

Linear actuators DLP, Copac






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Key features and type codes



General

-  Diameter
80 ... 320 mm
-  Stroke length
40 ... 600 mm, additional stroke lengths upon request
-  Force
2800 ... 48000 N

Festo Copac linear valve actuators are ideally suited for use in water, sewage, industrial process water and silage technology, as well as the paper and bulk goods industry. A clean solution for shut-off, safety and control slide valves. The Copac linear actuator acts directly upon the slide plate and facilitates accurate advancing to various positions.

- Fast or slow valve actuation
- Position sensing
- Internal air channels eliminate protruding tubing and attachments, and thus also harmful accumulation of contaminants
- Suitable for manual on-site use, as well as automatic operation
- Opening and closing actuated via flange-mounted solenoid valve with port pattern to Namur, or via valve terminals with a choice of 30 different fieldbus protocols
- Sturdy and reliable, even in aggressive environments

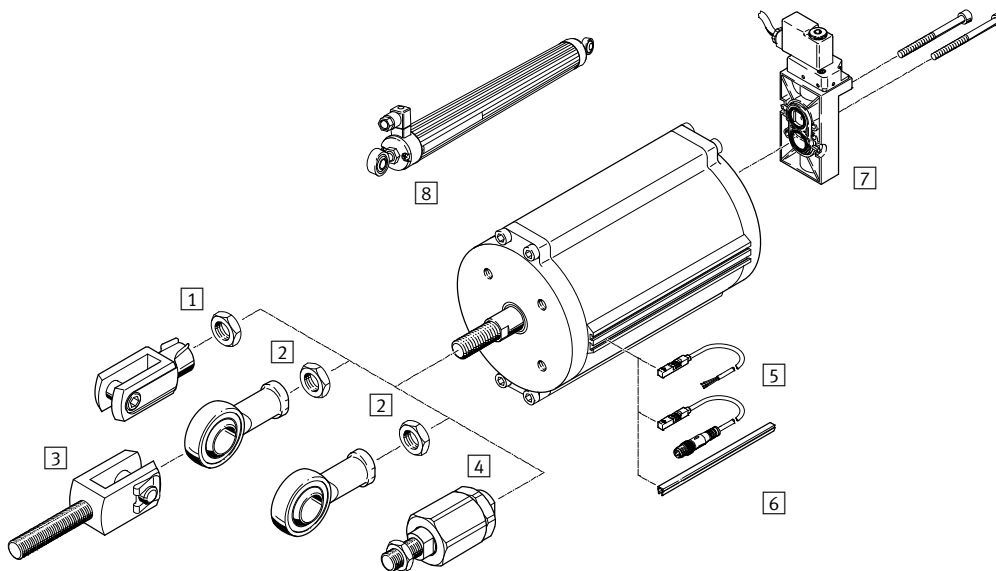
- Highly corrosion resistant
- Mounting port pattern to DIN 3358/ISO 5210 for direct mounting
- Port pattern to Namur VDI/VDE 3845 for attaching solenoid valves



		DLP	–	100	–	125	–	A
Type								
DLP	Double-acting linear actuator							
Piston Ø [mm]								
Stroke [mm]								
Position sensing								
A	Via proximity sensor							

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Peripherals overview

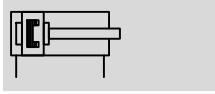



Mounting attachments and accessories					
	Brief description	DLP-80/100	DLP-125/160	DLP-200 ... 320	→ Page/Internet
1	Rod clevis SG	■	■	■	9
	Rod clevis, stainless steel CRSG	■	■	-	9
2	Rod eye SGS	■	■	■	9
	Rod eye, stainless steel CRSGS	■	■	-	9
3	Rod clevis SGA	■	■	■	9
4	Self-aligning rod coupler FK/CRFK	■	■	■	9
5	Proximity sensor SMT-8M-A	■	■	■	10
	Proximity sensor CRSM-8	■	■	■	10
	Proximity sensor SDBT	■	■	■	10
6	Slot cover ABP-5-S	■	■	■	11
7	Solenoid valve	■	■	■	solenoid valve
8	Displacement encoder MLO-POT	■	■	■	9


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Technical data

Function



-  - Diameter
80 ... 320 mm

-  - Stroke length
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-  - Force
2800 ... 48000 N



General technical data							
Piston \varnothing	80	100	125	160	200	250	320
Pneumatic connection	G1/4						
Based on standard	DIN 3358						
Valve connection conforms to	VDI/VDE 3845 (NAMUR)						
Design	Piston cylinder, double-acting						
Cushioning	None						
Stroke reserve [mm]	2				4		
Assembly position	Any						
Position sensing	Via proximity sensor						
Efficiency actuator [%]	95						

Operating and environmental conditions		
Operating pressure ¹⁾ [bar]	2 ... 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	Operation with lubricated medium possible (in which case lubricated operation will always be required)	
Ambient temperature ²⁾³⁾ [°C]	-20 ... +80	
Corrosion resistance class CRC ⁴⁾	3	
CE marking (see declaration of conformity) → www.festo.com	To EU Explosion Protection Directive (ATEX)	
ATEX category gas	II 2G	
Ex-ignition protection type gas	c T4	
ATEX category dust	II 2D	
EX-ignition protection type dust	c 120°C	
ATEX ambient temperature ³⁾	-20°C ≤ Ta ≤ +60°C	

1) Depending upon the counter force of the valve slide, a higher minimum pressure may be required to actuate the overall system

2) Further temperature ranges upon request

3) Note operating range of proximity sensors

4) 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.

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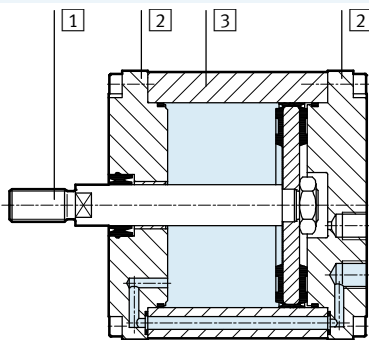
Technical data

Forces [N] and air consumption [NI]							
Piston Ø	80	100	125	160	200	250	320
Theoretical force at 6 bar, advancing	3016	4712	7363	12064	18850	29452	48255
Theoretical force at 6 bar, retracting	2827	4524	6881	11581	18080	28698	47501
Theoretical air consumption at 6 bar and 10 mm stroke, pushing	0.35	0.55	0.86	1.41	2.12	3.44	5.63
Theoretical air consumption at 6 bar and 10 mm stroke, pulling	0.33	0.53	0.80	1.35	2.11	3.35	5.54

Weights [g]							
Piston Ø	80	100	125	160	200	250	320
Basic weight with 0 mm stroke	1843	2801	4855	5854	12831	21117	33907
Additional weight per 10 mm stroke	68	80	145	159	187	325	399
Moving load with 0 mm stroke	624	997	1809	2183	4691	6650	11040
Additional moving load per 10 mm stroke	25	25	63	63	99	99	99

Materials

Sectional view



Linear actuator		
1	Piston rod	Ø 80 ... 320 High-alloy stainless steel
2	Cylinder cap	Ø 80 ... 160, 250, 320 Wrought aluminium alloy
		Ø 200 Cast aluminium
3	Cylinder barrel	Ø 80 ... 160, 320 Wrought aluminium alloy, smooth anodised
		Ø 200, 250 High alloy steel
-	Seals	Ø 80... 320 NBR
		Ø 80, 100, 320 NBR, TPE-U (PU)

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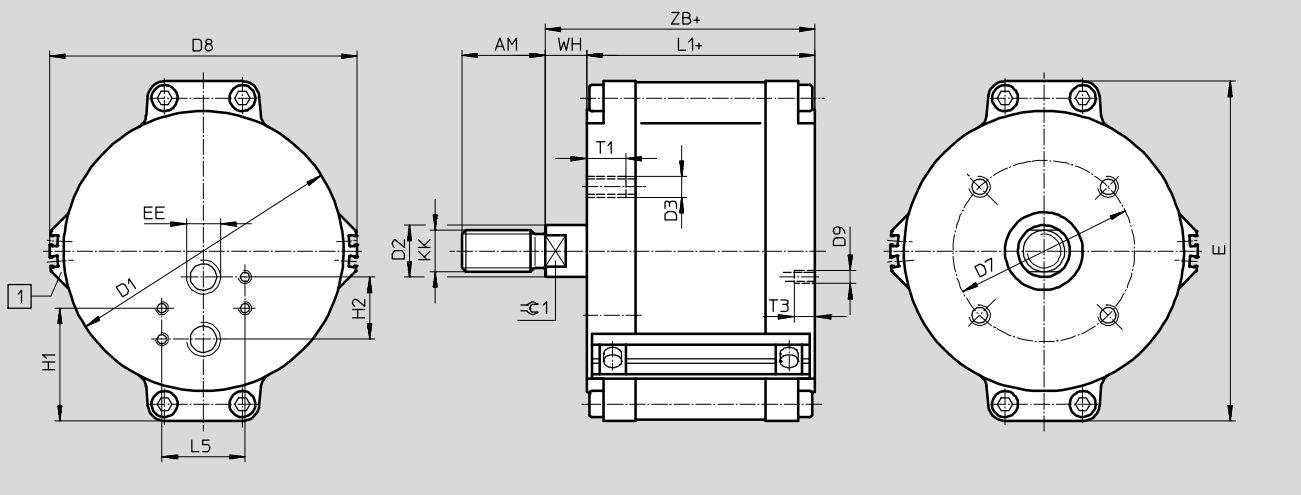
Technical data

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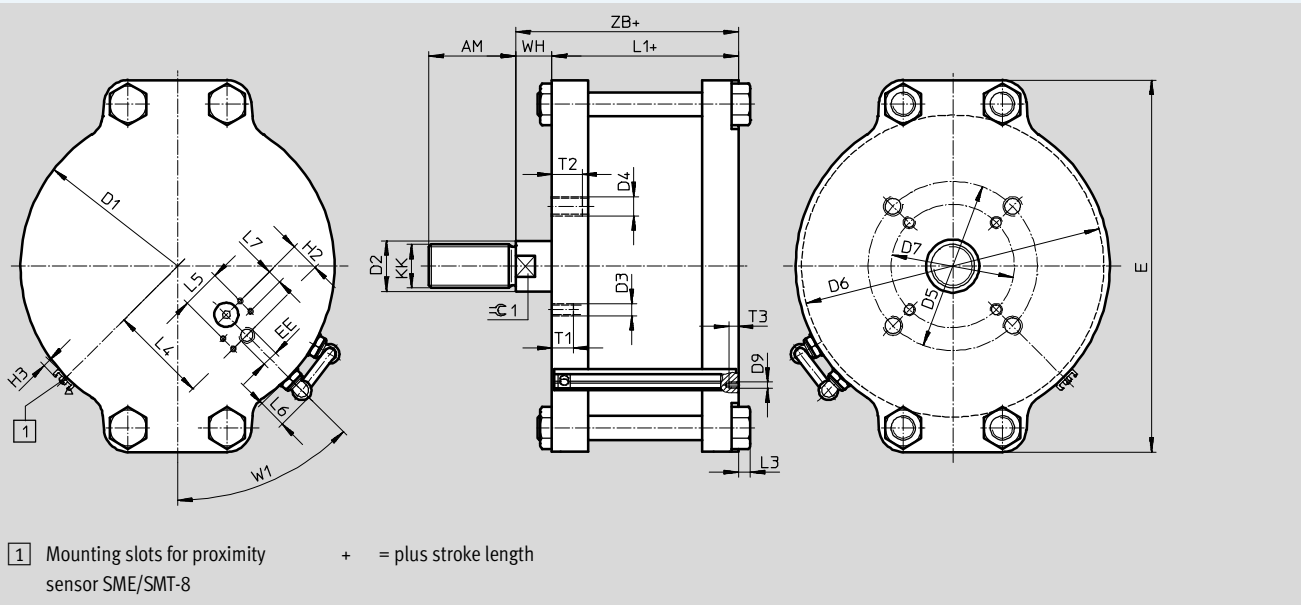
Dimensions

Download CAD data → www.festo.com

Ø 80 ... 160



Ø 200 ... 320



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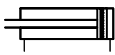
Technical data


∅	AM	D1	D2	D3	D4	D5	D6	D7	D8	D9	E	EE	H1	H2	H3
[mm]	-2	∅	∅	∅	∅	∅	∅	∅	∅	∅					
DLP-80-...-A	32	87	20	M8	-	-	-	70	99	M5	108	G1/4	43.5	24	-
DLP-100-...-A	32	108	20	M8	-	-	-	70	119	M5	131	G1/4	43.5	24	-
DLP-125-...-A	54	135	32	M10	-	-	-	102	147	M5	163	G1/4	43.5	24	-
DLP-160-...-A	54	170	32	M10	-	-	-	102	182	M5	199	G1/4	43.5	24	-
DLP-200-...-A	72	216	40	M10	M16	140	210	102	-	M5	271	G1/4	43.5	24	4.5
DLP-250-...-A	72	260	40	M10	M16	140	244	102	-	M5	308	G1/4	43.5	24	4.5
DLP-320-...-A	72	332	40	M10	M16	140	324	102	-	M5	378	G1/4	43.5	24	4.5

∅	KK	L1	L3	L4	L5	L6	L7	T1	T2	T3	W1	WH	ZB	≅G1
[mm]														
DLP-80-...-A	M16x1.5	100 +1.4/-0.4	-	-	32	-	-	15	-	8	45°	16 +0.6/-1.8	116 +0.6/-0.8	16
DLP-100-...-A	M16x1.5	104 +1.4/-0.4	-	-	32	-	-	15	-	8	45°	16 +0.6/-1.8	120 +0.6/-0.8	16
DLP-125-...-A	M27x2	114 +1.6/-0.6	-	-	32	-	-	18	-	8	45°	24 +0.8/-1.8	138 +0.8/-1.0	27
DLP-160-...-A	M27x2	114 +1.6/-0.6	-	-	32	-	-	18	-	8	45°	24 +1.2/-1.8	138 +1.2/-0.8	27
DLP-200-...-A	M36x2	150 +0.8/-1.0	10	81	32	24.5	12	20	24	8	45°	30 ±1.4	180 ±1	36
DLP-250-...-A	M36x2	152 +0.8/-1.4	25	94	32	24.5	12	20	25	8	45°	30 +1.8/-1.4	182 ±1	36
DLP-320-...-A	M36x2	159 +0.8/-1.4	-	130	32	24.5	12	20	25	8	45°	30 +1.8/-1.6	189 +0.8/-1.2	36

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Technical data

Ordering data				
Version	Piston \varnothing [mm]	Stroke [mm]	Part No.	Type
With position sensing				
	80	40 ... 500	187479	DLP-80-...-A
	100	50 ... 500	187480	DLP-100-...-A
	125	50 ... 500	187481	DLP-125-...-A
	160	100 ... 500	187482	DLP-160-...-A
	200	100 ... 600	542711	DLP-200-...-A
	250	100 ... 600	187483	DLP-250-...-A
	320	150 ... 600	187484	DLP-320-...-A

 - Note

Stroke length of the actuator

Generally, the stroke length of the Copac linear actuator corresponds to the nominal diameter of the process valve. The system tolerances may lead to a greater stroke range than the specified nominal stroke range of the linear actuator. The zero point is





set with an adjustable rod clevis. This ensures that the end position of the valve slide is reached and the zero position of the system is fixed.




Additional stroke lengths upon request


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
Accessories

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Ordering data – Piston rod attachments				Technical data → Internet: piston rod attachment			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Rod eye SGS				Rod clevis SG			
	80, 100	9263	SGS-M16x1,5		80, 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
Rod clevis SGA				Self-aligning rod coupler FK			
	80, 100	10768	SGA-M16x1,5		80, 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: piston rod attachment			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Rod eye CRSG				Rod clevis CRSGS			
	80, 100	13571	CRSG-M16x1,5		80, 100	195584	CRSGS-M16x1,5
	125, 160	185361	CRSG-M27x2		125, 160	195586	CRSGS-M27x2
Self-aligning rod coupler CRFK							
	80	2490673	CRFK-M16x1,5				
	100						

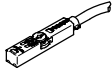
Ordering data – Displacement encoders		Technical data → Internet: mlo	
	Stroke [mm]	Part No.	Type
	100	192213	MLO-POT-100-LWG
	150	192214	MLO-POT-150-LWG
	225	152645	MLO-POT-225-LWG
	300	152646	MLO-POT-300-LWG
	360	152647	MLO-POT-360-LWG
	450	152648	MLO-POT-450-LWG
	600	152650	MLO-POT-600-LWG
	750	152651	MLO-POT-750-LWG

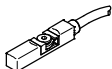
Ordering data – Plug socket for displacement encoder			Technical data → Internet: sd-4	
	Pin	Pin allocation	Part No.	Type
	1	Power supply	194332	SD-4-WD-7
	2	Signal		
	3	0 V		
	4	PE (yellow), screened		

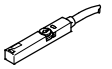
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Accessories

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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						
	Contactless	2-wire	–	5	574341	SMT-8M-A-ZS-24V-E-5,0-OE-EX2
	PNP	–	3-pin	0.3	574342	SMT-8M-A-PS-24V-E-0,3-M8D-EX2




Ordering data – Proximity sensor for T-slot, corrosion resistant					Technical data → Internet: crsmt	
Switching output	Electrical connection		Cable length [m]	Part No.	Type	
N/O contact						
	PNP	Cable, 3-wire	5	574380	CRSMT-8M-PS-24V-K-5,0-OE	

Ordering data – Proximity sensor for T-slot, NAMUR					Technical data → Internet: sdbt	
Switching output	Electrical connection		Cable length [m]	Part No.	Type	
N/O contact						
	NAMUR	Cable, 2-wire	5	579071	SDBT-MS-20NL-ZN-E-5-LE-EX6	
			10	579072	SDBT-MS-20NL-ZN-E-10-LE-EX6	


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Ordering data – Connecting cable M8x1					Technical data → Internet: nebu	
	Electrical connection, left	Electrical connection, right	Switching output	Cable length [m]	Part No.	Type
Basic version						
	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

Ordering data – Inscription labels						
	Material	Usage	Dimensions [mm]	Part No.	Type	PU ¹⁾
	Polycarbonate	For insertion in the inscription label holder	23x4	541598	ASLR-L-423	34

1) Packaging unit per frame