

Linear actuators DFPI



# Linear actuators DFPI

Key features

FESTO

## General information

- Linear actuator for actuating process valves such as gate valves and shut-off valves in process automation systems
- Linear actuator with integrated displacement encoder (potentiometer)
- Product versions with integrated positioner and valve block available (DFPI-...-C1V-...). With this product version, the integrated positioner checks the position of the piston rod within the available stroke range. This actuator has a factory-defined safety position that is assumed if the operating voltage or the analogue setpoint value fails. Positions are specified via an analogue setpoint signal (4 ... 20 mA), for example via a master PLC/IPC or manually on-site via an external setpoint generator. Position feedback is provided via an analogue feedback signal from 4 ... 20 mA. The feedback signal increases reliability and simplifies diagnostics for the user. The travel speed can be influenced using the integrated flow control screws
- With the P-connection type, the electrical and pneumatic connections are well protected from outside mechanical influences by a sturdy flanged socket
- With the ND2P-E-P variant, the displacement encoder supplies an analogue signal proportional to the displacement in the form of a voltage (voltage divider) that can then, for example, be processed further in an external positioner

## Sturdy

- Sturdy and compact housing with high degree of IP protection
- Ideal for exterior use thanks to high corrosion resistance
- Product designs with integrated positioner have a pressure compensation component that prevents the formation of condensate inside the housing in the event of temperature fluctuations and thus protects the internal electronics from damage

## Simple

- Easy integration into an existing control architecture
- Commissioning of product designs with integrated positioner is as fast and easy as for product designs without integrated controller thanks to self-initialisation

## Individual

- Product variants with and without positioner and valve block available
- Proximity sensors can be installed in the available slots if necessary for additional binary sensing of positions

## Versatile

Suitable for use in:

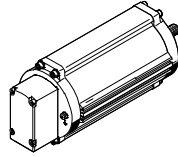
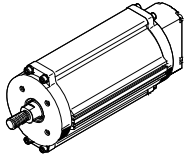
- water technology
- sewage treatment systems
- service water systems
- process water systems
- silo and bulk goods systems

# Linear actuators DFPI

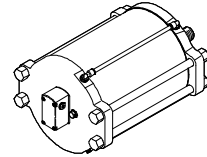
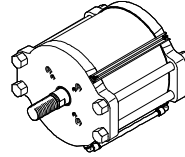
Key features

## Variant ND2P-E-P-G2

Piston  $\varnothing$  100 ... 160



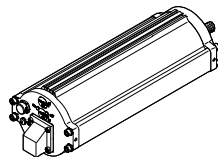
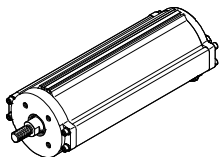
Piston  $\varnothing$  200 ... 320



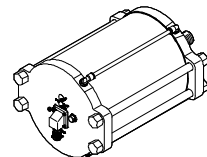
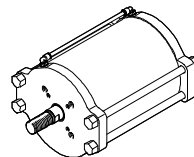
DFPI with integrated displacement encoder and protected pneumatic and electrical connections

## Variant ND2P-C1V-A

Piston  $\varnothing$  100 ... 160



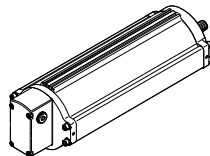
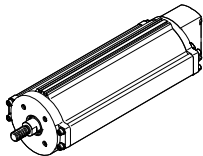
Piston  $\varnothing$  200 ... 320



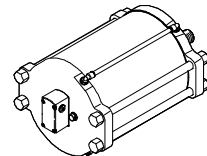
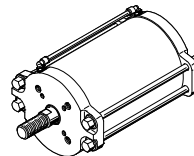
DFPI with integrated displacement encoder, positioner and valve block

## Variant ND2P-C1V-P-A

Piston  $\varnothing$  100 ... 160



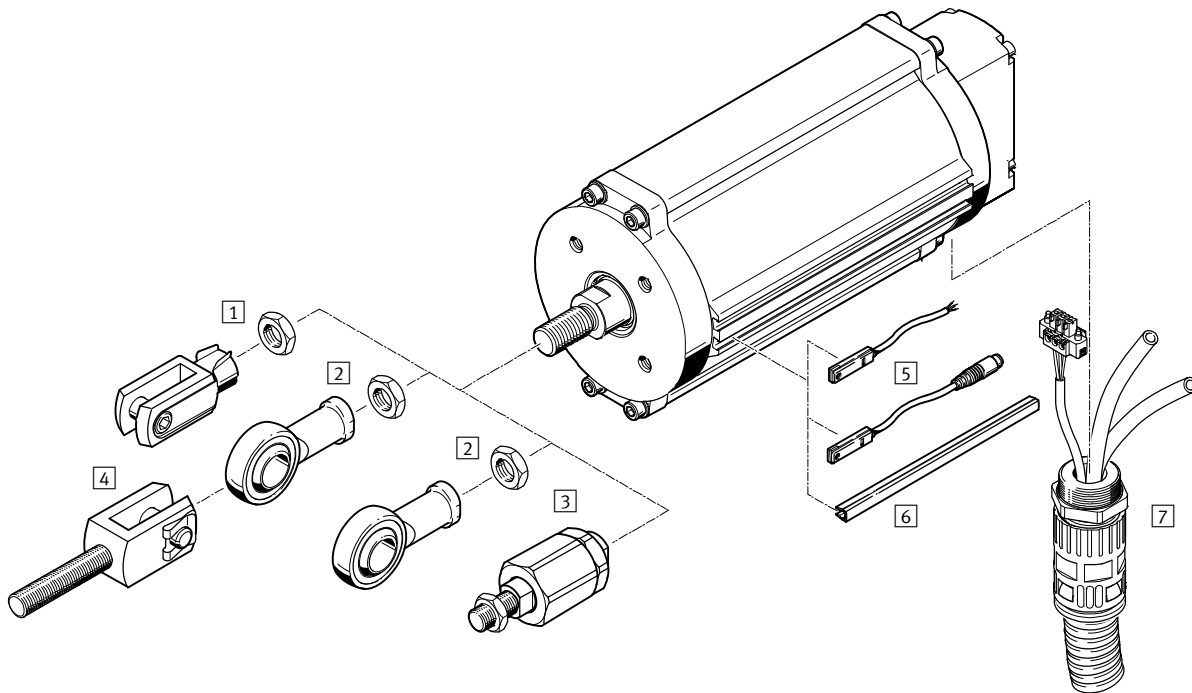
Piston  $\varnothing$  200 ... 320



DFPI with integrated displacement encoder, positioner and valve block and protected pneumatic and electrical connections

# Linear actuators DFPI-ND2P-E-P-G2

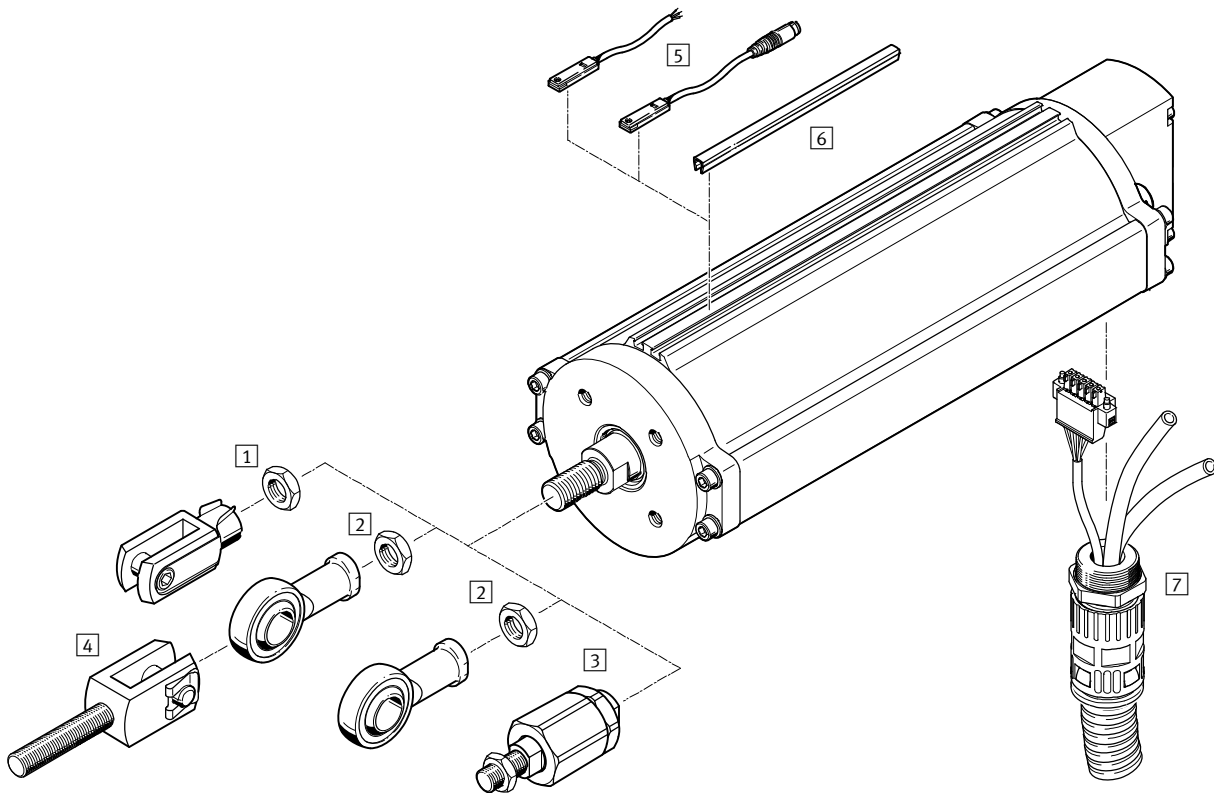
Peripherals overview – DFPI with integrated displacement encoder



Mounting components and accessories		
	Brief description	→ Page/Internet
1	Rod clevis SG	22
	Rod clevis, stainless steel CRSG	22
2	Rod eye SGS	22
	Rod eye, stainless steel CRSGS	22
3	Rod clevis SGA	22
4	Self-aligning rod coupler FK/CRFK	22
5	Proximity sensor SMT-8F-I	22
	Proximity sensor SMT-8	22
	Proximity sensor SME-8	23
6	Slot cover ABP-5-S	23
7	Connecting cable NHSB	19

# Linear actuators DFPI-ND2P-C1V-...-A

Peripherals overview – DFPI with integrated displacement encoder, positioner and valve block



Mounting components and accessories			
	Brief description	→ Page/Internet	
1	Rod clevis SG	Enables a simple connection between the piston rod and slide plate	22
	Rod clevis, stainless steel CRSG		22
2	Rod eye SGS	With spherical bearing	22
	Rod eye, stainless steel CRSGS		22
3	Rod clevis SGA	With male thread	22
4	Self-aligning rod coupler FK	For compensating radial and angular deviations	22
5	Proximity sensor SMT-8F-I	Magneto-inductive, NAMUR, EU-compliant to Directive 94/9/EC (ATEX)	22
	Proximity sensor SMT-8	Magneto-resistive, can be integrated in the cylinder profile barrel	22
	Proximity sensor SME-8	Magnetic reed, can be integrated in the cylinder profile barrel	23
6	Slot cover ABP-5-S	To protect the sensor cables and slots from dirt	23
7	Connecting cable NHSB	5-wire, for DFPI- ... -C1V	19

# Linear actuators DFPI

Type codes

DFPI - 100 - 100 - N D2 P - C1 V - P - A -

Type	
DFPI	Regulated actuator for process automation

Piston Ø	
100	100 mm
125	125 mm
160	160 mm
200	200 mm
250	250 mm
320	320 mm

Stroke	
	x length [40 ... 990 mm]

Function	
-	Double-acting

Cushioning	
N	No cushioning

Displacement encoder	
D2	Analogue

Method of measurement	
P	Potentiometer

Controller	
-	Not specified
C1	Controller 1

Attachment position of controller	
-	Integrated
E	External

Directional control valve	
-	Not specified
V	Integrated

Connection type	
-	Not specified
P	Protected

Safety position	
-	Piston rod advancing

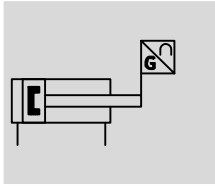
Feedback	
A	Analogue feedback signal

Generation	
G2	Second generation

# Linear actuators DFPI-ND2P-E-P-G2

Technical data

Function



- | - Stroke  
40 ... 990 mm
- ≡ - Force  
4,417 ... 48,255 N



- ∅ - Piston ∅  
100 ... 320 mm

General technical data						
Piston ∅	100	125	160	200	250	320
Based on standard (connection to process valve)	DIN 3358					
Type of mounting	On flange to DIN 3358					
Flange hole pattern	F07	F10	F10, F14			
Design	Piston rod, cylinder barrel					
Cushioning	None					
Mounting position	Any					
Mode of operation	Double-acting					
Stroke [mm]	40 ... 990					
Stroke reserve [mm]	3				4	
Pneumatic connection	For tubing O.D. 8 mm					
Electrical connection	3-pin, straight plug, screw terminal					
Max. cable length [m]	30					
Measuring principle	Displacement encoder (potentiometer)					
Position sensing	Via proximity sensor, with integrated displacement encoder					
Repetition accuracy [mm]	±0.12					
Independent linearity	0.04% full scale					
Hysteresis [mm]	0.33					
Continuous shock resistance to DIN/IEC 68 Part 2-82	Tested to severity level 2					
Vibration resistance to DIN/IEC 68 Part 2-6	Tested to severity level 2					

# Linear actuators DFPI-ND2P-E-P-G2

Technical data

Operating and environmental conditions		
Operating pressure	[bar]	3 ... 8
Nominal operating pressure	[bar]	6
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]
Note on operating/pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)
Operating voltage range	[V DC]	0 ... 15
Max. operating voltage	[V DC]	15
Exterior use		C1 – weather-protected areas in accordance with IEC 60654
Ambient temperature	[°C]	-20 ... +60
Corrosion resistance class CRC <sup>1)</sup>		3
Relative air humidity	[%]	5 ... 100, condensing
Protection class		IP65, IP67, IP68, IP69K, NEMA 4 in assembled state
Certification		C-Tick
CE marking (see declaration of conformity) → <a href="http://www.festo.com">www.festo.com</a>		To EU Explosion Protection Directive (ATEX)
ATEX category for gas		II 2G
Explosion ignition protection type for gas		c T4X
ATEX category for dust		II 2D
Explosion ignition protection type for dust		c 120°CX
Explosion-proof temperature	[°C]	-20 °C ≤ Ta ≤ +60 °C

1) Corrosion resistance class CRC 3 to Festo standard FN 940070  
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.



# Linear actuators DFPI-ND2P-E-P-G2

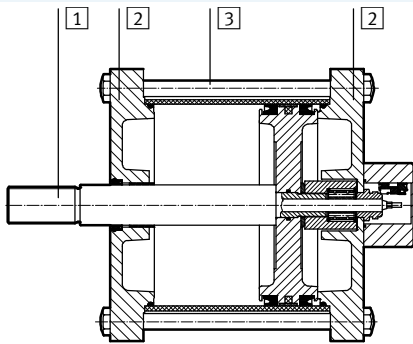
Technical data

Forces [N] and air consumption [l]						
Piston Ø	100	125	160	200	250	320
Theoretical force at 6 bar, advancing	4,712	7,363	12,064	18,850	29,452	48,255
Theoretical force at 6 bar, retracting	4,417	6,881	11,581	18,080	28,698	47,501
Air consumption, advancing, per 10 mm stroke	0.5498	0.859	1.4074	2.119	3.4361	5.6297
Air consumption, retracting, per 10 mm stroke	0.5153	0.8027	1.3511	2.111	3.3482	5.5418

Weight						
Piston Ø	100	125	160	200	250	320
Basic weight with 0 mm stroke [g]	3,476	5,530	6,529	13,946	22,569	35,359
Additional moving load per 10 mm stroke [g]	27	52	52	87	87	87
Moving load with 0 mm stroke [g]	1,228	1,944	2,250	4,722	7,059	11,417
Additional weight per 10 mm stroke [g]	80	145	159	187	325	399
Additional weight of displacement encoder per 10 mm stroke [g]	2					

## Materials

Sectional view



Linear actuators		
1	Piston rod	High-alloy stainless steel
2	Top cap (end cap)	Piston Ø 100 ... 320 Anodised wrought aluminium alloy, or painted anodised wrought aluminium alloy, or painted die-cast aluminium
2	Bottom cap (bearing cap)	Piston Ø 100 ... 320 Anodised wrought aluminium alloy, or painted anodised wrought aluminium alloy, or painted die-cast aluminium
3	Cylinder barrel	Piston Ø 100 ... 200 Piston Ø 250 ... 320 High-alloy stainless steel
-	Screws	Piston Ø 100, 200, 250, 320 Piston Ø 125, 160 High-alloy stainless steel
-	Seals	Piston Ø 100 Piston Ø 125 ... 320 Polyurethane, nitrile rubber Nitrile rubber
-	Note on materials	Contains PWIS (paint-wetting impairment substances), RoHS-compliant

# Linear actuators DFPI-ND2P-E-P-G2

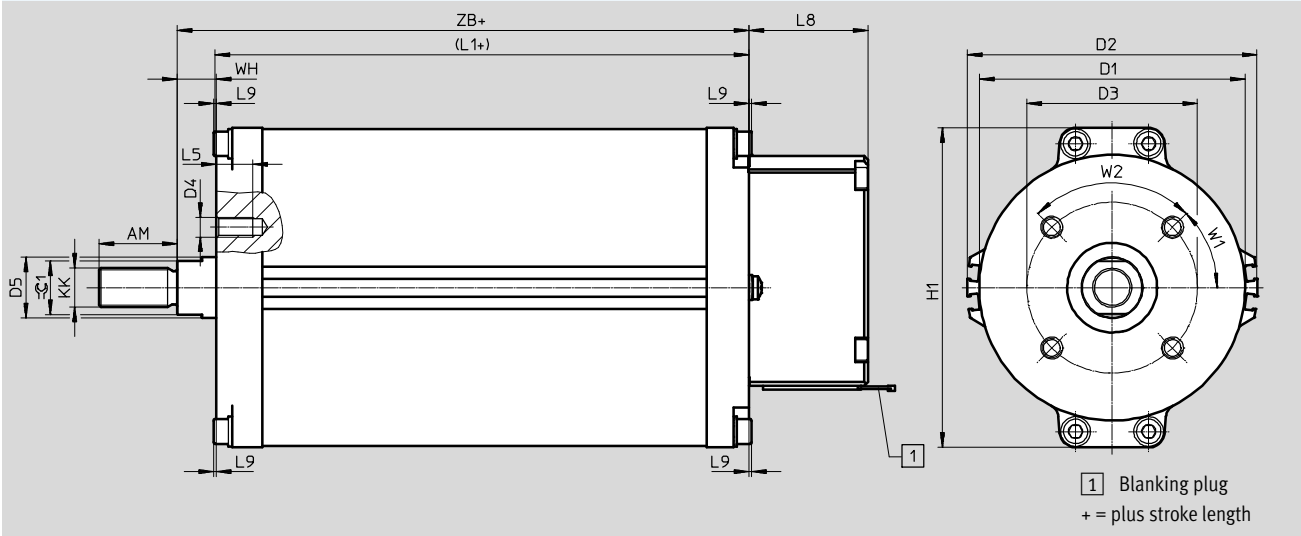
Technical data

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## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Piston Ø 100 ... 160



Piston Ø [mm]	AM	D1 Ø	D2 Ø	D3 Ø	D4	D5 Ø	H1	KK	L1+
DFPI-100	32	109	119	70	M8	25	131	M16x1.5	118.5
DFPI-125	54	135	147	102	M10	32	163	M27x2	119
DFPI-160		170	182				199		126.5

Piston Ø [mm]	L5	L8	L9	W1	W2	WH	ZB+	∅C1	Flange dimension to DIN 3358
DFPI-100	15	48.8	1	45°	90°	16	134.5	22	F07
DFPI-125	18	48.8	-	45°	90°	24	143	27	F10
DFPI-160							150.5		

# Linear actuators DFPI-ND2P-E-P-G2

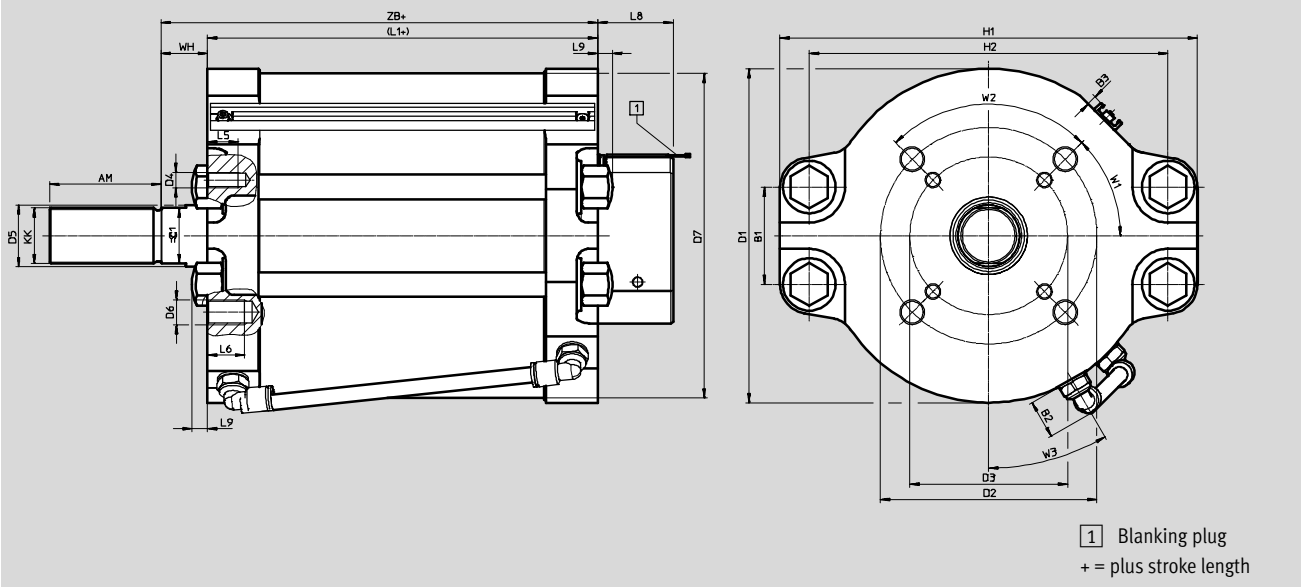
Technical data



## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Piston Ø 200 ... 320

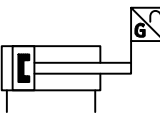



Piston Ø	AM	B1	B2	B3	D1	D2	D3	D4	D5	D6	D7	H1	H2
[mm]	-2				Ø	Ø	Ø		Ø		Ø min.		
DFPI-200	72	63	25.6	6.5	216	140	102	M10	40	M16	210	270	232
DFPI-250	72	82	25.6	6.5	260	140	102	M10	40	M16	254	308	268
DFPI-320		126			332						325	378	338

Piston Ø	KK	L1+	L5	L6 min.	L8	L9	WH	W1	W2	W3	ZB+	⊖C1	Flange dimension to DIN 3358
[mm]													
DFPI-200	M36x2	152.5	20	24	48.8	10	30	45	90	30	182.5	36	F1014
DFPI-250	M36x2	152.2	20	25	48.8	25	30	45	90	30	182.2	36	F1014
DFPI-320		160		24							190		

# Linear actuators DFPI-ND2P-E-P-G2

Technical data

Ordering data			
Type	Piston Ø [mm]	Part No.	Type
	100	<b>1808236</b>	<b>DFPI-100- ... -ND2P-E-P-G2</b>
	125	<b>1808239</b>	<b>DFPI-125- ... -ND2P-E-P-G2</b>
	160	<b>1808242</b>	<b>DFPI-160- ... -ND2P-E-P-G2</b>
	200	<b>1808245</b>	<b>DFPI-200- ... -ND2P-E-P-G2</b>
	250	<b>1808253</b>	<b>DFPI-250- ... -ND2P-E-P-G2</b>
	320	<b>1808263</b>	<b>DFPI-320- ... -ND2P-E-P-G2</b>

-  - Note

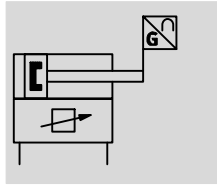
**Stroke length of the actuator**

The stroke length of the actuator should generally at least correspond to the nominal diameter of the process valve so that the process valve can be fully opened and closed. The system tolerances can lead to a greater stroke range than the specified nominal stroke range of the linear actuator. The adjustable rod clevis enables adjustment of the system.

# Linear actuators DFPI-ND2P-C1V-...-A

Technical data

Function



- | - Stroke  
40 ... 990 mm
- ||| - Force  
4,417 ... 48,255 N



- ∅ - Piston ∅  
100 ... 320 mm

General technical data							
Piston ∅	100	125	160	200	250	320	
Based on standard (connection to process valve)	DIN 3358						
Type of mounting	On flange to DIN 3358						
Flange hole pattern	F07	F10	F10, F14				
Design	Piston rod, cylinder barrel						
Cushioning	No cushioning						
Mounting position	Any						
Mode of operation	Double-acting						
Stroke [mm]	40 ... 990						
Stroke reserve [mm]	3	3	3	4	4	4	
Pneumatic connection							
DFPI-...-ND2P-C1V-A	G1/4						
DFPI-...-ND2P-C1V-P-A	For tubing O.D. 8 mm, 10 mm						
Electrical connection	5-pin with screw terminal, straight plug						
Max. cable length [m]	30						
Measuring principle	Displacement encoder (potentiometer)						
Position sensing	Via proximity sensor, with integrated displacement encoder						
Repetition accuracy	1.6% full scale						
Positioning accuracy	≤ 500 mm stroke: 1.1% full scale, > 500 mm stroke: 2.2% full scale						
Hysteresis	1.5% full scale						
Size of the dead zone	1.25% full scale						
Accuracy of analogue output	2% full scale						
Max. speed, retracting [m/s]	0.071	0.048	0.031	0.016	-	0.005	
Max. speed, advancing [m/s]	0.074	0.049	0.031	0.018	-	0.007	
Continuous shock resistance to DIN/IEC 68 Part 2-82	Tested to severity level 2						
Vibration resistance to DIN/IEC 68 Part 2-6	Tested to severity level 2						

# Linear actuators DFPI-ND2P-C1V-...-A

Technical data

Operating and environmental conditions	
Operating pressure [bar]	3 ... 8
Nominal operating pressure [bar]	6
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]
Note on operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Operating voltage range [V DC]	22.8 ... 26.4
Nominal operating voltage [V DC]	24
Setpoint input [mA]	4 ... 20
Actual value output [mA]	4 ... 20
Max. current consumption [mA]	220
Reverse polarity protection	For operating voltage For setpoint value For initialisation connection
Exterior use	C1 – weather-protected areas in accordance with IEC 60654
Ambient temperature [°C]	-5 ... 50
Temperature of medium [°C]	-5 ... 40
Corrosion resistance class CRC <sup>1)</sup>	3
Relative air humidity [%]	5 ... 100, condensing
Protection class	IP65, IP67, IP68, IP69K, NEMA 4 in assembled state
Certification	C-Tick
CE marking (see declaration of conformity) → <a href="http://www.festo.com">www.festo.com</a>	To EU EMC Directive To EU Explosion Protection Directive (ATEX)
ATEX category for gas	II3G
Explosion ignition protection type for gas	Ex nA IIC T4 X Gc
ATEX category for dust	II3D
Explosion ignition protection type for dust	Ex tc III C T120°C X Dc IP65/67/68/69k
Explosion-proof temperature	-5 °C ≤ Ta ≤ +50 °C

1) Corrosion resistance class CRC 3 to Festo standard FN 940070  
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

Forces [N] and air consumption [l]	100	125	160	200	250	320
Piston ∅						
Theoretical force at 6 bar, advancing	4,712	7,363	12,064	18,850	29,452	48,255
Theoretical force at 6 bar, retracting	4,417	6,881	11,581	18,080	28,698	47,501
Air consumption, retracting, per 10 mm stroke	0.5153	0.8027	1.3511	2.111	3.3482	5.5418
Air consumption, advancing, per 10 mm stroke	0.5498	0.859	1.4074	2.119	3.4361	5.6297

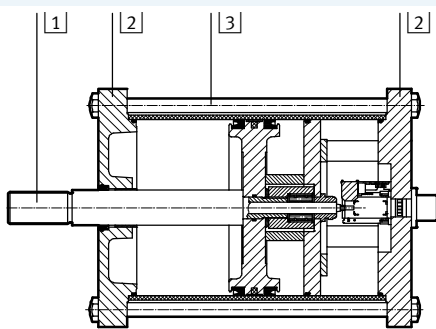
# Linear actuators DFPI-ND2P-C1V-...-A

Technical data

Weight						
Piston Ø	100	125	160	200	250	320
Basic weight with 0 mm stroke						
DFPI-...-ND2P-C1V-A [g]	4,671	7,693	9,099	18,358	29,956	45,200
DFPI-...-ND2P-C1V-P-A [g]	5,237	8,259	9,665	18,924	30,522	45,766
Moving load with 0 mm stroke [g]	1,228	1,944	2,250	4,722	7,059	11,417
Additional weight per 10 mm stroke [g]	80	145	159	187	325	399
Additional moving load per 10 mm stroke [g]	27	52		87		

## Materials

Sectional view



Linear actuators		
1	Piston rod	High-alloy stainless steel
2	Top cap (end cap)	Piston Ø 100 ... 320 Anodised wrought aluminium alloy, or painted anodised wrought aluminium alloy, or painted die-cast aluminium
2	Bottom cap (bearing cap)	Piston Ø 100 ... 320 Anodised wrought aluminium alloy, or painted anodised wrought aluminium alloy, or painted die-cast aluminium
3	Cylinder barrel	Piston Ø 100 ... 200 Piston Ø 250 ... 320 Anodised wrought aluminium alloy High-alloy stainless steel
-	Screws	Piston Ø 100, 200, 250, 320 Piston Ø 125, 160 High-alloy stainless steel High-alloy stainless steel
-	Seals	Piston Ø 100 Piston Ø 125 ... 320 Polyurethane, nitrile rubber Nitrile rubber
-	Note on materials	Contains PWIS (paint-wetting impairment substances), RoHS-compliant

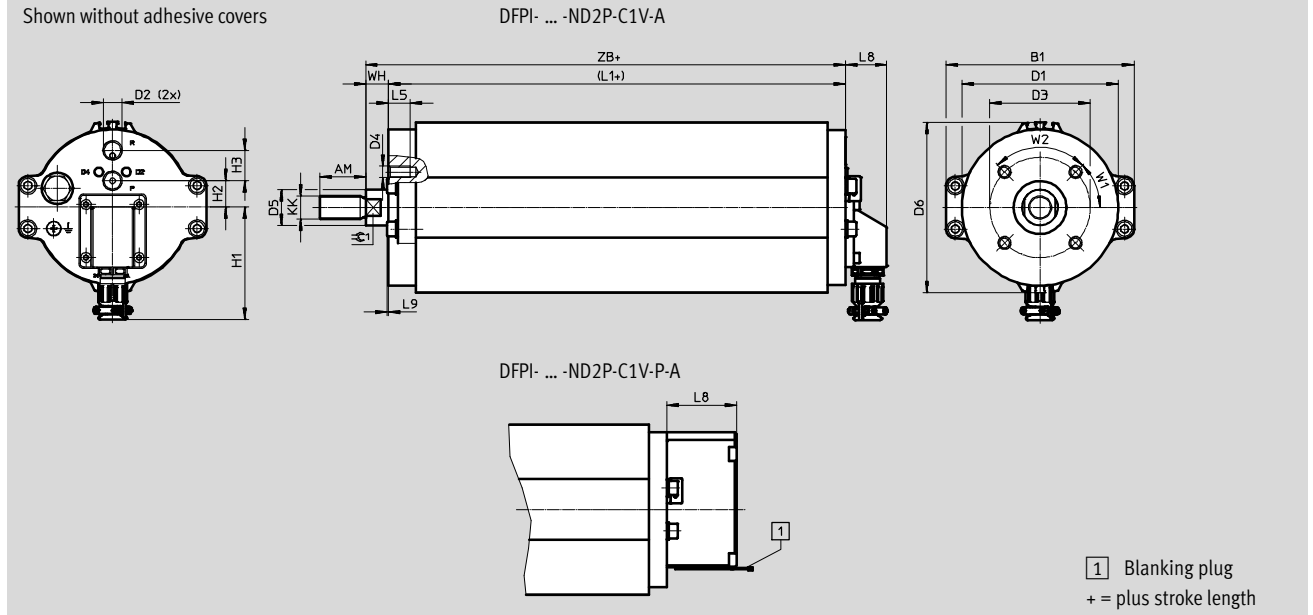
# Linear actuators DFPI-ND2P-C1V-...-A

Technical data



Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

Piston Ø 100 ... 160



Piston Ø [mm]	AM -2	B1	D1 Ø	D2 Ø	D3 Ø	D4	D5 Ø	D6 Ø	H1 ±2	H2
DFPI-100- ... -C1V-A	32	131	109	G¼	70	M8	25	119	79	18.3
DFPI-125- ... -C1V-A	54	163	135	G¼	102	M10	32	147	79	18.3
DFPI-160- ... -C1V-A		199	170					182		

Piston Ø [mm]	H3	KK	L1+	L5	L8	L9	WH	ZB+	⊖C1	Flange dimension to DIN 3358
DFPI-100- ... -C1V-A	21.2	M16x1.5	218.5	15	28.8	1	16	234.5	22	F07
DFPI-125- ... -C1V-A	21.2	M27x2	221	18	28.8	-	24	245	27	F10
DFPI-160- ... -C1V-A			227.5					251.5		

Piston Ø [mm]	AM -2	B1	D1 Ø	D2 Ø	D3 Ø	D4	D5 Ø	D6 Ø	H1	H2
DFPI-100- ... -C1V-P-A	32	131	109	G¼	70	M8	25	119	-	18.3
DFPI-125- ... -C1V-P-A	54	163	135	G¼	102	M10	32	147	-	18.3
DFPI-160- ... -C1V-P-A		199	170					182		

Piston Ø [mm]	H3	KK	L1+	L5	L8	L9	WH	ZB+	⊖C1	Flange dimension to DIN 3358
DFPI-100- ... -C1V-P-A	21.2	M16x1.5	218.5	15	48.8	1	16	234.5	22	F07
DFPI-125- ... -C1V-P-A	21.2	M27x2	221	18	48.8	-	24	245	27	F10
DFPI-160- ... -C1V-P-A			227.5					251.5		



# Linear actuators DFPI-ND2P-C1V-...-A

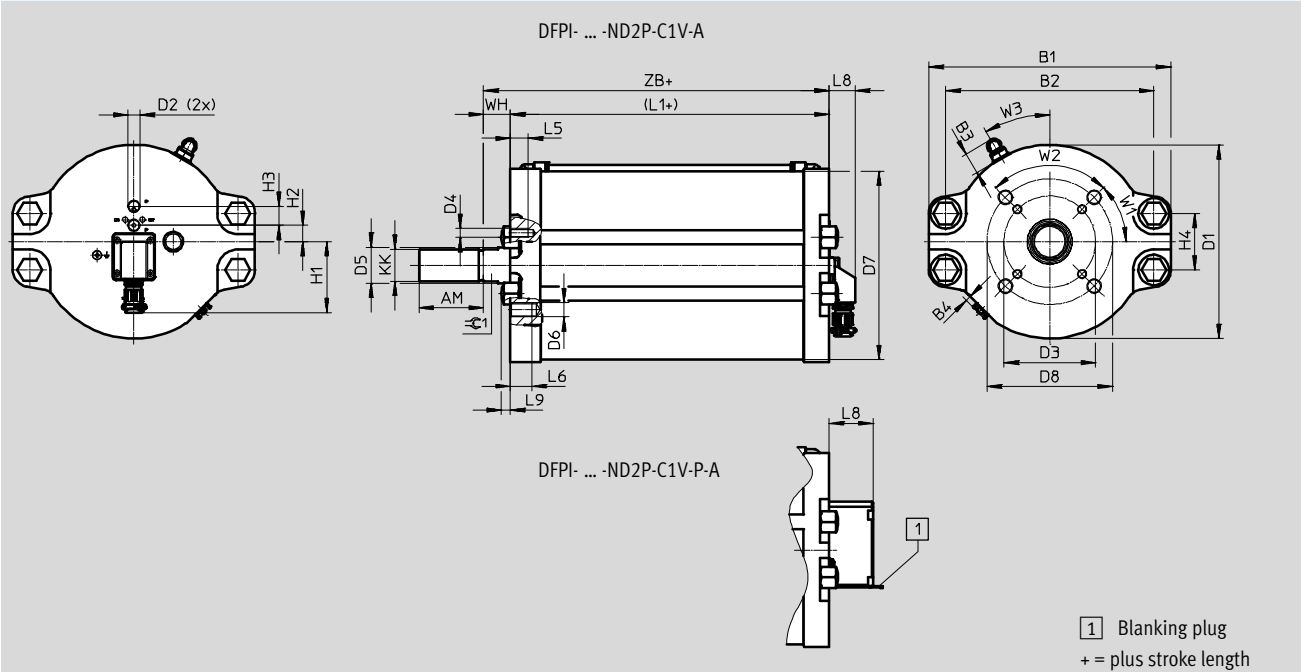
Technical data

FESTO

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Piston Ø 200 ... 320



Piston Ø	AM	B1	B2	B3	B4	D1	D2	D3	D4	D5	D6	D7	D8	H1	H2
[mm]	-2					Ø		Ø		Ø		Ø min.	Ø	±2	
DFPI-200- ... -C1V-A	72	270	232	24.5	6.5	216	G¼	102	M10	40	M16	210	140	79	18.3
DFPI-250- ... -C1V-A	72	308	268	24.5	6.5	260	G¼	102	M10	40	M16	254	140	79	18.3
DFPI-320- ... -C1V-A		378	338			332						325			

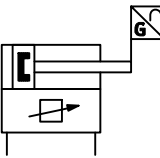
Piston Ø	H3	H4	KK	L1+	L5	L6	L8	L9	∓C1	WH	W1	W2	W3	ZB+	Flange dimension to DIN 3358
[mm]						min.									
DFPI-200- ... -C1V-A	21.2	63	M36x2	255.5	20	24	28.8	10	36	30	45°	90°	30°	285.5	F1014
DFPI-250- ... -C1V-A	21.2	82	M36x2	255	20	25	28.8	25	36	30	45°	90°	30°	285	F1014
DFPI-320- ... -C1V-A		126		262				-						292	

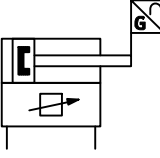
Piston Ø	AM	B1	B2	B3	B4	D1	D2	D3	D4	D5	D6	D7	D8	H2	H3
[mm]	-2					Ø		Ø		Ø		Ø min.	Ø		
DFPI-200- ... -C1V-P-A	72	270	232	24.5	6.5	216	G¼	102	M10	40	M16	210	140	18.3	21.2
DFPI-250- ... -C1V-P-A	72	308	268	24.5	6.5	260	G¼	102	M10	40	M16	254	140	18.3	21.2
DFPI-320- ... -C1V-P-A		378	338			332						325			


Piston Ø	H4	KK	L1+	L5	L6	L8	L9	∓C1	WH	W1	W2	W3	ZB+	Flange dimension to DIN 3358
[mm]					min.									
DFPI-200- ... -C1V-P-A	63	M36x2	255.5	20	24	48.8	10	36	30	45°	90°	30°	285.5	F1014
DFPI-250- ... -C1V-P-A	82	M36x2	255	20	25	48.8	25	36	30	45°	90°	30°	285	F1014
DFPI-320- ... -C1V-P-A	126		262				-						292	

# Linear actuators DFPI-ND2P-C1V-...-A

Technical data

Ordering data			
Type	Piston Ø [mm]	Part No.	Type
	100	1548004	DFPI-100- ... -ND2P-C1V-A
	125	1548020	DFPI-125- ... -ND2P-C1V-A
	160	1548026	DFPI-160- ... -ND2P-C1V-A
	200	1548030	DFPI-200- ... -ND2P-C1V-A
	250	1548037	DFPI-250- ... -ND2P-C1V-A
	320	1548041	DFPI-320- ... -ND2P-C1V-A

Ordering data			
Type	Piston Ø [mm]	Part No.	Type
Variant with integrated displacement encoder and protected pneumatic and electrical connections			
	100	1548005	DFPI-100- ... -ND2P-C1V-P-A
	125	1548021	DFPI-125- ... -ND2P-C1V-P-A
	160	1548028	DFPI-160- ... -ND2P-C1V-P-A
	200	1548032	DFPI-200- ... -ND2P-C1V-P-A
	250	1548039	DFPI-250- ... -ND2P-C1V-P-A
	320	1548044	DFPI-320- ... -ND2P-C1V-P-A

-  - Note

**Stroke length of the actuator**

The stroke length of the actuator should generally at least correspond to the nominal diameter of the process valve so that the process valve can be fully opened and closed. The system tolerances can lead to a greater stroke range than the specified nominal stroke range of the linear actuator. During initialisation, the integrated position controller learns the stroke length used and ensures that the slide plate moves to the required positions in a controlled way – at most to the end positions learned during initialisation.

# Linear actuators DFPI

## Accessories

Connecting cable NHSB  
for DFPI-ND2P-E-P-G2 and  
DFPI-ND2P-C1V-P-A



General technical data			
Connecting cable	[mm <sup>2</sup> ]	3x 0.75	5x 0.75
Mounting position		Any	
Min. cable bending radius	[mm]	100	
Pneumatic connection		For tubing O.D. 8 mm	
		–	For tubing O.D. 10 mm

Operating and environmental conditions			
Ambient temperature	[°C]	–20 ... 60	
Ambient temperature with flexible cable installation	[°C]	–5 ... 60	
Operating voltage range DC	[V]	0 ... 30	
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]	
Note on operating/pilot medium		Lubricated operation possible	
Protection class		IP65, IP67, IP68, IP69K, NEMA 4 in assembled state	
Exterior use		C1 – weather-protected areas	
Relative air humidity	[%]	5 ... 100, condensing	

Materials	
Protective conduit	PA
Conduit fitting	PA
Cable sheath	PVC
Seals	TPE
Note on materials	Contains PWIS (paint-wetting impairment substances), RoHS-compliant
RoHS status	RoHS-compliant in accordance with EU Directive

# Linear actuators DFPI

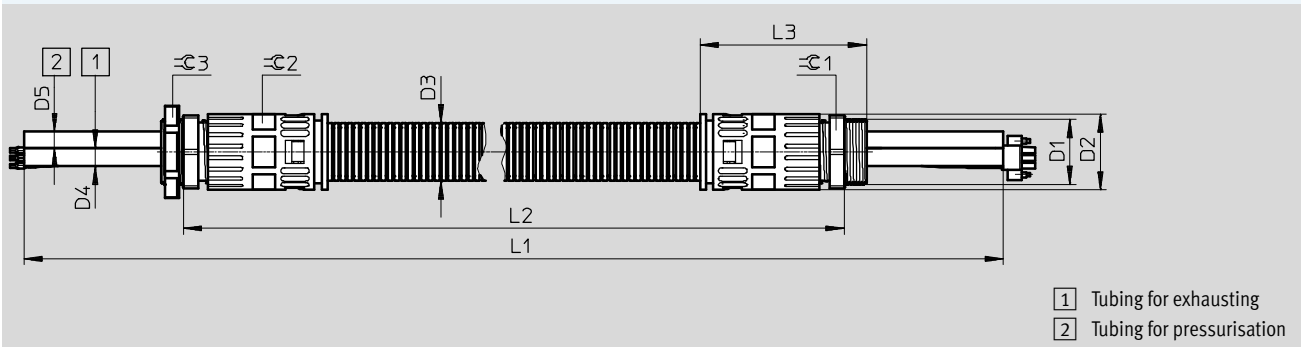
Accessories

FESTO

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

3-wire

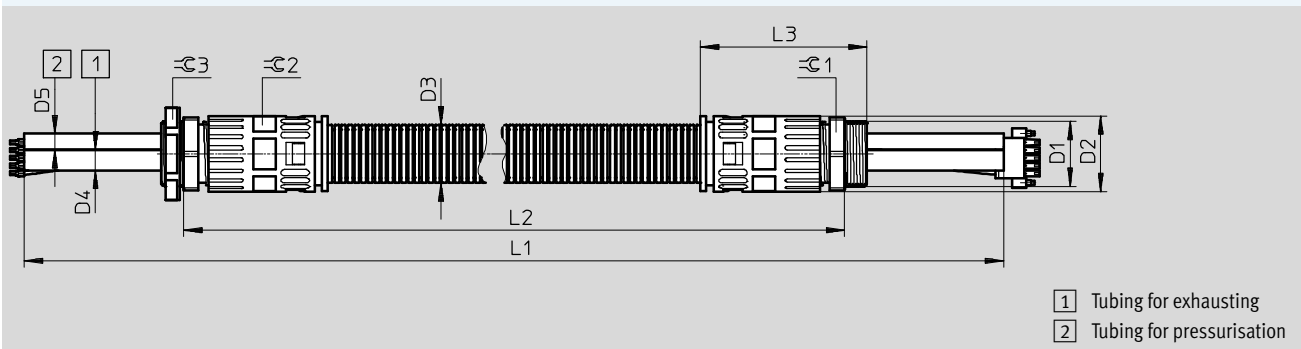


Type	D1	D2 ∅	D3 ∅	D4 ∅	D5 ∅	L1 ±25	L2 ±25	L3	$\varnothing 1$	$\varnothing 2$	$\varnothing 3$
NHSB-A1-5-BLG3-LE3-PU8-2xBB	M32x1.5	37	28.5	8	8	6,100	5,000	82	36	34	41
NHSB-A1-10-BLG3-LE3-PU8-2xBB						11,100	10,000				
NHSB-A1-15-BLG3-LE3-PU8-2xBB						16,100	15,000				
NHSB-A1-20-BLG3-LE3-PU8-2xBB						21,100	20,000				
NHSB-A1-25-BLG3-LE3-PU8-2xBB						26,100	25,000				
NHSB-A1-30-BLG3-LE3-PU8-2xBB						31,100	30,000				

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)



5-wire



Type	D1	D2 ∅	D3 ∅	D4 ∅	D5 ∅	L1 ±25	L2 ±25	L3	$\varnothing 1$	$\varnothing 2$	$\varnothing 3$
NHSB-A1-5-BLG5-LE5-PU8-2xBB	M32x1.5	37	28.5	10	8	6,100	5,000	82	36	34	41
NHSB-A1-10-BLG5-LE5-PU8-2xBB						11,100	10,000				
NHSB-A1-15-BLG5-LE5-PU8-2xBB						16,100	15,000				
NHSB-A1-20-BLG5-LE5-PU8-2xBB						21,100	20,000				
NHSB-A1-25-BLG5-LE5-PU8-2xBB						26,100	25,000				
NHSB-A1-30-BLG5-LE5-PU8-2xBB						31,100	30,000				

# Linear actuators DFPI





Accessories




Ordering data – Connecting cable						Technical data → Internet: nhsb	
	Electrical connection 1	Electrical connection 2	Length [m]	Cable composition [mm <sup>2</sup> ]	Product weight [g]	Part No.	Type
<b>3-wire, for DFPI- ... -ND2P-E-P</b>							
	Straight plug, 3-pin	Open end, 3-wire	5	3x 0.75	1,250	<b>1686608</b>	<b>NHSB-A1-5-BLG3-LE3-PU8-2XBB</b>
			10		2,500	<b>1686609</b>	<b>NHSB-A1-10-BLG3-LE3-PU8-2XBB</b>
			15		3,750	<b>1686610</b>	<b>NHSB-A1-15-BLG3-LE3-PU8-2XBB</b>
			20		5,000	<b>1686611</b>	<b>NHSB-A1-20-BLG3-LE3-PU8-2XBB</b>
			25		6,250	<b>1686612</b>	<b>NHSB-A1-25-BLG3-LE3-PU8-2XBB</b>
			30		7,500	<b>1686614</b>	<b>NHSB-A1-30-BLG3-LE3-PU8-2XBB</b>
<b>5-wire, for DFPI- ... -C1V</b>							
	Straight plug, 5-pin	Open end, 5-wire	5	5x 0.75	1,250	<b>1585793</b>	<b>NHSB-A1-5-BLG5-LE5-PU8-2XBB</b>
			10		2,500	<b>1585794</b>	<b>NHSB-A1-10-BLG5-LE5-PU8-2XBB</b>
			15		3,750	<b>1585795</b>	<b>NHSB-A1-15-BLG5-LE5-PU8-2XBB</b>
			20		5,000	<b>1585796</b>	<b>NHSB-A1-20-BLG5-LE5-PU8-2XBB</b>
			25		6,250	<b>1585797</b>	<b>NHSB-A1-25-BLG5-LE5-PU8-2XBB</b>
			30		7,500	<b>1585798</b>	<b>NHSB-A1-30-BLG5-LE5-PU8-2XBB</b>


# Linear actuators DFPI


Accessories


FESTO

Ordering data – Piston rod attachments				Technical data → Internet: piston rod attachment			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
<b>Rod eye SGS</b>				<b>Rod clevis SG</b>			
	100	9263	SGS-M16x1,5		100	6146	SG-M16x1,5
	125, 160	10774	SGS-M27x2		125, 160	14987	SG-M27x2-B
	200, 250, 320	10775	SGS-M36x2		200, 250, 320	9581	SG-M36x2
<b>Rod clevis SGA</b>				<b>Self-aligning rod coupler FK</b>			
	100	10768	SGA-M16x1,5		100	6142	FK-M16x1,5
	125, 160	10770	SGA-M27x2		125, 160	10485	FK-M27x2
	200, 250, 320	10771	SGA-M36x2		200, 250, 320	10746	FK-M36x2

Ordering data – Piston rod attachments, corrosion-resistant				Technical data → Internet: crsg			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
<b>Rod eye CRSG</b>				<b>Rod clevis CRSGS</b>			
	100	13571	CRSG-M16x1,5		100	195584	CRSGS-M16x1,5
	125, 160	185361	CRSG-M27x2		125, 160	195586	CRSGS-M27x2
<b>Self-aligning rod coupler CRFK</b>							
	100	2490673	CRFK-M16x1,5				

Ordering data – Proximity sensor for T-slot				Technical data → Internet: smt-8f		
	Switching output	Electrical connection		Cable length [m]	Part No.	Type
		Cable	Plug M8x1			
	NAMUR	Cable, 2-wire		5.0	536956	SMT-8F-I-8,2V-K5,0-OE-EX

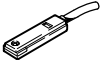
Ordering data – Proximity sensor for T-slot, magneto-resistive				Technical data → Internet: smt-8		
	Switching output	Electrical connection		Cable length [m]	Part No.	Type
		Cable	Plug M8x1			
	N/O contact					
	PNP	3-wire	–	2.5	574335	SMT-8M-A-PS-24V-E-2,5-OE
			–	5.0	574336	SMT-8M-A-PS-24V-E-5,0-OE
		3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0,3-M8D	
	NPN	3-wire	–	2.5	574338	SMT-8M-A-PS-24V-E-2,5-OE
			3-pin	0.3	574339	SMT-8M-A-PS-24V-E-0,3-M8D

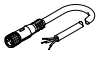


Ordering data – Proximity sensor for T-slot				Technical data → Internet: crsmt		
	Switching output	Electrical connection		Cable length [m]	Part No.	Type
		Cable	Plug M8x1			
	N/O contact					
	PNP	Cable, 3-wire		2.5	525563	CRSMT-8-PS-K2,5-LED-24
				5.0	525564	CRSMT-8-PS-K5-LED-24

# Linear actuators DFPI


Accessories

FESTO

Ordering data – Proximity sensor for T-slot, magnetic reed				Technical data → Internet: sme		
Connection technology		Cable length [m]	Part No.	Type		
Cable	Cable with plug M8x1					
	N/O contact					
	Operating voltage range 0 ... 30 V AC/DC					
	3-wire	–	2.5	150855	SME-8-K-LED-24	
			5.0	175404	SME-8-K5-LED-24	
			7.5	530491	SME-8-K-7,5-LED-24	
	–	3-pin	0.3	150857	SME-8-S-LED-24	
	2-wire	–	2.5	171169	SME-8-ZS-KL-LED-24	
	Heat-resistant up to 120 °C					
	2-wire	–	2.5	161756	SME-8-K-24-S6	
	Operating voltage range 3 ... 250 V AC/DC					
2-wire	–	2.5	152820	SME-8-K-LED-230		
N/C contact						
3-wire	–	7.5	160251	SME-8-O-K-LED-24		

Ordering data – Connecting cable M8x1					Technical data → Internet: nebu	
Electrical connection, left		Electrical connection, right	Switching output	Cable length [m]	Part No.	Type
Basic design						
	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
				10	541332	NEBU-M8G3-K-10-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
				10	541335	NEBU-M8W3-K-10-LE3
With switching status display						
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	PNP	2.5	541337	NEBU-M8W5P-K-2.5-LE3
				5	541340	NEBU-M8W5P-K-5-LE3
			NPN	2.5	541336	NEBU-M8W5N-K-2.5-LE3
				5	541339	NEBU-M8W5N-K-5-LE3

Ordering data – Slot cover for T-slot			
Assembly	Length [m]	Part No.	Type
 Insertable from above	2x 0.5	151680	ABP-5-S

Ordering data – Cable clip SMBK-8		
	Part No.	Type
 For fixing the cable in the sensor slot	534254	SMBK-8