238**	**HPC-50-S**
63	160.5	152.5	22	66	$456^{+1.7/-0.2}$	75	133	1,138	**545 239**	**HPC-63-S**

Linear drives DGC-N

Accessories

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

Material:
Galvanised steel



Dimensions and ordering data

For ∅ [mm]	AB ∅	AH	AO	AT	AU	B1	B2	B3
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

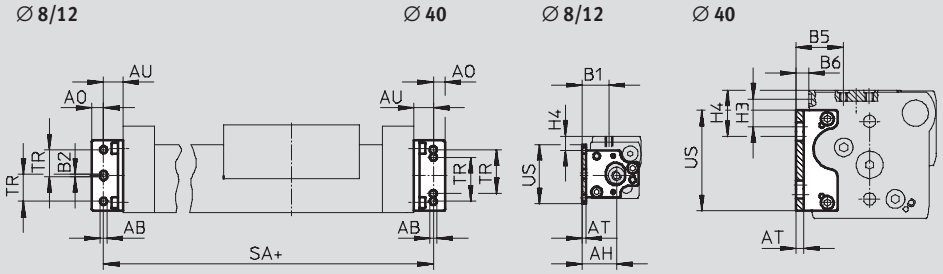
For ∅ [mm]	B4	H1	H2	SA +0.9/–0.2	TR ±0.1	US	Weight [g]	Part No.	Type
8	–	39	–	118	13	25.4	25	**529 346**	**HPC-8-SO**
12	–	47.5	–	143	18.6	33.8	42	**529 348**	**HPC-12-SO**
40	14.3	104.5	97.5	335	45	78	264	**536 745**	**HPC-40-SO**

Linear drives DGC-N

Accessories

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

Material:
Galvanised steel



\+ = plus stroke length

Dimensions and ordering data

For ∅ [mm]	AB ∅	AH	AO	AT	AU	B1	B2	B5
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 ∅ [mm]	B6	H3	H4	SA +0.9/–0.2	TR ±0.1	US	Weight [g]	Part No.	Type
8	–	–	7.25	118	13	30.5	25	**529 347**	**HPC-8-SH**
12	–	–	4.5	143	18.6	41.8	41	**529 349**	**HPC-12-SH**
40	9.2	21.6	36	335	45	78	275	**536 746**	**HPC-40-SH**

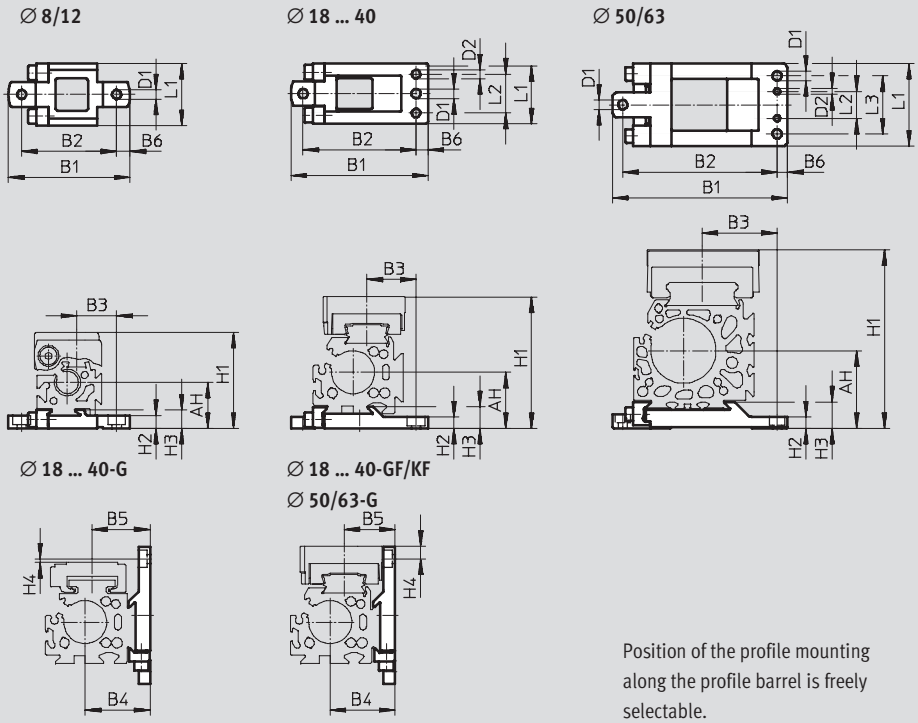
Linear drives DGC-N

Accessories

FESTO

Profile mounting MUC
(order code: M)

Material:
High-alloy steel



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

Dimensions and ordering data

For ∅ [mm]	AH	B1	B2	B3		B4
				G	GF/KF	
8	17.7	47	36.7	15.35	15.35	–
12	18.5	52.5	42.2	16.5	16.5	–
18	27.2	67.8±0.2	56±0.15	30.5	28.7	27.2
25	32.5	79.5±0.2	65.5±0.15	32.5	28.5	37.5
32	37.5	94±0.2	80±0.15	35	35	47.5
40	47	110.5±0.2	96±0.15	43	43	57
50	61	145±0.5	125±0.2	56	56	77
63	75	169±0.5	149±0.2	72.5	72.5	87

For ∅ [mm]	B5		B6	D1 ∅ H13	D2 ∅ H7	H1	
	G	GF/KF				G	GF/KF
8	–	–	5.1	3.5	–	37	37
12	–	–	5.1	3.5	–	42.5	42.5
18	25	23.2	5.7	5.5	5	57.5	64
25	33.5	29.5	7	5.5	5	67	76.5
32	37	37	7	5.5	5	82	87.5
40	46.8	46.8	7	6.5	6	100	111.5
50	61	61	7	9	6	137	141.5
63	69	69	10	9	6	159	172.5

Linear drives DGC-N

Accessories

FESTO

Dimensions and ordering data

For ∅ [mm]	H2	H3	H4		L1
			G	GF/KF	
8	5	7	–	–	24
12	4.5	7	–	–	24
18	$5.7_{-0.2}$	$9.9_{\pm 0.1}$	0.1	6.4	$33_{\pm 0.1}$
25	$6.5_{-0.2}$	$12.5_{\pm 0.1}$	2.07	7.43	$35_{\pm 0.1}$
32	$6.5_{-0.2}$	$13_{\pm 0.1}$	1.5	4	$45_{\pm 0.1}$
40	$8.5_{-0.2}$	$16_{\pm 0.1}$	0.2	11.3	$60_{\pm 0.1}$
50	11	23.5	4.7	9.2	$80_{\pm 0.4}$
63	11	25.5	1.5	15	$80_{\pm 0.4}$

For ∅ [mm]	L2 ±0.05	L3 ±0.2	Weight [g]	Part No.	Type
8	–	–	28	**526 384**	**MUC-8**
12	–	–	32	**526 387**	**MUC-12**
18	20.5	–	78	**531 752**	**MUC-18**
25	22.5	–	113	**531 753**	**MUC-25**
32	30	–	174	**531 754**	**MUC-32**
40	44	–	346	**531 755**	**MUC-40**
50	26	56	874	**531 756**	**MUC-50**
63	26	56	1,080	**531 757**	**MUC-63**

Linear drives DGC-N

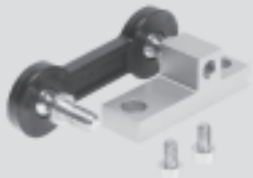
Accessories

FESTO

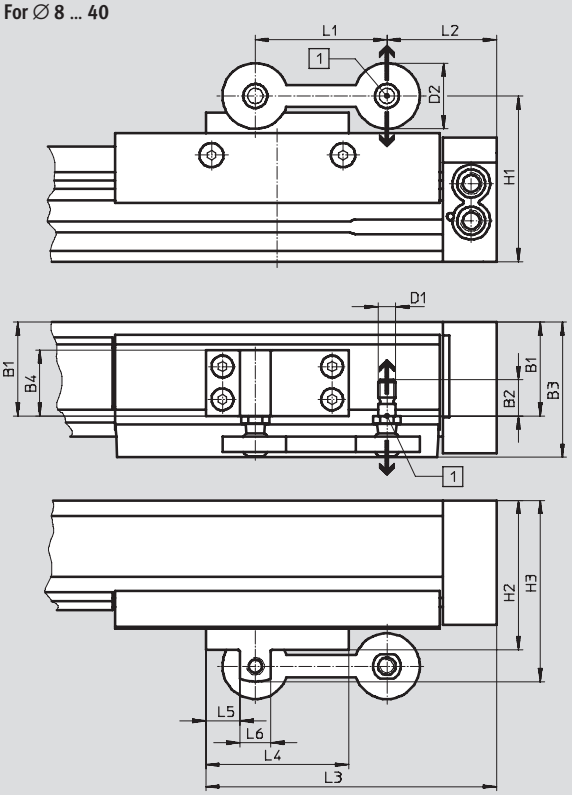
Moment compensator FKC
(order code: FK)
for DGC-N-G

Materials:
Plate: Wrought aluminium alloy

Link: Polyamide
Ball pin: High-alloy steel



For ∅ 8 ... 40

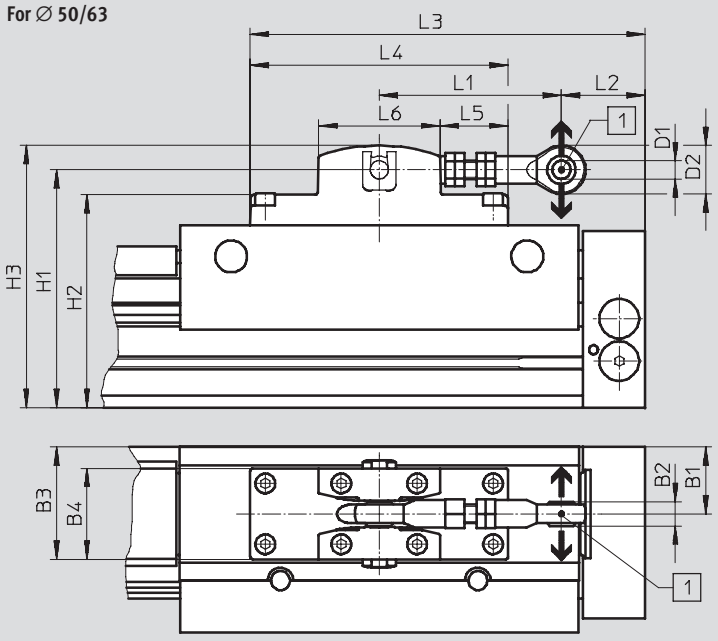


Note

Compensation possible in direction of arrow.

1 Radial deflection:
with ∅ 8 ... 40: ±2.5 mm
with ∅ 50/63: ±4 mm

For ∅ 50/63



Linear drives DGC-N

Accessories

FESTO

Dimensions and ordering data				
For ∅ [mm]	Max. offset between linear drive and external guide [mm]	Max. permissible load in direction of force [N]		Ambient temperature [°C]
8	±2.5	550	Backlash-free	–10 … +60
12		550	Backlash-free	
18		1,400	Backlash-free	
25		1,400	Backlash-free	
32		1,400	Backlash-free	
40		1,400	Backlash-free	
50	±4	5,000	Low-backlash	
63		5,000	Low-backlash	

For ∅ [mm]	B1	B2	B3	B4	D1	D2	H1	H2	H3	L1
8	17.5	10.2	30	16	M5	20	43.5	42	48	40
12	18.5	10.2	31	16	M5	20	49	47.5	53.5	40
18	29.3	16.5	47.8	20	M8	30	66.8	59.8	73.8	60
25	42.65	16.5	61.15	30	M8	30	75.5	68	82.5	60
32	43	16.5	61.5	30	M8	30	90	82.5	97	60
40	57.3	16.5	75.8	45	M8	30	105	97.5	113	60
50	44	16	74	60	12^{H7}	32	156.5	140	172.4	120 … 125
63	50	16	80	60	12^{H7}	32	176.5	161.5	192.4	120 … 125

For ∅ [mm]	L2	L3	L4	L5	L6	CRC[1)]	Weight [g]	Part No.	Type
8	5.1	62.6	35	13	9	1	29	**529 350**	**FKC-8/12**
12	17.1	74.6	35	13	9	1	29	**529 350**	**FKC-8/12**
18	24.5	107	65	15.5	14	1	97	**538 714**	**FKC-18**
25	50	132.5	65	15.5	14	1	119	**538 715**	**FKC-25**
32	77.5	162	75	17.5	14	1	122	**538 961**	**FKC-32**
40	103	187.5	75	17.5	14	1	180	**538 962**	**FKC-40**
50	50 … 55	260	170	45	80	1	1,200	**545 240**	**FKC-50/63**
63	75 … 80	260	170	45	80	1	1,200	**545 240**	**FKC-50/63**

1) Corrosion resistance class 1 as per Festo standard 940 070
Components subject to low corrosion stress. 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.

Linear drives DGC-N

Accessories

FESTO

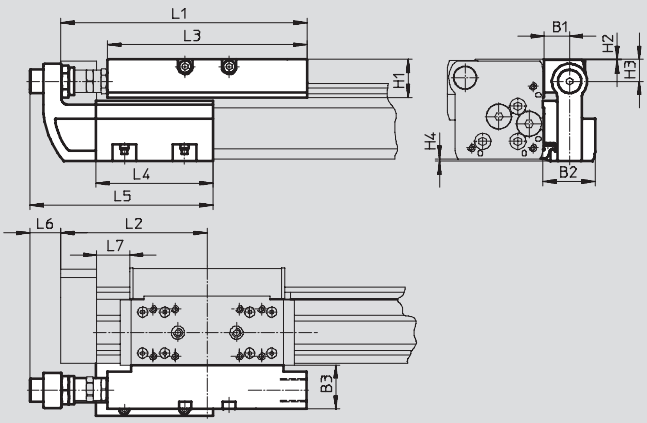
Shock absorber retainer DADP-DGC
Stop KYC
(order code: YWZ1 or YWZ2)
for DGC-N-GF, DGC-N-KF, DGC-N-FA

Materials: Stop
Housing: Anodised aluminium
Stop bracket: Stainless steel casting
Clamp: High-alloy steel
Free of copper and PTFE

Materials: Shock absorber retainer
Housing: Anodised aluminium
Free of copper and PTFE

Shock absorber retainer DADP

Stop KYC



Note

Shock absorbers not included in scope of delivery.
Existing shock absorbers can be removed from the end caps of the linear drive and installed in the shock absorber retainer.
Under no circumstances may the linear drive and the intermediate position module be operated without a shock absorber.

Dimensions

For ∅ [mm]		B1	B2	B3	H1	H2	H3	H4
18	GF	16	34.5	29	20.7	0.2	12.5	0.7
	KF							
25	GF	16.5	35	28	25.5	0.5	15	1.4
	KF			30				
32	GF	16.5	35	28	25.5	0.5	15	1.7
	KF			30				
40	GF	16	35.7	29	32	0.5	21.5	1.6
	KF			35	37			2
50	GF	25	50	41	40.5	0.5	24	0
	KF							
63	GF	25	50	40	51.5	1.5	33	0
	KF							

For ∅ [mm]		L1	L2	L3	L4	L5	L6	L7 min.
18	GF	128	74.5	107	80	118.5	23.5	14.5
	KF							
25	GF	168	100	136	80	125	20.5	22.5
	KF							
32	GF	206.8	124.8	164	120	165	14.5	42.8
	KF							27.3
40	GF	255	150	210	156	220.5	31	30.8
	KF							31
50	GF	301	175	252	170	238	27	31
	KF							
63	GF	328	200	256	200	268	24	41
	KF							

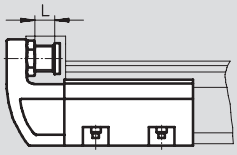
Linear drives DGC-N

Accessories

FESTO

Technical data and ordering codes

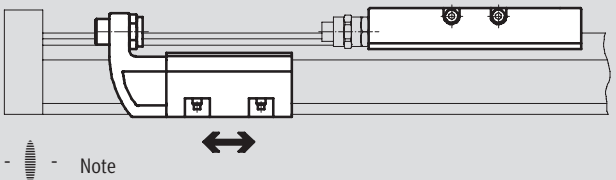
Precision adjustment



Note

The stop KYC can be used in both directions.

Installation example



Note

The stop KYC can be mounted at any position along the stroke.

For ∅ [mm]		Max. impact force [N]	Ambient temperature [°C]	CRC[1]	Weight [g]	Part No.	Type
Shock absorber retainer							
18	GF	1,100	–10 … +80	2	140	**541 725**	**DADP-DGC-18-GF**
	KF				130	**541 729**	**DADP-DGC-18-KF**
25	GF	1,400			205	**541 726**	**DADP-DGC-25-GF**
	KF				180	**541 730**	**DADP-DGC-25-KF**
32	GF	1,700			225	**541 727**	**DADP-DGC-32-GF**
	KF				215	**541 731**	**DADP-DGC-32-KF**
40	GF	3,500			380	**541 728**	**DADP-DGC-40-GF**
	KF				460	**541 732**	**DADP-DGC-40-KF**
50	GF	3,500			890	**545 244**	**DADP-DGC-50**
	KF						
63	GF	4,300			1,080	**545 245**	**DADP-DGC-63**
	KF						

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

For ∅ [mm]	Precision adjustment L [mm]	Ambient temperature [°C]	CRC[1]	Weight [g]	Part No.	Type
Stop						
18	10	–10 … +80	2	400	**541 691**	**KYC-18**
25	10			560	**541 692**	**KYC-25**
32	10			790	**541 693**	**KYC-32**
40	15			1,525	**541 694**	**KYC-40**
50	15			2,270	**545 242**	**KYC-50**
63	15			2,950	**545 243**	**KYC-63**

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Linear drives DGC-N

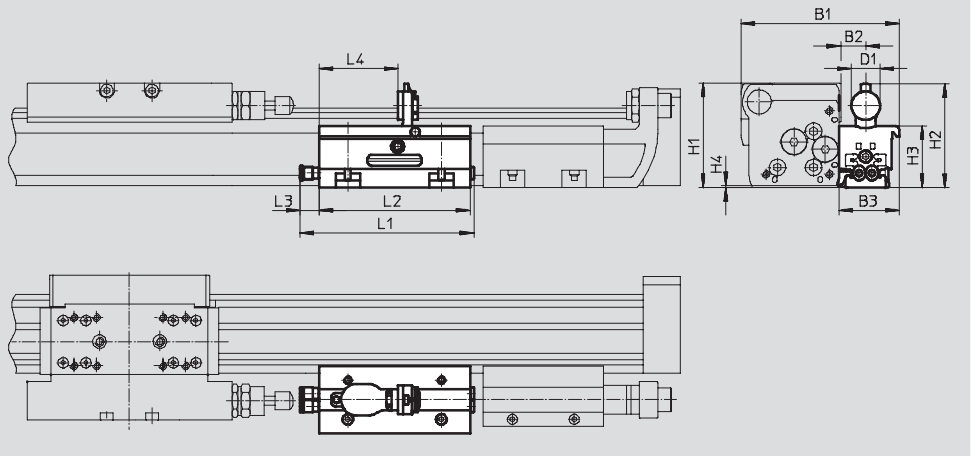
Accessories

FESTO

Intermediate position module DADM-DGC
(order code: Z1, Z2 or Z3)
for DGC-N-KF

Materials:
Housing: Anodised aluminium
Stop screw, nut: Galvanised steel

Clamp, lever:
High-alloy steel
Free of copper and PTFE

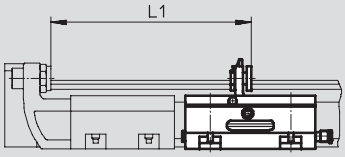


Dimensions

For ∅ [mm]	B1	B2	B3	D1	H1	H2	H3	H4	L1	L2	L3	L4
25	105	16.5	40	19	69.4	68.6	41	1.4	116	100	13.4	52.2
32	117.5	16.5	40	19	80.2	79.7	52	1.7	116	100	13.4	52.2
40	137.5	16	41	27	101.6	101.1	63	2.1	186	170	13.4	76.5

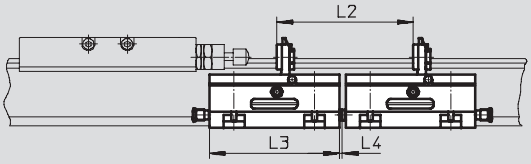
Minimum distance

between end stop and intermediate position



For ∅ [mm]	L1
25	145.3
32	185.3
40	271.5

between two intermediate positions



For ∅ [mm]	L2	L3	L4
25	105	100	2.5
32	105	100	2.5
40	175	170	2.5

Note

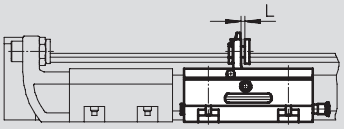
- Shock absorbers not included in scope of delivery.
  Existing shock absorbers can be removed from the end caps of the linear drive and installed in the shock absorber retainer.
  Under no circumstances may the linear drive and the intermediate position module be operated without a shock absorber.
- A shock absorber retainer DADP-DGC and a stop KYC are additionally needed when using an intermediate position module.
- The projection (dimension H4) must be observed when using the drive in combination with the intermediate position module DADM-DGC. Mounting via foot mountings HP or profile mountings MUC is recommended in this case.
- The stop lever positions can be sensed via proximity sensors SME/SMT-10 ➔ 73.

Linear drives DGC-N

Accessories

FESTO

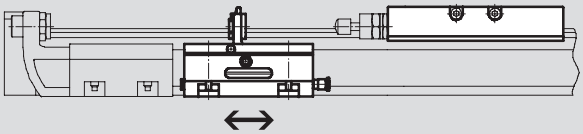
Precision adjustment L



Note

The intermediate position module DADM-DGC can be used in both directions. A shock absorber retainer DADP-DGC and a stop KYC are additionally needed when using an intermediate position module.

Installation example



Note

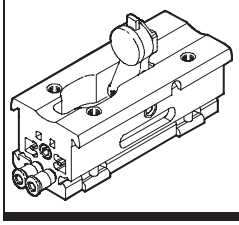
The intermediate position module DADM-DGC can be mounted at any position along the stroke.

Technical data

For ∅	[mm]	25	32	40
Pneumatic connection		QS-4		
Operating pressure	[bar]	2.5 ... 8		
Mounting position		Any		
Impact velocity	[m/s]	→ 47		
Swivel time	[ms]	≤100	≤100	≤300
Precision adjustment L	[mm]	2	2	4
Repetition accuracy	[mm]	0.02		
Position sensing		Via proximity sensor SME/SMT-10		
Weight	[g]	430	530	970
Ambient temperature	[°C]	–10 ... +60		
Corrosion resistance class CRC[1)]		2		
Note on materials		Free of copper and PTFE		
		RoHS-compliant		–

1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. 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.

Ordering data

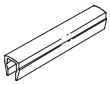
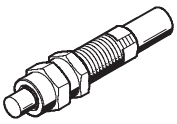
	For ∅ [mm]	Part No.	Type
	25	**541 700**	**DADM-DGC-25-A**
	32	**541 701**	**DADM-DGC-32-A**
	40	**541 702**	**DADM-DGC-40-A**

Linear drives DGC-N

Accessories

FESTO

Ordering data

	For ∅	Comment	Order code	Part No.	Type	PU[1]
Slot nut HMBN					Technical data ➔ Internet: hmbn	
	25 … 40	For mounting slot	B	**547 264**	**HMBN-5-1M5**	10
	50, 63			**186 566**	**HMBN-5-2M5**	
Centring pin/sleeve ZBS/ZBH					Technical data ➔ Internet: zbs, zbh	
	8 … 18	For slide	–	**150 928**	**ZBS-5**	10
	25 … 63			**150 927**	**ZBH-9**	
	8, 12	For end cap	–	**525 273**	**ZBS-2**	
	18			**150 928**	**ZBS-5**	
	25 … 63			**150 927**	**ZBH-9**	
Slot cover ABP-S					Technical data ➔ Internet: abp	
	18 … 63	For sensor slot every 0.5 m	L	**151 680**	**ABP-5-S**	2
Shock absorber YSRW					Technical data ➔ Internet: ysrw	
	8	For DGC basic design and recirculating ball bearing guide	YSRW	**540 344**	**YSRW-DGC-8**	1
	12			**540 345**	**YSRW-DGC-12**	
	18	For DGC with plain-bearing guide		**540 346**	**YSRW-DGC-18-GF**	
	25			**540 348**	**YSRW-DGC-25-GF**	
	32			**540 350**	**YSRW-DGC-32-GF**	
	40			**540 352**	**YSRW-DGC-40-GF**	
	50			**540 353**	**YSRW-DGC-40/50**	
	63			**543 069**	**YSRW-DGC-63**	
	18	For DGC with recirculating ball bearing guide		**540 347**	**YSRW-DGC-18-KF**	
	25			**540 349**	**YSRW-DGC-25-KF**	
	32			**540 351**	**YSRW-DGC-32-KF**	
	40			**540 353**	**YSRW-DGC-40/50**	
	50					
	63			**543 069**	**YSRW-DGC-63**	
One-way flow control valve GRLA					Technical data ➔ Internet: grla	
	8 … 18	Metal design	–	**165 008**	**GRLA-10-32-UNF-QS-5/32-U**	1
				192 753	**GRLA-10-32-UNF-QS-1/4-U**	
	25, 32			**165 009**	**GRLA-1/8-NPT-QS-5/32-U**	
				165 010	**GRLA-1/8-NPT-QS-1/4-U**	
	40, 50			**165 011**	**GRLA-1/4-NPT-QS-1/4-U**	
				165 014	**GRLA-1/4-NPT-QS-5/16-U**	
				190 947	**GRLA-1/4-NPT-QS-3/8-U**	
	63			**165 012**	**GRLA-3/8-NPT-QS-1/4-U**	
				165 015	**GRLA-3/8-NPT-QS-5/16-U**	
				190 950	**GRLA-3/8-NPT-QS-3/8-U**	

1) Packaging unit quantity

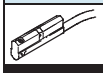
Linear drives DGC-N

Accessories

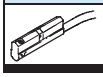
FESTO

Proximity sensors for piston ∅ 8/12 and intermediate position module DADM

Ordering data – Proximity sensors for C-slot, magneto-resistive — Technical data ➔ Internet: smt

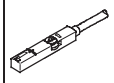
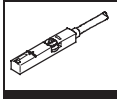
	Type of mounting	Switching output	Electrical connection, connection direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in slot lengthwise	PNP	Plug M8x1, 3-pin, in-line	0.3	**173 220**	**SMT-10-PS-SL-LED-24**
			Cable, 3-wire, in-line	2.5	**173 218**	**SMT-10-PS-KL-LED-24**

Ordering data – Proximity sensors for C-slot, magnetic reed — Technical data ➔ Internet: sme

	Type of mounting	Switching output	Electrical connection, connection direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in slot lengthwise	Contacting	Plug M8x1, 3-pin, in-line	0.3	**173 212**	**SME-10-SL-LED-24**
			Cable, 3-wire, in-line	2.5	**173 210**	**SME-10-KL-LED-24**

Proximity sensors for piston ∅ 18 … 63

Ordering data – Proximity sensors for T-slot, magneto-resistive — Technical data ➔ Internet: smt

	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in slot from above, flush with cylinder profile	PNP	Cable, 3-wire	2.5	**543 867**	**SMT-8M-PS-24V-K-2,5-OE**
			Plug M8x1, 3-pin	0.3	**543 866**	**SMT-8M-PS-24V-K-0,3-M8D**
			Plug M12x1, 3-pin	0.3	**543 869**	**SMT-8M-PS-24V-K-0,3-M12**
		NPN	Cable, 3-wire	2.5	**543 870**	**SMT-8M-NS-24V-K-2,5-OE**
			Plug M8x1, 3-pin	0.3	**543 871**	**SMT-8M-NS-24V-K-0,3-M8D**
	Insertable in slot lengthwise, flush with cylinder profile	PNP	Cable, 3-wire	2.5	**175 436**	**SMT-8-PS-K-LED-24-B**
			Plug M8x1, 3-pin	0.3	**175 484**	**SMT-8-PS-S-LED-24-B**
N/C contact						
	Insertable in slot from above, flush with cylinder profile	PNP	Cable, 3-wire	7.5	**543 873**	**SMT-8M-PO-24V-K7,5-OE**

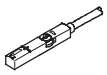
Linear drives DGC-N

Accessories

FESTO

Proximity sensors for piston ∅ 18 ... 63

Ordering data – Proximity sensors for T-slot, magnetic reed — Technical data ➔ Internet: sme

	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in slot from above, flush with cylinder profile	Contacting	Cable, 3-wire	2.5	**543 862**	**SME-8M-DS-24V-K-2,5-OE**
				5.0	**543 863**	**SME-8M-DS-24V-K-5,0-OE**
			Cable, 2-wire	2.5	**543 872**	**SME-8M-ZS-24V-K-2,5-OE**
			Plug M8x1, 3-pin	0.3	**543 861**	**SME-8M-DS-24V-K-0,3-M8D**
	Insertable in slot lengthwise, flush with cylinder profile	Contacting	Cable, 3-wire	2.5	**150 855**	**SME-8-K-LED-24**
			Plug M8x1, 3-pin	0.3	**150 857**	**SME-8-S-LED-24**
N/C contact						
	Insertable in slot lengthwise, flush with cylinder profile	Contacting	Cable, 3-wire	7.5	**160 251**	**SME-8-O-K-LED-24**

Ordering data – Connecting cables — Technical data ➔ Internet: nebu

	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	**541 333**	**NEBU-M8G3-K-2.5-LE3**
			5	**541 334**	**NEBU-M8G3-K-5-LE3**
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	**541 363**	**NEBU-M12G5-K-2.5-LE3**
			5	**541 364**	**NEBU-M12G5-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**
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	**541 367**	**NEBU-M12W5-K-2.5-LE3**
			5	**541 370**	**NEBU-M12W5-K-5-LE3**