

- Stroke up to 2,000 mm
- Proximity sensors fit flush into the sensor slot on 3 sides
- Numerous variants for customised applications

Specified types in accordance with ATEX directive for potentially explosive atmospheres
→ www.festo.com/en/ex

Standard cylinders DNC, to ISO 15552

Key features



At a glance



DIN



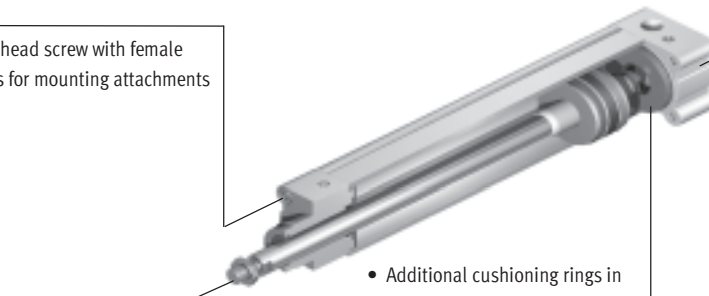
- Standards-based cylinders to ISO 15552 (corresponds to the withdrawn standards ISO 6431, DIN ISO 6431, VDMA 24 562, NF E 49 003.1 and UNI 10290)

- The modern design and construction save up to 11% fitting space compared to ordinary standard cylinders, thus permitting a considerably more compact system design

- An extensive range of accessories makes it possible to install the cylinder virtually anywhere
- The widest range of variants on the market provides the right DNC cylinder for every application

Design features

- Socket head screw with female threads for mounting attachments



- Broad range of accessories

- Additional cushioning rings in the end positions for absorbing the residual energy from high speeds and machine cycles

- No protruding proximity sensors thanks to profile slots
- Smooth, closed surface using slot covers for the sensor slots (protects the sensor cable and keeps dirt out of the profile slots)

Cylinder with clamping units

DNC-KP



- Piston rod can be held or clamped in any position
- The piston rod can be held in position for long periods even with alternating loads, fluctuating operating pressure or leaks in the system

DNCKE



- Suitable for use in safety-related control systems in compliance with EN 954-1, EN 1050, EN 292 and EN 983
- Fail-safe
- Piston rod can be clamped in any position

Cylinder with end-position lock

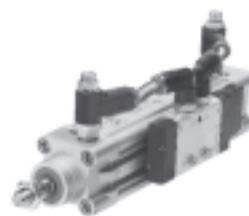
DNC- ... -EL



- Mechanical lock when the end position is reached
- Lock is only automatically released when pressure is supplied to the cylinder
- End-position lock at one or both ends

Cylinder/valve combination

DNC-V1 ... V6



- The cylinder/valve combination is assembled and fitted with tubing ready for connection
- Particularly suitable for decentralised use in larger systems

Tandem cylinder














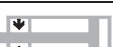




DNCT



- Connection of 2 cylinders with the same piston \varnothing and stroke in series
- Double the thrust and return force in comparison to a standard cylinder

Standard cylinders DNC, to ISO 15552

Key features

Variants from the modular product system		
Symbol	Key features	Description
	S2 Through piston rod	For working at both ends with the same forces in the advance and return stroke, for attaching external stops
	S6 Heat-resistant seals up to max. 120 °C	Temperature resistance
	S10 Constant operation at low piston speeds	Suitable for slow stroke movements at a constant, judder-free speed over the full stroke of the cylinder. Seal contains silicone grease (not free of paint-wetting impairment substances)
	S11 Low friction	The special seals considerably reduce system wear. This corresponds to a considerably lower response pressure. Seal contains silicone grease (not free of paint-wetting impairment substances)
	S20 Through, hollow piston rod	For carrying vacuum, small parts, media, etc.
	K2 Extended male piston rod thread	–
	K3 Female piston rod thread	–
	K5 Special piston rod thread	Metric standard thread to ISO
	K7 Piston rod with external hexagon	Special spanner flats
	K8 Extended piston rod	–
	K10 Smooth anodised aluminium piston rod	Ideal for use in welding environments: – Protection against welding spatter – Small moving loads – Harder surface compared to steel – Long service life
	KP With clamping unit	Integrated clamping unit on the piston rod
 CT-free	CT Free of copper, PTFE and silicone	–
	EL With end-position lock	Positive lock in the end position as drop guard. If there is a drop in pressure, the piston rod is secured in its end position to prevent it from dropping
	Q Square piston rod	Protection against rotation. For correctly oriented feeding
	R3 High corrosion protection	All external cylinder surfaces comply with corrosion resistance class 3 to Festo standard 940 070. The piston rod is made from corrosion and acid resistant steel
	R8 Dust protection using wiper seals	The cylinder is equipped with a hard-chrome plated piston rod and a rigid wiper seal, which protects against dry, dusty media
	TT Low temperature	Temperature resistance



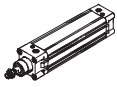
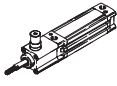
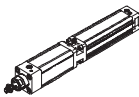

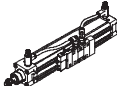
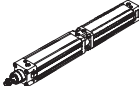
Software tools on CD-ROM:
Configuration of Festo modular
products www.festo.com

Standard cylinders DNC, to ISO 15552

Product overview



ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)
1.2

Function	Version	Type	Piston Ø	Stroke	Position sensing	Protection against rotation	Through/hollow piston rod	Extended male piston rod thread	Female piston rod thread	Special piston rod thread	
			[mm]	[mm]							A
Double-acting	Basic version										
		DNC	32, 40, 50, 63, 80, 100, 125	25, 40, 50, 80, 100, 125, 160, 200, 250, 320, 400, 500	10 ... 2,000	■	■	■	■	■	■
	Standard port pattern, with clamping unit										
		DNC-KP	32, 40, 50, 63, 80, 100, 125	–	10 ... 2,000	■	■	■ S2	■	■	■
		DNCKE	40, 63, 100	–	10 ... 2,000	■	–	–	–	–	–
	Standard port pattern, with end-position lock										
		DNC-...-EL	32, 40, 50, 63, 80, 100	–	10 ... 2,000	■	–	■ S2	■	■	■
	Standard port pattern, cylinder/valve combination										
		DNC-V1 ... V6	32, 40, 50, 63, 80, 100	–	100 ... 2,000	■	■	■	■	■	■
	Standard port pattern, tandem cylinder										
	DNCT	32, 40, 50, 63, 80, 100, 125	–	2 ... 500 3 ... 500	■	–	–	–	–	–	

Standard cylinders DNC, to ISO 15552

Product overview

Type	Special spanner flats	Extended piston rod	Smooth anodised piston rod	Heat-resistant seals up to max. 120 °C	Slow speed (constant motion operation)	Low friction	Free of copper, PTFE and silicone	High corrosion protection	Dust protection	Low temperature	Cylinder/valve combination	→ Page
	K7	K8	K10	S6	S10	S11	CT	R3	R8	TT	V1 ... V6	
Basic version												
DNC	■	■	■	■	■	■	■	■	■	■	-	1 / 1.2-29
Standard port pattern, with clamping unit												
DNC-KP	■	■	-	-	-	-	-	-	-	-	■	1 / 1.2-43
DNCKE	-	-	-	-	-	-	-	-	-	-	-	1 / 5.11-2
Standard port pattern, with end-position lock												
DNC-...-EL	-	■	-	-	-	-	-	-	-	-	-	1 / 1.2-51
Standard port pattern, cylinder/valve combination												
DNC-V1 ... V6	■	■	■	-	■	■	-	-	■	-	■	1 / 1.2-58
Standard port pattern, tandem cylinder												
DNCT	-	-	-	■	-	-	-	-	-	-	-	1 / 5.7-2

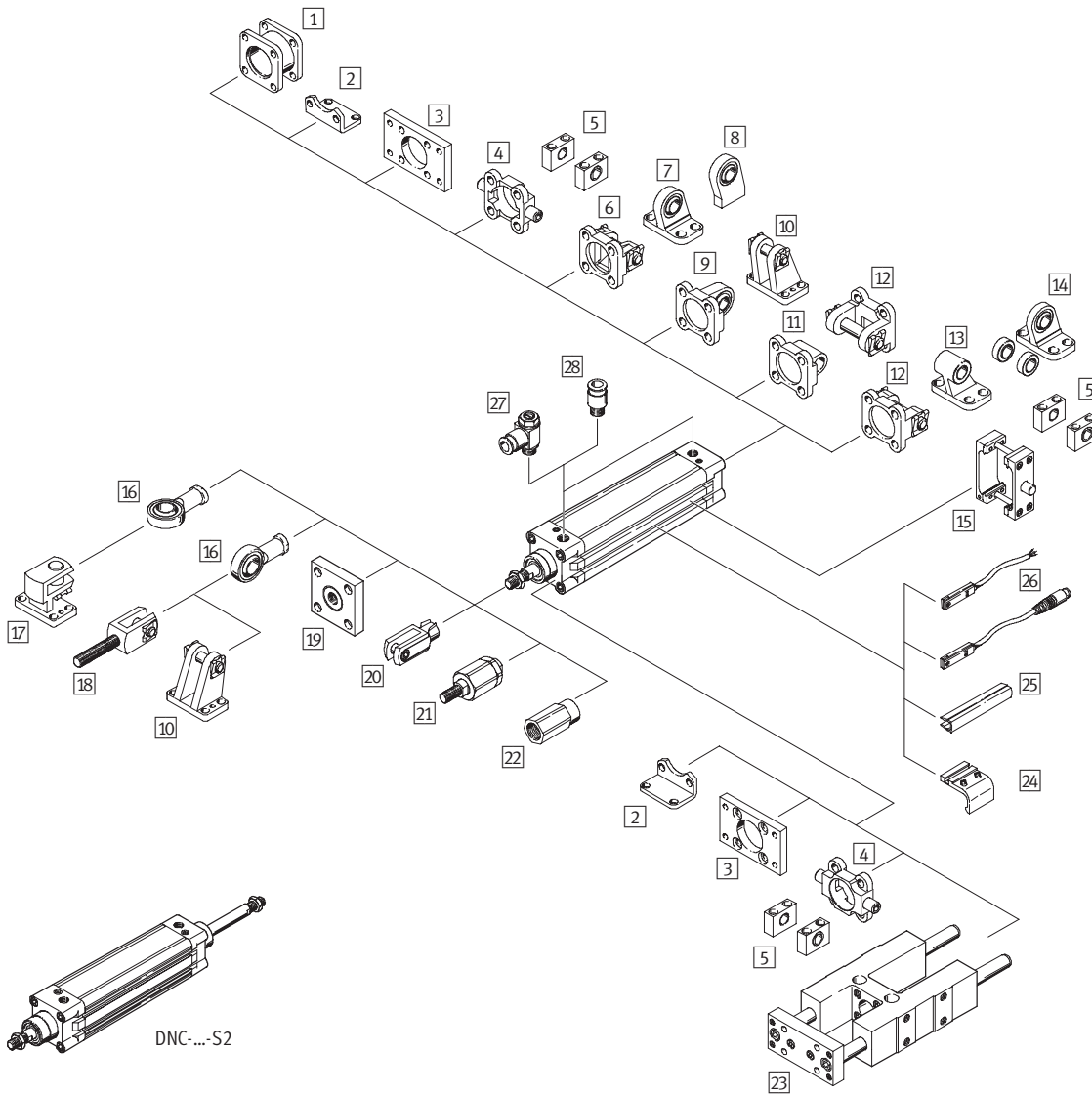
Standard cylinders DNC, to ISO 15552

Peripherals overview



ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2



Mounting attachments and accessories							
	Brief description	DNC				→ Page	
		Basic version	KP	EL	V1 ... V6		
1	Adapter kit DPNC	For connecting two cylinders with identical piston \varnothing to form a multi-position cylinder	■ ¹⁾	■	■	■ ¹⁾	1 / 1.2-67
2	Foot mounting HNC/CRHNC	For bearing or end caps	■	■	■	■	1 / 1.2-68
3	Flange mounting FNC/CRFNG	For bearing or end caps	■	■	■	■	1 / 1.2-69
4	Trunnion flange ZNCF/CRZNG	For bearing or end caps	■	■	■	■	1 / 1.2-70
5	Trunnion support LNZG/CRLNZG	–	■	■	■	■	1 / 1.2-72
6	Swivel flange SNC	For end caps	■ ¹⁾	■ ¹⁾	■	■ ¹⁾	1 / 1.2-73
7	Clevis foot LSNG	With spherical bearing	■ ¹⁾	■ ¹⁾	■	■ ¹⁾	1 / 1.2-76
8	Clevis foot LNSG	Weld-on, with spherical bearing	■ ¹⁾	■ ¹⁾	■	■ ¹⁾	1 / 1.2-76

Standard cylinders DNC, to ISO 15552

Peripherals overview

FESTO

Mounting attachments and accessories							→ Page
	Brief description	DNC					
		Basic version	KP	EL	V1 ... V6		
9	Swivel flange SNCS	With spherical bearing for end caps	■ ¹⁾	■ ¹⁾	■	■ ¹⁾	1 / 1.2-75
10	Clevis foot LBG	–	■ ¹⁾	■	■	■ ¹⁾	1 / 1.2-76
11	Swivel flange SNCL	For end caps	■ ¹⁾	■ ¹⁾	■	■ ¹⁾	1 / 1.2-75
12	Swivel flange SNCB/SNCB-...-R3	For end caps	■ ¹⁾	■ ¹⁾	■	■ ¹⁾	1 / 1.2-74
13	Clevis foot LNG/CRLNG	–	■ ¹⁾	■ ¹⁾	■	■ ¹⁾	1 / 1.2-76
14	Clevis foot LSN	With spherical bearing	■ ¹⁾	■ ¹⁾	■	■ ¹⁾	1 / 1.2-76
15	Trunnion mounting kit ZNCM	For mounting anywhere along the cylinder profile barrel	■	■	■	■	1 / 1.2-71
16	Rod eye SGS/CRSGS	With spherical bearing	■	■	■	■	1 / 1.2-77
17	Right-angle clevis foot LQG	–	■	■	■	■	1 / 1.2-76
18	Rod clevis SGA	With male thread	■	■	■	■	1 / 1.2-77
19	Coupling piece KSG	To compensate for radial deviations	■	■	■	■	1 / 1.2-77
	Coupling piece KSZ	For cylinders with a non-rotating piston rod to compensate for radial deviations	■	■	■	■	1 / 1.2-77
20	Rod clevis SG/CRSG	Permits a swivelling movement of the cylinder in one plane	■	■	■	■	1 / 1.2-77
21	Self-aligning rod coupler FK	To compensate for radial and angular deviations	■	■	■	■	1 / 1.2-77
22	Adapter AD	For fitting a suction cup to a hollow cylinder piston rod	■	–	–	■	1 / 1.2-77
23	Guide unit FENG	For protecting standard cylinders against rotation at high torque loads	■ ²⁾	■ Ø 50 ... 125	–	–	1 / 1.2-78
24	Mounting kit SMB-8-FENG	For proximity sensor SMT-8 when attaching to cylinders in combination with guide unit FENG	■ ²⁾	■ Ø 50 ... 125	■	–	1 / 1.2-78
25	Slot cover ABP-5-S	For protecting the sensor cable and keeping dirt out of the sensor slots	■	■	■	■	1 / 1.2-79
26	Proximity sensor SME/SMT-8	Can be integrated in the cylinder profile barrel	■	■	■	■	1 / 1.2-79
27	One-way flow control valve GRLA	For speed regulation	■	■	■	■	1 / 1.2-80
28	Push-in fitting QS	For connecting compressed air tubing with standard external diameters	■	■	■	■	Volume 3

1) Not with variant S2 or S20

2) For piston Ø 32, 40 mm only with variant R3

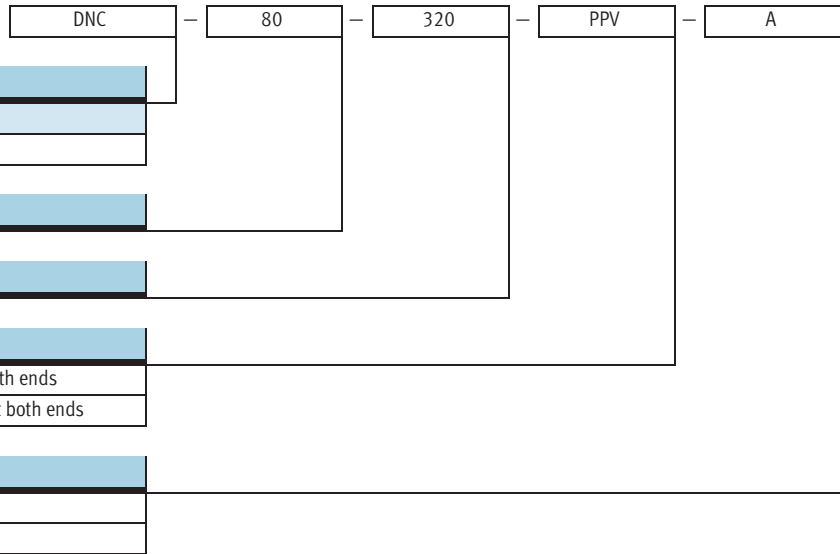
Standard cylinders DNC, to ISO 15552

Type codes



ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2



- - Note

The standard cylinder DNC can be ordered using either a fixed part number and type designation or via the modular product system. The type code listed above only applies to the DNC standard cylinder with fixed part number and type designation. Variants can only be ordered using the modular product system.

Standard cylinders DNC, to ISO 15552

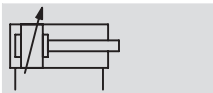
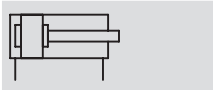


Technical data

Function

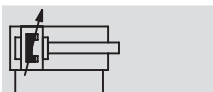
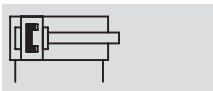
DNC-...

without position sensing



DNC-...-A-...

with position sensing



- Ø - Diameter
32 ... 125 mm

- | - Stroke length
10 ... 2,000 mm

- T - www.festo.com/en/Spare_parts_service

Set of wearing parts
→ 1 / 1.2-42



- Standards-based cylinders to ISO 15552 (corresponds to the withdrawn standards ISO 6431, DIN ISO 6431, VDMA 24 562, NF E 49 003.1 and UNI 10290)



General technical data								
Piston Ø		32	40	50	63	80	100	125
Pneumatic connection		G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{3}{8}$	G $\frac{1}{2}$	G $\frac{1}{2}$
Piston rod thread		M10x1.25	M12x1.25	M16x1.5	M16x1.5	M20x1.5	M20x1.5	M27x2
	K3	M6	M8	M10	M10	M12	M12	M16
	K5	M10	M12	M16	M16	M20	M20	M27
Constructional design		Piston						
		Piston rod						
		Cylinder barrel						
Max. torsional backlash of piston rod [°]	Q	±0.65	±0.6	±0.45	±0.45	±0.45	±0.45	±0.45
Cushioning		Flexible cushioning rings/pads at both ends						
		Pneumatic cushioning, adjustable at both ends						
Cushioning length PPV [mm]		20	20	22	22	32	32	42
Position sensing		Via proximity sensor						
Type of mounting		Via female threads						
		Via accessories						
Mounting orientation		Any						

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

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Standard cylinders DNC, to ISO 15552

Technical data



ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Operating and environmental conditions		32	40	50	63	80	100	125
Piston Ø		32	40	50	63	80	100	125
Operating medium		Filtered compressed air, lubricated or unlubricated						
Operating pressure [bar]		0.6 ... 12						
	R8	1.5 ... 12						
	S11	0.1 ... 12						
	TT	1 ... 12						
Ambient temperature ¹⁾ [°C]		-20 ... +80						
	S6	0 ... 120						
	TT	-40 ... +80						
Corrosion resistance class		2						
CRC ²⁾	R3	3						
Certification		Germanischer Lloyd						

- Note operating range of proximity sensors
- Corrosion resistance class 2 to Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
Corrosion resistance class 3 to Festo standard 940 070
Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface

Forces [N] and impact energy [J]		32	40	50	63	80	100	125
Piston Ø		32	40	50	63	80	100	125
Theoretical force at 6 bar, advancing		483	754	1,178	1,870	3,016	4,712	7,363
	S2/S20	415	633	990	1,682	2,721	4,418	6,881
Theoretical force at 6 bar, retracting		415	633	990	1,682	2,721	4,418	6,881
	S2/S20	415	633	990	1,682	2,721	4,418	6,881
Max. impact energy at the end positions ¹⁾		0.1	0.2	0.2	0.5	0.9	1.2	5

- The permitted impact energy is reduced by approx. 10% for variants K10 and S20

Permissible impact velocity:

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

Maximum permissible load:

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



Note

This data represents the maximum values that can be achieved. Values will vary in practice depending on the size of the effective load. Allowance

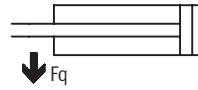
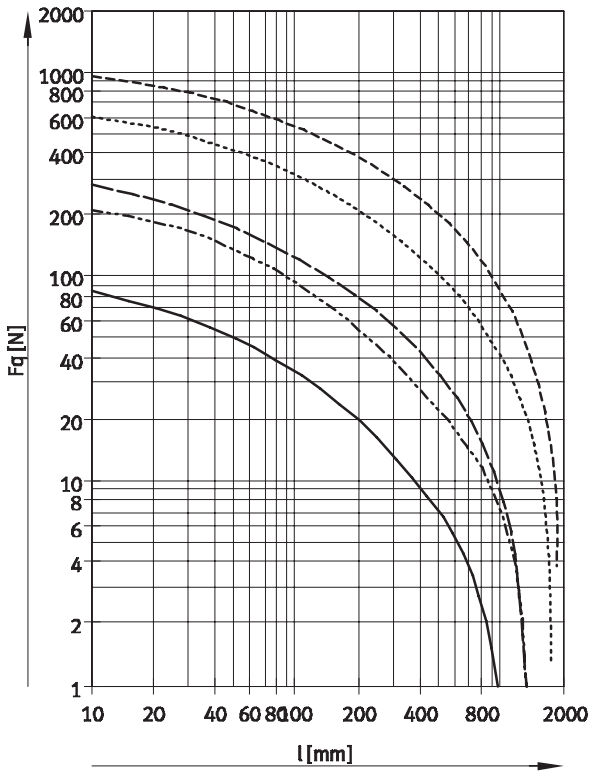
must also be made for the limits of the cushioning capacity of the drive and the permissible impact energy.

Standard cylinders DNC, to ISO 15552

Technical data

Lateral force F_q as a function of stroke length l

Basic version



- Ø 32
- - - Ø 40
- · - · Ø 50/63
- · · · · Ø 80/100
- - - - - Ø 125

Standard cylinders DNC, to ISO 15552

Technical data



ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)
1.2

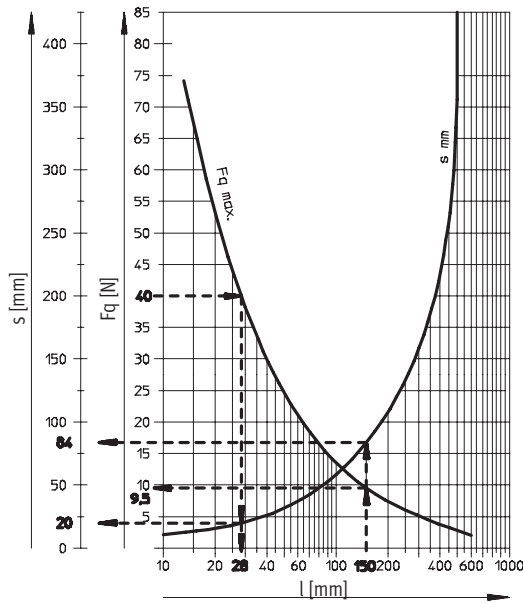
Lateral force F_q as a function of stroke length l and lever arm s

Q – Square piston rod

Ø 32

Max. torque = 800 Nmm

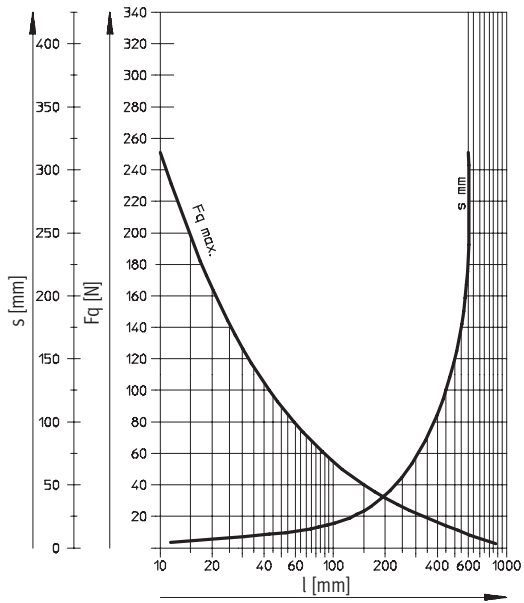
Max. stroke = 300 mm



Ø 40

Max. torque = 1,100 Nmm

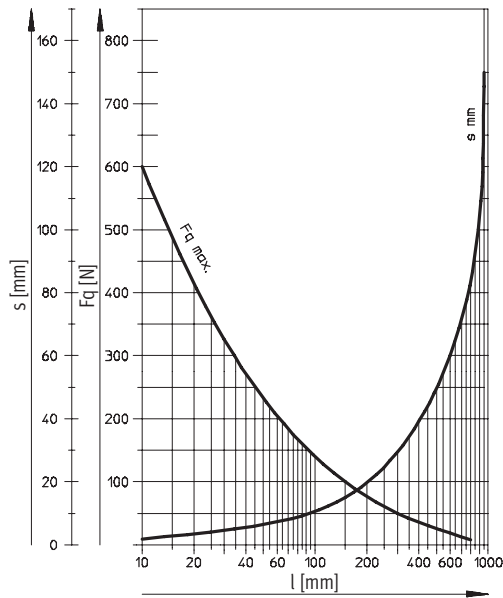
Max. stroke = 400 mm



Ø 50/63

Max. torque = 1,500 Nmm

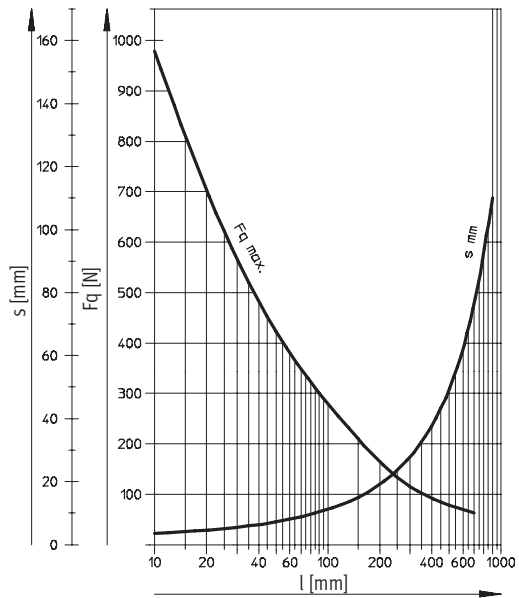
Max. stroke = 500 mm



Ø 80/100

Max. torque = 3,000 Nmm

Max. stroke = 600 mm



Standard cylinders DNC, to ISO 15552

Technical data

FESTO

Weight [g]							
Piston Ø	32	40	50	63	80	100	125
Basic version							
Product weight with 0 mm stroke	517	800	1,260	1,709	2,790	4,653	6,771
Additional weight per 10 mm stroke	30	45	64	73	106	115	168
Moving load with 0 mm stroke	162	307	538	663	1,131	1,544	2,809
Additional load per 10 mm stroke	9	16	25	25	38	38	63
Q – Square piston rod							
Product weight with 0 mm stroke	504	738	1,187	1,632	2,652	4,508	–
Additional weight per 10 mm stroke	29	41	60	68	99	108	–
Moving load with 0 mm stroke	149	244	465	587	994	1,399	–
Additional load per 10 mm stroke	8	11	20	20	31	31	–
S2 – Through piston rod							
Product weight with 0 mm stroke	576	895	1,390	1,917	3,114	5,297	7,529
Additional weight per 10 mm stroke	39	61	89	98	144	153	231
Moving load with 0 mm stroke	170	330	560	711	1,200	1,660	2,925
Additional load per 10 mm stroke	18	32	50	50	76	76	126
K10 – Smooth anodised piston rod							
Product weight with 0 mm stroke	443	655	1,001	1,437	2,302	4,138	5,719
Additional weight per 10 mm stroke	24	35	47	57	81	90	127
Moving load with 0 mm stroke	88	162	279	391	643	1,029	1,757
Additional load per 10 mm stroke	3	6	8	9	13	13	22
S2-K10 – Through, smooth anodised piston rod							
Product weight with 0 mm stroke	514	766	1,181	1,676	2,701	4,821	6,674
Additional weight per 10 mm stroke	27	40	56	65	94	103	148
Moving load with 0 mm stroke	108	201	351	470	787	1,184	2,070
Additional load per 10 mm stroke	6	11	17	17	26	26	43
TT – Low temperature							
Product weight with 0 mm stroke	520	876	1,279	2,112	2,972	5,039	–
Additional weight per 10 mm stroke	31	46	65	73	108	116	–
Moving load with 0 mm stroke	108	204	363	460	802	1,045	–
Additional load per 10 mm stroke	9	16	25	25	39	39	–
TT-S2 – Low temperature with through piston rod							
Product weight with 0 mm stroke	606	1,020	1,546	2,401	3,453	5,617	–
Additional weight per 10 mm stroke	40	62	89	98	147	154	–
Moving load with 0 mm stroke	169	326	573	687	1,199	1,473	–
Additional load per 10 mm stroke	18	32	49	49	77	77	–

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

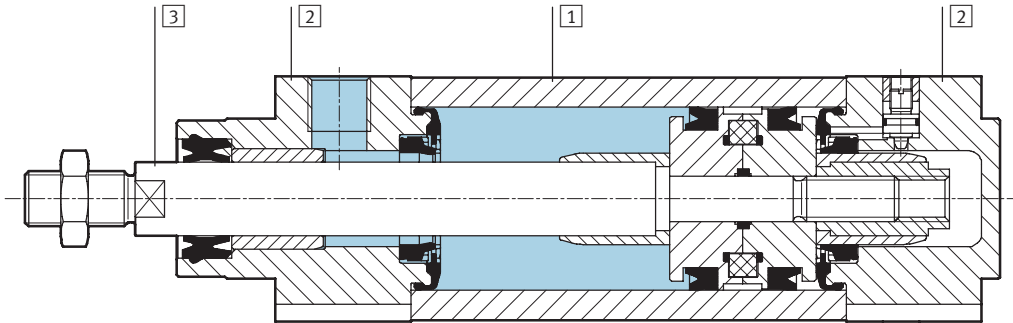
Standard cylinders DNC, to ISO 15552

Technical data



Materials

Sectional view



Standard cylinder	Basic version	CT	K10	R3
1 Cylinder barrel	Wrought aluminium alloy, smooth anodised	Wrought aluminium alloy, anodised	Wrought aluminium alloy, smooth anodised	
2 Bearing and end caps	Die-cast aluminium			
3 Piston rod	High-alloy steel		Wrought aluminium alloy, anodised	Stainless steel, high-alloy
- Seals	Polyurethane, nitrile rubber			

Standard cylinder	R8	S6	S10	S11	TT
1 Cylinder barrel	Wrought aluminium alloy, smooth anodised				
2 Bearing and end caps	Die-cast aluminium				Coated aluminium
3 Piston rod	Tempered steel	High-alloy steel			
- Seals	Polyurethane, nitrile rubber	Fluoro elastomer			Polyurethane

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

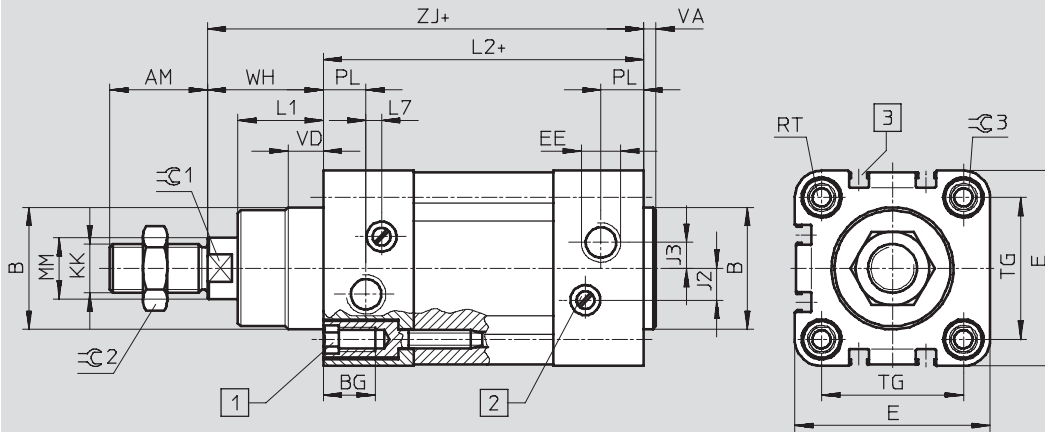
Standard cylinders DNC, to ISO 15552

Technical data



Dimensions – Basic version

Download CAD data → www.festo.com/en/engineering



- 1** Socket head screw with female thread for mounting attachments
 - 2** Regulating screw for adjustable end-position cushioning
 - 3** Slot for proximity sensor SME/SMT-8
- + = plus stroke length

∅ [mm]	AM	B ∅ d11	BG	E	EE	J2		J3	KK	L1	L2
							TT				
32	22	30	16	45	G $\frac{1}{8}$	6		5.2	M10x1.25	18	94
40	24	35	16	54	G $\frac{1}{4}$	8		6	M12x1.25	21.5	105
50	32	40	17	64	G $\frac{1}{4}$	10.4	11	8.5	M16x1.5	28	106
63	32	45	17	75	G $\frac{3}{8}$	12.4		10	M16x1.5	28.5	121
80	40	45	17	93	G $\frac{3}{8}$	12.5		8	M20x1.5	34.7	128
100	40	55	17	110	G $\frac{1}{2}$	12		10	M20x1.5	38.2	138
125	54	60	22	134	G $\frac{1}{2}$	13		8	M27x2	46	160

∅ [mm]	L7	MM ∅	PL	RT	TG	VA	VD	WH	ZJ	∅C1	∅C2	∅C3
32	3.3	12	15.6	M6	32.5	4	10	26	120	10	16	6
40	3.6	16	14	M6	38	4	10.5	30	135	13	18	6
50	5.1	20	14	M8	46.5	4	11.5	37	143	17	24	8
63	6.6	20	17	M8	56.5	4	15	37	158	17	24	8
80	10.5	25	16.4	M10	72	4	15.7	46	174	22	30	6
100	8	25	18.8	M10	89	4	19.2	51	189	22	30	6
125	14	32	18	M12	110	6	20.5	65	225	27	36	8

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

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Standard cylinders DNC, to ISO 15552

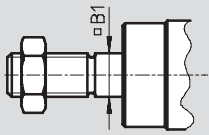
Technical data



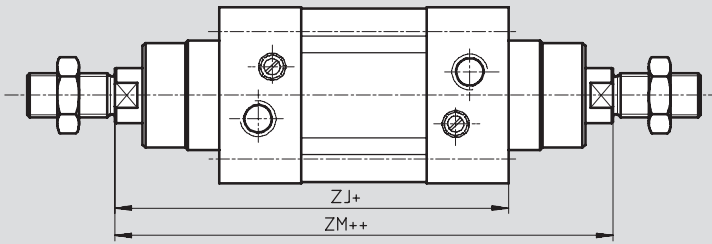
Dimensions – Variants

Download CAD data → www.festo.com/en/engineering

Q – Square piston rod

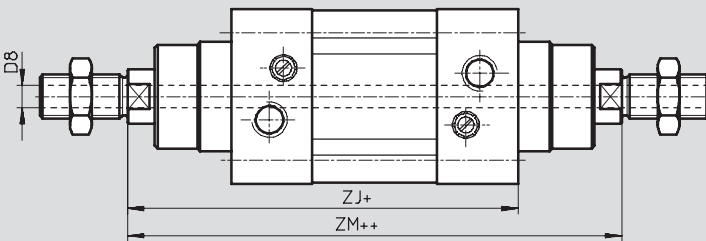


S2 – Through piston rod



+ = plus stroke length
++ = plus 2x stroke length

S20 – Through, hollow piston rod



+ = plus stroke length
++ = plus 2x stroke length

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

∅ [mm]	B1 □	D8 ∅		ZJ	ZM	
			TT			TT
32	10	4.5	4.5	120	148	146.6
40	12	5.5	6	135	167	165.3
50	16	8 ¹⁾	8	143	183	180.3
63	16	8	8	158	199	195.9
80	20	11.7	11.7 ²⁾	174	222	221.1
100	20	11.7	11.7 ²⁾	189	240	239.7
125	–	13	–	225	291	–

1) Internal narrowing to ∅ 5.5 mm
2) Internal narrowing to ∅ 10.2 mm

Standard cylinders DNC, to ISO 15552

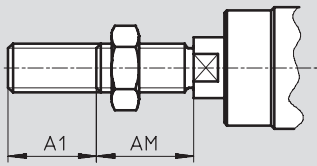
Technical data



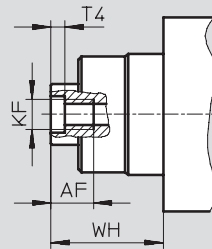
Dimensions – Variants

Download CAD data → www.festo.com/en/engineering

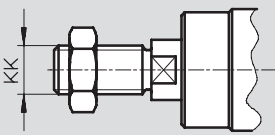
K2 – Extended male piston rod thread



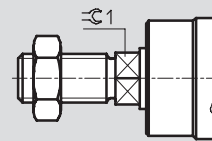
K3 – Female piston rod thread



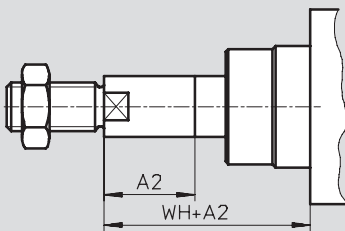
K5 – Special piston rod thread



K7 – Piston rod with external hexagon



K8 – Extended piston rod



- - Note

In combination with variant S2/S20, the piston rod is extended at one

end. In combination with variant Q, the square piston rod is extended.

∅ [mm]	A1 max.	A2 max.	AF	AM	KF	KK		T4	WH	≈1
						Basic thread	Special thread ¹⁾			
32	35	500	12	22	M6	M10x1.25	M10	2.6	26	10
40	35	500	12	24	M8	M12x1.25	M12	3.3	30	13
50	70	500	16	32	M10	M16x1.5	M16	4.7	37	17
63	70	500	16	32	M10	M16x1.5	M16	4.7	37	17
80	70	500	20	40	M12	M20x1.5	M20	6.1	46	22
100	70	500	20	40	M12	M20x1.5	M20	6.1	51	22
125	70	500	32	54	M16	M27x2	M27	8	65	27

1) The special threads are only available as male threads. The mounting nut on the piston rod thread is included in the scope of delivery

Standard cylinders DNC, to ISO 15552



Technical data

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2


Ordering data								
Type	Piston Ø [mm]	Stroke [mm]	Without position sensing		With position sensing			
			Part No.	Type ¹⁾	Part No.	Type ¹⁾		
	32	25	163 319	DNC-32-25-PPV	163 305	DNC-32-25-PPV-A		
		40	163 320	DNC-32-40-PPV	163 306	DNC-32-40-PPV-A		
		50	163 321	DNC-32-50-PPV	163 307	DNC-32-50-PPV-A		
		80	163 322	DNC-32-80-PPV	163 308	DNC-32-80-PPV-A		
		100	163 323	DNC-32-100-PPV	163 309	DNC-32-100-PPV-A		
		125	163 324	DNC-32-125-PPV	163 310	DNC-32-125-PPV-A		
		160	163 325	DNC-32-160-PPV	163 311	DNC-32-160-PPV-A		
		200	163 326	DNC-32-200-PPV	163 312	DNC-32-200-PPV-A		
		250	163 327	DNC-32-250-PPV	163 313	DNC-32-250-PPV-A		
		320	163 328	DNC-32-320-PPV	163 314	DNC-32-320-PPV-A		
		400	163 329	DNC-32-400-PPV	163 315	DNC-32-400-PPV-A		
		500	163 330	DNC-32-500-PPV	163 316	DNC-32-500-PPV-A		
		40	40	25	163 351	DNC-40-25-PPV	163 337	DNC-40-25-PPV-A
				40	163 352	DNC-40-40-PPV	163 338	DNC-40-40-PPV-A
50	163 353			DNC-40-50-PPV	163 339	DNC-40-50-PPV-A		
80	163 354			DNC-40-80-PPV	163 340	DNC-40-80-PPV-A		
100	163 355			DNC-40-100-PPV	163 341	DNC-40-100-PPV-A		
125	163 356			DNC-40-125-PPV	163 342	DNC-40-125-PPV-A		
160	163 357			DNC-40-160-PPV	163 343	DNC-40-160-PPV-A		
200	163 358			DNC-40-200-PPV	163 344	DNC-40-200-PPV-A		
250	163 359			DNC-40-250-PPV	163 345	DNC-40-250-PPV-A		
320	163 360			DNC-40-320-PPV	163 346	DNC-40-320-PPV-A		
400	163 361			DNC-40-400-PPV	163 347	DNC-40-400-PPV-A		
500	163 362			DNC-40-500-PPV	163 348	DNC-40-500-PPV-A		
50	50			25	163 383	DNC-50-25-PPV	163 369	DNC-50-25-PPV-A
				40	163 384	DNC-50-40-PPV	163 370	DNC-50-40-PPV-A
		50	163 385	DNC-50-50-PPV	163 371	DNC-50-50-PPV-A		
		80	163 386	DNC-50-80-PPV	163 372	DNC-50-80-PPV-A		
		100	163 387	DNC-50-100-PPV	163 373	DNC-50-100-PPV-A		
		125	163 388	DNC-50-125-PPV	163 374	DNC-50-125-PPV-A		
		160	163 389	DNC-50-160-PPV	163 375	DNC-50-160-PPV-A		
		200	163 390	DNC-50-200-PPV	163 376	DNC-50-200-PPV-A		
		250	163 391	DNC-50-250-PPV	163 377	DNC-50-250-PPV-A		
		320	163 392	DNC-50-320-PPV	163 378	DNC-50-320-PPV-A		
		400	163 393	DNC-50-400-PPV	163 379	DNC-50-400-PPV-A		
		500	163 394	DNC-50-500-PPV	163 380	DNC-50-500-PPV-A		
		63	63	25	163 415	DNC-63-25-PPV	163 401	DNC-63-25-PPV-A
				40	163 416	DNC-63-40-PPV	163 402	DNC-63-40-PPV-A
50	163 417			DNC-63-50-PPV	163 403	DNC-63-50-PPV-A		
80	163 418			DNC-63-80-PPV	163 404	DNC-63-80-PPV-A		
100	163 419			DNC-63-100-PPV	163 405	DNC-63-100-PPV-A		
125	163 420			DNC-63-125-PPV	163 406	DNC-63-125-PPV-A		
160	163 421			DNC-63-160-PPV	163 407	DNC-63-160-PPV-A		
200	163 422			DNC-63-200-PPV	163 408	DNC-63-200-PPV-A		
250	163 423			DNC-63-250-PPV	163 409	DNC-63-250-PPV-A		
320	163 424			DNC-63-320-PPV	163 410	DNC-63-320-PPV-A		
400	163 425			DNC-63-400-PPV	163 411	DNC-63-400-PPV-A		
500	163 426			DNC-63-500-PPV	163 412	DNC-63-500-PPV-A		


1) The mounting nut on the piston rod thread is included in the scope of delivery

Standard cylinders DNC, to ISO 15552

Technical data

FESTO

Ordering data						
Type	Piston Ø [mm]	Stroke [mm]	Without position sensing		With position sensing	
			Part No.	Type ¹⁾	Part No.	Type ¹⁾
	80	25	163 447	DNC-80-25-PPV	163 433	DNC-80-25-PPV-A
		40	163 448	DNC-80-40-PPV	163 434	DNC-80-40-PPV-A
		50	163 449	DNC-80-50-PPV	163 435	DNC-80-50-PPV-A
		80	163 450	DNC-80-80-PPV	163 436	DNC-80-80-PPV-A
		100	163 451	DNC-80-100-PPV	163 437	DNC-80-100-PPV-A
		125	163 452	DNC-80-125-PPV	163 438	DNC-80-125-PPV-A
		160	163 453	DNC-80-160-PPV	163 439	DNC-80-160-PPV-A
		200	163 454	DNC-80-200-PPV	163 440	DNC-80-200-PPV-A
		250	163 455	DNC-80-250-PPV	163 441	DNC-80-250-PPV-A
		320	163 456	DNC-80-320-PPV	163 442	DNC-80-320-PPV-A
		400	163 457	DNC-80-400-PPV	163 443	DNC-80-400-PPV-A
		500	163 458	DNC-80-500-PPV	163 444	DNC-80-500-PPV-A
	100	25	163 479	DNC-100-25-PPV	163 465	DNC-100-25-PPV-A
		40	163 480	DNC-100-40-PPV	163 466	DNC-100-40-PPV-A
		50	163 481	DNC-100-50-PPV	163 467	DNC-100-50-PPV-A
		80	163 482	DNC-100-80-PPV	163 468	DNC-100-80-PPV-A
		100	163 483	DNC-100-100-PPV	163 469	DNC-100-100-PPV-A
		125	163 484	DNC-100-125-PPV	163 470	DNC-100-125-PPV-A
		160	163 485	DNC-100-160-PPV	163 471	DNC-100-160-PPV-A
		200	163 486	DNC-100-200-PPV	163 472	DNC-100-200-PPV-A
		250	163 487	DNC-100-250-PPV	163 473	DNC-100-250-PPV-A
		320	163 488	DNC-100-320-PPV	163 474	DNC-100-320-PPV-A
		400	163 489	DNC-100-400-PPV	163 475	DNC-100-400-PPV-A
		500	163 490	DNC-100-500-PPV	163 476	DNC-100-500-PPV-A
	125	25	163 511	DNC-125-25-PPV	163 497	DNC-125-25-PPV-A
		40	163 512	DNC-125-40-PPV	163 498	DNC-125-40-PPV-A
		50	163 513	DNC-125-50-PPV	163 499	DNC-125-50-PPV-A
		80	163 514	DNC-125-80-PPV	163 500	DNC-125-80-PPV-A
		100	163 515	DNC-125-100-PPV	163 501	DNC-125-100-PPV-A
		125	163 516	DNC-125-125-PPV	163 502	DNC-125-125-PPV-A
		160	163 517	DNC-125-160-PPV	163 503	DNC-125-160-PPV-A
		200	163 518	DNC-125-200-PPV	163 504	DNC-125-200-PPV-A
		250	163 519	DNC-125-250-PPV	163 505	DNC-125-250-PPV-A
		320	163 520	DNC-125-320-PPV	163 506	DNC-125-320-PPV-A
		400	163 521	DNC-125-400-PPV	163 507	DNC-125-400-PPV-A
		500	163 522	DNC-125-500-PPV	163 508	DNC-125-500-PPV-A

Ordering data – Variable stroke						
Type	Piston Ø [mm]	Stroke [mm]	Without position sensing		With position sensing	
			Part No.	Type ¹⁾	Part No.	Type ¹⁾
	32	10 ... 2,000	163 318	DNC-32-...-PPV	163 304	DNC-32-...-PPV-A
	40	10 ... 2,000	163 350	DNC-40-...-PPV	163 336	DNC-40-...-PPV-A
	50	10 ... 2,000	163 382	DNC-50-...-PPV	163 368	DNC-50-...-PPV-A
	63	10 ... 2,000	163 414	DNC-63-...-PPV	163 400	DNC-63-...-PPV-A
	80	10 ... 2,000	163 446	DNC-80-...-PPV	163 432	DNC-80-...-PPV-A
	100	10 ... 2,000	163 478	DNC-100-...-PPV	163 464	DNC-100-...-PPV-A
	125	10 ... 2,000	163 510	DNC-125-...-PPV	163 496	DNC-125-...-PPV-A

1) The mounting nut on the piston rod thread is included in the scope of delivery

Standard cylinders DNC, to ISO 15552

Ordering data – Modular products



ISO standard cylinders ISO 15552 (ISO 6431 and VDMA 24562)

1.2

M Mandatory data				O Options					
Module No.	Function	Stroke	Position sensing	Type of piston rod	Female thread				
	Piston Ø	Cushioning	Protection against rotation	Male thread extended	Special thread				
163 302	DNC	32	A	S2	K3	...K5			
163 334		40	Q	S20					
163 366		50							
163 398		63							
163 430		80							
163 462		100							
163 494		125							
Order example									
163 430	DNC	- 80	- 550	- PPV	- A	- Q	- S2	- K3	- ...K5

Ordering table											
Size	32	40	50	63	80	100	125	Condi- tions	Code	Enter code	
M Module No.	163 302	163 334	163 366	163 398	163 430	163 462	163 494				
Function	Standard cylinder, double-acting, based on ISO 15552								DNC	DNC	
Piston Ø [mm]	32	40	50	63	80	100	125		-...		
Stroke [mm]	10 ... 2,000									-...	
Cushioning	Flexible cushioning rings/pads at both ends								1	-P	
	Pneumatic cushioning, adjustable at both ends								2	-PPV	
O Position sensing	Via proximity sensor									-A	
Protection against rotation	Square piston rod						-	3	-Q		
Type of piston rod	Through piston rod							4	-S2		
	Through, hollow piston rod							5	-S20		
Male thread extended [mm]	Extended male piston rod thread										
	1 ... 35		1 ... 70						6	-...K2	
Female thread	Female piston rod thread										
	(M6)	(M8)	(M10)	(M10)	(M12)	(M12)	(M16)	7	-K3		
Special thread	Special piston rod thread										
	M10	M12	M16	M16x2	M20	M20	M27	8	-...K5		

- 1 P Not with CT
- 2 PPV Not with S10, S11
- 3 Q Max. stroke: 10 ... 1,500 mm.
In combination with S2: Square piston rod at bearing cap end only.
Not with S20, K7, K10, S10, S11, CT, R8
- 4 S2 In combination with K2: Thread extended at both ends.
In combination with K3: Female thread at both ends.
In combination with K5: Special thread at both ends.
In combination with K8: Piston rod extended at bearing cap end only.
Not with S20, K7, S10, S11
- 5 S20 Max. stroke: 850 mm.
In combination with K8: Piston rod extended at both ends.
Not with K2, K3, K5, K10, S10, S11, R8
- 6 K2 Not with K3, K10
- 7 K3 With K5: On request.
Not with K7
- 8 K5 Not with K10

Transfer order code

DNC - - - - - - - - - -

Standard cylinders DNC, to ISO 15552

Ordering data – Modular products



Options									
Special spanner flats		Improved running performance		Low temperature		Running characteristics		Corrosion protection	
Piston rod extended		Temperature resistance		Constant motion operation		Special materials		Wiper seal	
K7	...K8	K10	S6	TT	S10	S11	CT	R3	R8
-	100K8	-	-	-	-	-	-	-	-

Ordering table										
Size	32	40	50	63	80	100	125	Condi- tions	Code	Enter code
Special spanner flats	Piston rod with external hexagon							9	-K7	
Piston rod extended	Extended piston rod								-...K8	
[mm]	1 ... 500									
Improved running performance	Smooth anodised aluminium coated piston rod						-	10	-K10	
Temperature resistance	Heat-resistant seals up to max. 120 °C							11	-S6	
[°C]	-40 ... +80						-	12	-TT	
Low temperature	-40 ... +80						-	13	-S10	
Constant motion operation	Slow speed (constant motion operation at low piston speeds)						-	14	-S11	
Running characteristics	Low friction							15	-CT	
Special materials	Free of copper, PTFE and silicone							15	-R3	
Corrosion protection	High corrosion protection							15	-R8	
Wiper seal	Dust protection									

- 9 **K7** Not with Q, S2, K10
- 10 **K10** Max. stroke: 1,000 mm.
Not with R3, R8
- 11 **S6** Not with S10, S11, CT, R8
- 12 **TT** Not with P, Q, K7, K10, S6, S10, S11, CT, R8

- 13 **S10** Max. stroke: 500 mm; further strokes on request.
Not with S11, CT, R3, R8
- 14 **S11** Max. stroke: 500 mm; further strokes on request.
Not with CT, R3, R8
- 15 **CT, R3** Not with R8

Transfer order code

- [] - [] - [] - [] - [] - [] - [] - [] - [] - []

Standard cylinders DNC, to ISO 15552

Ordering data



Wearing parts kits			
	Part No.	Type	
Piston Ø	Basic version		S6 – Heat-resistant seals up to max. 120 °C
32	369 195	DNC-32-...-PPV-(A)	384 214 DNC-32-...-PPV-(A)-S6
40	369 196	DNC-40-...-PPV-(A)	384 215 DNC-40-...-PPV-(A)-S6
50	369 197	DNC-50-...-PPV-(A)	384 216 DNC-50-...-PPV-(A)-S6
63	369 198	DNC-63-...-PPV-(A)	384 217 DNC-63-...-PPV-(A)-S6
80	369 199	DNC-80-...-PPV-(A)	384 218 DNC-80-...-PPV-(A)-S6
100	369 200	DNC-100-...-PPV-(A)	384 219 DNC-100-...-PPV-(A)-S6
125	369 201	DNC-125-...-PPV-(A)	384 220 DNC-125-...-PPV-(A)-S6

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Standard cylinders DNC-KP, standard port pattern, with clamping unit

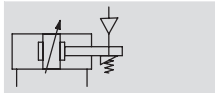
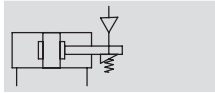
FESTO

Technical data

Function

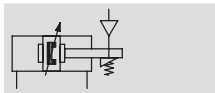
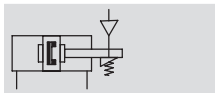
DNC-...-KP

without position sensing



DNC-...-A-...-KP

with position sensing



⌀ - Diameter
32 ... 125 mm

— | — Stroke length
10 ... 2,000 mm

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Spare_parts_service

Set of wearing parts
→ 1 / 1.2-50



⋮ - Note

Additional measures are required for use in safety-related control systems; in Europe, for example, the standards listed under the EC Machinery Directive must be observed. Without

additional measures in accordance with statutory minimum requirements, the product is not suitable for use in safety-related sections of control systems.

General technical data

Piston ⌀		32	40	50	63	80	100	125
Pneumatic connection	Cylinder	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
	KP	M5	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8
Piston rod thread		M10x1.25	M12x1.25	M16x1.5	M16x1.5	M20x1.5	M20x1.5	M27x2
	K3	M6	M8	M10	M10	M12	M12	M16
	K5	M10	M12	M16	M16	M20	M20	M27
Max. axial backlash with clamped piston rod without load	[mm]	0.5			0.7			1
	Constructional design	Piston Piston rod Cylinder barrel Clamping unit						
Cushioning		Flexible cushioning rings/pads at both ends						
		Pneumatic cushioning, adjustable at both ends						
Cushioning length PPV	[mm]	20	20	22	22	32	32	42
Position sensing		Via proximity sensor						
Type of mounting		Via female threads						
		Via accessories						
Mounting orientation		Any						
Clamping type with effective direction of action		From both sides						

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

Operating and environmental conditions

Operating medium	Filtered compressed air, lubricated or unlubricated
Operating pressure [bar]	1.5 ... 10
Min. release pressure [bar]	3
Ambient temperature ¹⁾ [°C]	-10 ... +80
Corrosion resistance class CRC ²⁾	2
Certification	Germanischer Lloyd

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

Standard cylinders DNC-KP, standard port pattern, with clamping unit

Technical data



Impact energy [J]							
Piston Ø	32	40	50	63	80	100	125
Max. impact energy at the end positions	0.1	0.2	0.2	0.5	0.9	1.2	5

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

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

Note

This data represents the maximum values that can be achieved. Values will vary in practice depending on the size of the effective load. Allowance

must also be made for the limits of the cushioning capacity of the drive and the permissible impact energy.

Forces [N]							
Piston Ø	32	40	50	63	80	100	125
Theoretical force at 6 bar, advancing	483	754	1,178	1,870	3,016	4,712	7,363
	S2 415	633	990	1,682	2,721	4,418	6,881
Theoretical force at 6 bar, retracting	415	633	990	1,682	2,721	4,418	6,881
	S2 415	633	990	1,682	2,721	4,418	6,881
Static holding force	600	1,000	1,400	2,000	5,000	5,000	7,500

Note

The specified holding force refers to a static load. If this value is exceeded, slippage may occur. Dynamic forces occurring during operation must not

exceed the static holding force. The clamping unit is not backlash-free in the clamped condition if varying loads are applied to the piston rod.

Activation:

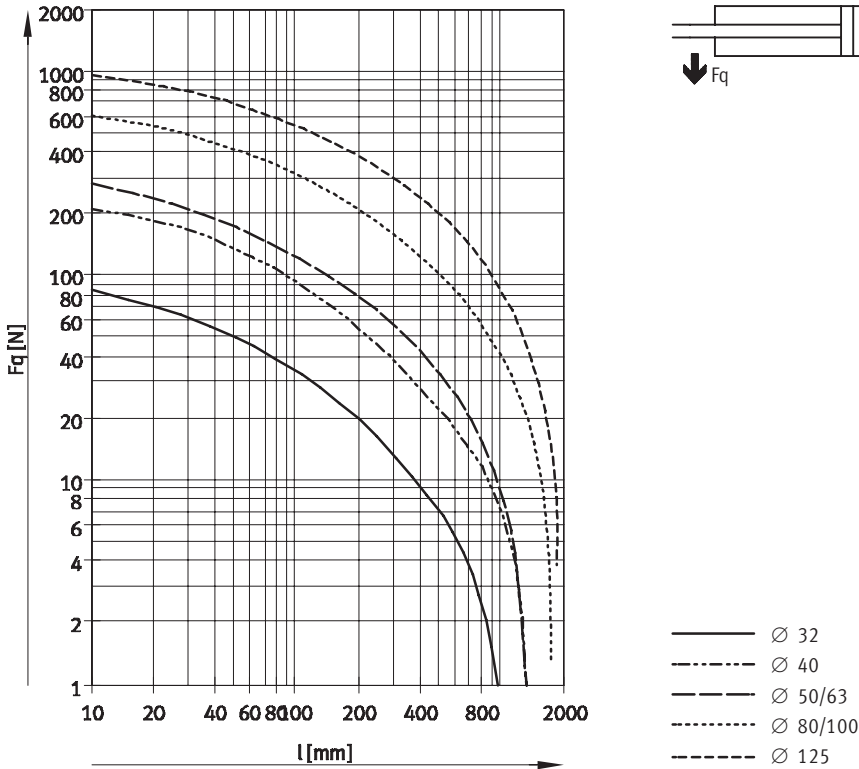
The clamping unit may only be released if the forces at the piston have reached equilibrium. Otherwise, there is a risk of accidents due to

sudden movement of the piston rod. Blocking off the air supply at both ends (e.g. with a 5/3-way valve) does not provide any safety.

Standard cylinders DNC-KP, standard port pattern, with clamping unit

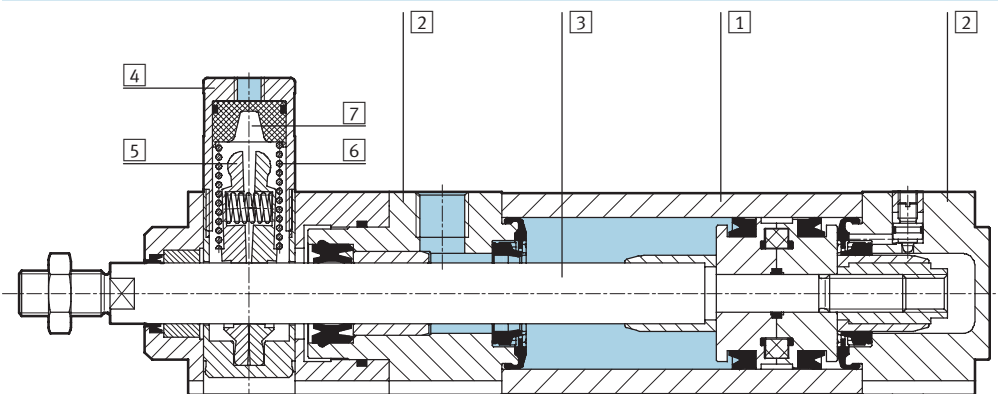
Technical data

Max. lateral force F_q as a function of stroke length l



Materials

Sectional view



Standard cylinder

1	Cylinder barrel	Wrought aluminium alloy, smooth anodised
2	Bearing and end caps	Die-cast aluminium
3	Piston rod	High-alloy steel
4	Housing, clamping unit	Wrought aluminium alloy, anodised
5	Clamping jaws	Brass
6	Spring	Spring steel
7	Piston	Polyacetate
-	Seals	Polyurethane, nitrile rubber

Standard cylinders DNC-KP, standard port pattern, with clamping unit

Technical data

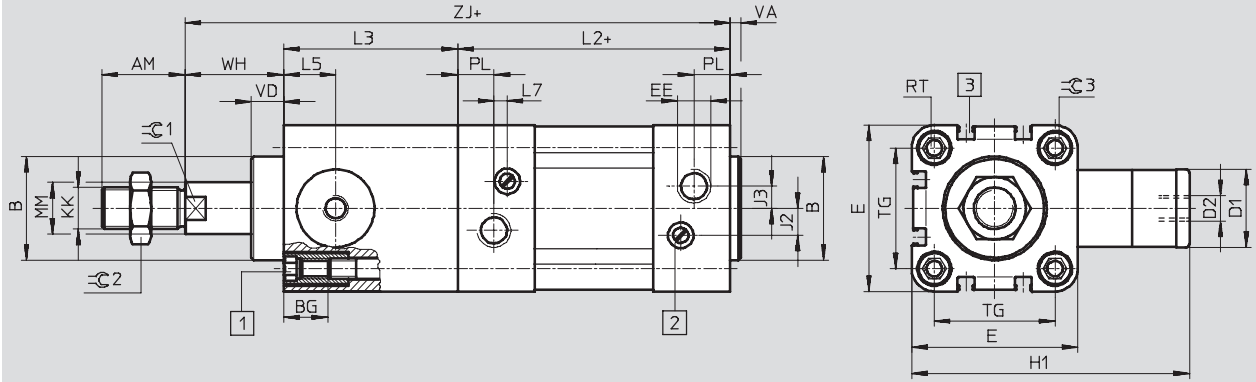


ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Dimensions – Basic version

Download CAD data → www.festo.com/en/engineering



- 1 Socket head screw with female thread for mounting attachments
 - 2 Regulating screw for adjustable end-position cushioning
 - 3 Slot for proximity sensor SME/SMT-8
- + = plus stroke length

∅	AM	B	BG	D1	D2	E	EE	H1	J2	J3	KK	L2	L3
[mm]		∅ d11		∅ f9									
32	22	30	16	20	M5	45	G $\frac{1}{8}$	67	6	5.2	M10x1.25	94	45
40	24	35	16	24	G $\frac{1}{8}$	54	G $\frac{1}{4}$	88	8	6	M12x1.25	105	53
50	32	40	17	30	G $\frac{1}{8}$	64	G $\frac{1}{4}$	107	10.4	8.5	M16x1.5	106	67
63	32	45	17	38	G $\frac{1}{8}$	75	G $\frac{3}{8}$	123	12.4	10	M16x1.5	121	76
80	40	45	17	48	G $\frac{1}{8}$	93	G $\frac{3}{8}$	165.5	12.5	8	M20x1.5	128	95
100	40	55	17	48	G $\frac{1}{8}$	110	G $\frac{1}{2}$	174	12	10	M20x1.5	138	98
125	54	60	22	65	G $\frac{1}{8}$	134	G $\frac{1}{2}$	207	13	8	M27x2	160	125

∅	L5	L7	MM	PL	RT	TG	VA	VD	WH	ZJ	∅C1	∅C2	∅C3
[mm]			∅										
32	14	3.3	12	15.6	M6	32.5	4	11.5	26	165	10	16	6
40	16	3.6	16	14	M6	38	4	11.5	30	188	13	18	6
50	20	5.1	20	14	M8	46.5	4	11	37	210	17	24	8
63	24	6.6	20	17	M8	56.5	4	11	37	234	17	24	8
80	31.5	10.5	25	16.4	M10	72	4	12.5	46	269	22	30	6
100	31	8	25	18.8	M10	89	4	12	51	287	22	30	6
125	42	14	32	18	M12	110	6	27.5	65	350	27	36	8

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

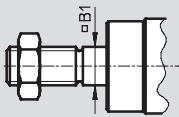
- Note
The dimensions for the cylinder/
valve combination are on page
→ 1 / 1.2-62


Standard cylinders DNC-KP, standard port pattern, with clamping unit

Technical data

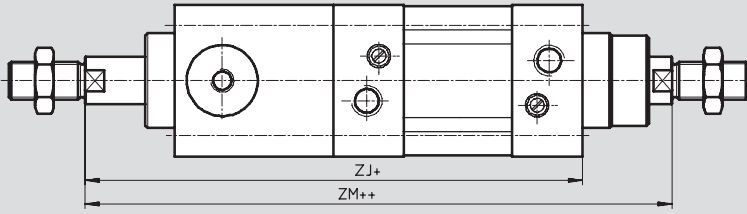
Dimensions – Variants Download CAD data → www.festo.com/en/engineering

Q – Square piston rod




-  - Note
Clamping unit and variant Q only in combination with S2

S2 – Through piston rod

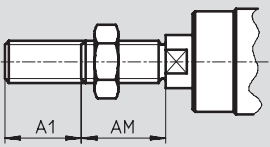


+ = plus stroke length
++ = plus 2x stroke length

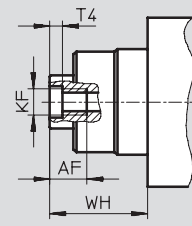
-  - Note

The thread types at both piston rod ends are identical. In combination with variant Q, the left-hand piston rod is round, the right-hand piston rod square. The clamping unit is mounted on the left-hand, round piston rod.

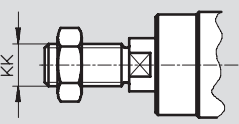
K2 – Extended male piston rod thread



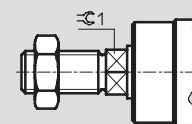
K3 – Female piston rod thread



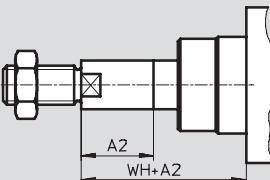
K5 – Special piston rod thread




K7 – Piston rod with external hexagon



K8 – Extended piston rod



-  - Note

In combination with variant S2, the piston rod is extended at one end. The clamping unit is mounted on the side of the piston rod that is not extended. If variant Q is also required, the extension will only be added to the square piston rod.

∅ [mm]	A1 max.	A2 max.	AF	AM	B1 □	KF	KK		T4	WH	ZJ	ZM	≈1
							Basic thread	Special thread ¹⁾					
32	35	500	12	22	10	M6	M10x1.25	M10	2.6	26	165	193	10
40	35	500	12	24	12	M8	M12x1.25	M12	3.3	30	188	220	13
50	70	500	16	32	16	M10	M16x1.5	M16	4.7	37	210	250	17
63	70	500	16	32	16	M10	M16x1.5	M16	4.7	37	234	275	17
80	70	500	20	40	20	M12	M20x1.5	M20	6.1	46	269	317	22
100	70	500	20	40	20	M12	M20x1.5	M20	6.1	51	287	338	22
125	70	500	32	54	-	M16	M27x2	M27	8	65	350	416	27

1) The special threads are only available as male threads. The mounting nut on the piston rod thread is included in the scope of delivery

Standard cylinders DNC-KP, standard port pattern, with clamping unit

Ordering data – Modular products



ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Mandatory data				Options			
Module No.	Function	Piston Ø	Stroke	Cushioning	Position sensing	Protection against rotation	Type of piston rod
163 302	DNC	32	10 ... 2,000	P PPV	A	Q	S2
163 334							
163 366							
163 398							
163 430							
163 462							
163 494							
Order example							
163 430	DNC	- 80	- 550	- PPV	- A	- Q	- S2

Ordering table											
Size	32	40	50	63	80	100	125	Condi- tions	Code	Enter code	
M Module No.	163 302	163 334	163 366	163 398	163 430	163 462	163 494				
Function	Standard cylinder, double-acting, standard port pattern, with clamping unit								DNC	DNC	
Piston Ø [mm]	32	40	50	63	80	100	125		-...		
Stroke [mm]	10 ... 2,000									-...	
Cushioning	Flexible cushioning rings/pads at both ends									-P	
	Pneumatic cushioning, adjustable at both ends									-PPV	
O Position sensing	Via proximity sensor									-A	
Protection against rotation	Square piston rod							-	1	-Q	
↓ Type of piston rod	Through piston rod								2	-S2	

1 Q Max. stroke: 10 ... 1,500 mm
In combination with S2: Square piston rod at bearing cap end only
In combination with KP: Only supplied with S2
Not with K7

2 S2 In combination with K2: Thread extended at both ends
In combination with K3: Female thread at both ends
In combination with K5: Special thread at both ends
In combination with K8: Piston rod extended at bearing cap end only
In combination with KP: Clamping unit at end cap
Not with K7

Transfer order code

- - - - - -

Standard cylinders DNC-KP, standard port pattern, with clamping unit



Ordering data – Modular products

Options					M	O
Male thread extended	Female thread	Special thread	Special spanner flats	Piston rod extended	Clamping unit	Cylinder/valve combination
...K2	K3	...K5	K7	...K8	KP	V1 V2 V3 V4 V5 V6
-	- K3 -	-	-	- 100K8 -	- KP -	-

Ordering table											
Size	32	40	50	63	80	100	125	Condi- tions	Code	Enter code	
Male thread extended	Extended male piston rod thread										
[O] [mm]	1 ... 35		1 ... 70					[3]	-...K2		
Female thread	Female piston rod thread										
	(M6)	(M8)	(M10)	(M10)	(M12)	(M12)	(M16)	[4]	-K3		
Special thread	Special piston rod thread										
	M10	M12	M16	M16	M20	M20	M27		-...K5		
Special spanner flats	Piston rod with external hexagon									-K7	
Piston rod extended	Extended piston rod										
[mm]	1 ... 500									-...K8	
[M] Clamping unit	Integrated								[5]	-KP	-KP
[O] Cylinder/valve combination	Single solenoid valve, fitted on right, piston rod retracted when unactuated						-	[6]	-V1		
	Single solenoid valve, fitted on right, piston rod advanced when unactuated						-	[6]	-V2		
	Double solenoid valve, fitted on right						-	[6]	-V3		
	Single solenoid valve, fitted on left, piston rod retracted when unactuated						-	[6]	-V4		
	Single solenoid valve, fitted on left, piston rod advanced when unactuated						-	[6]	-V5		
	Double solenoid valve, fitted on left						-	[6]	-V6		

[3] **K2** Not with K3
 [4] **K3** With K5: On request
 Not with K7

[5] **KP** Without S2: Position of the clamping unit at the bearing cap
 [6] **V...** Min. stroke: 100 mm

ISO standard cylinders
 ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Transfer order code

- [] - [] - [] - [] - [] - **KP** - []

Standard cylinders DNC-KP, standard port pattern, with clamping unit



Ordering data

Wearing parts kits	
	Part No. Type
Piston Ø	Basic version
32	369 195 DNC-32-...-PPV-(A)
40	369 196 DNC-40-...-PPV-(A)
50	369 197 DNC-50-...-PPV-(A)
63	369 198 DNC-63-...-PPV-(A)
80	369 199 DNC-80-...-PPV-(A)
100	369 200 DNC-100-...-PPV-(A)
125	369 201 DNC-125-...-PPV-(A)

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

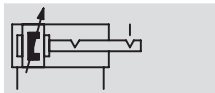
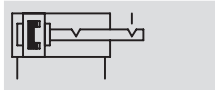
1.2

Standard cylinders DNC-EL, standard port pattern, with end-position lock



Technical data

Function
DNC-...-A-...-EL
 with position sensing



- - Diameter
32 ... 100 mm
- - Stroke length
10 ... 2,000 mm

www.festo.com/en/Spare_parts_service

Set of wearing parts
 → 1 / 1.2-42



- Note
 Additional measures are required for use in safety-related control systems; in Europe, for example, the standards listed under the EC Machinery Directive must be observed. Without additional measures in accordance with statutory minimum requirements, the product is not suitable for use in safety-related sections of control systems.

General technical data							
Piston Ø		32	40	50	63	80	100
Pneumatic connection	Cylinder	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{3}{8}$	G $\frac{1}{2}$
	EL	M3		M5			
Piston rod thread		M10x1.25	M12x1.25	M16x1.5	M16x1.5	M20x1.5	M20x1.5
Max. axial backlash with end position locked	[mm]	≤ 1.3				≤ 2.1	
Constructional design		Piston					
		Piston rod					
		Cylinder barrel					
End-position lock	ELB	At both ends					
	ELV	At front					
	ELH	At rear					
Cushioning		Flexible cushioning rings/pads at both ends					
		Pneumatic cushioning, adjustable at both ends					
Cushioning length PPV [mm]		20	20	22	22	32	32
	EL	8.2	8.3	7.3	10.8	9.8	11.8
Position sensing		Via proximity sensor					
Type of mounting		Via female threads					
		Via accessories					
Mounting orientation		Any					

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

- Note

- The end-position lock should only be operated in conjunction with double-acting exhaust-air restricted cylinders in order to ensure that the lock is always completely released prior to starting the drive movement.
- No screws with a head or similar may be used in place of the end-position lock, as there is a risk that the function will be impaired if they are screwed in too deeply.
- The exhaust hole must not be closed.
- Locking can be performed from any stroke position once the drive is brought mechanically into its end position.
- The end-position lock has been designed to prevent the load dropping in case of pressure failure.
- An excessive end-position cushioning setting (more than 50% closed) can result in the latching bolt not engaging reliably, meaning premature wear.

ISO standard cylinders
 ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Standard cylinders DNC-EL, standard port pattern, with end-position lock



Technical data

Operating and environmental conditions	
Operating medium	Filtered compressed air, lubricated or unlubricated
Operating pressure [bar]	1.5 ... 12
Min. release pressure [bar]	≤ 1.5
Ambient temperature ¹⁾ [°C]	-20 ... +80
Corrosion resistance class CRC ²⁾	2
Certification	Germanischer Lloyd

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

Impact energy [J]						
Piston Ø	32	40	50	63	80	100
Max. impact energy at the end positions	0.1	0.2	0.2	0.5	0.9	1.2

Permissible impact velocity:

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

Maximum permissible load:

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

- Note
 This data represents the maximum values that can be achieved. Values will vary in practice depending on the size of the effective load. Allowance must also be made for the limits of the cushioning capacity of the drive and the permissible impact energy.

Forces [N]						
Piston Ø	32	40	50	63	80	100
Theoretical force at 6 bar, advancing	483	754	1,178	1,870	3,016	4,712
Theoretical force at 6 bar, retracting	415	633	990	1,682	2,721	4,418
Static holding force	500		2,000		5,000	

Sizing example

- Note
 When sizing pneumatic cylinders it is recommended as a basic principle that only 50% of the indicated theoretical forces (see above) be used.

Given:
 Installation position = Vertical
 Workpiece load = 44 kg
 $F = m \times g = 44 \text{ kg} \times 9.81 \text{ m/s}^2 = 431.6 \text{ N}$

To be calculated:
 Suitable piston Ø

Analysis with 32 mm piston Ø:
 Theoretical force at 6 bar, advancing = 483 N
 50% of the theoretical force = 241.5 N
 Static holding force with 32 mm piston Ø = 500 N
 The static force on the end-position lock is within the permissible range (max. 500 N) with a workpiece load of 44 kg (431.6 N), however the cylinder would be at 89% capacity.
Result:
 A cylinder with a piston Ø of 40 mm is therefore recommended for this application.

ISO standard cylinders
 ISO 15552 (ISO 6431 and VDMA 24562)
1.2

Standard cylinders DNC-EL, standard port pattern, with end-position lock

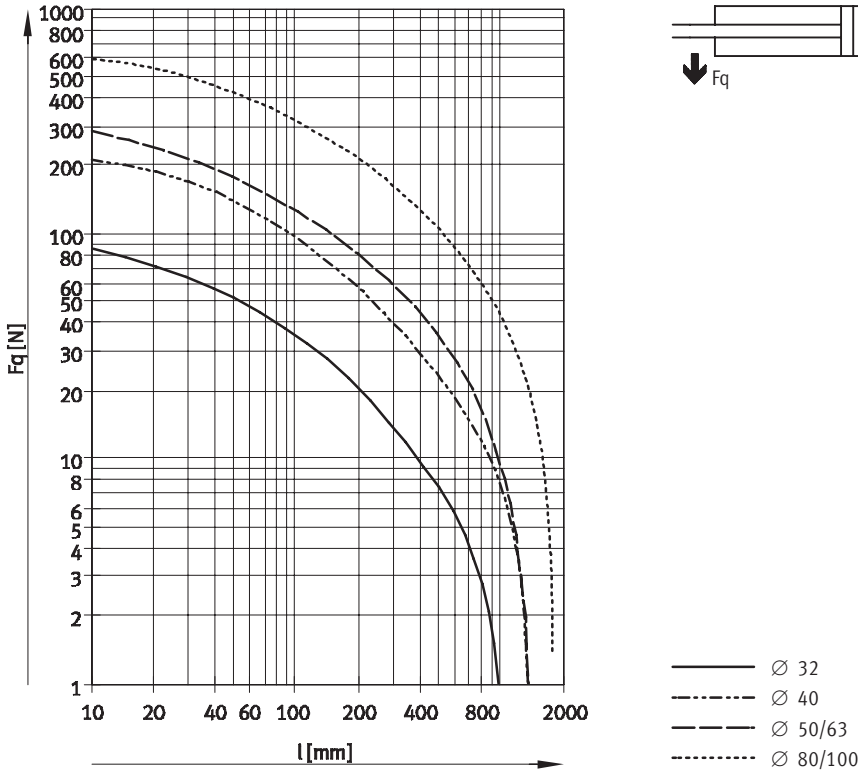
Technical data



ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

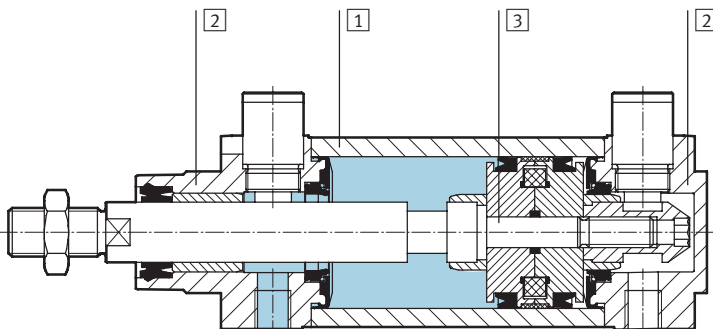
Max. lateral force F_q as a function of stroke length l



Weight [g]						
Piston \varnothing	32	40	50	63	80	100
Basic version						
Product weight with 0 mm stroke	537	820	1,320	1,769	2,970	4,833
Additional weight per 10 mm stroke	30	45	64	73	106	115
S2 – Through piston rod						
Product weight with 0 mm stroke	596	915	1,450	1,977	3,294	5,477
Additional weight per 10 mm stroke	39	61	89	98	144	153

Materials

Sectional view



Standard cylinder	
1	Cylinder barrel Wrought aluminium alloy, smooth anodised
2	Bearing and end caps Die-cast aluminium
3	Piston rod High-alloy steel
-	Seals Polyurethane, nitrile rubber

Standard cylinders DNC-EL, standard port pattern, with end-position lock

Technical data

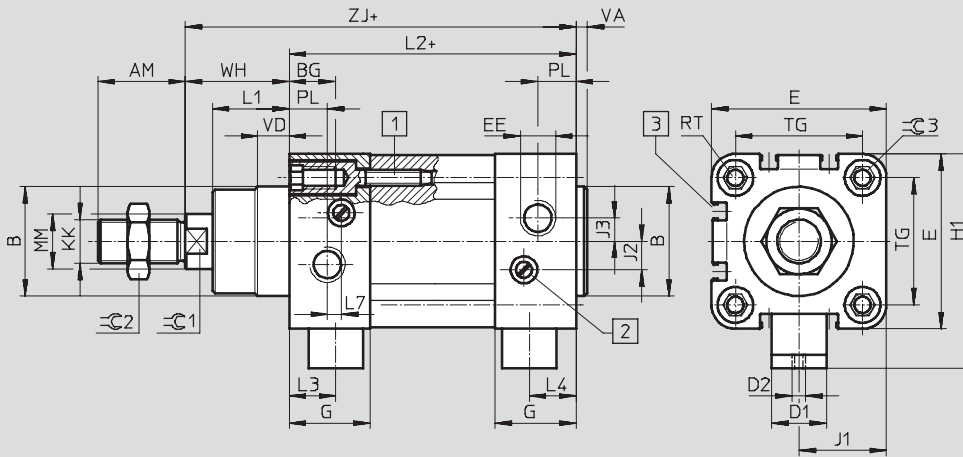


ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Dimensions – Basic version

Download CAD data → www.festo.com/en/engineering

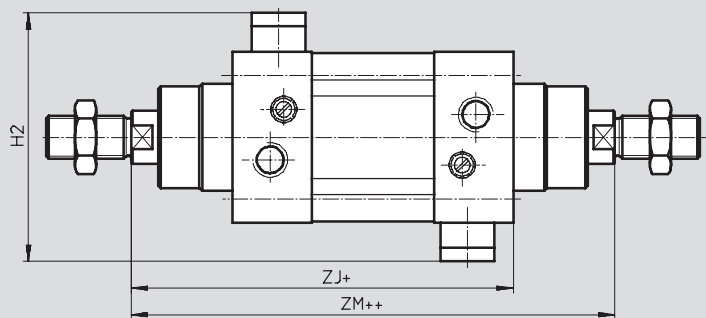


- 1 Socket head screw with female thread for mounting attachments
 - 2 Regulating screw for adjustable end-position cushioning
 - 3 Slot for proximity sensor
- + = plus stroke length

Dimensions – Variants

Download CAD data → www.festo.com/en/engineering

S2 – Through piston rod



- + = plus stroke length
- ++ = plus 2x stroke length

∅ [mm]	AM	B ∅ d11	BG	D1 ∅ f8	D2	E	EE	G	H1	H2	J1	J2	J3	KK	L1
32	22	30	16	13	M3	45	G $\frac{1}{8}$	25.1	57.5	70	22.5	6	5.2	M10x1.25	18
40	24	35	16	13	M3	54	G $\frac{1}{4}$	29.6	64	74	27	8	6	M12x1.25	21.5
50	32	40	17	20	M5	64	G $\frac{1}{4}$	29.6	78.5	93	32	10.4	8.5	M16x1.5	28
63	32	45	17	20	M5	75	G $\frac{3}{8}$	35.6	84.5	93	37.5	12.4	10	M16x1.5	28.5
80	40	45	17	20	M5	93	G $\frac{3}{8}$	35.9	104.5	116	46.5	12.5	8	M20x1.5	34.7
100	40	55	17	20	M5	110	G $\frac{1}{2}$	38.8	113.5	116	55	12	10	M20x1.5	38.2

∅ [mm]	L2	L3	L4	L7	MM ∅	PL	RT	TG	VA	VD	WH ±2	ZM	ZJ	∅C1	∅C2	∅C3
32	94	13.8	12	3.3	12	15.6	M6	32.5	4	10	26	148	120	10	16	6
40	105	16.6	16.6	3.6	16	14	M6	38	4	10.5	30	167	135	13	18	6
50	106	17.1	17.1	5.1	20	14	M8	46.5	4	11.5	37	183	143	17	24	8
63	121	16.6	16.6	6.6	20	17	M8	56.5	4	15	37	199	158	17	24	8
80	128	19.9	19.9	10.5	25	16.4	M10	72	4	15.7	46	222	174	22	30	6
100	138	22.8	22.8	8	25	18.8	M10	89	4	19.2	51	240	189	22	30	6

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

Standard cylinders DNC-EL, standard port pattern, with end-position lock

Technical data

Dimensions – Variants Download CAD data → www.festo.com/en/engineering

K2 – Extended male piston rod thread

K3 – Female piston rod thread

K5 – Special piston rod thread

K8 – Extended piston rod

Note
 In combination with variant S2, the piston rod is extended at one end.

∅ [mm]	A1 max.	A2 max.	AF	AM	KF	KK		T4	WH	≈C1
						Basic thread	Special thread ¹⁾			
32	35	500	12	22	M6	M10x1.25	M10	2.6	26	10
40	35	500	12	24	M8	M12x1.25	M12	3.3	30	13
50	70	500	16	32	M10	M16x1.5	M16	4.7	37	17
63	70	500	16	32	M10	M16x1.5	M16	4.7	37	17
80	70	500	20	40	M12	M20x1.5	M20	6.1	46	22
100	70	500	20	40	M12	M20x1.5	M20	6.1	51	22

1) The special threads are only available as male threads. The mounting nut on the piston rod thread is included in the scope of delivery

Standard cylinders DNC-EL, standard port pattern, with end-position lock

Ordering data – Modular products



ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

M Mandatory data					O Options →	
Module No.	Function	Piston Ø	Stroke	Cushioning	Position sensing	Type of piston rod
163 302	DNC	32	10 ... 2,000	P PPV	A	S2
163 334						
163 366						
163 398						
163 430						
163 462						
Order example						
163 430	DNC	- 80	- 550	- PPV	- A	- S2

Ordering table									
Size	32	40	50	63	80	100	Condi- tions	Code	Enter code
M Module No.	163 302	163 334	163 366	163 398	163 430	163 462			
Function	Standard cylinder, double-acting, standard port pattern, with end-position lock							DNC	DNC
Piston Ø [mm]	32	40	50	63	80	100		-...	
Stroke [mm]	10 ... 2,000							-...	
Cushioning	Flexible cushioning rings/pads at both ends							-P	
	Pneumatic cushioning, adjustable at both ends							-PPV	
O Position sensing	Via proximity sensor							-A	
↓ Type of piston rod	Through piston rod						1	-S2	

- 1 S2 In combination with K2: Thread extension at both ends
- In combination with K3: Female thread at both ends
- In combination with K5: Special thread at both ends

Transfer order code

	DNC	-		-		-		-	
--	-----	---	--	---	--	---	--	---	--

Standard cylinders DNC-EL, standard port pattern, with end-position lock



Ordering data – Modular products

→ 0 Options				M
Male thread extended	Female thread	Special thread	Piston rod extended	End lock
...K2	K3	...K5	...K8	ELB ELV ELH
-	- K3	-	- 100K8	-

Ordering table										
Size	32	40	50	63	80	100	Condi- tions	Code	Enter code	
0	Male thread extended [mm]	Extended male piston rod thread						2	-...K2	
	Female thread	Female piston rod thread						3	-K3	
	Special thread	Special piston rod thread							-...K5	
	Piston rod extended [mm]	Extended piston rod							-...K8	
M	End-position lock	End-position lock at both ends						4	-ELB	
		End-position lock at front						4	-ELV	
		End-position lock at rear						4	-ELH	

- 2 K2 Not with K3
- 3 K3 With K5: On request
- 4 ELB, ELV, ELH In combination with K8 and S2; on request only

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Transfer order code

- [] - [] - [] - [] - []

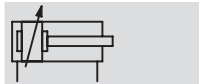
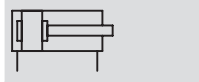
Standard cylinders DNC-V1 ... V6, standard port pattern, cyl./valve combination



Technical data

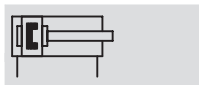
Function




DNC-...
without position sensing

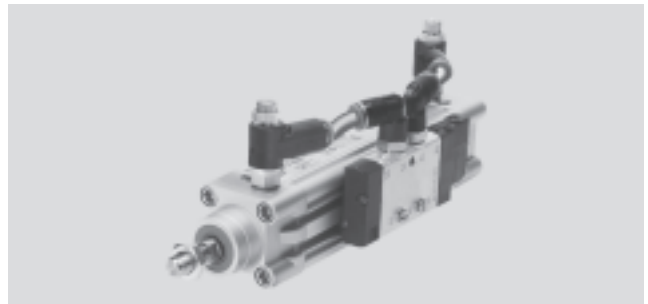


DNC-...-A-...

with position sensing



-  - Diameter
32 ... 100 mm
-  - Stroke length
100 ... 2,000 mm
-  - www.festo.com/en/Spare_parts_service
- Set of wearing parts
→ 1 / 1.2-50

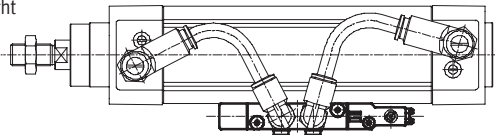


Valve variants

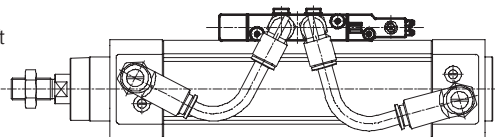
Single solenoid valve unactuated, piston rod retracted



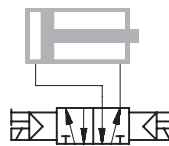
DNC-...-V1
fitted on right



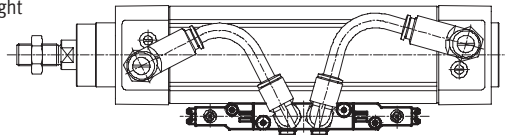
DNC-...-V4
fitted on left



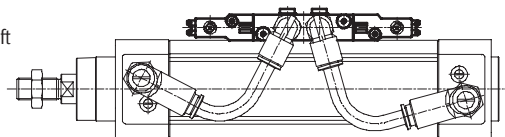
Double solenoid valve unactuated, piston rod retracted



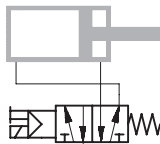
DNC-...-V3
fitted on right



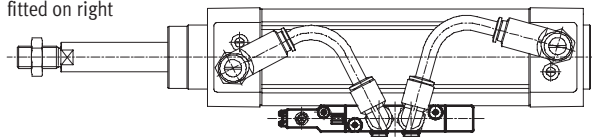
DNC-...-V6
fitted on left



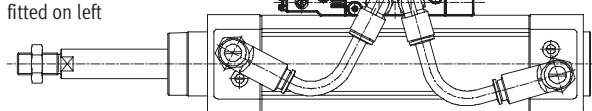
Single solenoid valve unactuated, piston rod advanced




DNC-...-V2
fitted on right

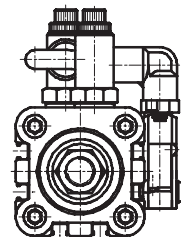


DNC-...-V5
fitted on left



-  - Note
As viewed from the front of the cylinder (piston rod end) with valve fitted on left or right.

In this example, the valve is fitted on the right.



Standard cylinders DNC-V1 ... V6, standard port pattern, cyl./valve combination

FESTO

Technical data

General technical data						
Piston Ø	32	40	50	63	80	100
Cylinder						
Pneumatic connection	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2
Piston rod thread	M10x1.25	M12x1.25	M16x1.5	M16x1.5	M20x1.5	M20x1.5
	K3	M6	M8	M10	M10	M12
	K5	M10	M12	M16	M16	M20
Constructional design	Piston					
	Piston rod					
	Cylinder barrel					
Cushioning	Flexible cushioning rings/pads at both ends					
	Pneumatic cushioning, adjustable at both ends					
Cushioning length PPV [mm]	20	20	22	22	32	32
Position sensing	Via proximity sensor					
Type of mounting	Via female threads					
	Via accessories					
Mounting orientation	Any					
Valve Ordering data – Valve and accessories → 1 / 1.2-66						
Valve used	Single solenoid	CPE14-M1BH-5L-1/8		CPE18-M1H-5L-1/4		CPE24-M1H-5L-3/8
	Double solenoid	CPE14-M1BH-5J-1/8		CPE18-M1H-5J-1/4		CPE24-M1H-5J-3/8
Pneumatic connection	G1/8		G1/4		G3/8	
Constructional design	Piston spool valve					
Type of mounting	Via mounting kit					
Operating voltage [V DC]	24 +10/-15%					
Power consumption [W]	1		1.5			
Duty cycle	100%					
Protection class with plug socket	IP65					

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

Operating and environmental conditions						
Piston Ø	32	40	50	63	80	100
Operating medium	Filtered compressed air, lubricated or unlubricated					
Operating pressure [bar]	3 ... 8		2.5 ... 10			
Ambient temperature ¹⁾ [°C]	0 ... +50					
Corrosion resistance class CRC ²⁾	2					
Certification	Germanischer Lloyd					

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Standard cylinders DNC-V1 ... V6, standard port pattern, cyl./valve combination



Technical data

Forces [N] and impact energy [J]						
Piston Ø	32	40	50	63	80	100
Theoretical force at 6 bar, advancing	483	754	1,178	1,870	3,016	4,712
$S2/S20$	415	633	990	1,682	2,721	4,418
Theoretical force at 6 bar, retracting	415	633	990	1,682	2,721	4,418
$S2/S20$	415	633	990	1,682	2,721	4,418
Max. impact energy at the end positions ¹⁾	0.1	0.2	0.2	0.5	0.9	1.2

1) The permitted impact energy is reduced by approx. 10% for variants K10 and S20

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

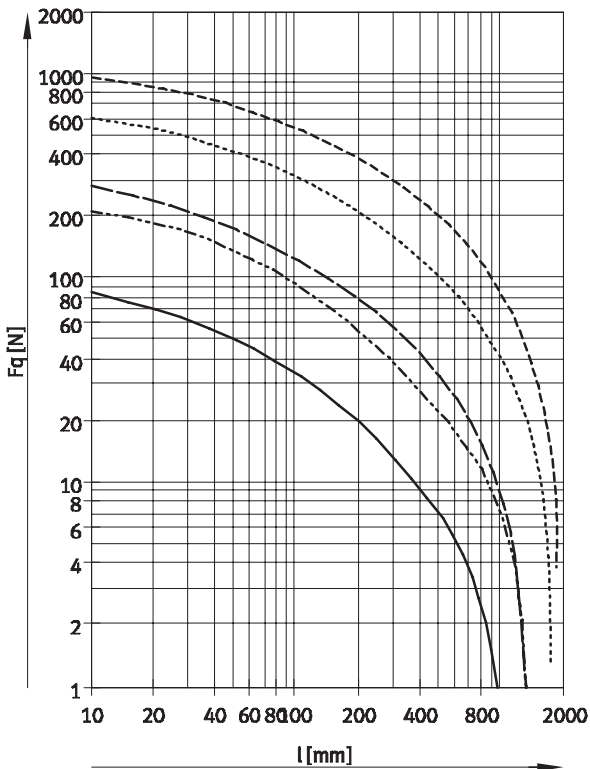
Maximum permissible load:
$$m_{load} = \frac{2 \times E_{perm.}}{v^2} - m_{dead}$$

Note

This data represents the maximum values that can be achieved. Values will vary in practice depending on the size of the effective load. Allowance

must also be made for the limits of the cushioning capacity of the drive and the permissible impact energy.

Max. lateral force Fq as a function of stroke length l



ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

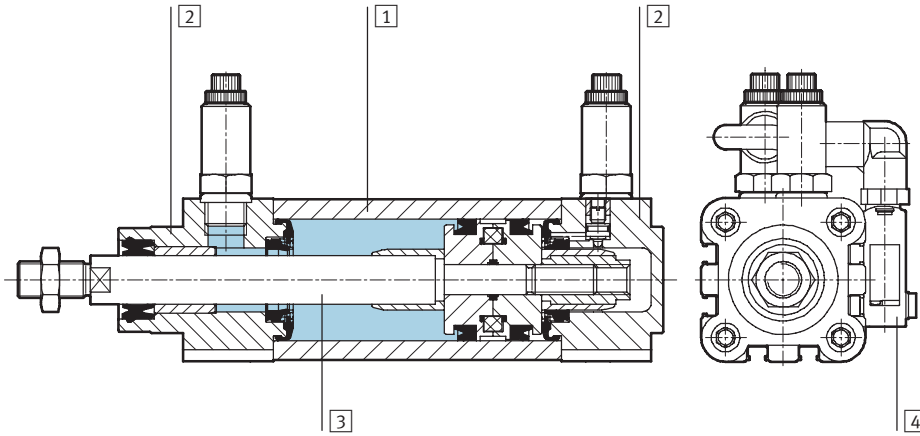
Standard cylinders DNC-V1 ... V6, standard port pattern, cyl./valve combination



Technical data

Materials

Sectional view



Standard cylinder	Basic version	R8	S10	S11	K10
1 Cylinder barrel	Wrought aluminium alloy, smooth anodised				
2 Bearing and end caps	Die-cast aluminium				
3 Piston rod	High-alloy steel	Tempered steel	High-alloy steel		Wrought aluminium alloy, anodised
- Seals, cylinder	Polyurethane, nitrile rubber		Fluoro elastomer		Polyurethane, nitrile rubber
4 Housing, valve	Die-cast aluminium, polyamide, steel				
- Seals, valve	Nitrile rubber				

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

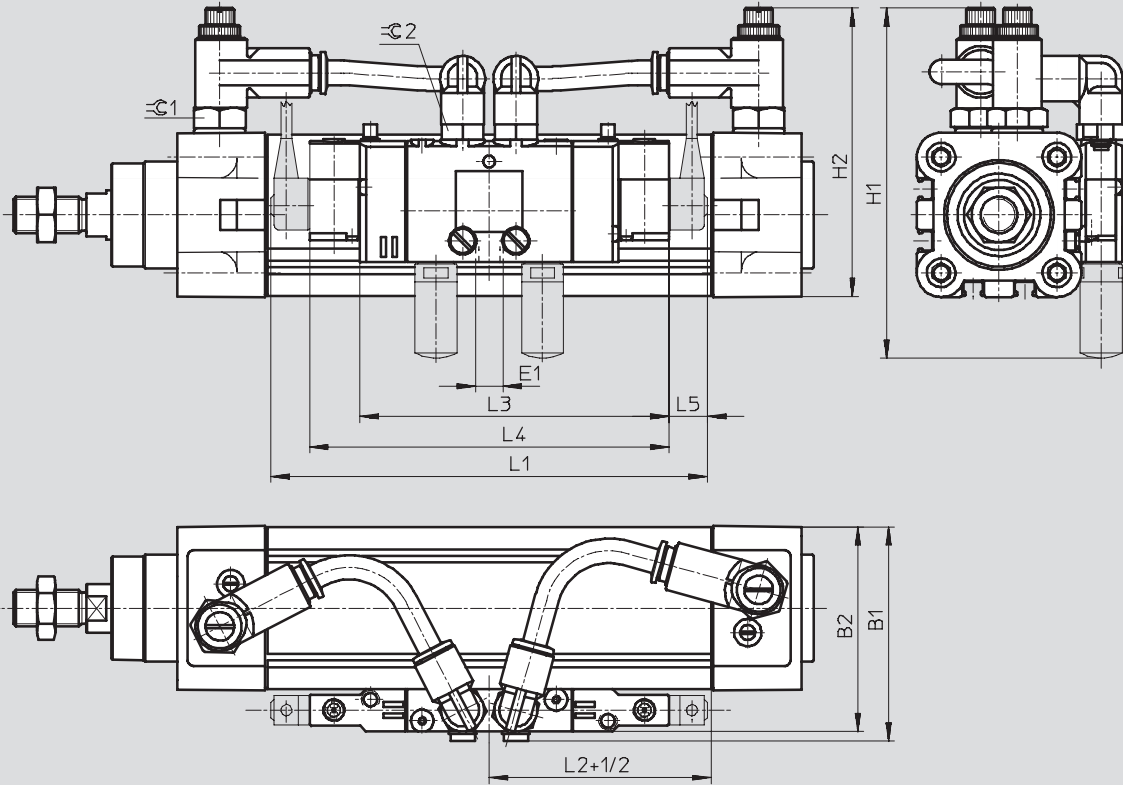
Standard cylinders DNC-V1 ... V6, standard port pattern, cyl./valve combination



Technical data

Dimensions

Download CAD data → www.festo.com/en/engineering



1 Plug socket not included in scope of delivery

+1/2 = plus half stroke length

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Standard cylinders DNC-V1 ... V6, standard port pattern, cyl./valve combination

FESTO

Technical data

∅	B1	B2	E1	H1	H2	L1 max.	L2 +3	L3	L4	L5	⌀C1	⌀C2
[mm]												
32	62	59	G $\frac{1}{8}$	109 ^{+5.5}	86 ^{+5.5}	152	22	102	118	13	13	14
40	71	68	G $\frac{1}{8}$	114 ^{+5.5}	94 ^{+5.5}	152	23	102	118	13	17	14
50	85	82	G $\frac{1}{4}$	131 ^{+5.5}	104 ^{+5.5}	215	24	138	163	25	17	14
63	96	93	G $\frac{1}{4}$	142 ^{+5.5}	115 ^{+5.5}	215	25	138	163	25	19	14
80	123	119	G $\frac{3}{8}$	194 ^{+5.5}	133 ^{+5.5}	242	28	165	165	25	19	17
100	140	136	G $\frac{3}{8}$	213 ⁺²	158 ⁺²	242	30	165	165	25	27	17

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



Note

Further dimensions relating to the basic version and its variants are provided on page → 1 / 1.2-35, with clamping unit on page → 1 / 1.2-46.

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Standard cylinders DNC-V1 ... V6, standard port pattern, cyl./valve combination



Ordering data – Modular products

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

M Mandatory data				O Options			
Module No.	Function	Piston Ø	Stroke	Cushioning	Position sensing	Protection against rotation	Type of piston rod
163 302	DNC	32	100 ... 2,000	P PPV	A	Q	S2 S20
163 334		40					
163 366		50					
163 398		63					
163 430		80					
163 462		100					
Order example							
163 430	DNC	- 80	- 550	- PPV	- A	- Q	- S2

Ordering table										
Size	32	40	50	63	80	100	Condi- tions	Code	Enter code	
M Module No.	163 302	163 334	163 366	163 398	163 430	163 462				
Function	Standard cylinder, double-acting, standard port pattern, cylinder/valve combination								DNC	DNC
Piston Ø [mm]	32	40	50	63	80	100		---		
Stroke [mm]	100 ... 2,000								---	
Cushioning	Flexible cushioning rings/pads at both ends								-P	
	Pneumatic cushioning, adjustable at both ends							1	-PPV	
O Position sensing	Via proximity sensor								-A	
Protection against rotation	Square piston rod							2	-Q	
Type of piston rod	Through piston rod							3	-S2	
	Through, hollow piston rod							4	-S20	

1 PPV Not with S10, S11

2 Q Max. stroke: 100 ... 1,500 mm
In combination with S2: Square piston rod at bearing cap end only
In combination with KP: Only supplied with S2
Not with S20, K7, K10, S10, S11

3 S2 In combination with K2: Thread extension at both ends
In combination with K3: Female thread at both ends
In combination with K5: Special thread at both ends
In combination with K8: Piston rod extended at bearing cap end only
In combination with KP: Clamping unit at end cap
Not with S20, K7, S10, S11

4 S20 Max. stroke: 850 mm
In combination with K8: Piston rod extended at both ends
Not with K2, K3, K5, K10, KP, S10, S11

Transfer order code

Standard cylinders DNC-V1 ... V6, standard port pattern, cyl./valve combination



Ordering data – Modular products

Options									M
Male thread extended	Female thread	Special thread	Special spanner flats	Piston rod extended	Improved running performance	Clamping unit	Constant motion operation	Running characteristics	Cylinder/valve combination
...K2	K3	...K5	K7	...K8	K10	KP	S10	S11	V1 V2 V3 V4 V5 V6
-	-	-	-	100K8	-	-	-	-	V2

Ordering table											
Size	32	40	50	63	80	100	Condi- tions	Code	Enter code		
Male thread extended	Extended male piston rod thread										
[0] [mm]	1 ... 35			1 ... 70			[5]	-...K2			
Female thread	Female piston rod thread										
	(M6)	(M8)	(M10)	(M10)	(M12)	(M12)	[6]	-K3			
Special thread	Special piston rod thread										
	M10	M12	M16	M16	M20	M20	[7]	-...K5			
Special spanner flats	Piston rod with external hexagon										
							[8]	-K7			
Piston rod extended	Extended piston rod										
[mm]	1 ... 500								-...K8		
Improved running performance	Smooth anodised aluminium coated piston rod								-K10		
							[9]				
Clamping unit	Integrated								-KP		
							[10]				
Constant motion operation	Slow speed (constant motion operation at low piston speeds)								-S10		
							[11]				
Running characteristics	Low friction								-S11		
							[12]				
M Cylinder/valve combination	Single solenoid valve, fitted on right, piston rod retracted when unactuated								-V1		
	Single solenoid valve, fitted on right, piston rod advanced when unactuated								-V2		
	Double solenoid valve, fitted on right								-V3		
	Single solenoid valve, fitted on left, piston rod retracted when unactuated								-V4		
	Single solenoid valve, fitted on left, piston rod advanced when unactuated								-V5		
	Double solenoid valve, fitted on left								-V6		

- [5] **K2** Not with K3, K10
- [6] **K3** With K5: On request
Not with K7
- [7] **K5** Not with K10
- [8] **K7** Not with Q, S2, K10

- [9] **K10** Max. stroke: 1,000 mm
Not with KP
- [10] **KP** Without S2: Position of the clamping unit at the bearing cap
Not with S10, S11
- [11] **S10** Max. stroke: 500 mm; further strokes on request
Not with S11
- [12] **S11** Max. stroke: 500 mm; further strokes on request

Transfer order code

- [] - [] - [] - [] - [] - [] - [] - [] - [] - []

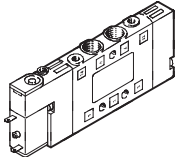
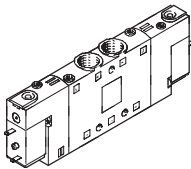
Standard cylinders DNC-V1 ... V6, standard port pattern, cyl./valve combination


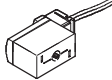
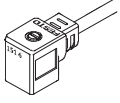
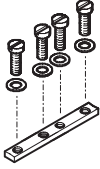
FESTO

Accessories

ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Ordering data – Valve		Technical data → Volume 2			
	For Ø [mm]	Pneumatic connection	Protection class	Part No.	Type
Single solenoid					
	32	G1/8	IP65	196 941	CPE14-M1BH-5L-1/8
	40				
	50	G1/4	IP65	163 142	CPE18-M1H-5L-1/4
	63				
	80	G3/8	IP65	163 166	CPE24-M1H-5L-3/8
100					
Double solenoid					
	32	G1/8	IP65	196 939	CPE14-M1BH-5J-1/8
	40				
	50	G1/4	IP65	163 143	CPE18-M1H-5J-1/4
	63				
	80	G3/8	IP65	163 167	CPE24-M1H-5J-3/8
100					

Ordering data – Valve accessories		Technical data → Volume 3			
	For valve	Part No.	Type	PU ¹⁾	
Push-in/threaded fitting QS					
	CPE14	153 015	QS-1/8-8-I	10	
	CPE18	153 018	QS-1/4-10-I	10	
	CPE24	153 020	QS-3/8-12-I	10	
Plug socket KMYZ/KMEB					
	CPE14	24 V DC, with PVC cable 0.5 m	185 519	KMYZ-4-24-0,5	-
		24 V DC, with PVC cable 2.5 m	185 520	KMYZ-4-24-2,5	-
	CPE18	24 V DC, with PVC cable 2.5 m, LED	151 688	KMEB-1-24-2,5-LED	-
	CPE24	24 V DC, with PVC cable 5 m, LED	151 689	KMEB-1-24-5-LED	-
		24 V DC, with PVC cable 10 m, LED	193 457	KMEB-1-24-10-LED	-
Mounting kit ZVB					
	CPE14	185 705	ZVB-8-14/18	-	
	CPE18				
	CPE24	187 388	ZVB-8-24	-	

1) Packaging unit quantity

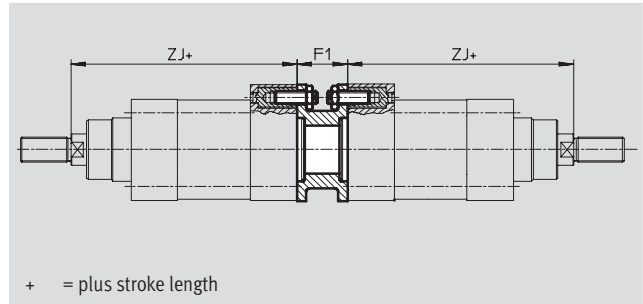
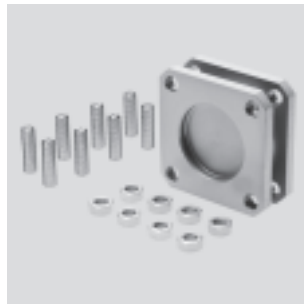
Standard cylinders DNC, to ISO 15552



Accessories

Adapter kit DPNC

Material:
 Flange: Wrought aluminium alloy
 Threaded studs, hex nuts: Galvanised steel



+ = plus stroke length

Note
 The maximum overall stroke length may not be exceeded when combining cylinders and adapter kits.

Dimensions and ordering data							
For Ø [mm]	F1	ZJ		Max. overall stroke length [mm]	Weight [g]	Part No.	Type
		Basic version	KP				
32	27	120	165	1,000	85	174 418	DPNC-32
40	27	135	188	1,000	115	174 419	DPNC-40
50	32	143	210	1,000	210	174 420	DPNC-50
63	28	158	234	1,000	360	174 421	DPNC-63
80	38	174	269	1,000	620	174 422	DPNC-80
100	38	189	287	1,000	1,190	174 423	DPNC-100
125	48	225	350	1,000	1,600	174 424	DPNC-125

ISO standard cylinders
 ISO 15552 (ISO 6431 and VDMA 24562)

1.2

Connecting two cylinders with identical piston Ø as a 3 or 4-position cylinder

A 3 or 4-position cylinder consists of two separate cylinders whose piston rods advance in opposing directions.

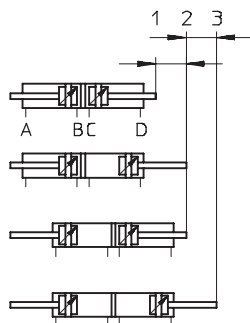
This means that depending upon actuation and stroke pattern, this type of cylinder can assume up to four

positions. In each case the cylinder is driven precisely against a stop. Note that when one end of the piston rod is

fixed, the cylinder barrel executes the movement. The cylinder must be connected with flexible line connections.

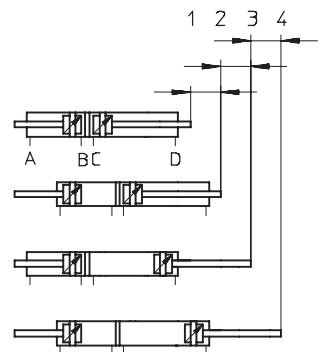
To achieve 3 positions

Two cylinders with identical stroke length must be connected together.



To achieve 4 positions

Two cylinders with different stroke lengths must be connected together.



Standard cylinders DNC, to ISO 15552

Accessories



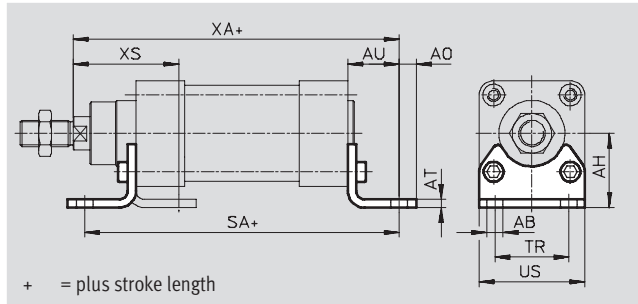
Foot mounting HNC/CRHNC

Material:

HNC: Galvanised steel

CRHNC: High-alloy steel

Free of copper, PTFE and silicone



Dimensions and ordering data													
For Ø	AB Ø	AH	AO	AT	AU	SA		TR	US	XA		XS	
						Basic version	KP			Basic version	KP		
[mm]													
32	7	32	6.5	4	24	142	187	32	45	144	189	45	
40	10	36	9	4	28	161	214	36	54	163	216	53	
50	10	45	9.5	5	32	170	237	45	64	175	242	62	
63	10	50	12.5	5	32	185	261	50	75	190	266	63	
80	12	63	15	6	41	210	305	63	93	215	310	81	
100	14.5	71	17.5	6	41	220	318	75	110	230	328	86	
125	16.5	90	22	8	45	250	375	90	131	270	395	102	

For Ø	Basic version				High corrosion protection			
	CRC ¹⁾	Weight	Part No.	Type	CRC ¹⁾	Weight	Part No.	Type
[mm]		[g]				[g]		
32	2	135	174 369	HNC-32	4	135	176 937	CRHNC-32
40	2	180	174 370	HNC-40	4	180	176 938	CRHNC-40
50	2	325	174 371	HNC-50	4	325	176 939	CRHNC-50
63	2	405	174 372	HNC-63	4	405	176 940	CRHNC-63
80	2	820	174 373	HNC-80	4	820	176 941	CRHNC-80
100	2	1,000	174 374	HNC-100	4	1,000	176 942	CRHNC-100
125	2	1,840	174 375	HNC-125	4	1,840	176 943	CRHNC-125

1) Corrosion resistance class 2 to Festo standard 940 070
 Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
 Corrosion resistance class 4 to Festo standard 940 070
 Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required

Standard cylinders DNC, to ISO 15552



Accessories

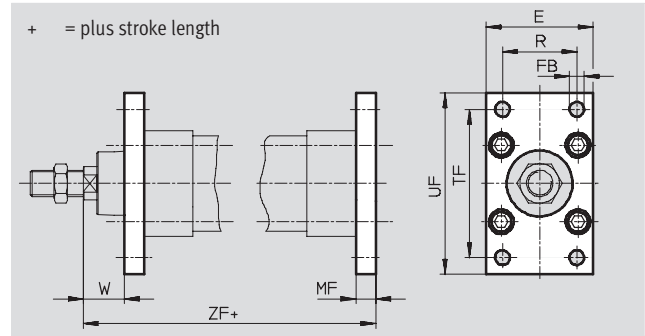
Flange mounting FNC/CRFNG

Material:

FNC: Galvanised steel

CRFNG: High-alloy steel

Free of copper, PTFE and silicone



Dimensions and ordering data									
For Ø [mm]	E	FB Ø H13	MF	R	TF	UF	W	ZF	
								Basic version	KP
32	45	7	10	32	64	80	16	130	175
40	54	9	10	36	72	90	20	145	198
50	65	9	12	45	90	110	25	155	222
63	75	9	12	50	100	120	25	170	246
80	93	12	16	63	126	150	30	190	285
100	110	14	16	75	150	175	35	205	303
125	132	16	20	90	180	210	45	245	370

For Ø [mm]	Basic version				High corrosion protection			
	CRC ¹⁾	Weight [g]	Part No.	Type	CRC ¹⁾	Weight [g]	Part No.	Type
32	2	240	174 376	FNC-32	4	240	161 846	CRFNG-32
40	2	280	174 377	FNC-40	4	300	161 847	CRFNG-40
50	2	520	174 378	FNC-50	4	550	161 848	CRFNG-50
63	2	690	174 379	FNC-63	4	710	161 849	CRFNG-63
80	2	1,650	174 380	FNC-80	4	1,680	161 850	CRFNG-80
100	2	2,400	174 381	FNC-100	4	2,450	161 851	CRFNG-100
125	2	3,750	174 382	FNC-125	4	3,660	185 363	CRFNG-125

1) Corrosion resistance class 2 to Festo standard 940 070
 Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
 Corrosion resistance class 4 to Festo standard 940 070
 Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required

Standard cylinders DNC, to ISO 15552

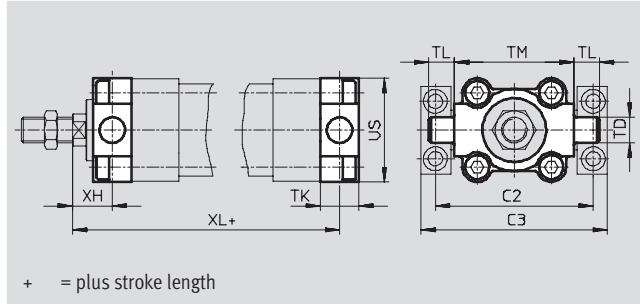
Accessories



Trunnion flange ZNCF/CRZNG

Material:

ZNCF: Special steel casting
 CRZNG: Electrolytically polished special steel casting
 Free of copper, PTFE and silicone



+ = plus stroke length

Dimensions and ordering data										
For Ø [mm]	C2	C3	TD Ø e9	TK	TL	TM	US	XH	XL	
									Basic version	KP
32	71	86	12	16	12	50	45	18	128	173
40	87	105	16	20	16	63	54	20	145	198
50	99	117	16	24	16	75	64	25	155	222
63	116	136	20	24	20	90	75	25	170	246
80	136	156	20	28	20	110	93	32	188	283
100	164	189	25	38	25	132	110	32	208	306
125	192	217	25	50	25	160	131	40	250	375

For Ø [mm]	Basic version				High corrosion protection			
	CRC ¹⁾	Weight [g]	Part No.	Type	CRC ¹⁾	Weight [g]	Part No.	Type
32	2	130	174 411	ZNCF-32	4	150	161 852	CRZNG-32
40	2	240	174 412	ZNCF-40	4	260	161 853	CRZNG-40
50	2	390	174 413	ZNCF-50	4	430	161 854	CRZNG-50
63	2	600	174 414	ZNCF-63	4	640	161 855	CRZNG-63
80	2	1,150	174 415	ZNCF-80	4	1,300	161 856	CRZNG-80
100	2	2,030	174 416	ZNCF-100	4	2,400	161 857	CRZNG-100
125	2	3,490	174 417	ZNCF-125	4	3,600	185 362	CRZNG-125

1) Corrosion resistance class 2 to Festo standard 940 070
 Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
 Corrosion resistance class 4 to Festo standard 940 070
 Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required

Standard cylinders DNC, to ISO 15552

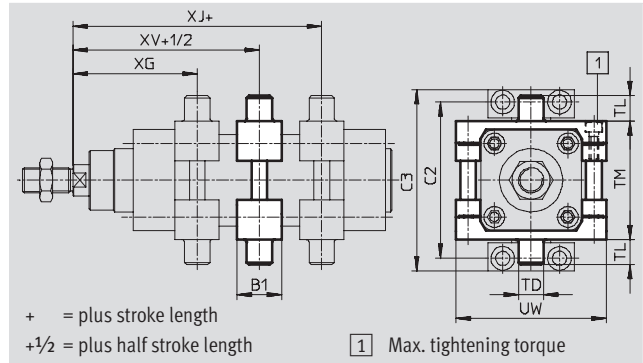


Accessories

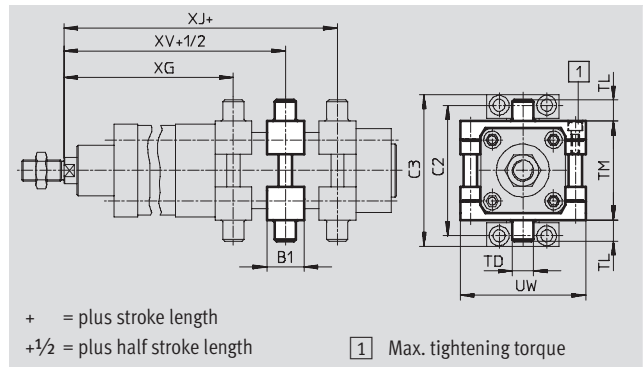
Trunnion mounting kit ZNCM for basic version DNC

The mounting kit can be attached at any position along the profile barrel of a cylinder.

Material:
Tempered steel



For DNC-KP



Dimensions and ordering data

For Ø [mm]	B1	C2	C3	TD Ø e9	TL	TM	UW	XG	
								Basic version	KP
32	30	71	86	12	12	50	65	66.1	111.1
40	32	87	105	16	16	63	75	75.6	128.6
50	34	99	117	16	16	75	95	83.6	150.6
63	41	116	136	20	20	90	105	93.1	169.1
80	44	136	156	20	20	110	130	103.9	198.9
100	48	164	189	25	25	132	145	113.8	211.8
125	50	192	217	25	25	160	175	134.7	259.7

For Ø [mm]	XJ		XV		Max. tightening torque [Nm]	CRC ¹⁾	Weight [g]	Part No.	Type
		KP		KP					
32	79.9	124.9	73	118	4+1	2	210	163 525	ZNCM-32
40	89.4	142.4	82.5	135.5	8+1	2	385	163 526	ZNCM-40
50	96.4	163.4	90	157	8+2	2	595	163 527	ZNCM-50
63	101.9	177.9	97.5	173.5	18+2	2	890	163 528	ZNCM-63
80	116.1	211.1	110	205	28+2	2	1,450	163 529	ZNCM-80
100	126.2	224.2	120	218	28+2	2	2,045	163 530	ZNCM-100
125	155.3	280.3	145	270	40+2	2	2,940	163 531	ZNCM-125

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

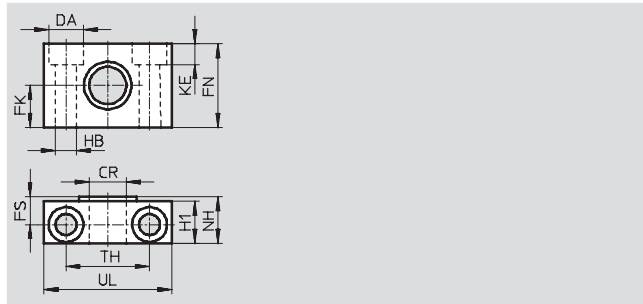
Standard cylinders DNC, to ISO 15552

Accessories



Trunnion support LNZG

Material:
 Trunnion support: Anodised aluminium
 Plain bearing: Plastic
 Free of copper, PTFE and silicone

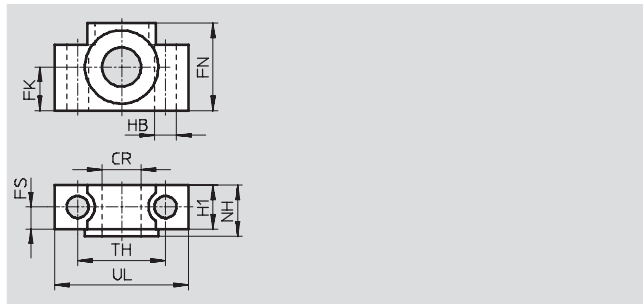
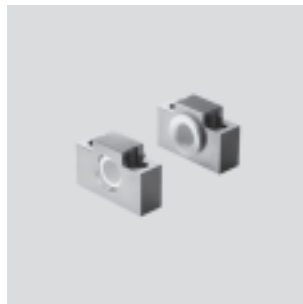


Dimensions and ordering data																
For \varnothing	CR	DA	FK	FN	FS	H1	HB	KE	NH	TH	UL	CRC ¹⁾	Weight	Part No.	Type	
[mm]	\varnothing D11	\varnothing H13	\varnothing ± 0.1				\varnothing H13			± 0.2			[g]			
32	12	11	15	30	10.5	15	6.6	6.8	18	32	46	2	125	32 959	LNZG-32	
40, 50	16	15	18	36	12	18	9	9	21	36	55	2	400	32 960	LNZG-40/50	
63, 80	20	18	20	40	13	20	11	11	23	42	65	2	480	32 961	LNZG-63/80	
100, 125	25	20	25	50	16	24.5	14	13	28.5	50	75	2	960	32 962	LNZG-100/125	

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

Trunnion support CRLNZG

Material:
 High-alloy steel
 Free of copper, PTFE and silicone



Dimensions and ordering data													
For \varnothing	CR	FK	FN	FS	H1	HB	NH	TH	UL	CRC ¹⁾	Weight	Part No.	Type
[mm]	\varnothing D11	\varnothing ± 0.1				\varnothing H13		± 0.2			[g]		
32	12	15	30	10.5	15	6.6	18	32	46	4	200	161 874	CRLNZG-32
40, 50	16	18	36	12	18	9	21	36	55	4	330	161 875	CRLNZG-40/50
63, 80	20	20	40	13	20	11	23	42	65	4	440	161 876	CRLNZG-63/80
100, 125	25	25	50	16	24.5	14	28.5	50	75	4	740	161 877	CRLNZG-100

1) Corrosion resistance class 4 to Festo standard 940 070
 Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required

ISO standard cylinders
 ISO 15552 (ISO 6431 and VDMA 24562)

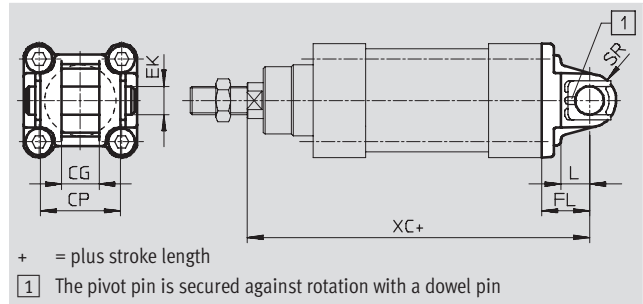
Standard cylinders DNC, to ISO 15552



Accessories

Swivel flange SNC

Material:
Die-cast aluminium



Dimensions and ordering data												
For Ø	CG	CP	EK Ø	FL ±0.2	L	SR	XC		CRC ¹⁾	Weight [g]	Part No.	Type
[mm]	H14	h14						KP				
32	14	34	10	22	13	10	142	187	2	90	174 383	SNC-32
40	16	40	12	25	16	12	160	213	2	120	174 384	SNC-40
50	21	45	16	27	16	12	170	237	2	240	174 385	SNC-50
63	21	51	16	32	21	16	190	266	2	320	174 386	SNC-63
80	25	65	20	36	22	20	210	305	2	625	174 387	SNC-80
100	25	75	20	41	27	20	230	328	2	830	174 388	SNC-100
125	37	97	30	50	30	30	275	400	2	1,785	174 389	SNC-125

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

ISO standard cylinders
 ISO 15552 (ISO 6431 and VDMA 24562)
1.2

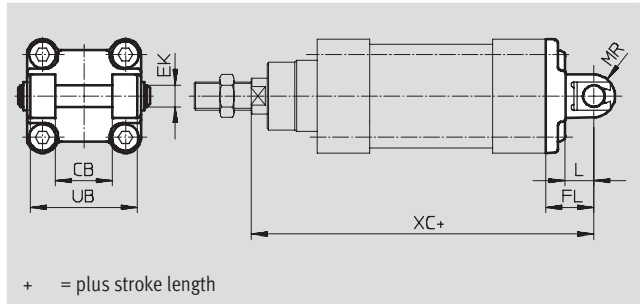
Standard cylinders DNC, to ISO 15552

Accessories



Swivel flange SNCB/SNCB-...-R3

Material:
 SNCB: Die-cast aluminium
 SNCB-...-R3: Die-cast aluminium with protective coating, high corrosion protection
 Free of copper, PTFE and silicone



Dimensions and ordering data								
For Ø	CB	EK	FL	L	MR	UB	XC	
[mm]	H14	∅ e8	±0.2			h14		KP
32	26	10	22	13	10	45	142	187
40	28	12	25	16	12	52	160	213
50	32	12	27	16	12	60	170	237
63	40	16	32	21	16	70	190	266
80	50	16	36	22	16	90	210	305
100	60	20	41	27	20	110	230	328
125	70	25	50	30	25	130	275	400

For Ø	Basic version				Variant R3 – High corrosion protection			
	CRC ¹⁾	Weight [g]	Part No.	Type	CRC ¹⁾	Weight [g]	Part No.	Type
32	2	100	174 390	SNCB-32	3	100	176 944	SNCB-32-R3
40	2	150	174 391	SNCB-40	3	150	176 945	SNCB-40-R3
50	2	225	174 392	SNCB-50	3	225	176 946	SNCB-50-R3
63	2	365	174 393	SNCB-63	3	365	176 947	SNCB-63-R3
80	2	610	174 394	SNCB-80	3	610	176 948	SNCB-80-R3
100	2	925	174 395	SNCB-100	3	925	176 949	SNCB-100-R3
125	2	1,785	174 396	SNCB-125	3	1,785	176 950	SNCB-125-R3

1) Corrosion resistance class 2 to Festo standard 940 070
 Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
 Corrosion resistance class 3 to Festo standard 940 070
 Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface

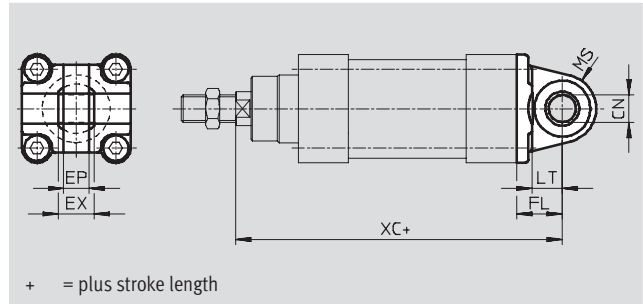
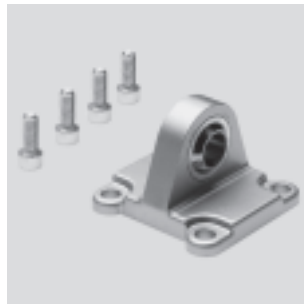
Standard cylinders DNC, to ISO 15552



Accessories

Swivel flange SNCS

Material:
Die-cast aluminium

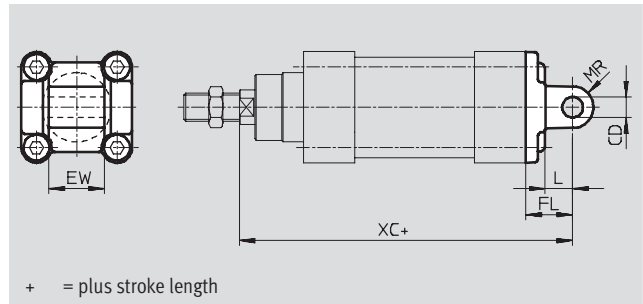
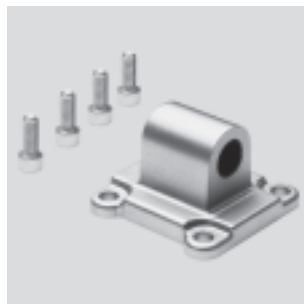


Dimensions and ordering data												
For \varnothing [mm]	CD	EP	EX	FL	LT	MS	XC		CRC ¹⁾	Weight [g]	Part No.	Type
	\varnothing H7	+0.2		+0.2				KP				
32	10	10.5	14	22	13	15	142	187	2	85	174 397	SNCS-32
40	12	12	16	25	16	17	160	213	2	125	174 398	SNCS-40
50	16	15	21	27	16	20	170	237	2	210	174 399	SNCS-50
63	16	15	21	32	21	22	190	266	2	280	174 400	SNCS-63
80	20	18	25	36	22	27	210	305	2	540	174 401	SNCS-80
100	20	18	25	41	27	29	230	328	2	700	174 402	SNCS-100
125	30	25	37	50	30	39	275	400	2	1,410	174 403	SNCS-125

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

Swivel flange SNCL

Material:
Die-cast aluminium
Free of copper, PTFE and silicone



Dimensions and ordering data											
For \varnothing [mm]	CD	EW	FL	L	MR	XC		CRC ¹⁾	Weight [g]	Part No.	Type
	\varnothing H9	h12	± 0.2				KP				
32	10	26	22	13	10	142	187	2	75	174 404	SNCL-32
40	12	28	25	16	12	160	213	2	100	174 405	SNCL-40
50	12	32	27	16	12	170	237	2	160	174 406	SNCL-50
63	16	40	32	21	16	190	266	2	250	174 407	SNCL-63
80	16	50	36	22	16	210	305	2	405	174 408	SNCL-80
100	20	60	41	27	20	230	328	2	655	174 409	SNCL-100
125	25	70	50	30	20	275	400	2	1,245	174 410	SNCL-125

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

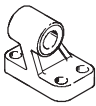
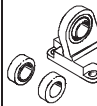
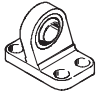

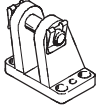
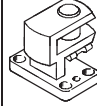
Standard cylinders DNC, to ISO 15552

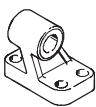
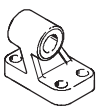
Accessories



ISO standard cylinders
ISO 15552 (ISO 6431 and VDMA 24562)

1.2





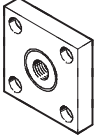
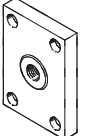

Ordering data – Mounting attachments				Technical data → 1 / 10.1-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Clevis foot LNG				Clevis foot LSN			
	32	33 890	LNG-32		32	5 561	LSN-32
	40	33 891	LNG-40		40	5 562	LSN-40
	50	33 892	LNG-50		50	5 563	LSN-50
	63	33 893	LNG-63		63	5 564	LSN-63
	80	33 894	LNG-80		80	5 565	LSN-80
	100	33 895	LNG-100		100	5 566	LSN-100
	125	33 896	LNG-125		125	6 987	LSN-125
Clevis foot LSNG				Weld-on clevis foot LSNSG			
	32	31 740	LSNG-32		32	31 747	LSNSG-32
	40	31 741	LSNG-40		40	31 748	LSNSG-40
	50	31 742	LSNG-50		50	31 749	LSNSG-50
	63	31 743	LSNG-63		63	31 750	LSNSG-63
	80	31 744	LSNG-80		80	31 751	LSNSG-80
	100	31 745	LSNG-100		100	31 752	LSNSG-100
	125	31 746	LSNG-125		125	31 753	LSNSG-125
Clevis foot LBG				Right-angle clevis foot LQG			
	32	31 761	LBG-32		32	31 768	LQG-32
	40	31 762	LBG-40		40	31 769	LQG-40
	50	31 763	LBG-50		50	31 770	LQG-50
	63	31 764	LBG-63		63	31 771	LQG-63
	80	31 765	LBG-80		80	31 772	LQG-80
	100	31 766	LBG-100		100	31 773	LQG-100
	125	31 767	LBG-125		125	31 774	LQG-125



Ordering data – Mounting attachments, corrosion resistant				Technical data → 1 / 10.1-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Clevis foot CRLNG				Clevis foot CRLNG			
	32	161 840	CRLNG-32		32	161 840	CRLNG-32
	40	161 841	CRLNG-40		40	161 841	CRLNG-40
	50	161 842	CRLNG-50		50	161 842	CRLNG-50
	63	161 843	CRLNG-63		63	161 843	CRLNG-63
	80	161 844	CRLNG-80		80	161 844	CRLNG-80
	100	161 845	CRLNG-100		100	161 845	CRLNG-100
	125	176 951	CRLNG-125		125	176 951	CRLNG-125

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Ordering data – Piston rod attachments				Technical data → 1 / 10.3-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Rod eye SGS				Rod clevis SGA			
	32	9 261	SGS-M10x1,25		32	32 954	SGA-M10x1,25
	40	9 262	SGS-M12x1,25		40	10 767	SGA-M12x1,25
	50	9 263	SGS-M16x1,5		50	10 768	SGA-M16x1,5
	63				63		
	80	9 264	SGS-M20x1,5		80	10 769	SGA-M20x1,5
	100				100		
	125	10 774	SGS-M27x2		125	10 770	SGA-M27x2
Rod clevis SG				Self-aligning rod coupler FK			
	32	6 144	SG-M10x1,25		32	6 140	FK-M10x1,25
	40	6 145	SG-M12x1,25		40	6 141	FK-M12x1,25
	50	6 146	SG-M16x1,5		50	6 142	FK-M16x1,5
	63				63		
	80	6 147	SG-M20x1,5		80	6 143	FK-M20x1,5
	100				100		
	125	14 987	SG-M27x2-B		125	10 485	FK-M27x2
Coupling piece KSG				Coupling piece KSZ			
	32	32 963	KSG-M10x1,25		32	36 125	KSZ-M10x1,25
	40	32 964	KSG-M12x1,25		40	36 126	KSZ-M12x1,25
	50	32 965	KSG-M16x1,5		50	36 127	KSZ-M16x1,5
	63				63		
	80	32 966	KSG-M20x1,5		80	36 128	KSZ-M20x1,5
	100				100		
	125	32 967	KSG-M27x2		125	-	-
Adapter AD							
	32	157 333	AD-M10x1,25-1/8				
		157 334	AD-M10x1,25-1/4				
	40	160 256	AD-M12x1,25-1/4				
		160 257	AD-M12x1,25-3/8				

Ordering data – Piston rod attachments, corrosion resistant				Technical data → 1 / 10.3-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Rod eye CRSGS				Rod clevis CRSG			
	32	195 582	CRSGS-M10x1,25		32	13 569	CRSG-M10x1,25
	40	195 583	CRSGS-M12x1,25		40	13 570	CRSG-M12x1,25
	50	195 584	CRSGS-M16x1,5		50	13 571	CRSG-M16x1,5
	63				63		
	80	195 585	CRSGS-M20x1,5		80	13 572	CRSG-M20x1,5
	100				100		
	125	195 586	CRSGS-M27x2		125	185 361	CRSG-M27x2

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Ordering data – Guide units for fixed strokes (recirculating ball bearing guide only)				Technical data → 1 / 10.4-2		
	Stroke [mm]	Part No.	Type	Stroke [mm]	Part No.	Type
	For Ø 32 mm			For Ø 40 mm		
	10 ... 50	34 493	FENG-32-50-KF	10 ... 50	34 499	FENG-40-50-KF
	10 ... 100	34 494	FENG-32-100-KF	10 ... 100	34 500	FENG-40-100-KF
	10 ... 160	34 495	FENG-32-160-KF	10 ... 160	34 501	FENG-40-160-KF
	10 ... 200	34 496	FENG-32-200-KF	10 ... 200	34 502	FENG-40-200-KF
	10 ... 250	150 289	FENG-32-250-KF	10 ... 250	34 503	FENG-40-250-KF
	10 ... 320	34 497	FENG-32-320-KF	10 ... 320	34 504	FENG-40-320-KF
	10 ... 400	150 290	FENG-32-400-KF	10 ... 400	150 291	FENG-40-400-KF
	10 ... 500	34 498	FENG-32-500-KF	10 ... 500	34 505	FENG-40-500-KF
	For Ø 50 mm			For Ø 63 mm		
	10 ... 50	34 506	FENG-50-50-KF	10 ... 50	34 513	FENG-63-50-KF
	10 ... 100	34 507	FENG-50-100-KF	10 ... 100	34 514	FENG-63-100-KF
	10 ... 160	34 508	FENG-50-160-KF	10 ... 160	34 515	FENG-63-160-KF
	10 ... 200	34 509	FENG-50-200-KF	10 ... 200	34 516	FENG-63-200-KF
	10 ... 250	34 510	FENG-50-250-KF	10 ... 250	34 517	FENG-63-250-KF
	10 ... 320	34 511	FENG-50-320-KF	10 ... 320	34 518	FENG-63-320-KF
	10 ... 400	150 292	FENG-50-400-KF	10 ... 400	34 519	FENG-63-400-KF
	10 ... 500	34 512	FENG-50-500-KF	10 ... 500	34 520	FENG-63-500-KF
	For Ø 80 mm			For Ø 100 mm		
	10 ... 50	34 521	FENG-80-50-KF	10 ... 50	34 529	FENG-100-50-KF
	10 ... 100	34 522	FENG-80-100-KF	10 ... 100	34 530	FENG-100-100-KF
	10 ... 160	34 523	FENG-80-160-KF	10 ... 160	34 531	FENG-100-160-KF
	10 ... 200	34 524	FENG-80-200-KF	10 ... 200	34 532	FENG-100-200-KF
	10 ... 250	34 525	FENG-80-250-KF	10 ... 250	34 533	FENG-100-250-KF
	10 ... 320	34 526	FENG-80-320-KF	10 ... 320	34 534	FENG-100-320-KF
	10 ... 400	34 527	FENG-80-400-KF	10 ... 400	34 535	FENG-100-400-KF
	10 ... 500	34 528	FENG-80-500-KF	10 ... 500	34 536	FENG-100-500-KF

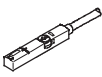

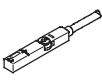
Ordering data – Guide units for variable strokes				Technical data → 1 / 10.4-2		
	For Ø [mm]	Stroke [mm]	With recirculating ball bearing guide	With plain-bearing guide		
			Part No.	Type	Part No.	Type
	32	10 ... 500	34 487	FENG-32-...-KF	34 481	FENG-32-...
	40	10 ... 500	34 488	FENG-40-...-KF	34 482	FENG-40-...
	50	10 ... 500	34 489	FENG-50-...-KF	34 483	FENG-50-...
	63	10 ... 500	34 490	FENG-63-...-KF	34 484	FENG-63-...
	80	10 ... 500	34 491	FENG-80-...-KF	34 485	FENG-80-...
	100	10 ... 500	34 492	FENG-100-...-KF	34 486	FENG-100-...

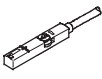


Ordering data – Mounting kits for proximity sensors SMT-8		Technical data → www.festo.com/catalogue/smb	
	For Ø [mm]	Part No.	Type
	32	175 705	SMB-8-FENG-32/40
	40		
	50	175 706	SMB-8-FENG-50/63
	63		
	80	175 707	SMB-8-FENG-80/100
	100		



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Ordering data – Proximity switches for T-slot, magneto-resistive					Technical data → www.festo.com/catalogue/sm	
	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with cylinder profile	PNP	Cable, 3-wire	2,5	543 867	SMT-8M-PS-24V-K-2,5-OE
			Plug M8x1, 3-pin	0,3	543 866	SMT-8M-PS-24V-K-0,3-M8D
			Plug M12x1, 3-pin	0,3	543 869	SMT-8M-PS-24V-K-0,3-M12
		NPN	Cable, 3-wire	2,5	543 870	SMT-8M-NS-24V-K-2,5-OE
Plug M8x1, 3-pin	0,3		543 871	SMT-8M-NS-24V-K-0,3-M8D		
	Insertable in the slot lengthwise, flush with the cylinder profile	PNP	Cable, 3-wire	2,5	175 436	SMT-8-PS-K-LED-24-B
			Plug M8x1, 3-pin	0,3	175 484	SMT-8-PS-S-LED-24-B
N/C contact						
	Insertable in the slot from above, flush with cylinder profile	PNP	Cable, 3-wire	7,5	543 873	SMT-8M-PO-24V-K7,5-OE

Ordering data – Proximity switches for T-slot, magnetic reed					Technical data → www.festo.com/catalogue/sm		
	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type	
N/O contact							
	Insertable in the slot from above, flush with cylinder profile	Contacting	Cable, 3-wire	2,5	543 862	SME-8M-DS-24V-K-2,5-OE	
				5,0	543 863	SME-8M-DS-24V-K-5,0-OE	
			Plug M8x1, 3-pin	Cable, 3-wire	2,5	543 872	SME-8M-ZS-24V-K-2,5-OE
				0,3	543 861	SME-8M-DS-24V-K-0,3-M8D	
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	2,5	150 855	SME-8-K-LED-24	
			Plug M8x1, 3-pin	0,3	150 857	SME-8-S-LED-24	
N/C contact							
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	7,5	160 251	SME-8-0-K-LED-24	

Ordering data – Connecting cable				Technical data → www.festo.com/catalogue/nebu	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2,5	541 333	NEBU-M8G3-K-2.5-LE3
			5	541 334	NEBU-M8G3-K-5-LE3
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2,5	541 363	NEBU-M12G5-K-2.5-LE3
			5	541 364	NEBU-M12G5-K-5-LE3
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2,5	541 338	NEBU-M8W3-K-2.5-LE3
			5	541 341	NEBU-M8W3-K-5-LE3
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2,5	541 367	NEBU-M12W5-K-2.5-LE3
			5	541 370	NEBU-M12W5-K-5-LE3

Ordering data – Slot covers for T-slot				
	Assembly	Length	Part No.	Type
	Insertable from above	2x 0.5 m	151 680	ABP-5-S


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Ordering data – One-way flow control valves				Technical data → Volume 2	
	Connection		Material	Part No.	Type
	Thread	For tubing O.D.			
	G $\frac{1}{8}$	3	Metal design	193 142	GRLA- $\frac{1}{8}$ -QS-3-D
		4		193 143	GRLA- $\frac{1}{8}$ -QS-4-D
		6		193 144	GRLA- $\frac{1}{8}$ -QS-6-D
		8		193 145	GRLA- $\frac{1}{8}$ -QS-8-D
	G $\frac{1}{4}$	6		193 146	GRLA- $\frac{1}{4}$ -QS-6-D
		8		193 147	GRLA- $\frac{1}{4}$ -QS-8-D
		10		193 148	GRLA- $\frac{1}{4}$ -QS-10-D
	G $\frac{3}{8}$	6		193 149	GRLA- $\frac{3}{8}$ -QS-6-D
		8		193 150	GRLA- $\frac{3}{8}$ -QS-8-D
		10		193 151	GRLA- $\frac{3}{8}$ -QS-10-D
	G $\frac{1}{2}$	12		193 152	GRLA- $\frac{1}{2}$ -QS-12-D

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