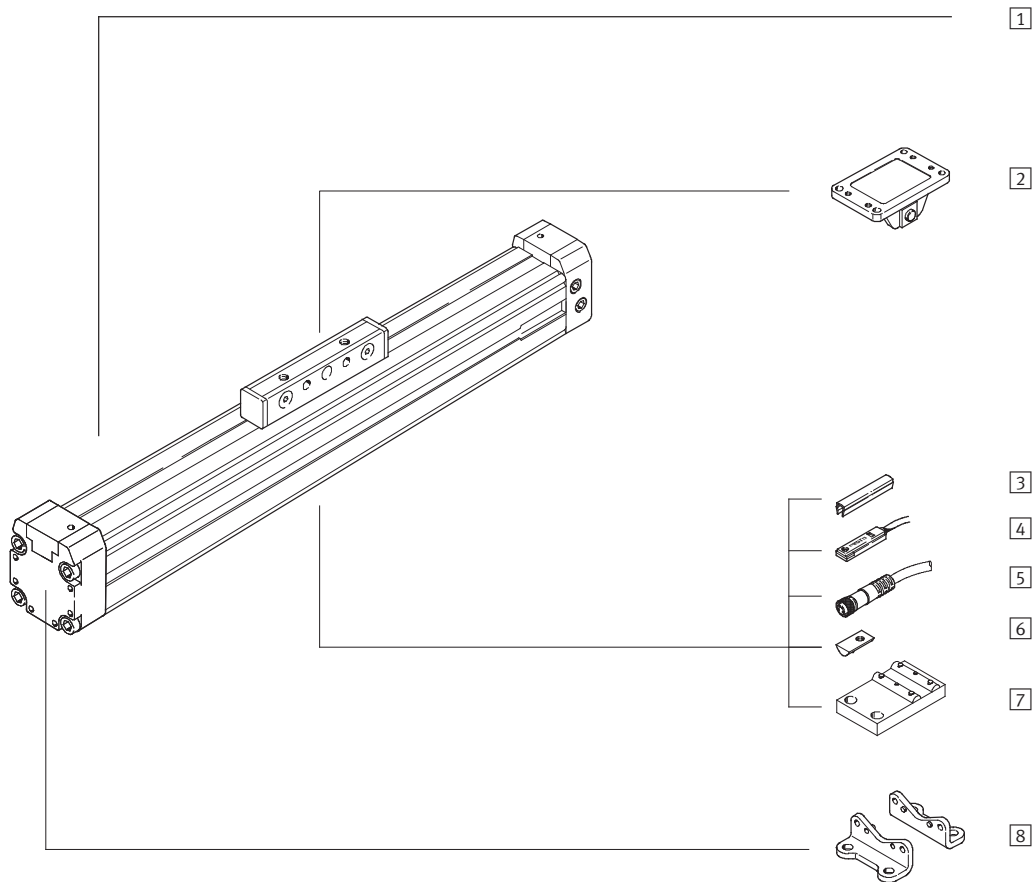


- 2 - Type discontinued
Available up until 2013

Linear drives DGP

Peripherals overview

FESTO



- 2 - Type discontinued
Available up until 2013

Linear drives DGP

Peripherals overview

FESTO

Variants and accessories		
Type	Brief description	→ Page/Internet
1 Linear drive DGP	Pneumatic linear drive with driver	8
2 Moment compensator FK	For compensating misalignments when using external guides	57
3 Slot cover B/S	For protecting against dirt and securing proximity sensor cables	60
4 Proximity sensor G/H/I/J/N	For sensing the driver position	62
5 Cable with socket V	For proximity sensors	62
6 Slot nut for profile slot Y	For mounting attachments	60
7 Central support M	For mounting the axis, particularly with long strokes	55
8 Foot mounting F	For mounting the axis	54

- 2 - Type discontinued
Available up until 2013

Linear drives DGP

Type code

FESTO

		DGP	-	25	-	500	-	PPV	-	A	-	B	-	GK	-	D2
Type																
DGP	Linear drive															
Piston Ø																
Stroke [mm]																
Cushioning																
PPV	Adjustable end-position cushioning															
Position sensing																
A	Via magnet															
Generation																
B	B series															
Basic design																
GK	Standard driver															
GV	Extended driver															
Supply port/accessories																
D2	Supply port at both ends															
FK	Moment compensator															

- 2 - Type discontinued
Available up until 2013

Linear drives DGP

Type code

FESTO

→		+ ZUB	-	2S2B			F	2H	2V
Accessories									
ZUB	Accessories supplied loose								
Slot cover									
...S	Sensor slot								
...B	Mounting slot								
Slot nut									
...Y	For profile barrel								
Central support									
...M	Central support								
Foot mounting									
...F	Foot mounting								
Proximity sensor									
...G	With cable, 2.5 m								
...H	With plug								
...I	Contactless, with cable, 2.5 m								
...J	Contactless, plug								
...N	NC contact with cable, 2.5 m								
Cable with socket									
...V	2.5 m								

- 1 - Type discontinued
Available up until 2013

Linear drives DGP

Technical data

FESTO

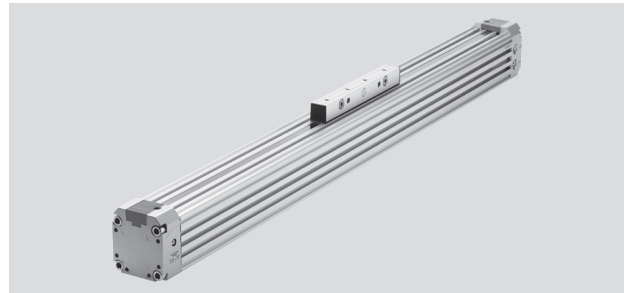
Function



www.festo.com

Wearing parts kits
→ 18

- Ø - Diameter
18 ... 80 mm
- I - Stroke length
1 ... 3000 mm



General technical data							
Piston Ø	18	25	32	40	50	63	80
Constructional design	Pneumatic linear drive with driver						
Protection against torsion/guide	Slotted profile barrel						
Mode of operation	Double-acting						
Driver principle	Positive-locking (slot)						
Mounting position	Any						
Pneumatic connection	M5	G1/8		G1/4		G3/8	G1/2
Stroke length [mm]	10 ... 1800	10 ... 3000 ¹⁾					
Cushioning (PPV)	Adjustable at both ends						
Cushioning length [mm]	16	18	20	30			83
Position sensing	Via magnet						

1) With effective strokes of over 2000 mm the installation of the drive unit must be with the sealing strip facing down; longer strokes available on request.

Operating and environmental conditions							
Piston Ø	18	25	32	40	50	63	80
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:-:-]						
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)						
Operating pressure	[bar]	2 ... 8			1.5 ... 8		
Ambient temperature ¹⁾	[°C]	-10 ... +60					
ATEX	Specified types → www.festo.com						

1) Note operating range of proximity sensors.

Forces [N] and impact energy [Nm]							
Piston Ø	18	25	32	40	50	63	80
Theoretical force at 6 bar	153	295	483	754	1178	1870	3016
Impact energy	→ 13						

Weights [kg]							
Piston Ø	18	25	32	40	50	63	80
Basic weight with 0 mm stroke	0.46	0.84	1.55	2.65	5.88	9.1	17.3
Additional weight per 10 mm stroke	0.016	0.036	0.041	0.057	0.111	0.148	0.158
Moving load	0.08	0.18	0.32	0.55	1.55	1.76	5.0

- 2 - Type discontinued
Available up until 2013

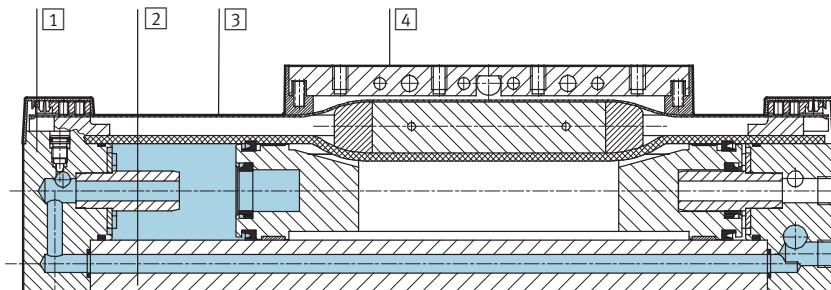
Linear drives DGP

Technical data

FESTO

Materials

Sectional view



Axis	18	25	32	40	50	63	80
1 End cap	Anodised aluminium						
2 Profile	Anodised aluminium						
3 Cover strip	Corrosion resistant steel						Polyurethane
4 Driver	Anodised aluminium						
Ex Seals	Nitrile rubber, polyurethane						
-							

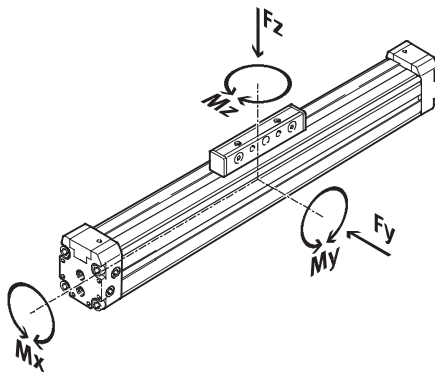
Linear drives DGP

Technical data

FESTO

Characteristic load values

The indicated forces and torques refer to the centre line of the internal diameter of the profile barrel. They must not be exceeded in the dynamic range. Special attention must be paid to the cushioning phase.



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

$$0.4 \times \frac{F_z}{F_{z_{\max.}}} + \frac{M_x}{M_{x_{\max.}}} + \frac{M_y}{M_{y_{\max.}}} + 0.2 \times \frac{M_z}{M_{z_{\max.}}} \leq 1$$

$$\frac{F_z}{F_{z_{\max.}}} \leq 1 \quad \frac{M_z}{M_{z_{\max.}}} \leq 1$$

Permissible forces and torques								
Piston Ø		18	25	32	40	50	63	80
Standard driver GK								
F _y _{max.}	[N]	–						
F _z _{max.}	[N]	120	330	480	800	1200	1600	5000
M _x _{max.}	[Nm]	0.5	1	2	4	7	8	32
M _y _{max.}	[Nm]	11	20	40	60	120	120	750
M _z _{max.}	[Nm]	1	3	5	8	15	24	140
Extended driver GV								
F _y _{max.}	[N]	–						
F _z _{max.}	[N]	120	330	480	800	1200	–	–
M _x _{max.}	[Nm]	1	2	4	8	14	16	–
M _y _{max.}	[Nm]	22	40	80	120	240	240	–
M _z _{max.}	[Nm]	2	6	10	16	30	48	–

- Note

Sizing software

ProDrive

→ www.festo.com

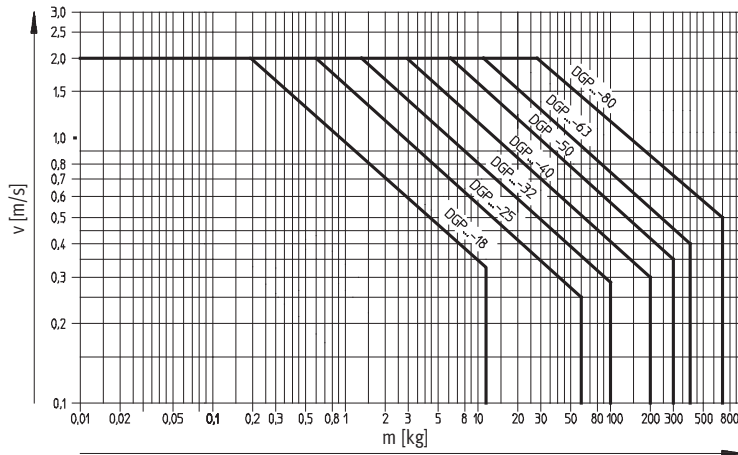
Linear drives DGP

Technical data

FESTO

Operating range of the integrated end-position cushioning PPV

Maximum permissible speed v as a function of the moving load m



Note

The data applies to a horizontal mounting position, applied load on top.

m = Applied load + moving load
(→ 10)

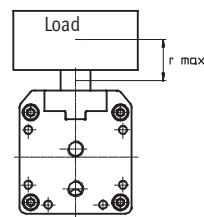
The graph opposite refers to r_{max} .

Pneumatic linear drives

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 externally

cushioned using suitable equipment (shock absorbers, stops, etc), preferably at the centre of gravity of the mass.

with driver DGP



$r_{max} = 20$ mm
for piston $\varnothing 18$ mm

$r_{max} = 50$ mm
for piston $\varnothing 25 \dots 80$ mm
(data for greater load distances on request)

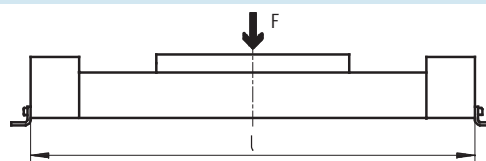
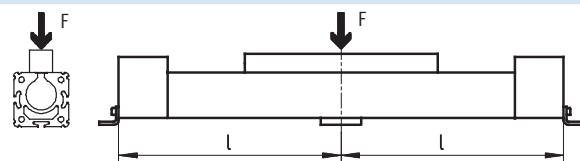
Maximum permissible support span l as a function of the force F

The axis may need to be supported with central supports MUP in order to restrict deflection with long stroke

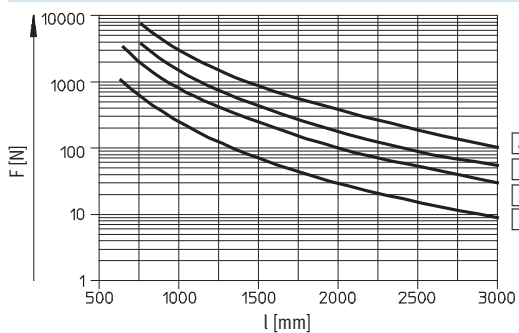
lengths. The following diagrams serve to determine the maximum permissible support span l as a

function of the force F acting upon the axis.

Force on the surface of the slide

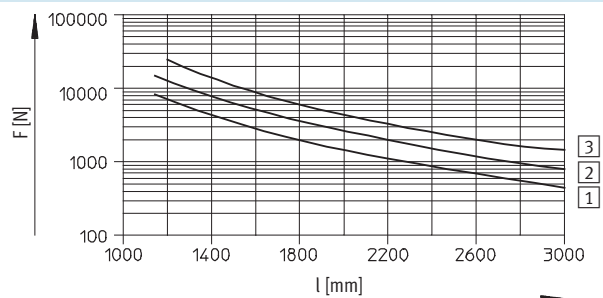


Piston $\varnothing 18 \dots 40$



- | | |
|-------------------|-------------------|
| 1 DGP...18 | 3 DGP...32 |
| 2 DGP...25 | 4 DGP...40 |

Piston $\varnothing 50 \dots 80$



- | | |
|-------------------|-------------------|
| 1 DGP...50 | 3 DGP...80 |
| 2 DGP...63 | |

- 2 - Type discontinued
Available up until 2013

Linear drives DGP

Technical data

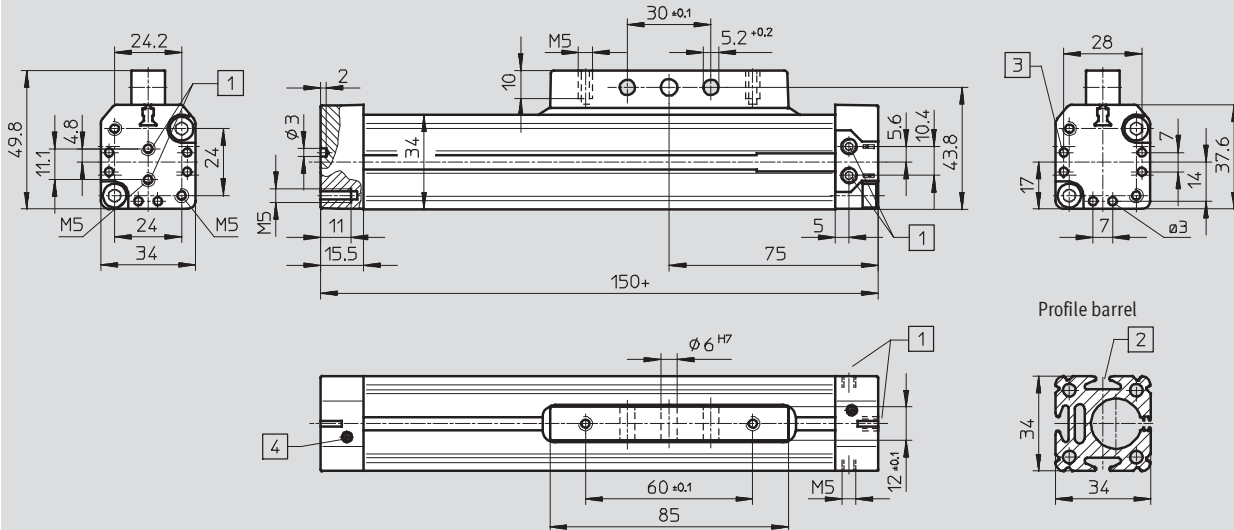
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Dimensions

Download CAD data → www.festo.com

Standard driver GK

Piston Ø 18



1 Supply ports at one end, option of three sides of an end cap (D2 variant: supply port at both ends, option of three sides per end cap)

2 Sensor slot for proximity sensor

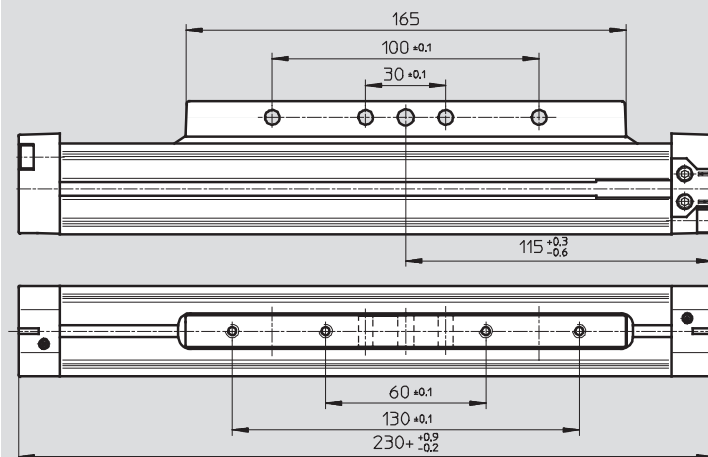
3 Mounting hole for foot mounting HP

4 Regulating screw for adjustable end-position cushioning

+ = plus stroke length

Extended driver GV

Piston Ø 18



+ = plus stroke length

- 2 - Type discontinued
Available up until 2013

Linear drives DGP

Technical data

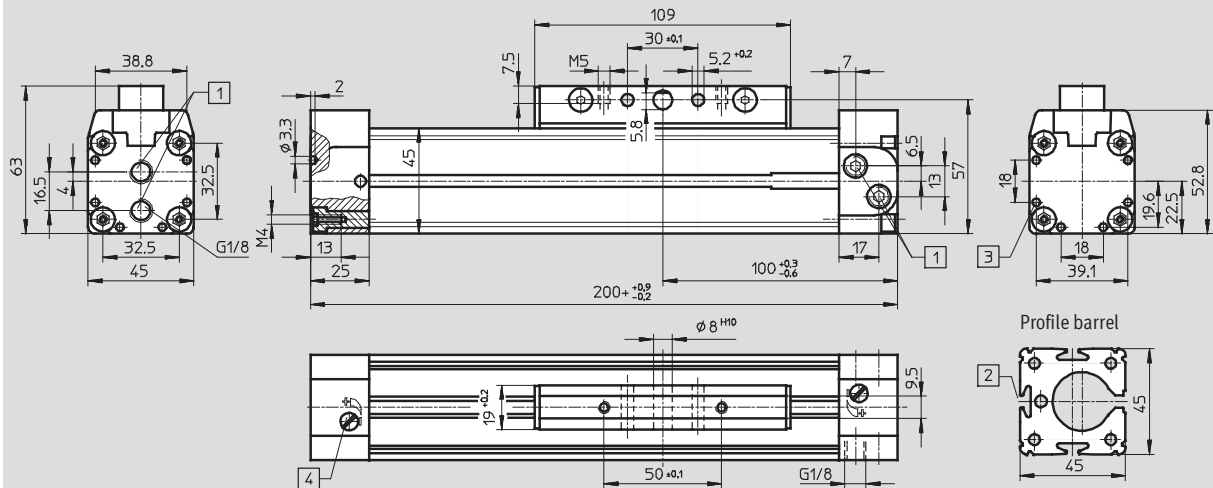
FESTO

Dimensions

Download CAD data → www.festo.com

Standard driver GK

Piston Ø 25

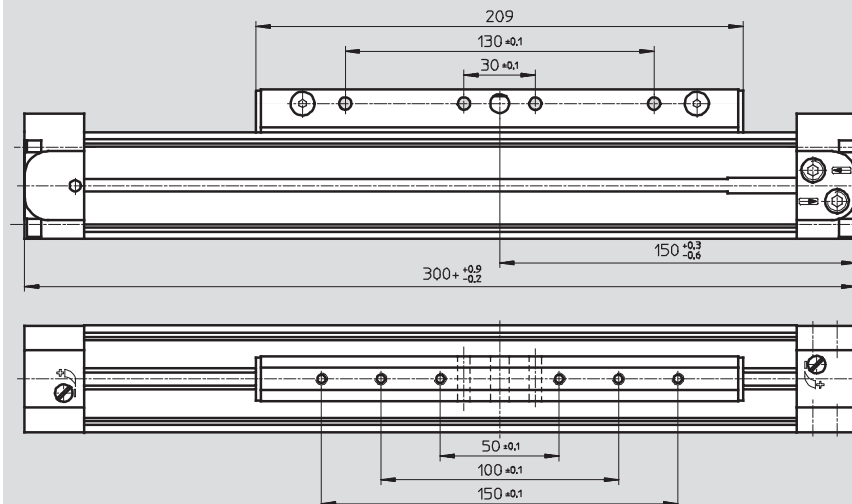


- 1 Supply ports at one end, option of three sides of an end cap (D2 variant: supply port at both ends, option of three sides per end cap)
- 2 Sensor slot for proximity sensor
- 3 Mounting hole for foot mounting HP
- 4 Regulating screw for adjustable end-position cushioning

+ = plus stroke length

Extended driver GV

Piston Ø 25



+ = plus stroke length

- 2 - Type discontinued
Available up until 2013

Linear drives DGP

Technical data

FESTO

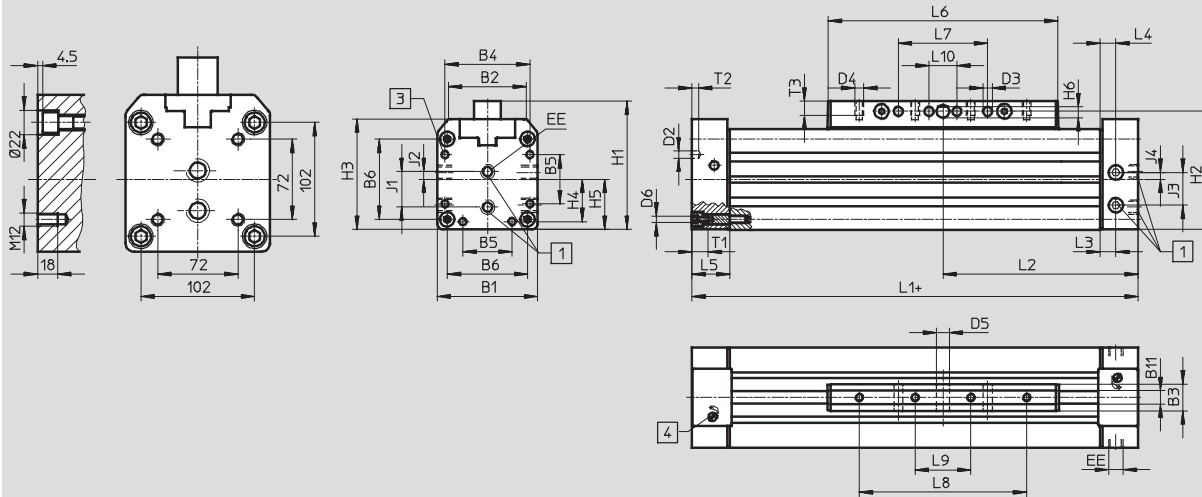
Dimensions

Download CAD data → www.festo.com

Standard driver GK

Piston Ø 80

Piston Ø 32 ... 63



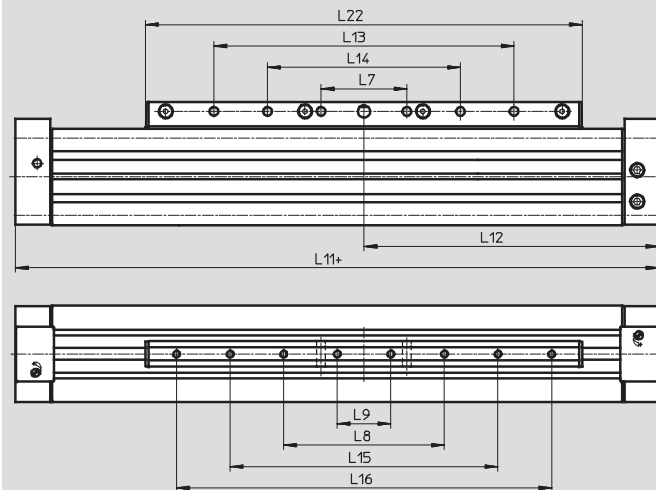
1 Supply ports at one end, option of three sides of an end cap (D2 variant: supply port at both ends, option of three sides per end cap)

3 Mounting hole for foot mounting HP
4 Regulating screw for adjustable end-position cushioning

+ = plus stroke length

Extended driver GV

Piston Ø 32 ... 63



+ = plus stroke length

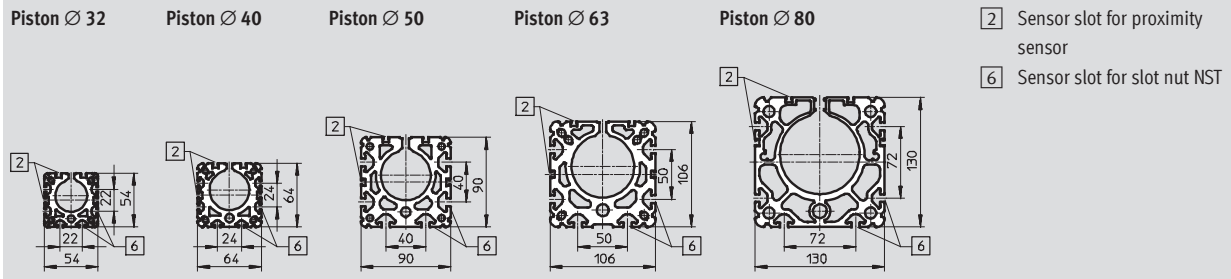
- 2 - Type discontinued
Available up until 2013

Linear drives DGP

Technical data

FESTO

Profile barrel



Ø [mm]	B1	B2	B3 ±0.2	B4	B5	B6	B11	D2 Ø	D3 Ø ±0.2	D4	D5 Ø H10	D6	EE	H1	H2
32	54	35.8	19	46	21	40	9.5	4.3	5.2	M5	8	M5	G1/8	72	66
40	64	45.7	21	53	28	49			6.5	M6	10		G1/4	86	78
50	90	69.2	24	76	44	72	12	6.3	8.5	M8	12	M6	G1/4	115	106
63	106	84.8		89		83						M8	G3/8	131	122
80	130	102.5	36	–	–	–	–	–	12.2	M12	20	–	G1/2	174	158

Ø [mm]	H3	H4	H5	H6	J1	J2	J3	J4	L1	L2	L3	L4	L5	L6
32	62	23	27	5.8	19	4.2	14	4.7	250	125	17	8.5	31	135
40	71.8	26.5	32	7.7	22	5	21	9.1	300	150	11.5	11.5		171
50	99	36	45	9.7	31.8	6.8	29.3	6	350	175	14	14	34	206
63	115	44.5	53		36	8	31	14	400	200				234
80	140.5	51	65	–			33.3	3.6	520	260	19	19	45	334

Ø [mm]	L7	L8	L9	L10 ±0.15	L11 +0.9/–0.2	L12 +0.3/–0.6	L13 ±0.1	L14 ±0.1	L15 ±0.1	L16 ±0.1	L22	T1	T2	T3
32	50 ±0.1	100 ±0.1	30 ±0.1	–	380	190	180	–	160	230	265	13.2	3	7.5
40	70 ±0.1	130 ±0.1	40 ±0.1		470	235	160	250	220	–	341		4	10.5
50	80 ±0.1	150 ±0.1	50 ±0.1		550	275	280	–	250	350	406	15.2	6	12.5
63	110 ±0.1	190 ±0.1	70 ±0.1		650	325	380		310	430	484	21.2		
80	180 ±0.15	230 ±0.15	115 ±0.15	60	–	–	–		–	–	–	–	–	19

- 2 - Type discontinued
Available up until 2013

Linear drives DGP

FESTO

Ordering data

Ordering data – Standard stroke		
Piston Ø	Part No.	Type
25	526 645	DGP-25-250-PPV-A-B
	526 646	DGP-25-400-PPV-A-B
	526 647	DGP-25-500-PPV-A-B
	526 648	DGP-25-1000-PPV-A-B
32	526 653	DGP-32-250-PPV-A-B
	526 654	DGP-32-400-PPV-A-B
	526 655	DGP-32-500-PPV-A-B
	526 656	DGP-32-1000-PPV-A-B
40	526 661	DGP-40-250-PPV-A-B
	526 662	DGP-40-400-PPV-A-B
	526 663	DGP-40-500-PPV-A-B
	526 664	DGP-40-1000-PPV-A-B

Ordering data – Variable stroke		
Piston Ø	Part No.	Type
18	158 971	DGP-18-...-PPV-A-B
25	161 780	DGP-25-...-PPV-A-B
32	161 781	DGP-32-...-PPV-A-B
40	161 782	DGP-40-...-PPV-A-B
50	161 783	DGP-50-...-PPV-A-B
63	161 784	DGP-63-...-PPV-A-B
80	161 785	DGP-80-...-PPV-A-B

Ordering data – Wearing parts kits		
Piston Ø	Part No.	Type
18	384 266	DGP-18-...-PPV-A
25	123 563	DGP-25-...-PPV-A
32	123 564	DGP-32-...-PPV-A
40	123 565	DGP-40-...-PPV-A
50	123 566	DGP-50-...-PPV-A
63	123 567	DGP-63-...-PPV-A
80	123 568	DGP-80-...-PPV-A

Linear drives DGP

Ordering data – Modular products

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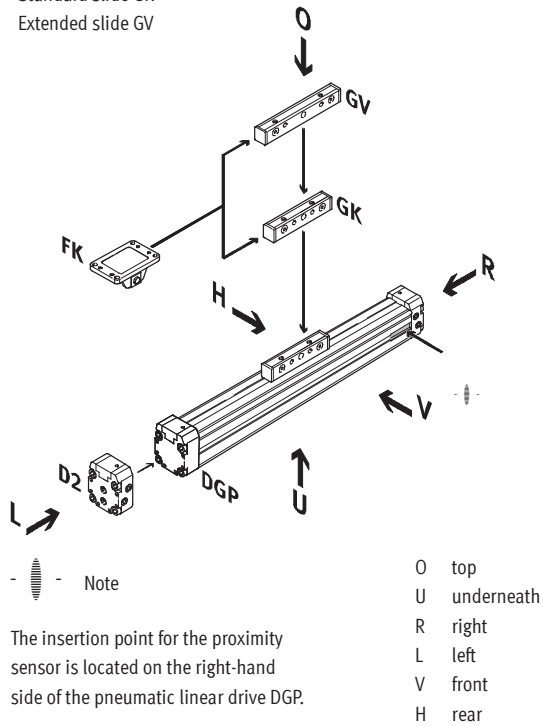
Order code

Mandatory data

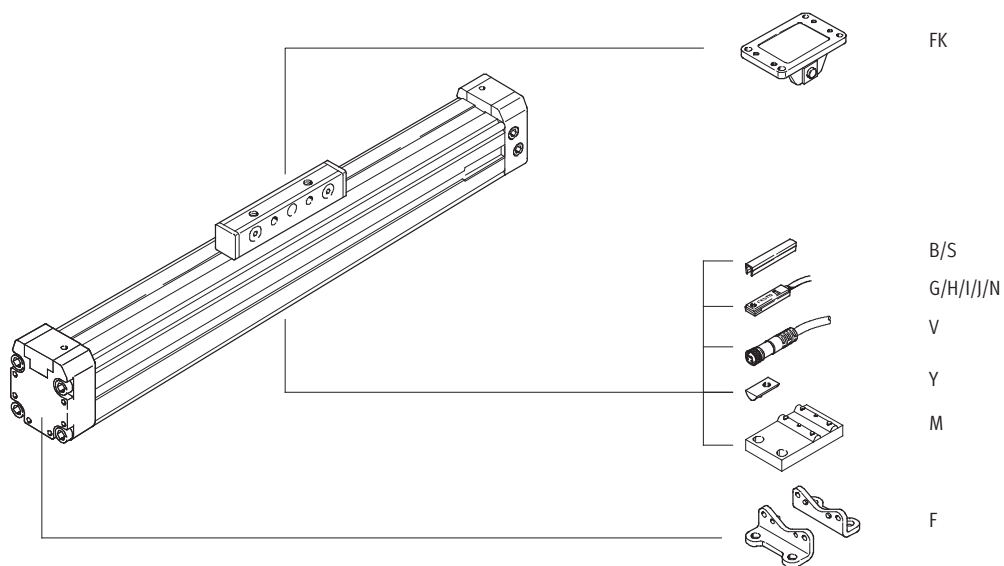
GK	Standard slide
GV	Extended slide
D2	Supply port at both ends
FK	Moment compensator

Standard slide GK

Extended slide GV



Options



- 2 - Type discontinued
Available up until 2013

Linear drives DGP

Ordering data – Modular products

FESTO

Mandatory data							Options	
Module No.	Drive function	Size	Stroke	Cushioning	Position sensing	Generation	Basic design	Supply port/driver
175 133	DGP	18	10 ... 300 0	PPV	A	B	GK GV	D2 FK
175 134		25						
175 135		32						
175 136		40						
175 137		50						
175 138		63						
175 139		80						
Ordering example								
175 134	DGP	- 25	- 500	- PPV	- A	- B	- GV	- D2

Ordering table													
Size		18	25	32	40	50	63	80	Condi- tions	Code	Enter code		
M	Module No.	175 133	175 134	175 135	175 136	175 137	175 138	175 139					
	Drive function	Pneumatic linear drive								DGP		DGP	
	Size	18	25	32	40	50	63	80		-...			
	Stroke [mm]	10 ... 1800	10 ... 3000						1			-...	
	Cushioning	Pneumatic cushioning adjustable at both ends								-PPV			
	Position sensing	Via magnet								-A		-A	
	Generation	B series								-B		-B	
O	Basic design	Standard piston/slide								-GK			
		Extended piston/slide						-		-GV			
	Supply port	At both ends								-D2			
	Driver	Moment compensator, assembled for DGP (FKP)								-FK			

1 Stroke With piston diameter 18 and piston/slide extended (-GV):
Restricted stroke 10 ... 1750 mm

Transfer order code

DGP - - - - A - B - - -

- 2 - Type discontinued
Available up until 2013

Linear drives DGP

Ordering data – Modular products

FESTO

Options

Accessories	Slot cover	Slot nut	Central support	Foot mounting	Proximity sensor	Cable with socket
ZUB	...S ...B	...Y	...M	...F	...G ...H ...I ...J ...N	...V
: ZUB	- 10S			F	2H	2V

Ordering table

Size		18	25	32	40	50	63	80	Condi- tions	Code	Enter code	
↓	Accessories		Supplied separately								:ZUB-	:ZUB-
	Slot cover, 2 pcs., 0.5 m	Sensor slot	1 ... 10								...S	
		Mounting slot	–	–	1 ... 10					...B		
	Slot nut	Profile barrel	–	–	1 ... 10					...Y		
	Central support		1 ... 10								...M	
	Foot mounting		1 ... 10								...F	
	Proximity sensor, magnetic	with cable, 2.5 m	1 ... 10 (SME-8-K-LED-24)								...G	
		with plug	1 ... 10 (SME-8-S-LED-24)								...H	
	Proximity sensor, magnetic, contactless	with cable, 2.5 m	1 ... 10 (SMT-8-PS-K-LED-24)								...I	
		with plug	1 ... 10 (SMT-8-PS-S-LED-24)								...J	
	Proximity sensor, magnetic	NC contact with cable, 2.5 m	1 ... 10 (SME-8-O-K-LED-24)								...N	
	Cable with socket, 2.5 m		1 ... 10 (SIM-M8-3GD-2,5-PU)								...V	

Transfer order code

: ZUB –