Linear drives DGC

FESTO

Linear drives DGC

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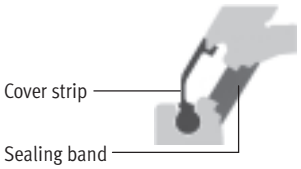
Linear drives DGC

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-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

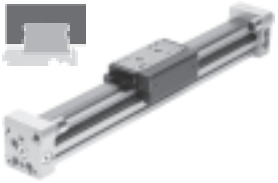
Plain-bearing guide DGC-GF

- 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-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-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-FA

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

Passive guide axis with protected guide DGC-FA-GP

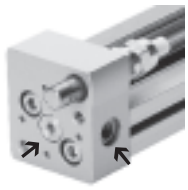
- Without drive
- Piston ∅ 18 ... 40 mm
- Stroke lengths from 1 ... 8,500 mm
- Guide backlash = 0 mm
- The protected guide cleans the guide rail and protects the recirculating ball bearing guide by means of an additional wiper seal and lubrication unit

Linear drives DGC

Key features

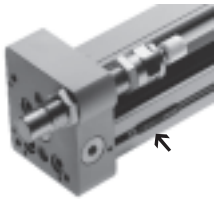
Versatile

1 Supply ports



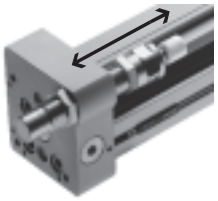
- Optional on two faces (on the end face or from the front)
- For DGC-G/DGC-GF/DGC-KF

2 Proximity sensor G/H/I/J



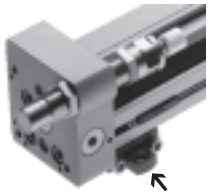
- Proximity sensors can be integrated, which means there is no projection. Cable can be guided through the slot behind a second sensor
- For DGC-G/DGC-GF/DGC-KF

3 Precision end position adjustment



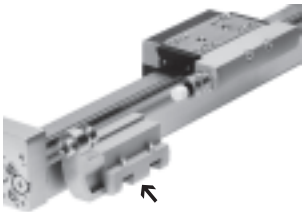
- Between 0 ... 25 mm per side
- For DGC-GF/DGC-KF/DGC-FA

4 Profile mounting M



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

5 Mechanical end position limiter YWZ

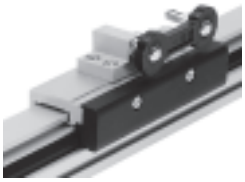


- For variable end position adjustment, e.g. for format adjustments
- The end stop can be mounted at any position within the stroke
- For DGC-GF/DGC-KF/DGC-FA

6 Intermediate position Z1/Z2/Z3

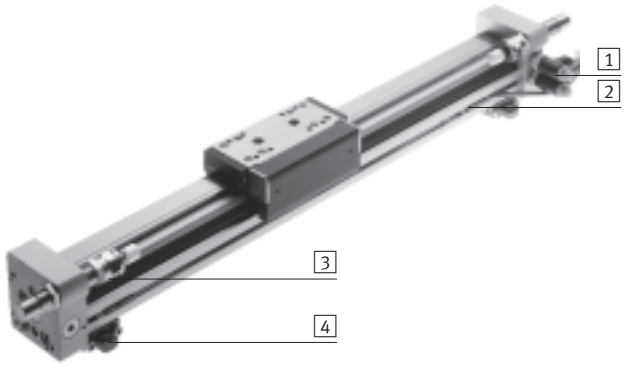
- Permits variable intermediate positions
- The intermediate position module can be mounted at any position within the stroke
- Precision repetition accuracy (0.02 mm) with highly dynamic response
- For DGC-KF

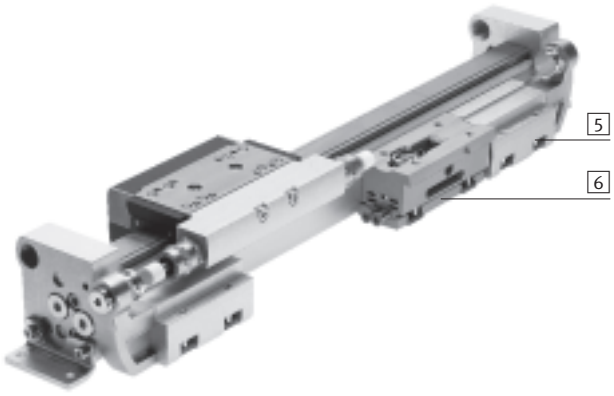
Driver FK



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

Example

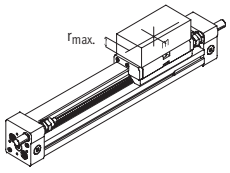


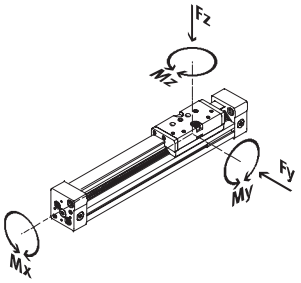


Linear drives DGC

Key features

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-G									
	8	30	0.06 / 25	150	150	0.5	2	2	10
	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-GF									
	18	153	3 / 35	440	540	3.4	20	8.5	26
	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-KF/DGC-KF-GP									
	8	30	0.7 / 25	300	300	1.7	4.5	4.5	42
	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-FA/DGC-FA-GP									
	8	0	0.7 / 25	300	300	1.7	4.5	4.5	77
	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	

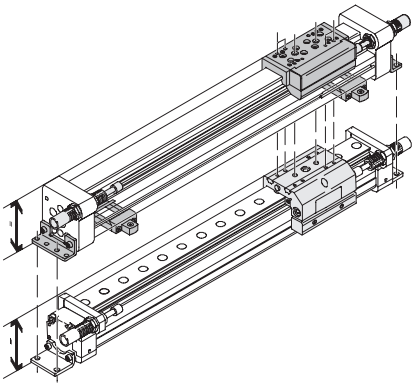
1) At v = 0.5 m/s with shock absorber YSR or YSRW

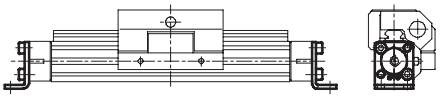
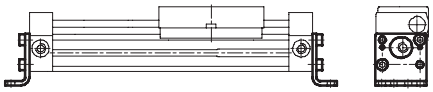
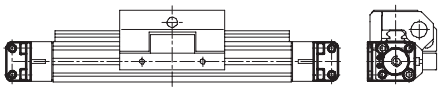
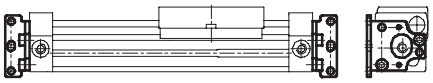
Linear drives DGC

Key features

Interchangeability with linear drive DGPL

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

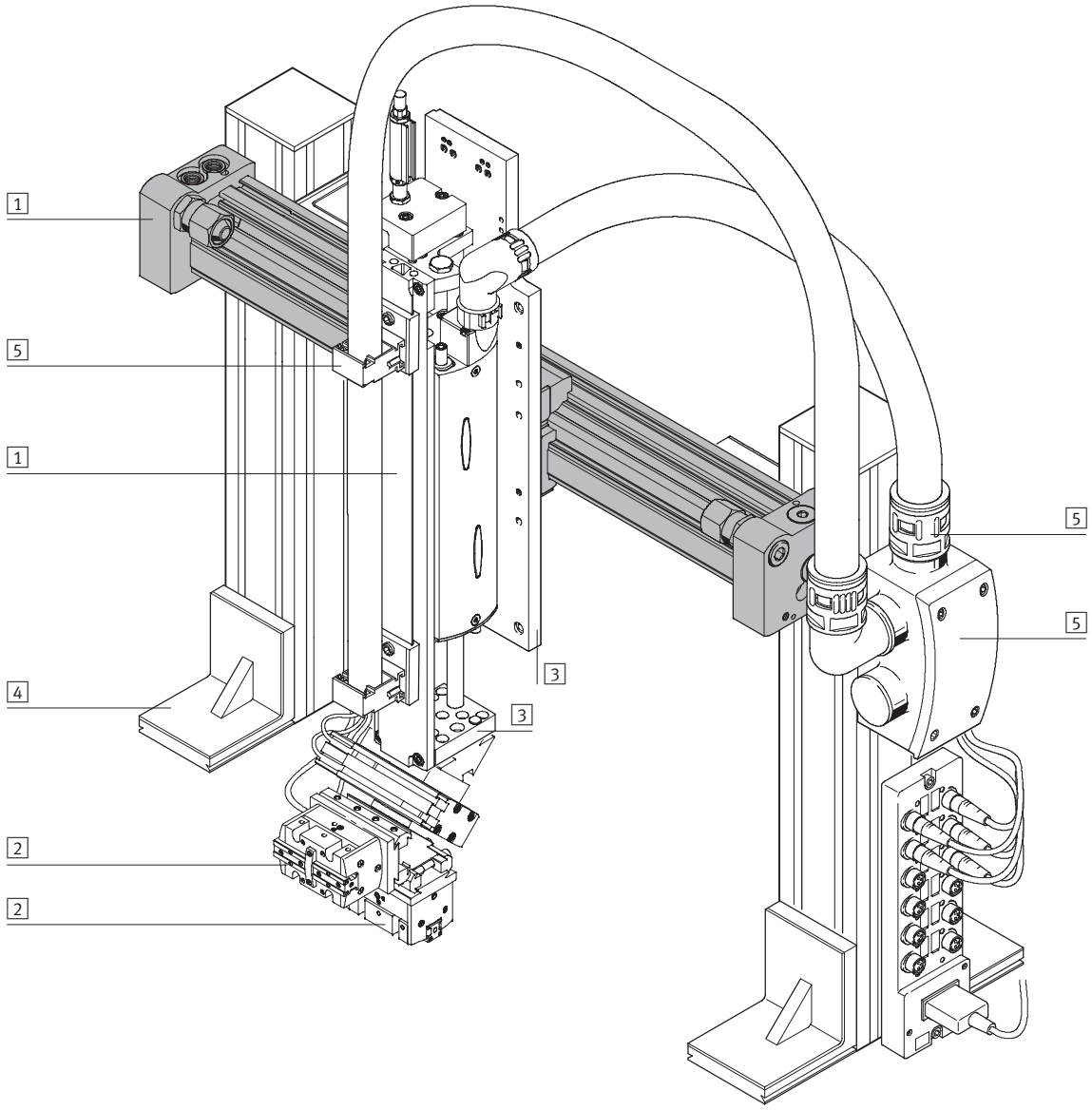


Slide position	Linear drive DGPL	Linear drive DGC-GF/-KF	Foot mounting required ➔ 62
Top			Type HPC-...-SO/ HPC-...-S
Rear			Type HPC-...-SH/ HPC-...-S

Alternatives

Electro-mechanical drives		Rodless cylinders, magnetically coupled
Toothed belt axes DGE-ZR	Spindle axes DGE-SP	Linear drives DGO
		
Advantages: Positioning drive for approaching several positions ➔ Internet: dge-zr	Positioning drive for approaching several positions ➔ Internet: dge-sp	Hermetically sealed drive ➔ Internet: dgo

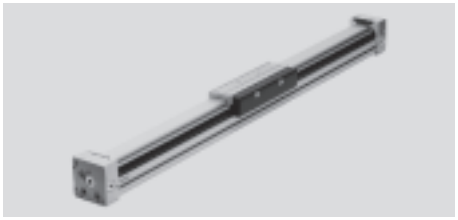
System product for handling and assembly technology



Linear drives DGC

Key features

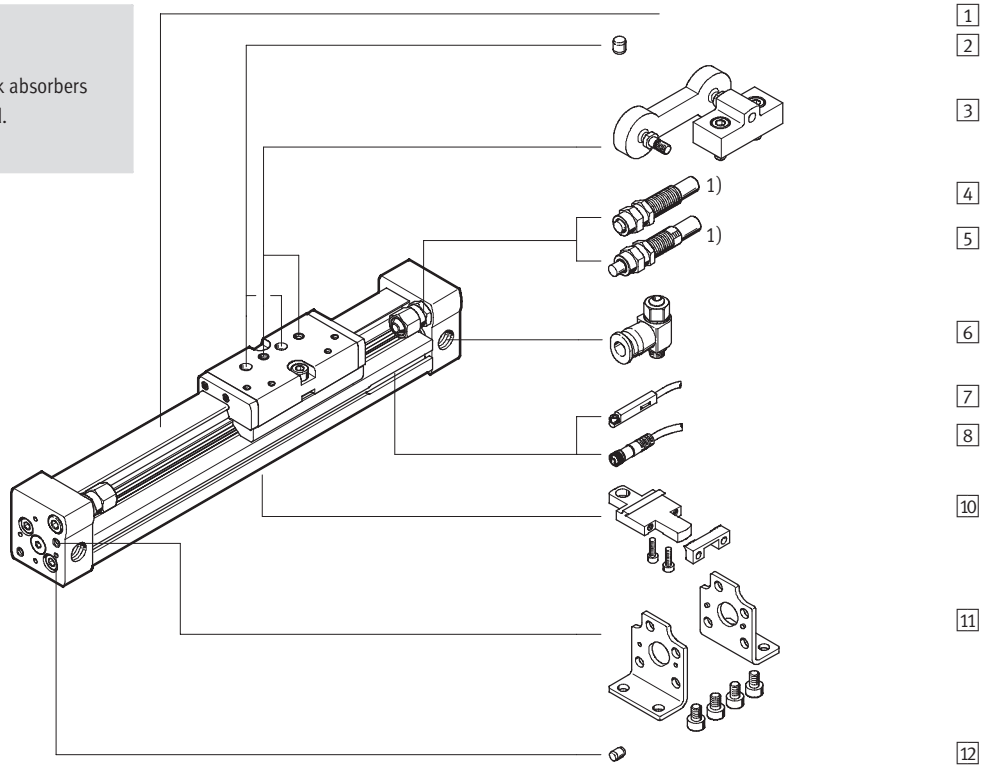
System elements and accessories			
		Brief description	**➔ Page/Internet**
1	Drive units	Wide range of combinations possible within handling and assembly technology	drive
2	Grippers	Diverse variation options in handling and assembly technology	gripper
3	Adapters	For drive/drive and drive/gripper combinations	adapter kit
4	Basic mounting components	Profiles and profile connectors as well as profile/drive connectors	basic component
5	Installation components	For achieving a clear-cut, safe layout for electrical cables and tubing	installation component
–	Axes	Wide range of combinations possible within handling and assembly technology	axes
–	Motors	Servo and stepper motors, with or without gear unit	motor



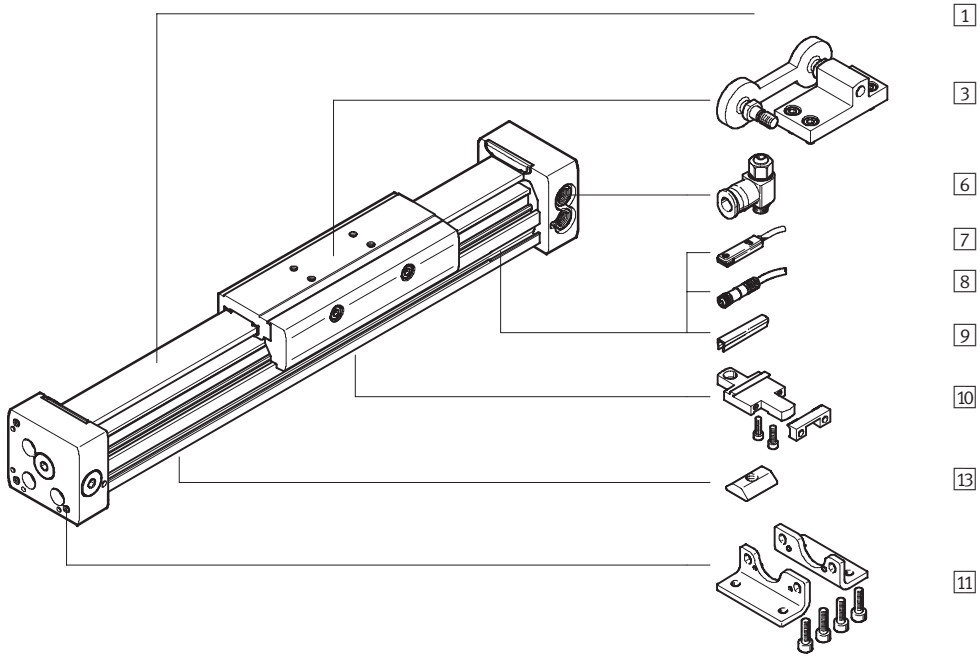
DGC-8/-12

- Note

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



DGC-18 ... 63



Linear drives DGC-G

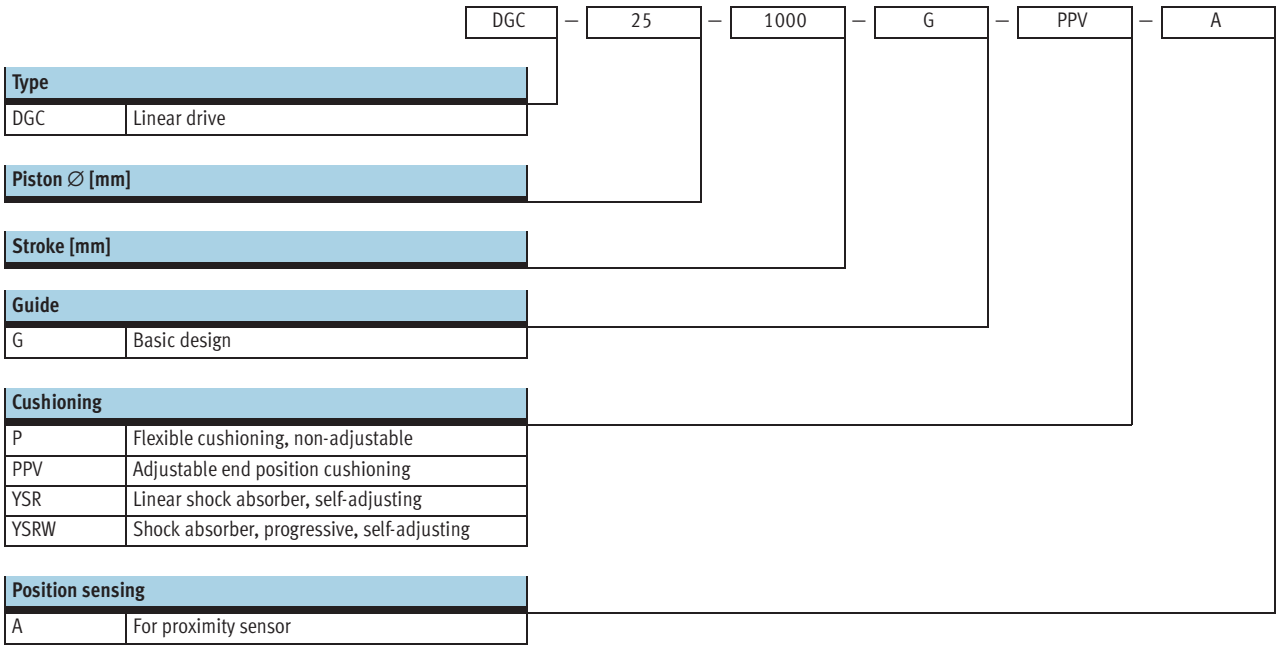
Peripherals overview

Variants and accessories				
	Type	**For piston ∅**	**Brief description**	**➔ Page/Internet**
1	Linear drive DGC-G	8 … 63	Linear drive without accessories, basic design	14
2	Centring pin[1)] ZBS	8, 12	For centring loads and attachments on the slide	74
3	Driver FK	8 … 63	Compensates inaccuracies in the mounting of the linear drive and external guide	68
–	Cushioning P	8, 12	Non-adjustable, flexible cushioning. Used only at low speeds	25
–	Cushioning PPV	18 … 63	Adjustable pneumatic end position cushioning. Used at medium speeds	25
4	Shock absorber YSR	8, 12	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic	25
5	Shock absorber YSRW	8, 12	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic	25
6	One-way flow control valve GRLA	8 … 63	For regulating speed	74
7	Proximity sensor G/H/I/J	8 … 63	For sensing the slide position	75
8	Cable with socket V	8 … 63	For proximity sensor	75
9	Slot cover L	18 … 63	For protecting against ingress of dirt and securing proximity sensor cables	74
10	Profile mounting M	8 … 63	Simple and precise mounting option via dovetail connection	66
11	Foot mounting F	8 … 63	For mounting on end cap	62
12	Centring pin[1)] ZBS	8, 12	For centring the drive without foot mountings (user-specific)	74
13	Slot nut B	25 … 63	For mounting attachments	74

1) Included in the scope of delivery of the drive

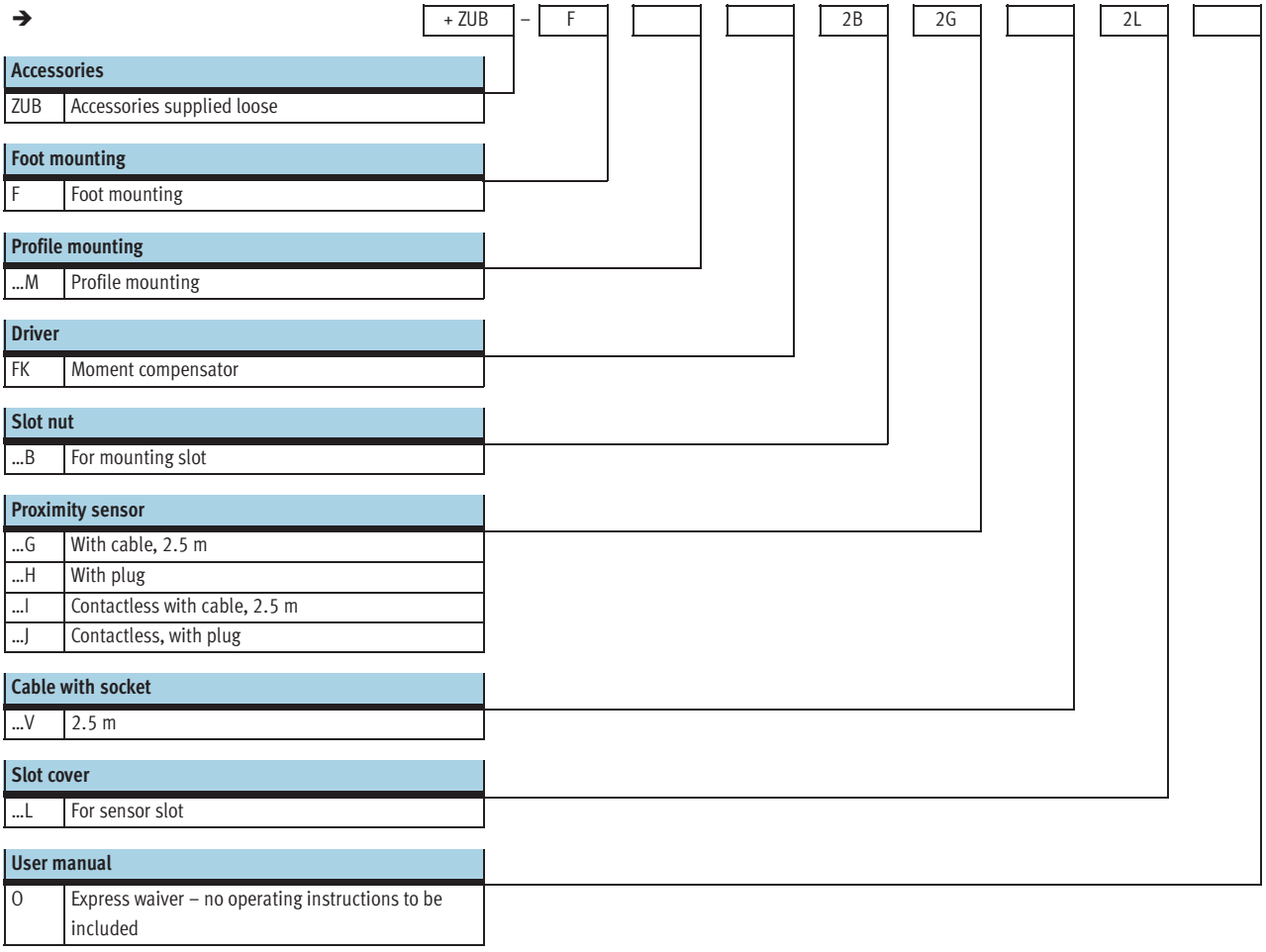
Linear drives DGC-G

Type codes



Linear drives DGC-G

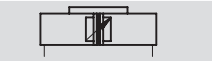
Type codes



Linear drives DGC-G

Technical data

Function

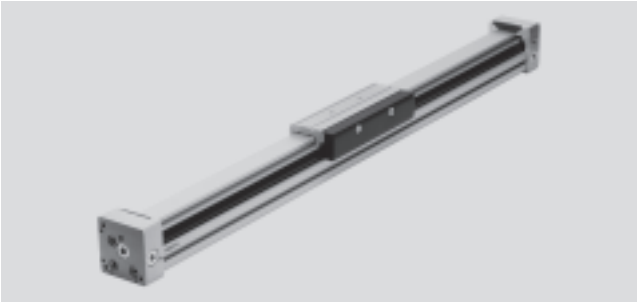


Diameter
8 ... 63 mm

Stroke length
1 ... 8,500 mm

www.festo.com

Wearing parts kits
➔ 25



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			G1⁄8		G1⁄4		G3⁄8
Mode of operation		Double-acting							
Design		Rodless drive							
Driver principle		Slotted cylinder, mechanically coupled							
Guide		Basic design							
Mounting position		Any							
Cushioning ➔17	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		For 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.

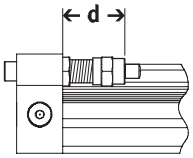
Operating and environmental conditions									
Piston ∅		8	12	18	25	32	40	50	63
Operating pressure	[bar]	2.5 ... 8		2 ... 8			1.5 ... 8		
Operating medium		Filtered compressed air, lubricated or unlubricated							
Ambient temperature[1]	[°C]	+5 ... +60	–10 ... +60						
Corrosion resistance class CRC[2]		2							
Certification		C-Tick							

1) Note operating range of proximity sensors
2) Corrosion resistance class 2 to 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.

Forces [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 end positions	➔ 17							

Weights [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

Adjustable end position range d [mm]



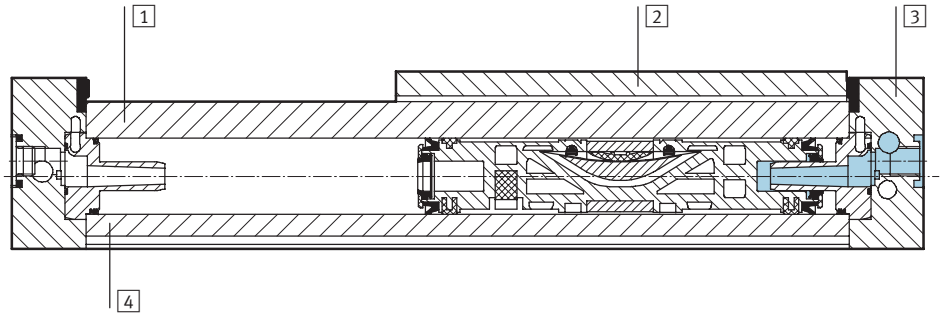
Note

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

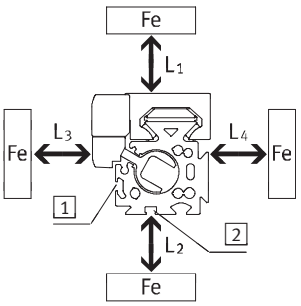


Linear drives		
1	Guide rail	Anodised aluminium
2	Slide	Anodised aluminium
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
–	Piston seal	Polyurethane
–	Sealing band/cover strip	Polyurethane
–	Slide elements	Polyacetate

Influence of ferritic materials on proximity sensors

Ferritic materials (steel parts or panels) directly next to the proximity sensors can cause sensing malfunctions. The following safety distances must be observed.

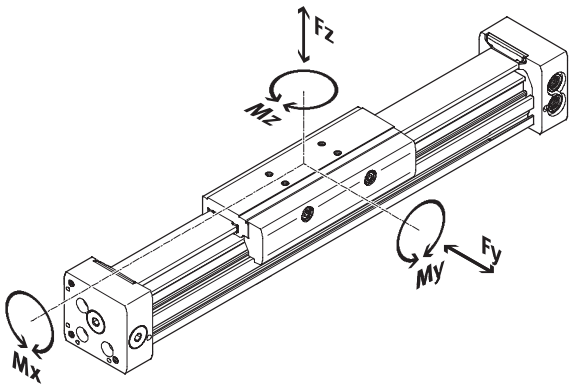
The distance depends on the position of the proximity sensor (see 1 and 2).



Piston ∅			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

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



- - Note

In order to avoid frictional restraint of the guide in the case of the basic drive DGC-G when used in vertical mode and with a high torque load, the variant with the recirculating ball bearing guide DGC-KF ➔ 42 is recommended.

If the drive is subjected to more than two of the indicated forces and torques simultaneously, 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

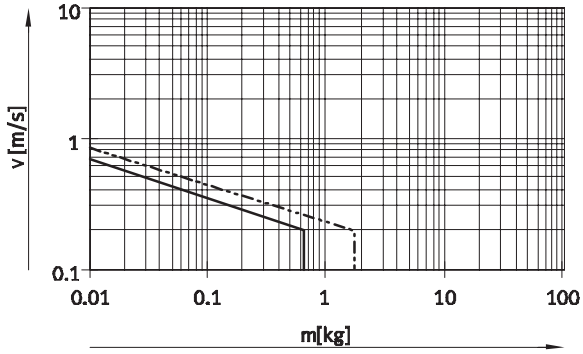
Piston ∅		8	12	18	25	32	40	50	63
$Fy_{max.}$	[N]	150	300	70	180	250	370	480	650
$Fz_{max.}$	[N]	150	300	340	540	800	1,100	1,600	2,000
$Mx_{max.}$	[Nm]	0.5	1.3	1.9	4	9	12	20	26
$My_{max.}$	[Nm]	2	5	12	20	40	60	150	150
$Mz_{max.}$	[Nm]	2	5	4	5	12	25	37	48

- - Note

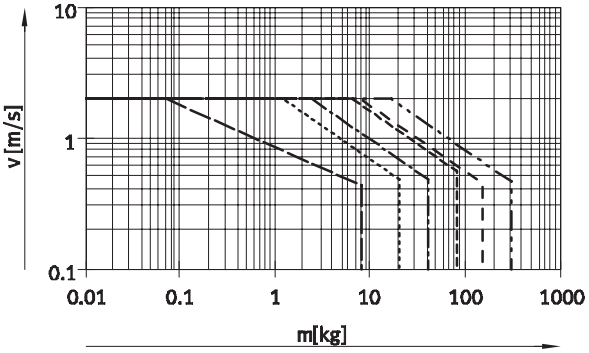
Sizing software
ProDrive
➔www.festo.com

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

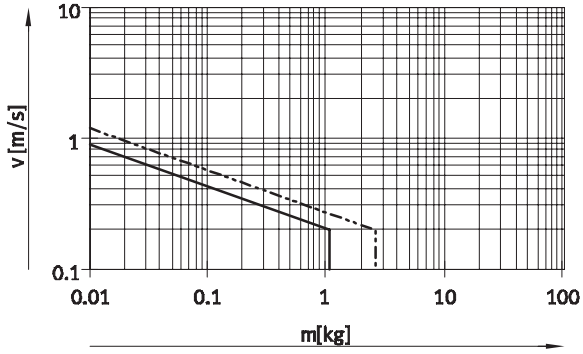
Piston ∅ 8/12 with P cushioning



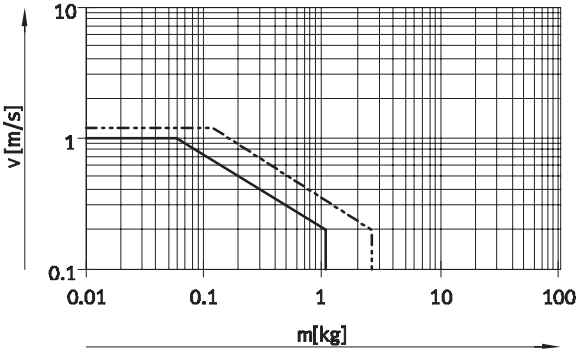
Piston ∅ 18 ... 63 with PPV cushioning



Piston ∅ 8/12 with YSR cushioning



Piston ∅ 8/12 with YSRW cushioning



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

Note

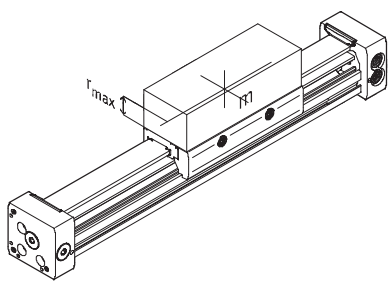
This data represents the maximum values that can be achieved. Values fluctuate in practice relative to the position of the effective load and mounting position.

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.



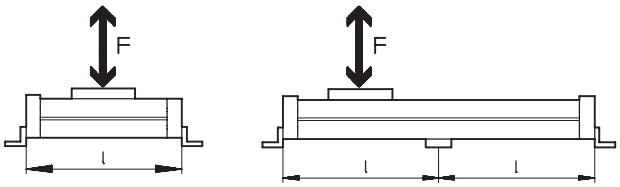
Data for horizontal mounting position:

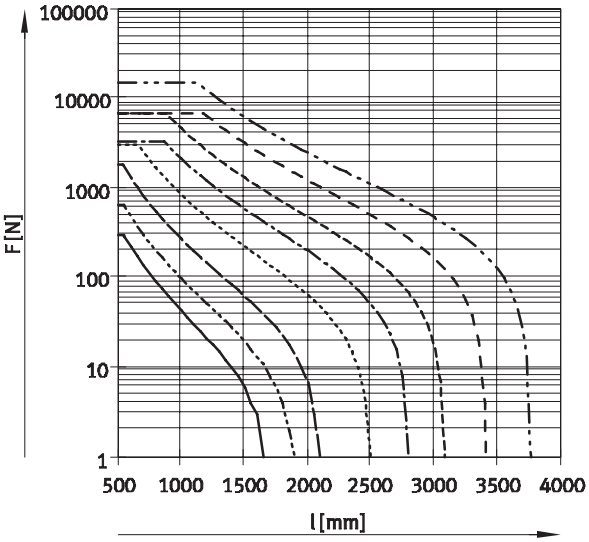
Piston ∅		8	12	18	25	32	40	50	63
Distance $r_{max.}$	[mm]	25	35	35	50	50	50	50	50

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

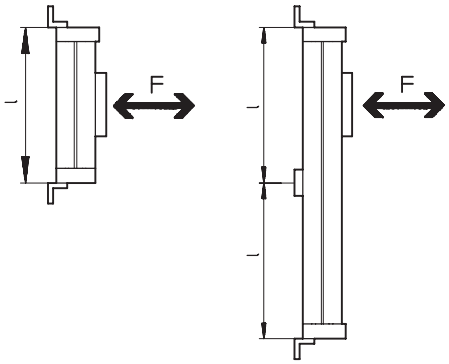
In order to limit deflection in the case of large strokes, the drive may need to be supported. The following diagrams serve to determine the maximum permissible support span as a function of the mounting position and the perpendicular force.

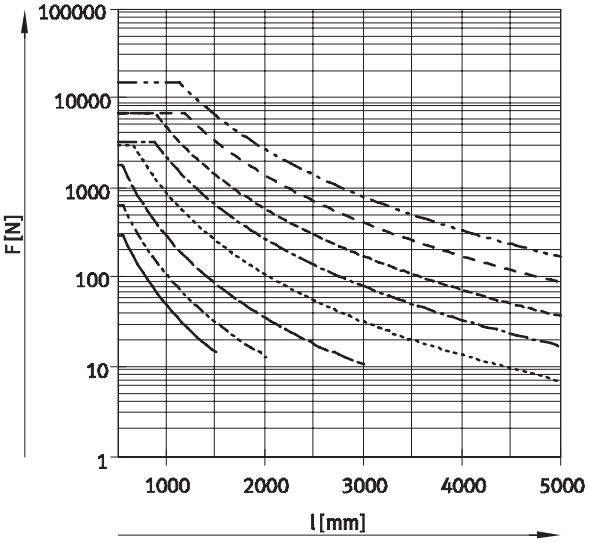
Horizontal mounting position

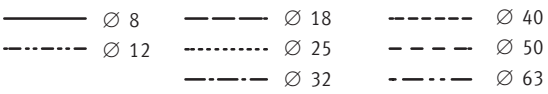




Vertical mounting position







Example:

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

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

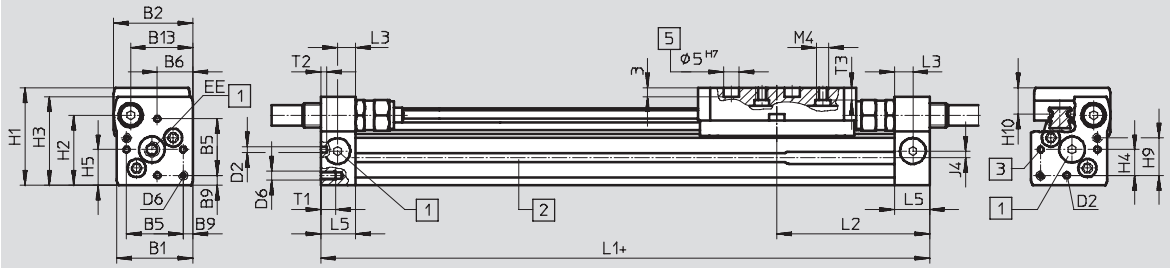
According to the diagram, the max. support span is 1,300 mm for the drive DGC-25 with a force of 300 N.

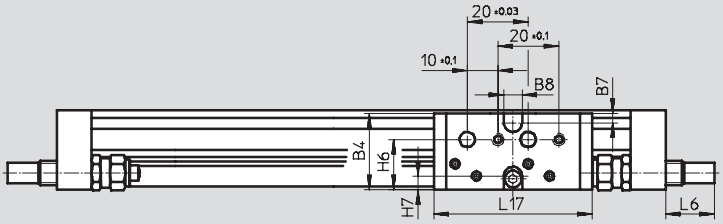
In this example, profile mountings are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).

Dimensions

Download CAD data ➔ **www.festo.com**

∅ 8 and 12





\+ plus stroke length
1 Supply port optional on three faces
2 Sensor slot for proximity sensor
3 Mounting hole for foot mounting or centring pin
5 Hole for centring pin ZBS

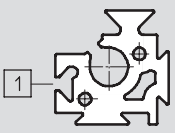
∅ [mm]	B1	B2	B4	B5	B6	B7	B8 ±0.05	B9 ±0.1	B13	D2 ∅ H8	D6	EE
8	25	26	25.5	18.6	11.7	3	6	3.2	20.5	2	M3	M5
12	30.2	31	30.5	20.6	13.5	3	8	4.8	25	2	M4	M5

∅ [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

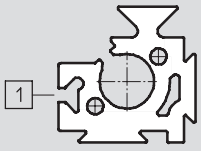
∅ [mm]	L3	L5	L6			L17	T1	T2	T3	Stroke tolerance
			P	YSR	YSRW					
8	6	11.5	0	16	16.2	52	5	2	4	0 ... 1.7
12	8	16	0	11.3	12.3	65	6	2	5	

Profile barrel

∅ 8



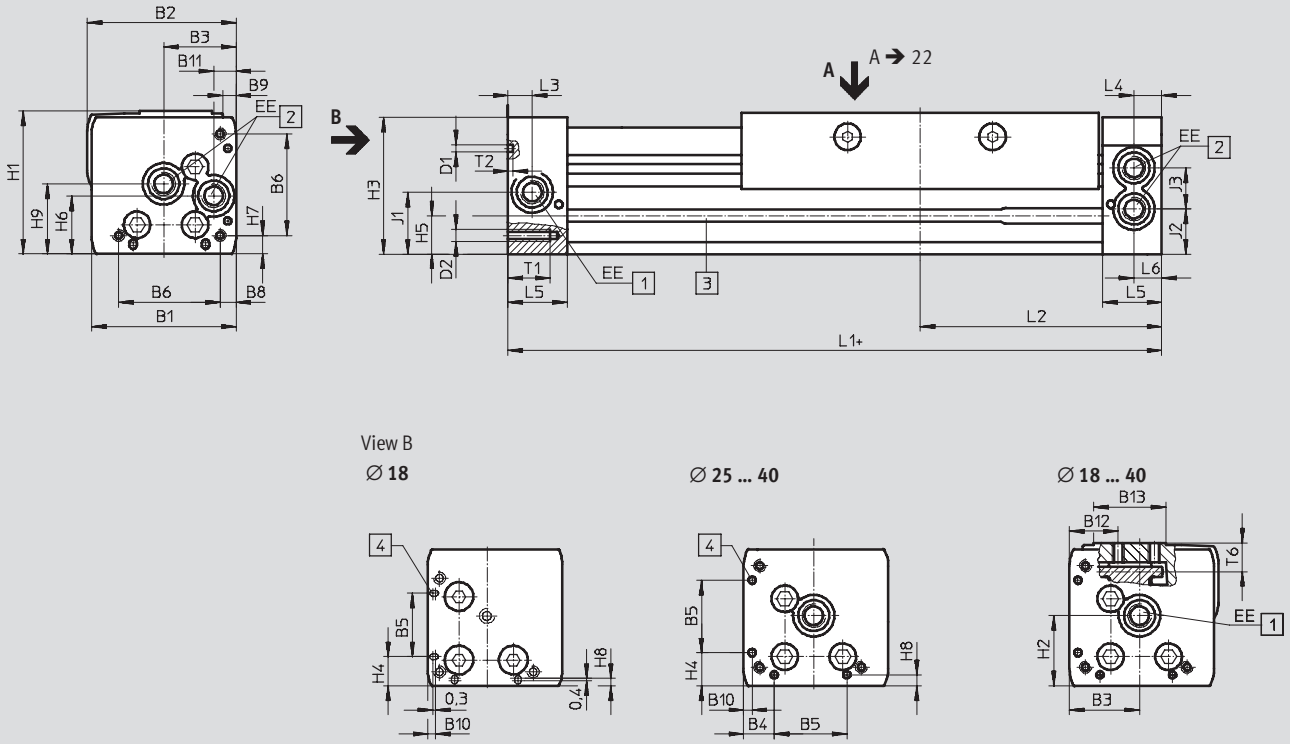
∅ 12



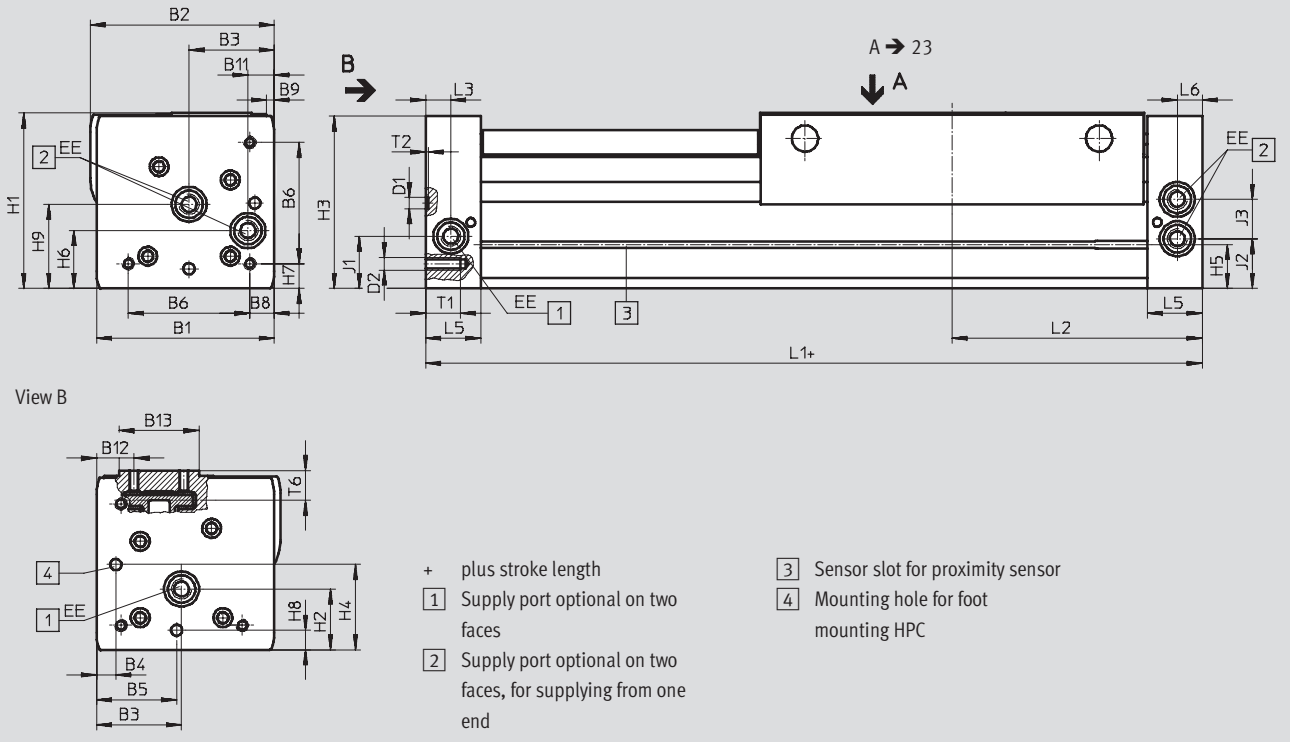
1 Sensor slot for proximity sensor

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

∅ 18 ... 40



∅ 50/63



\+ plus stroke length
1 Supply port optional on two faces
2 Supply port optional on two faces, for supplying from 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
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	49.8	23.1
25	3.5	9.3	20.15	30	3±0.05	M5	G1/8	58.5	29
32	14	14.9	20.5	35	3±0.05	M6	G1/8	73	30
40	8	16.5	19.8	45	4±0.05	M6	G1/4	88	41.5
50	–	21	24	64	9^{H7}	M8	G1/4	120	38.5
63	–	21	30	64	9^{H7}	M10	G3/8	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

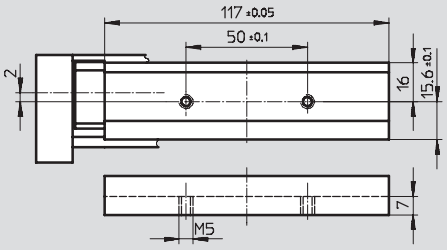
∅ [mm]	J3	L1 +0.9/–0.2	L2	L3	L4	L5	L6	T1	T2	T6	Stroke tolerance
18	11	150	74.5	5.7	5.8	15	5.5	9	2	10.7	0 … 2.5
25	17	200	100	10.5	10.6	24.5	10.6	17.5	2	12	
32	18.5	250	124.8	14.5	14.5	30.5	14.5	15	2	13.8	
40	26	300	150	14.6	14.6	33.5	14.6	20	3	16.8	
50	28	350	175	17	–	41	17	24	$2.1^{+0.2}$	20.75	
63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

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

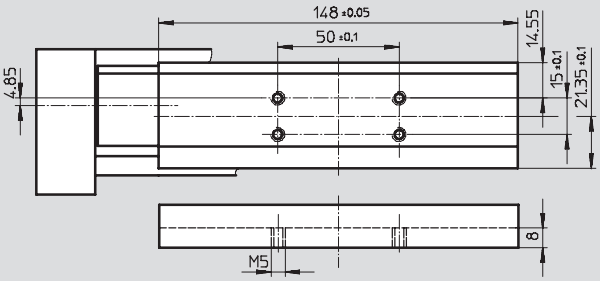
Dimensions Download CAD data ➔ **www.festo.com**

Slide – View A

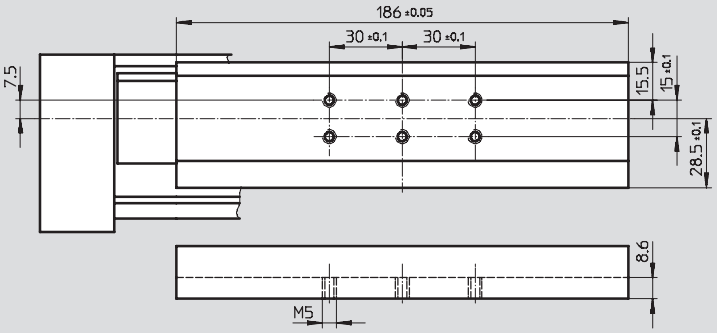
Ø 18



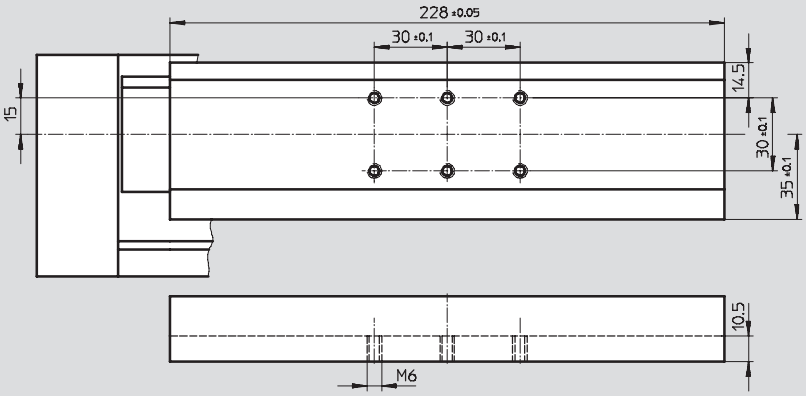
Ø 25



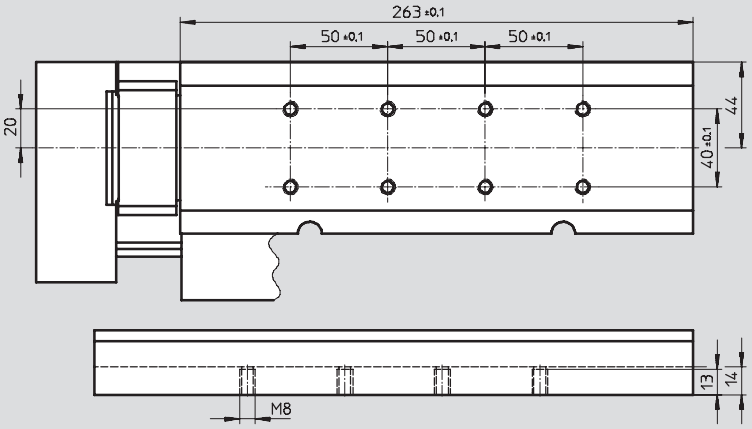
Ø 32



Ø 40



Ø 50



Dimensions

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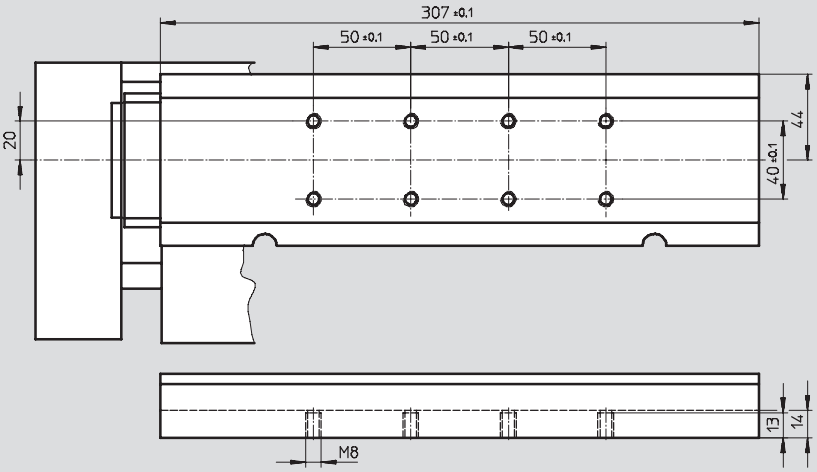
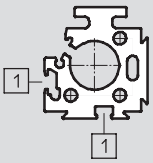
Slide – View A

∅ 63

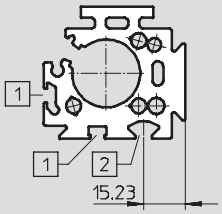


Profile barrel

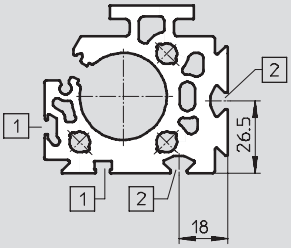
∅ 18



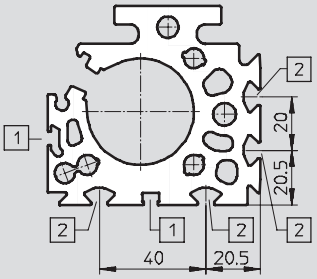
∅ 25



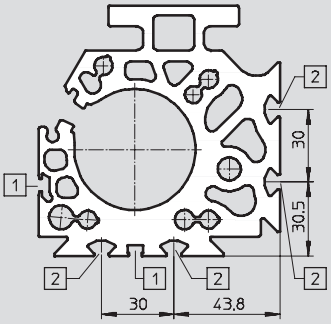
∅ 32



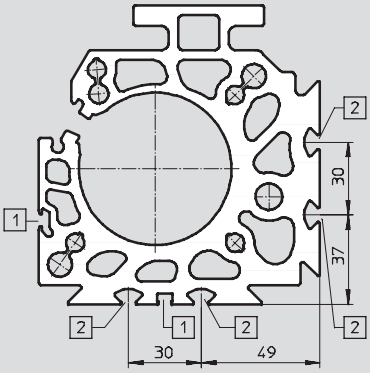
∅ 40



∅ 50



∅ 63



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

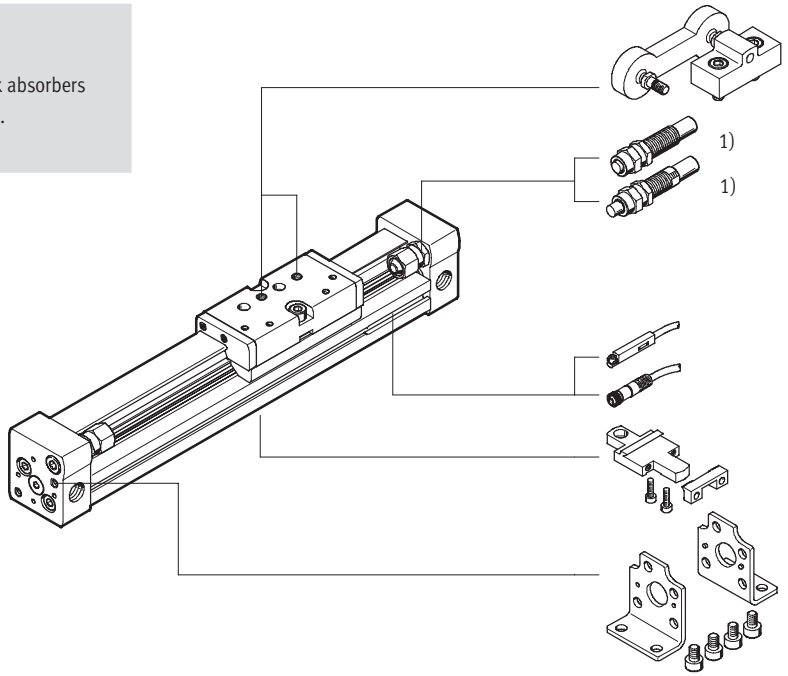
Order code

Mandatory data/options

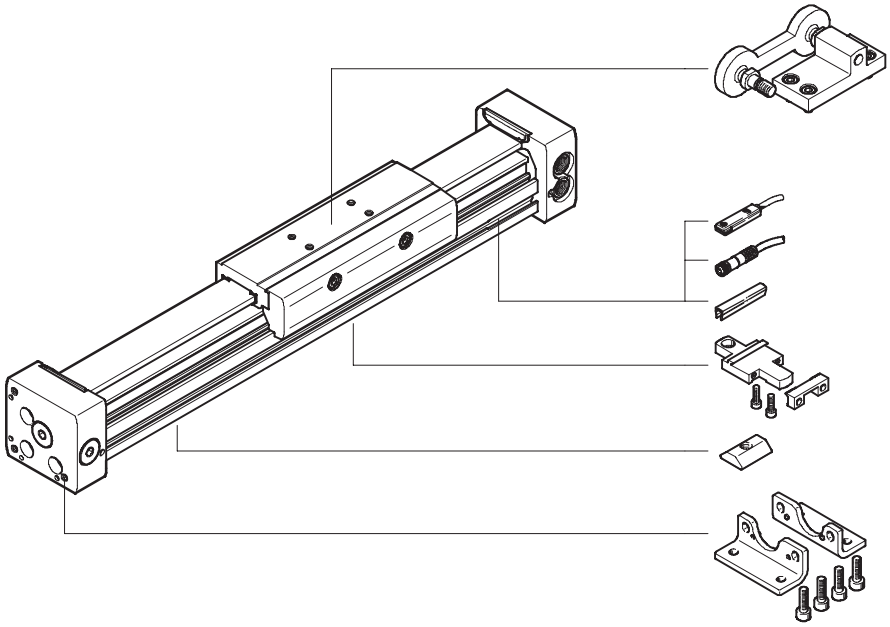
DGC-8/-12

- Note

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



DGC-18 … 63



M Mandatory data							O Options		
Module No.	Function		Stroke		Cushioning		Accessories		
	Piston ∅		Guide		Position sensing		Accessories supplied loose		User manual
530 906	DGC	8	1 … 8500	G	P	A		F, …M,	O
530 907		12			PPV			FK, …B,	
532 446		18			YSR			…G, …H,	
532 447		25			YSRW			…I, …J,	
532 448		32						…V, …L	
532 449		40							
532 450		50							
532 451		63							
Order example									
530 906	**DGC**	**– 8**	**– 300**	**– G**	**– P**	**– A**	**ZUB**	**– F2M**	**–**

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
	Piston ∅	[mm]	8	12	18	25	32	40	50	63		**-…**		
	Stroke	[mm]	1 … 1500	1 … 2000	1 … 3000	1 … 8500			1 … 5000			**-…**		
	Guide		Basic design									**-G**		-G
	Cushioning	At both ends	Flexible cushioning rings/plates		–	–	–	–	–	–		**-P**		
		Adjustable at both ends	–	–	Pneumatic cushioning							**-PPV**		
		Self-adjusting	Shock absorber		–	–	–	–	–	–		**-YSR**		
			Shock absorber, progressive		–	–	–	–	–	–		**-YSRW**		
	Position sensing		For proximity sensor									**-A**		-A
O	Accessories		Supplied loose (can be retrofitted)									**ZUB-**		ZUB-
	Foot mounting		1									**F**		
	Profile mounting		1 … 9									**…M**		
	Driver		Moment compensator									**FK**		
	Slot nut for mounting slot		–	–	–	1 … 9						**…B**		
	Proximity sensor	Cable, 2.5 m	1 … 9									**…G**		
		M8 plug	1 … 9									**…H**		
	Proximity sensor, contactless, PNP	Cable, 2.5 m	1 … 9									**…I**		
		M8 plug	1 … 9									**…J**		
	Cable with socket	M8, 2.5 m	1 … 9									**…V**		
	Slot cover for sensor slot		–	–	1 … 9							**…L**		
	User manual		Express waiver – no operating instructions to be included (already available)									**-O**		

Transfer order code

	DGC	–		–		–	G	–		–	A	ZUB	–		–	

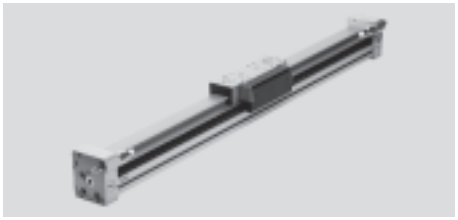
Ordering data – Wearing parts kits

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

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

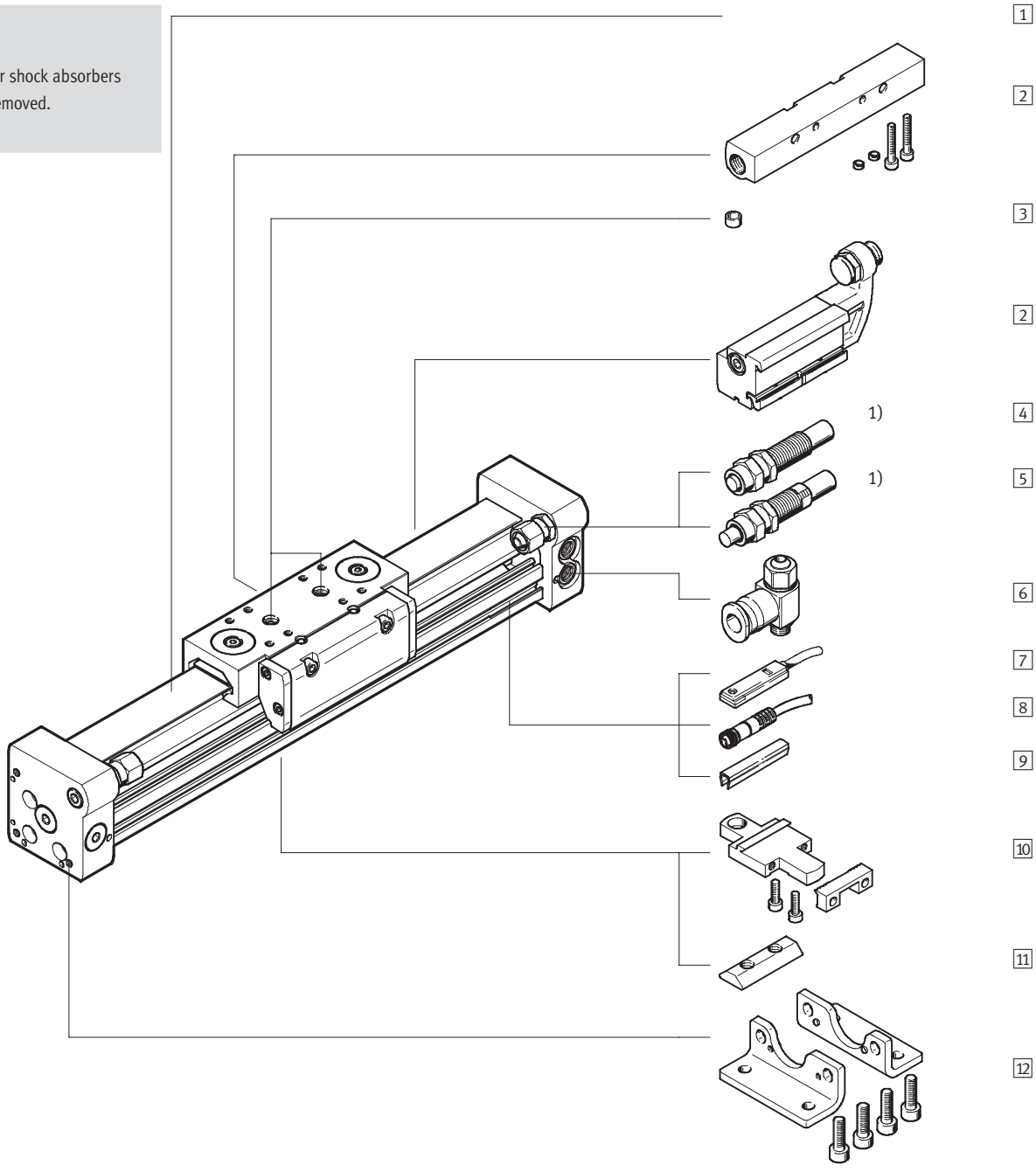
Linear drives DGC-GF, with plain-bearing guide

Peripherals overview



- Note

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



Linear drives DGC-GF, with plain-bearing guide

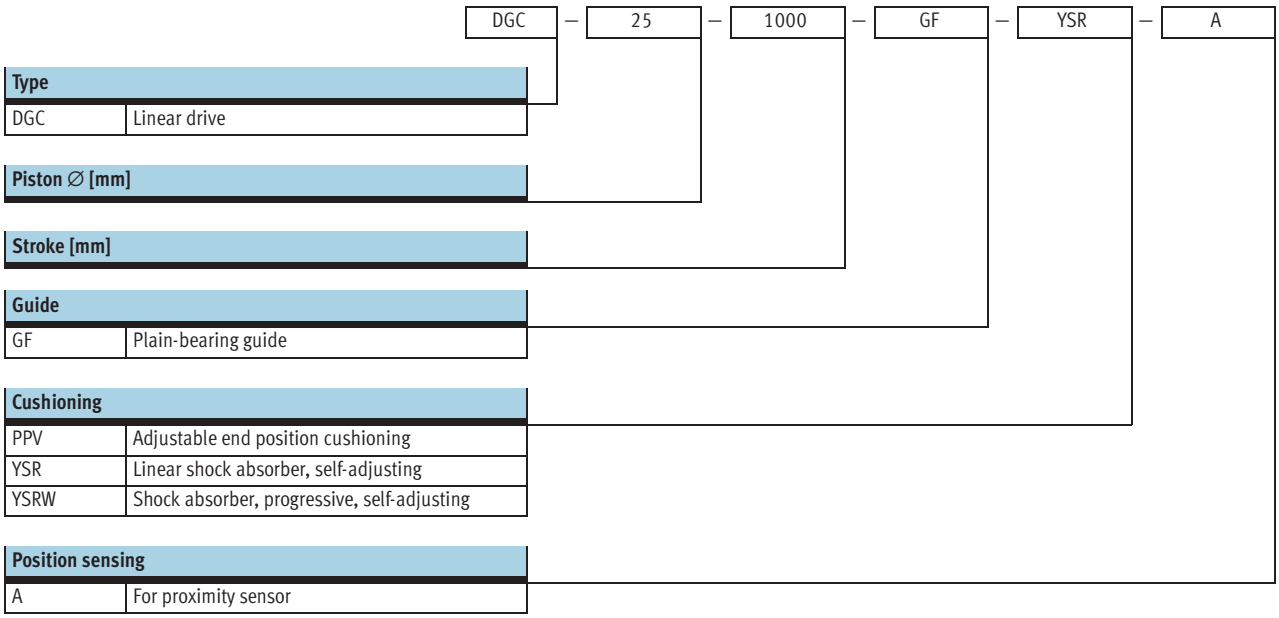
Peripherals overview

Variants and accessories				
	Type	For piston ∅	Brief description	→ Page/Internet
1	Linear drive DGC-GF	18 … 63	Linear drive without accessories, plain-bearing guide	30
2	Mechanical end position limiter YWZ	18 … 63	For variable end position adjustment, e.g. for format adjustments	70
3	Centring pin/sleeve[1)] ZBS/ZBH	18 … 63	For centring loads and attachments on the slide	74
–	Cushioning PPV	18 … 63	Adjustable pneumatic end position cushioning. Used at medium speeds	41
4	Shock absorber YSR	18 … 63	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic	41
5	Shock absorber YSRW	18 … 63	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic	41
6	One-way flow control valve GRLA	18 … 63	For regulating speed	74
7	Proximity sensor G/H/I/J	18 … 63	For sensing the slide position	75
8	Cable with socket V	18 … 63	For proximity sensor	75
9	Slot cover L	18 … 63	For protecting against ingress of dirt and securing proximity sensor cables	74
10	Profile mounting M	18 … 63	Simple and precise mounting option via dovetail connection	66
11	Slot nut B	25 … 63	For mounting attachments	74
12	Foot mounting F	18 … 63	For mounting on end cap	62

1) Included in the scope of delivery of the drive

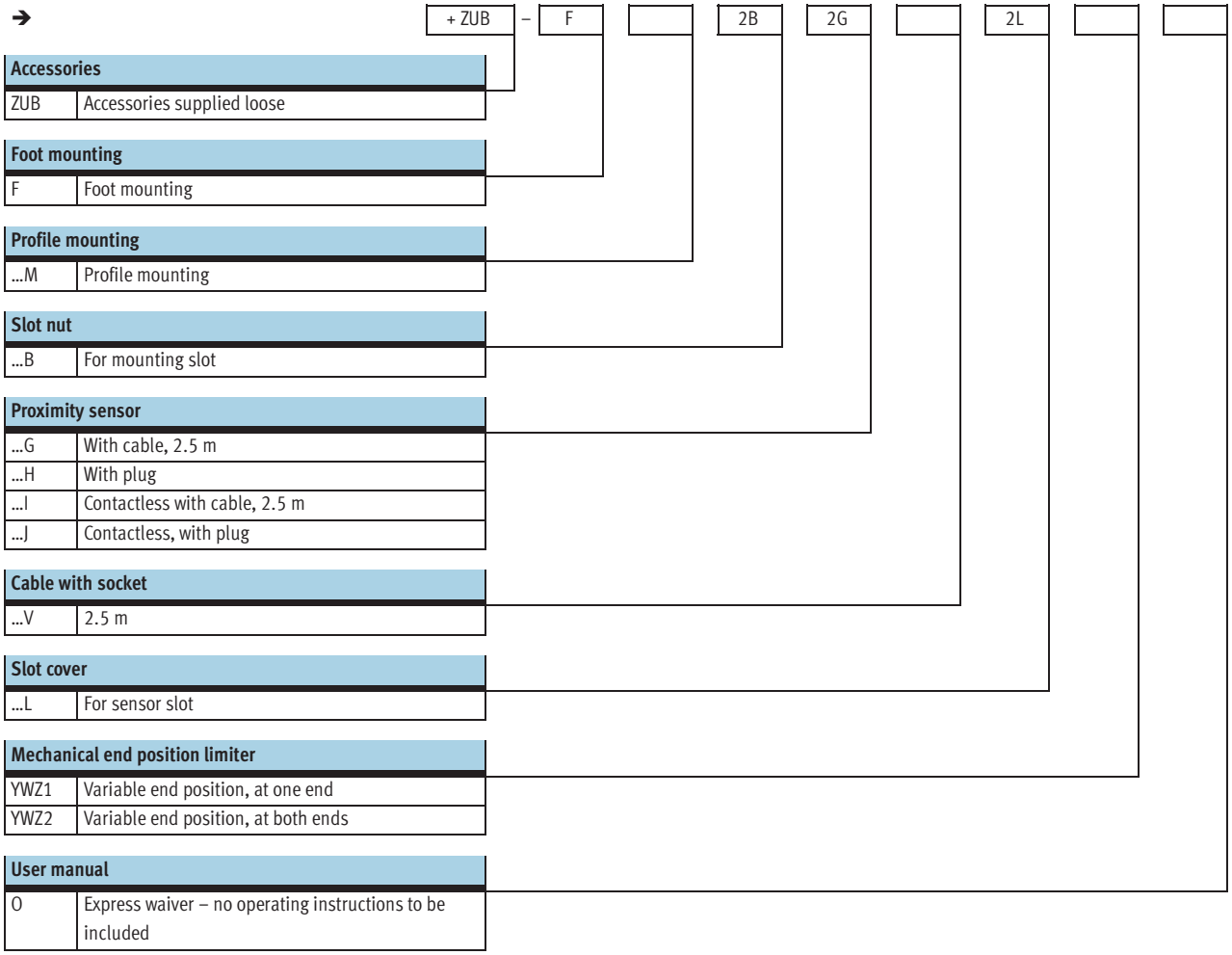
Linear drives DGC-GF, with plain-bearing guide

Type codes



Linear drives DGC-GF, with plain-bearing guide

Type codes



Accessories	
ZUB	Accessories supplied loose

Foot mounting	
F	Foot mounting

Profile mounting	
...M	Profile mounting

Slot nut	
...B	For mounting slot

Proximity sensor	
...G	With cable, 2.5 m
...H	With plug
...I	Contactless with cable, 2.5 m
...J	Contactless, with plug

Cable with socket	
...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

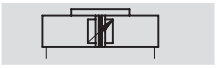
User manual	
O	Express waiver – no operating instructions to be included

Linear drives DGC-GF, with plain-bearing guide

Technical data

FESTO

Function

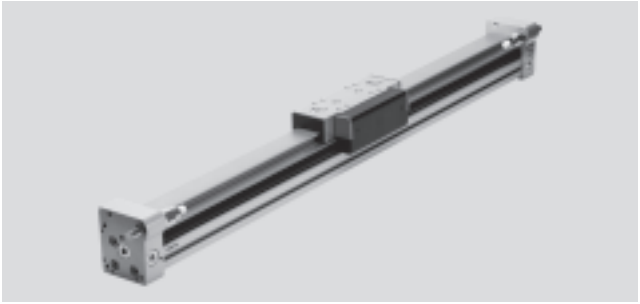


Diameter
18 ... 63 mm

Stroke length
1 ... 8,500 mm

www.festo.com

Wearing parts kits
➔ 41



General technical data							
Piston ∅		18	25	32	40	50	63
Stroke	[mm]	1 ... 3,000	1 ... 8,500			1 ... 5,000	
Pneumatic connection		M5	G1/8		G1/4		G3/8
Mode of operation		Double-acting					
Design		Rodless drive					
Driver principle		Slotted cylinder, mechanically coupled					
Guide		Plain-bearing guide					
Mounting position		Any					
Cushioning	PPV	Adjustable at both ends					
➔ 33	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		For 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.

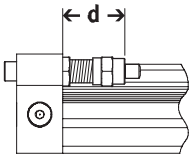
Operating and environmental conditions							
Piston ∅		18	25	32	40	50	63
Operating pressure	[bar]	2 ... 8			1.5 ... 8		
Operating medium		Filtered compressed air, lubricated or unlubricated					
Ambient temperature[1]	[°C]	–10 ... +60					
Corrosion resistance class CRC[2]		2					
Certification		C-Tick					

1) Note operating range of proximity sensors
2) Corrosion resistance class 2 to 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

Forces [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 end positions	➔ 33					

Weights [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

Adjustable end position range d [mm]



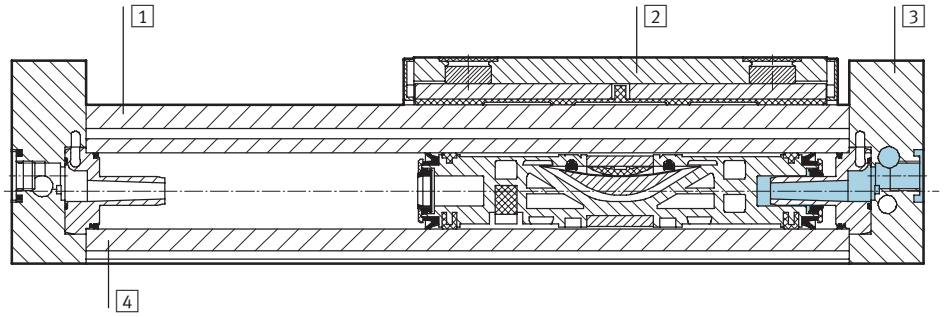
Note

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

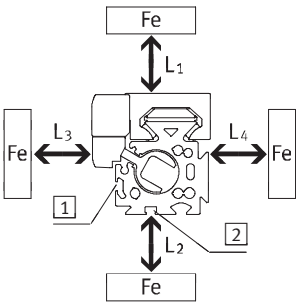


Linear drives		
1	Guide rail	Anodised aluminium
2	Slide	Anodised aluminium
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
–	Piston seal	Polyurethane
–	Sealing band/cover strip	Polyurethane
–	Slide elements	Polyacetate

Influence of ferritic materials on proximity sensors

Ferritic materials (steel parts or panels) directly next to the proximity sensors can cause sensing malfunctions. The following safety distances must be observed.

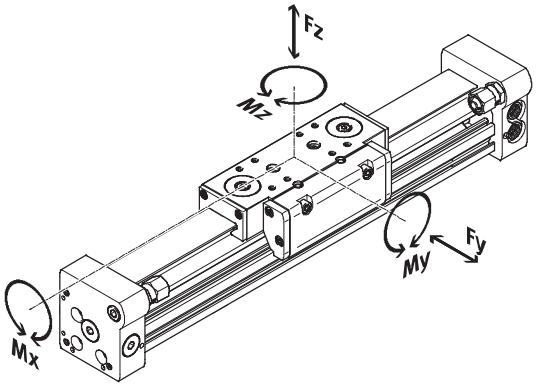
The distance depends on the position of the proximity sensor (see 1 and 2).



Piston ∅			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

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



- - Note

In order to avoid frictional restraint of the guide in the case of the drive DGC-GF with plain-bearing guide when used in vertical mode and with a high torque load, the variant with the recirculating ball bearing guide DGC-KF ➔ 42 is recommended.

If the drive is subjected to more than two of the indicated forces and torques simultaneously, 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

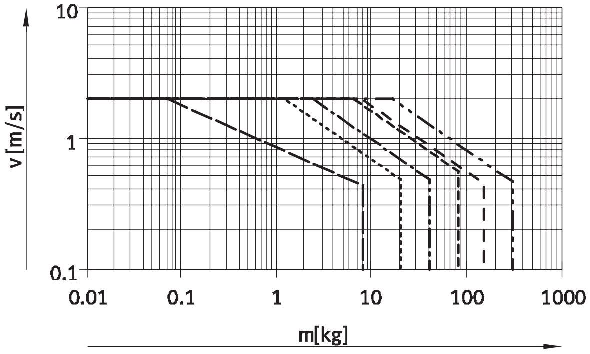
Piston ∅		18	25	32	40	50	63
$Fy_{max.}$	[N]	440	640	900	1,380	1,500	2,300
$Fz_{max.}$	[N]	540	1,300	1,800	2,000	2,870	4,460
$Mx_{max.}$	[Nm]	3.4	8.5	15	28	54	96
$My_{max.}$	[Nm]	20	40	70	110	270	450
$Mz_{max.}$	[Nm]	8.5	20	33	54	103	187

- - Note

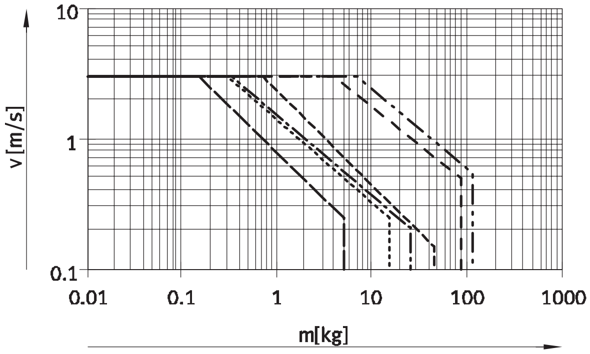
Sizing software
ProDrive
➔www.festo.com

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

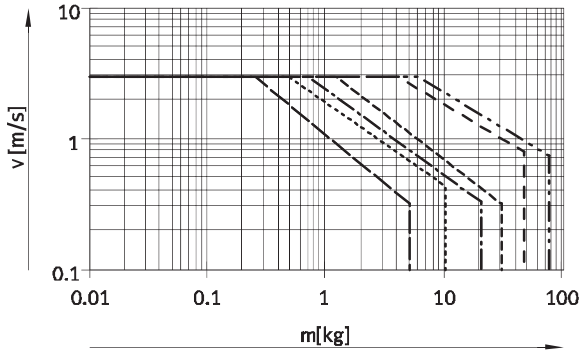
With PPV cushioning

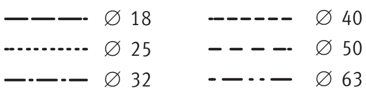


With YSR cushioning



With YSRW cushioning





Note

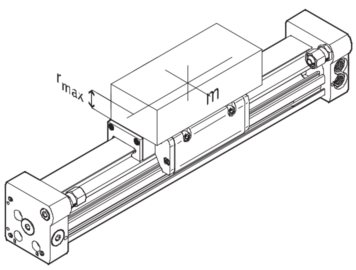
This data represents the maximum values that can be achieved. Values fluctuate in practice relative to the position of the effective load and mounting position.

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.

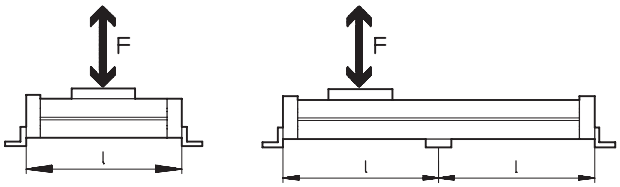


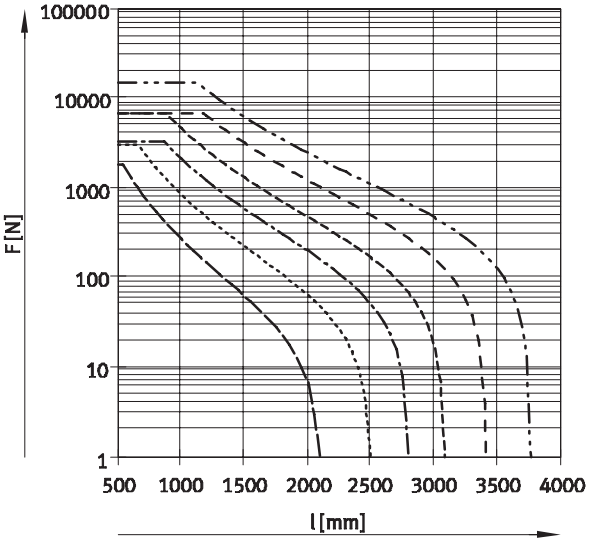
Piston ∅	8	12	18	25	32	40	50	63
Distance $r_{max.}$ [mm]	25	35	35	50	50	50	50	50

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

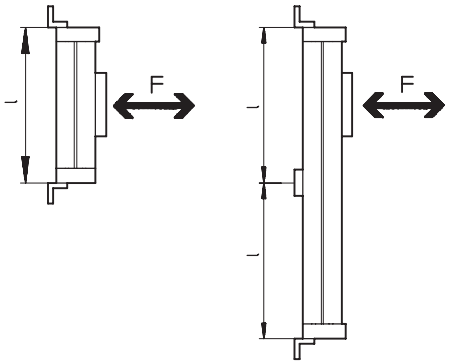
In order to limit deflection in the case of large strokes, the drive may need to be supported. The following diagrams serve to determine the maximum permissible support span as a function of the mounting position and the perpendicular force.

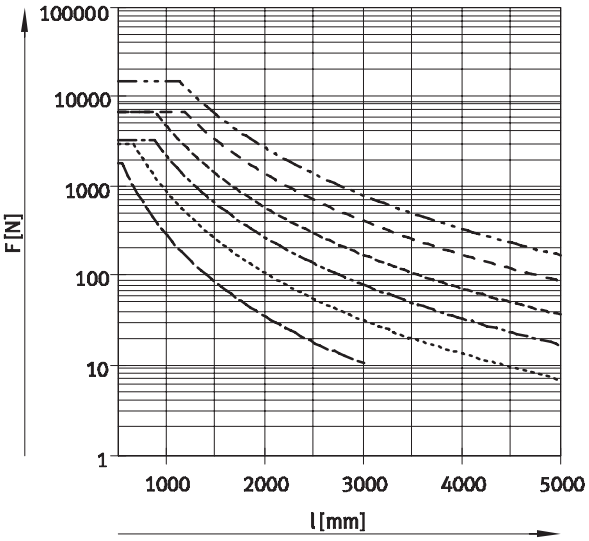
Horizontal mounting position





Vertical mounting position





∅ 18 ∅ 40
∅ 25 ∅ 50
∅ 32 ∅ 63

Example:

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

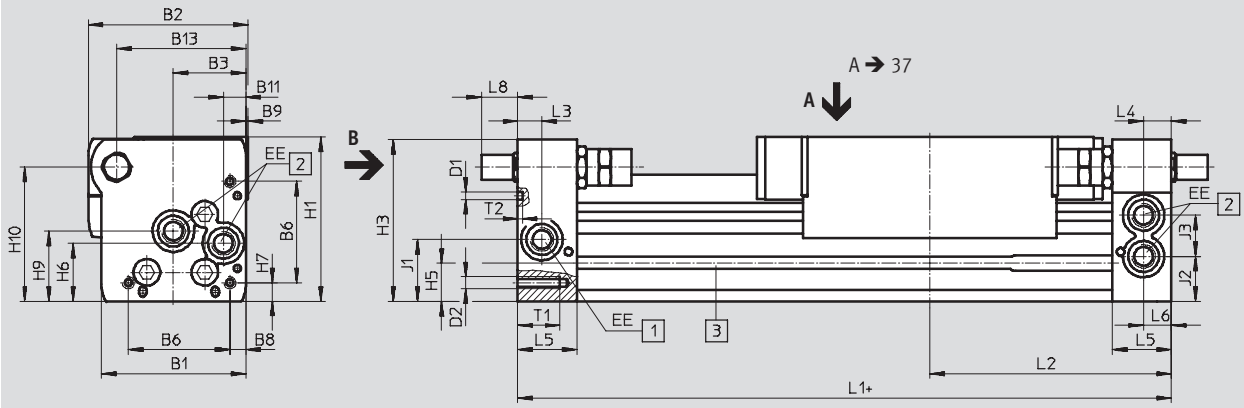
The drive has an overall length of:
l = stroke length + L1 (see dimensions)
= 1,500 mm + 200 mm
= 1,700 mm

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

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).

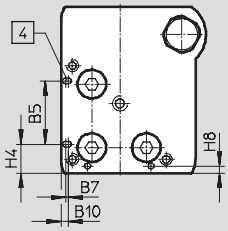
Dimensions Download CAD data ➔ **www.festo.com**

∅ 18 ... 40

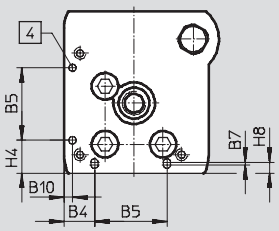


View B

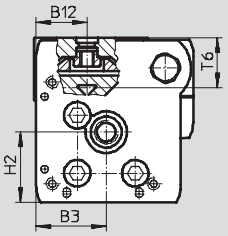
∅ 18



∅ 25 ... 40



∅ 18 ... 40



\+ plus stroke length
1 Supply port optional on two faces
2 Supply port optional on two faces, for supplying from 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	56.3	23.1	55	9.6	13.4	20	4.6	2.4	25.2	46	20	16.5
25	M5	G⅛	68	29	67	13.65	15.8	24	7.65	4.5	29	55.5	26.1	18.6
32	M6	G⅛	78.5	30	77	5.7	17	27.7	8.5	14	35.2	63.8	30	22
40	M6	G¼	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	

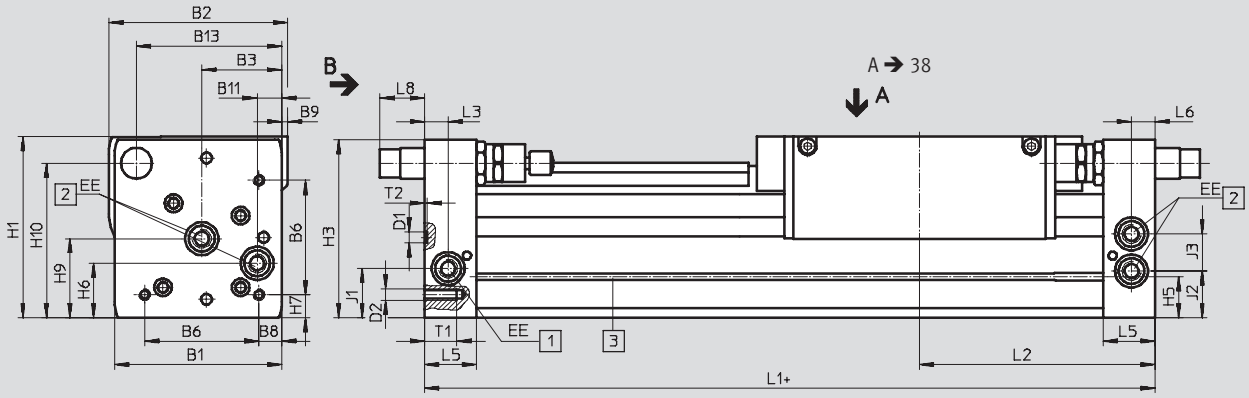
Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Linear drives DGC-GF, with plain-bearing guide

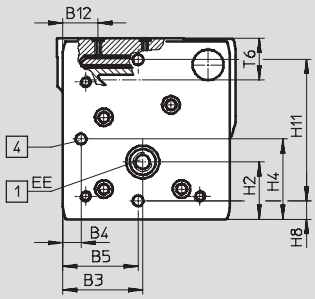
Technical data

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

∅ 50/63



View B



\+ plus stroke length
1 Supply port optional on two faces
2 Supply port optional on two faces, for supplying from 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	G¼	124.5	38.5	122.5	52.8	29.3	36	12	8	53	104.5	100	30.5
63	G⅜	153.5	48.5	151	68	34.8	46	19.5	15.5	67	131	120	41.5

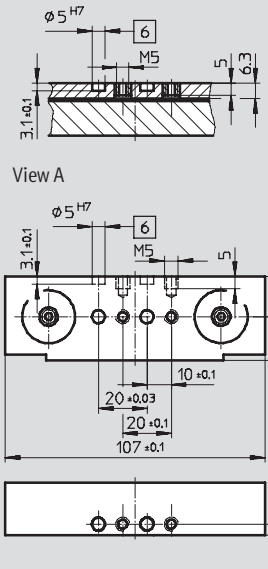
∅ [mm]	J2	J3	L1 +0.9/–0.2	L2	L3	L5	L6	L8 PPV	L8 YSR	L8 YSRW	T1	T2 +0.2	T6	Stroke tolerance
50	30.5	28	350	175	17	41	17	0	31	36.3	24	2.1	30.4	0 … 2.5
63	39.5	31.5	400	200	20	44	20	0	38.3	48.3	27.5	2.1	36.2	

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

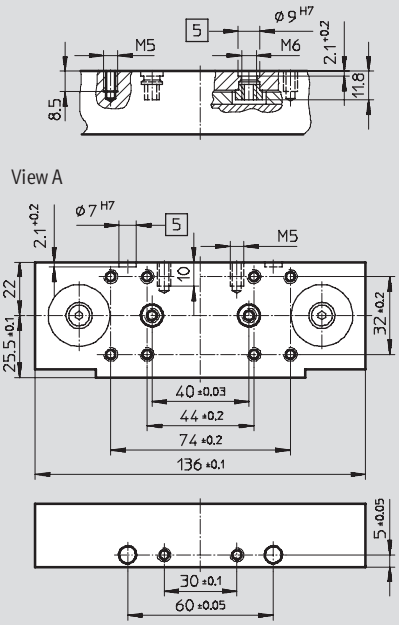
Dimensions Download CAD data ➔ **www.festo.com**

Slide

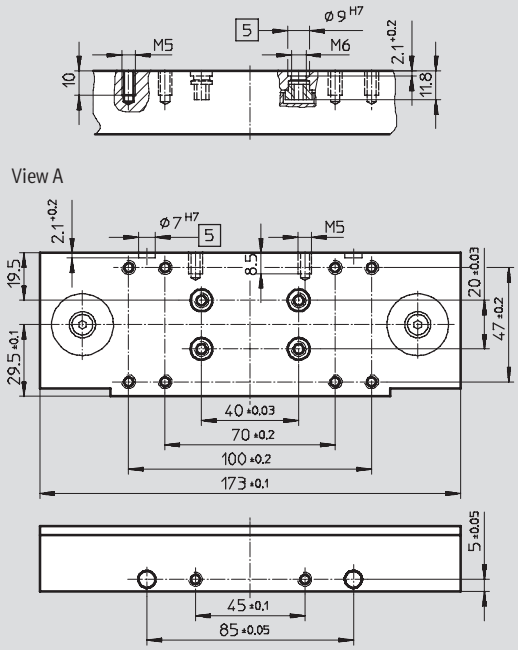
∅ 18



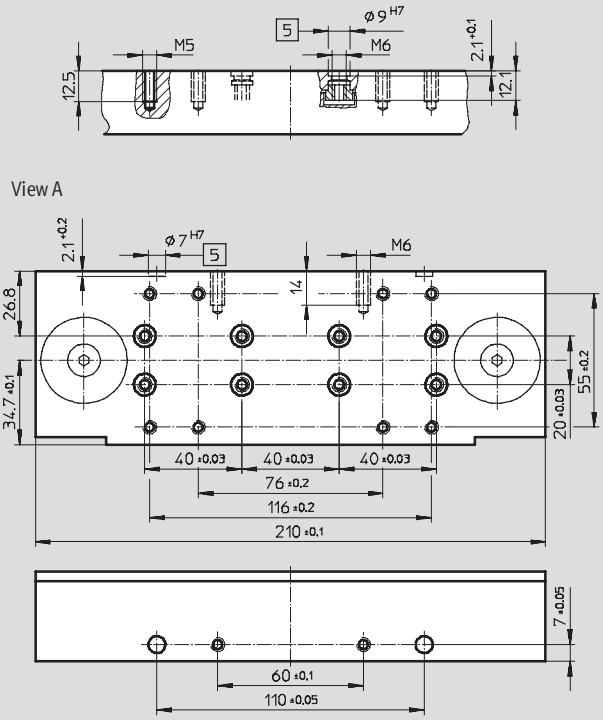
∅ 25



∅ 32



∅ 40

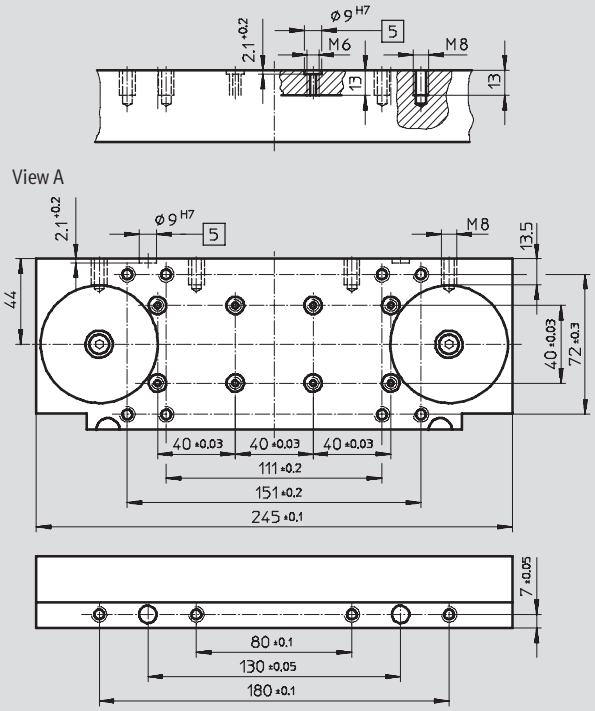


5 Hole for centring sleeve ZBH
6 Hole for centring pin ZBS

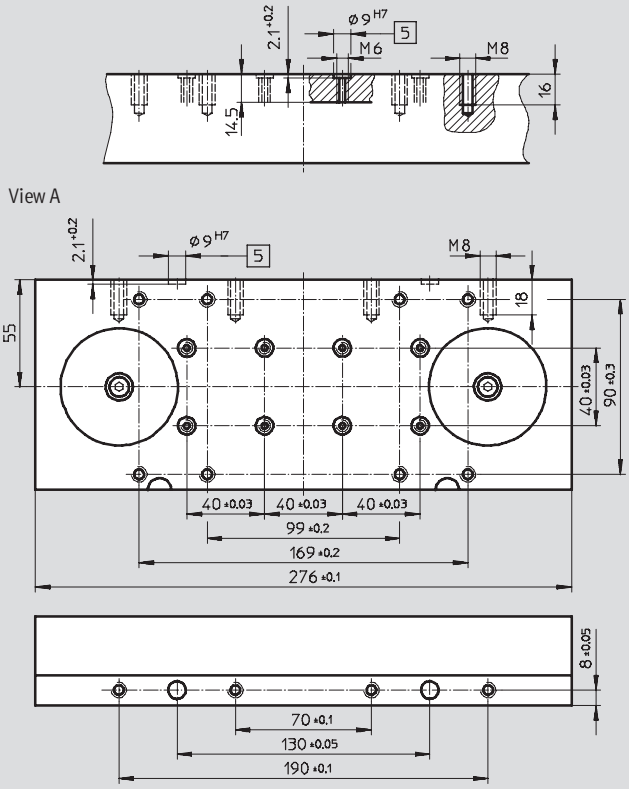
Dimensions Download CAD data ➔ **www.festo.com**

Slide

∅ 50



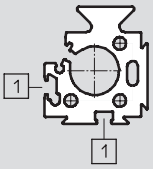
∅ 63



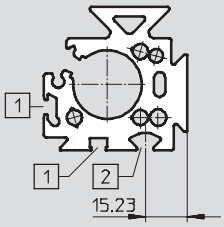
5 Hole for centring sleeve ZBH
6 Hole for centring pin ZBS

Profile barrel

Ø 18



Ø 25



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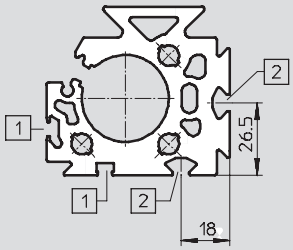

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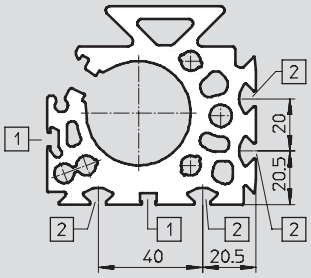

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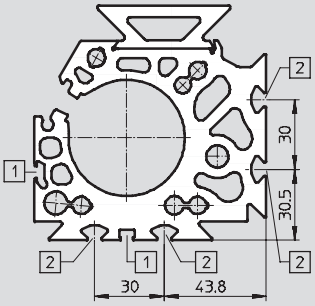
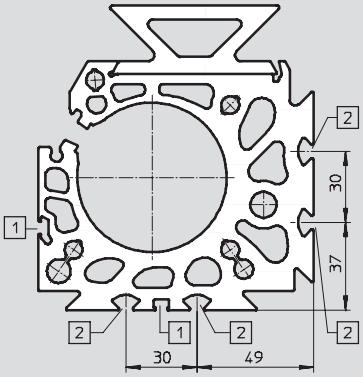


Ø 63



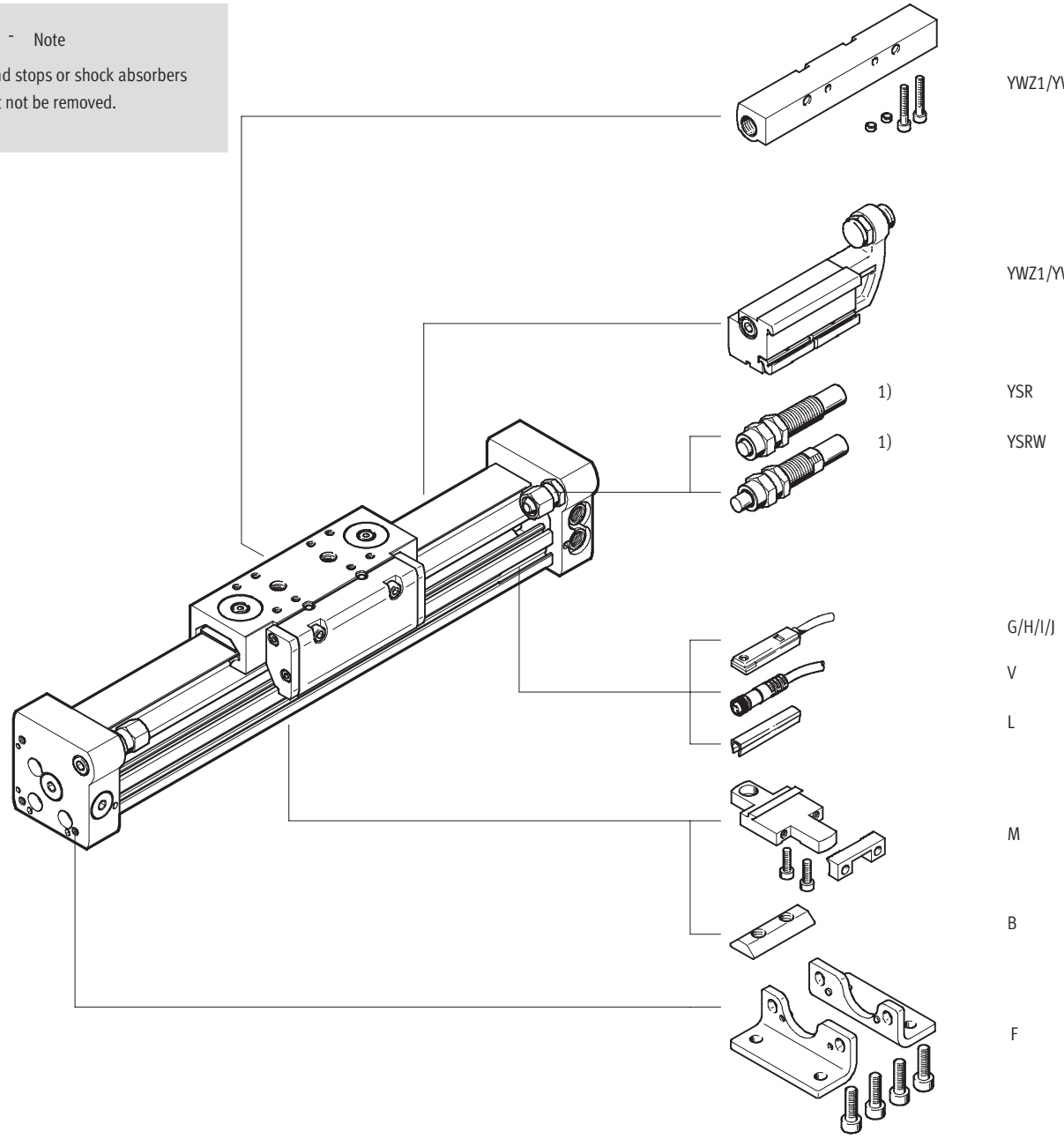
1 Sensor slot for proximity sensor
2 Mounting slot for slot nut

Order code

Mandatory data/options

Note

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



Linear drives DGC-GF, with plain-bearing guide

Ordering data – Modular products

FESTO

[M] Mandatory data									[O] Options		
Module No.	Function		Stroke		Cushioning				Accessories		
	Piston ∅		Guide		Position sensing				Accessories supplied loose		User manual
532 446 532 447 532 448 532 449 532 450 532 451	DGC	18 25 32 40 50 63	1 ... 8500	GF	PPV YSR YSRW	A				F, ...M, ...B, ...G, ...H, ...I, ...J, ...V, ...L, YWZ1, YWZ2	O
Order example											
532 446	DGC	– 18	– 250	– GF	– PPV	– A			ZUB	– F2M2I2V	–

Ordering table

Size			18	25	32	40	50	63	Conditions	Code	Enter code
[M]	Module No.		**532 446**	**532 447**	**532 448**	**532 449**	**532 450**	**532 451**			
	Function		Linear drive							**DGC**	DGC
	Piston ∅	[mm]	18	25	32	40	50	63		**-...**	
	Stroke	[mm]	1 ... 3000	1 ... 8500			1 ... 5000		[1]	**-...**	
	Guide		Plain-bearing guide							**-GF**	-GF
	Cushioning		Pneumatic cushioning, adjustable at both ends							**-PPV**	
			Shock absorber, self-adjusting							**-YSR**	
			Shock absorber, self-adjusting, progressive							**-YSRW**	
	Position sensing		For proximity sensor							**-A**	-A
[O]	Accessories		Supplied loose (can be retrofitted)							**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**	
		M8 plug	1 ... 9							**...H**	
	Proximity sensor, contactless, PNP	Cable, 2.5 m	1 ... 9							**...I**	
		M8 plug	1 ... 9							**...J**	
	Cable with socket	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**	
	User 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	–	–	–	GF	–	–	ZUB	–	–
	DGC				GF		A	ZUB		

Ordering data – Wearing parts kits

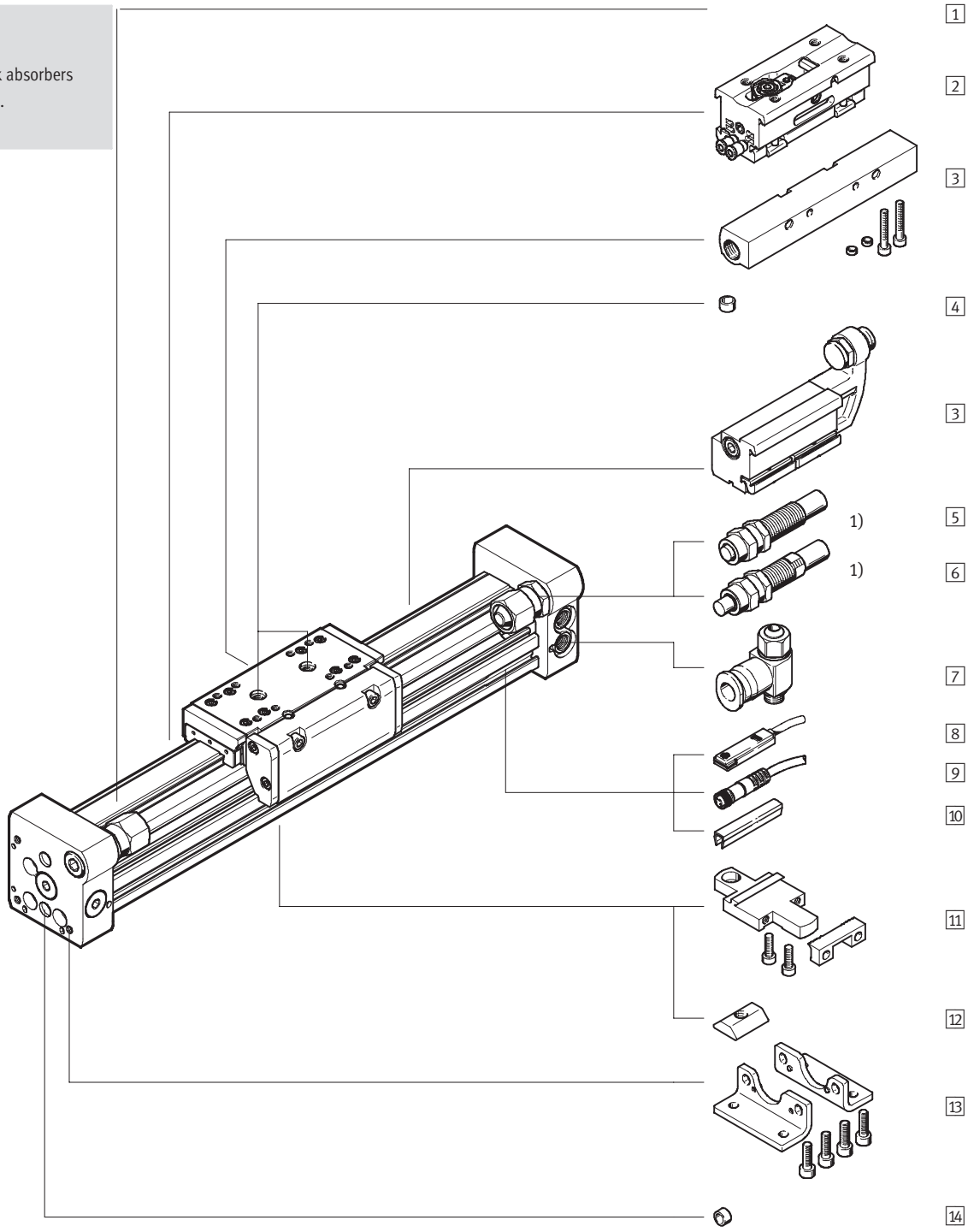
Piston ∅	Part No.	Type
18	684 486	DGC-18
25	684 487	DGC-25
32	684 488	DGC-32
40	684 489	DGC-40
50	719 825	DGC-50
63	719 826	DGC-63

Linear drives DGC-KF, with recirculating ball bearing guide

Peripherals overview

Note

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



Linear drives DGC-KF, with recirculating ball bearing guide

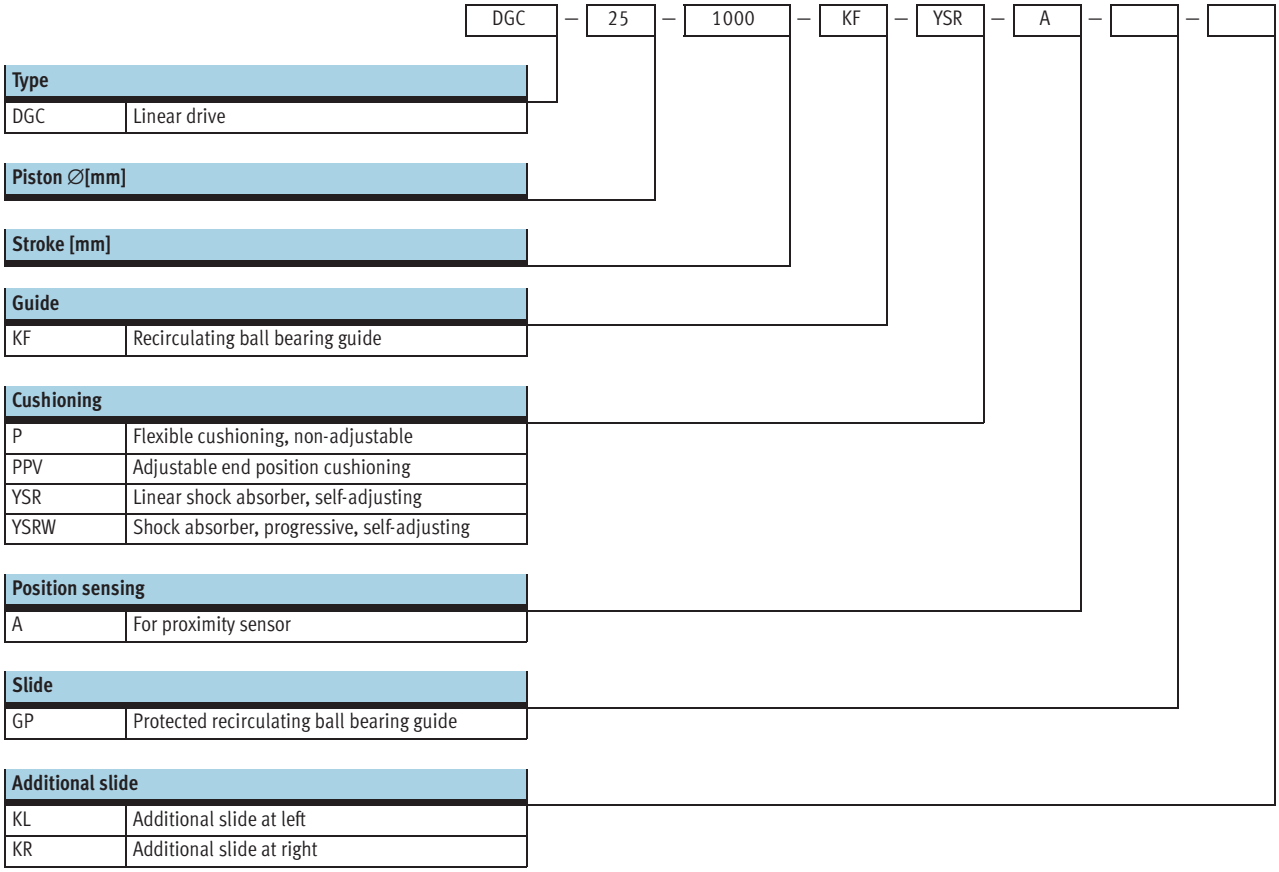
Peripherals overview

Variants and accessories				
	Type	For piston ∅	Brief description	→ Page/Internet
1	Linear drive DGC-KF	8 … 63	Linear drive without accessories, with recirculating ball bearing guide	46
2	Intermediate position module Z1/Z2/Z3	25, 32, 40	Permits up to three intermediate positions	72
3	Mechanical end position limiter YWZ	18 … 63	For variable end position adjustment, e.g. for format adjustments	70
4	Centring pin/sleeve[1)] ZBS/ZBH	8 … 63	For centring loads and attachments on the slide	74
–	Cushioning P	8, 12	Non-adjustable, flexible cushioning. Used only at low speeds	60
–	Cushioning PPV	18 … 63	Adjustable pneumatic end position cushioning. Used at medium speeds	60
5	Shock absorber YSR	8 … 63	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic	60
6	Shock absorber YSRW	8 … 63	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic	60
7	One-way flow control valve GRLA	8 … 63	For regulating speed	74
8	Proximity sensor G/H/I/J	8 … 63	For sensing the slide position	75
9	Cable with socket V	8 … 63	For proximity sensor	75
10	Slot cover L	18 … 63	For protecting against ingress of dirt and securing proximity sensor cables	74
11	Profile mounting M	8 … 63	Simple and precise mounting option via dovetail connection	66
12	Slot nut B	25 … 63	For mounting attachments	74
13	Foot mounting F	8 … 63	For mounting on end cap	62
14	Centring pin/sleeve[1)] ZBS/ZBH	8 … 63	For centring the drive without foot mountings (user-specific)	74

1) Included in the scope of delivery of the drive

Linear drives DGC-KF, with recirculating ball bearing guide

Type codes



Type	
DGC	Linear drive

Piston ∅[mm]

Stroke [mm]

Guide	
KF	Recirculating ball bearing guide

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

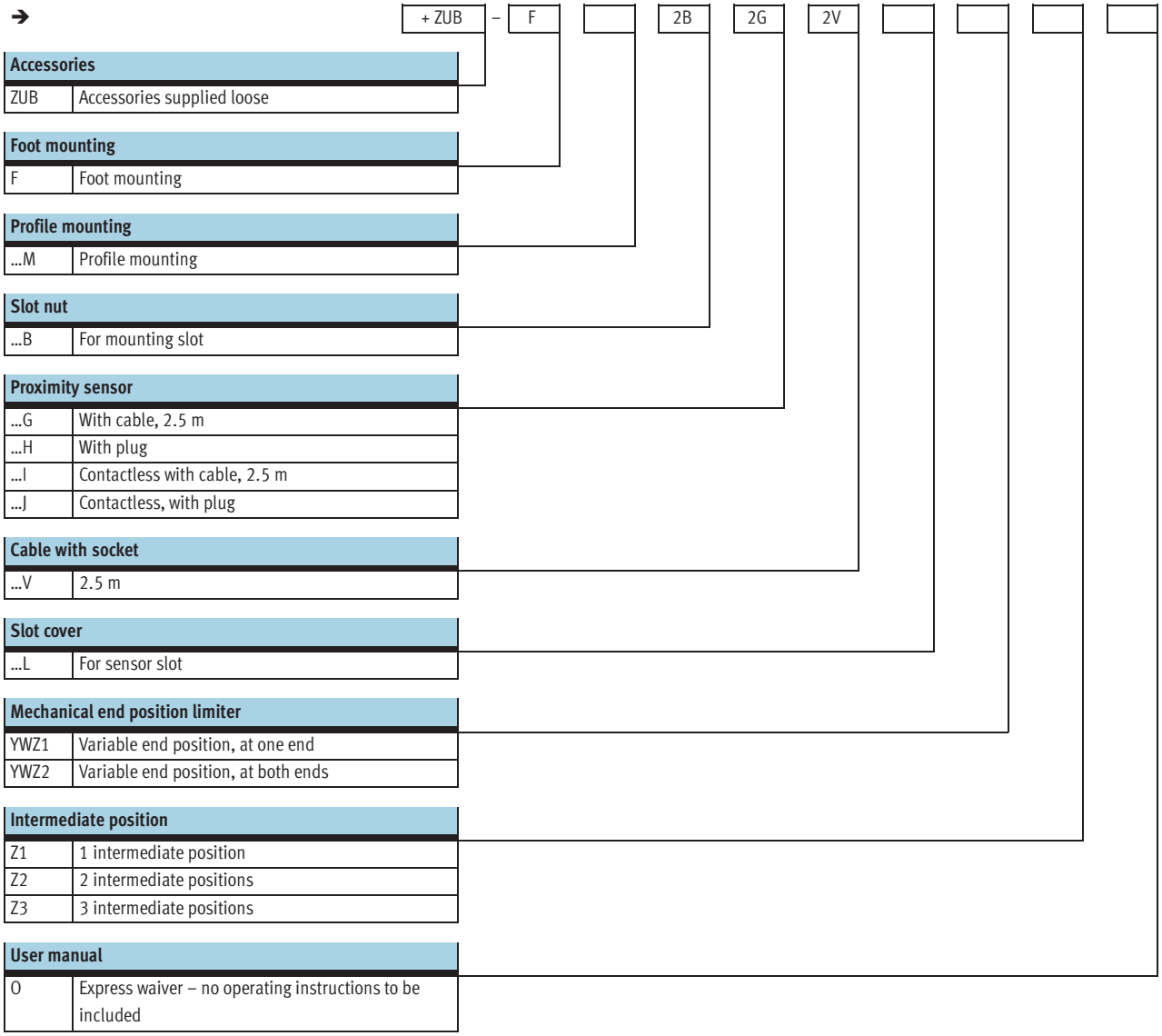
Position sensing	
A	For proximity sensor

Slide	
GP	Protected recirculating ball bearing guide

Additional slide	
KL	Additional slide at left
KR	Additional slide at right

Linear drives DGC-KF, with recirculating ball bearing guide

Type codes



Accessories	
ZUB	Accessories supplied loose

Foot mounting	
F	Foot mounting

Profile mounting	
...M	Profile mounting

Slot nut	
...B	For mounting slot

Proximity sensor	
...G	With cable, 2.5 m
...H	With plug
...I	Contactless with cable, 2.5 m
...J	Contactless, with plug

Cable with socket	
...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	
Z1	1 intermediate position
Z2	2 intermediate positions
Z3	3 intermediate positions

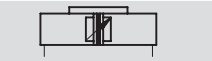
User manual	
O	Express waiver – no operating instructions to be included

Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

FESTO

Function



Diameter
8 ... 63 mm

Stroke length
1 ... 8,500 mm

www.festo.com

Wearing parts kits
➔ 60

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			G1⁄8		G1⁄4		G3⁄8
Mode of operation		Double-acting							
Design		Rodless drive							
Driver principle		Slotted cylinder, mechanically coupled							
Guide		External recirculating ball bearing guide							
Mounting position		Any							
Cushioning ➔ 49	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		For 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							
Certification		C-Tick							

1) Note operating range of proximity sensors
2) Corrosion resistance class 1 to Festo standard 940 070
Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers

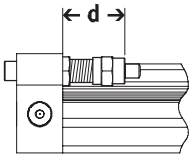
Forces [N]									
Piston ∅		8	12	18	25	32	40	50	63
Theoretical force at 6 bar		30	68	153	295	483	754	1,178	1,870
Impact energy at end positions		➔ 49							

Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

Weights [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]



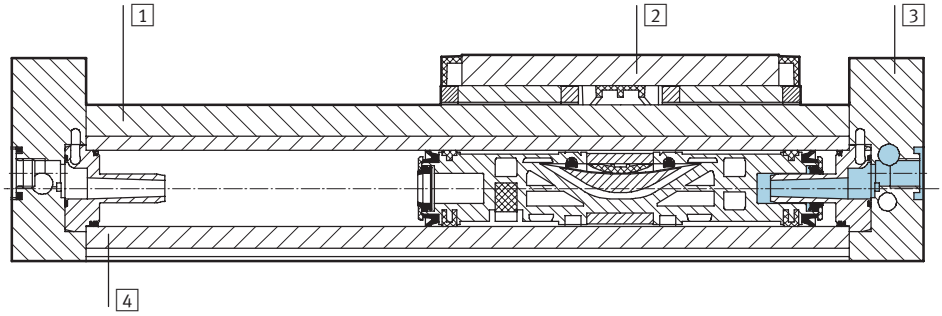
Note

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

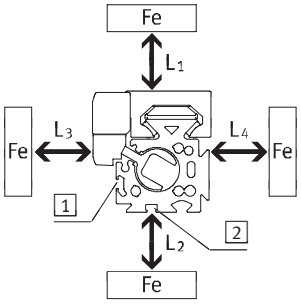


Linear drives		
1	Guide rail	High-alloy steel
2	Slide	High-alloy steel
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
–	Piston seal	Polyurethane
–	Sealing band/cover strip	Polyurethane
–	Note on materials	Free of copper, PTFE and silicone

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.

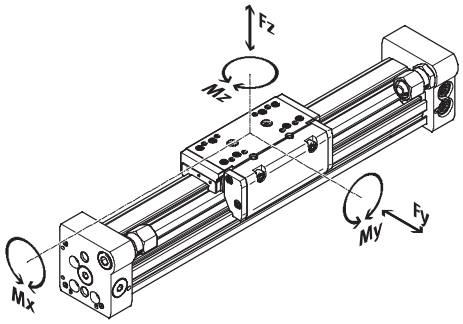
The distance depends on the position of the proximity sensor (see 1 and 2).



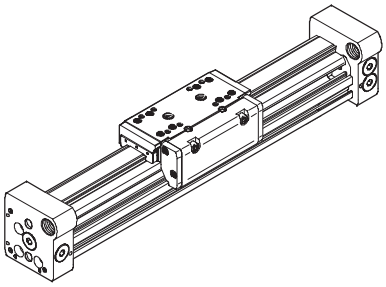
Piston ∅			8	12	18	25	32	40	50	63
Distance L1	1	[mm]	0	0	0	0	0	0	0	0
	2	[mm]	–	–	0	0	0	0	0	0
Distance L2	1	[mm]	20	10	10	10	0	0	0	0
	2	[mm]	–	–	25	25	25	25	25	25
Distance L3	1	[mm]	30	25	25	25	25	25	25	25
	2	[mm]	–	–	10	10	0	0	0	0
Distance L4	1	[mm]	0	0	0	0	0	0	0	0
	2	[mm]	–	–	0	0	0	0	0	0

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 in the dynamic range. Special attention must be paid to the cushioning phase.



GP – Protected guide



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

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

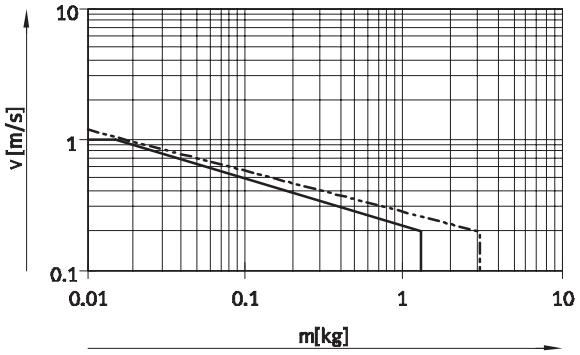
Permissible forces and torques									
Piston ∅		8	12	18	25	32	40	50	63
$Fy_{max.}$	[N]	300	650	1,850	3,050	3,310	6,890	6,890	15,200
$Fz_{max.}$	[N]	300	650	1,850	3,050	3,310	6,890	6,890	15,200
$Mx_{max.}$	[Nm]	1.7	3.5	16	36	54	144	144	529
$My_{max.}$	[Nm]	4.5	10	51	97	150	380	634	1,157
$Mz_{max.}$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

Note

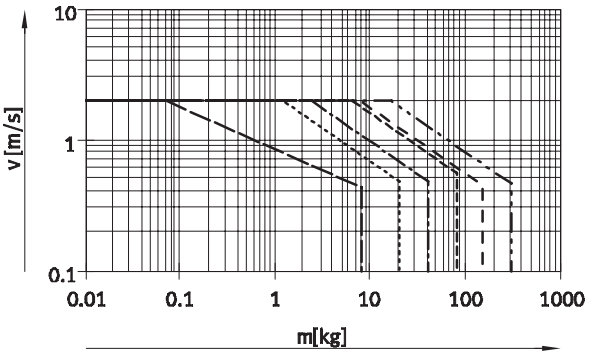
Sizing software
ProDrive
➔www.festo.com

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

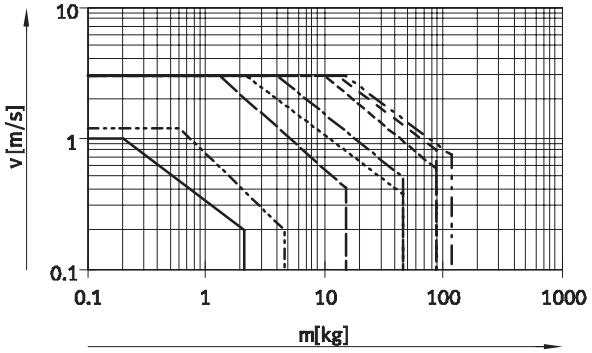
Piston ∅ 8/12 with P cushioning



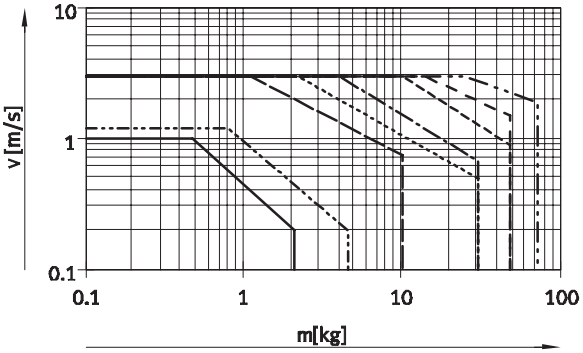
Piston ∅ 18 ... 63 with PPV cushioning



Piston ∅ 8 ... 63 with YSR cushioning



Piston ∅ 8 ... 63 with YSRW cushioning



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

Note

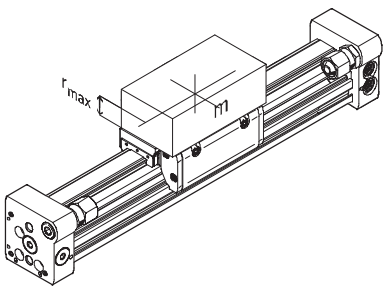
This data represents the maximum values that can be achieved. Values fluctuate in practice relative to the position of the effective load and mounting position.

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.



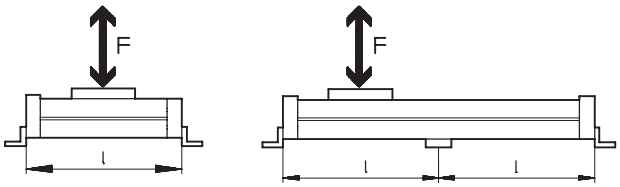
The data applies to a horizontal mounting position:

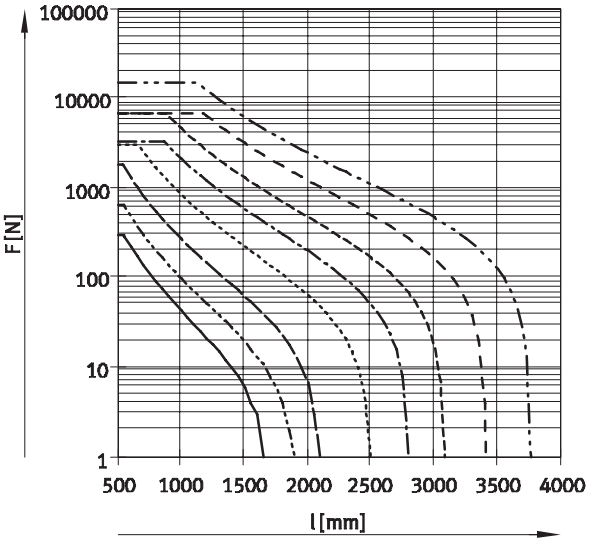
Piston ∅		8	12	18	25	32	40	50	63
Distance $r_{max.}$	[mm]	25	35	35	50	50	50	50	50

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

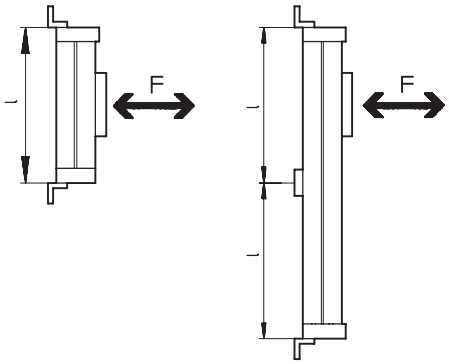
In order to limit deflection in the case of large strokes, the drive may need to be supported. The following diagrams serve to determine the maximum permissible support span as a function of the mounting position and the perpendicular force.

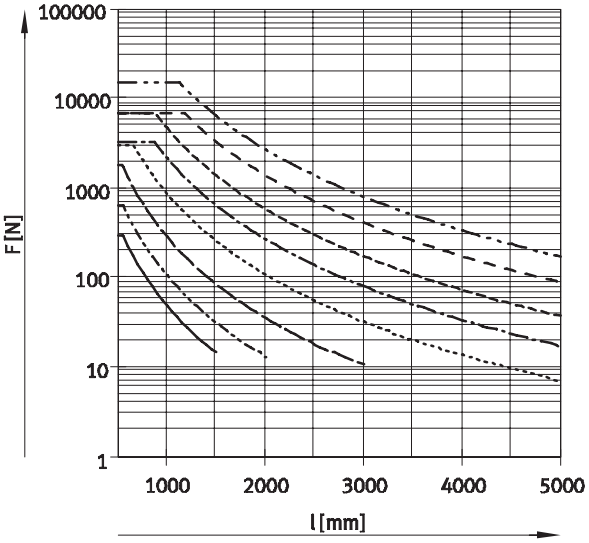
Horizontal mounting position

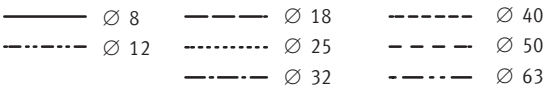




Vertical mounting position







Example:

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

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

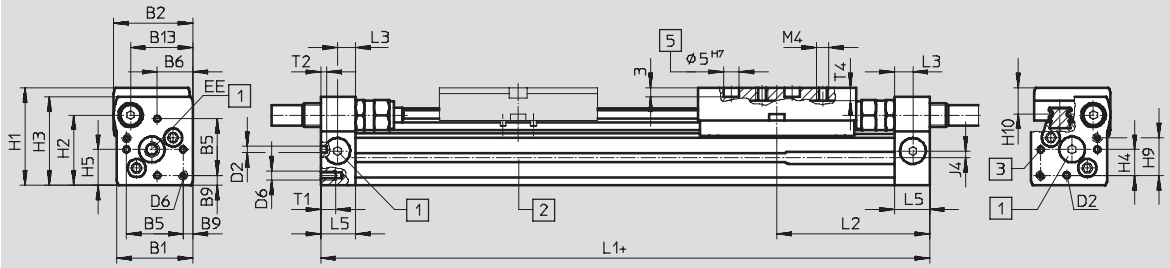
According to the diagram, the max. support span is 1,300 mm for the drive DGC-25 with a force of 300 N.

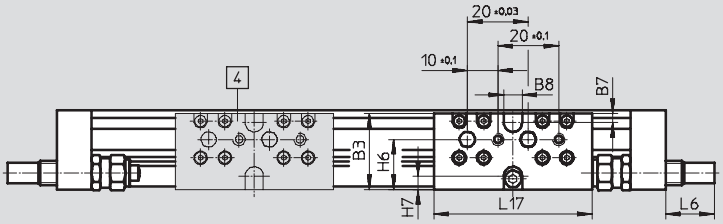
In this example, profile mountings are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).

Dimensions

Download CAD data ➔ **www.festo.com**

∅ 8 and 12





\+ plus stroke length

1 Supply port optional on three faces

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
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

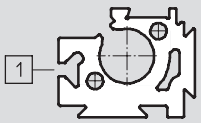
∅ [mm]	H1	H2	H3	H4	H5	H6	H7	H9	H10	J4	L1 +0.5/ −0.4	L2
8	32	23	29	8.5	11.7	16.5	4.5	12.3	8.7	2.2	100	50.1
12	37.5	28.5	34.5	8.7	13.5	20.5	5	14.7	9.8	3	125	62.1

∅ [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	

Profile barrel

∅ 8

∅ 12



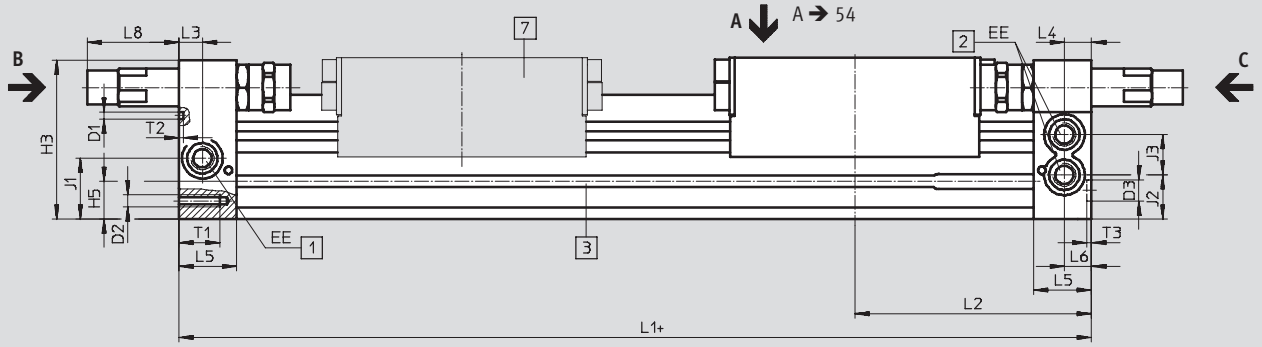
1 Sensor slot for proximity sensor

Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

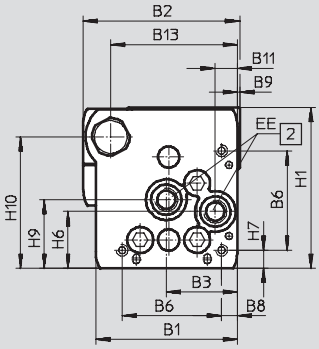
Dimensions Download CAD data ➔ **www.festo.com**

∅ 18 ... 40



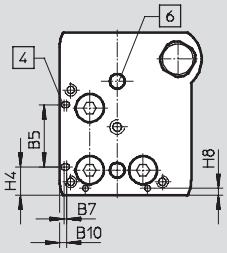
View C

∅ 18 ... 40

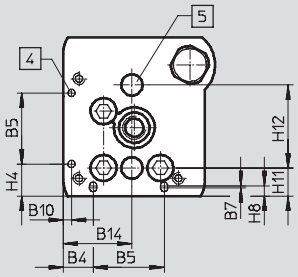


View B

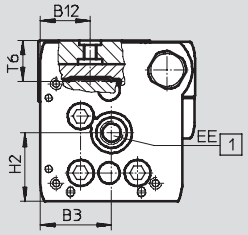
∅ 18



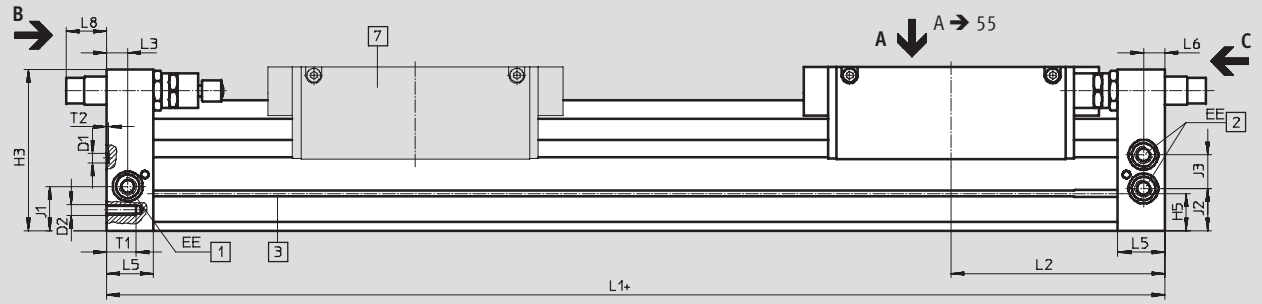
∅ 25 ... 40



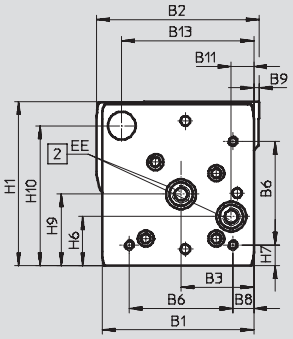
∅ 18 ... 40



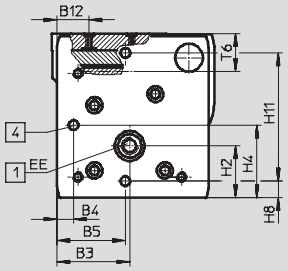
∅ 50/63



View C



View B



\+ plus stroke length

1 Supply port optional on two faces

2 Supply port optional on two faces, for supplying from 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

∅ [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	56.3	23.1	55	9.6	13.4	20
25	53	30	3±0.05	M5	9	G1/8	68	29	67	13.65	15.8	24
32	65	38.5	3±0.05	M6	9	G1/8	78.5	30	77	5.7	17	27.7
40	80.5	45	4±0.05	M6	9	G1/4	99.5	41.5	97.5	17.2	25	36.5
50	97	–	9^{H7}	M8	9	G1/4	124.5	38.5	122.5	52.8	29.3	36
63	123.5	–	9^{H7}	M10	9	G3/8	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	–

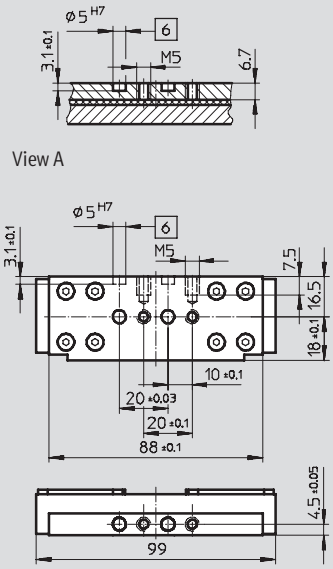
∅ [mm]	L2 KF	L2 KF-GP	L3	L4	L5	L6	L8 PPV	L8 YSR	L8 YSRW	T1	T2	T3 +0.2	T6	Stroke tolerance
18	74.5	78	5.7	5.8	15	5.5	0	29.9	32.4	9	2	3.1	15	0 ... 2.5
25	100	102.5	10.5	10.6	24.5	10.6	0	35.6	38.6	17.5	2	2.1	17.3	
32	124.8	124.8	14.5	14.5	30.5	14.5	0	19.5	28	15	2	2.1	20	
40	150	156	14.6	14.6	33.5	14.6	0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

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

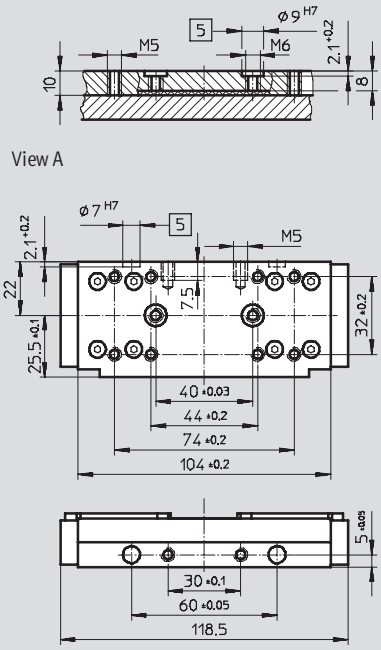
Dimensions Download CAD data ➔ **www.festo.com**

Slide

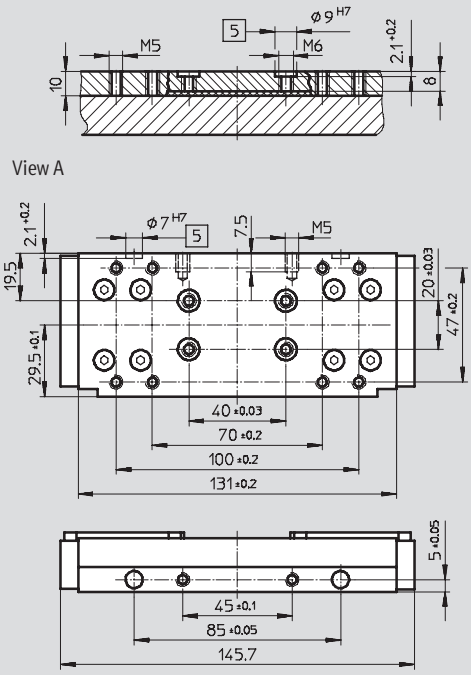
Ø 18



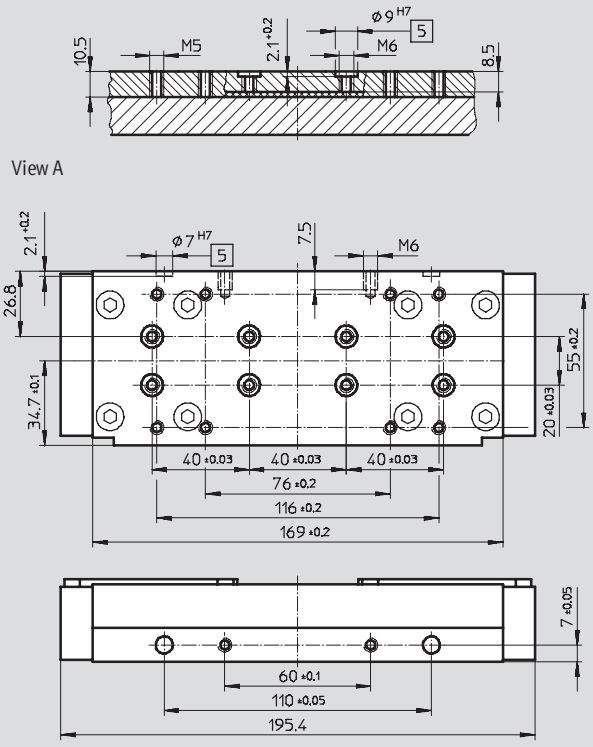
Ø 25



Ø 32



Ø 40

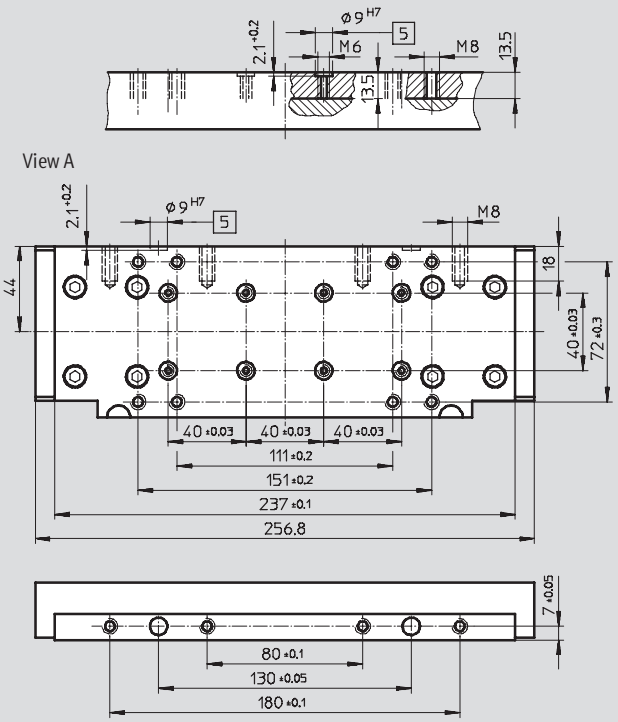


5 Hole for centring sleeve ZBH
6 Hole for centring pin ZBS

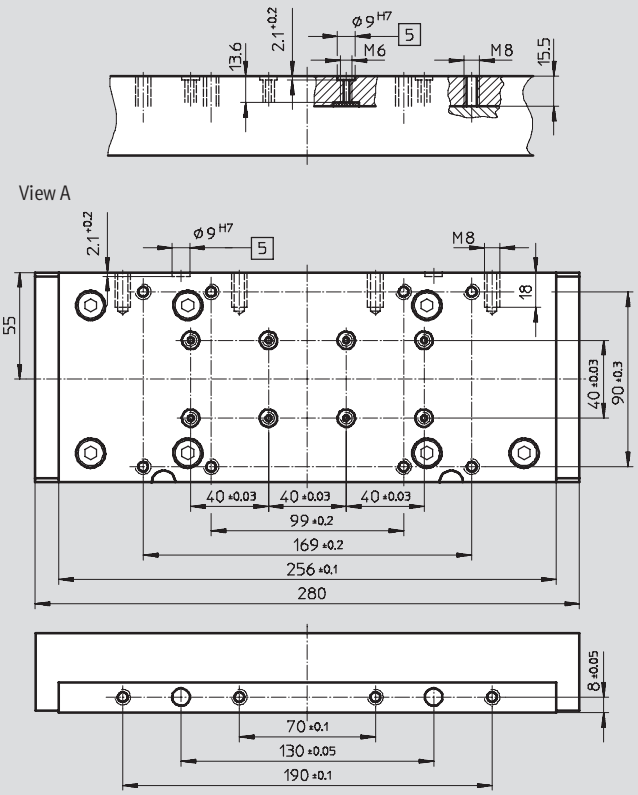
Dimensions Download CAD data ➔ **www.festo.com**

Slide

∅ 50



∅ 63

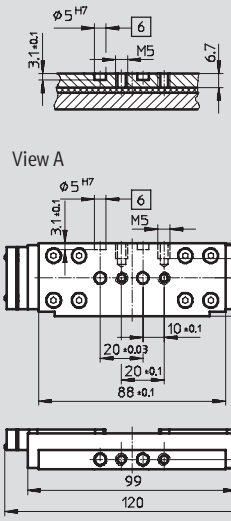


5 Hole for centring sleeve ZBH
6 Hole for centring pin ZBS

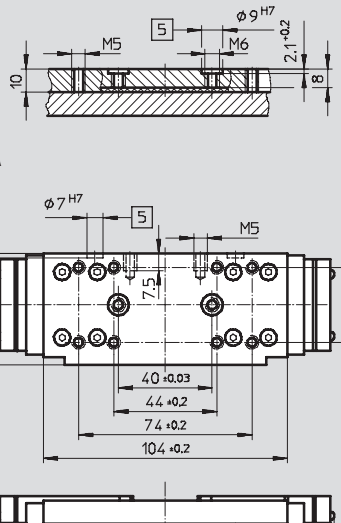
Dimensions Download CAD data ➔ **www.festo.com**

Slide, variant GP – Protected recirculating ball bearing guide

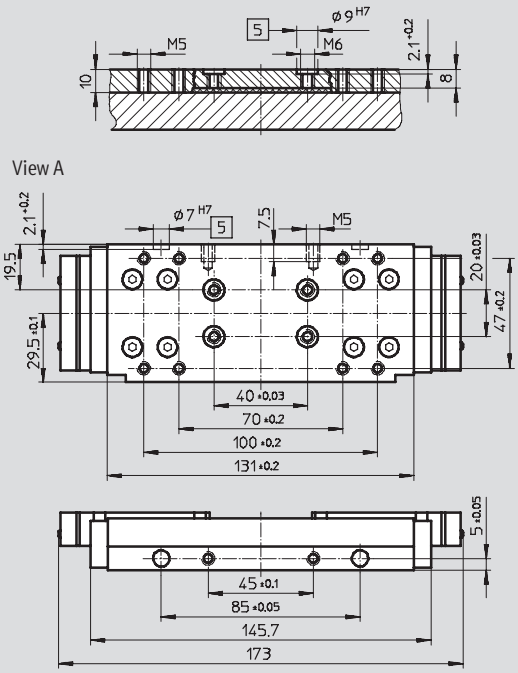
∅ 18



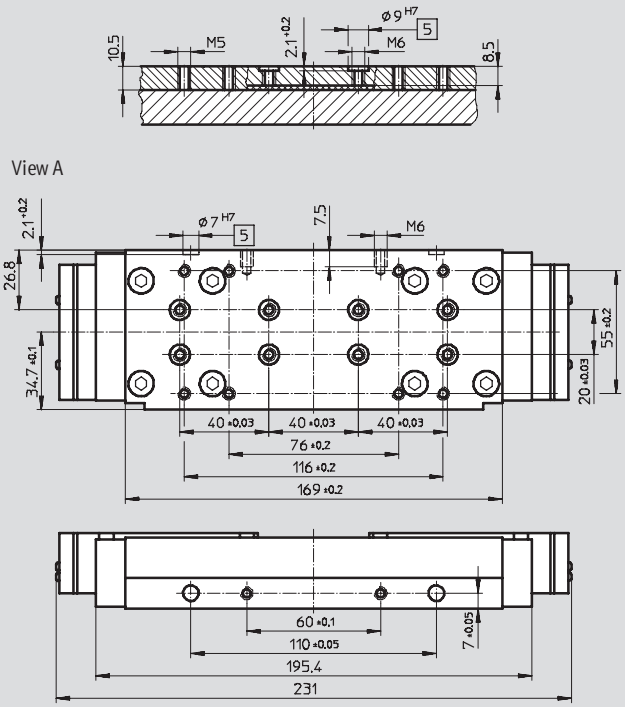
∅ 25



∅ 32



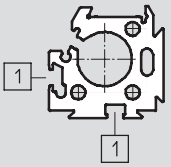
∅ 40



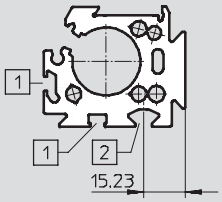
5 Hole for centring sleeve ZBH
6 Hole for centring pin ZBS

Profile barrel

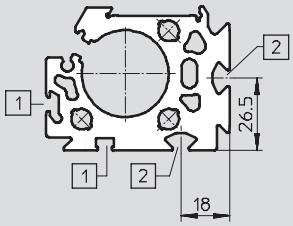
∅ 18



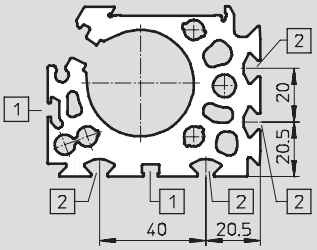
∅ 25



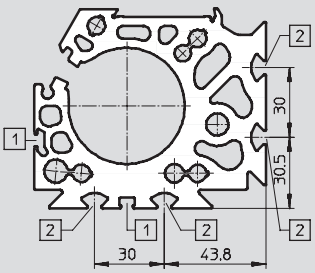
∅ 32



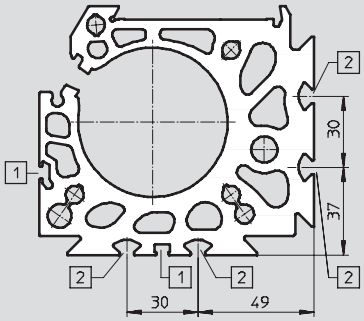
∅ 40



∅ 50



∅ 63

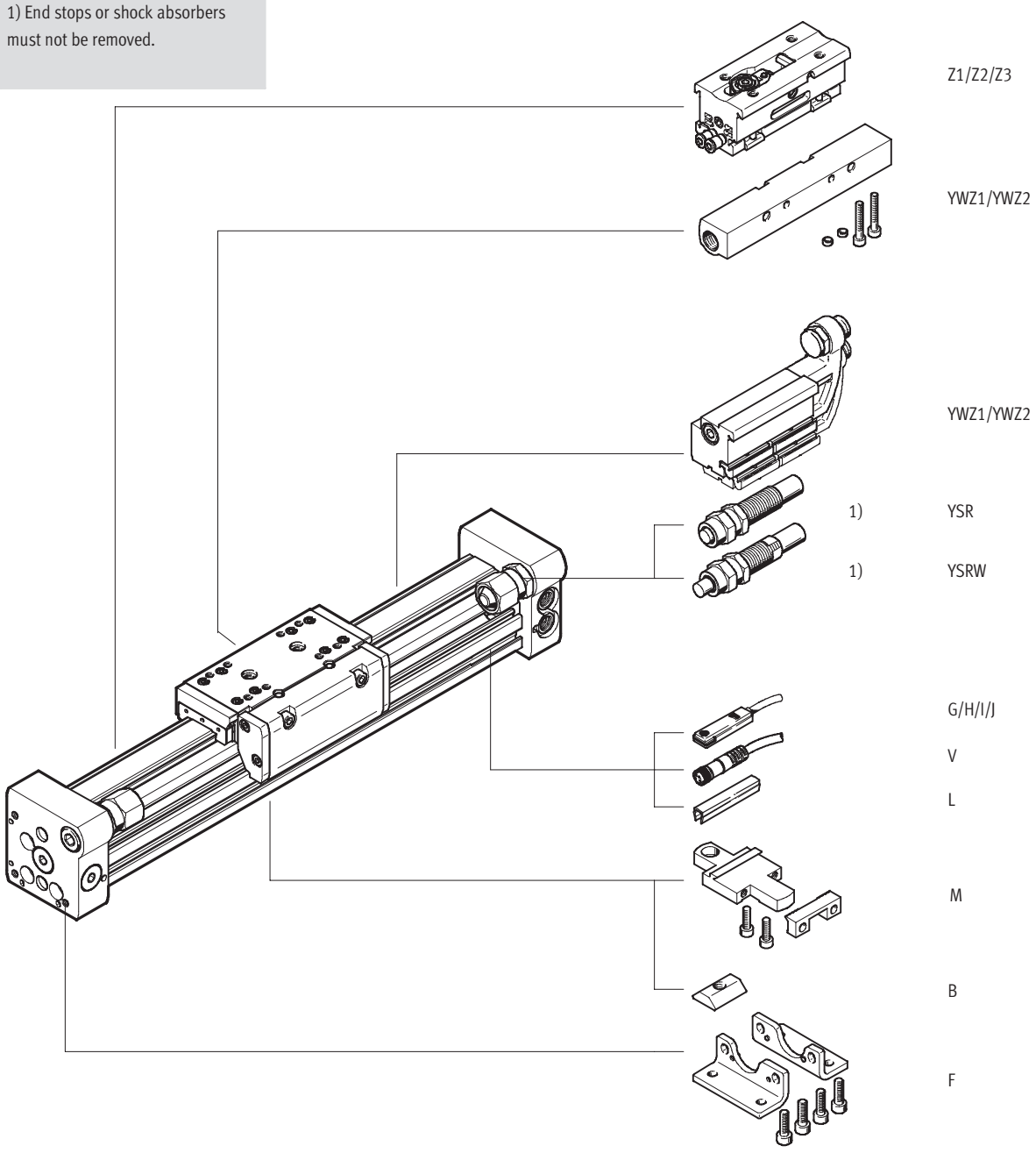


1 Sensor slot for proximity sensor
2 Mounting slot for slot nut

Order code
Mandatory data/options

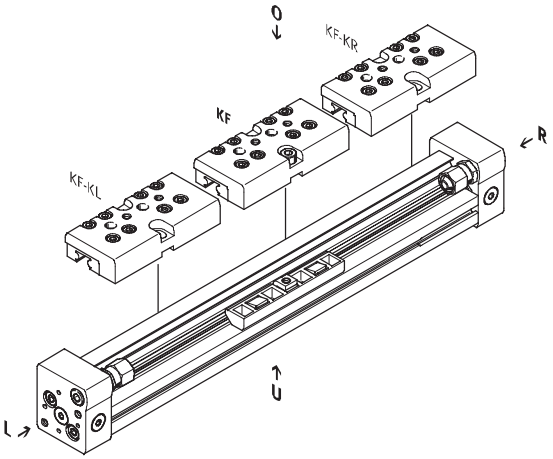
Note

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

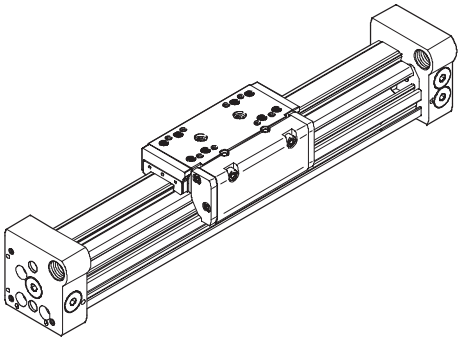


Order code

KL/KR – With additional slide



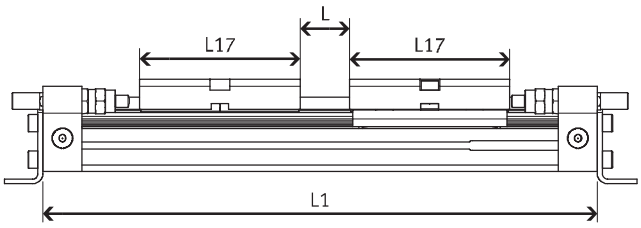
GP – With protected recirculating ball bearing guide



Effective stroke reduction when ordering an additional slide KL or KR

For 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-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

Linear drives DGC-KF, with recirculating ball bearing guide

Ordering data – Modular products

FESTO

M **Mandatory data** →

Module No.	Function		Piston ∅		Stroke		Guide		Cushioning		Position sensing
530 906	DGC		8		1 … 8500		KF		P		A
530 907			12						PPV		
532 446			18						YSR		
532 447			25						YSRW		
532 448			32								
532 449			40								
532 450			50								
532 451			63								
Order example											
530 907	**DGC**	–	**12**	–	**250**	–	**KF**	–	**YSRW**	–	**A**

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
	Piston ∅	[mm]	8	12	18	25	32	40	50	63		**-...**		
	Stroke	[mm]	1 … 1300	1 … 1900	1 … 3000	1 … 8500			1 … 5000			**-...**		
	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		For proximity sensor									**-A**		-A

Transfer order code

	DGC	–		–		–	KF	–		–	A	–

Linear drives DGC-KF, with recirculating ball bearing guide

FESTO

Ordering data – Modular products

➔ 0 Options

	Slide		Additional slide at left		Additional slide at right		Acces-sories		Accessories supplied loose		Intermediate position		User manual
	GP		KL		KR				F, ...M, ...B, ...G, ...H, ...I, ...J, ...V, ...L, YWZ1, YWZ2		Z1, Z2, Z3		0
–		–	KL	–	KR		ZUB	–	F2M	–		–	

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, left								2	-KL	
Additional slide at right		Additional slide, standard, right								2	-KR	
Accessories		Supplied loose (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	
	M8 plug	1 ... 9									...H	
Proximity sensor, contactless, PNP	Cable, 2.5 m	1 ... 9									...I	
	M8 plug	1 ... 9									...J	
Cable with socket	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		–	–	–	1 intermediate position			–	–	4	-Z1	
		–	–	–	2 intermediate positions			–	–	4	-Z2	
		–	–	–	3 intermediate positions			–	–	4	-Z3	
User manual		Express waiver – no operating instructions to be included (already available)									-O	

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

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

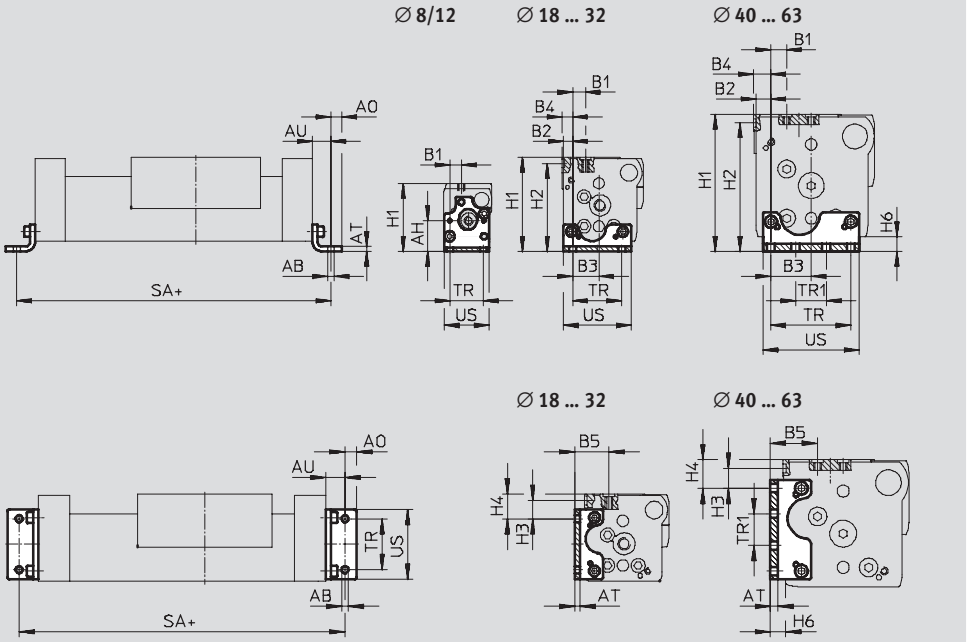
Ordering data – Wearing parts kits

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

Foot mounting HPC
(order code: F)

Material:
Galvanised steel



\+ = plus stroke length

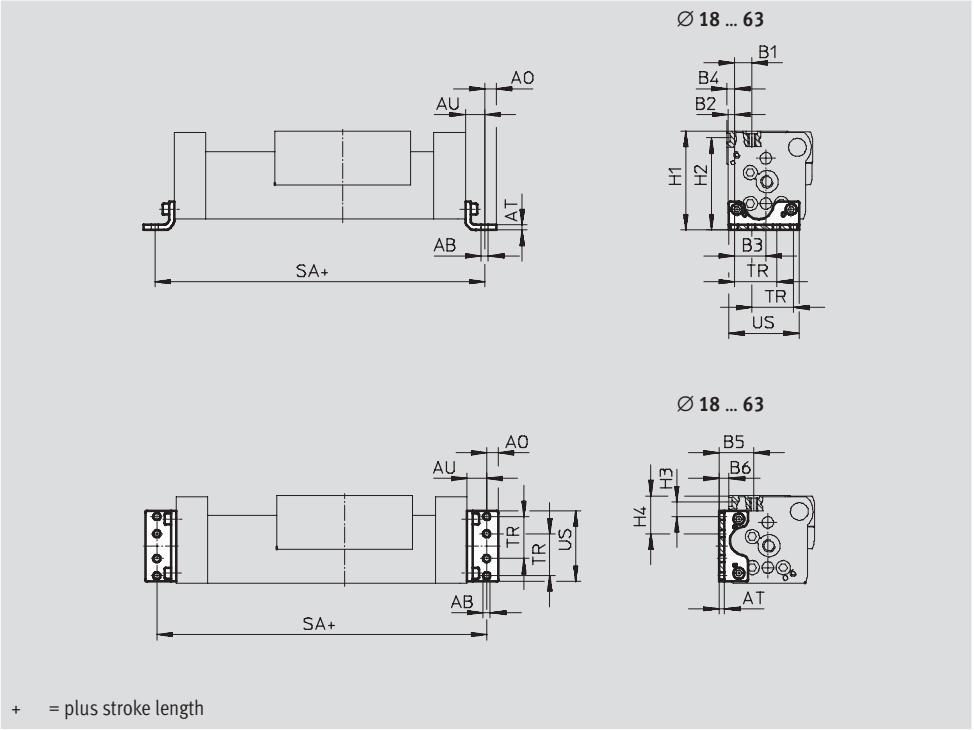
Dimensions and ordering data

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 GF/KF	H3 GF/KF	H4 G	H4 GF/KF	H6	SA +0.9/–0.2	TR ±0.1	TR1 ±0.1	US	Weight [g]	Part No.	Type
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**

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

Material:
Galvanised steel



\+ = plus stroke length

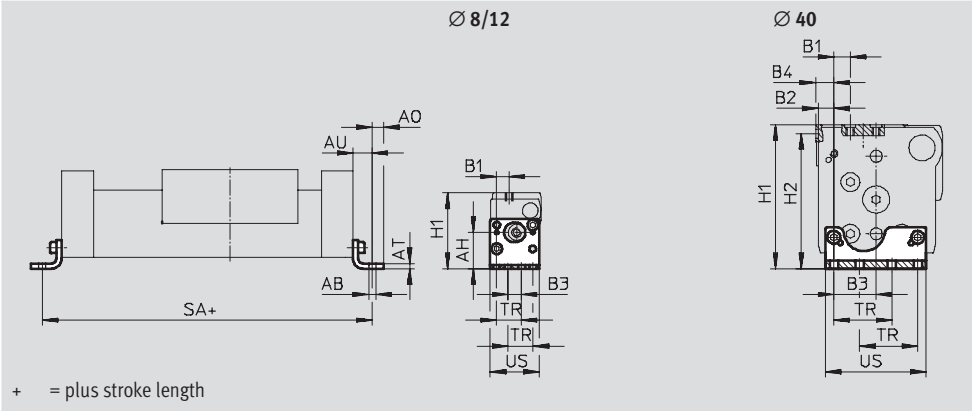
Dimensions and ordering data

For Ø [mm]	AB Ø	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 Ø [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**

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

Material:
Galvanised steel



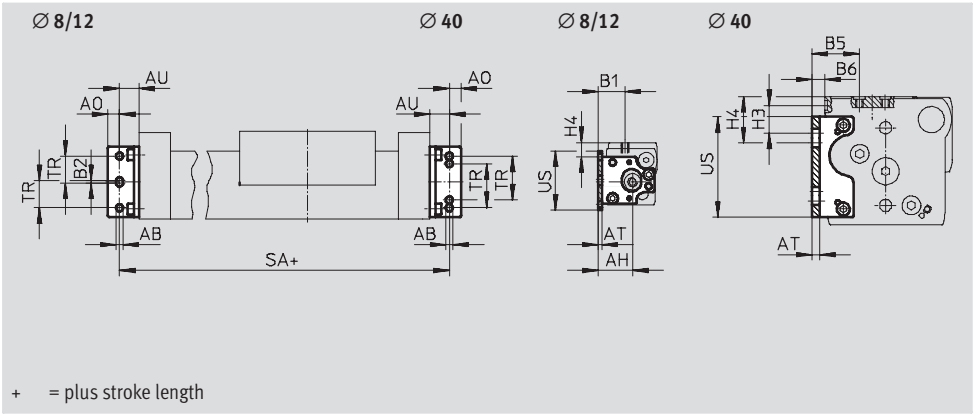
\+ = plus stroke length

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**

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

Material:
Galvanised steel



\+ = plus stroke length

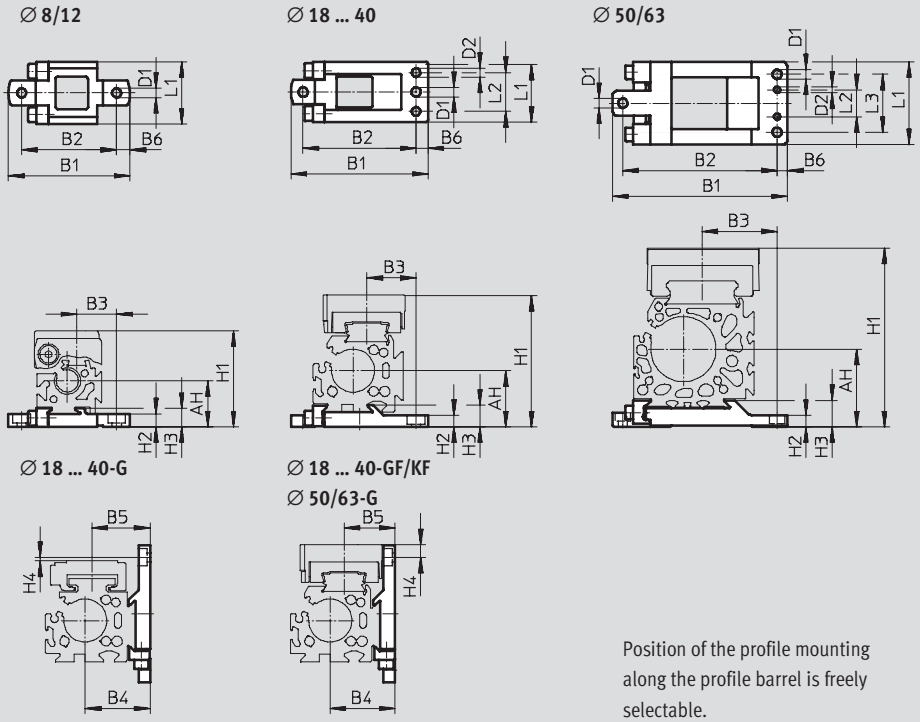
Dimensions and ordering data

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**

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

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	$80_{\pm 0.4}$

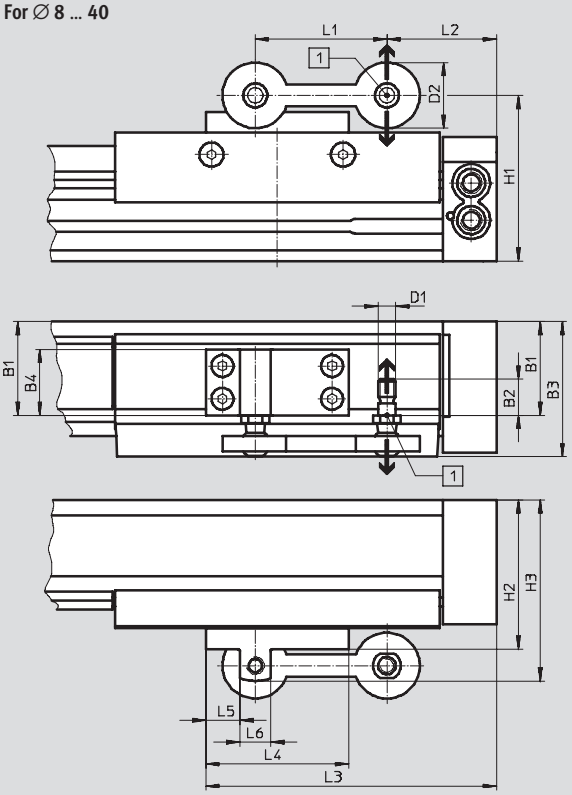
For ∅ [mm]	L2 ±0.05	L3 ±0.2	Weight [g]	Part No.	Type
8	–	–	28	**526 384**	**MUC-8**
12	–	–	32	**526 387**	**MUC-12**
18	20.5	–	78	**531 752**	**MUC-18**
25	22.5	–	113	**531 753**	**MUC-25**
32	30	–	174	**531 754**	**MUC-32**
40	44	–	346	**531 755**	**MUC-40**
50	26	56	874	**531 756**	**MUC-50**
63	26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

Driver FKC
(order code: FK)
for DGC-G

Materials:
Plate: Wrought aluminium alloy

Joint: Polyamide
Ball pin: High-alloy steel

For ∅ 8 ... 40

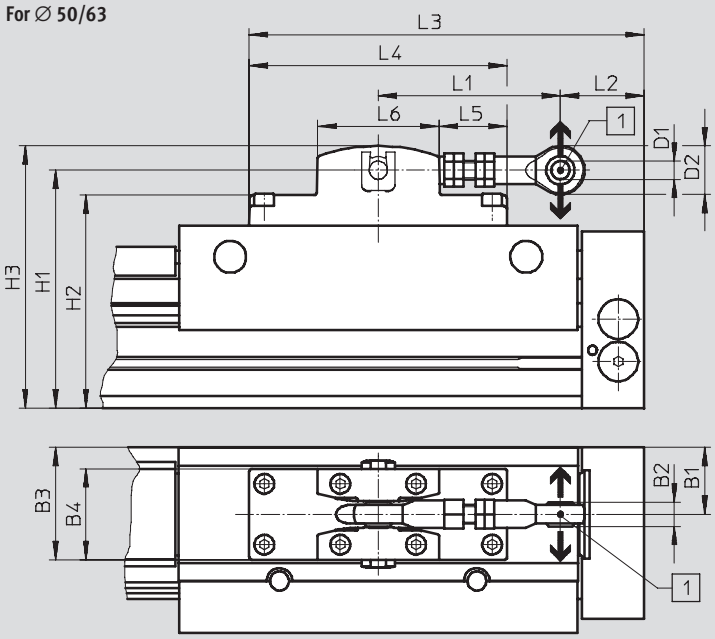


Note

Compensation possible in direction of arrow.

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

For ∅ 50/63



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 to Festo standard 940 070
Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers

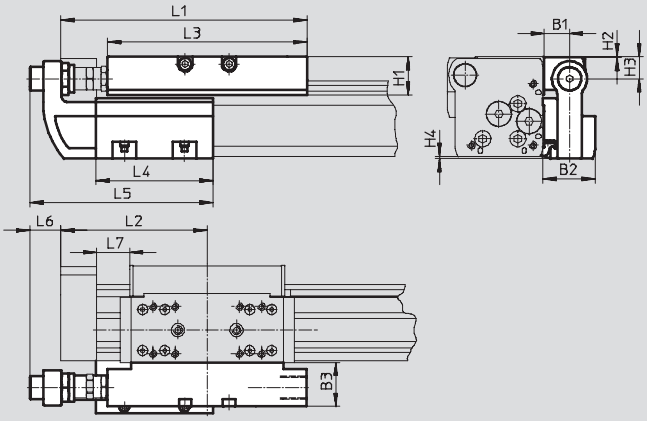
Shock absorber retainer DADP
Stop KYC
(order code: YWZ1 or YWZ2)
For DGC-GF, DGC-KF, DGC-FA

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 absorber 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.

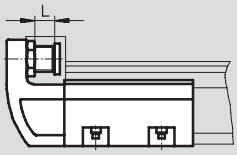
Dimensions

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							

Technical data and ordering codes

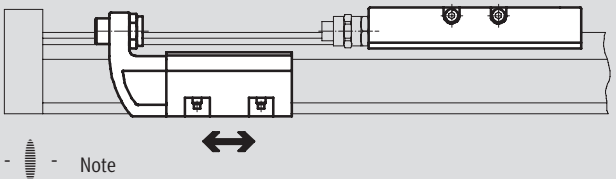
Precision adjustment



Note

The stop KYC can be used in both directions.

Installation example



Note

The stop KYC can be mounted at any position within 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 to 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 to 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

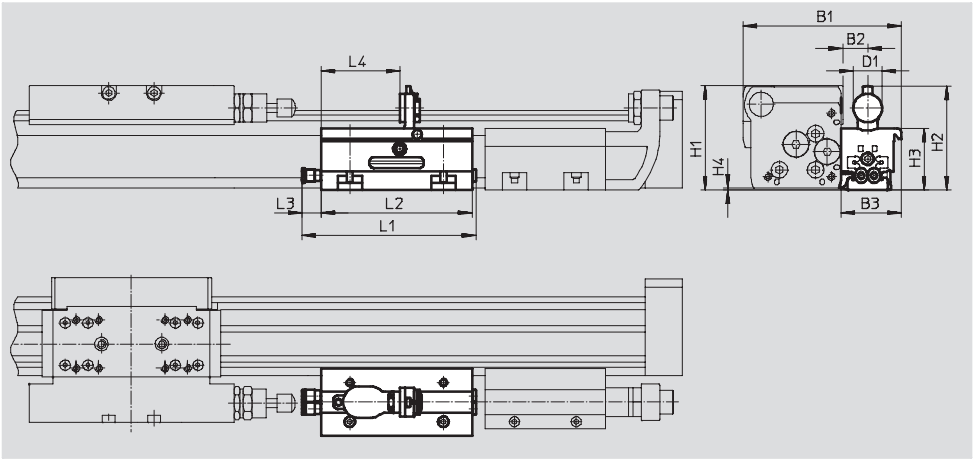
Linear drives DGC

Accessories

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

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

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

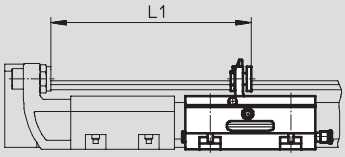


Dimensions

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

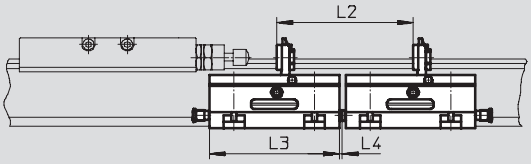
Minimum distance

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

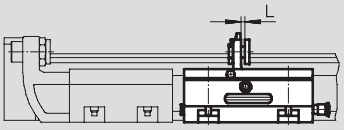
- Shock absorber not included in scope of delivery.
  Existing shock absorbers can be removed from the end caps of the linear drive and installed in the shock absorber retainer.
  Under no circumstances may the linear drive and the intermediate position module be operated without a shock absorber.
- A shock absorber retainer DADP and a stop KYC are additionally needed when using an intermediate position module.
- The projection (dimension H4) must be noted when using the drive in combination with the intermediate position module DADM. Mounting via foot mountings HP or profile mountings MUC is recommended in this case.
- The position of the stop lever can be detected using proximity sensors SME/SMT-10 ➔ 75.

Linear drives DGC

Accessories

FESTO

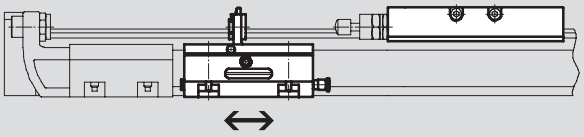
Precision adjustment L



Note

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

Installation example



Note

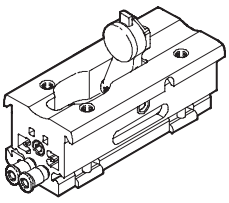
The intermediate position module DADM can be mounted at any position within the stroke.

Technical data

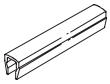
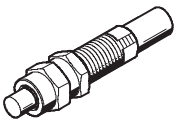
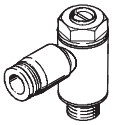
For ∅	[mm]	25	32	40
Pneumatic connection		QS-4		
Operating pressure	[bar]	2.5 ... 8		
Mounting position		Any		
Impact velocity	[m/s]	➔ 49		
Swivel time	[ms]	≤100	≤100	≤300
Precision adjustment L	[mm]	2	2	4
Repetition accuracy	[mm]	0.02		
Position sensing		For proximity sensor SME/SMT-10		
Weight	[g]	430	530	970
Ambient temperature	[°C]	–10 ... +60		
Corrosion resistance class CRC[1)]		2		
Note on material		Free of copper and PTFE		
		Conforms to RoHS		–

1) Corrosion resistance class 2 to 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 codes

	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**

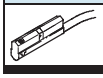
Ordering data

	For ∅	Remarks	Order code	Part No.	Type	PU[1]
Slot nut NST					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 each 0.5 m	L	**151 680**	**ABP-5-S**	2
Shock absorber YSRW					Technical data ➔ Internet: ysrw	
	8	For DGC basic version 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	–	**193 137**	**GRLA-M5-QS-3-D**	1
				193 138	**GRLA-M5-QS-4-D**	
	25, 32			**193 142**	**GRLA-⅛-QS-3-D**	
				193 143	**GRLA-⅛-QS-4-D**	
				193 144	**GRLA-⅛-QS-6-D**	
				193 145	**GRLA-⅛-QS-8-D**	
	40, 50			**193 146**	**GRLA-¼-QS-6-D**	
				193 147	**GRLA-¼-QS-8-D**	
				193 148	**GRLA-¼-QS-10-D**	
	63			**193 149**	**GRLA-⅜-QS-6-D**	
				193 150	**GRLA-⅜-QS-8-D**	
				193 151	**GRLA-⅜-QS-10-D**	

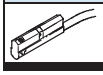
1) Packaging unit quantity

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

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

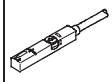
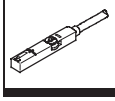
	Type of mounting	Switch output	Electrical connection, connection direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot lengthwise	PNP	Plug M8x1, 3-pin, in-line	0.3	**173 220**	**SMT-10-PS-SL-LED-24**
			Cable, 3-wire, in-line	2.5	**173 218**	**SMT-10-PS-KL-LED-24**

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

	Type of mounting	Switch output	Electrical connection, connection direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the 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**

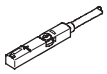
Proximity sensors for piston ∅ 18 … 63

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

	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the 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 the slot lengthwise, flush with the 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 the slot from above, flush with cylinder profile	PNP	Cable, 3-wire	7.5	**543 873**	**SMT-8M-PO-24V-K7,5-OE**

Proximity sensors for piston ∅ 18 … 63

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

	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the 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, 3-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 the slot lengthwise, flush with the 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 the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	7.5	**160 251**	**SME-8-O-K-LED-24**

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

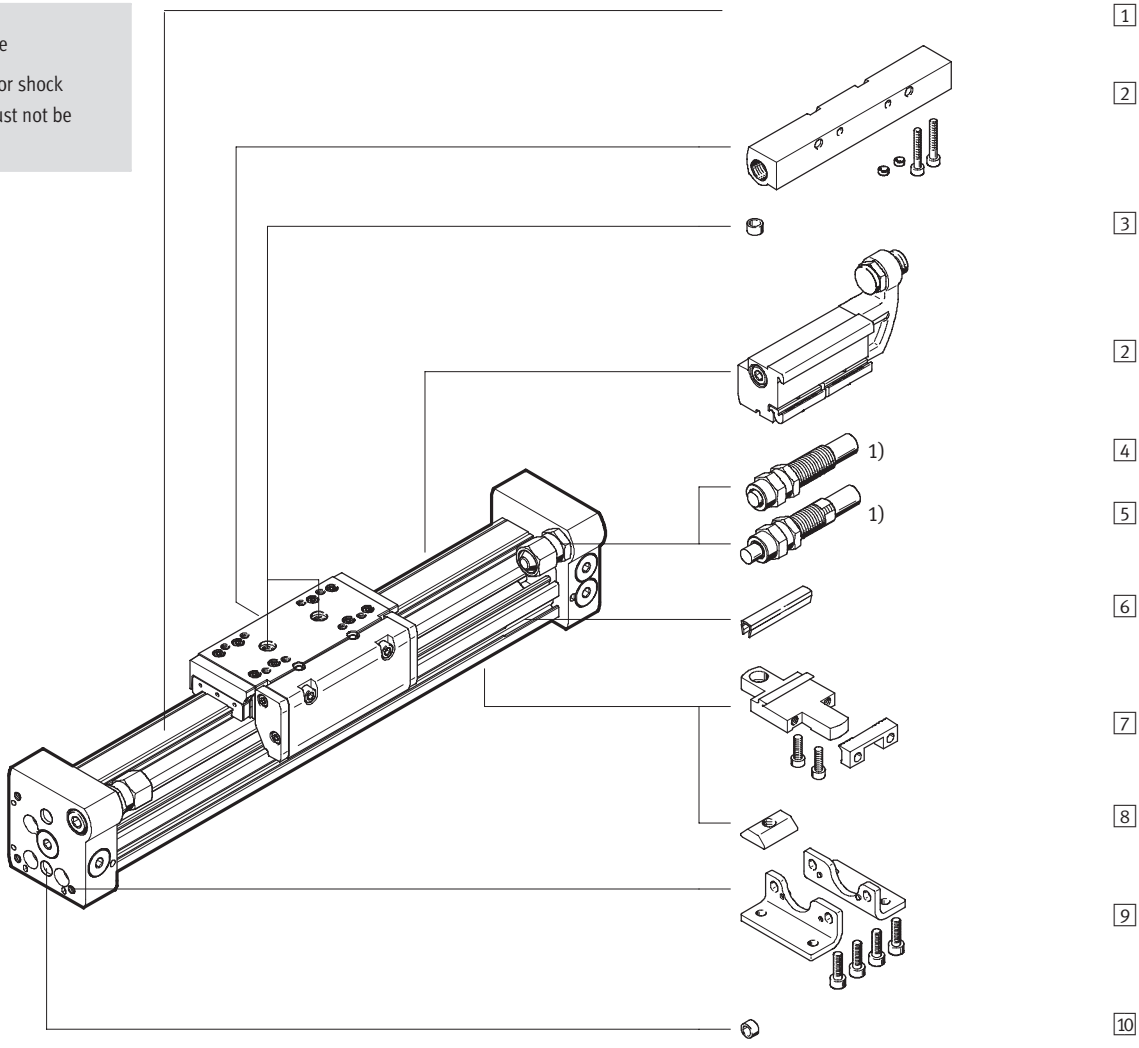
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	**541 333**	**NEBU-M8G3-K-2.5-LE3**
			5	**541 334**	**NEBU-M8G3-K-5-LE3**
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	**541 363**	**NEBU-M12G5-K-2.5-LE3**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

Passive guide axes DGC-FA, without drive

Peripherals overview

- Note

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



Passive guide axes DGC-FA, without drive

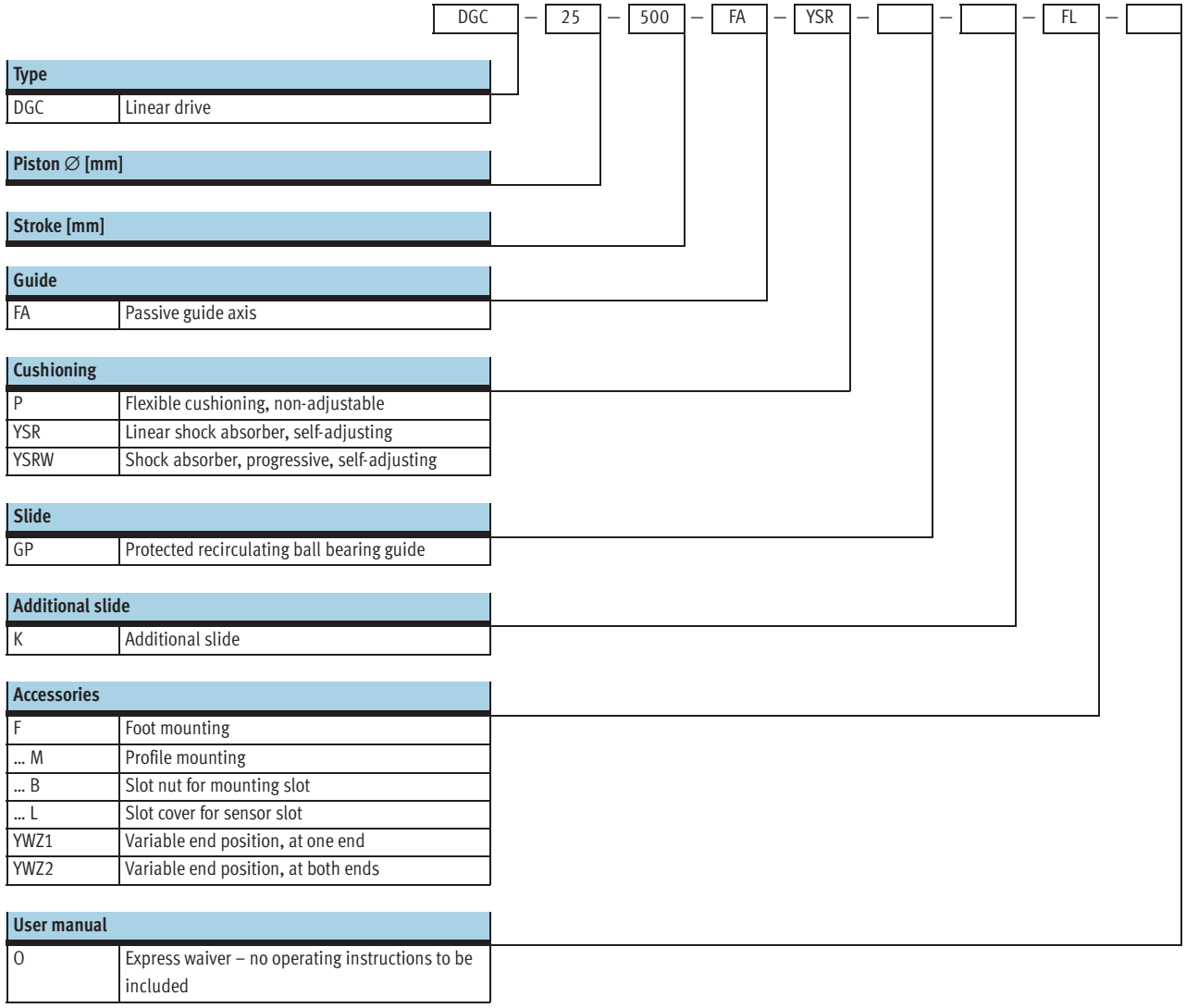
Peripherals overview

Variants and accessories			
	Type	**Brief description**	**➔ Page/Internet**
1	Passive guide axes DGC-FA	Passive guide axis without accessories	79
2	Mechanical end position limiter YWZ	For variable end position adjustment, e.g. for format adjustments	98
3	Centring pin/sleeve[1)] ZBS/ZBH	For centring loads and attachments on the slide	100
–	Cushioning P	Non-adjustable, flexible cushioning. Only used for low speeds	92
4	Shock absorber YSR	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic	92
5	Shock absorber YSRW	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic	92
6	Slot cover L	For protecting against ingress of dirt and securing proximity sensor cables	100
7	Profile mounting M	Simple and precise mounting option via dovetail connection	97
8	Slot nut B	For mounting attachments	100
9	Foot mounting F	For mounting on end cap	93
10	Centring pin/sleeve[1)] ZBS/ZBH	For centring the drive DGC without foot mountings (user-specific)	100

1) Included in the scope of delivery for the axis

Passive guide axes DGC-FA, without drive

Type codes



Type	
DGC	Linear drive

Piston ∅ [mm]

Stroke [mm]

Guide	
FA	Passive guide axis

Cushioning	
P	Flexible cushioning, non-adjustable
YSR	Linear shock absorber, self-adjusting
YSRW	Shock absorber, progressive, self-adjusting

Slide	
GP	Protected recirculating ball bearing guide

Additional slide	
K	Additional slide

Accessories	
F	Foot mounting
… M	Profile mounting
… B	Slot nut for mounting slot
… L	Slot cover for sensor slot
YWZ1	Variable end position, at one end
YWZ2	Variable end position, at both ends

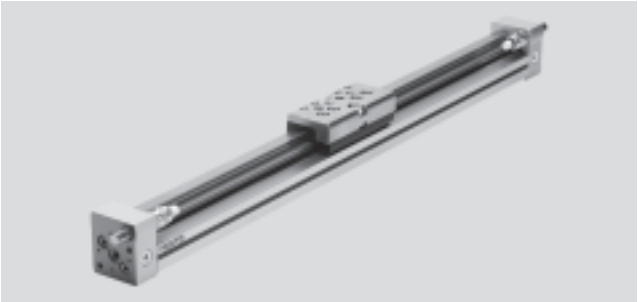
User manual	
O	Express waiver – no operating instructions to be included

Passive guide axes DGC-FA, without drive

Technical data

FESTO

- Ø - Diameter
  8 ... 63 mm
- I - Stroke length
  1 ... 8,500 mm



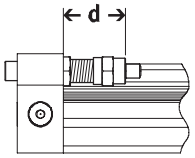
General technical data									
Piston ∅		8	12	18	25	32	40	50	63
Stroke	[mm]	1 ... 1,300	1 ... 1,900	1 ... 3,000	1 ... 5,000				
Guide		External recirculating ball bearing guide							
Mounting position		Any							
Cushioning		Non-adjustable at either end							
→82		Self-adjusting at both ends							
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)							

Operating and environmental conditions		
Ambient temperature	[°C]	–10 ... +60
Corrosion resistance class CRC[1)]		1

1) Corrosion resistance class 1 to Festo standard 940 070
Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers

Weights [g]								
Piston ∅	8	12	18	25	32	40	50	63
Basic weight per 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	47	117	153	236
Moving load	77	149	331	732	1,146	2,330	4,511	8,225

Adjustable end position range d [mm]



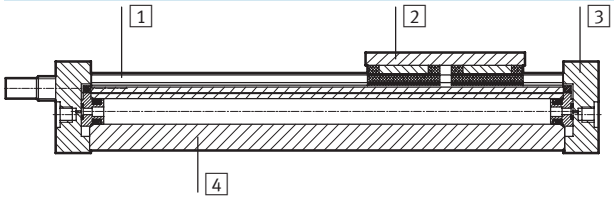
Piston ∅	8	12	18	25	32	40	50	63
Cushioning P	11.3 ... 16.3	12.7 ... 17.7	13.8 ... 15.8	21.1 ... 25.1	25.2 ... 30.2	28.7 ... 33.7	28.7 ... 33.7	38.8 ... 43.8
Protected guide with cushioning P	–	–	16.9 ... 18.9	23.6 ... 27.6	25.2 ... 30.2	34.7 ... 39.7	–	–
Cushioning YSR/YSRW	12.8 ... 22.8	14 ... 24	14.5 ... 34.5	22.5 ... 47.5	27.3 ...37.3	31 ... 56	31 ... 56	41 ... 76

Passive guide axes DGC-FA, without drive

Technical data

Materials

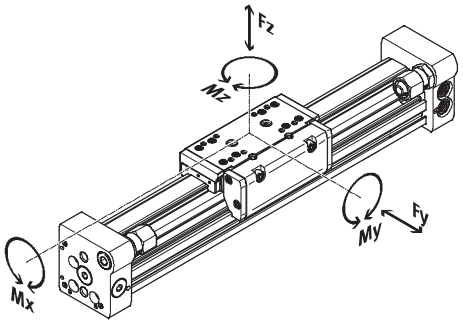
Sectional view



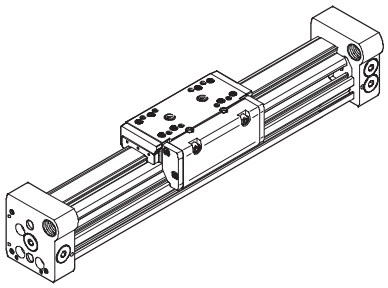
Passive guide axes		
1	Guide rail	High-alloy steel
2	Slide	High-alloy steel
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
–	Sealing band	Polyurethane

Characteristic load values

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



GP – Protected guide



If the drive is subjected to more than two of the indicated forces and torques simultaneously, 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

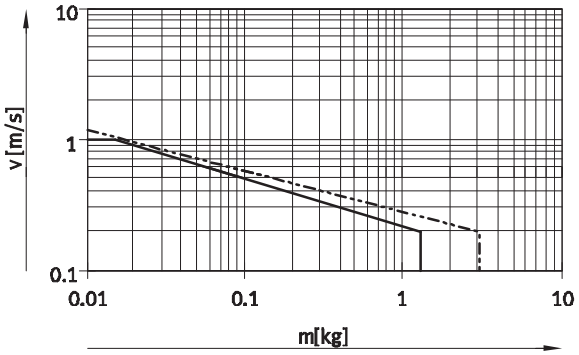
Piston ∅		8	12	18	25	32	40	50	63
$Fy_{max.}$	[N]	300	650	1,850	3,050	3,310	6,890	6,890	15,200
$Fz_{max.}$	[N]	300	650	1,850	3,050	3,310	6,890	6,890	15,200
$Mx_{max.}$	[Nm]	1.7	3.5	16	36	54	144	144	529
$My_{max.}$	[Nm]	4.5	10	51	97	150	380	634	1,157
$Mz_{max.}$	[Nm]	4.5	10	51	97	150	380	634	1,157

Note

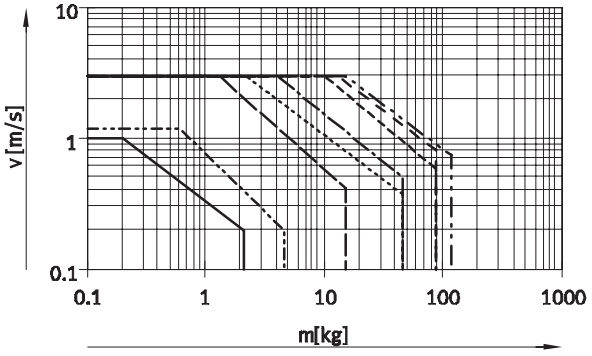
Sizing software
ProDrive
➔www.festo.com

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

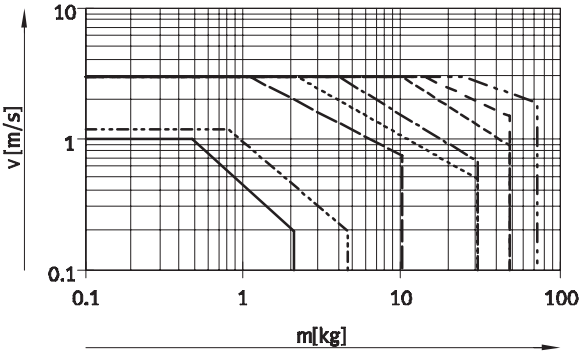
Piston ∅ 8/12 with P cushioning



Piston ∅ 8 ... 40 with YSR cushioning



Piston ∅ 8 ... 40 with YSRW cushioning



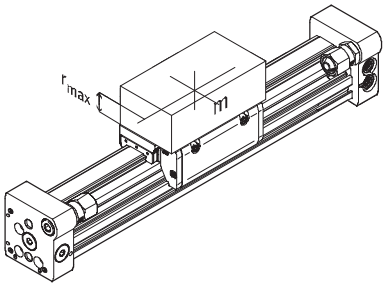
∅ 8 ∅ 18 ∅ 40
∅ 12 ∅ 25 ∅ 50
∅ 32 ∅ 63

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 0.01 mm.

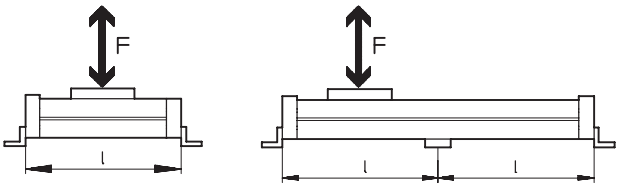
The data applies to a horizontal mounting position:

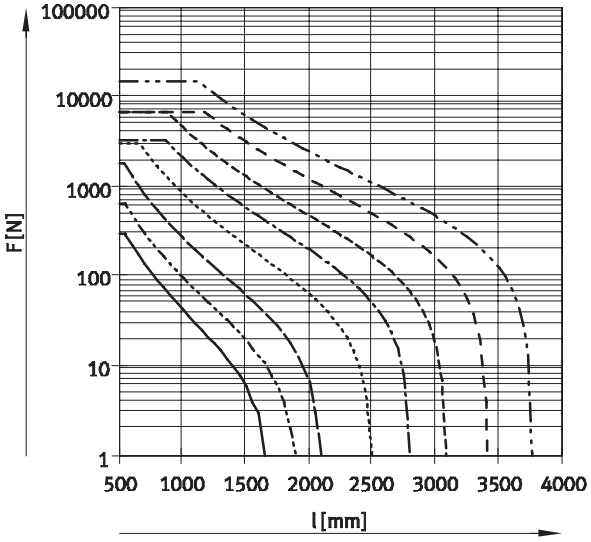
Piston ∅		8	12	18	25	32	40	50	63
Distance $r_{max.}$	[mm]	25	35	35	50	50	50	50	50

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

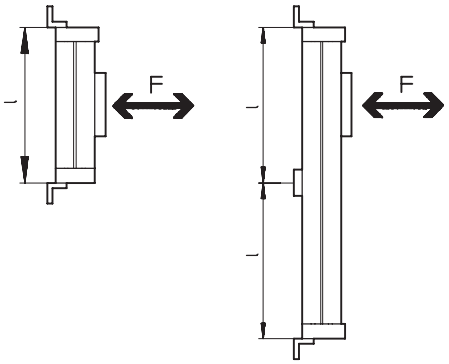
In order to limit deflection in the case of large strokes, the guide axis may need to be supported. The following diagrams serve to determine the maximum permissible support span as a function of the mounting position and the perpendicular force.

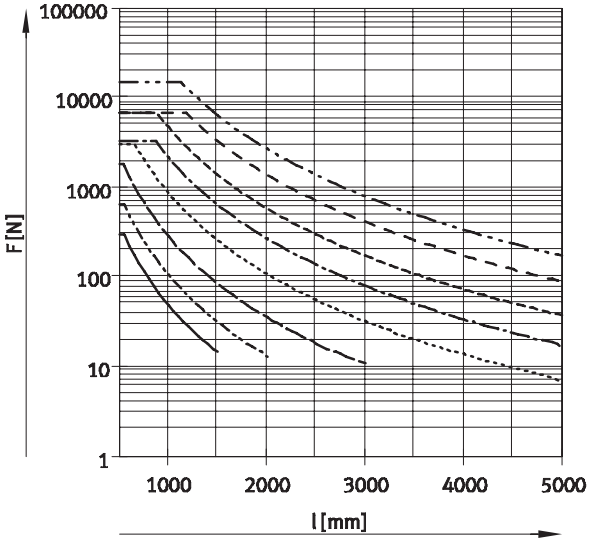
Horizontal mounting position

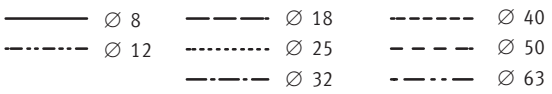




Vertical mounting position







Example:

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

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

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

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

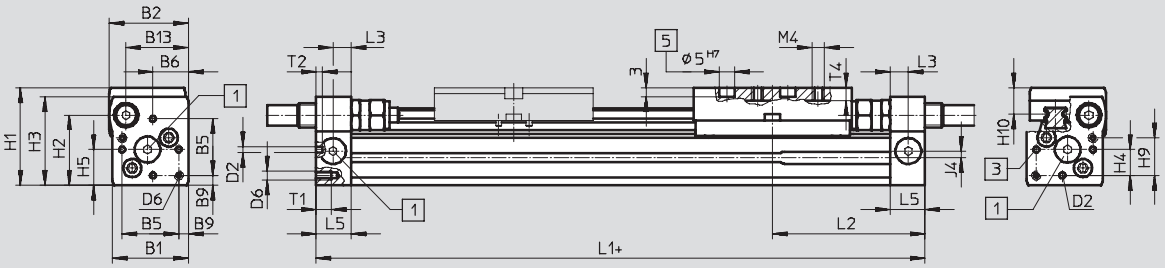
Passive guide axes DGC-FA, without drive

Technical data

Dimensions

Download CAD data ➔ **www.festo.com**

∅ 8 and 12



\+ plus stroke length

1 The ports on the end caps are sealed with blanking plugs

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
8	25	26	25	18.6	11.7	3	6	3.2	20.5	2	M3
12	30.2	31	31	20.6	13.5	3	8	4.8	25	2	M4

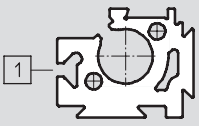
∅ [mm]	H1	H2	H3	H4	H5	H6	H7	H9	H10	J4	L1 +0.5/ −0.4
8	32	23	29	8.5	11.7	16.5	4.5	12.3	8.7	2.2	100
12	37.5	28.5	34.5	8.7	13.5	20.5	5	14.7	9.8	3	125

∅ [mm]	L2	L3	L5	L6			L17	T1	T2	T4	Stroke tolerance
				P	YSR	YSRW					
8	50.1	6	11.5	0	16	16.2	52	5	2	4.3	0 … 1.7
12	62.1	8	16	0	11.3	12.3	65	6	2	5	

Profile barrel

∅ 8

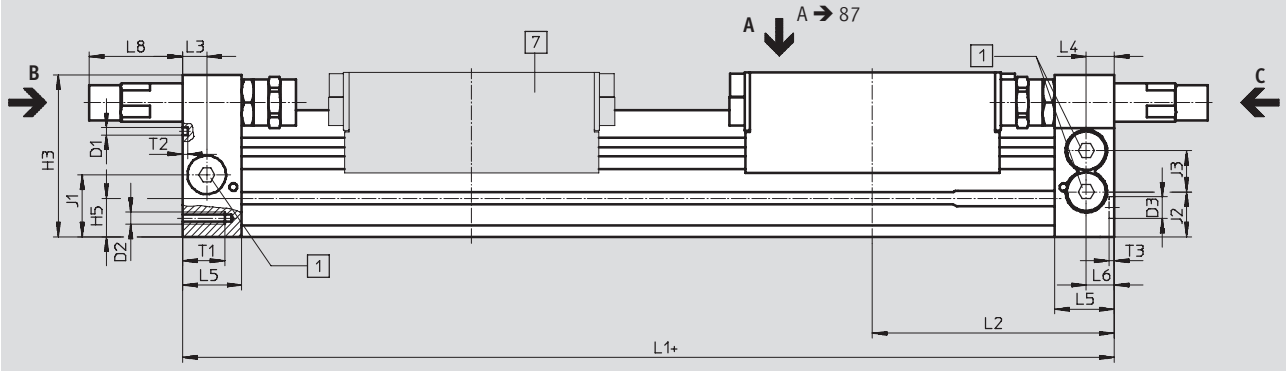
∅ 12



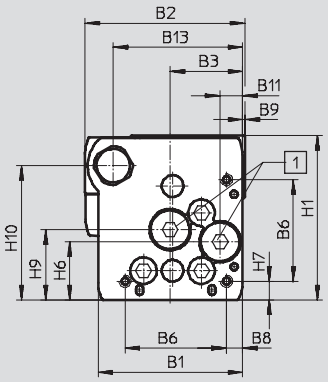
1 Sensor slot for proximity sensor

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

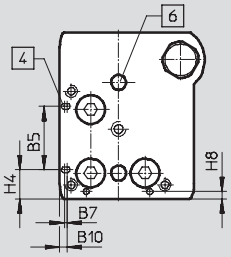
∅ 18 ... 40



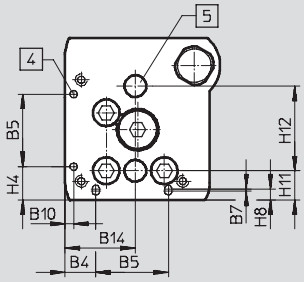
View C
∅ 18 ... 40



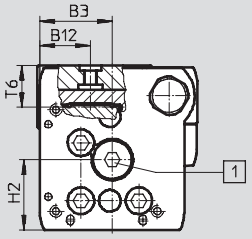
View B
∅ 18



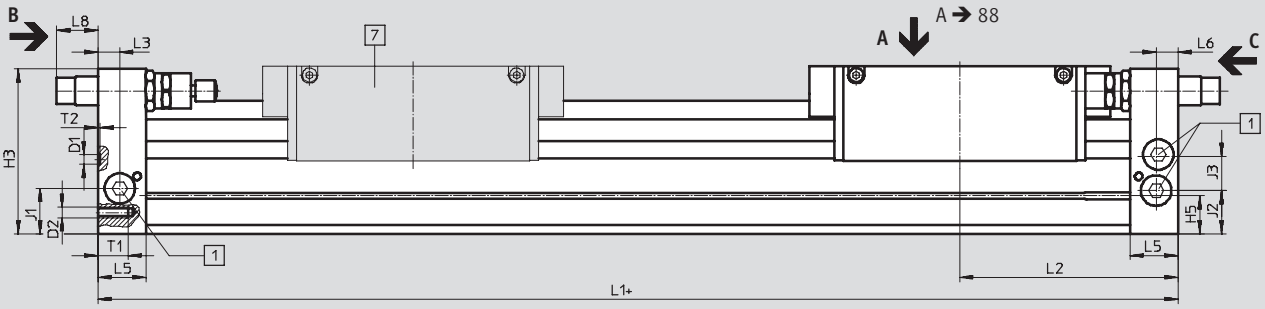
∅ 25 ... 40



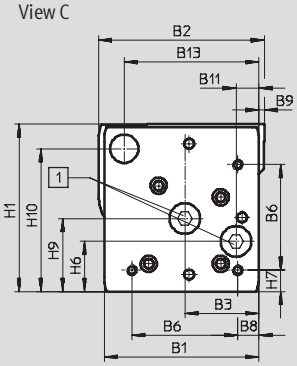
∅ 18 ... 40



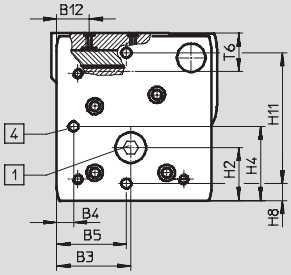
∅ 50/63



View C



View B



\+ plus stroke length
1 The ports on the end caps are sealed with blanking plugs
4 Mounting hole for foot mounting HPC
5 Hole for centring sleeve ZBH
6 Hole for centring pin ZBS
7 Additional slide

Passive guide axes DGC-FA, without drive

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	0	–	21	24
63	142	149	68	15.5	68	97	–	19.5	5	–	21	30

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

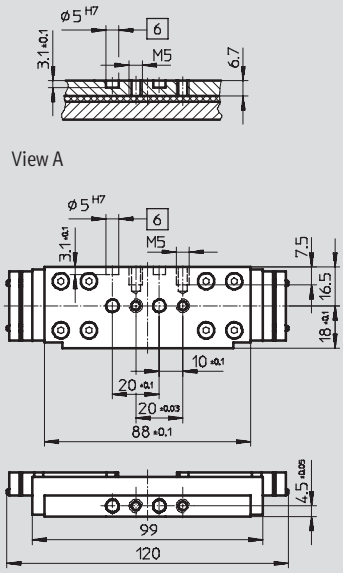
∅ [mm]	H7	H8	H9	H10	H11	H12 ±0.05	J1	J2	J3	L1	
										KF +0.9/–0.2	KF-GP +0.9/–0.2
18	4.6	2.4	25.2	46	$8.5_{\pm 0.15}$	30	20	16.5	11	150	157
25	7.65	4.5	29	55.5	$12_{\pm 0.15}$	35	26.1	18.6	17	200	205
32	8.5	14	35.2	63.8	$11.45_{\pm 0.15}$	50	30	22	18.5	250	250
40	12.2	8	44	81.5	$15_{\pm 0.15}$	60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

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

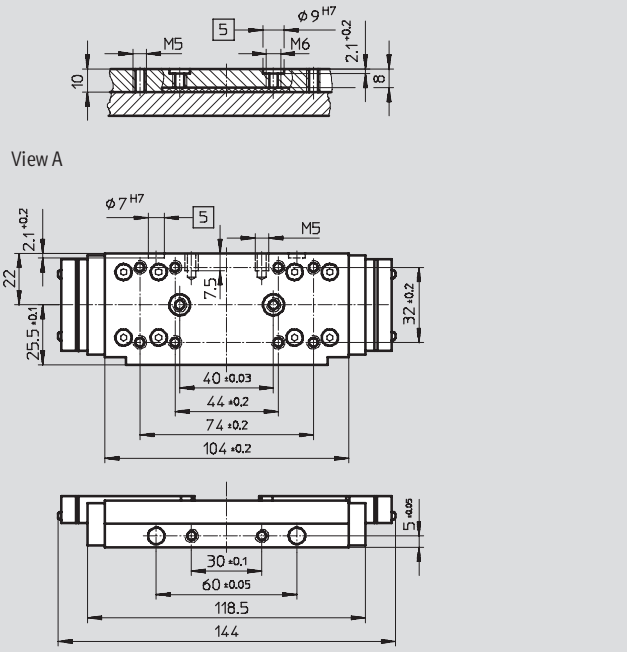
Dimensions Download CAD data ➔ **www.festo.com**

Slide

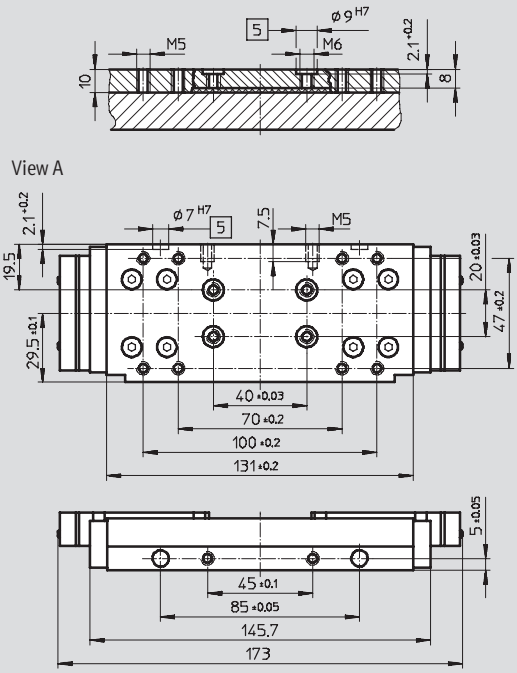
∅ 18



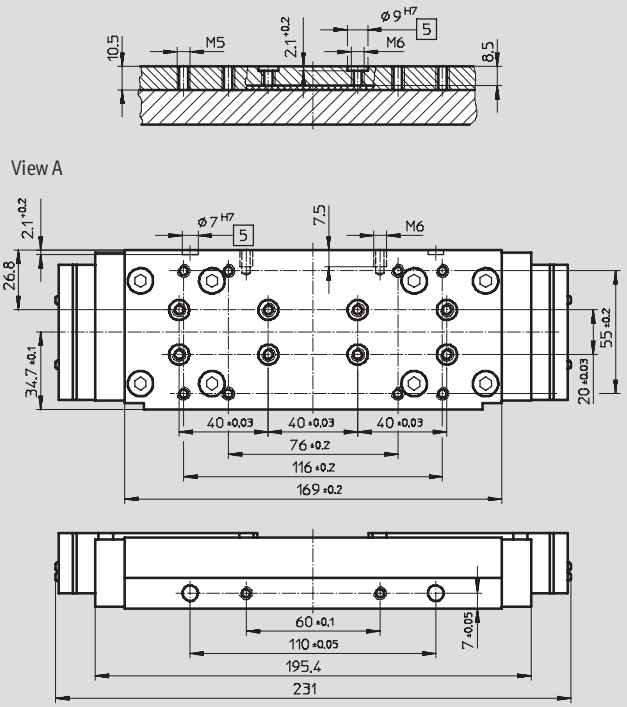
∅ 25



∅ 32



∅ 40



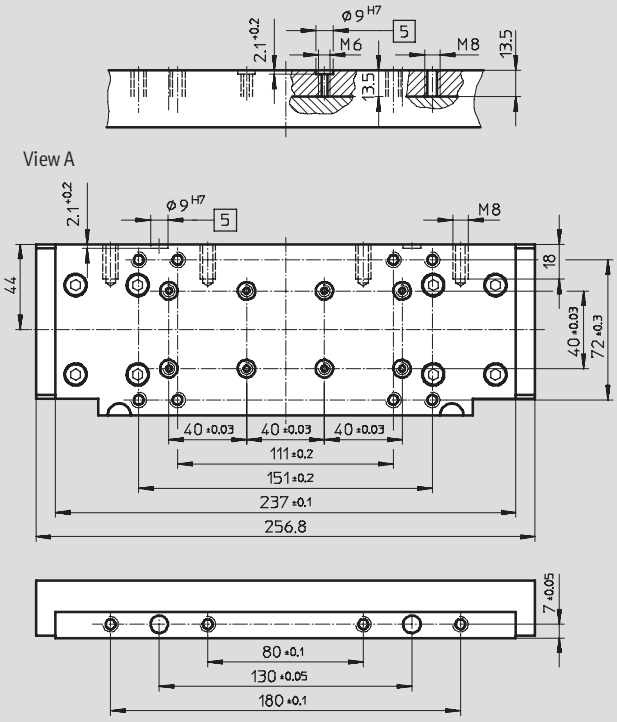
5 Hole for centring sleeve ZBH

6 Hole for centring pin ZBS

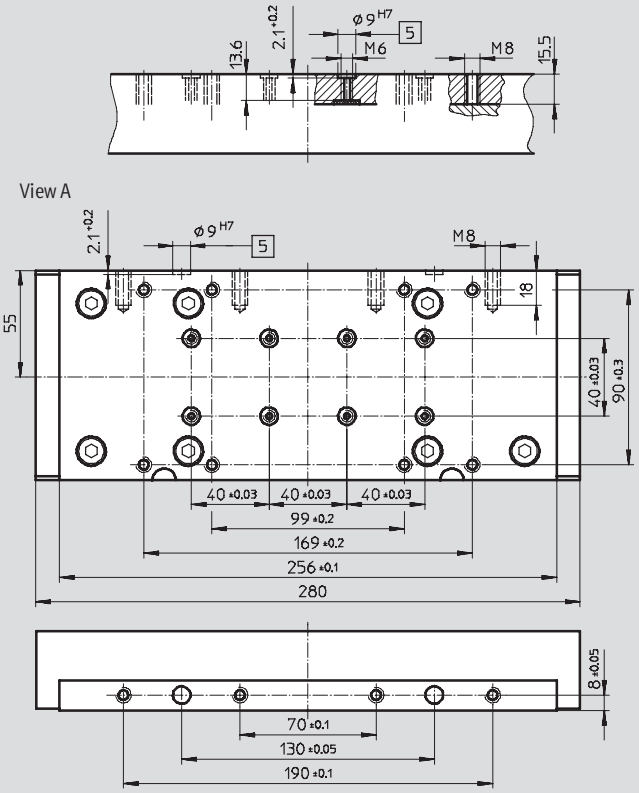
Dimensions Download CAD data ➔ **www.festo.com**

Slide

∅ 50



∅ 63

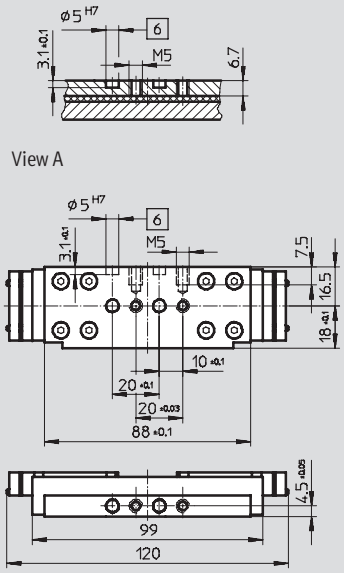


5 Hole for centring sleeve ZBH
6 Hole for centring pin ZBS

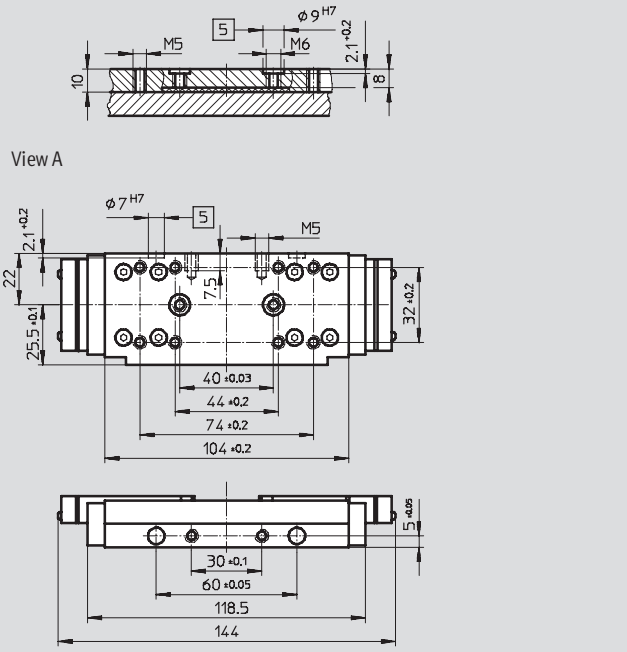
Dimensions Download CAD data ➔ **www.festo.com**

Slide, variant GP – Protected recirculating ball bearing guide

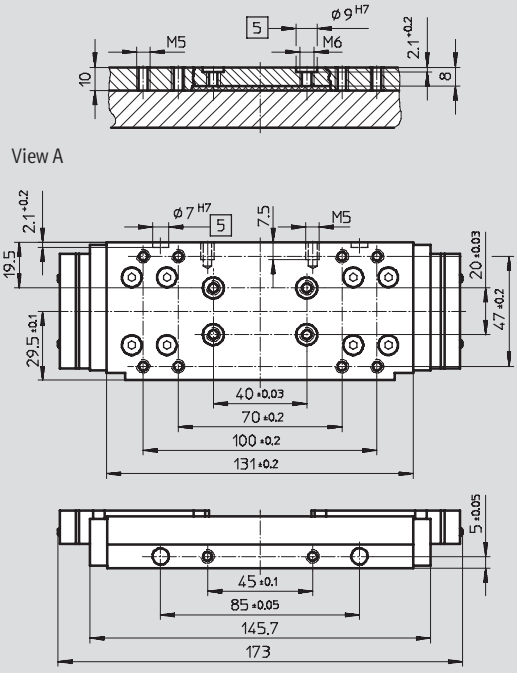
∅ 18



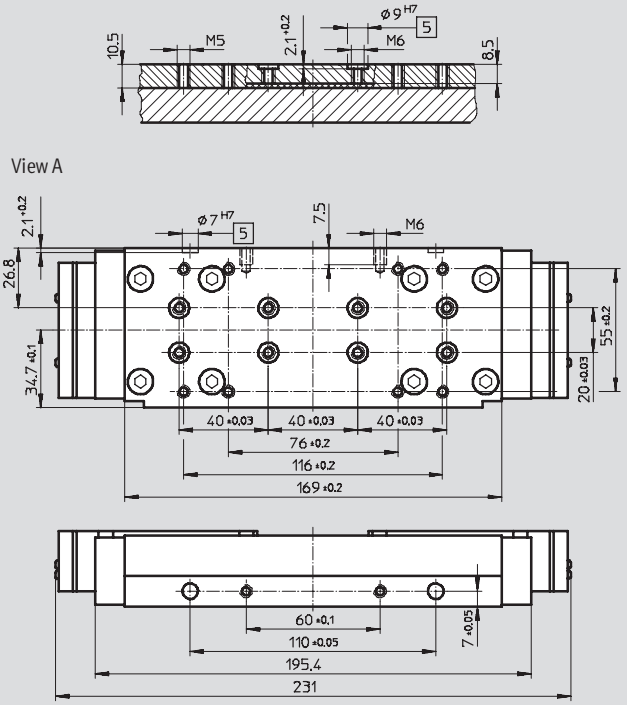
∅ 25



∅ 32



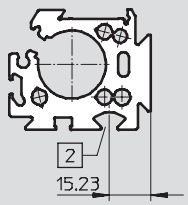
∅ 40



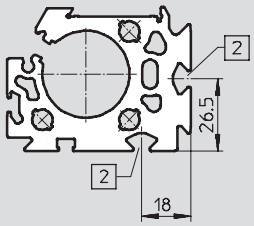
5 Hole for centring sleeve ZBH
6 Hole for centring pin ZBS

Profile barrel

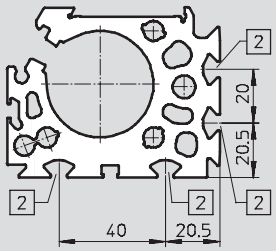
∅ 25



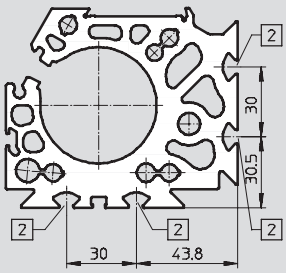
∅ 32



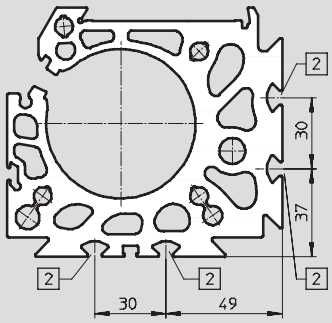
∅ 40



∅ 50



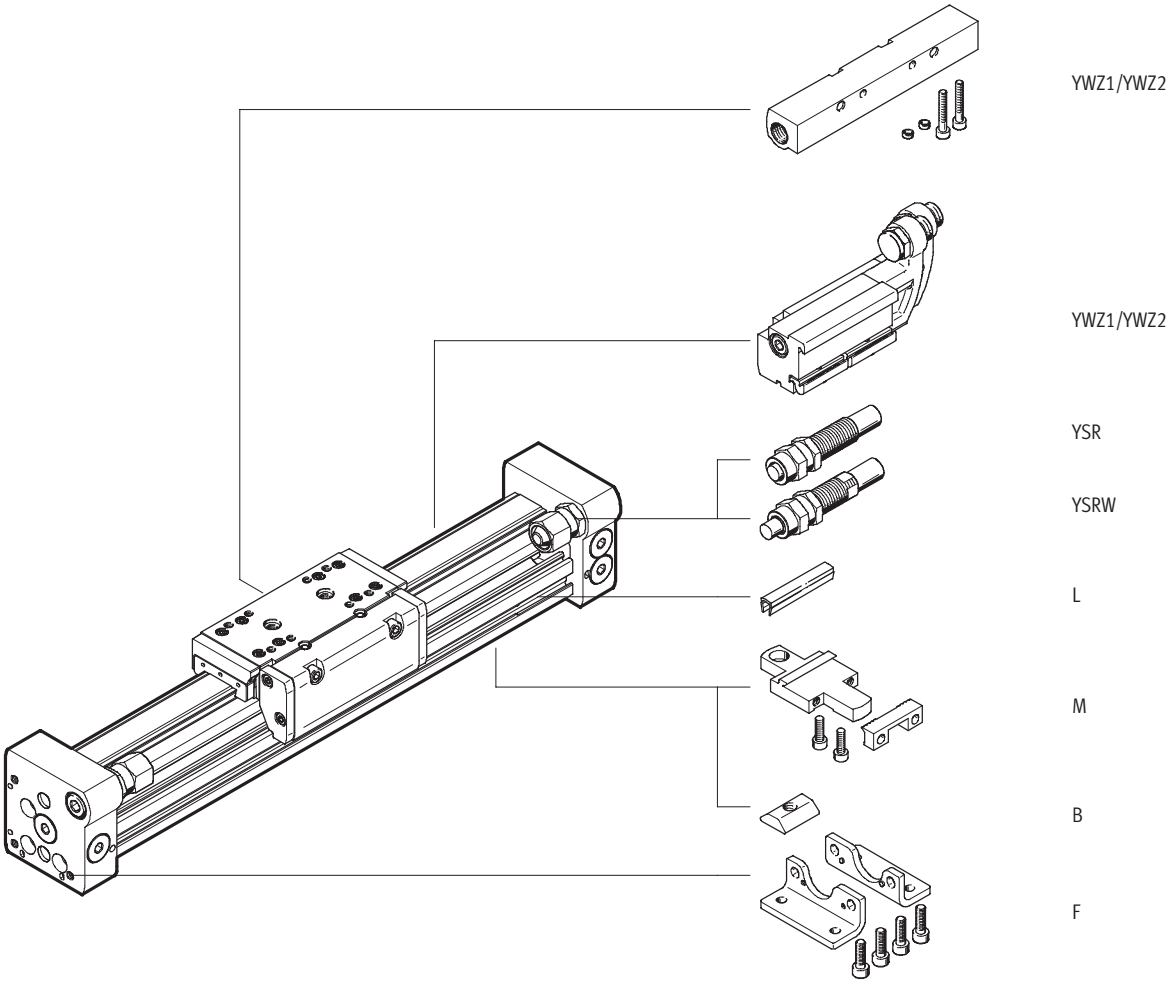
∅ 63



2 Mounting slot for slot nut

Order code

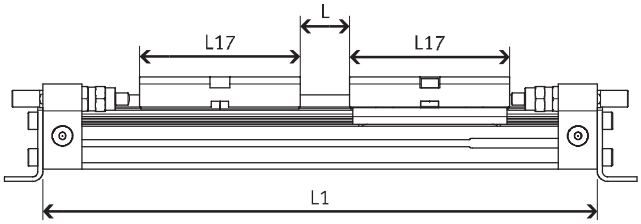
Mandatory data/options



Effective stroke reduction when ordering an additional slide K

For 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-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

FESTO

[M] Mandatory data							[O] Options				
Module No.	Function	Piston ∅	Stroke	Guide	Cushioning		Slide	Additional slide	Accessories	Accessories supplied loose	User manual
530 906	DGC	8	1 … 5 000	FA	P		GP	…K		F	O
530 907		12			YSR					…M	
532 446		18			YSRW					…B	
532 447		25								…L	
532 448		32								YWZ1	
532 449		40								YWZ2	
532 450		50									
532 451		63									
Order example											
530 906	**DGC** –	**8** –	**250** –	**FA** –	**YSR** –		–	**1K** –	**ZUB** –	**F3M** –	

Ordering table											
Size	8	12	18	25	32	40	50	63	Conditions	Code	Enter code
[M] Module No.	**530 906**	**530 907**	**532 446**	**532 447**	**532 448**	**532 449**	**532 450**	**532 451**			
Function	Driveless linear unit									**DGC**	DGC
Piston ∅ [mm]	8	12	18	25	32	40	50	63		**-…**	
Stroke [mm]	1 … 1300	1 … 1900	1 … 3000	1 … 5000					[1]	**-…**	
Guide	Passive guide axis without drive									**-FA**	-FA
Cushioning	Flexible cushioning rings/pads at both ends									**-P**	
	Shock absorber, self-adjusting									**-YSR**	
	Shock absorber, self-adjusting, progressive									**-YSRW**	
[O] Slide	–	–	Protected recirculating ball bearing guide				–	–	[2]	**-GP**	
Additional slide	1 … 2								[3]	**-…K**	
Accessories	Supplied loose (can be retrofitted)									**ZUB-**	ZUB-
Foot mounting	1									**F**	
Profile mounting	1 … 9									**…M**	
Slot nut for mounting slot	–	–	–	1 … 9						**…B**	
Slot cover for sensor slot	–	–	1 … 9							**…L**	
Mechanical end position limiter	–	–	Variable end position, at one end						[4]	**YWZ1**	
	–	–	Variable end position, at both ends						[4]	**YWZ2**	
User manual	Express waiver – no operating instructions to be included (already available)									**-O**	

[1] **Stroke** Size 25, 32, 40: Strokes up to 8,500 mm on request

[2] **GP** Not with cushioning YSR and YSRW
Not with additional slide K

[3] **K** For 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.
Not with cushioning P

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

Transfer order code

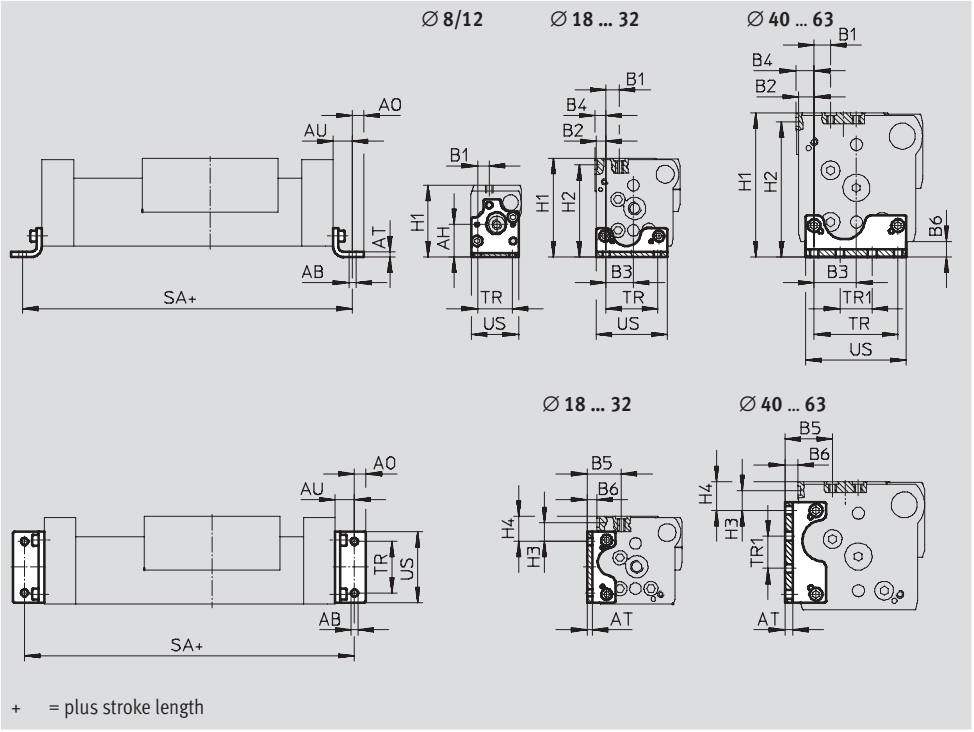
	DGC –	–	–	FA –	–	–	–	ZUB –	–	

Passive guide axes DGC-FA, without drive

Accessories

Foot mounting HPC
(order code: F)

Material:
Galvanised steel



Dimensions and ordering data

For Ø [mm]	AB Ø	AH	AO	AT	AU	B1	B2	B3	B4	B5	B6	H1
8	3.4	16.7	3	2	9	6	–	–	–	–	–	37
12	4.5	18.5	4.5	2	11.5	5.4	–	–	–	–	–	42.5
18	5.5	–	6.75	3	13.25	11.2	4.3	15.2	5.3	23.2	6.7	64
25	5.5	–	9	4	15	13.35	7.65	21.35	8.65	29.5	7.5	76.5
32	6.6	–	10	5	19	11.5	9	29.5	10.5	27	7.5	87.5
40	6.6	–	10	6	20	12.6	12.2	32.8	14.2	36.8	10	111.5
50	9	–	11	8	25	12.5	11.5	48.5	11.5	41	17	141.5
63	11	–	13.5	8	28	17.5	12.5	55.5	17.5	49	14	172.5

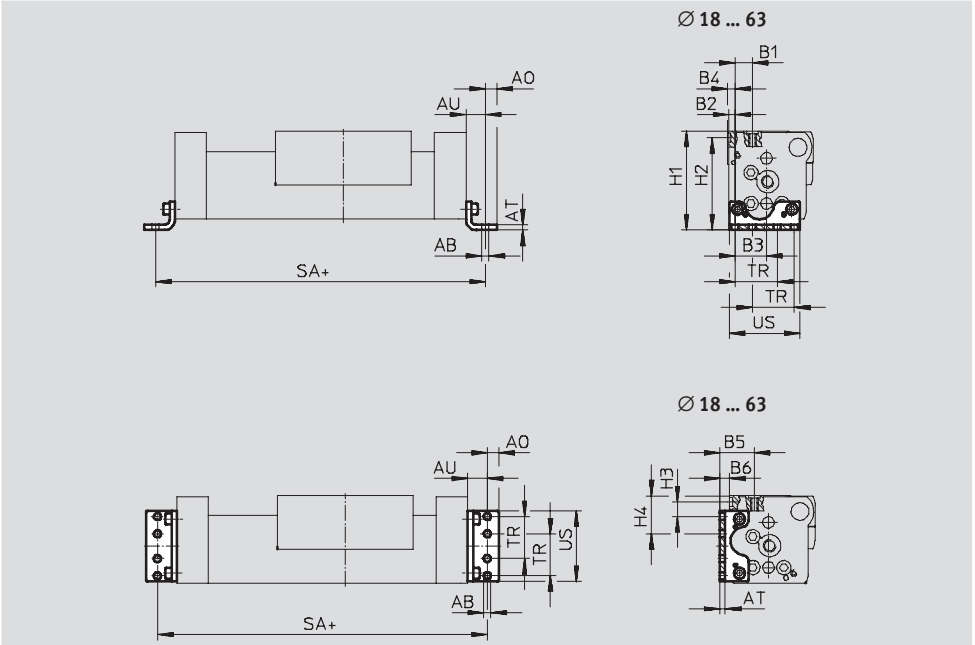
For Ø [mm]	H2	H3	H4	SA +0.9/–0.2	TR ±0.1	TR1 ±0.1	US	Weight [g]	Part No.	Type
8	–	–	–	118	18	–	24.4	26	**526 385**	**HPC-8**
12	–	–	–	148	20	–	29.6	38	**526 388**	**HPC-12**
18	59.5	16.7	21.5	176	30	–	38.6	58	**533 667**	**HPC-18**
25	71.5	14.35	19.35	230	40	–	55	131	**533 668**	**HPC-25**
32	82.5	8	13	288	56.5	19.5	68	239	**533 669**	**HPC-32**
40	104.5	15.3	22.3	340	65	25	78	348	**533 670**	**HPC-40**
50	134.5	23.4	30.4	400	82.6	47.4	102	754	**545 236**	**HPC-50**
63	164.5	22	30	456	111	39	133	1,245	**545 237**	**HPC-63**

Passive guide axes DGC-FA, without drive

Accessories

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

Material:
Galvanised steel



\+ = plus stroke length

Dimensions and ordering data

For Ø [mm]	AB Ø	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 Ø [mm]	H1	H2	H3	H4	SA	TR ±0.1	US	Weight [g]	Part No.	Type
18	64	59.5	16.7	28	$176.5^{+0.9/-0.2}$	24	40	54.5	**535 600**	**HPC-18-S**
25	75.5	70.5	11.45	29.75	$226^{+0.9/-0.2}$	32.5	55	89.5	**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**

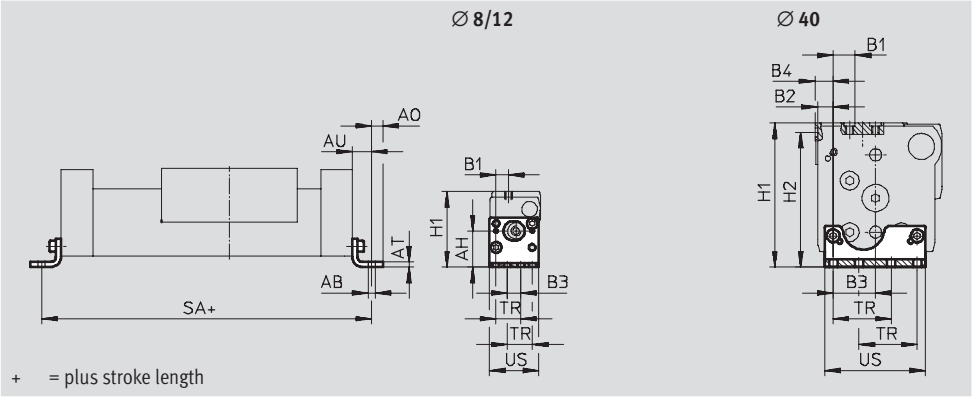
Passive guide axes DGC-FA, without drive

Accessories

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

Material:
Galvanised steel

HPC-12-SO



Dimensions and ordering data

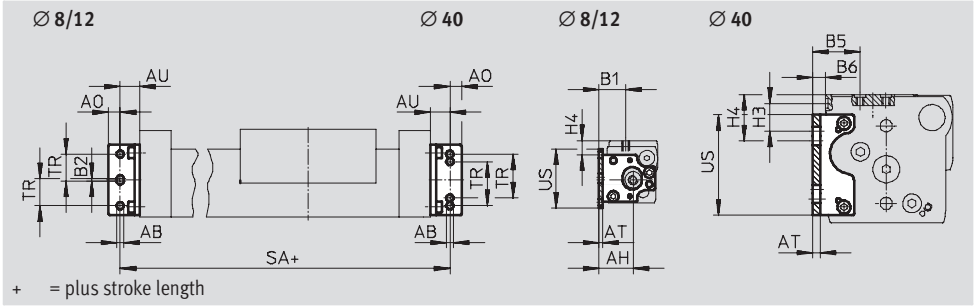
For ∅ [mm]	AB ∅	AH	AO	AT	AU	B1	B2	B3
8	3.4	18.7	3	2	9	6.5	–	7
12	3.4	23.5	3	2	9	9.3	–	9.4
40	6.6	–	8.5	5	17.5	12.5	12.3	32.7

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	26	**529 346**	**HPC-8-SO**
12	–	47.5	–	143	18.6	33.8	42	**529 348**	**HPC-12-SO**
40	14.3	104.5	97.5	335	45	78	264	**536 745**	**HPC-40-SO**

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

Material:
Galvanised steel

HPC-12-SH



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

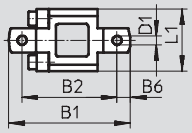
For ∅ [mm]	B6	H3	H4	SA +0.9/–0.2	TR ±0.1	US	Weight [g]	Part No.	Type
8	–	–	7.25	118	13	30.5	25	**529 347**	**HPC-8-SH**
12	–	–	4.5	143	18.6	41.8	41.5	**529 349**	**HPC-12-SH**
40	9.2	21.6	36	335	45	78	275	**536 746**	**HPC-40-SH**

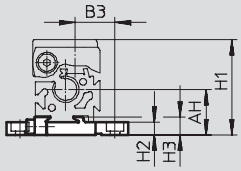
Profile mounting MUC
(order code: M)

Material:
High-alloy steel

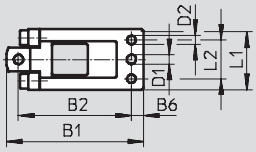
MUC-12

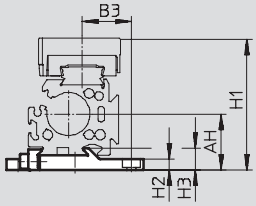
∅ 8/12



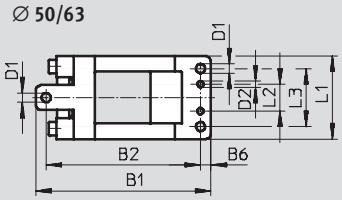


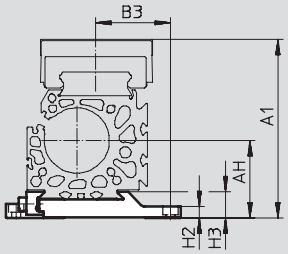
∅ 18 ... 40



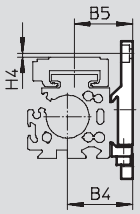


∅ 50/63

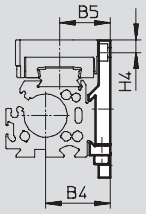




∅ 18 ... 40-G



∅ 18 ... 40-GF/KF
∅ 50/63-G



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

Dimensions and ordering data

For ∅ [mm]	AH	B1	B2 ±0.2	B3	B4	B5	B6	D1 ∅	D2 ∅ H7
8	17.7	47	36.7	15.35	–	–	5.1	3.5	–
12	18.5	52.5	42.2	16.5	–	–	5.1	3.5	–
18	27.2	67.8	56	28.7	27.2	28.7	5.7	5.5	5
25	32.5	79.5	65.5	28.5	37.5	29.5	7	5.5	5
32	37.5	94	80	35	47.5	37	7	5.5	5
40	47	110.5	96	43	57	46.8	7	6.5	6
50	61	145	125	56	77	61	7	9	6
63	75	169	149	72.5	87	69	10	9	6

For ∅ [mm]	H1	H2	H3	H4	L1	L2	L3	Weight [g]	Part No.	Type
8	37	5	7	–	24	–	–	28	**526 384**	**MUC-8**
12	42.5	4.5	7	–	24	–	–	32	**526 387**	**MUC-12**
18	64	5.7	9.9	6.4	33	20.5	–	78	**531 752**	**MUC-18**
25	76.5	6.5	12.5	7.43	35	22.5	–	113	**531 753**	**MUC-25**
32	87.5	6.5	13	4	45	30	–	174	**531 754**	**MUC-32**
40	111.5	8.5	16	11.3	60	44	–	346	**531 755**	**MUC-40**
50	159	11	23.5	9.2	80	26	56	874	**531 756**	**MUC-50**
63	172.5	11	23.5	15	80	26	56	1,080	**531 757**	**MUC-63**

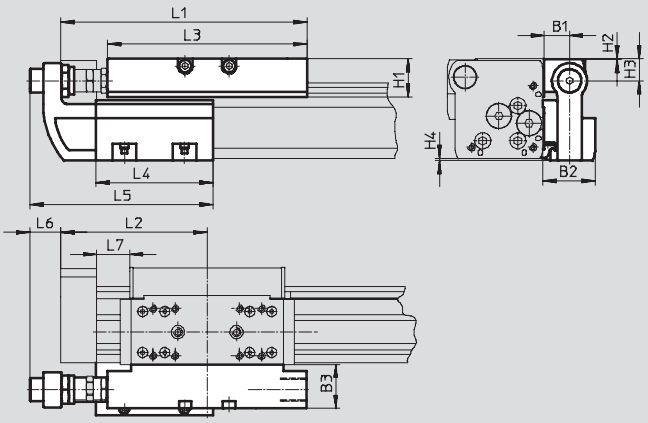
Shock absorber retainer DADP
Stop KYC
(order code: YWZ1 or YWZ2)

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 absorber not included in scope of delivery.
Existing shock absorbers can be removed from the end caps of the linear unit and installed in the shock absorber retainer.

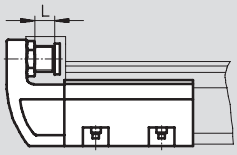
Dimensions

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

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

Technical data and ordering codes

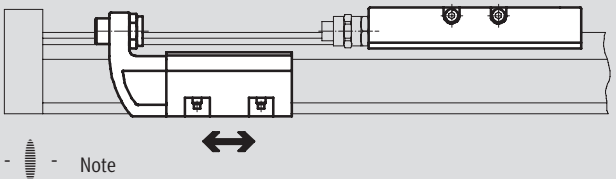
Precision adjustment



Note

The stop KYC can be used in both directions.

Installation example

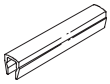
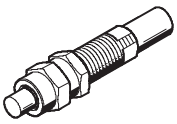


Note

The end stop can be mounted at any position within the stroke.

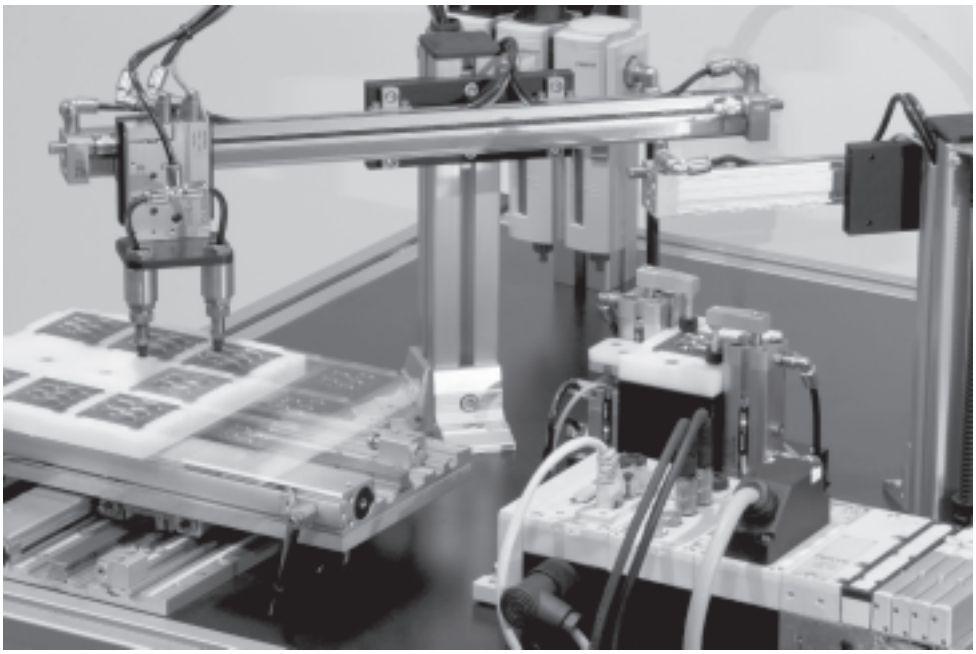
For ∅ [mm]	Precision adjustment L [mm]	Ambient temperature [°C]	CRC[1)]	Weight [g]	Part No.	Type
Shock absorber retainer						
18	10	–10 … +80	2	130	**541 729**	**DADP-DGC-18-KF**
25	10			180	**541 730**	**DADP-DGC-25-KF**
32	10			215	**541 731**	**DADP-DGC-32-KF**
40	15			460	**541 732**	**DADP-DGC-40-KF**
50	15			890	**545 244**	**DADP-DGC-50**
63	15			1,080	**545 245**	**DADP-DGC-63**
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 to 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

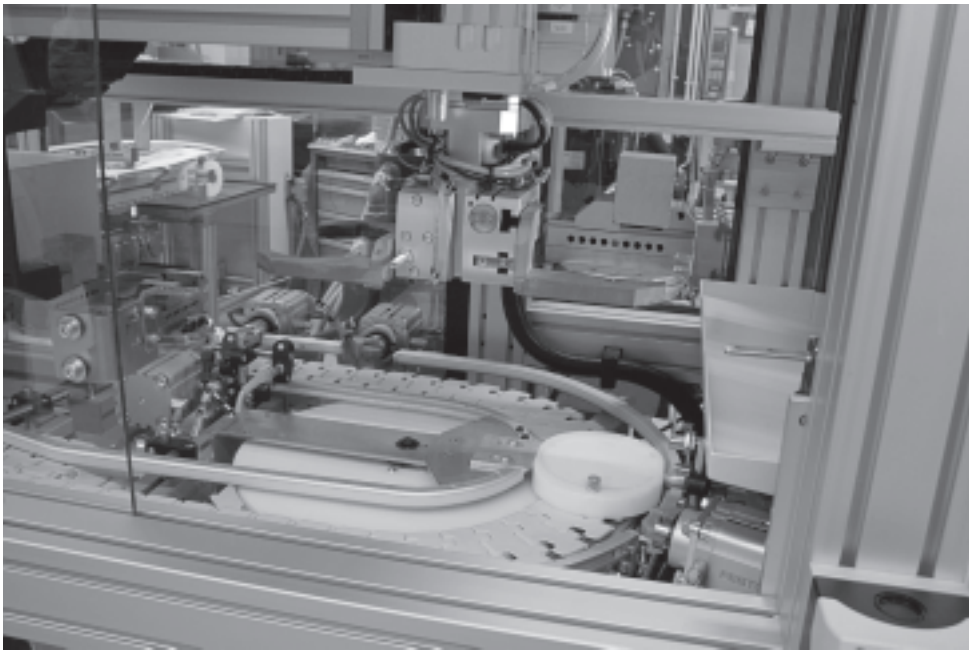
Ordering data						
	For ∅	Remarks	Order code	Part No.	Type	PU[1]
Slot nut NST					Technical data ➔ Internet: hmbn	
	25 … 40	For mounting slot	B	**547 264**	**HMBN-5-1M5**	10
	50, 63			**186 566**	**HMBN-5-2M5**	
Centring pin/sleeve ZBS/ZBH					Technical data ➔ Internet: zbs, zbh	
	8 … 18	For slide	–	**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 each 0.5 m	L	**151 680**	**ABP-5-S**	2
Shock absorber					Technical data ➔ Internet: ysrw	
	18	For DGC-FA with recirculating ball bearing guide	YSRW	**540 347**	**YSRW-DGC-18-KF**	1
	25			**540 349**	**YSRW-DGC-25-KF**	
	32			**540 351**	**YSRW-DGC-32-KF**	
	40			**540 353**	**YSRW-DGC-40-KF**	
	50			**551 489**	**YSRW-DGC-50-GF/KF**	
	63			**543 069**	**YSRW-DGC-63-GF/KF**	

1) Packaging unit quantity

Handling of printed circuit boards



Re-tooling

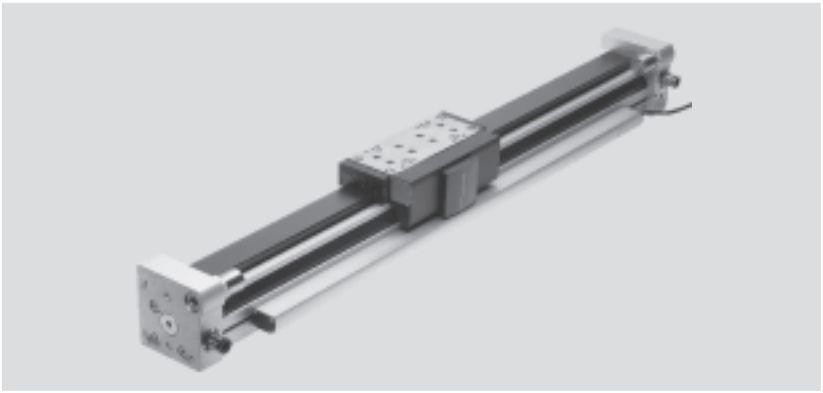


New
Size 63

Linear drives DGCI, with displacement encoder

Key features

Individual positioning components with linear drive DGCI



Proportional directional control valve
MPYE-...
➔ Internet: mpye

Soft Stop ➔ Internet: spc11

End position controller
SPC11-MTS-AIF-2

Positioning technology ➔ Internet: spc

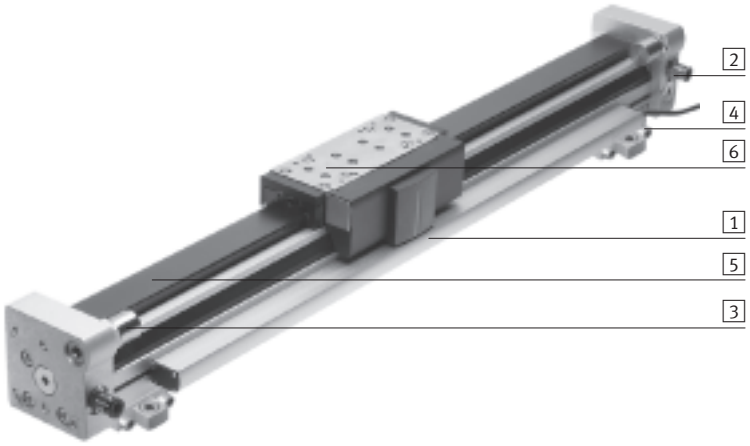
Axis interface
SPC-AIF-MTS-2

Axis controller
SPC200

Linear drives DGCI, with displacement encoder

Key features

At a glance



1 Displacement encoder ➔110

- High degree of protection IP67
- Non-contacting
- Measures absolute values

2 Supply ports ➔118

- Optionally on two sides (on the end face or on the front)
- Optionally with different coloured push-in fittings for simple and error-free tubing connections

3 End stops ➔112

- Metal fixed stop
- Shock absorber, precisely adjustable

4 Profile mounting ➔111

- Profile mountings remain on the base plate after the drive is dismantled. This saves time during assembly and removal

5 Recirculating ball bearing guide ➔108

- Piston ∅ 18 ... 63 mm
- Stroke lengths 100 ... 2,000 mm
- Guide backlash = 0 mm
- For medium and large loads
- Precision mounting interface with stainless steel slide
- Operating behaviour with torque load = very good

6 Recirculating ball bearing guide with protected guide ➔108

- Piston ∅ 18 ... 40 mm
- Stroke lengths 100 ... 2,000 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-FA ➔80

- No drive
- Piston ∅ 8 ... 63 mm
- Stroke lengths 1 ... 5,000 mm
- Guide backlash = 0 mm
- Precision guide, suitable for DGCI. Can be used as a machine component or as a twin guide with DGCI

– Passive guide axis with protected guide DGC-FA-GP ➔80

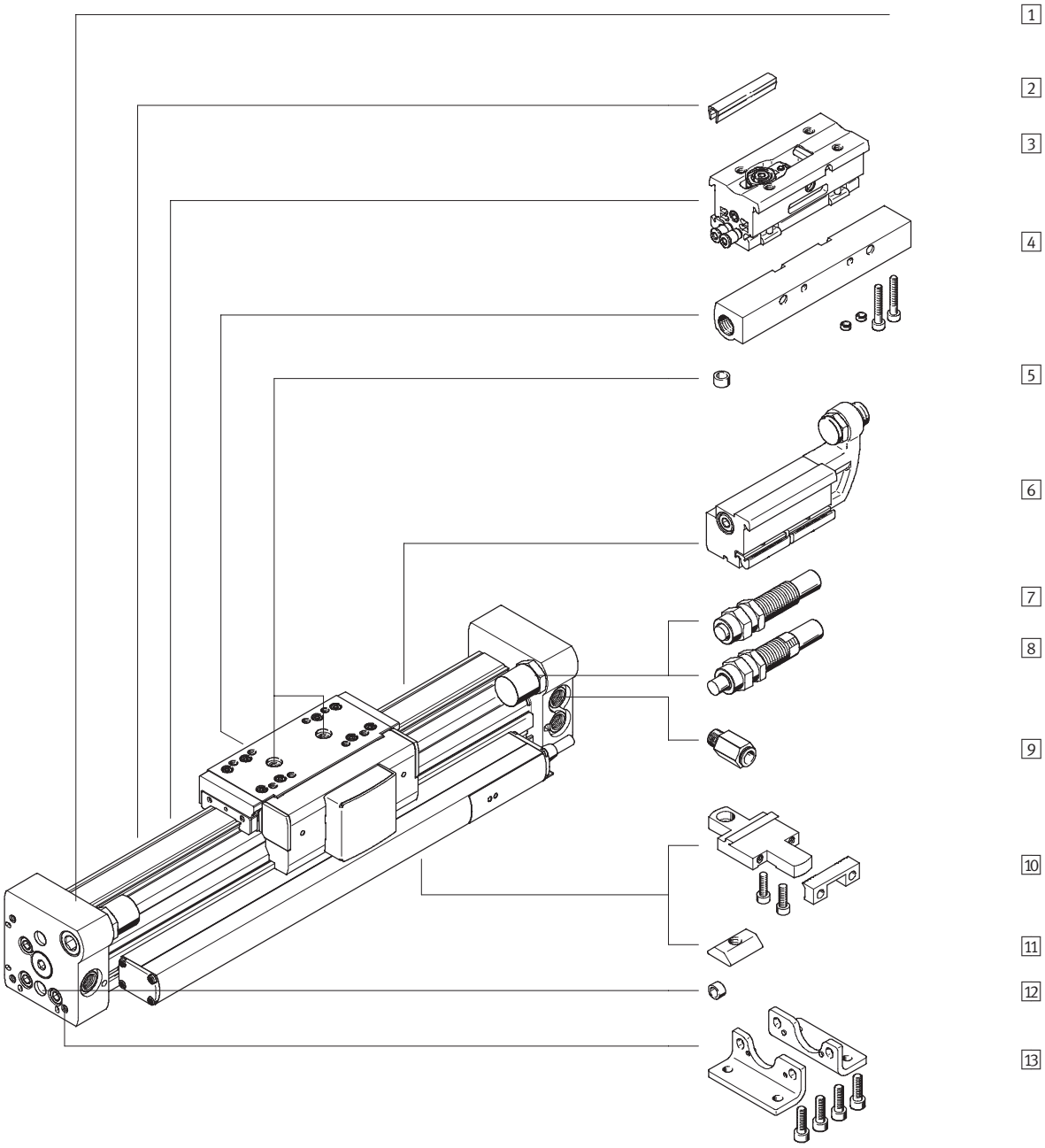
- No drive
- Piston ∅ 18 ... 63 mm
- Stroke lengths 1 ... 5,000 mm
- Guide backlash = 0 mm
- The protected guide cleans the guide rail and protects the recirculating ball bearing guide by means of an additional wiper seal and lubrication unit

Linear drives DGCI, with displacement encoder

Peripherals overview

Note

Drive must not be operated without end stops or shock absorbers.



Linear drives DGCI, with displacement encoder

Peripherals overview

FESTO

Variants and accessories				
	Type	For piston ∅	Brief description	➔ Page/Internet
1	Linear drive DGCI-KF	18 … 63	Linear drive without accessories, with recirculating ball bearing guide.	108
2	Slot cover L	18 … 63	For protecting against ingress of dirt and securing proximity sensor cables.	128
3	Intermediate position module DADM-DGC	25, 32	Facilitates intermediate positions with metal fixed stop. The module can be attached.	126
4	Shock absorber retainer DADP-DGC	18 … 63	For variable end position adjustment in combination with the stop KYC.	124
5	Centring pin/sleeve[1)] ZBS/ZBH	18 … 63	For centring loads and attachments on the slide.	128
6	Stop KYC	18 … 63	For variable end position adjustment in combination with the shock absorber retainer DADP-DGC.	124
7	Shock absorber YSR	18 … 63	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic.	120
8	Shock absorber YSRW	18 … 63	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic.	120
9	Push-in fitting QS	18 … 63	For connecting compressed air tubing with standard outer diameter.	118
10	Profile mounting M	18 … 63	Simple and precise mounting option via dovetail connection.	123
11	Slot nut B	25 … 63	For mounting attachments.	128
12	Centring pin/sleeve[1)] ZBS/ZBH	18 … 63	For centring the drive without foot mountings (user-specific).	128
13	Foot mounting F	18 … 63	For mounting on the end cap.	122
–	Proportional directional control valve MPYE	18 … 63	Regulates the compressed air and therefore the position of the slide.	129

1) Included in the scope of delivery of the drive

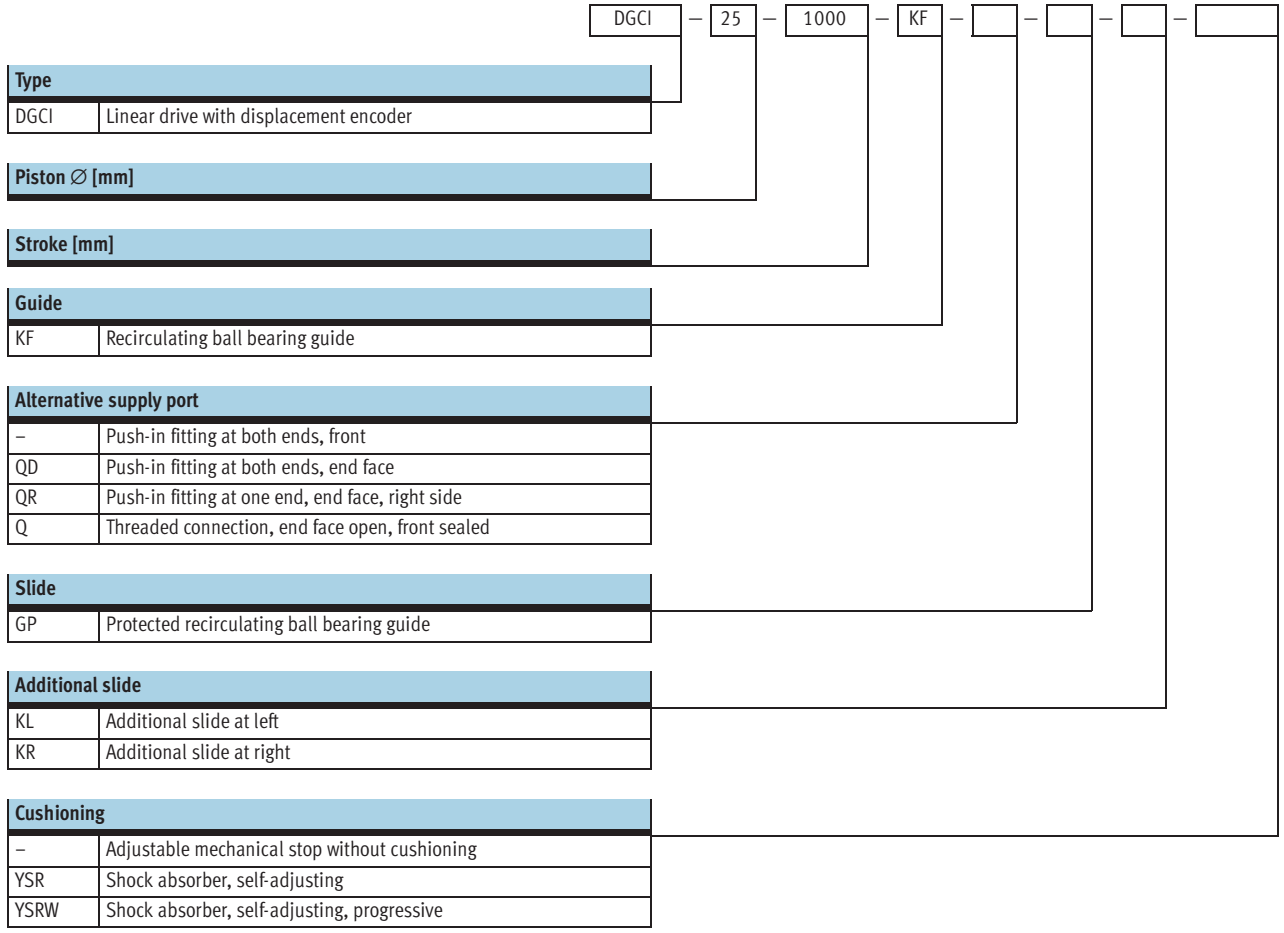
Note

Assignment table of drives and associated proportional directional control valves ➔ 129

Linear drives DGCI, with displacement encoder

FESTO

Type codes



Type	
DGCI	Linear drive with displacement encoder

Piston ∅ [mm]

Stroke [mm]

Guide	
KF	Recirculating ball bearing guide

Alternative supply port	
–	Push-in fitting at both ends, front
QD	Push-in fitting at both ends, end face
QR	Push-in fitting at one end, end face, right side
Q	Threaded connection, end face open, front sealed

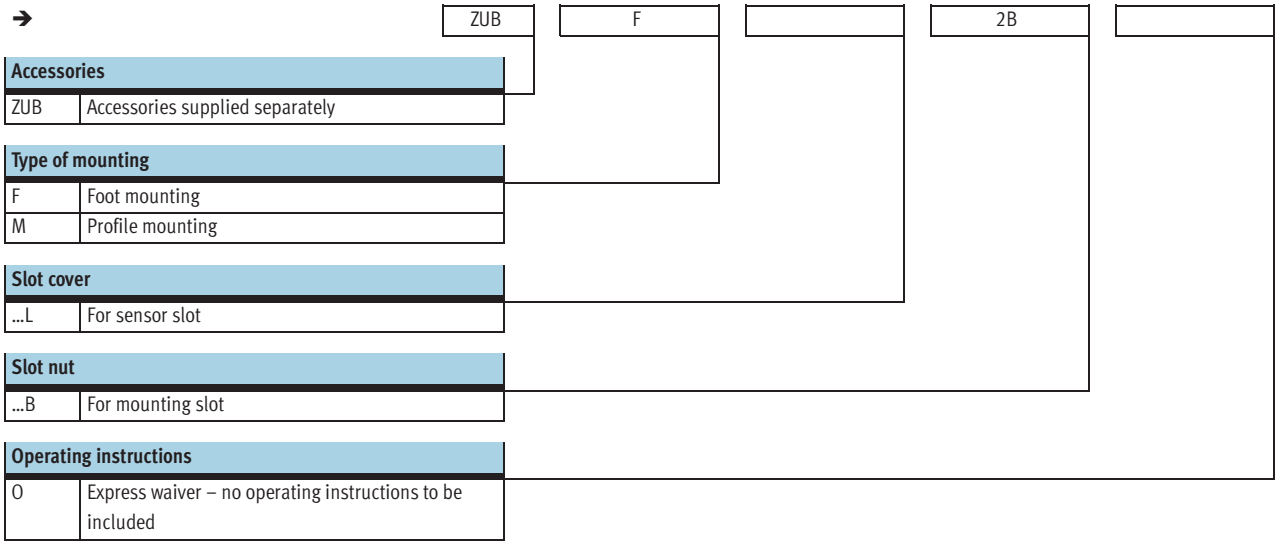
Slide	
GP	Protected recirculating ball bearing guide

Additional slide	
KL	Additional slide at left
KR	Additional slide at right

Cushioning	
–	Adjustable mechanical stop without cushioning
YSR	Shock absorber, self-adjusting
YSRW	Shock absorber, self-adjusting, progressive

Linear drives DGCI, with displacement encoder

Type codes



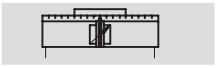
New
Size 63

Linear drives DGCI, with displacement encoder

Technical data

FESTO

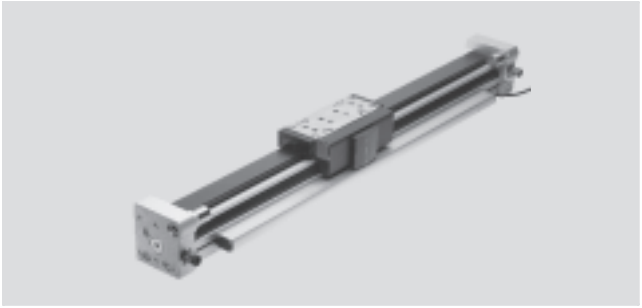
Function



www.festo.com

Diameter
18 ... 63 mm

Stroke length
100 ... 2,000 mm



General technical data						
Piston ∅		18	25	32	40	63
Constructional design		Rodless linear drive with displacement encoder				
Mode of operation		Double-acting				
Driver principle		Slotted cylinder, mechanically coupled				
Guide		External recirculating ball bearing guide				
Mounting position		Any				
Type of mounting		Profile mounting				
		Foot mounting				
		Direct mounting				
Pneumatic connection		M5	G1⁄8		G1⁄4	G3⁄8
Cushioning ➔ 111		• Via metal fixed stop • Optionally via shock absorber, self-adjusting at both ends				
Position sensing		Via displacement encoder				
Measuring principle (displacement encoder)		Digital, magnetostrictive, non-contacting and absolute measurement				
Stroke[1)]	[mm]	100, 160, 225, 300, 360, 450, 500, 600, 750, 850, 1000, 1250, 1750, 2000				
Protected version		Optional				–
Max. speed[2)]	[m/s]	5				
Stroke tolerance	[mm]	0 ... 2.5				

1) Note: Stroke reduction in combination with SPC200
2) Only applies to positioning using axis controller SPC200 and end position controller SPC11. Otherwise a maximum speed of 3 m/s is permitted.

Operating and environmental conditions						
Piston ∅		18	25	32	40	63
Operating pressure	[bar]	2 ... 8			1.5 ... 8	
Operating medium		Filtered and unlubricated compressed air, grade of filtration 5 µm				
Ambient temperature	[°C]	–10 ... +60				
Vibration resistance to DIN/IEC 68 Parts 2-6		At 10 ...58 Hz: 0.15 mm				
		At 58 ...150 Hz: 2G				
Continuous shock resistance to DIN/IEC 68 Parts 2-27		Half sine 15g, 11 ms				
CE mark (see declaration of conformity)		In accordance with EU EMC directive				
Certification		C tick				
Protection class (displacement encoder)		IP67				
Corrosion resistance class CRC[1)]		1				

1) Corrosion resistance class 1 as per Festo standard 940 070
Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Forces [N] and impact energy [Nm]						
Piston ∅		18	25	32	40	63
Theoretical force at 6 bar		153	295	483	754	1,870
Impact energy at the end positions	with fixed stop	0.4	0.5	0.7	0.7	0.7
	with shock absorber YSR/YSRW	➔ 111				

Linear drives DGCI, with displacement encoder

FESTO

Technical data

Positioning characteristics with axis controller SPC200						
Piston ∅		18	25	32	40	63
Repetition accuracy	[mm]	➔ 110				
Mounting position		Any				
Minimum load, horizontal[1)]	[kg]	1	2	3	5	12
Maximum load, horizontal[1)]	[kg]	15	30	50	75	180
Minimum load, vertical[1)]	[kg]	1	2	3	5	12
Maximum load, vertical[1)]	[kg]	5	10	15	25	60
Minimum travel speed	[m/s]	0.05				
Maximum travel speed	[m/s]	5				3
Typ. positioning time, long stroke[2)]	[s]	0.75/1.15	0.65/1.00	0.65/1.05	0.70/1.05	1.05/1.20
Typ. positioning time, short stroke[3)]	[s]	0.38/0.65	0.38/0.60	0.38/0.60	0.38/0.60	0.65/0.65
Minimum positioning stroke[4)]	[%]	3				
Stroke reduction[5)]	[mm]	20	25	25	35	35
Recommended proportional directional control valve		➔ 129				

1) Load = effective load + mass of all moving parts on the drive
2) At 6 bar, horizontal mounting position, DGCI-XX-1000, 800 mm positioning travel at min./max. load
3) At 6 bar, horizontal mounting position, DGCI-XX-1000, 100 mm positioning travel at min./max. load
4) Referred to the maximum stroke of the drive, but never more than 20 mm
5) The stroke reduction is to be maintained on every side of the drive, the max. positionable stroke is therefore: stroke – 2x stroke reduction

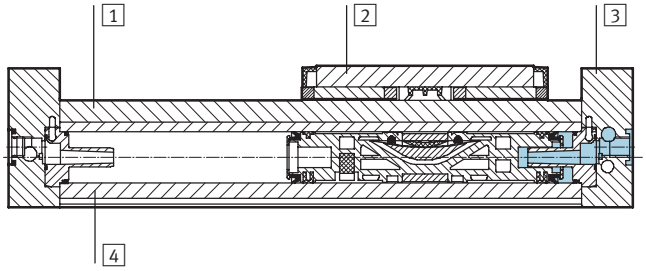
Positioning characteristics with end position controller SPC11						
Piston ∅		18	25	32	40	63
Repetition accuracy of an intermediate position	[mm]	±2				
Mounting position		Any				
Minimum load, horizontal[1)]	[kg]	1	2	3	5	12
Maximum load, horizontal[1)]	[kg]	15	30	50	75	180
Minimum load, vertical[1)]	[kg]	1	2	3	5	12
Maximum load, vertical[1)]	[kg]	5	10	15	25	60
Travel time	[s]	➔ "SoftStop" software tool: www.festo.com				
Recommended proportional directional control valve		➔ 129				

1) Load = effective load + mass of all moving parts on the drive

Weight [g]					
Piston ∅	18	25	32	40	63
Basic weight with 0 mm stroke	1,200	2,400	3,100	7,300	22,500
Additional weight per 10 mm stroke	38	56	81	124	243
Moving load	360	770	1,170	2,360	8,200
Moving load on additional slide	300	650	950	2,000	5,600

Materials

Sectional view



Linear drives		
1	Guide rail	High-alloy steel
2	Slide	High-alloy steel
3	End cap	Anodised aluminium
4	Cylinder profile, housing	Anodised aluminium
–	Seals, sealing band	Polyurethane
–	Guide band, dirt wiper, reversing roller	Polyacetal
–	Cover	Polyacetal, polyamide, powder-coated aluminium
–	Displacement encoder	Anodised aluminium, glass-fibre reinforced polyphthalamide
–	Cable	Polyurethane
–	Note on materials	Free of copper, PTFE and silicone

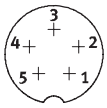
Linear drives DGCI, with displacement encoder

Technical data

FESTO

Electrical data for displacement encoder		
Linearity	[%]	±0.02 FS (min. ±50 µm)
Resolution	[mm]	≤0.01
Interface		CAN to ISO/DIS 11898
Power supply	[V DC]	24 (±25%)
Current consumption	[mA]	Typically 100
Max. temperature coefficient	[ppm/°K]	15
Electrical connection		Cable with 5-pin plug, round type M9
Cable length	[m]	1.5
Cable quality		Suitable for energy chains

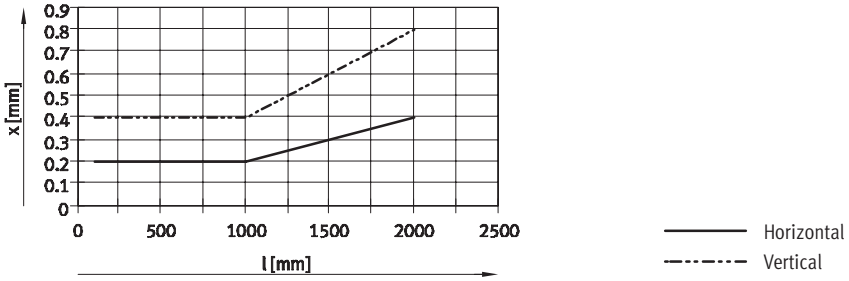
Pin allocation of plug for displacement encoder



Pin	Function
1	24 V
2	–
3	0 V

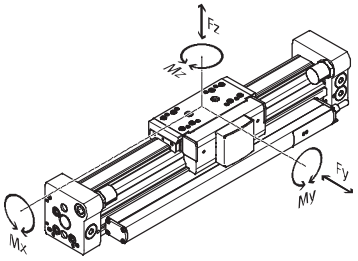
Pin	Function
4	CAN_H
5	CAN_L
–	Screen

Repetition accuracy x as a function of the stroke l



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

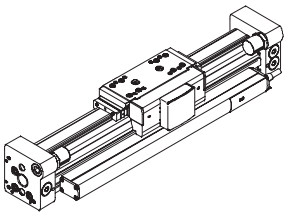
The indicated forces and torques refer to the slide surface and the centre of the slide.
They must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



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

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

GP – Protected guide



- Note

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

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

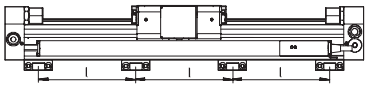
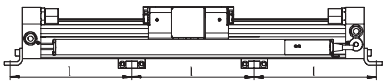
Linear drives DGCI, with displacement encoder

Technical data

FESTO

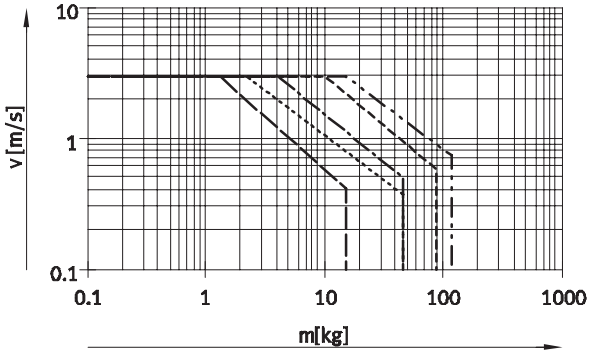
Number of profile mountings MUC as a function of overall length

Excessive distances between the profile mountings can reduce the positioning accuracy. The following table shows the required minimum number of profile and foot mountings.

Stroke [mm]	Number of mounting attachments		
	Order code M	Order code F	
	Profile mounting	Foot mounting	+ profile mounting
			
100 ... 400	2	2	0
401 ... 600	2	2	1
601 ... 1,200	3	2	1
1,201 ... 1,400	3	2	2
1,401 ... 2,000	4	2	2

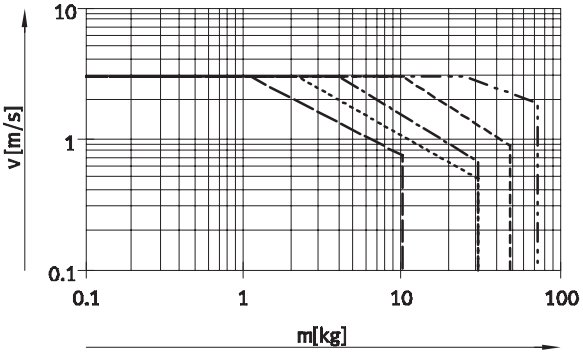
Maximum permissible piston speed with shock absorber v as a function of effective load m

Piston ∅ 18 ... 63 with YSR cushioning



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

Piston ∅ 18 ... 63 with YSRW cushioning



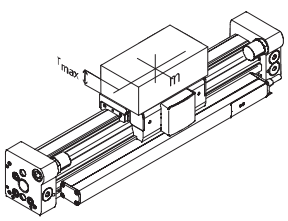
Note

This data represents the maximum values that can be achieved.

In practice, values fluctuate relative to the size of the effective load.

Operating range of cushioning

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



The data applies to a horizontal mounting position:

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

Linear drives DGCI, with displacement encoder

Technical data

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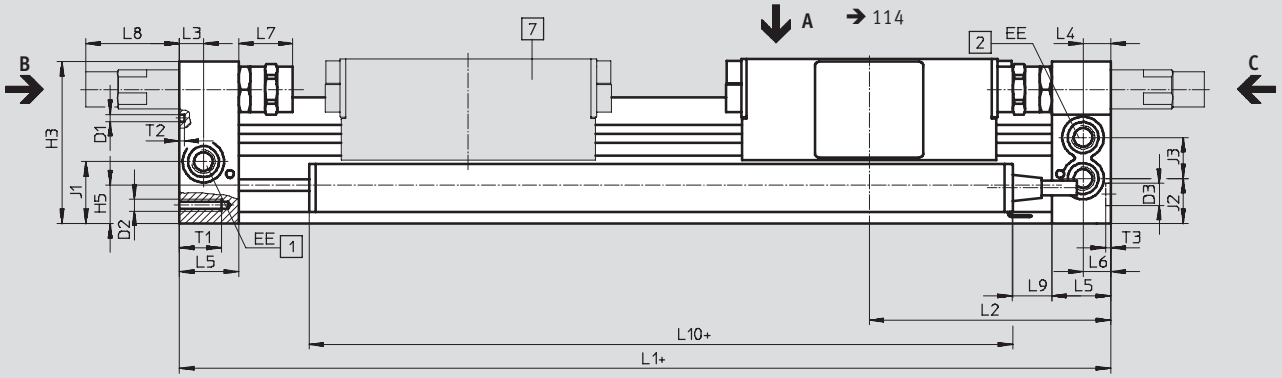
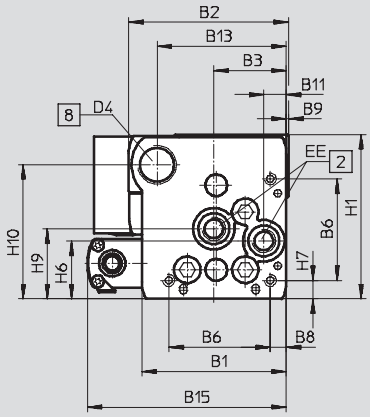
Dimensions Download CAD data ➔ **www.festo.com**

∅ 18 ... 63

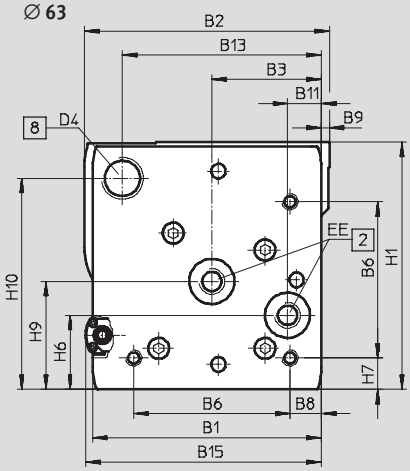


View C

∅ 18 ... 40

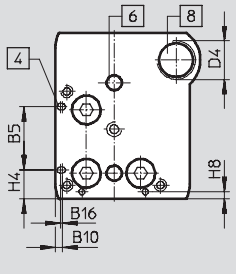


∅ 63

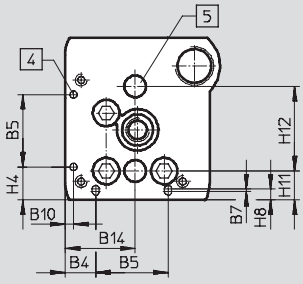


View B

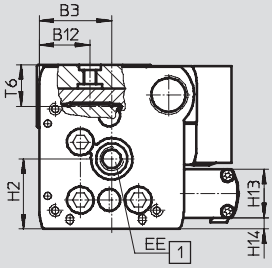
∅ 18



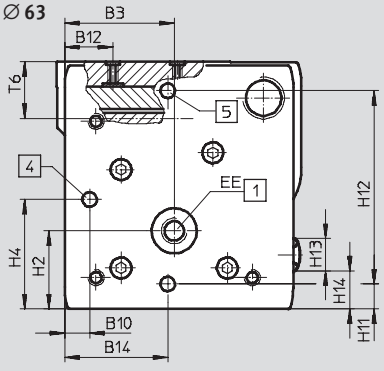
∅ 25 ... 40



∅ 18 ... 40



∅ 63



\+ plus stroke length

1 Option of supply port at both ends (on the end face or on the front)

2 Option of supply port at both ends, for supplying from one end (on the end face, right-hand side)

4 Mounting hole for foot mounting HPC

5 Hole for centring pin ZBS

6 Hole for centring sleeve ZBH

7 Additional slide

8 Thread for end stop

Linear drives DGCI, with displacement encoder

FESTO

Technical data

∅ [mm]	B1	B2	B3	B4 ±0.1	B5 ±0.05	B6	B7	B8 ±0.1	B9	B10	B11	B12
18	44.5	49.9	19.5	8.8	21	31	–	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
63	142	149	68	–	–	97	–	19.5	5	15.5	21	30

∅ [mm]	B13	B14 ±0.05	B15	B16	D1 ∅	D2	D3 ∅ H7	D4	EE	H1	H2	H3
18	39	19.5	68.3	0.8	2±0.05	M4	5	M12x1	M5	56.3	23.1	55
25	53	29	82.4	–	3±0.05	M5	9	M16x1	G1/8	68	29	67
32	65	38.5	97.8	–	3±0.05	M6	9	M16x1	G1/8	78.5	30	77
40	80.5	45	110.3	–	4±0.05	M6	9	M22x1.5	G1/4	99.5	41.5	97.5
63	123.5	68	146.3	–	9^{H7}	M10	9	M26x1.5	G3/8	153.5	48.5	151

∅ [mm]	H4 ±0.1	H5	H6	H7	H8	H9	H10	H11	H12 ±0.05	H13	H14	J1	J2
18	9.6	13.4	20	4.6	2.4	25.2	46	8.5±0.15	30	20	2.3	20	16.5
25	13.65	15.8	24	7.65	4.5	29	55.5	12±0.15	35	20	4.7	26.1	18.6
32	5.7	17	27.7	8.5	14	35.2	63.8	11.45±0.15	50	20	5.9	30	22
40	17.2	25	36.5	12.2	8	44	81.5	15±0.15	60	20	13.9	35	26
63	68	34.8	46	19.5	–	67	131	15.5±0.2	120	20	23.7	41.5	39.5

∅ [mm]	J3	L1		L2		L3	L4	L5	L6	L7		
		KF +0.9/–0.2	KF-GP +0.9/–0.2	KF	KF-GP					KF	KF-GP	KF-YSR(W)
18	11	150	157	74.5	78	5.7	5.8	15	5.5	14.5 ... 16.5	18 ... 20	14.5 ... 34.5
25	17	200	205	100	102.5	10.5	10.6	24.5	10.6	22.5 ... 26.5	25 ... 29	22.5 ... 47.5
32	18.5	250	250	124.8	124.8	14.5	14.5	30.5	14.5	27.3 ... 32.3	27.3 ... 32.3	27.3 ... 52.3
40	26	300	312	150	156	14.6	14.6	33.5	14.6	31 ... 36	37 ... 42	31 ... 56
63	31.5	400	–	200	–	20	20	44	20	41 ... 46	–	41 ... 76

∅ [mm]	L8		L9		L10 max.	T1	T2	T3 +0.2	T6	Stroke tolerance
	YSR	YSRW	KF ±0.2	KF-GP ±0.2						
18	29.9	32.6	–	3.5	119	9	2	3.1	15	0 ... 2.5
25	35.6	38.6	16.3	18.8	119	17.5	2	2.1	17.3	
32	19.5	28	35.3	35.3	119	15	2	2.1	20	
40	38.5	43.5	57.5	63.5	119	20	2	2.1	25.7	
63	38.3	48.3	97	–	119	27.5	$2.1^{+0.2}$	2.1	36.1	

Note

For reasons of functional safety of the displacement encoder and stability of the linear drive DGCI, the distance L7 must not fall below the values in the table.

Linear drives DGCI, with displacement encoder

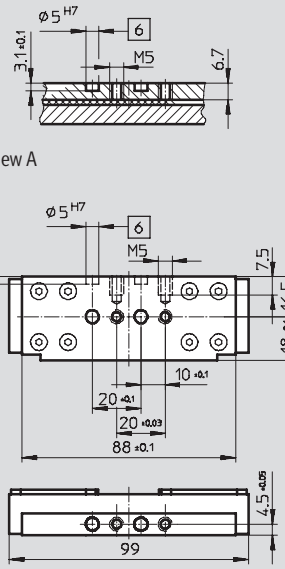
Technical data

FESTO

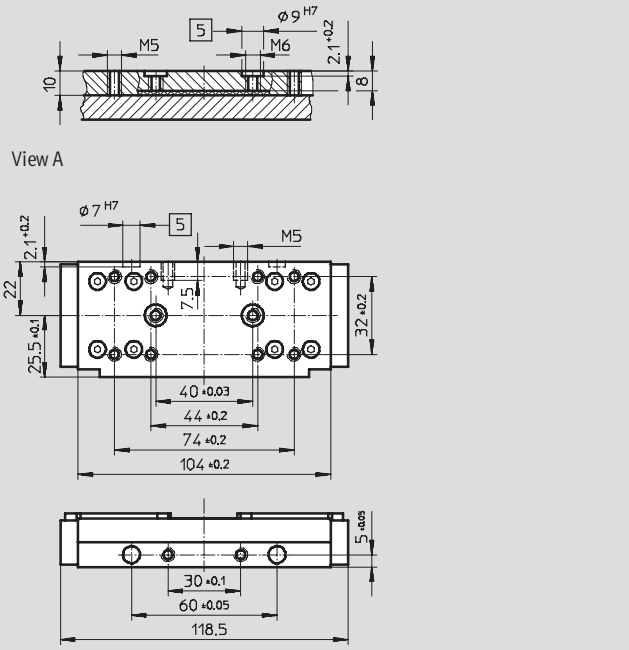
Dimensions Download CAD data ➔ **www.festo.com**

Slide

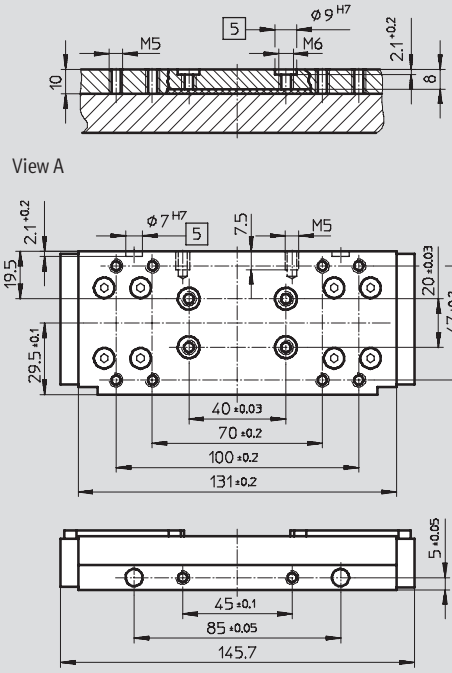
∅ 18



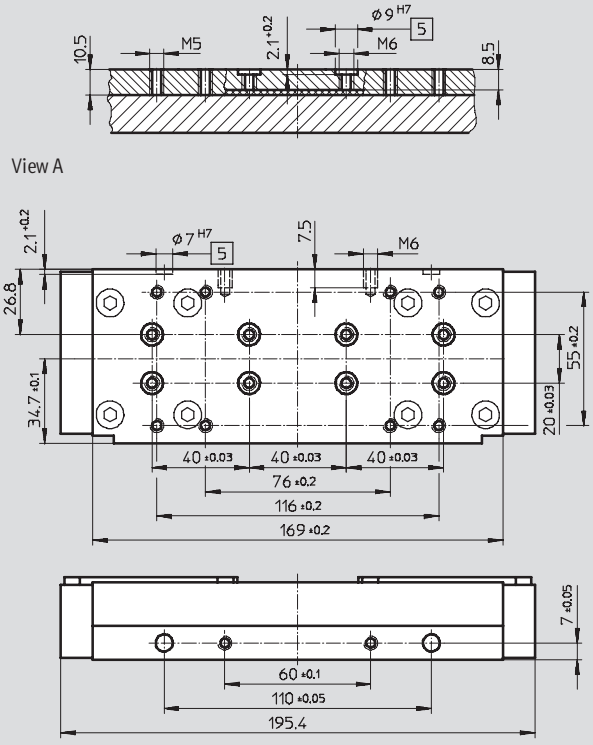
∅ 25



∅ 32



∅ 40



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

Linear drives DGCI, with displacement encoder

Technical data

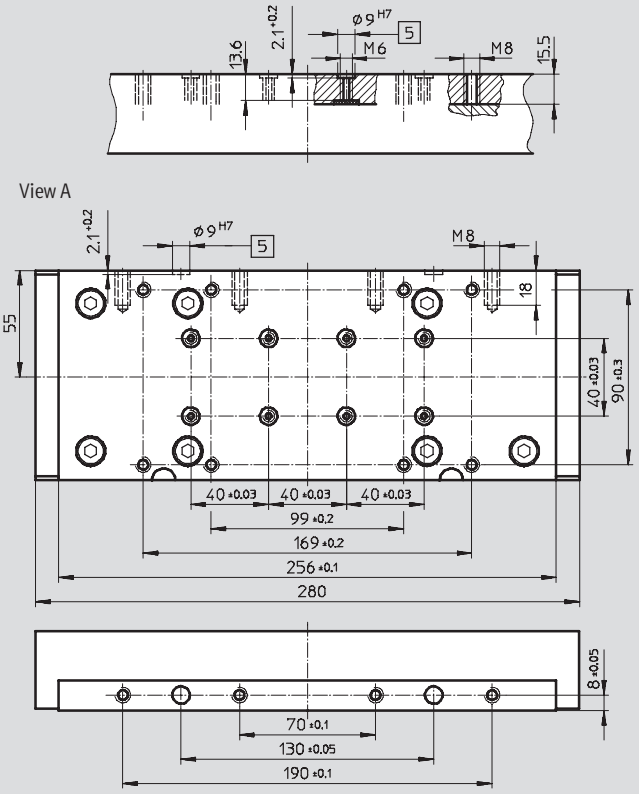
FESTO

Dimensions

Download CAD data ➔ www.festo.com

Slide

Ø 63



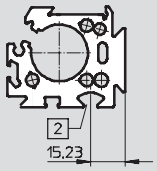
5 Hole for centring sleeve ZBH

6 Hole for centring pin ZBS

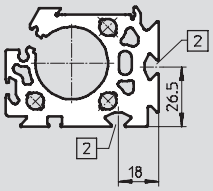
Profile barrel

Ø 18

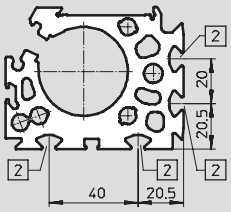
Ø 25



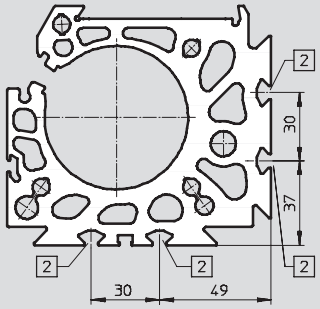
Ø 32



Ø 40



Ø 63



2 Mounting slot for slot nut

Linear drives DGCI, with displacement encoder

Technical data

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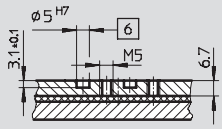
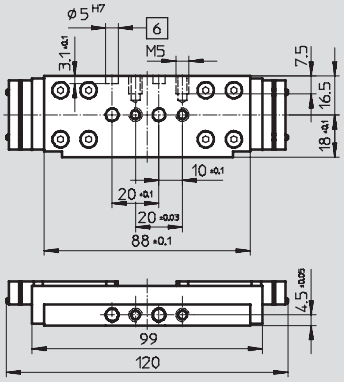
Slide, variant GP – Protected recirculating ball bearing guide

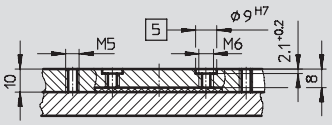
Ø 18



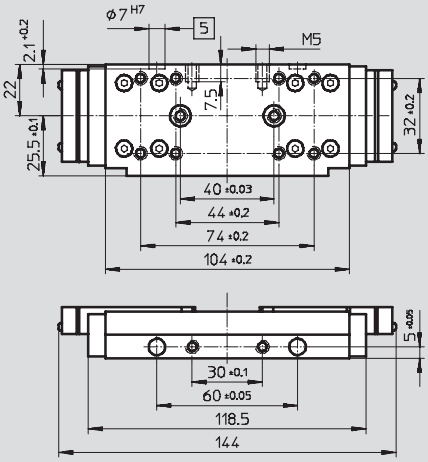
View A



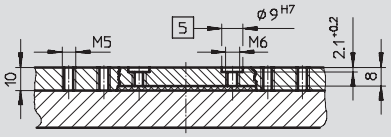
Ø 25



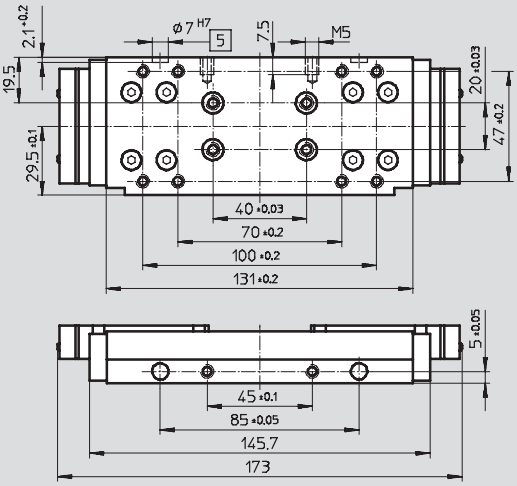
View A



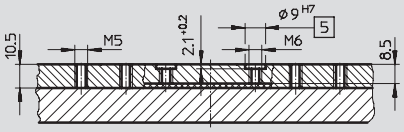
Ø 32



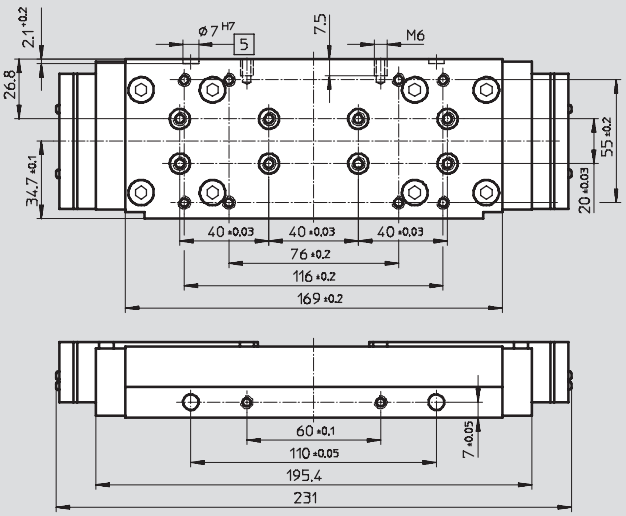
View A



Ø 40



View A



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

Linear drives DGCI, with displacement encoder

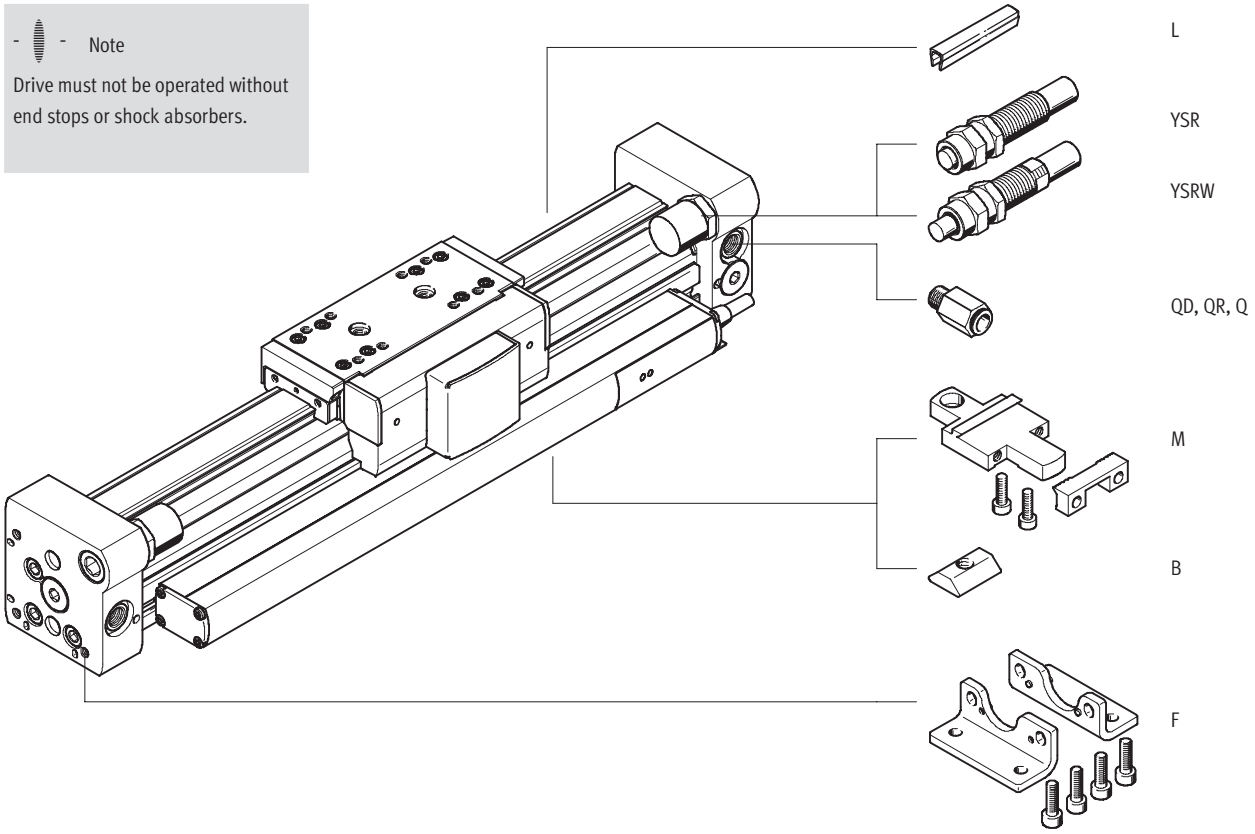
Ordering data – Modular products

FESTO

Order code
Mandatory data/options

Note

Drive must not be operated without end stops or shock absorbers.



Linear drives DGCI, with displacement encoder

Ordering data – Modular products

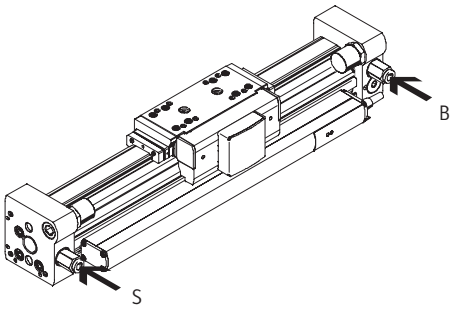
FESTO

Order code – Alternative supply port

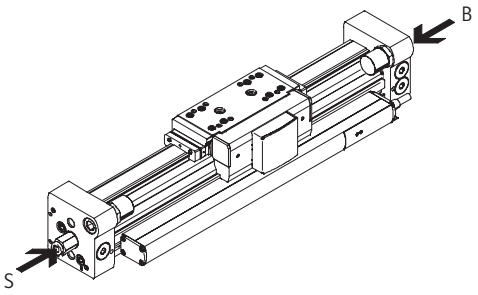
Four different supply port options (see below) can be selected when ordering the linear drive.

To facilitate commissioning, the linear drive is supplied with different coloured push-in fittings (black or blue release ring) and without push-in fittings in the case of the variant DGCI-...Q.

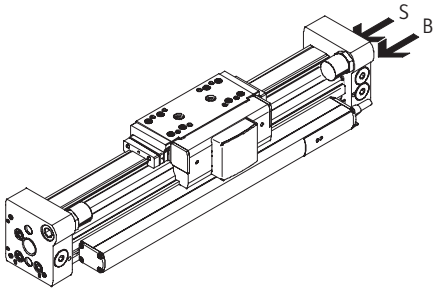
Push-in fitting at both ends, front face (standard)
DGCI-...



Push-in fitting at both ends, end face
DGCI-...-QD



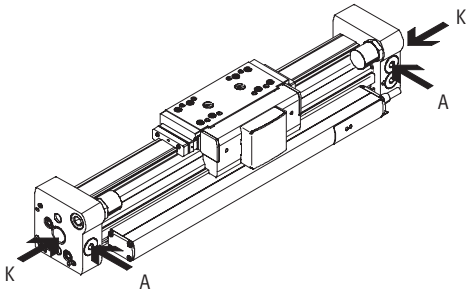
Push-in fitting at one end, end face
DGCI-...-QR



Note

Compressed air supply at one end is only recommended for strokes up to 600 mm.

No push-in fitting, end face open
DGCI-...Q



Direction of movement of the slide:

S To the right:
Fitting with black release ring

B To the left:
Fitting with blue release ring

Alternative port option

K Supply ports open

A Supply ports sealed

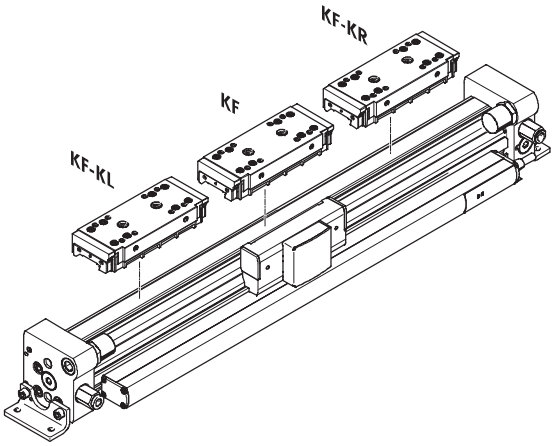
Linear drives DGCI, with displacement encoder

Ordering data – Modular products

FESTO

Order code

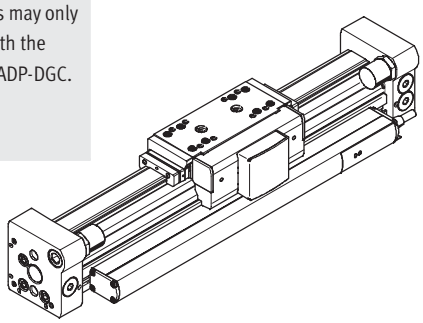
KL/KR – With additional slide



GP – With protected recirculating ball bearing guide

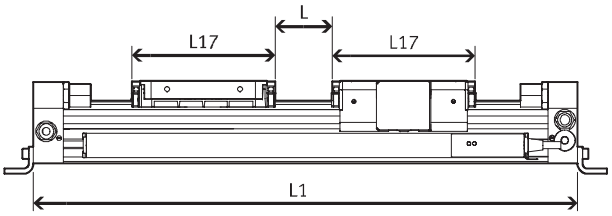
Note

In the case of the variant with GP, only fixed stops may be used in the end caps. Shock absorbers may only be used in combination with the shock absorber retainer DADP-DGC.



Effective stroke reduction when ordering an additional slide KL or KR

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



∅ [mm]	L17	
	DGCI-...-KF	DGCI-...-KF-...-GP
18	99	120
25	118.5	144
32	145.7	173
40	195.4	231
63	280	–

Given:
DGCI-18-500-...
L = 20 mm
L17= 99 mm

The effective stroke is reduced to
381 mm = 500 mm – 20 mm – 99 mm

Linear drives DGCI, with displacement encoder

Ordering data – Modular products

FESTO

M Mandatory data					O Options ➔
Module No.	**Function**	**Piston ∅**	**Stroke**	**Guide**	**Alternative supply port**
544 425 544 426 544 427 544 428 544 429	DGCI	18 25 32 40 63	100, 160, 225, 300, 360, 450, 500, 600, 750, 850, 1000, 1250, 1500, 1750, 2000	KF	– QD QR Q
Order example					
	DGCI	–	–	– **KF**	–

Ordering table

Size		18	25	32	40	63	Condi-tions	Code		Enter code
M	Module No.	**544 425**	**544 426**	**544 427**	**544 428**	**544 429**				
	Function	Linear drive with displacement encoder						**DGCI**		DGCI
	Piston ∅ [mm]	18	25	32	40	63		-...		
	Stroke [mm]	100, 160, 225, 300, 360, 450, 500, 600, 750, 850, 1000, 1250, 1500, 1750, 2000						-...		
	Guide	Recirculating ball bearing guide						**-KF**		-KF
O	Alternative supply port	Push-in fitting at both ends, front face (standard)								
		Push-in fitting at both ends, end face						**-QD**		
		Push-in fitting at one end, end face, right side					1	**-QR**		
		Threaded connection (end face open, front face sealed)						**-Q**		
		M5	G1/8	G1/8	G1/4	G3/8				

1 **QR** Only for strokes 100 ... 600 mm

Transfer order code

	DGCI	–		–		–	**KF**	–	

Linear drives DGCI, with displacement encoder

Ordering data – Modular products

FESTO

➔ [0] **Options**

	Slide	**Additional slide at left**	**Additional slide at right**	**Cushioning**	**Accessories**	**Type of mounting**	**Slot cover for sensor slot**	**Slot nut for mounting slot**	**User documentation**
	GP	KL	KR	– YSR YSRW	ZUB	F M	...L	...B	O
–		–	–	–	**ZUB** –		–	–	–

Ordering table

Size		18	25	32	40	63	Conditions	Code		Enter code
➔	Slide	Protected recirculating ball bearing guide				–	[2]	**-GP**		
[0]	Additional slide at left	Additional slide, standard, at left					[3]	**-KL**		
	Additional slide at right	Additional slide, standard, at right					[3]	**-KR**		
	Cushioning	Adjustable mechanical stop without cushioning (standard)								
		Shock absorber, self-adjusting						**-YSR**		
		Shock absorber, self-adjusting, progressive						**-YSRW**		
	Accessories							**ZUB-**		ZUB-
	Type of mounting	Foot mounting (includes 0 ... 2 profile mountings depending on the stroke)					[4]	**F**		
		Profile mounting (2 ... 4 depending on the stroke)					[4]	**M**		
	Slot cover for sensor slot	1 ... 9						**...L**		
	Slot nut for mounting slot	–	1 ... 9					**...B**		
	User documentation	Express waiver - no user documentation to be included (already available) (operating instructions in pdf format are available free of charge via the Internet www.festo.com)						**O**		

[2] **GP** Not in combination with YSR and YSRW

[3] **KL, KR** For a linear drive DGCI with additional slide (KL, KR), the effective stroke per additional slide is reduced by the dimension in the table ➔ 119 plus the distance between the slides

[4] **F, M** Assignment table ➔ 111

Transfer order code

–		–	–	–	–	**ZUB**	–	–	–	–

Linear drives DGCI, with displacement encoder

Accessories

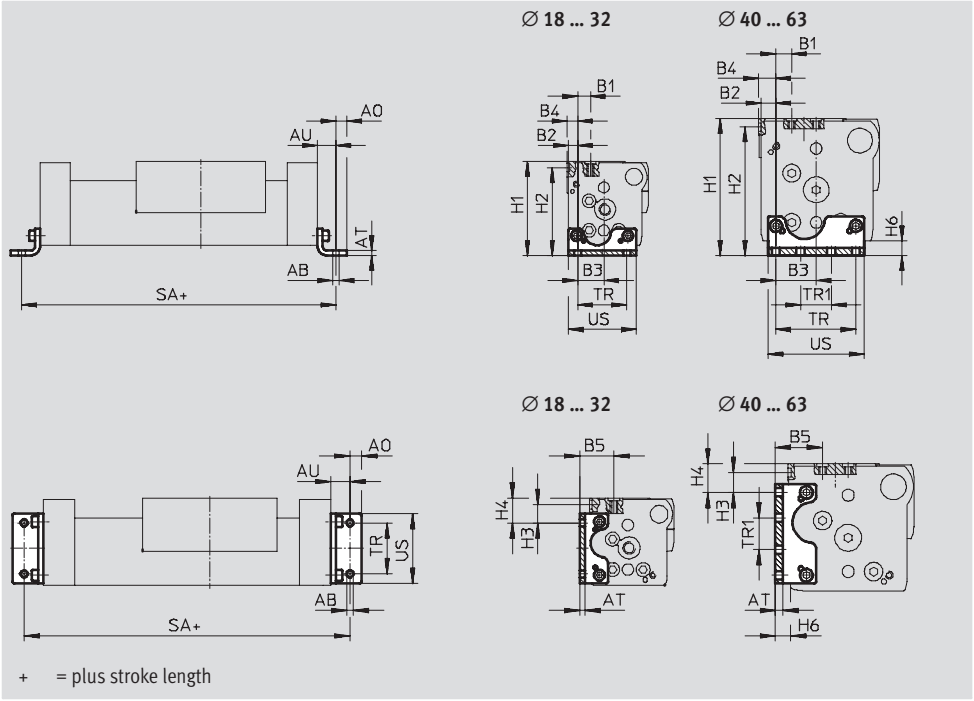
FESTO

Foot mounting HPC
(order code: F)

Material:
Galvanised steel

Note

Additional profile mountings MUC are required for strokes above 400 mm ➔ 111.



\+ = plus stroke length

Dimensions and ordering data

For Ø [mm]	AB Ø	AO	AT	AU	B1	B2	B3
18	5.5	6.75	3	13.25	11.2	4.3	15.2
25	5.5	9	4	15	13.35	7.65	22.35
32	6.6	10	5	19	9	9	29.5
40	6.6	10	6	20	12.6	12.2	32.8
63	11	13.5	8	28	17.5	12.5	55.5

For Ø [mm]	B4	B5	H1	H2	H3	H4
18	5.3	23.2	64	59.5	16	21.5
25	8.65	29.5	76.5	71.5	14.35	19.35
32	10.5	27	87.5	82.5	8	13
40	14.2	36.8	111.5	104.5	15.3	22.3
63	17.5	49	172.5	164.5	22	30

For Ø [mm]	H6	SA +0.9/–0.2	TR ±0.1	TR1 ±0.1	US	Weight [g]	Part No.	Type
18	7.7	176.5	30	–	38.6	58	**533 667**	**HPC-18**
25	8.5	230	40	–	55	131	**533 668**	**HPC-25**
32	9	288	56.5	19.5	68	239	**533 669**	**HPC-32**
40	12	340	65	25	78	348	**533 670**	**HPC-40**
63	19	456	111	39	133	1,245	**545 237**	**HPC-63**

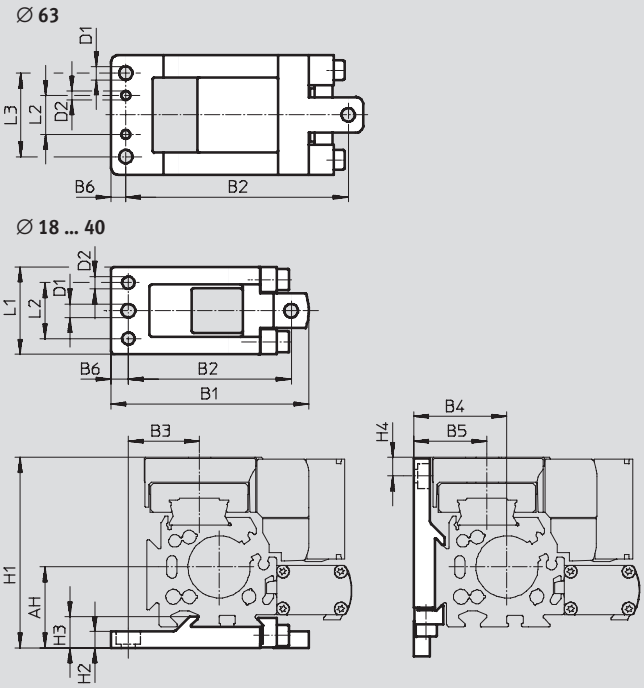
Linear drives DGCI, with displacement encoder

Accessories

FESTO

Profile mounting MUC
(order code: M)

Material:
High-alloy steel



Range of applications
➔111

Dimensions and ordering data

For ∅ [mm]	AH	B1	B2 ±0.2	B3	B4	B5	B6	D1 ∅ H13	D2 ∅ H7
18	27.2	67.8±0.2	56±0.15	28.7	27.2	23.2	5.7	5.5	5
25	32.5	79.5±0.2	65.5±0.15	28.5	37.5	29.5	7	5.5	5
32	37.5	94±0.2	80±0.15	35	47.5	37	7	5.5	5
40	47	110.5±0.2	96±0.15	43	57	46.8	7	6.5	6
63	75	169±0.5	149±0.2	72.5	87	69	10	9	6

For ∅ [mm]	H1	H2	H3	H4	L1	L2 ±0.05	L3 ±0.2	Weight [g]	Part No.	Type
18	64	5.7$_{-0.2}$	9.9±0.1	6.4	33±0.1	20.5	–	78	**531 752**	**MUC-18**
25	76.5	6.5$_{-0.2}$	12.5±0.1	7.43	35±0.1	22.5	–	113	**531 753**	**MUC-25**
32	87.5	6.5$_{-0.2}$	13±0.1	4	45±0.1	30	–	174	**531 754**	**MUC-32**
40	111.5	8.5$_{-0.2}$	16±0.1	11.3	60±0.1	44	–	346	**531 755**	**MUC-40**
63	172.5	11	25.5	15	80±0.4	26	56	1,080	**531 757**	**MUC-63**

Linear drives DGCI, with displacement encoder

Accessories

FESTO

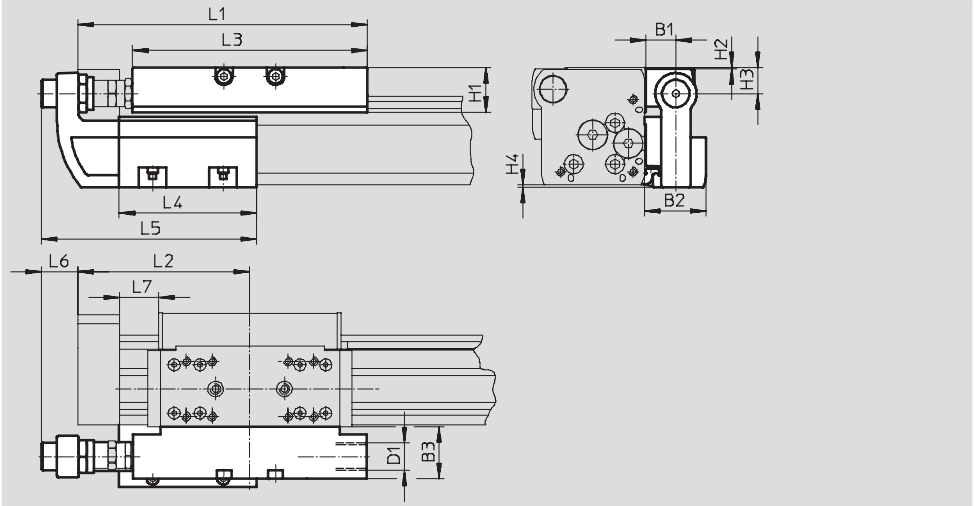
Shock absorber retainer DADP-DGC
Stop KYC

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-DGC

Stop KYC



Note

Shock absorber not included in the scope of delivery.
Existing stop elements can be removed from the end caps of the linear drive and installed in the shock absorber retainer.

Dimensions

For ∅ [mm]	B1	B2	B3	D1	H1	H2	H3	H4	L1
18	16	34.5	29	M12x1	20.7	0.2	12.5	0.7	128
25	16.5	35	30	M16x1	25.5	0.5	15	1.4	168
32	16.5	35	30	M16x1	25.5	0.5	15	1.7	206.8
40	16	35.7	35	M22x1.5	37	0.5	21.5	2	255
63	25	50	40	M26x1.5	51.5	1.5	33	0	328

For ∅ [mm]	L2	L3	L4	L5	L6	L7		
						KF	KF-GP	KF-YSR(W)
18	74.5	107	80	118.5	23.5	≥14.5	≥18	≥14.5
25	100	136	80	125	20.5	≥22.5	≥25	≥22.5
32	124.8	164	120	165	14.5	≥27.3	≥27.3	≥27.3
40	150	210	156	220.5	31	≥31	≥37	≥31
63	200	256	200	268	24	≥41	–	≥41

Note

For reasons of functional safety of the displacement encoder and stability of the linear drive DGCI, the distance L7 must not fall below the values in the table.

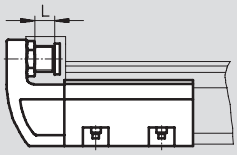
Linear drives DGCI, with displacement encoder

Accessories

FESTO

Technical data and ordering data

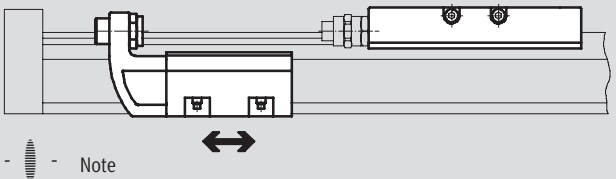
Precision adjustment



Note

The stop KYC can be used in both directions.

Installation example



Note

- The stop KYC can be mounted at any position within the stroke.
- Note dimension L7 ➔ 124

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

For ∅ [mm]	Precision adjustment L [mm]	Ambient temperature [°C]	CRC[1]	Weight [g]	Part No.	Type
Stop KYC						
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**
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.

Note

Permissible impact energy
➔ 108

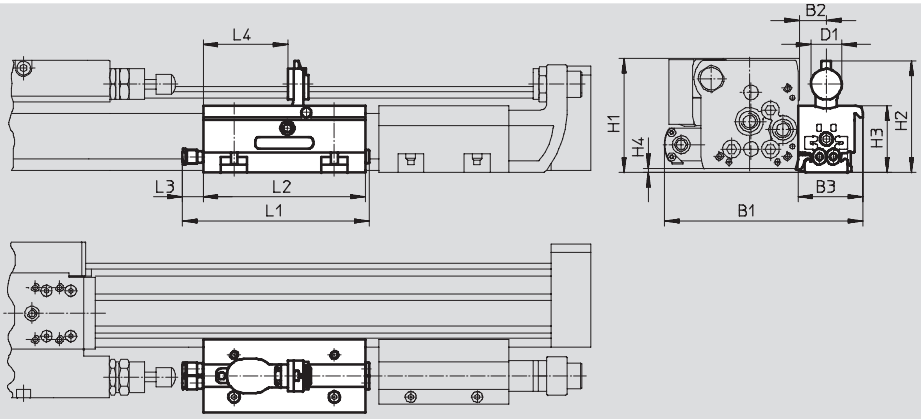
Linear drives DGCI, with displacement encoder

Accessories

Intermediate position module
DADM-DGC

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

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



Note

- Shock absorber not included in the 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 HPC or profile mountings MUC is recommended in this case.

Dimensions

For ∅ [mm]	B1	B2	B3	D1	H1	H2
25	122.5	16.5	40	19	69.4	68.6
32	138	16.5	40	19	80.2	79.7

For ∅ [mm]	H3	H4	L1	L2	L3	L4
25	41	1.4	116	100	13.4	52.2
32	52	1.7	116	100	13.4	52.2

Note

Permissible impact energy
➔ 108

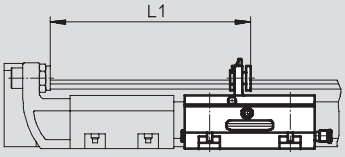
Linear drives DGCI, with displacement encoder

Accessories

FESTO

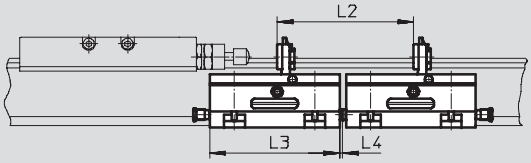
Minimum distance

Between end stop and intermediate position



∅	L1
25	145.3
32	185.3

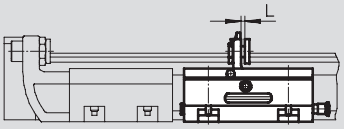
Between two intermediate positions



∅	L2	L3	L4
25	105	100	2.5
32	105	100	2.5

Technical data and ordering data

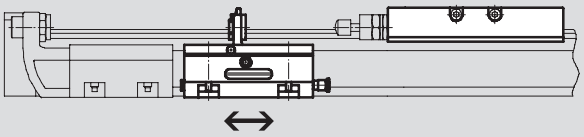
Precision adjustment L



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 within the stroke.

For ∅ [mm]	Operating pressure [bar]	Impact velocity [m/s]	Swivel time [ms]	Repetition accuracy [mm]	Pneumatic connection	Precision adjustment L [mm]
25 32	2.5 ... 8	➔ 111	<100	0.02	QS-4	2

For ∅ [mm]	Ambient temperature [°C]	CRC[1)]	Mounting position	Position sensing	Weight [g]	Part No.	Type
25	–10 ... +60	2	Any	Via proximity sensor SME/SMT-10	430	**541 700**	**DADM-DGC-25-A**
32					530	**541 701**	**DADM-DGC-32-A**

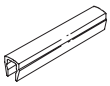
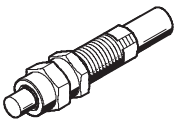
1) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Linear drives DGCI, with displacement encoder

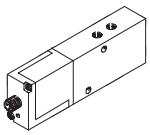
Accessories

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	
	18	For slide	–	**150 928**	**ZBS-5**	10
	25 … 63			**150 927**	**ZBH-9**	
	18	For end cap	–	**150 928**	**ZBS-5**	
	25 … 63			**150 927**	**ZBH-9**	
Slot cover ABP-S					Technical data ➔ Internet: abp	
	18 … 63	For sensor slot 0.5 m each	L	**151 680**	**ABP-5-S**	2
Shock absorber YSRW					Technical data ➔ Internet: ysrw	
	18		YSRW	**540 347**	**YSRW-DGC-18-KF**	1
	25			**540 349**	**YSRW-DGC-25-KF**	
	32			**540 351**	**YSRW-DGC-32-KF**	
	40			**540 353**	**YSRW-DGC-40/50**	
	63			**543 069**	**YSRW-DGC-63**	

Ordering data – Proportional directional control valves and push-in fittings

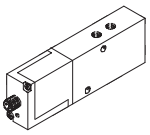
	For ∅ [mm]	Stroke [mm]	Proportional directional control valve Technical data ➔ Internet: mpye Part No.	Type	Push-in fitting for DGCI Technical data ➔ Internet: quick star Part No.	Type
	For applications with axis controller SPC200					
	18	100 … 300	**154 200**	**MPYE-5-M5-010-B**	**153 306**	**QSM-M5-6**
		360 … 2,000	**151 692**	**MPYE-5-1/8-LF-010-B**	**153 306**	**QSM-M5-6**
	25	100 … 160	**154 200**	**MPYE-5-M5-010-B**	**153 002**	**QS-1/8-6**
		225 … 750	**151 692**	**MPYE-5-1/8-LF-010-B**	**153 004**	**QS-1/8-8**
		850 … 2,000	**151 693**	**MPYE-5-1/8-HF-010-B**	**153 004**	**QS-1/8-8**
	32	100	**154 200**	**MPYE-5-M5-010-B**	**153 002**	**QS-1/8-6**
		160 … 360	**151 692**	**MPYE-5-1/8-LF-010-B**	**153 004**	**QS-1/8-8**
		450 … 2,000	**151 693**	**MPYE-5-1/8-HF-010-B**	**153 004**	**QS-1/8-8**
	40	100 … 300	**151 692**	**MPYE-5-1/8-LF-010-B**	**153 005**	**QS-1/4-8**
		360 … 750	**151 693**	**MPYE-5-1/8-HF-010-B**	**153 005**	**QS-1/4-8**
		850 … 2,000	**151 694**	**MPYE-5-1/4-010-B**	**153 007**	**QS-1/4-10**
	63	100 … 160	**151 692**	**MPYE-5-1/8-LF-010-B**	**153 006**	**QS-3/8-8**
		225 … 300	**151 693**	**MPYE-5-1/8-HF-010-B**	**153 006**	**QS-3/8-8**
		360 … 450	**151 694**	**MPYE-5-1/4-010-B**	**153 008**	**QS-3/8-10**
		500 … 2,000	**151 695**	**MPYE-5-3/8-010-B**	**153 009**	**QS-3/8-12**

Linear drives DGCI, with displacement encoder

Accessories

FESTO

Ordering data – Proportional directional control valves and push-in fittings

	For ∅ [mm]	Stroke [mm]	Proportional directional control valve Technical data ➔ Internet: mpye Part No.	Type	Push-in fitting for DGCI Technical data ➔ Internet: quick star Part No.	Type
	For applications with Soft Stop end position controller SPC11-MTS-AIF-2, horizontal					
	18	100 … 300	**154 200**	**MPYE-5-M5-010-B**	**153 306**	**QSM-M5-6**
		360 … 1,750	**151 692**	**MPYE-5-⅛-LF-010-B**	**153 306**	**QSM-M5-6**
		2,000	**151 693**	**MPYE-5-⅛-HF-010-B**	**153 306**	**QSM-M5-6**
	25	100 … 160	**151 692**	**MPYE-5-⅛-LF-010-B**	**153 002**	**QS-⅛-6**
		225 … 300	**151 692**	**MPYE-5-⅛-LF-010-B**	**153 004**	**QS-⅛-8**
		360 … 2,000	**151 693**	**MPYE-5-⅛-HF-010-B**	**153 004**	**QS-⅛-8**
	32	100	**151 692**	**MPYE-5-⅛-LF-010-B**	**153 002**	**QS-⅛-6**
		160 … 1,000	**151 693**	**MPYE-5-⅛-HF-010-B**	**153 004**	**QS-⅛-8**
		1,250 … 2,000	**151 694**	**MPYE-5-¼-010-B**	**153 004**	**QS-⅛-8**
	40	100 … 500	**151 693**	**MPYE-5-⅛-HF-010-B**	**153 005**	**QS-¼-8**
		600 … 750	**151 694**	**MPYE-5-¼-010-B**	**153 005**	**QS-¼-8**
		850 … 2,000	**151 694**	**MPYE-5-¼-010-B**	**153 007**	**QS-¼-10**
	63	100 … 160	**151 692**	**MPYE-5-⅛-LF-010-B**	**153 006**	**QS-⅜-8**
		225 … 300	**151 693**	**MPYE-5-⅛-HF-010-B**	**153 006**	**QS-⅜-8**
		360 … 450	**151 694**	**MPYE-5-¼-010-B**	**153 008**	**QS-⅜-10**
		500 … 2,000	**151 695**	**MPYE-5-⅜-010-B**	**153 009**	**QS-⅜-12**
	For applications with Soft Stop end position controller SPC11-MTS-AIF-2, vertical					
	18	100 … 300	**154 200**	**MPYE-5-M5-010-B**	**153 306**	**QSM-M5-6**
		360 … 1,750	**151 692**	**MPYE-5-⅛-LF-010-B**	**153 306**	**QSM-M5-6**
		2,000	**151 693**	**MPYE-5-⅛-HF-010-B**	**153 306**	**QSM-M5-6**
	25	100 … 160	**151 692**	**MPYE-5-⅛-LF-010-B**	**153 002**	**QS-⅛-6**
		225 … 750	**151 692**	**MPYE-5-⅛-LF-010-B**	**153 004**	**QS-⅛-8**
		850 … 2,000	**151 693**	**MPYE-5-⅛-HF-010-B**	**153 004**	**QS-⅛-8**
	32	100	**151 692**	**MPYE-5-⅛-LF-010-B**	**153 002**	**QS-⅛-6**
		160 … 300	**151 692**	**MPYE-5-⅛-LF-010-B**	**153 004**	**QS-⅛-8**
		360 … 1,750	**151 693**	**MPYE-5-⅛-HF-010-B**	**153 004**	**QS-⅛-8**
		2,000	**151 694**	**MPYE-5-¼-010-B**	**153 004**	**QS-⅛-8**
	40	100 … 225	**151 692**	**MPYE-5-⅛-LF-010-B**	**153 005**	**QS-¼-8**
		300 … 750	**151 693**	**MPYE-5-⅛-HF-010-B**	**153 005**	**QS-¼-8**
		850 … 1,000	**151 693**	**MPYE-5-⅛-HF-010-B**	**153 007**	**QS-¼-10**
		1250 … 2,000	**151 694**	**MPYE-5-¼-010-B**	**153 007**	**QS-¼-10**
	63	100 … 160	**151 692**	**MPYE-5-⅛-LF-010-B**	**153 006**	**QS-⅜-8**
		225 … 300	**151 693**	**MPYE-5-⅛-HF-010-B**	**153 006**	**QS-⅜-8**
		360 … 450	**151 694**	**MPYE-5-¼-010-B**	**153 008**	**QS-⅜-10**
		500 … 2,000	**151 695**	**MPYE-5-⅜-010-B**	**153 009**	**QS-⅜-12**

What must be observed when using Festo components?

Specified limit values for technical data and any specific instructions must be adhered to by the user in order to ensure recommended operating conditions.
When pneumatic components are used, the user shall ensure that they are operated using correctly prepared compressed air without aggressive media.
When Festo components are used in safety-oriented applications, the user shall ensure that all applicable national and local safety laws and regulations, for example the machine directive, together with the relevant references to standards are observed.
Unauthorised conversions or modifications to products and systems from Festo involve a safety risk and are thus not permissible.
Festo does not accept any liability for resulting damages.
You should contact Festo's advisors if one of the following apply to your application:

- The ambient conditions and conditions of use or the operating medium differ from the specified technical data.
- The product is to perform a safety function.
- A risk or safety analysis is required.
- You are unsure about the product's suitability for use in the planned application.
- You are unsure about the product's suitability for use in safety-oriented applications.