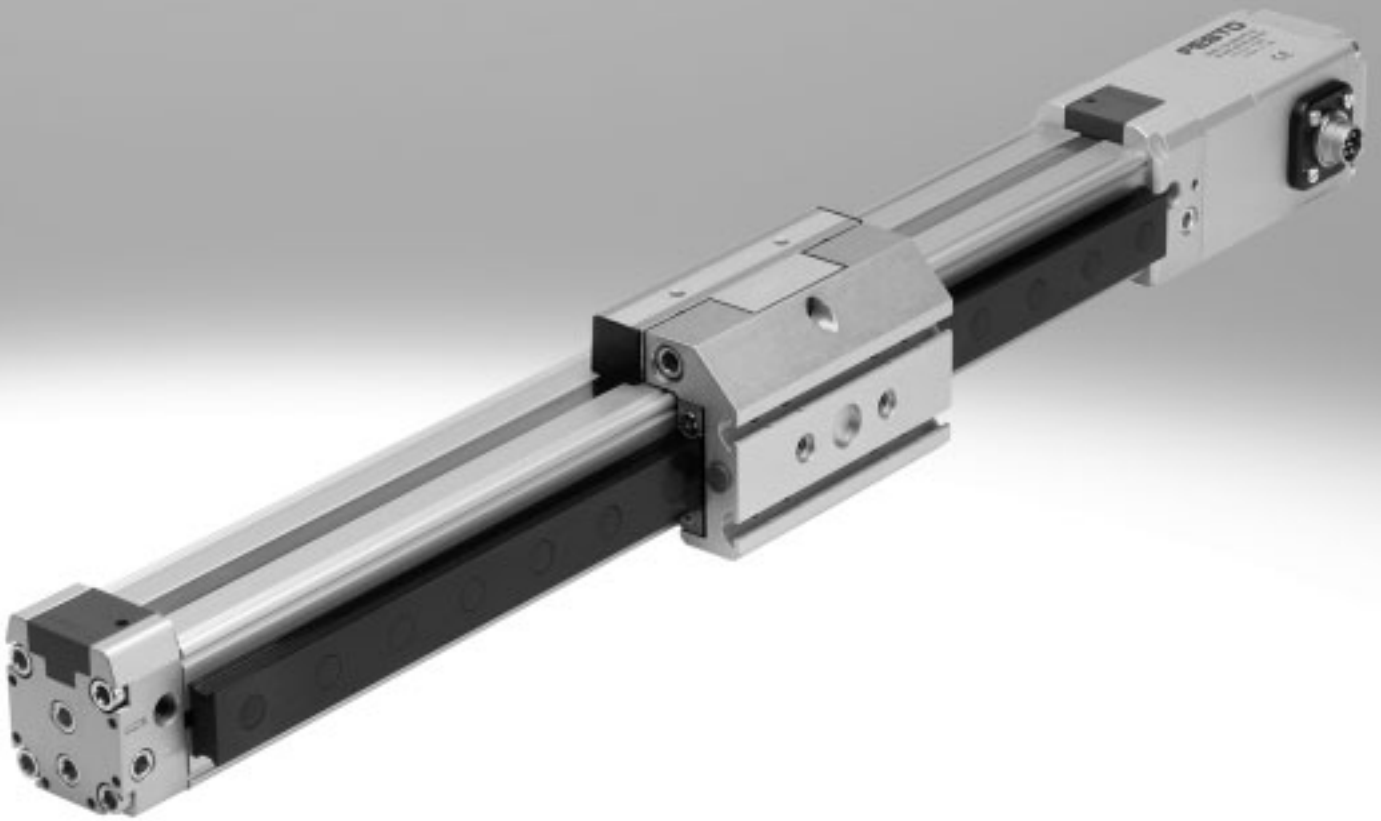









Linear drives DGPI/DGPIL, with integrated displacement encoder

FESTO



Cylinders with displacement encoder

Product range overview

Function	Type	Brief description
Drives	Rodless	
	DDLI 	<ul style="list-style-type: none"> • Without guide • With contactless measuring displacement encoder • Based on linear drive DGC-K • Supply ports on end face • System product for handling and assembly technology
	DDCI 	<ul style="list-style-type: none"> • With guide • With contactless measuring displacement encoder • Based on linear drive DGC • Supply ports optionally on end face or front • System product for handling and assembly technology
	DGP/ DGPIL 	<p>Do not use for new projects!</p> <ul style="list-style-type: none"> • With or without guide • With contactless measuring displacement encoder, integrated • Wide range of options for mounting on drives • System product for handling and assembly technology
	With piston rod	
	DNCI 	<ul style="list-style-type: none"> • With contactless measuring displacement encoder • Various piston rod variants • Standards-based cylinder to ISO 15552 <p>ISO DIN VDMA</p>
	DDPC 	<ul style="list-style-type: none"> • With contactless measuring displacement encoder • Various piston rod variants • Standards-based cylinder to ISO 15552 <p>ISO DIN VDMA</p>
DNC/DSBC 	<ul style="list-style-type: none"> • With attached potentiometer MLO-LWG • Various piston rod variants • Standards-based cylinder to ISO 15552 <p>ISO DIN VDMA</p>	
Swivel modules	Swivel modules	
	DSMI 	<ul style="list-style-type: none"> • Based on swivel modules DSM • Integrated rotary potentiometer • Compact design • Wide range of mounting options

Cylinders with displacement encoder

Product range overview

Piston Ø	Stroke/swivel angle [mm/°]	Suitable					for use as a measuring cylinder
		for positioning with		for end-position controller			
		CPX-CMAX	SPC200	CPX-CMPX	SPC11		
Rodless							
25, 32, 40	100, 160, 225, 300, 360, 450, 500, 600, 750, 850, 1000, 1250, 1500, 1750, 2000	■	■	■	■	■	
18, 25, 32, 40, 63	100, 160, 225, 300, 360, 450, 500, 600, 750, 850, 1000, 1250, 1500, 1750, 2000	■	■	■	■	■	
40, 50, 63	225, 300, 360, 450, 500, 600, 750, 1000, 1250, 1500, 1750, 2000	■	■	■	■	■	
With piston rod							
32, 40, 50, 63	10 ... 2000	-	-	-	-	■	
	100 ... 750	■	■	■	■	-	
80, 100	10 ... 2000	-	-	-	-	■	
	100 ... 750	■	■	■	■	-	
32, 40, 50, 63, 80	100, 150, 225, 300, 360, 450, 600, 750	■	■	■	■	■	
Swivel modules							
25, 40, 63	270	■	■	■	■	■	

Cylinders with displacement encoder

Features

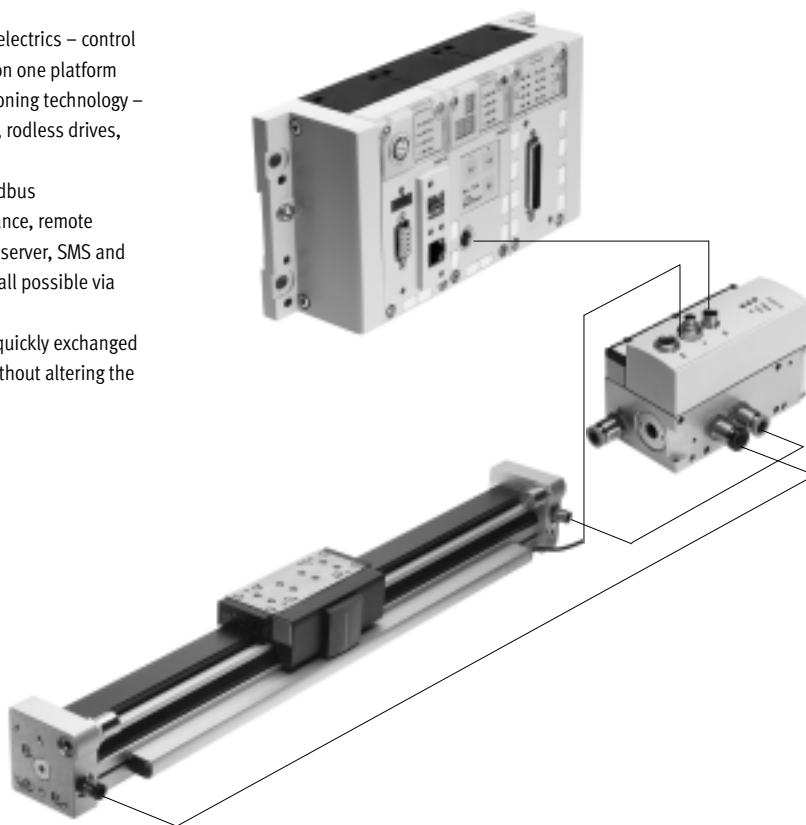
Servopneumatic drive technology

Positioning and Soft Stop applications as an integral component of the valve terminal CPX – the modular peripheral system for decentralised automation tasks.

The modular design means that valves, digital inputs and outputs, positioning modules and end-position controllers, as appropriate to the application, can be combined in almost any way on the CPX terminal.

Advantages:

- Pneumatics and electrics – control and positioning on one platform
- Innovative positioning technology – piston rod drives, rodless drives, rotary drives
- Actuation via fieldbus
- Remote maintenance, remote diagnostics, web server, SMS and e-mail alerts are all possible via TCP/IP
- Modules can be quickly exchanged and expanded without altering the wiring



Axis controller CPX-CMAX



Free choice:

Position and force control, directly actuated or selected from one of 64 configurable position sets. If you are looking for something more: the configurable function for switching to the next set enables simple functional sequences to be realised with the axis controller CPX-CMAX.

All stations are recognised as: the auto-identification function identifies each participant with its device data on the controller CPX-CMAX.

Also included:

The functional scope of the controller CPX-CMAX includes actuation of a brake or clamping unit via the proportional directional control valve VPWP. Up to 8 modules (max. 8 axes) can be operated in parallel and independently of each other. Commissioning via FCT (Festo configuration software) or via fieldbus: no programming, only configuration.

Technical data → Internet: cpx-cmax

Advantages:

- Greater flexibility
- OEM friendly – commissioning also via fieldbus
- Easy installation and fast commissioning
- Cost-effective
- You program the system in your PLC environment

Cylinders with displacement encoder

Features

End-position controller CPX-CMPX



Fast travel between the mechanical end stops of the cylinder, stopping gently and without impact in the end position.
Fast commissioning via control panel, fieldbus or handheld unit. Improved control of downtime. Actuation of a brake or clamping unit via the proportional directional control valve VPWP is an integral part of the controller CMPX.

Depending on the fieldbus chosen, up to 9 end-position controllers can be actuated on the CPX terminal. All system data can be read and written via the fieldbus, including, for example, the mid positions.

Technical data → Internet: [cpx-cmpx](#)

- Advantages:
- Greater flexibility
 - OEM friendly – commissioning also via fieldbus
 - Easy installation and fast commissioning
 - Cost-effective
 - up to 30% faster cycle rates
 - significantly reduced system vibration
 - Improved work ergonomics thanks to significantly reduced noise level
 - The extended diagnostics help to reduce the service time of the machine

Proportional directional control valve VPWP



The 5/3-way proportional directional control valve for applications with Soft Stop and pneumatic positioning. Fully digitalised – with integrated pressure sensors, with new diagnostic functions. In sizes 4, 6, 8 and 10. Flow rate of 350, 700, 1400 and 2000 l/min.

With switching output for actuating a brake. Coloured supply ports. Pre-assembled cables guarantee faultless and fast connection with the controllers CPX-CMPX and CPX-CMAX.

Technical data → Internet: [vpwp](#)

- Advantages:
- Easy installation and fast commissioning
 - Reduction of system downtimes thanks to the new diagnostic options
 - With switching output for actuating a brake/clamping unit

Measuring module CPX-CMIX



Fully digital data acquisition and transmission means that pneumatic cylinders can be used as sensors. With very high repetition accuracy and incorporating both analogue and digital measuring sensors.

Suitable for the linear drive DGCI with displacement encoder for measuring absolute values, for the piston rod drive DNCI/DDPC with incremental displacement encoder or even for a potentiometer of the type MLO.

Technical data → Internet: [cpx-cmix](#)

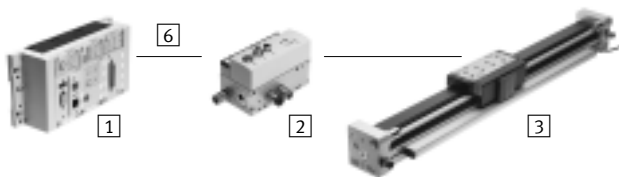
- Advantages:
- All process steps can be documented, which improves quality
 - An adjustable contact force (via pressure regulator) increases the precision of the "displacement sensor"
 - With displacement encoders for measuring absolute values, the actual position is immediately available after the system is switched on

Cylinders with displacement encoder

Drive options

System with linear drive DDLI, DGCI

Technical data → Internet: [ddli](#) or [dgci](#)



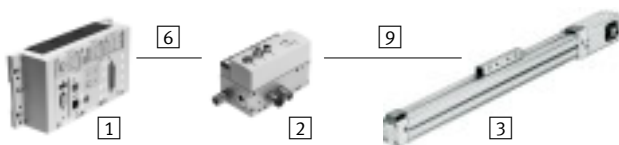
- 1 Controller module CPX-CMPX or CPX-CMAX
- 2 Proportional directional control valve VPWP
- 3 Linear drive DDLI, DGCI with displacement encoder
- 6 Connecting cable KVI-CP-3-...

- Pneumatic rodless linear drive with displacement encoder, with or without recirculating ball bearing guide
- Displacement encoder with absolute and contactless measurement
- Diameters:
 - DGCI: 18 ... 63 mm
 - DDLI: 25 ... 40 mm
- Stroke: 100 ... 2000 mm in fixed lengths
- Range of applications: Soft Stop and pneumatic positioning
- Loads from 1 ... 180 kg
- No sensor interface required

- Advantages:
- Complete drive unit
 - DDLI for easy connection to customer's guide system
 - Excellent running characteristics
 - For fast and accurate positioning down to ±0.2 mm (only with axis controller CPX-CMAX)

System with linear drive DGPI, DGPIIL or displacement encoder MME-MTS

Technical data → Internet: [dgpil](#)



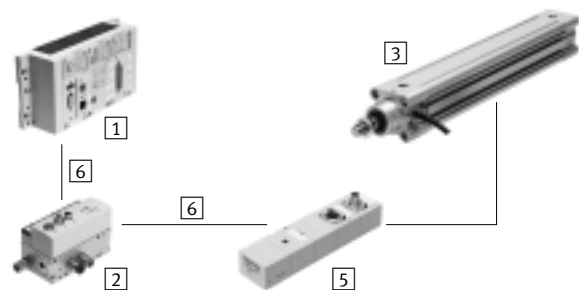
- 1 Controller module CPX-CMPX or CPX-CMAX
- 2 Proportional directional control valve VPWP
- 3 Linear drive DGPI, DGPIIL with displacement encoder
- 6 Connecting cable KVI-CP-3-...
- 9 NEBP-M16W6-K-2-M9W5

- Pneumatic rodless linear drive with displacement encoder, with or without recirculating ball bearing guide
- Displacement encoder with absolute and contactless measurement
- Diameter: 25 ... 63 mm
- Stroke: 225 ... 2000 mm in fixed lengths
- Range of applications: Soft Stop and pneumatic positioning
- Loads from 2 ... 180 kg
- No sensor interface required

- Advantages:
- Complete drive unit
 - DGPI for easy connection to customer's guide system
 - Excellent running characteristics
 - For fast and accurate positioning down to ±0.2 mm (only with axis controller CPX-CMAX)

System with standard cylinder DNCI, DDPC

Technical data → Internet: [dncl](#)



- 1 Controller module CPX-CMPX or CPX-CMAX
- 2 Proportional directional control valve VPWP
- 3 Standard cylinder DNCI, DDPC with displacement encoder
- 5 Sensor interface CASM-S-D3-R7
- 6 Connecting cable KVI-CP-3-...

- Standard cylinder with integrated displacement encoder, conforms to DIN ISO 6432, VDMA 24 562, NF E 49 003.1 and Uni 10 290
- Displacement encoder with contactless and incremental measuring
- Diameter: 32 ... 100 mm
- Stroke: 100 ... 750 mm
- Range of applications: Soft Stop and pneumatic positioning
- Loads from 3 ... 450 kg and a matching sensor interface CASM-S-D3-R7
- Pre-assembled cables guarantee faultless and fast electrical connection

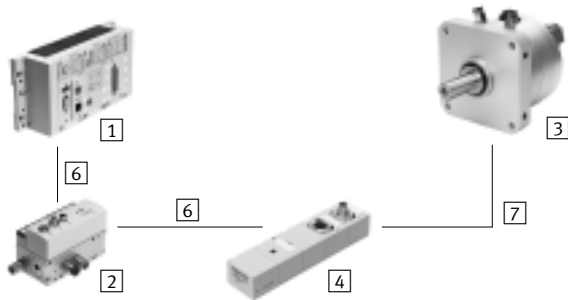
- Advantages:
- Compact drive unit
 - Can be used universally
 - Also with guide unit
 - For fast and accurate positioning up to ±0.5 mm (only with axis controller CPX-CMAX)

Cylinders with displacement encoder

Drive options

System with swivel module DSMI

Technical data → Internet: dsmi



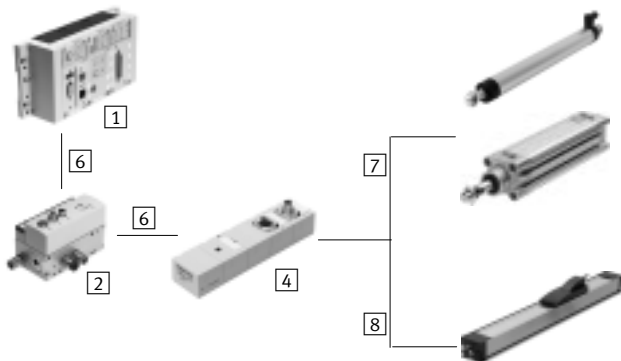
- 1 Controller module CPX-CMPX or CPX-CMAX
- 2 Proportional directional control valve VPWP
- 3 Swivel module DSMI with displacement encoder
- 4 Sensor interface CASM-S-D2-R3
- 6 Connecting cable KVI-CP-3-...
- 7 Connecting cable NEBC-P1W4-K-0,3-N-M12G5

- Swivel module DSMI with integrated displacement encoder
- Identical design to pneumatic swivel module DSM
- Absolute displacement encoder based on a potentiometer
- Swivel range of 0 ... 270°
- Size: 25, 40, 63
- Max. torque: 5 ... 40 Nm
- Range of applications: Soft Stop and pneumatic positioning
- Mass moments of inertia from 15 ... 6000 kgcm² and a matching sensor interface CASM-S-D2-R3
- Pre-assembled cables guarantee faultless and fast connection with the proportional directional control valve VPWP

- Advantages:
- Complete drive unit, compact, can be used immediately
 - High angular acceleration
 - With adjustable fixed stops
 - For fast and accurate positioning down to ±0.2° (only with axis controller CPX-CMAX)

System with potentiometer

Technical data → Internet: casm



- 1 Controller module CPX-CMPX or CPX-CMAX
- 2 Proportional directional control valve VPWP
- 4 Sensor interface CASM-S-D2-R3
- 6 Connecting cable KVI-CP-3-...
- 7 Connecting cable NEBC-P1W4-K-0,3-N-M12G5
- 8 Connecting cable NEBC-A1W3-K-0,4-N-M12G5

- Attachable potentiometers with absolute measurement, with high degree of protection
- With connecting rod or moment compensator
- Measuring range: 100 ... 2000 mm
- Pre-assembled cables guarantee faultless and fast connection with the sensor interface CASM
- Range of applications: Soft Stop and pneumatic positioning with cylinder Ø 25 ... 80 mm, e.g. DNC or DSBC
- Loads from 1 ... 300 kg

- Advantages:
- Easy installation and fast commissioning
 - Cost-effective
 - Can also be used in harsh ambient conditions
 - Variety of drives: CPX-CMPX and CPX-CMAX also support cylinders with external displacement encoder

Cylinders with displacement encoder

Drive options

System components for Soft Stop systems with end-position controller CPX-CMPX							
	Linear drive		Standard cylinder	Swivel module	Displacement encoder		→ Page/ Internet
	DDLI/DGCI	DGPI	DNCI, DDPC	DSMI	MLO-LWG/-TLF	MME-MTS	
End-position controller CPX-CMPX	■	■	■	■	■	■	cmpx
Prop. directional control valve VPWP	■	■	■	■	■	■	vpwp
Sensor interface CASM-S-D2-R3	-	-	-	■	■	-	casm
Sensor interface CASM-S-D3-R7	-	-	■	-	-	-	casm
Connecting cable KVI-CP-3-...	■	■	■	■	■	■	kvi
Connecting cable NEBC-P1W4-...	-	-	-	■	■ / -	-	nebc
Connecting cable NEBC-A1W3-...	-	-	-	-	- / ■	-	nebc
Connecting cable NEBP-M16W6-...	-	■	-	-	-	■	nebp

System components for pneumatic positioning systems with axis controller CPX-CMAX							
	Linear drive		Standard cylinder	Swivel module	Displacement encoder		→ Page/ Internet
	DDLI/DGCI	DGPI	DNCI, DDPC	DSMI	MLO-LWG/-TLF	MME-MTS	
Axis controller CPX-CMAX	■	■	■	■	■	■	cmax
Prop. directional control valve VPWP	■	■	■	■	■	■	vpwp
Sensor interface CASM-S-D2-R3	-	-	-	■	■	-	casm
Sensor interface CASM-S-D3-R7	-	-	■	-	-	-	casm
Connecting cable KVI-CP-3-...	■	■	■	■	■	■	kvi
Connecting cable NEBC-P1W4-...	-	-	-	■	■ / -	-	nebc
Connecting cable NEBC-A1W3-...	-	-	-	-	- / ■	-	nebc
Connecting cable NEBP-M16W6-...	-	■	-	-	-	■	nebp

System components for measuring cylinders with measuring module CPX-CMIX							
	Linear drive		Standard cylinder	Swivel module	Displacement encoder		→ Page/ Internet
	DDLI/DGCI	DGPI	DNCI, DDPC	DSMI	MLO-LWG/-TLF	MME-MTS	
Measuring module CPX-CMIX-M1-1	■	■	■	■	■	■	cmix
Sensor interface CASM-S-D2-R3	-	-	-	■	■	-	casm
Sensor interface CASM-S-D3-R7	-	-	■	-	-	-	casm
Connecting cable KVI-CP-3-...	(■) ¹⁾	(■) ¹⁾	■	■	■	(■)	kvi
Connecting cable NEBC-P1W4-...	-	-	-	■	■ / -	-	nebc
Connecting cable NEBC-A1W3-...	-	-	-	-	- / ■	-	nebc
Connecting cable NEBP-M16W6-...	-	■	-	-	-	■	nebp

1) As an extension

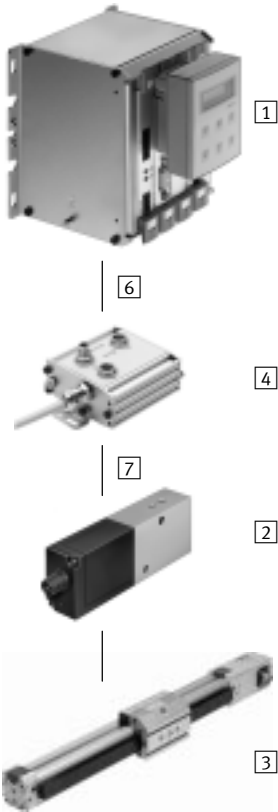
Cylinders with displacement encoder

Overview

Individual components for positioning

With axis controller SPC200

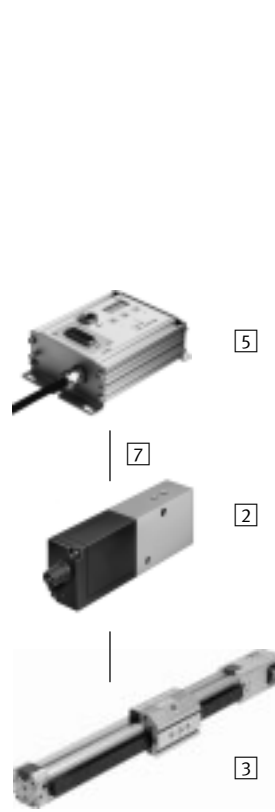
→ Internet: [spc200](#)



- 1 Axis controller SPC200
- 2 Proportional directional control valve MPYE
- 3 Linear drive DGPI, DGPI L
- 4 Axis interface SPC-AIF-MTS
- 6 Connecting cable KSPC-AIF-...
- 7 Connecting cable KMPYE-AIF-...

With end-position controller SPC11

→ Internet: [spc11](#)

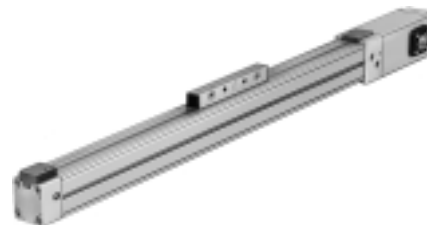


- 2 Proportional directional control valve MPYE
- 3 Linear drive DGPI, DGPI L
- 5 End-position controller SPC11-MTS-AIF
- 7 Connecting cable KMPYE-AIF-...

DGPI, without guide

10

- Piston \varnothing 40 ... 63 mm
- Stroke 225 ... 2,000 mm
- Standard moment compensator
- Low characteristic load values
- Supply ports on both sides



DGPIL, with recirculating ball bearing guide

22

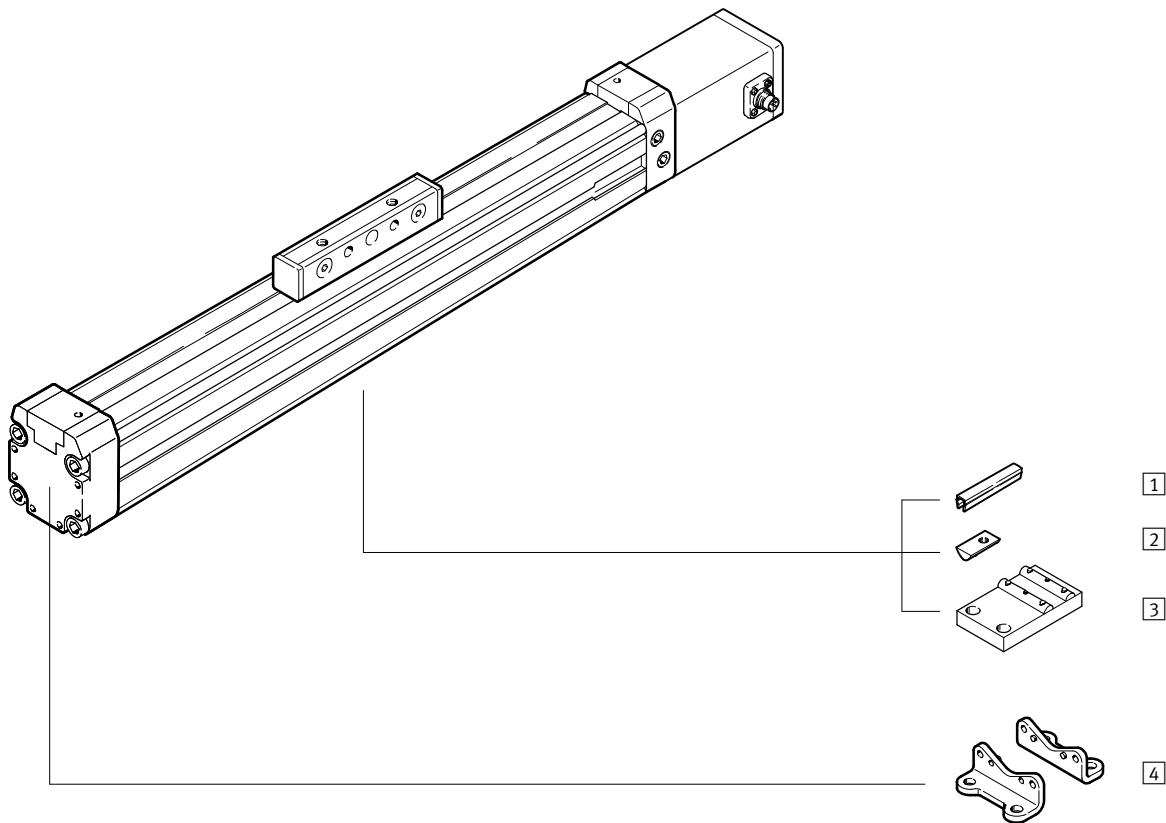
- Piston \varnothing 40 ... 63 mm
- Stroke 225 ... 2,000 mm
- Standard slide
- High characteristic load values
- Supply ports on both sides



- 1 - Type discontinued
Available up until 2014

Linear drives DGPI, with integrated displacement encoder

Peripherals overview



Variants and accessories		
Type	Brief description	→ Page/Internet
1 Slot cover B/S	For protecting against the ingress of dirt	39
2 Slot nut Y	For mounting attachments	39
3 Central support M	For mounting the axis	36
4 Foot mounting F	For mounting the axis	36
Adapters	For drive/drive combinations	42
	For drive/gripper combinations	gripper

Linear drives DGPI, with integrated displacement encoder

Type codes

	DGPI	-	40	-	500	-	PPV	-	AIF	-	GK	-	AV	-	D2	-	4BYF
Type																	
DGPI	Linear drive																
Piston Ø [mm]																	
Stroke [mm]																	
Cushioning																	
PPV	Adjustable at both ends																
Displacement encoder																	
AIF	CAN axis interface																
Basic design																	
GK	Standard slide																
Connection position for displacement encoder and compressed air																	
AH	Connections at rear																
AU	Connections underneath																
AV	Connections at front																
Supply port																	
D2	Supply port at both ends																
Accessories enclosed separately																	
...S	Slot cover for sensor slot																
...B	Slot cover for mounting slot																
...Y	Slot nut for mounting slot																
...M	Central support																
...F	Foot mounting																

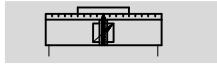
- 1 - Type discontinued
Available up until 2014

Linear drives DGPI, with integrated displacement encoder

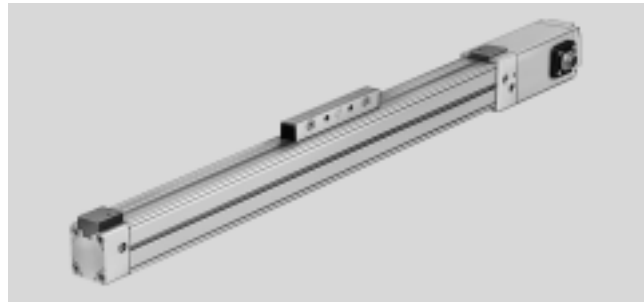
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Technical data

Function



- Ø - Diameter
25 ... 63 mm
- | - Stroke length
225 ... 2,000 mm



General technical data			
Piston Ø	40	50	63
Design	Piston		
	Moment compensator		
	Profile barrel		
Mode of operation	Double-acting		
Operating medium ¹⁾	Compressed air according to ISO 8573-1:2010 [6:4:4]		
Note about the operating/pilot medium	Lubricated operation not possible Pressure dew point 10 °C below ambient temperature/temperature of medium		
Cushioning	Adjustable at both ends		
Cushioning length [mm]	30		
Position sensing	Integrated displacement encoder		
Measuring principle	Digital, magnetostrictive, non-contacting and absolute measurement		
Type of mounting	Foot mounting		
Stroke ²⁾³⁾ [mm]	225; 300; 360; 450; 500; 600; 750; 1,000; 1,250; 1,500; 1,750; 2,000		
Pneumatic connection	G1¼		G¾
Electrical connection	6-pin round plug to DIN 45322		

- 1) The proportional directional control valve MPYE used requires the characteristic values.
- 2) Note stroke reduction in combination with SPC200.
- 3) Supply of compressed air to each end of the cylinder (feature D2) is absolutely essential for Soft Stop SPC11 and axis controller SPC200 as of a length of 500 mm.

Forces [N] and impact energy [Nm]			
Piston Ø	40	50	63
Theoretical force at 6 bar	754	1,178	1,870
Max. impact energy in the end positions ¹⁾	0.4	0.8	0.8

- 1) Cushioning PPV must be completely open for applications with Soft Stop SPC11 and axis controller SPC200.

Permissible impact velocity:

$$v_{perm.} = \sqrt{\frac{2 \times E_{perm.}}{m_{dead} + m_{load}}}$$

- $v_{perm.}$ Permissible impact velocity
- $E_{perm.}$ Maximum impact energy
- m_{dead} Moving mass (drive)
- m_{load} Moving effective load

Maximum permissible load:

$$m_{load} = \frac{2 \times E_{perm.}}{v^2} - m_{dead}$$

- Note
These specifications represent the maximum values that can be achieved. Note the maximum permissible impact energy.

Linear drives DGPI, with integrated displacement encoder

Technical data

Positioning characteristics with axis controller SPC200				
Piston Ø		40	50	63
Repetition accuracy	[mm]	→ 14		
Mounting position		Any		
Minimum load, horizontal ¹⁾	[kg]	5	8	12
Maximum load, horizontal ¹⁾	[kg]	75	120	180
Minimum load, vertical ¹⁾	[kg]	5	8	12
Maximum load, vertical ¹⁾	[kg]	25	40	60
Minimum travel speed	[m/s]	0.05		
Maximum travel speed	[m/s]	3		
Typical positioning time, long stroke ²⁾	[s]	0.75/1.20	0.95/1.25	0.90/1.20
Typical positioning time, short stroke ³⁾	[s]	0.40/0.60	0.50/0.65	0.50/0.65
Minimum positioning stroke ⁴⁾	[mm]	3		
Stroke reduction ⁵⁾	[mm]	35		
Recommended proportional directional control valve		→ 40		

- 1) Load = effective load + mass of all moving parts on the drive
- 2) At 6 bar, horizontal mounting position, DGPI-XX-1250, 1,000 mm travel at min./max. load
- 3) At 6 bar, horizontal mounting position, DNCM-XX-1250, 100 mm travel at min./max. load
- 4) In relation to the maximum stroke of the drive, but never more than 20 mm
- 5) The stroke reduction must be maintained on each side of the drive, the max. positionable stroke is therefore: stroke – 2x stroke reduction

Positioning characteristics with end-position controller SPC11				
Piston Ø		40	50	63
Repetition accuracy of a mid-position ¹⁾	[mm]	±2		
Mounting position		Any		
Minimum load, horizontal ²⁾	[kg]	5	8	12
Maximum load, horizontal ²⁾	[kg]	75	120	180
Minimum load, vertical ²⁾	[kg]	5	8	12
Maximum load, vertical ²⁾	[kg]	25	40	60
Travel time	[s]	→ SoftStop sizing software: → www.festo.com		
Recommended proportional directional control valve		→ 40		

- 1) In the stroke range from 225 ... 2,000 mm
- 2) Load = effective load + mass of all moving parts on the drive

Operating and environmental conditions				
Piston Ø		40	50	63
Operating pressure ¹⁾	[bar]	4 ... 8		
Ambient temperature	[°C]	-10 ... +60		
Vibration resistance		To DIN/IEC 68 Parts 2 – 6, severity level 1		
Continuous shock resistance		To DIN/IEC 68 Parts 2 – 27, severity level 1		
CE marking (see declaration of conformity)		To EU EMC Directive		
Protection class (displacement encoder)		IP65 to IEC 60 529		
Corrosion resistance class CRC ²⁾		1		

- 1) Only applies to applications with Soft Stop SPC11 and axis controller SPC200
- 2) CRC1: Corrosion resistance class to Festo standard 940 070
Components with light corrosion exposure. Protection for transport and storage. Components without significant decorative function or surface, e.g. installed out of sight internally or behind covers.

Weight [g]				
Piston Ø		40	50	63
Basic weight		3,500	6,980	10,600
Additional weight per 10 mm stroke		59	130	168
Moving load		551	1,045	1,775

- 1 - Type discontinued
Available up until 2014

Linear drives DGPI, with integrated displacement encoder

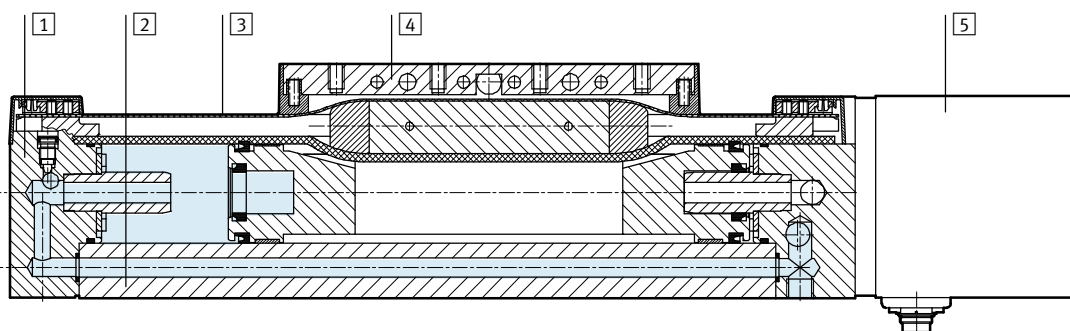
FESTO

Technical data

Electrical data – Displacement encoder		
Power supply	[V DC]	24 (-15/+25%)
Maximum current consumption	[mA]	90
Resolution	[mm]	≤0.01
Independent linearity ¹⁾	Maximum [%]	0.02
Temperature coefficient	[ppm/°K]	≤ 15
Interface		Digital, CAN with protocol: SPC-AIF

1) Minimum ±50 µm

Materials
Sectional view



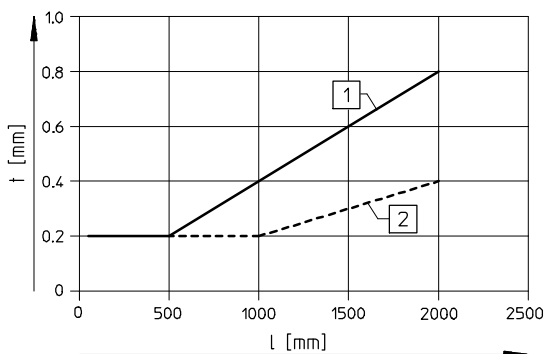
Drive		
1	End cap	Anodised aluminium
2	Profile	Anodised aluminium
3	Cover strip	Corrosion-resistant steel
4	Moment compensator	Anodised aluminium
5	Displacement encoder housing	Anodised aluminium
-	Seals	Nitrile rubber, polyurethane

- Note
More technical data
→ Internet: dpgl

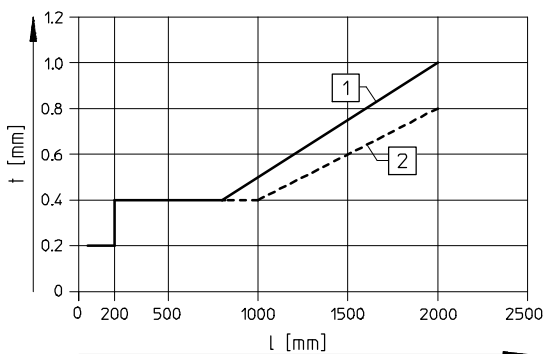
Repetition accuracy

Tolerance t [mm] as a function of stroke l [mm]

Horizontal



Vertical



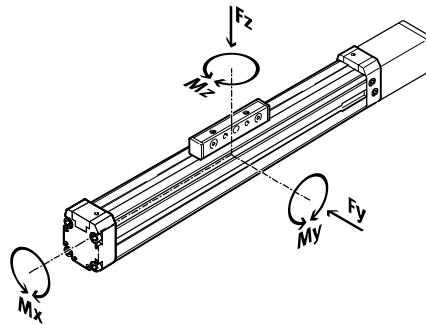
- 1 With analogue displacement encoder
- 2 With digital displacement encoder

Linear drives DGPI, with integrated displacement encoder

Technical data

Characteristic load values

The indicated forces and torques refer to the centre line of the internal diameter of the profile barrel. These values must not be exceeded during dynamic operation. Special attention must be paid to the deceleration phase.



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

$$0,4 \times \frac{F_z}{F_{z_{max}}} + \frac{M_x}{M_{x_{max}}} + \frac{M_y}{M_{y_{max}}} + 0,2 \times \frac{M_z}{M_{z_{max}}} \leq 1$$

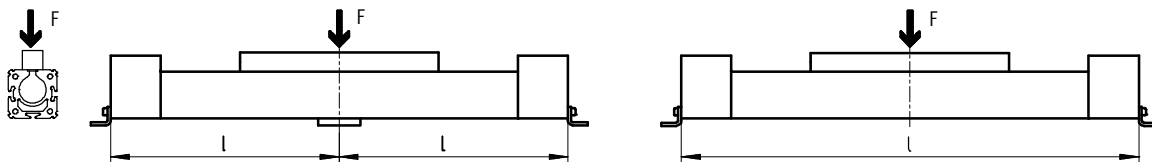
$$\frac{F_z}{F_{z_{max}}} \leq 1 \quad \frac{M_z}{M_{z_{max}}} \leq 1$$

Permissible forces and torques				
Piston Ø		40	50	63
F _y _{max.}	[N]	0	0	0
F _z _{max.}	[N]	800	1,200	1,600
M _x _{max.}	[Nm]	4	7	8
M _y _{max.}	[Nm]	60	120	120
M _z _{max.}	[Nm]	8	15	24

Maximum permissible support span l as a function of force F

The axis may need to be supported with central supports MUP in order to limit deflection in the case of large strokes. The following graphs can be used to determine the maximum permissible support span l as a function of force F acting on the axis.

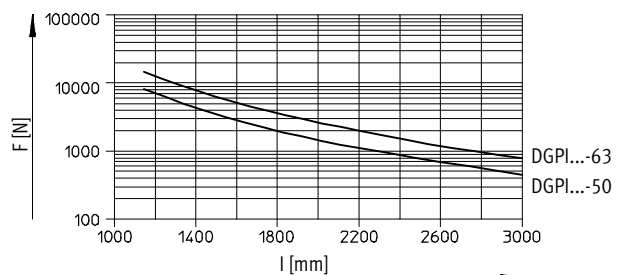
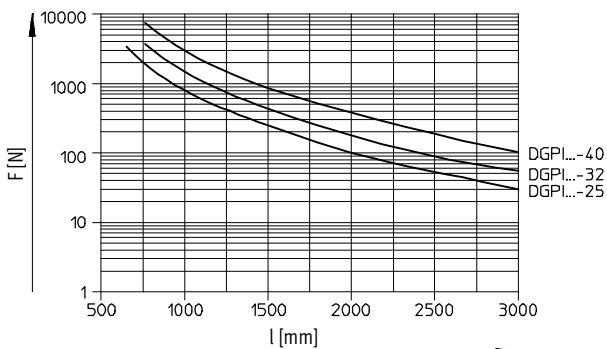
Force on the surface of the slide



Maximum support span l (without central support) as a function of force F

Piston Ø 40

Piston Ø 50/63



- 7 - Type discontinued
Available up until 2014

Linear drives DGPI, with integrated displacement encoder

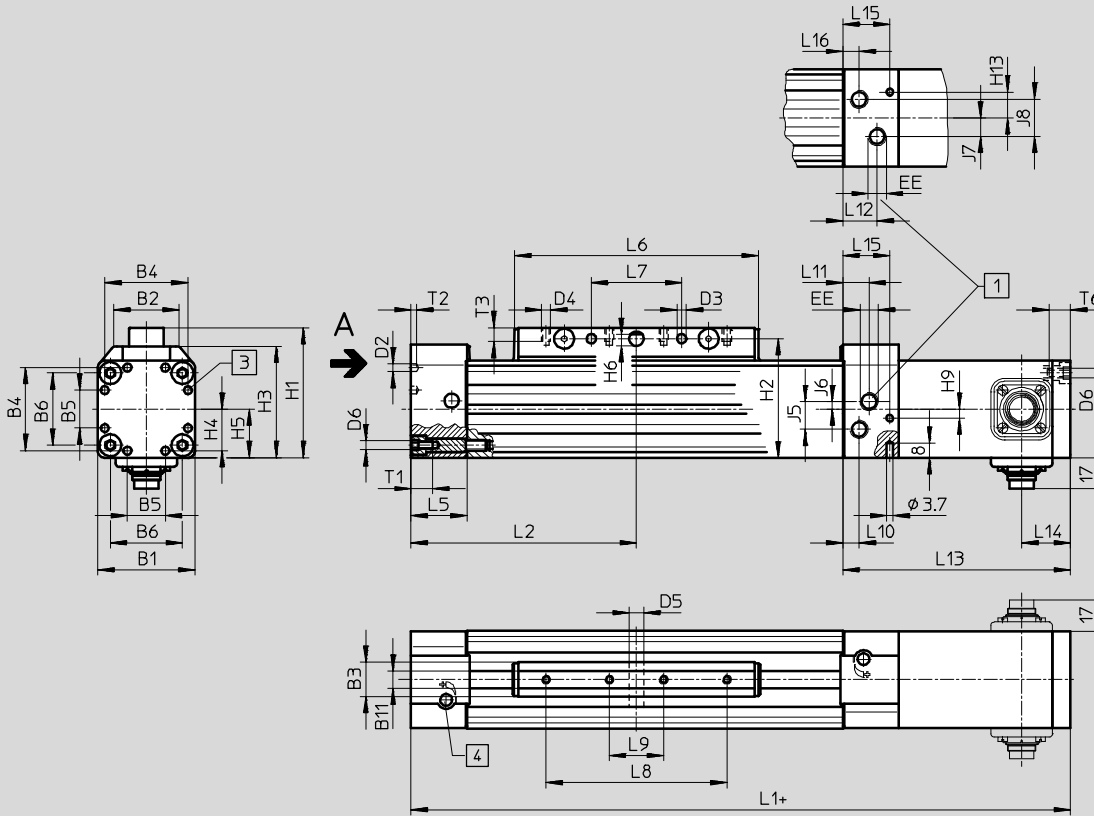
Technical data

Dimensions

Download CAD data → www.festo.com

Standard moment compensator GK

Piston Ø 40 ... 63



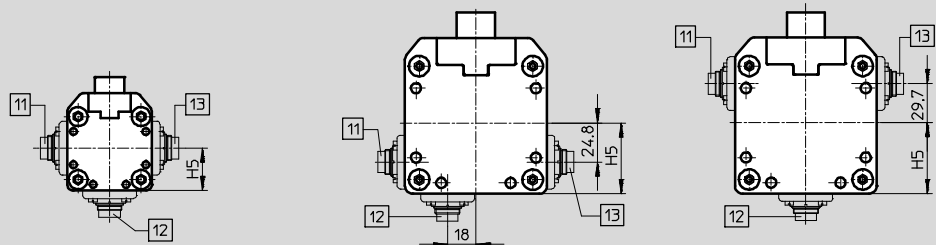
- 1 Supply ports can optionally be used on three sides on the right-hand end cap
- 3 Mounting hole for foot mounting HP
- 4 Regulating screw for adjustable end-position cushioning + = plus stroke length
- 11 Connection at rear
- 12 Connection underneath
- 13 Connection at front

View A

Piston Ø 40

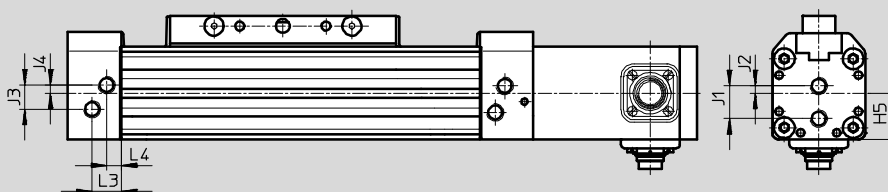
Piston Ø 50

Piston Ø 63



Supply port at both ends D2

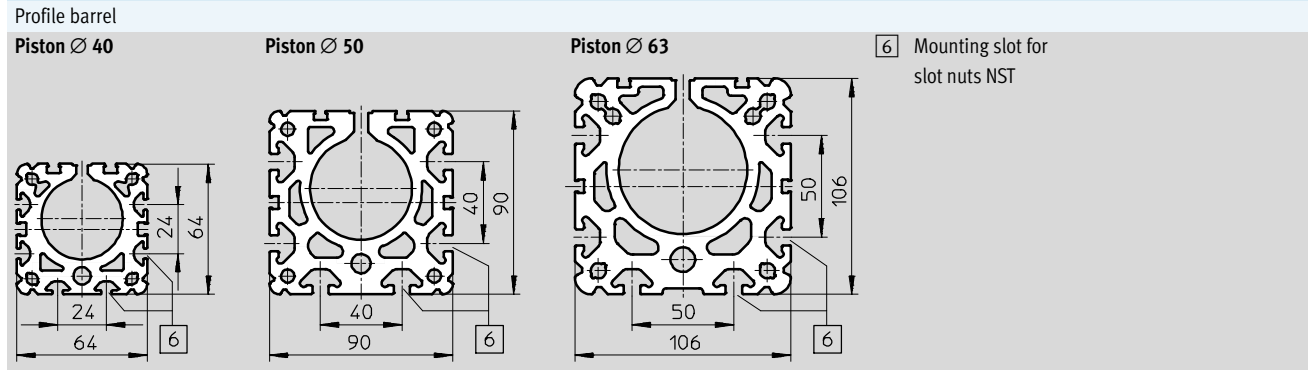
Piston Ø 40 ... 63



Linear drives DGPI, with integrated displacement encoder

Technical data

Dimensions Download CAD data → www.festo.com



Ø	B1	B2	B3	B4	B5	B6	B11	D2	D3	D4	D5	D6
[mm]			+0.2					Ø	Ø		Ø	
40	64	45.7	21	53	28	49	9.5	4.3	6.5	M6	10	M5
50	90	69.2	24	76	44	72	12	6.3	8.5	M8	12	M6
63	106	84.8	24	89	44	83	12	6.3	8.5	M8	12	M8

Ø	EE	H1	H2	H3	H4	H5	H6	H9	H13	J1	J2	J3
[mm]												
40	G¼	86	78	71.8	26.5	32	7.7	5	12.75	22	5	21
50	G¼	115	106	99	36	45	9.7	21.8	16.6	31.8	6.8	29.3
63	G¾	131	122	115	44.5	53	9.7	-28	30	36	8	31

Ø	J4	J5	J6	J7	J8	L1	L2	L3	L4	L5	L6	L7
[mm]												±0.1
40	9.1	23	9.1	12.75	25.5	397	150	11.5	11.5	31	171	70
50	6	20.6	6.8	21	21	465	175	14	14	34	206	80
63	14	27	8	25	25	513	200	14	14	34	234	110

Ø	L8	L9	L10	L11	L12	L13	L14	L15	L16	T1	T2	T3	T6
[mm]	±0.1	±0.1											
40	130	40	10.8	16.5	21	128	29	26	10.8	13.2	4	10.5	12
50	150	50	10.8	18	22.8	149	80	25.2	12	15.2	6	12.5	15
63	190	70	14	24.5	31	147.5	68	16.5	16.5	21.2	6	12.5	20

- 1 - Type discontinued
Available up until 2014

Linear drives DGPI, with integrated displacement encoder

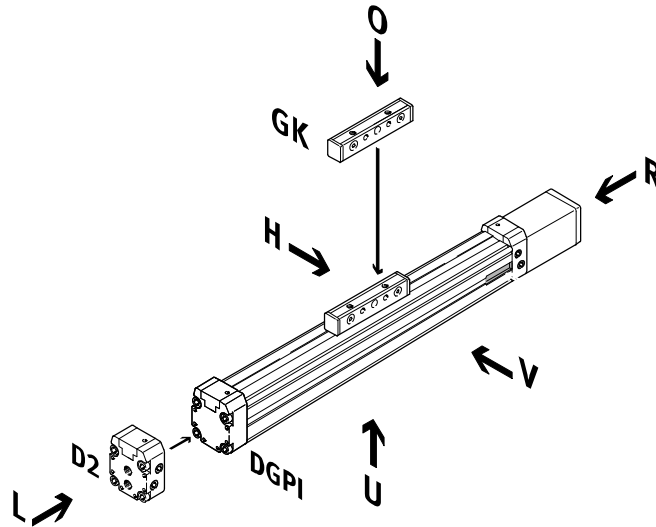
Ordering data – Modular products

Order code

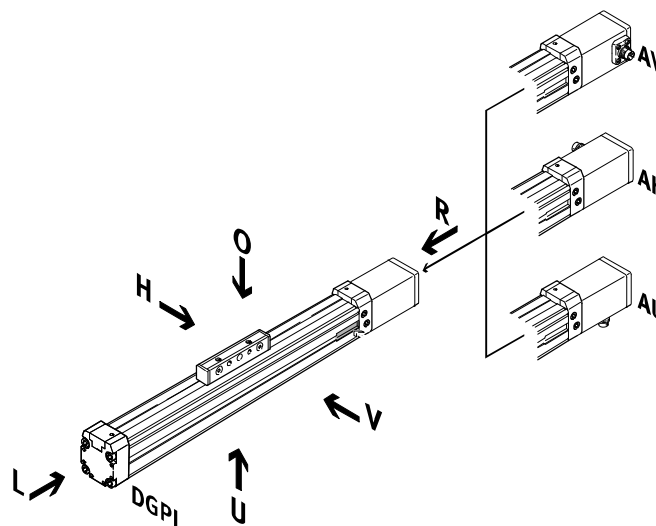
Mandatory data/options

D2 Supply port at both ends

GK Standard slide



- AV Displacement encoder connection at front
- AH Displacement encoder connection at rear
- AU Displacement encoder connection underneath

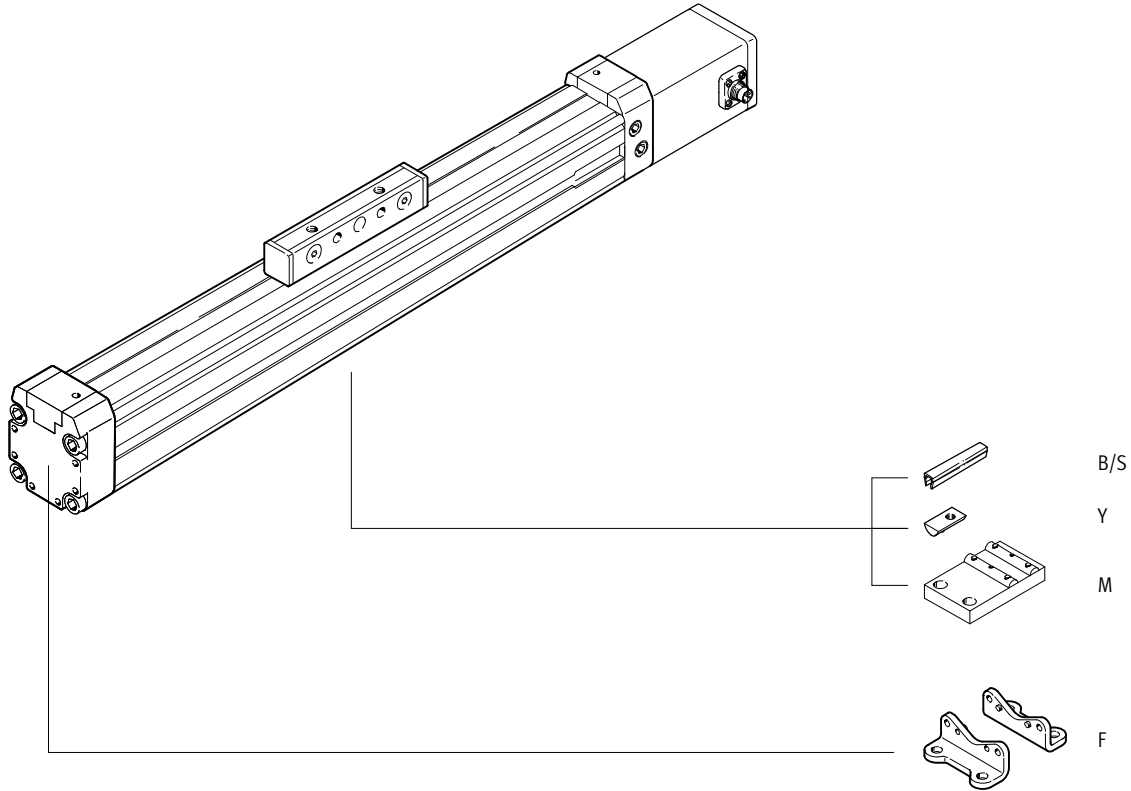


Linear drives DGPI, with integrated displacement encoder

Ordering data – Modular products

Order code

Options



- 1 - Type discontinued
Available up until 2014

Linear drives DGPI, with integrated displacement encoder

Ordering data – Modular products

M Mandatory data →

Module No.	Function	Size	Stroke	Cushioning	Displacement encoder	Basic design	Connection position for displacement encoder
175136	DGPI	40	225 ... 2,000	PPV	AIF	GK	AH
175137		50					AU
175138		63					AV
Ordering example							
175138	DGPI	- 63	- 750	- PPV	- AIF	- GK	- AV

Ordering table

Size	40	50	63	Condi- tions	Code	Enter code
M Module No.	175136	175137	175138			
Function	Pneumatic linear drive with integrated displacement encoder				DGPI	DGPI
Size	40	50	63		-...	
Stroke [mm]	225; 300; 360; 450; 500; 600; 750; 1,000; 1,250; 1,500; 1,750; 2,000				-...	
Cushioning	Pneumatic cushioning, adjustable at both ends				-PPV	-PPV
Displacement encoder	Temposonic with CAN axis interface				-AIF	-AIF
Basic design	Standard piston/slide				-GK	-GK
Connection position for displacement encoder AIF and compressed air	Connection position for displacement encoder and supply port, rear				-AH	
	Connection position for displacement encoder and supply port, underneath				-AU	
	Connection position for displacement encoder and supply port, front				-AV	

Transfer order code

Linear drives DGPI, with integrated displacement encoder

Ordering data – Modular products

Options					
Supply port	Accessories	Slot cover	Slot nut	Central support	Foot mounting
D2	ZUB	...S ...B	...Y	...M	...F
	: ZUB	- 2B2S	10Y		F

Ordering table						
Size	40	50	63	Condi- tions	Code	Enter code
↓ Supply port	At both ends				-D2	
Accessories	Enclosed separately				:ZUB-	:ZUB-
Slot cover, 2 pcs., 0.5 m	Sensor slot	1 ... 10			...S	
	Mounting slot	1 ... 10			...B	
Slot nut	Mounting slot	1 ... 10			...Y	
Central support	1 ... 10				...M	
Foot mounting	1 ... 10				...F	

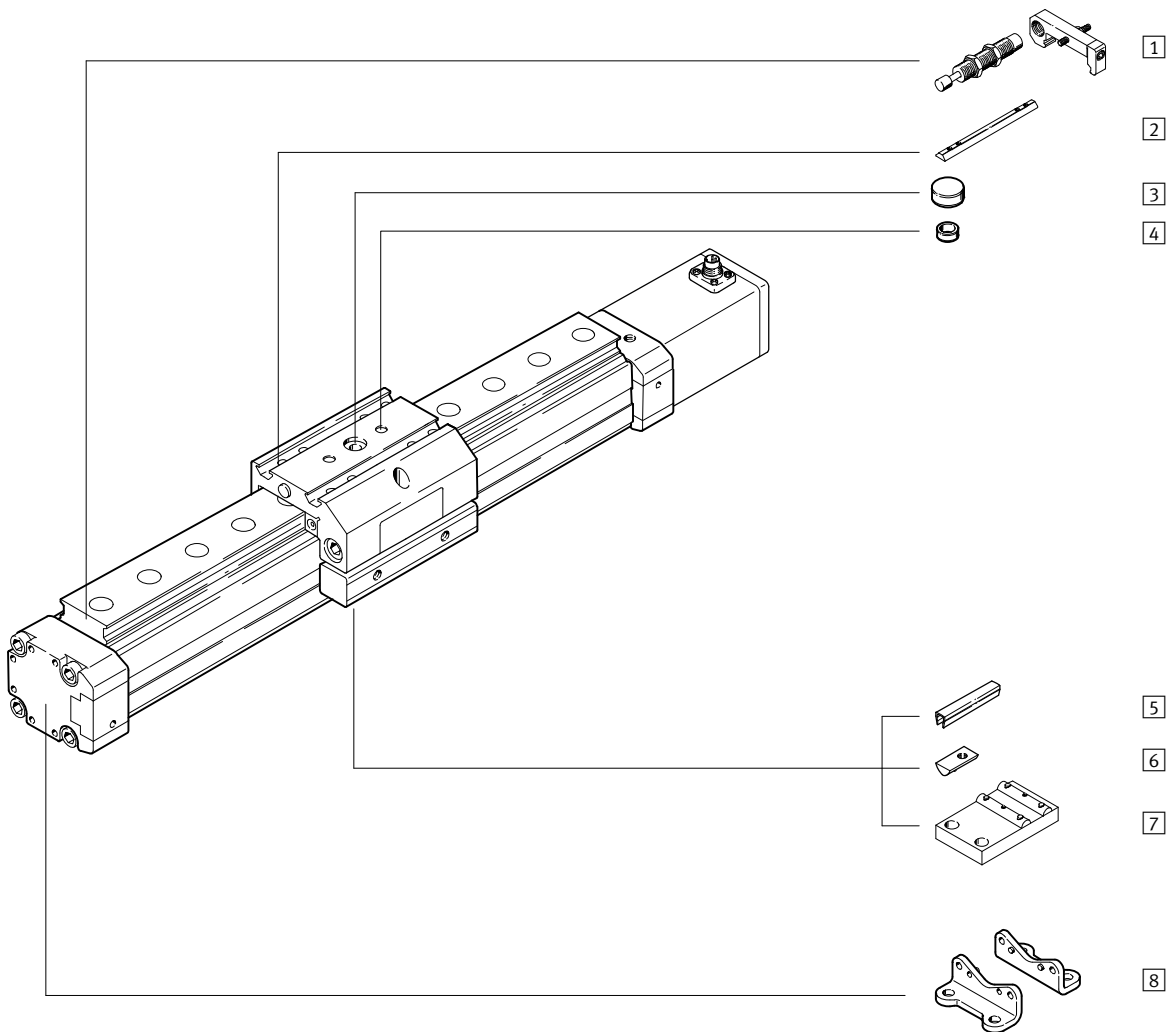
Transfer order code

- : ZUB -

- 7 - Type discontinued
Available up until 2014

Linear drives DGPII, with integrated displacement encoder

Peripherals overview



Linear drives DGPII, with integrated displacement encoder

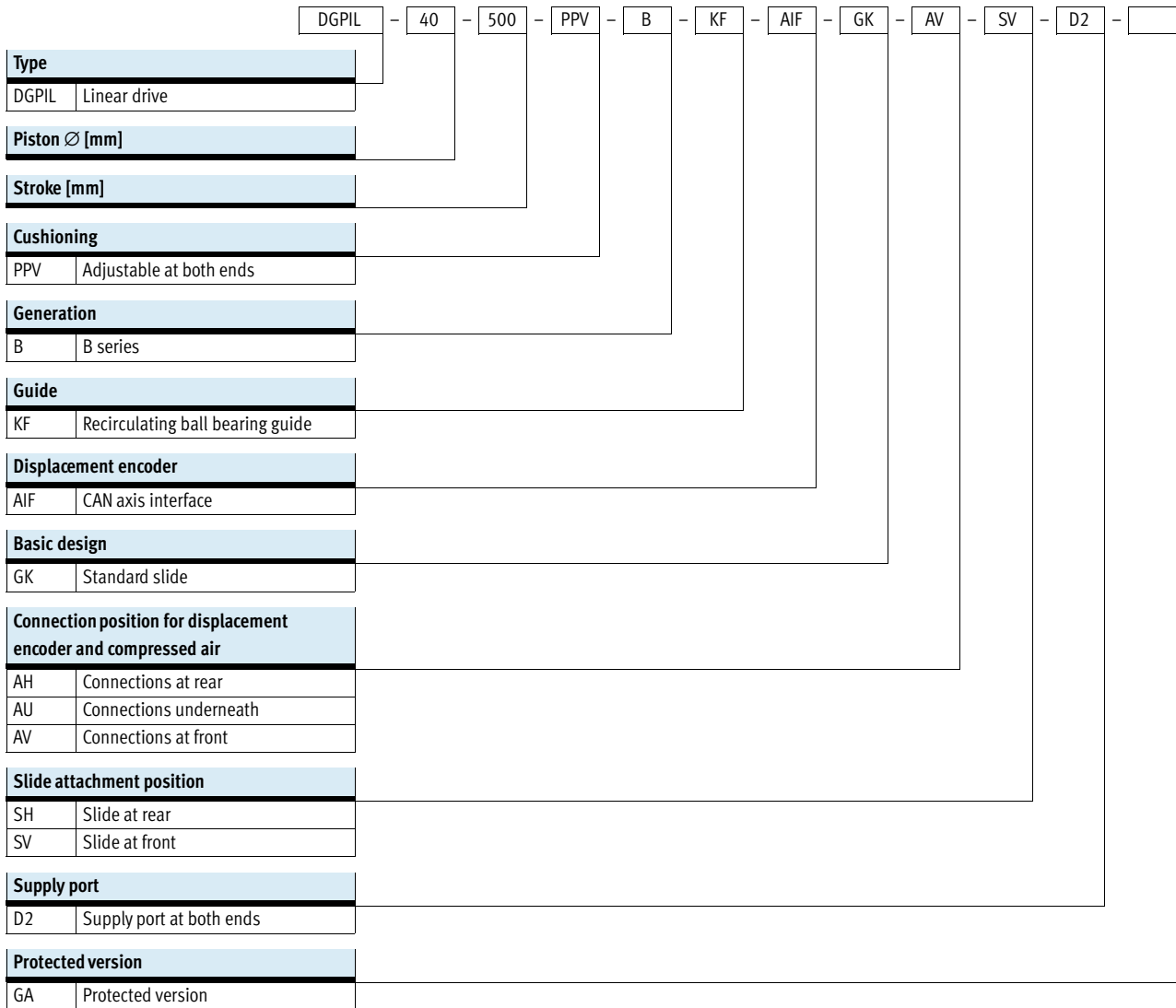
Peripherals overview

Variants and accessories		
Type	Brief description	→ Page/Internet
1 Shock absorber kit C/E	For avoiding damage at the end stop in the event of malfunction	38
2 Slot nut for slide X	For mounting loads and attachments on the slide	39
3 Central mounting Q	For centring loads and attachments on the slide	39
4 Centring sleeves Z	For centring loads and attachments on the slide	39
5 Slot cover B/S	For protecting against the ingress of dirt	39
6 Slot nut for mounting slot Y	For mounting attachments	39
7 Central support M	For mounting the axis	36
8 Foot mounting F	For mounting the axis	36

- 1 - Type discontinued
Available up until 2014

Linear drives DGPIIL, with integrated displacement encoder

Type codes



Linear drives DGPIIL, with integrated displacement encoder

Type codes

→	: ZUB	-	2S	2X	Z			F	2C
Accessories									
ZUB	Accessories enclosed separately								
Slot cover									
...S	Sensor slot								
...B	Mounting slot								
Slot nut									
...X	For slide								
...Y	For profile barrel								
Centring sleeves									
...Z	For slide								
Central mounting									
...Q	For slide								
Central support									
...M	Central support								
Foot mounting									
...F	Foot mounting								
Shock absorber kit									
...C	Plus retainer for GK/GV								
...E	For protected version								

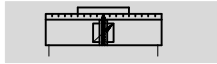
- 1 - Type discontinued
Available up until 2014

Linear drives DGPIIL, with integrated displacement encoder

FESTO

Technical data

Function



- Ø - Diameter
40 ... 63 mm
- | - Stroke length
225 ... 2,000 mm



General technical data			
Piston Ø	40	50	63
Design	Piston Moment compensator Profile barrel		
Mode of operation	Double-acting		
Operating medium ¹⁾	Compressed air according to ISO 8573-1:2010 [6:4:4]		
Note about the operating/pilot medium	Lubricated operation not possible Pressure dew point 10 °C below ambient temperature/temperature of medium		
Cushioning	Adjustable at both ends		
Cushioning length [mm]	30		
Position sensing	Integrated displacement encoder		
Measuring principle	Digital, magnetostrictive, non-contacting and absolute measurement		
Type of mounting	Foot mounting		
Stroke ²⁾³⁾ [mm]	225; 300; 360; 450; 500; 600; 750; 1,000; 1,250; 1,500; 1,750; 2,000		
Protection against rotation/guide	Guide rail with slide Recirculating ball bearing		
Protected version ⁴⁾	Optional		
Pneumatic connection	G¼		G¾
Electrical connection	6-pin round plug to DIN 45322		

- 1) The proportional directional control valve MPYE used requires the characteristic values.
- 2) Note stroke reduction in combination with SPC200.
- 3) Supply of compressed air to each end of the cylinder (feature D2) is absolutely essential for Soft Stop SPC11 and axis controller SPC200 as of a length of 500 mm.
- 4) Protected against particles from above and the side.

Forces [N] and impact energy [Nm]			
Piston Ø	40	50	63
Theoretical force at 6 bar	754	1,178	1,870
Max. impact energy in the end positions ¹⁾	0.4	0.8	0.8

- 1) Cushioning PPV must be completely open for applications with Soft Stop SPC11 and axis controller SPC200.

Permissible impact velocity:

$$v_{perm.} = \sqrt{\frac{2 \times E_{perm.}}{m_{dead} + m_{load}}}$$

- v_{perm.} Permissible impact velocity
- E_{perm.} Maximum impact energy
- m_{dead} Moving mass (drive)
- m_{load} Moving effective load

- Note

These specifications represent the maximum values that can be achieved. Note the maximum permissible impact energy.

Maximum permissible load:

$$m_{load} = \frac{2 \times E_{perm.}}{v^2} - m_{dead}$$

Linear drives DGPII, with integrated displacement encoder

Technical data

Positioning characteristics with axis controller SPC200				
Piston Ø		40	50	63
Repetition accuracy	[mm]	→ 14		
Mounting position		Any		
Minimum load, horizontal ¹⁾	[kg]	5	8	12
Maximum load, horizontal ¹⁾	[kg]	75	120	180
Minimum load, vertical ¹⁾	[kg]	5	8	12
Maximum load, vertical ¹⁾	[kg]	25	40	60
Minimum travel speed	[m/s]	0.05		
Maximum travel speed	[m/s]	3		
Typical positioning time, long stroke ²⁾	[s]	0.75/1.20	0.95/1.25	0.90/1.20
Typical positioning time, short stroke ³⁾	[s]	0.40/0.60	0.50/0.65	0.50/0.65
Minimum positioning stroke ⁴⁾	[mm]	3		
Stroke reduction ⁵⁾	[mm]	35		
Recommended proportional directional control valve		→ 40		

- 1) Load = effective load + mass of all moving parts on the drive
- 2) At 6 bar, horizontal mounting position, DGPII-XX-1250, 1,000 mm travel at min./max. load
- 3) At 6 bar, horizontal mounting position, DDCM-XX-1250, 100 mm travel at min./max. load
- 4) In relation to the maximum stroke of the drive, but never more than 20 mm
- 5) The stroke reduction must be maintained on each side of the drive, the max. positionable stroke is therefore: stroke – 2x stroke reduction

Positioning characteristics with end-position controller SPC11				
Piston Ø		40	50	63
Repetition accuracy of a mid-position ¹⁾	[mm]	±2		
Mounting position		Any		
Minimum load, horizontal ²⁾	[kg]	5	8	12
Maximum load, horizontal ²⁾	[kg]	75	120	180
Minimum load, vertical ²⁾	[kg]	5	8	12
Maximum load, vertical ²⁾	[kg]	25	40	60
Travel time	[s]	→ SoftStop sizing software: → www.festo.com		
Recommended proportional directional control valve		→ 40		

- 1) In the stroke range from 225 ... 2,000 mm
- 2) Load = effective load + mass of all moving parts on the drive

Operating and environmental conditions				
Piston Ø		40	50	63
Operating pressure ¹⁾	[bar]	4 ... 8		
Ambient temperature	[°C]	-10 ... +60		
Vibration resistance		To DIN/IEC 68 Parts 2 – 6, severity level 1		
Continuous shock resistance		To DIN/IEC 68 Parts 2 – 27, severity level 1		
CE marking (see declaration of conformity)		To EU EMC Directive		
Protection class (displacement encoder)		IP65 to IEC 60 529		

- 1) Only applies to applications with Soft Stop SPC11 and axis controller SPC200

- 1 - Type discontinued
Available up until 2014

Linear drives DGPII, with integrated displacement encoder

Technical data

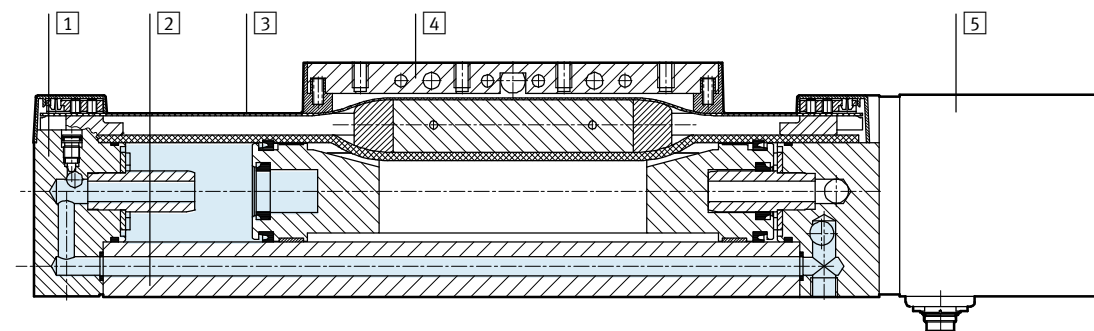
Weight [g]			
Piston Ø	40	50	63
Standard slide GK			
Basic weight	5,330	10,700	16,870
Additional weight per 10 mm stroke	99	186	256
Moving load	1,700	3,000	4,990
Additional weights with protected version GA			
Dirt protection cover	4,000	-	-
Additional weight per 10 mm stroke	65	-	-
Moving load	2,550	-	-

Electrical data – Displacement encoder			
Power supply	[V DC]	24 (-15/+25%)	
Maximum current consumption	[mA]	90	
Resolution	[mm]	≤ 0.01	
Independent linearity ¹⁾	Maximum [%]	0.02	
Temperature coefficient	[ppm/°K]	≤ 15	
Interface	Digital, CAN with protocol: SPC-AIF		

1) Minimum ±50 µm

Materials

Sectional view



Drive		
1	End cap	Anodised aluminium
2	Profile	Anodised aluminium
3	Cover strip	Corrosion-resistant steel
4	Moment compensator	Anodised aluminium
5	Displacement encoder housing	Anodised aluminium
-	Slide	Anodised aluminium
-	Guide rail	Corrosion-resistant steel
-	Seals	Nitrile rubber, polyurethane

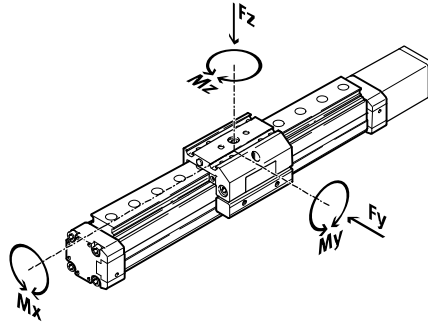
- Note
More technical data
→ Internet: dpgl

Linear drives DGPII, with integrated displacement encoder

Technical data

Characteristic load values

The indicated forces and torques refer to the centre line of the internal diameter of the profile barrel. These values must not be exceeded during dynamic operation. Special attention must be paid to the deceleration phase.



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

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

Permissible forces and torques				
Piston Ø		40	50	63
$F_{y_{max}}$	[N]	7,300	7,300	14,050
$F_{z_{max}}$	[N]	7,300	7,300	14,050
$M_{x_{max}}$	[Nm]	170	240	580
$M_{y_{max}}$	[Nm]	330	460	910
$M_{z_{max}}$	[Nm]	330	460	910

- 7 - Type discontinued
Available up until 2014

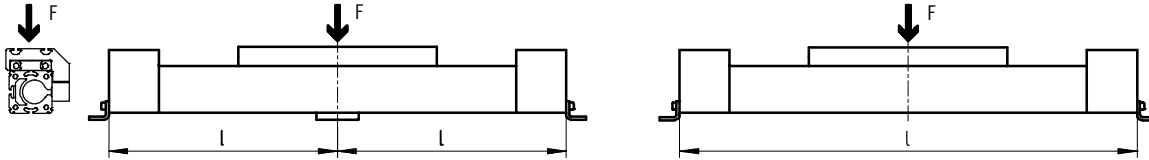
Linear drives DGPI, with integrated displacement encoder

Technical data

Maximum permissible support span l as a function of force F

The axis may need to be supported with central supports MUP in order to limit deflection in the case of large strokes. The following graphs can be used to determine the maximum permissible support span l as a function of force F acting on the axis.

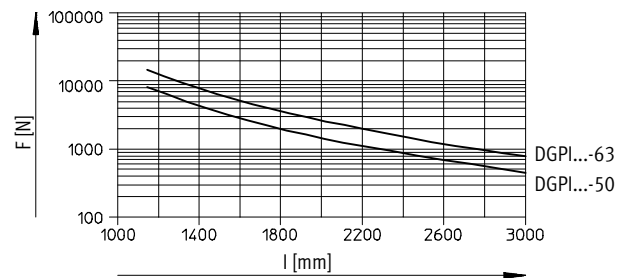
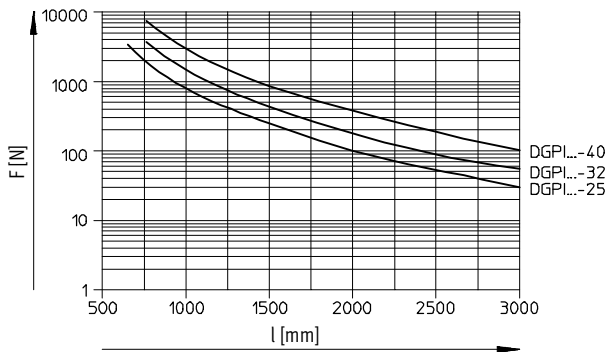
Force on the surface of the slide



Maximum support span l (without central support) as a function of force F

Piston \varnothing 40

Piston \varnothing 50/63



Linear drives DGPII, with integrated displacement encoder

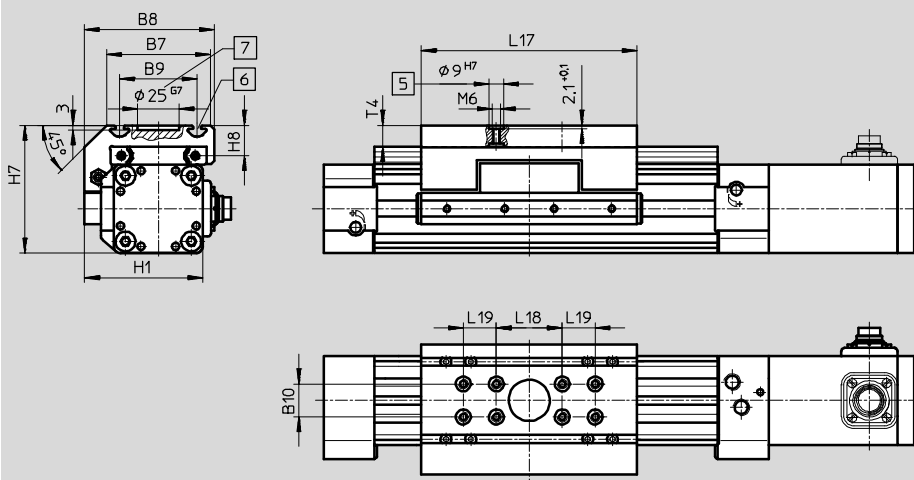
Technical data

Dimensions

Download CAD data → www.festo.com

Standard slide GK

Piston Ø40 ... 63

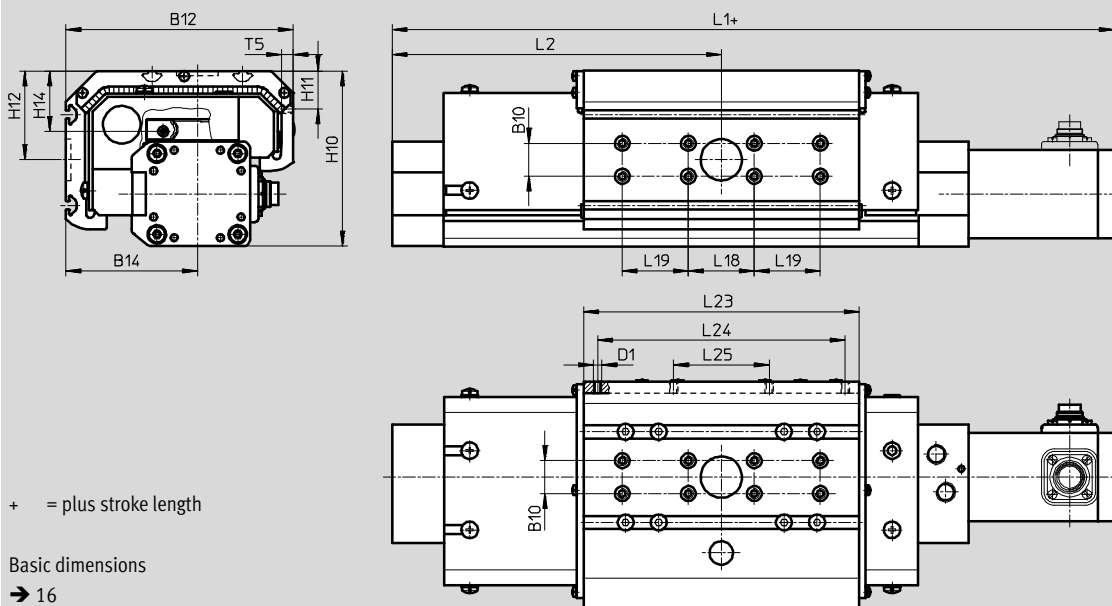


- 5 Hole for centring sleeve ZBH-9
 - 6 Mounting slot for slot nut NSTL
 - 7 Hole for central mounting SLZZ
- + = plus stroke length

Basic dimensions
→ 16

Protected version GA

Piston Ø 40



+ = plus stroke length

Basic dimensions
→ 16

Ø [mm]	B7	B8	B9	B10 ±0.03	B12	B14	D1	H1	H7	H8	H10
40	78.5	96.5	55 ±0.2	20	137.6	79.6	M5	86	90.5	20	106.6
50	97	122	72 ±0.2	40	-	-	-	115	122.5	26	-
63	121	142	90 ±0.25	40	-	-	-	131	144.5	30	-

Ø [mm]	H11	H12	H14	L1	L2	L17 +0.2	L18 ±0.03	L19 ±0.03	L23	L24	L25	T4 max.	T5
40	23.1	54	36.1	397	150	167	40	40	167	150	58	12.5	7
50	-	-	-	465	175	202	40	40	-	-	-	18.5	-
63	-	-	-	513	200	230	40	40	-	-	-	20.5	-

- 1 - Type discontinued
Available up until 2014

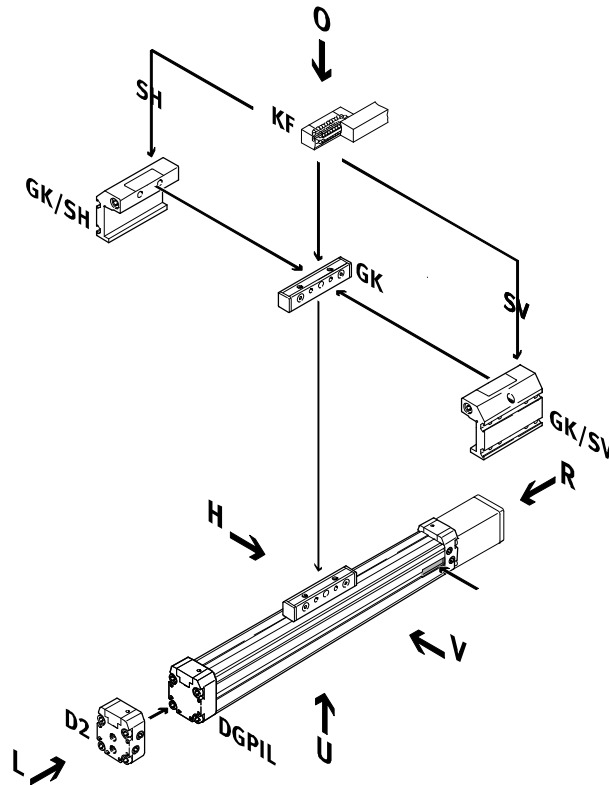
Linear drives DGPII, with integrated displacement encoder

Ordering data – Modular products

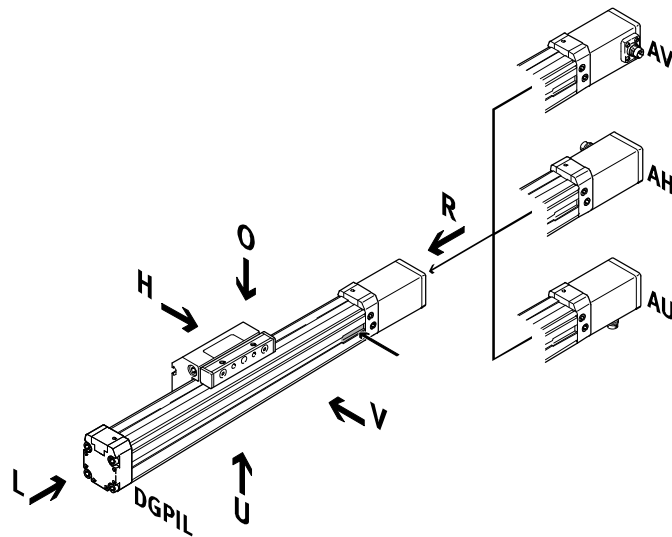
Order code

Mandatory data

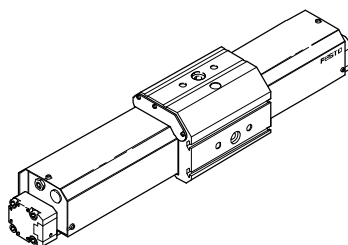
- KF Recirculating ball bearing guide
- SH Slide at rear
- SV Slide at front
- D2 Supply port at both ends
- GK Standard slide



- AV Displacement encoder connection to front
- AH Displacement encoder connection to rear
- AU Displacement encoder connection underneath



GA Protected version

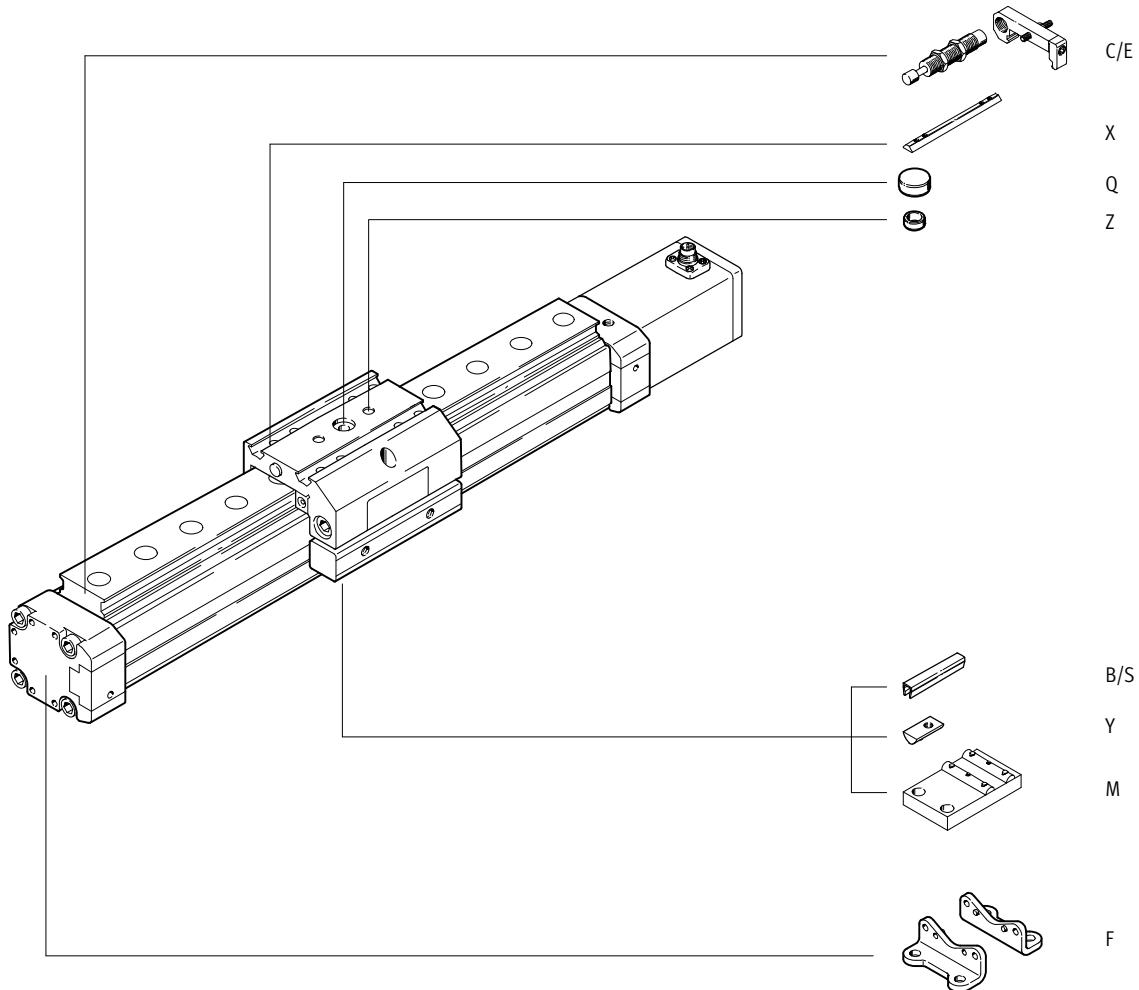


Linear drives DGPIIL, with integrated displacement encoder

Ordering data – Modular products

Order code

Options



- 1 - Type discontinued
Available up until 2014

Linear drives DGPIIL, with integrated displacement encoder



Ordering data – Modular products

M Mandatory data →										
Module No.	Function	Size	Stroke	Cush- ioning	Gener- ation	Guide	Displace- ment encoder	Basic design	Connection posi- tion for displace- ment encoder	Slide at- tachment position
175136	DGPIIL	40	225 ... 2,000	PPV	B	KF	AIF	GK	AH AU AV	SH SV
175137		50								
175138		63								
Ordering example										
175138	DGPIL	- 63	- 450	- PPV	- B	- KF	- AIF	- GK	- AU	- SH

Ordering table							
Size	40	50	63	Condi- tions	Code	Enter code	
M Module No.	175136	175137	175138				
Function	Pneumatic linear drive with integrated displacement encoder and slide						
Size	40	50	63		-...		
Stroke [mm]	225; 300; 360; 450; 500; 600; 750; 1,000; 1,250; 1,500; 1,750; 2,000				-...		
Cushioning	Pneumatic cushioning, adjustable at both ends				-PPV	-PPV	
Generation	B series				-B	-B	
Guide	Recirculating ball bearing guide				-KF	-KF	
Displacement encoder	Temposonic with CAN axis interface				-AIF	-AIF	
Basic design	Standard piston/slide				-GK	-GK	
Connection position for displacement encoder AIF and compressed air	Connection position for displacement encoder and supply port, rear				-AH		
	Connection position for displacement encoder and supply port, underneath				-AU		
	Connection position for displacement encoder and supply port, front				-AV		
Slide attachment position	Slide at rear				-SH		
	Slide at front				-SV		

Transfer order code

Linear drives DGPII, with integrated displacement encoder

Ordering data – Modular products

Options

Supply port	Protected version	Accessories	Slot cover	Slot nut	Centring sleeve	Central support	Central mounting	Foot mounting	Shock absorber
D2	GA	ZUB	...S ...B	...X ...Y	...Z	...M	...Q	...F	...C ...E
- D2	-	: ZUB	- 2S2B	2X				F	2C

Ordering table

Size	40	50	63	Condi- tions	Code	Enter code
Supply port	At both ends				-D2	
Protected version	Protected roller design for harsh environment				-GA	
Accessories	Enclosed separately				:ZUB-	:ZUB-
Slot cover, 2 pcs., 0.5 m	Sensor slot	1 ... 10			...S	
	Mounting slot	1 ... 10			...B	
Slot nut	Slide	1 ... 10			...X	
	Mounting slot	1 ... 10			...Y	
Centring sleeve (pack of 10)	10, 20, 30, 40, 50, 60, 70, 80, 90				...Z	
Central support	1 ... 10				...M	
Central mounting	1 ... 10				...Q	
Foot mounting	1 ... 10				...F	
Shock absorber kit	With retainer, 1-fold	1 ... 10			[1] ...C	
		1 ... 10			[2] ...E	

- [1] C Not with protected version GA.
- [2] E Only with protected version GA.

Transfer order code

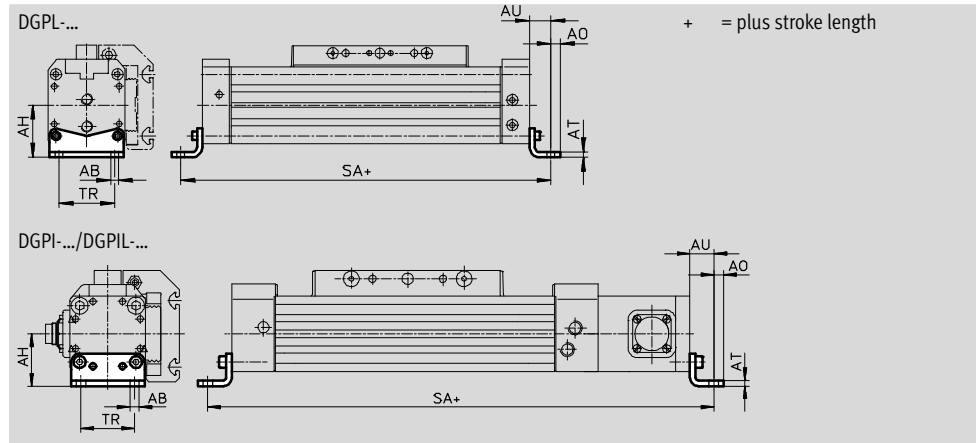
- [] - [] : **ZUB** - [] [] [] [] [] [] [] []

Linear drives DGPL/DGPI/DGPIL

Accessories

Foot mounting HP (order code: F)

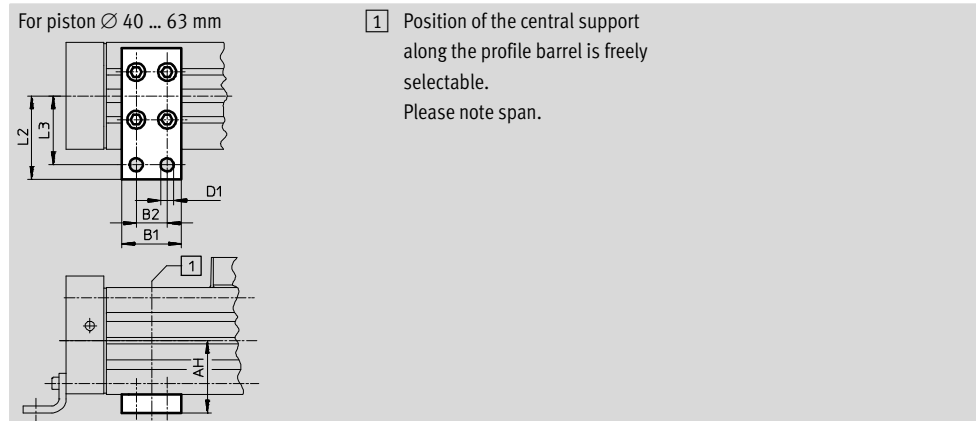
Material: Galvanised steel
Free of copper, PTFE and silicone



Dimensions and ordering data											
For Ø [mm]	AB Ø	AH	AO	AT	AU	SA		TR	Weight [g]	Part No.	Type
						DGPL	DGPI(L)				
40	6.6	46	8.5	5	17.5	335	432	45	188	150733	HP-40
50	9	61	11	6	25	400	515	65	243	150734	HP-50
63	11	69	13.5	6	28	456	569	75	305	150735	HP-63

Central support MUP (order code: M)

Material: Galvanised steel
Free of copper, PTFE and silicone



Dimensions and ordering data										
For Ø [mm]	AH	B1	B2	D1 Ø	L2	L3	Weight [g]	Part No.	Type	
										40
50	61	50	26	11	70	58	241	150739	MUP-50	
63	69	50	26	11	77	65	340	150800	MUP-63	

Linear drives DGPL/DGPI/DGPIL

Accessories

Shock absorber DG-GA

for DGPIL

Protected version GA

(order code: E)

Materials:

Housing: Galvanised steel

Piston rod: High-alloy steel

Seals: NBR, PUR

Free of copper, PTFE and silicone



Ordering data			
For Ø [mm]	Weight [g]	Part No.	Type
40	140	192877	DG-GA-40-YSR

Shock absorber YSR-...-C

for DGPL/DGPIL

(order code: C)

Materials:

Housing: Galvanised steel

Piston rod: High-alloy steel

Seals: NBR, PUR

Free of copper, PTFE and silicone



 Note

Shock absorber YSRW with progressive characteristics

➔ Internet: ysrw

Ordering data			
For Ø [mm]	Weight [g]	Part No.	Type
40	140	34573	YSR-16-20-C
50	140	34573	YSR-16-20-C
63	240	34574	YSR-20-25-C

Linear drives DGPL/DGPI/DGPIL

Accessories

Shock absorber retainer KYP

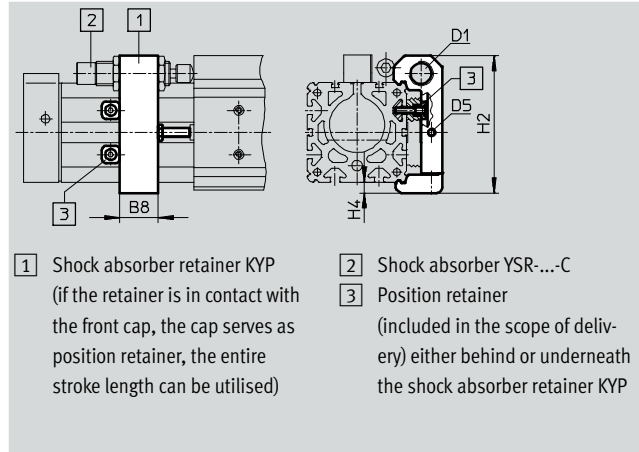
for DGPL/DGPIL

(order code: C)

Materials:


Retainer: Aluminium

Sleeve: Corrosion-resistant steel



- 1** Shock absorber retainer KYP
(if the retainer is in contact with the front cap, the cap serves as position retainer, the entire stroke length can be utilised)
- 2** Shock absorber YSR-...-C
- 3** Position retainer
(included in the scope of delivery) either behind or underneath the shock absorber retainer KYP


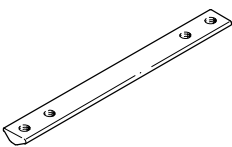


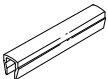
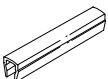
Dimensions and ordering data								
For Ø [mm]	B8	D1	D5	H2	H4	Weight [g]	Part No.	Type
40	32	M22x1.5	M5	102	8	209	158910	KYP-40
50	35	M22x1.5	M8	124	10	415	158911	KYP-50
63	44	M26x1.5	M10	152.5	11.5	609	158912	KYP-63

Ordering data – Push-in fittings			Technical data → Internet: quick star		
	For Ø [mm]	Comment	Part No.	Type	PU ¹⁾
	40, 50	For connecting compressed air tubing with standard O.D.	186099	QS-G¹/₄-8	10
			186101	QS-G¹/₄-10	
	63		186100	QS-G³/₈-8	
			186102	QS-G³/₈-10	
			186103	QS-G³/₈-12	

1) Packaging unit

Linear drives DGPL/DGPI/DGPIL

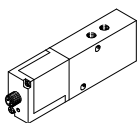
Accessories


Ordering data				Technical data → Internet: mounting component		
	For Ø [mm]	Comment	Order code	Part No.	Type	PU ¹⁾
Slot nut NST						
	40	For mounting slot	Y	150914	NST-5-M5	1
	50, 63			150915	NST-8-M6	
Slot nut NSTL						
	40	For slide	X	158412	NSTL-40	1
	50			158413	NSTL-50	
	63			158414	NSTL-63	
Centring sleeve ZBH						
	40 ... 63	For slide	Z	150927	ZBH-9	10
Central mounting SLZZ						
	40	For slide	Q	150901	SLZZ-25/16	1
	50, 63			150904	SLZZ-50/40	
Slot cover ABP						
	40	For mounting slot	B	151681	ABP-5	2
	50, 63	Every 0.5 m		151682	ABP-8	
Slot cover ABP-S						
	40 ... 63	For sensor slot Every 0.5 m	S	563360	ABP-5-S1	2

1) Packaging unit

Linear drives DGPL/DGPI/DGPIL

Accessories

Ordering data – Proportional directional control valves											Technical data → Internet: mpye				
Selection aid															
Application	For Ø [mm]	Stroke [mm]													
		225	300	360	450	500	600	750	1,000	1,250	1,500	1,750	2,000		
Horizontal/vertical	For applications with axis controller SPC200														
	40	1/1	2/2	2/2	2/2	2/2	2/2	2/2	2/2	3/3	3/3	3/3	3/3	3/3	
	50	2/2	2/2	2/2	2/2	2/2	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	
	63	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	4/4	4/4	4/4	4/4	
	For applications with Soft Stop end-position controller SPC11														
	40	2/1	2/1	2/1	2/1	2/2	3/3	3/4	3/4	3/4	3/4	3/4	3/4	3/4	
	50	1/1	2/1	2/2	3/2	3/3	4/3	4/4	4/4	4/4	4/4	4/4	4/4	4/4	
	63	2/1	2/2	3/3	3/3	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4	
	Valve	Selection number							Part No.	Type					
		1							151692	MPYE-5-1/8-LF-010-B					
2							151693	MPYE-5-1/8-HF-010-B							
3							151694	MPYE-5-1/4-010-B							
4							151695	MPYE-5-3/8-010-B							



-  - Note

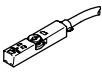
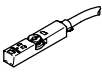
The representation e.g. 2/1 in the columns means:



Selection number 2	Selection number 1
for horizontal application	for vertical application
151 693 MPYE-5-1/8-HF-010-B	151 692 MPYE-5-1/8-LF-010-B

Linear drives DGPL/DGPI/DGPIL

Accessories

Ordering data – Proximity sensor for T-slot, magnetic reed						Technical data → Internet: sme
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	150855	SME-8-K-LED-24
			Plug M8x1, 3-pin	0.3	150857	SME-8-S-LED-24
N/C contact						
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	7.5	160251	SME-8-O-K-LED-24

Ordering data – Proximity sensor for T-slot, magneto-resistive						Technical data → Internet: smt
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	2.5	574335	SMT-8M-A-PS-24V-E-2,5-OE
N/C contact						
	Insertable in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	7.5	574340	SMT-8M-A-PO-24V-E-7,5-OE


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	541333	NEBU-M8G3-K-2.5-LE3	
			5	541334	NEBU-M8G3-K-5-LE3	
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541338	NEBU-M8W3-K-2.5-LE3	
			5	541341	NEBU-M8W3-K-5-LE3	

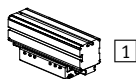
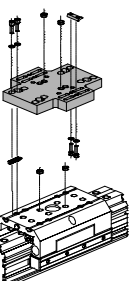
Linear drives DGPIL

Accessories

**Adapter kit
HMVK**

Material:
Wrought aluminium alloy
Free of copper and PTFE
RoHS-compliant

 Note
The kit includes the individual mounting interface as well as the necessary mounting material.

Permissible drive/drive combinations with adapter kit						Download CAD data → www.festo.com
Combination	[1] Drive	[2] Drive	Adapter kit			
	Size	Size	CRC ¹⁾	Part No.	Type	
DGP(I)L, DGE, DGEA/DGPIL	DG...	DGPIL	HMVK			
 1  2	Direct slide/slide mounting					
	18 ²⁾ , 25, 32 ³⁾	40	2	196781	HMVK-DL32/40-DLA18-32	
	25 ²⁾ , 40	63		196783	HMVK-DL63-DLA25/40	
	Direct slide/profile mounting					
	18	18	2	196780	HMVK-DL18/25-DL-18/25	
	32 ³⁾ , 40	40		196781	HMVK-DL32/40-DLA18-32	

1) CRC2: Corrosion resistance class to Festo standard 940 070
Components with medium corrosion exposure. Externally visible components with significant decorative function in direct contact with normal industrial atmosphere or media such as coolants and lubricants.
2) Only for DGEA-...
3) Only for DGPL/DGPIL-...