Standards-based cylinders DNC, ISO 15552

FESTO

Key features

At a glance

- Standards-based cylinders to ISO 15552 (corresponds to the withdrawn standards ISO 6431, DIN ISO 6431, VDMA 24562, NFE49003.1 and UNI 10290)
- The modern, consistent design saves up to 11% more space compared to ordinary standards-based cylinders, providing a significantly more compact system structure
- Wide range of accessories enables the cylinder to be installed virtually anywhere
- The widest range of variants on the market offers the ideal cylinder DNC for any application

Cylinder with clamping units

DNC-KP

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

DNCKE

- Use in safety-related control systems observing the standards EN 954-1, EN 1050, EN 292 and EN 983
- Fail-safe
- Piston rod can be clamped in any position

Cylinder with end-position locking

DNC- ... -EL

- Mechanical locking when the end position is reached
- Locking is automatically released only when pressure is applied to the cylinder
- End-position locking 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 large systems

Tandem cylinders

DNCT

- Series connection of 2 cylinders with the same piston diameter and stroke
- Twice the thrust and return force compared to a conventional cylinder

Longer service life with bellows kit DADB

1

The bellows protects the piston rod, the seal and the bearing from the effects of a wide range of media, which has a positive impact on the service life of these components.

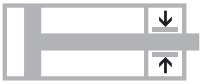
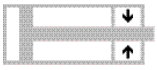
The bellows kit is a leak-free system. To prevent unwanted media from being drawn in, the supply and exhaust air for the kit must be ducted via a pressure compensation hole in the connection part [1].

The kit protects the piston rod, seal and bearing against a wide variety of media, for example:

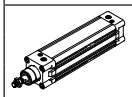
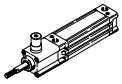
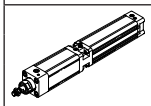
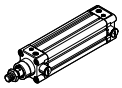
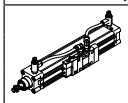
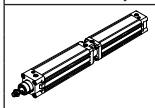
- Dust
- Chippings
- Oil
- Grease
- Petrol

Key features

Variants from the modular product system

Symbol	Key features		Description
	S2	Through piston rod	The piston rod can be used for attachment at both ends of the cylinder
	S6	Heat-resistant seals	Temperature resistance up to max. 120°C
	S10	Constant motion (slow speed) at low piston speeds	• Break-away pressure: very low • Dynamic response: suitable for very slow, constant and stick-slip-free movements Application example: slow, constant feed motion
	S11	Low friction	• Break-away pressure: very low • Dynamic response: especially suitable for slow movements with considerably reduced system friction • Application example: slow applications where standstill is critical
	S20	Through, hollow piston rod	The piston rod can be used for attachment at both ends of the cylinder. The piston rod is hollow inside. This means it can be used to carry vacuum or compressed air
	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 masses • Harder surface compared to steel • Long service life
	KP	With clamping unit	Integrated clamping unit on the piston rod
	EL	With end-position locking	Positive locking in the end position as a drop guard. If there is a drop in pressure, the cylinder is secured in its end position to prevent it from dropping
	Q	Square piston rod	Protection against rotation. For position-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 with scraper	The cylinder has a hard-chrome-plated piston rod and a hard scraper, which protects against dry, dusty media

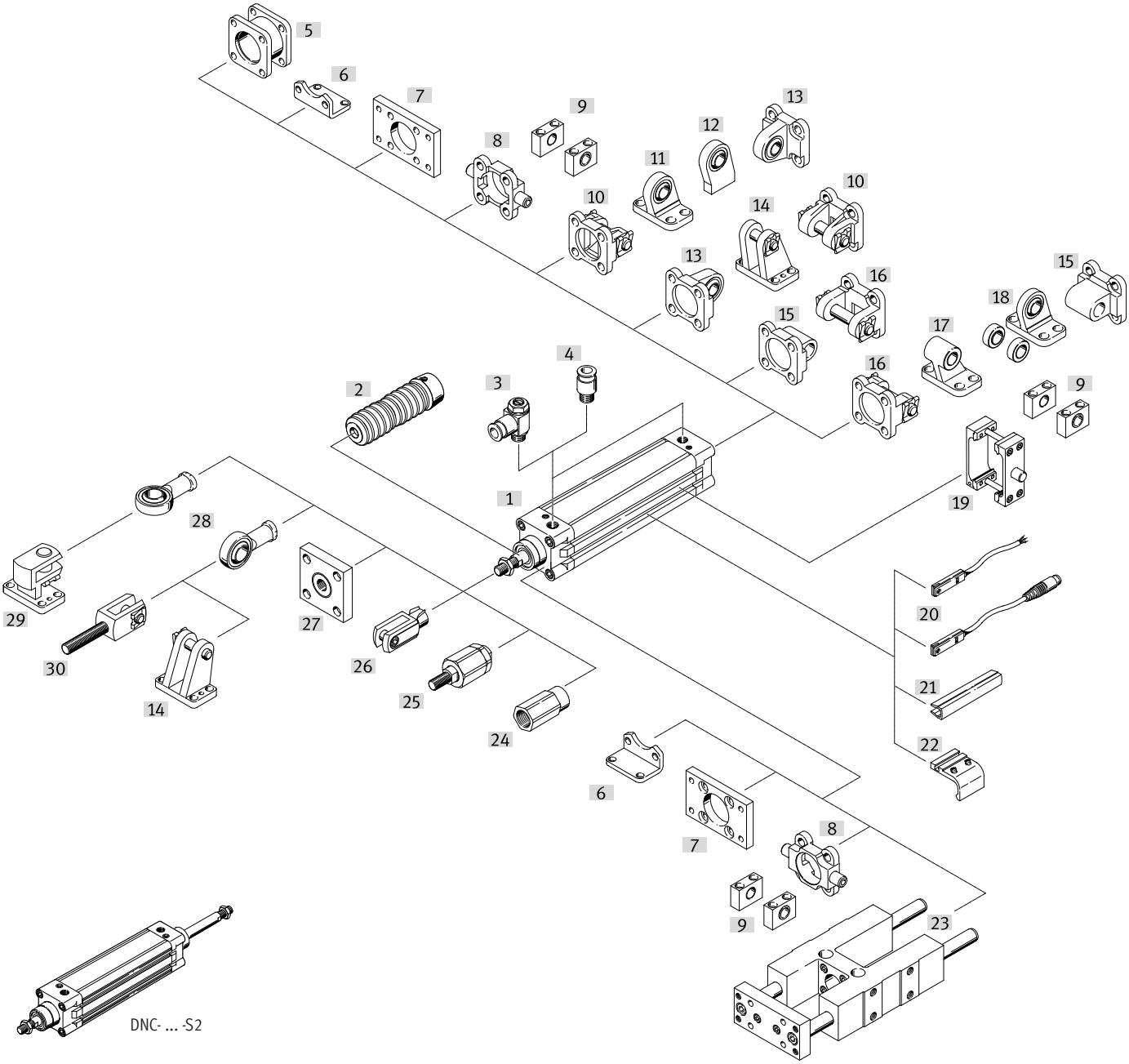
Product range overview

Function	Version	Type	Piston ⌀	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	Q	S2/S20	K2	K3	K5
Double-acting	Basic version										
		DNC	32, 40, 50, 63, 80, 100, 125	20, 25, 30, 40, 50, 60, 70, 80, 100, 125, 150, 160, 200, 250, 300, 320, 400, 500	10 ... 2000	■	■	■	■	■	■
	Standard hole pattern, with clamping unit										
		DNC-KP	32, 40, 50, 63, 80, 100, 125	–	10 ... 2000	■	■	■ S2	■	■	■
		DNCKE	40, 63, 100	–	10 ... 2000	■	–	–	–	–	–
	Standard hole pattern, with end-position locking										
		DNC-...-EL	32, 40, 50, 63, 80, 100	–	10 ... 2000	■	–	■ S2	■	■	■
	Standard hole pattern, cylinder/valve combination										
		DNC-V1 ... V6	32, 40, 50, 63, 80, 100	–	100 ... 2000	■	■	■	■	■	■
	Standard hole pattern, tandem cylinder										
		DNCT	32, 40, 50 63, 80, 100, 125	–	2 ... 500 3 ... 500	■	–	–	–	–	–

Product range overview

Type	Special spanner flats	Extended piston rod	Smooth anodised piston rod	Heat-resistant seals max. 120°C	Slow speed (constant motion)	Low friction	High corrosion protection	Dust protection	Cylinder/valve combination	→ Page/Internet
	K7	K8	K10	S6	S10	S11	R3	R8	V1 ... V6	
Basic version										
DNC	■	■	■	■	■	■	■	■	–	9
Standard hole pattern, with clamping unit										
DNC-KP	■	■	–	–	–	–	–	–	■	25
DNCKE	–	–	–	–	–	–	–	–	–	2
Standard hole pattern, with end-position locking										
DNC-...-EL	–	■	–	–	–	–	–	–	–	33
Standard hole pattern, cylinder/valve combination										
DNC-V1 ... V6	■	■	■	–	■	■	–	■	■	40
Standard hole pattern, tandem cylinder										
DNCT	–	–	–	■	–	–	–	–	–	2

Peripherals overview



Mounting attachments and accessories		Description	DNC				→ Page/ Internet
			Basic version	KP	EL	V1 ... V6	
[1]	Standards-based cylinder DNC						
[2]	Bellows kit DADB	• Protects the cylinder (piston rod, seal and bearings) against a wide range of media and thus prevents premature wear • The kit can only be used in combination with an extended piston rod (K8)	■	–	■	■	61
[3]	One-way flow control valve GRLA	For regulating speed	■	■	■	■	67
[4]	Push-in fitting QS	For connecting tubing with standard O.D.	■	■	■	■	qs

Peripherals overview

Mounting attachments and accessories		Description	DNC				→ Page/ Internet
			Basic version	KP	EL	V1 ... V6	
[5]	Multi-position kit DPNC	For connecting two cylinders with the same piston diameter to form a multi-position cylinder	■ 1)	■	■	■ 1)	49
[6]	Foot mounting HNC/CRHNC	For bearing or end caps	■	■	■	■	50
[7]	Flange mounting FNC/CRFNG	• For bearing or end caps • Cannot be used on the bearing cap in combination with bellows kit DADB	■	■	■	■	51
[8]	Trunnion flange ZNCF/CRZNG	• For bearing or end caps • Cannot be used on the bearing cap in combination with bellows kit DADB	■	■	■	■	52
[9]	Trunnion support LNZG/CRLNZG	–	■	■	■	■	54
[10]	Swivel flange SNC	For end caps	■ 1)	■ 1)	■	■ 1)	55
[11]	Clevis foot LSNG	with spherical bearing	■ 1)	■ 1)	■	■ 1)	59
[12]	Clevis foot LSNSG	Weld-on, with spherical bearing	■ 1)	■ 1)	■	■ 1)	59
[13]	Swivel flange SNCS/CRSNCS/SNCS-...-R3	With spherical bearing for end caps	■ 1)	■ 1)	■	■ 1)	57
[14]	Clevis foot LBG/LBG-...-R3	–	■ 1)	■	■	■ 1)	59
[15]	Swivel flange SNCL	For end caps	■ 1)	■ 1)	■	■ 1)	58
[16]	Swivel flange SNCB/SNCB-...-R3	For end caps	■ 1)	■ 1)	■	■ 1)	56
[17]	Clevis foot LNG/CRLNG	–	■ 1)	■ 1)	■	■ 1)	59
[18]	Clevis foot LSN	with spherical bearing	■ 1)	■ 1)	■	■ 1)	59
[19]	Trunnion flange kit DAMT	For mounting anywhere along the cylinder profile barrel	■	■	■	■	53
[20]	Proximity switch SME/SMT-8	Can be integrated in the cylinder profile barrel	■	■	■	■	66
[21]	Slot cover ABP-5-S	For protecting the sensor cables and the sensor slots from contamination	■	■	■	■	67
[22]	Mounting kit SMB-8-FENG	For attaching proximity switch SMT-8 to cylinders in combination with guide unit FENG	■ 2)	■ From Ø 50	■	–	65
[23]	Guide unit FENG	For protecting standards-based cylinders against rotation at high torques	■	■	–	–	65
[24]	Adapter AD	For mounting a suction cup on a hollow piston rod	■	–	–	■	60
[25]	Self-aligning rod coupler FK/CRFK	To compensate for radial and angular deviations	■	■	■	■	60
[26]	Rod clevis SG/CRSG	Permits a swivelling movement of the cylinder in one plane	■	■	■	■	60
[27]	Coupling piece KSG	To compensate for radial deviations	■	■	■	■	60
	Coupling piece KSZ	For cylinders with a non-rotating piston rod to compensate for radial deviations	■	■	■	■	60
[28]	Rod eye SGS/CRSGS	with spherical bearing	■	■	■	■	60
[29]	Right-angle clevis foot LQG	–	■	■	■	■	59
[30]	Rod clevis SGA	With male thread	■	■	■	■	60

1) Not with variant S2 or S20
2) For piston diameter 32, 40 mm only with variant R3

Type codes

001	Series	
DNC	Standards-based cylinder, double-acting, based on ISO 15552	

002	Piston diameter [mm]	
32	32	
40	40	
50	50	
63	63	
80	80	
100	100	
125	125	

003	Stroke [mm]	
...	2 ... 2000	

004	Cushioning	
P	Elastic cushioning rings/plates on both sides	
PPV	Pneumatic cushioning, adjustable at both ends	

005	Position sensing	
	None	
A	For proximity sensor	

006	Protection against rotation	
	None	
Q	With protection against rotation	

007	Piston rod type	
S2	Through piston rod	
S20	Through, hollow piston rod	

008	Piston rod thread type	
	Male thread	
K3	Female thread	

009	Custom thread	
	Standard piston rod thread	
“M10”K5	M10	
“M12”K5	M12	
“M16”K5	M16	
“M20”K5	M20	
“M27”K5	M27	

010	Special spanner flats	
K7	Piston rod with external hexagon	

011	Piston rod extension	
	None	
...K8	1 ... 500 mm	

012	Improved running performance	
	None	
K10	Smooth aluminium anodised coated piston rod	

013	Temperature resistance	
S6	Heat-resistant seals max. 120 °C	

014	Constant motion	
	None	
S10	Slow speed (constant motion at low piston speeds)	

015	Running characteristic	
S11	Low friction	
	None	

016	Corrosion protection	
	Standard	
R3	High corrosion protection	

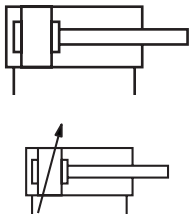
017	Scraper	
R8	Dust protection	
	Standard	

Note

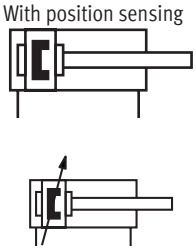
The standards-based cylinder DNC can be ordered either using a fixed part number and order reference or using the modular product system.
The type codes listed above represent the standards-based cylinders DNC with fixed part number and order reference only.
Variants can only be ordered using the modular product system.

Datasheet

Function
DNC-...
Without position sensing



DNC-...-A-...
With position sensing



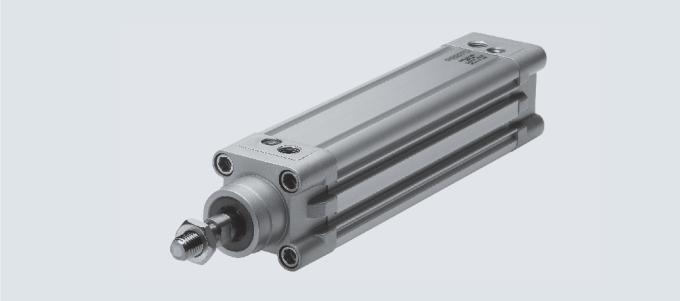
Diameter
32 ... 125 mm

Stroke length
10 ... 2000 mm

www.festo.com

Sets of wearing parts
→ Page 24

Repair service
Piston diameter 80 mm
with variable stroke or with variant
Piston ⌀ 100, 125 mm



- Standards-based cylinders to ISO 15552 (corresponds to the withdrawn standards ISO 6431, DIN ISO 6431, VDMA 24562, NFE49003.1 and UNI 10290)

General technical data								
Piston ⌀		32	40	50	63	80	100	125
Pneumatic connection		G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
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
Design		Piston						
		Piston rod						
		Profile barrel						
Max. torsional backlash of piston rod [°]	Q	±0.65	±0.6	±0.45	±0.45	±0.45	±0.45	–
Cushioning		Elastic cushioning rings/plates at both ends						
		Pneumatic cushioning adjustable at both ends						
Cushioning length PPV	[mm]	20	20	22	22	32	32	42
Position sensing		Via proximity switch						
Type of mounting		With female thread						
		With accessories						
Mounting position		Any						

Note: This product conforms to ISO 1179-1 and ISO 228-1.

Datasheet

Operating and environmental conditions								
Piston ⌀		32	40	50	63	80	100	125
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]						
Note on the operating/ pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)						
Operating pressure [bar]		0.6 ... 12						0.6 ... 10
Operating pressure [bar]	Q	1 ... 12						–
	Q-S6	1 ... 8						–
	R8	1.5 ... 12						1.5 ... 10
	S11	After 10 strokes						
		0.16 ... 12		0.1 ... 12		0.06 ... 12		0.06 ... 10
		After 24 h						
		0.3 ... 12		0.2 ... 12		0.1 ... 12		0.1 ... 10
Ambient temperature[1] [°C]		–20 ... +80						
	S6	0 ... 120						
Corrosion resistance class CRC[2]		2						
	R3	3						
ATEX		Selected types ➔ www.festo.com						
CE marking (see declaration of conformity)		To EU Explosion Protection Directive (ATEX)						
UKCA marking (see declaration of conformity)		To UK explosion regulations						

1) Note operating range of proximity switches
2) More information: www.festo.com/x/topic/crc

Forces [N] and impact energy [J]								
Piston ⌀		32	40	50	63	80	100	125
Theoretical force at 6 bar, advancing		483	754	1178	1870	3016	4712	7363
	S2/S20	415	633	990	1682	2721	4418	6881
Theoretical force at 6 bar, retracting		415	633	990	1682	2721	4418	6881
	S2/S20	415	633	990	1682	2721	4418	6881
Max. impact energy in the end positions[1]		0.1	0.2	0.2	0.5	0.9	1.2	5

1) With variant K10 and S20, the permissible impact energy is reduced by approx. 10%

Permissible impact velocity:

$$v = \sqrt{\frac{2 \cdot E}{m_1 + m_2}}$$

Maximum permissible mass:

$$m_2 = \frac{2 \cdot E}{v^2} - m_1$$

V	Permissible impact velocity
E	Max. impact energy
m1	Moving mass (drive)
m2	Moving payload

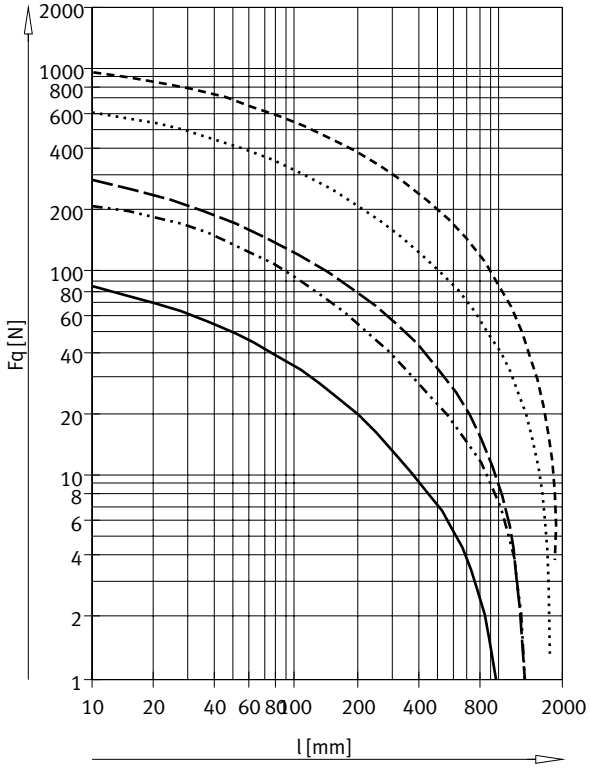
Note

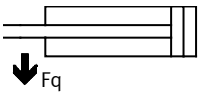
These specifications represent the maximum values that can be achieved. The maximum permissible impact energy must be observed.

Datasheet

Lateral force Fq as a function of stroke length l

Basic version





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

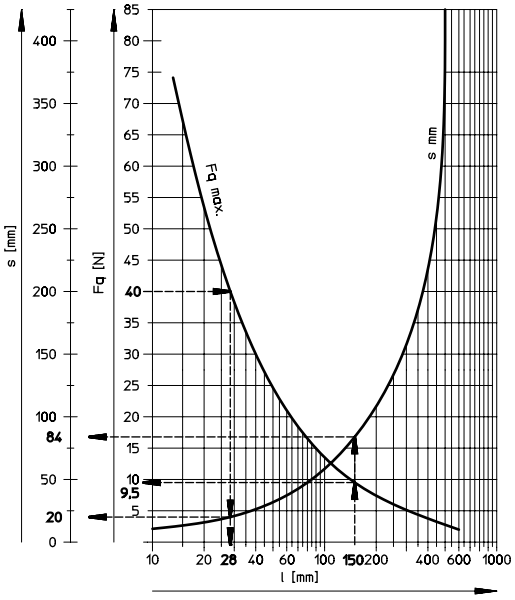
Datasheet

Max. transverse force Fq as a function of stroke length l and lever arm s

Q – Square piston rod

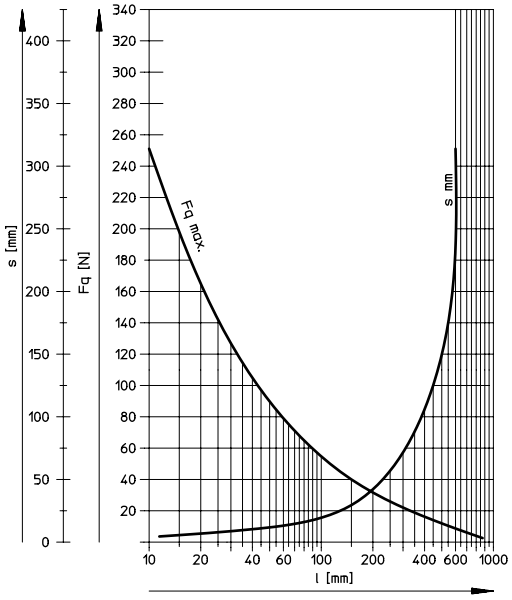
Ø 32

Max. torque = 800 Nmm/max. stroke = 300 mm



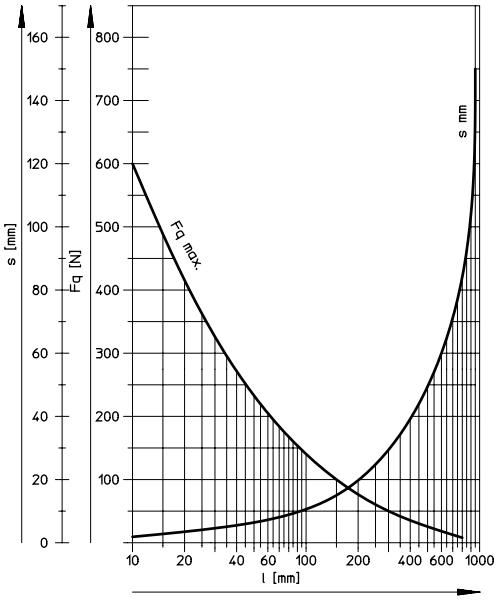
Ø 40

Max. torque = 1100 Nmm/max. stroke = 400 mm



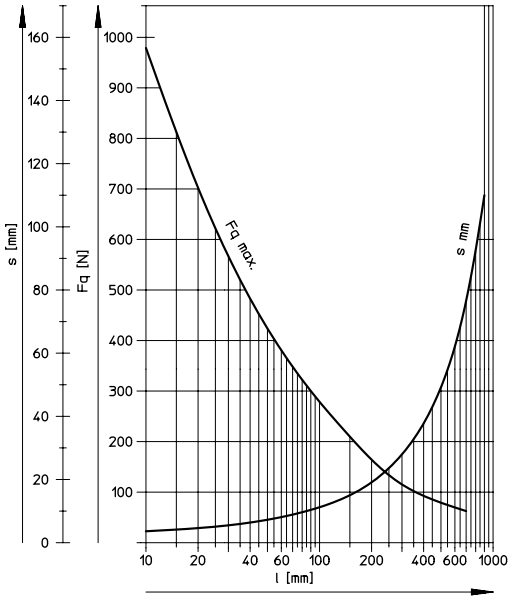
Ø 5 0/63

Max. torque = 1500 Nmm/max. stroke = 500 mm



Ø 8 0/100

Max. torque = 3000 Nmm/max. stroke = 600 mm



Examples for piston diameter 32 mm

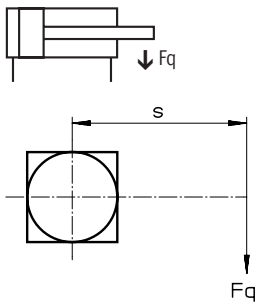
Example 1:
Stroke length l = 150 mm
Result: permissible
Lateral force Fq = 9.5 N
Lever arm s = 84 mm

Example 2:
Lateral force Fq = 40 N
Result: permissible
Stroke length l = 28 mm
Lever arm s = 20 mm

Example 3:
Stroke length l = 150 mm
Lever arm s = 100 mm

Fq = max. torque/lever arm
= 800 Nmm/100 mm

Result: permissible
Fq = 8 N ‹ $Fq_{max.}$ = 9.5 N



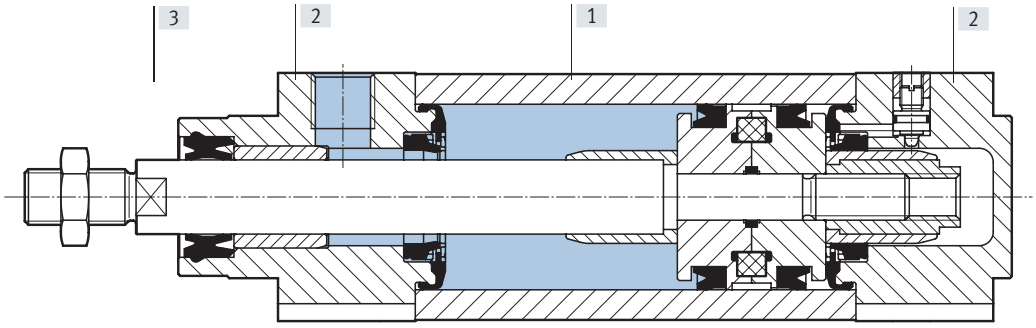
Datasheet

Weight [g]							
Piston Ø	32	40	50	63	80	100	125
Basic version							
Product weight with 0 mm stroke	517	800	1260	1709	2790	4653	6771
Additional weight per 10 mm stroke	30	45	64	73	106	115	168
Moving mass with 0 mm stroke	162	307	538	663	1131	1544	2809
Additional mass per 10 mm stroke	9	16	25	25	38	38	63
Q – Square piston rod							
Product weight with 0 mm stroke	504	738	1187	1632	2652	4508	–
Additional weight per 10 mm stroke	29	41	60	68	99	108	–
Moving mass with 0 mm stroke	149	244	465	587	994	1399	–
Additional mass per 10 mm stroke	8	11	20	20	31	31	–
S2 – Through piston rod							
Product weight with 0 mm stroke	576	895	1 390	1917	3114	5297	7529
Additional weight per 10 mm stroke	39	61	89	98	144	153	231
Moving mass with 0 mm stroke	170	330	560	711	1200	1660	2925
Additional mass per 10 mm stroke	18	32	50	50	76	76	126
K10 – Smooth anodised piston rod							
Product weight with 0 mm stroke	443	655	1001	1437	2302	4138	5719
Additional weight per 10 mm stroke	24	35	47	57	81	90	127
Moving mass with 0 mm stroke	88	162	279	391	643	1029	1757
Additional mass 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	1181	1676	2701	4821	6674
Additional weight per 10 mm stroke	27	40	56	65	94	103	148
Moving mass with 0 mm stroke	108	201	351	470	787	1184	2070
Additional mass per 10 mm stroke	6	11	17	17	26	26	43

Datasheet

Materials

Sectional view



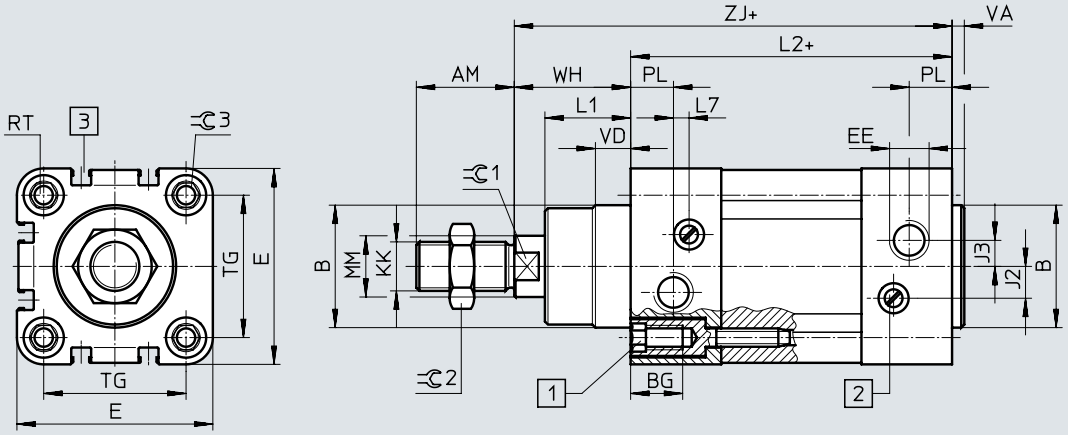
Standards-based cylinder		Basic version	K10	R3
[1]	Profile tube	Smooth-anodised wrought aluminium alloy		
[2]	Bearing and end caps	Die-cast aluminium		
[3]	Piston rod	High-alloy steel	Anodised wrought aluminium alloy	High-alloy stainless steel
–	Seals	Polyurethane, nitrile rubber		
	Note on materials	RoHS-compliant		

Standards-based cylinder		R8	S6	S10	S11
[1]	Profile tube	Smooth-anodised wrought aluminium alloy			
[2]	Bearing and end caps	Die-cast aluminium			
[3]	Piston rod	Hard-chrome-plated tempered steel	High-alloy steel		
–	Seals	Polyurethane, nitrile rubber	Fluoro rubber		
	Note on materials	RoHS-compliant			
		–		Contains paint-wetting impairment substances	
	LABS (PWIS) conformity	VDMA24364-B1/B2-L		VDMA24364 zone III	

Datasheet

Dimensions – Basic version

Download CAD data ➔ www.festo.com



[1] For mounting accessories:
Ø 32 ... 100: Socket head screw with female thread
Ø 125: Thread in cover

[2] Adjusting screw for adjustable end-position cushioning

[3] Sensor slot for proximity switch SME/SMT-8

\+ = plus stroke length

Ø [mm]	AM	B Ø d11	BG	E	EE	J2	J3	KK	L1	L2
32	22	30	16	45	G1/8	6	5.2	M10x1.25	18	94
40	24	35	16	54	G1/4	8	6	M12x1.25	21.5	105
50	32	40	17	64	G1/4	10.4	8.5	M16x1.5	28	106
63	32	45	17	75	G3/8	12.4	10	M16x1.5	28.5	121
80	40	45	17	93	G3/8	12.5	8	M20x1.5	34.7	128
100	40	55	17	110	G1/2	12	10	M20x1.5	38.2	138
125	54	60	20	134	G1/2	13	8	M27x2	46	160

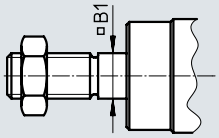
Ø [mm]	L7	MM Ø	PL	RT	TG	VA	VD	WH	ZJ	1	2	3
32	3.3	12	15.6	M6	32.5	4	10	26	120	10	16	6
40	3.6	16	14	M6	38	4	10.5	30	135	13	18	6
50	5.1	20	14	M8	46.5	4	11.5	37	143	17	24	8
63	6.6	20	17	M8	56.5	4	15	37	158	17	24	8
80	10.5	25	16.4	M10	72	4	15.7	46	174	22	30	6
100	8	25	18.8	M10	89	4	19.2	51	189	22	30	6
125	14	32	18	M12	110	6	20.5	65	225	27	36	8

Note: This product conforms to ISO 1179-1 and ISO 228-1.

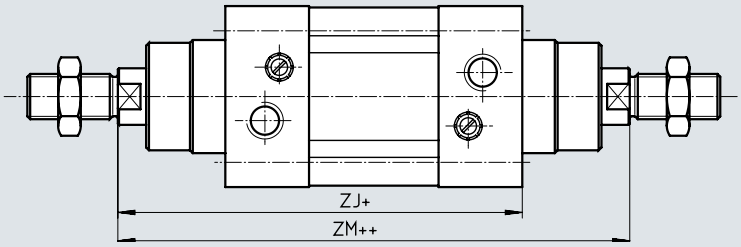
Datasheet

Dimensions – Variants Download CAD data ➔ www.festo.com

Q – Square piston rod

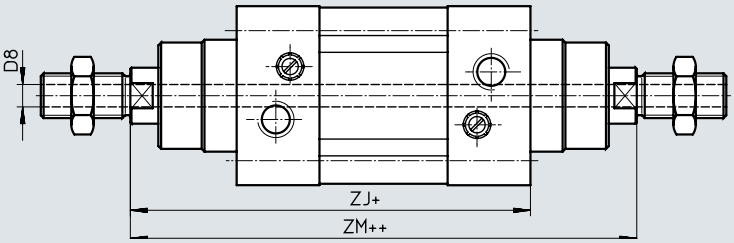


S2 – Through piston rod



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

S20 – Through, hollow piston rod



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

ø [mm]	B1 □	D8 ø	ZJ	ZM
32	10	4.5	120	148
40	12	5.5	135	167
50	16	8[1)]	143	183
63	16	8	158	199
80	20	11.7	174	222
100	20	11.7	189	240
125	–	13	225	291

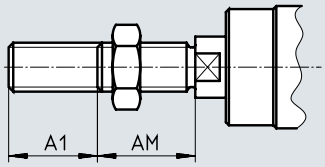
1) Internal narrowing to 5.5 mm diameter

Datasheet

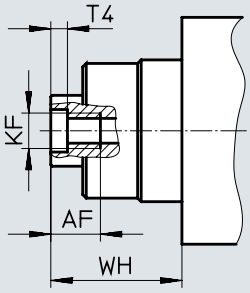
Dimensions – Variants

Download CAD data ➔ www.festo.com

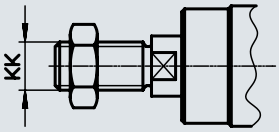
K2 – Extended male piston rod thread



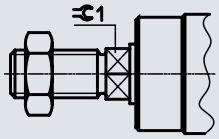
K3 – Female piston rod thread



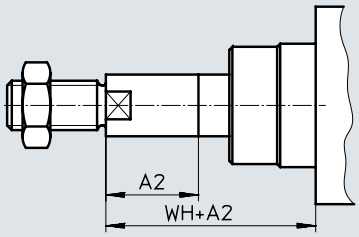
K5 – Custom piston rod thread



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

ø [mm]	A1 max.	A2 max.	AF	AM	KF	KK Basic thread	KK Custom thread[1]	T4	WH	⬡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 custom threads are only available as male threads. The mounting nut on the piston rod thread is included in the scope of delivery

Datasheet

Ordering data – Without position sensing

Piston ø [mm]	Stroke [mm]	Part no.	Type[1)]	Piston ø [mm]	Stroke [mm]	Part no.	Type[1)]
32	25	**163319**	**DNC-32-25-PPV**	40	25	**163351**	**DNC-40-25-PPV**
	40	**163320**	**DNC-32-40-PPV**		40	**163352**	**DNC-40-40-PPV**
	50	**163321**	**DNC-32-50-PPV**		50	**163353**	**DNC-40-50-PPV**
	80	**163322**	**DNC-32-80-PPV**		80	**163354**	**DNC-40-80-PPV**
	100	**163323**	**DNC-32-100-PPV**		100	**163355**	**DNC-40-100-PPV**
	125	**163324**	**DNC-32-125-PPV**		125	**163356**	**DNC-40-125-PPV**
	160	**163325**	**DNC-32-160-PPV**		160	**163357**	**DNC-40-160-PPV**
	200	**163326**	**DNC-32-200-PPV**		200	**163358**	**DNC-40-200-PPV**
	250	**163327**	**DNC-32-250-PPV**		250	**163359**	**DNC-40-250-PPV**
	320	**163328**	**DNC-32-320-PPV**		320	**163360**	**DNC-40-320-PPV**
	400	**163329**	**DNC-32-400-PPV**		400	**163361**	**DNC-40-400-PPV**
	500	**163330**	**DNC-32-500-PPV**		500	**163362**	**DNC-40-500-PPV**
50	25	**163383**	**DNC-50-25-PPV**	63	25	**163415**	**DNC-63-25-PPV**
	40	**163384**	**DNC-50-40-PPV**		40	**163416**	**DNC-63-40-PPV**
	50	**163385**	**DNC-50-50-PPV**		50	**163417**	**DNC-63-50-PPV**
	80	**163386**	**DNC-50-80-PPV**		80	**163418**	**DNC-63-80-PPV**
	100	**163387**	**DNC-50-100-PPV**		100	**163419**	**DNC-63-100-PPV**
	125	**163388**	**DNC-50-125-PPV**		125	**163420**	**DNC-63-125-PPV**
	160	**163389**	**DNC-50-160-PPV**		160	**163421**	**DNC-63-160-PPV**
	200	**163390**	**DNC-50-200-PPV**		200	**163422**	**DNC-63-200-PPV**
	250	**163391**	**DNC-50-250-PPV**		250	**163423**	**DNC-63-250-PPV**
	320	**163392**	**DNC-50-320-PPV**		320	**163424**	**DNC-63-320-PPV**
	400	**163393**	**DNC-50-400-PPV**		400	**163425**	**DNC-63-400-PPV**
	500	**163394**	**DNC-50-500-PPV**		500	**163426**	**DNC-63-500-PPV**
80	25	**163447**	**DNC-80-25-PPV**	100	25	**163479**	**DNC-100-25-PPV**
	40	**163448**	**DNC-80-40-PPV**		40	**163480**	**DNC-100-40-PPV**
	50	**163449**	**DNC-80-50-PPV**		50	**163481**	**DNC-100-50-PPV**
	80	**163450**	**DNC-80-80-PPV**		80	**163482**	**DNC-100-80-PPV**
	100	**163451**	**DNC-80-100-PPV**		100	**163483**	**DNC-100-100-PPV**
	125	**163452**	**DNC-80-125-PPV**		125	**163484**	**DNC-100-125-PPV**
	160	**163453**	**DNC-80-160-PPV**		160	**163485**	**DNC-100-160-PPV**
	200	**163454**	**DNC-80-200-PPV**		200	**163486**	**DNC-100-200-PPV**
	250	**163455**	**DNC-80-250-PPV**		250	**163487**	**DNC-100-250-PPV**
	320	**163456**	**DNC-80-320-PPV**		320	**163488**	**DNC-100-320-PPV**
	400	**163457**	**DNC-80-400-PPV**		400	**163489**	**DNC-100-400-PPV**
	500	**163458**	**DNC-80-500-PPV**		500	**163490**	**DNC-100-500-PPV**
125	25	**163511**	**DNC-125-25-PPV**				
	40	**163512**	**DNC-125-40-PPV**				
	50	**163513**	**DNC-125-50-PPV**				
	80	**163514**	**DNC-125-80-PPV**				
	100	**163515**	**DNC-125-100-PPV**				
	125	**163516**	**DNC-125-125-PPV**				
	160	**163517**	**DNC-125-160-PPV**				
	200	**163518**	**DNC-125-200-PPV**				
	250	**163519**	**DNC-125-250-PPV**				
	320	**163520**	**DNC-125-320-PPV**				
	400	**163521**	**DNC-125-400-PPV**				
	500	**163522**	**DNC-125-500-PPV**				

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

Datasheet

Ordering data – With position sensing

Piston Ø [mm]	Stroke [mm]	Part no.	Type[1)]	Piston Ø [mm]	Stroke [mm]	Part no.	Type[1)]
32	20	**1922617**	**DNC-32-20-PPV-A**	40	20	**1922623**	**DNC-40-20-PPV-A**
	25	**163305**	**DNC-32-25-PPV-A**		25	**163337**	**DNC-40-25-PPV-A**
	30	**1922618**	**DNC-32-30-PPV-A**		30	**1922624**	**DNC-40-30-PPV-A**
	40	**163306**	**DNC-32-40-PPV-A**		40	**163338**	**DNC-40-40-PPV-A**
	50	**163307**	**DNC-32-50-PPV-A**		50	**163339**	**DNC-40-50-PPV-A**
	60	**1922619**	**DNC-32-60-PPV-A**		60	**1922625**	**DNC-40-60-PPV-A**
	70	**1922620**	**DNC-32-70-PPV-A**		70	**1922626**	**DNC-40-70-PPV-A**
	80	**163308**	**DNC-32-80-PPV-A**		80	**163340**	**DNC-40-80-PPV-A**
	100	**163309**	**DNC-32-100-PPV-A**		100	**163341**	**DNC-40-100-PPV-A**
	125	**163310**	**DNC-32-125-PPV-A**		125	**163342**	**DNC-40-125-PPV-A**
	150	**1922621**	**DNC-32-150-PPV-A**		150	**1922627**	**DNC-40-150-PPV-A**
	160	**163311**	**DNC-32-160-PPV-A**		160	**163343**	**DNC-40-160-PPV-A**
	200	**163312**	**DNC-32-200-PPV-A**		200	**163344**	**DNC-40-200-PPV-A**
	250	**163313**	**DNC-32-250-PPV-A**		250	**163345**	**DNC-40-250-PPV-A**
	300	**1922622**	**DNC-32-300-PPV-A**		300	**1922628**	**DNC-40-300-PPV-A**
	320	**163314**	**DNC-32-320-PPV-A**		320	**163346**	**DNC-40-320-PPV-A**
	400	**163315**	**DNC-32-400-PPV-A**		400	**163347**	**DNC-40-400-PPV-A**
	500	**163316**	**DNC-32-500-PPV-A**		500	**163348**	**DNC-40-500-PPV-A**
50	20	**1922629**	**DNC-50-20-PPV-A**	63	20	**1922635**	**DNC-63-20-PPV-A**
	25	**163369**	**DNC-50-25-PPV-A**		25	**163401**	**DNC-63-25-PPV-A**
	30	**1922630**	**DNC-50-30-PPV-A**		30	**1922636**	**DNC-63-30-PPV-A**
	40	**163370**	**DNC-50-40-PPV-A**		40	**163402**	**DNC-63-40-PPV-A**
	50	**163371**	**DNC-50-50-PPV-A**		50	**163403**	**DNC-63-50-PPV-A**
	60	**1922631**	**DNC-50-60-PPV-A**		60	**1922637**	**DNC-63-60-PPV-A**
	70	**1922632**	**DNC-50-70-PPV-A**		70	**1922638**	**DNC-63-70-PPV-A**
	80	**163372**	**DNC-50-80-PPV-A**		80	**163404**	**DNC-63-80-PPV-A**
	100	**163373**	**DNC-50-100-PPV-A**		100	**163405**	**DNC-63-100-PPV-A**
	125	**163374**	**DNC-50-125-PPV-A**		125	**163406**	**DNC-63-125-PPV-A**
	150	**1922633**	**DNC-50-150-PPV-A**		150	**1922639**	**DNC-63-150-PPV-A**
	160	**163375**	**DNC-50-160-PPV-A**		160	**163407**	**DNC-63-160-PPV-A**
	200	**163376**	**DNC-50-200-PPV-A**		200	**163408**	**DNC-63-200-PPV-A**
	250	**163377**	**DNC-50-250-PPV-A**		250	**163409**	**DNC-63-250-PPV-A**
	300	**1922634**	**DNC-50-300-PPV-A**		300	**1922640**	**DNC-63-300-PPV-A**
	320	**163378**	**DNC-50-320-PPV-A**		320	**163410**	**DNC-63-320-PPV-A**
	400	**163379**	**DNC-50-400-PPV-A**		400	**163411**	**DNC-63-400-PPV-A**
	500	**163380**	**DNC-50-500-PPV-A**		500	**163412**	**DNC-63-500-PPV-A**

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

Datasheet

Ordering data – With position sensing			
Piston Ø [mm]	Stroke [mm]	Part no.	Type[1]
80	20	1922641	DNC-80-20-PPV-A
	25	163433	DNC-80-25-PPV-A
	30	1922642	DNC-80-30-PPV-A
	40	163434	DNC-80-40-PPV-A
	50	163435	DNC-80-50-PPV-A
	60	1922643	DNC-80-60-PPV-A
	70	1922644	DNC-80-70-PPV-A
	80	163436	DNC-80-80-PPV-A
	100	163437	DNC-80-100-PPV-A
	125	163438	DNC-80-125-PPV-A
	150	1922645	DNC-80-150-PPV-A
	160	163439	DNC-80-160-PPV-A
	200	163440	DNC-80-200-PPV-A
	250	163441	DNC-80-250-PPV-A
	300	1922646	DNC-80-300-PPV-A
	320	163442	DNC-80-320-PPV-A
	400	163443	DNC-80-400-PPV-A
	500	163444	DNC-80-500-PPV-A
100	25	163465	DNC-100-25-PPV-A
	40	163466	DNC-100-40-PPV-A
	50	163467	DNC-100-50-PPV-A
	80	163468	DNC-100-80-PPV-A
	100	163469	DNC-100-100-PPV-A
	125	163470	DNC-100-125-PPV-A
	160	163471	DNC-100-160-PPV-A
	200	163472	DNC-100-200-PPV-A
	250	163473	DNC-100-250-PPV-A
	320	163474	DNC-100-320-PPV-A
	400	163475	DNC-100-400-PPV-A
	500	163476	DNC-100-500-PPV-A
125	25	163497	DNC-125-25-PPV-A
	40	163498	DNC-125-40-PPV-A
	50	163499	DNC-125-50-PPV-A
	80	163500	DNC-125-80-PPV-A
	100	163501	DNC-125-100-PPV-A
	125	163502	DNC-125-125-PPV-A
	160	163503	DNC-125-160-PPV-A
	200	163504	DNC-125-200-PPV-A
	250	163505	DNC-125-250-PPV-A
	320	163506	DNC-125-320-PPV-A
	400	163507	DNC-125-400-PPV-A
	500	163508	DNC-125-500-PPV-A

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

Datasheet

Ordering data – Variable stroke			
Piston Ø	Stroke	Without position sensing	
[mm]	[mm]	Part no.	Type[1]
32	10 ... 2000	**163318**	**DNC-32-...-PPV**
40	10 ... 2000	**163350**	**DNC-40-...-PPV**
50	10 ... 2000	**163382**	**DNC-50-...-PPV**
63	10 ... 2000	**163414**	**DNC-63-...-PPV**
80	10 ... 2000	**163446**	**DNC-80-...-PPV**
100	10 ... 2000	**163478**	**DNC-100-...-PPV**
125	10 ... 2000	**163510**	**DNC-125-...-PPV**

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

Ordering data – Variable stroke			
Piston Ø	Stroke	With position sensing	
[mm]	[mm]	Part no.	Type[1]
32	10 ... 2000	**163304**	**DNC-32-...-PPV-A**
40	10 ... 2000	**163336**	**DNC-40-...-PPV-A**
50	10 ... 2000	**163368**	**DNC-50-...-PPV-A**
63	10 ... 2000	**163400**	**DNC-63-...-PPV-A**
80	10 ... 2000	**163432**	**DNC-80-...-PPV-A**
100	10 ... 2000	**163464**	**DNC-100-...-PPV-A**
125	10 ... 2000	**163496**	**DNC-125-...-PPV-A**

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

Ordering data – Modular product system

Ordering table

Size	32	40	50	63	80	100	125	Conditions	Code		Enter code
Module no.	**163302**	**163334**	**163366**	**163398**	**163430**	**163462**	**163494**				
Function	Standards-based cylinder, double-acting, based on ISO 15552								**DNC**		DNC
Piston ⌀ [mm]	32	40	50	63	80	100	125		**-...**		
Stroke [mm]	10 ... 2000								**-...**		
Cushioning	Elastic cushioning rings/plates at both ends								**-P**		
	Pneumatic cushioning, adjustable at both ends							[15]	**-PPV**		
Position sensing	Via proximity switch								**-A**		
Protection against rotation	Square piston rod						–	[2]	**-Q**		
Piston rod type	Through piston rod							[3]	**-S2**		
	Through, hollow piston rod							[4]	**-S20**		
Extended male thread [mm]	Extended male piston rod thread										
	1 ... 35		1 ... 70					[5]	**-...K2**		
Female thread	Piston rod with female thread										
	(M6)	(M8)	(M10)	(M10)	(M12)	(M12)	(M16)	[6]	**-K3**		
Custom thread	Special piston rod thread										
	M10	M12	M16	M16	M20	M20	M27	[7]	**-...K5**		

[15] PPV Not with S11 for piston diameter 125

[2] Q Max. stroke: 10 ... 1500 mm.
In combination with S2: square piston rod at bearing cap end only.
Not with S20, K7, K10, S10, S11, R8

[3] S2 In combination with K2: thread extension at both ends.
In combination with K3: female thread at both ends.
In combination with K5: custom thread at both ends.
In combination with K8: piston rod extension at bearing cap end only.
Not with K7, S10, S11

[4] S20 Max. stroke: 850 mm.
Not with K2, K3, K5, K8, K10, S6, S10, S11, R8

[5] K2 Not with K3, K10

[6] K3 With K5: on request.
Not with K7

[7] K5 Not with K10

Ordering data – Modular product system

Ordering table

Size	32	40	50	63	80	100	125	Conditions	Code		Enter code
Special spanner flats	Piston rod with external hexagon							[8]	**-K7**		
Extended piston rod [mm]	Extended piston rod 1 ... 500								**-...K8**		
Improved running performance	Smooth anodised aluminium piston rod						–	[9]	**-K10**		
Temperature resistance	Heat-resistant seals max. 120°C							[10]	**-S6**		
Constant motion	Slow speed (constant motion at low piston speeds)						–	[12]	**-S10**		
Running characteristic	Low friction							[13]	**-S11**		
Corrosion protection	High corrosion protection							[14]	**-R3**		
Scraper	Dust protection								**-R8**		

[8] K7 Not with Q, S2, K10
[9] K10 Max. stroke: 1 000 mm.
Not with S6, R3, R8
[10] S6 Not with S10, S11, R8
[12] S10 Max. stroke: 500 mm; additional strokes on request.
Not with S11, R3, R8
[13] S11 Max. stroke: 500 mm; additional strokes on request.
Not with R3, R8
[14] R3 Not with R8

Ordering data

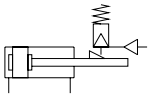
Sets of wearing parts				
	Part no.	Type	Part no.	Type
Piston ⌀	**Basic version**		**S6 – Heat-resistant seals up to max. 120 °C**	
32	**369195**	**DNC-32-...-PPV-(A)**	**384214**	**DNC-32-...-PPV-(A)-S6**
40	**369196**	**DNC-40-...-PPV-(A)**	**384215**	**DNC-40-...-PPV-(A)-S6**
50	**369197**	**DNC-50-...-PPV-(A)**	**384216**	**DNC-50-...-PPV-(A)-S6**
63	**369198**	**DNC-63-...-PPV-(A)**	**384217**	**DNC-63-...-PPV-(A)-S6**
80	**369199**	**DNC-80-...-PPV-(A)**	**384218**	**DNC-80-...-PPV-(A)-S6**
100	**369200**	**DNC-100-...-PPV-(A)**	**384219**	**DNC-100-...-PPV-(A)-S6**
125	**369201**	**DNC-125-...-PPV-(A)**	**384220**	**DNC-125-...-PPV-(A)-S6**

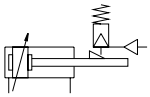
Datasheet

Function

DNC-...-KP

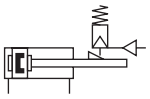
Without position sensing

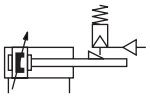




DNC-...-A-...-KP

With position sensing





Diameter
32 ... 125 mm

Stroke length
10 ... 2000 mm

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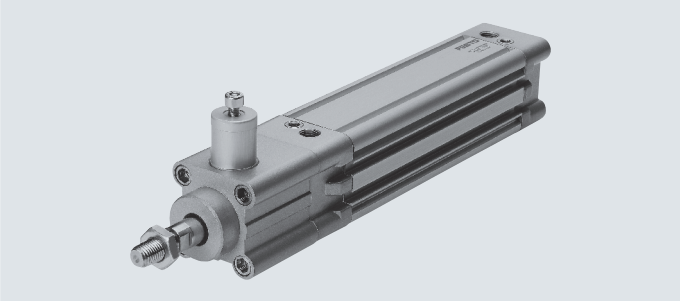
Sets of wearing parts
→ Page 32

Repair service
Piston diameter
80 ... 125 mm



Note

Additional measures are required for use in safety-related applications; in Europe, for example, the standards listed under the EC Machinery Directive must be observed.

Without additional measures in accordance with legally specified minimum requirements, the product is not suitable as a safety-related component in control systems.

General technical data								
Piston ⌀		32	40	50	63	80	100	125
Pneumatic connection	Cylinders	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
Axial backlash under load	[mm]	0.5		0.8				1.8
Design		Piston						
		Piston rod						
		Profile barrel						
		Clamping unit						
Cushioning		Elastic cushioning rings/plates at both ends						
		Pneumatic cushioning adjustable at both ends						
Cushioning length PPV	[mm]	20	20	22	22	32	32	42
Position sensing		Via proximity switch						
Type of mounting		With female thread						
		With accessories						
Mounting position		Any						
Clamping type with operating direction		On both sides						

Note: This product conforms to ISO 1179-1 and ISO 228-1.

Operating and environmental conditions		
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure [bar]		1.5 ... 10
	Q	1 ... 12
Min. release pressure	[bar]	3
Ambient temperature[1)]	[°C]	–10 ... +80
Corrosion resistance class CRC[2)]		2

1) Note operating range of proximity switches
2) More information: www.festo.com/x/topic/crc

Datasheet

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

Permissible impact velocity:

$$v = \sqrt{\frac{2 \cdot E}{m_1 + m_2}}$$

Maximum permissible mass:

$$m_2 = \frac{2 \cdot E}{v^2} - m_1$$

V	Permissible impact velocity
E	Max. impact energy
m1	Moving mass (drive)
m2	Moving payload

Note

These specifications represent the maximum values that can be achieved. The maximum permissible impact energy must be observed.

Forces [N] Piston Ø		32	40	50	63	80	100	125
Theoretical force at 6 bar, advancing		483	754	1 178	1870	3016	4712	7363
	S2	415	633	990	1682	2721	4418	6881
Theoretical force at 6 bar, retracting		415	633	990	1682	2721	4418	6881
	S2	415	633	990	1682	2721	4418	6881
Static holding force		600	1000	1400	2000	5000	5000	7500

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

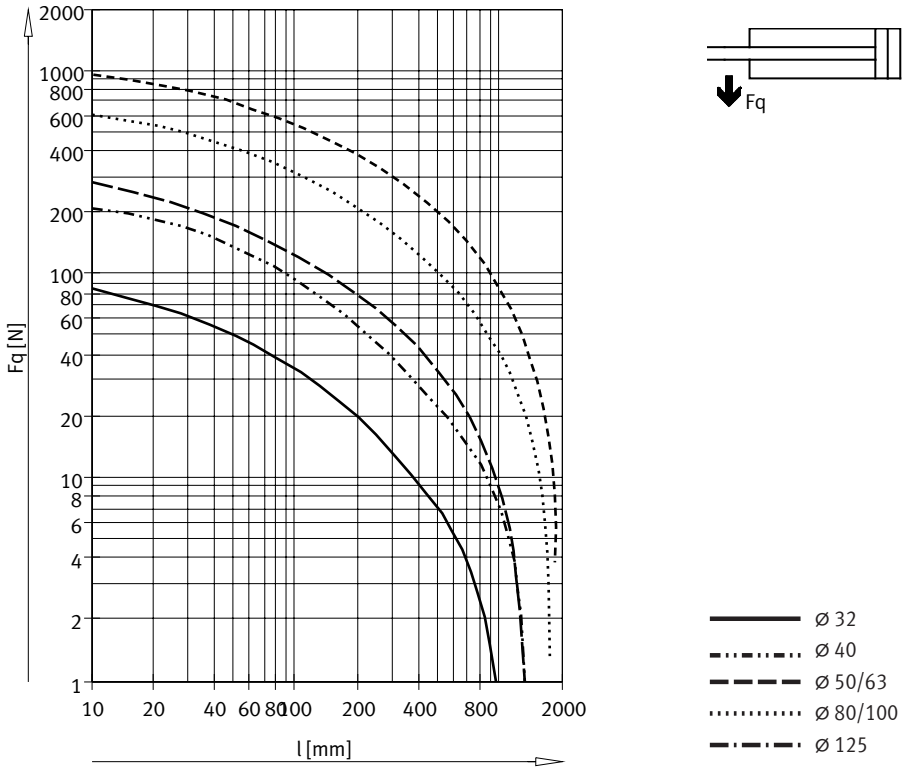
Control:

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 compressed air supply at both ends (e.g. with a 5/3-way valve) does not provide any safety.

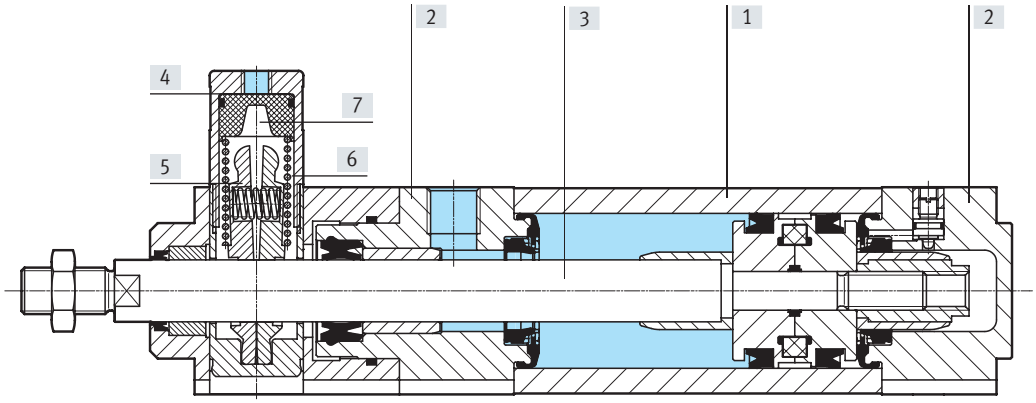
Datasheet

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



Materials

Sectional view



Standards-based cylinder		
[1]	Profile tube	Smooth-anodised wrought aluminium alloy
[2]	Bearing and end caps	Die-cast aluminium
[3]	Piston rod	High-alloy steel
[4]	Housing, clamping unit	Anodised wrought aluminium alloy
[5]	Clamping jaws	Brass
[6]	Spring	Spring steel
[7]	Piston	Polyacetal
–	Seals	Polyurethane, nitrile rubber
	Note on materials	RoHS-compliant
	LABS (PWIS) conformity	VDMA24364-B1/B2-L

Datasheet

Dimensions – Basic version

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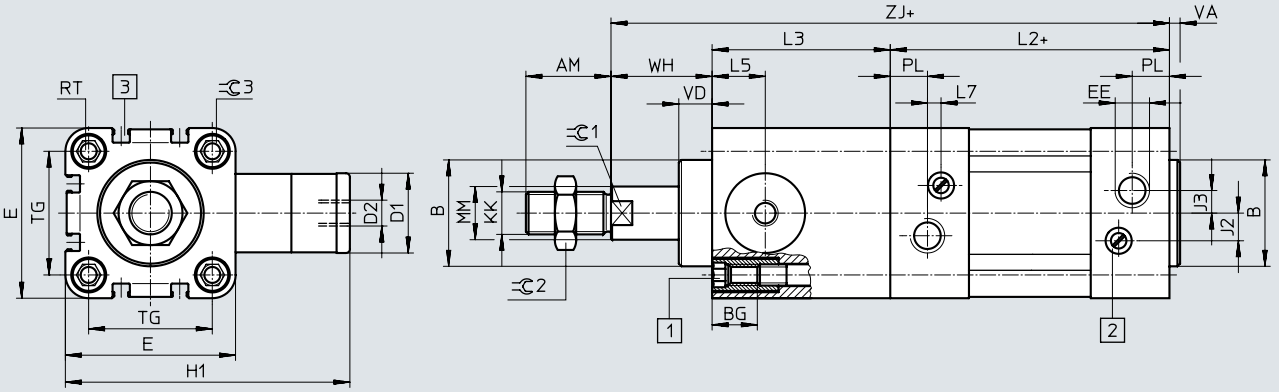


[1] For mounting accessories:
Ø 32 ... 100: Socket head screw with female thread
Ø 125: Thread in cover

[2] Adjusting screw for adjustable end-position cushioning

[3] Sensor slot for proximity switch SME/SMT-8

\+ = plus stroke length

Ø [mm]	AM	B Ø d11	BG	D1 Ø f9	D2	E	EE	H1	J2	J3	KK	L2	L3
32	22	30	16	20	M5	45	G1/8	67	6	5.2	M10x1.25	94	45
40	24	35	16	24	G1/8	54	G1/4	88	8	6	M12x1.25	105	53
50	32	40	17	30	G1/8	64	G1/4	107	10.4	8.5	M16x1.5	106	67
63	32	45	17	38	G1/8	75	G3/8	123	12.4	10	M16x1.5	121	76
80	40	45	17	48	G1/8	93	G3/8	165.5	12.5	8	M20x1.5	128	95
100	40	55	17	48	G1/8	110	G1/2	174	12	10	M20x1.5	138	98
125	54	60	22	65	G1/8	134	G1/2	207	13	8	M27x2	160	125

Ø [mm]	L5	L7	MM Ø	PL	RT	TG	VA	VD	WH	ZJ	⌯1	⌯2	⌯3
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 to ISO 1179-1 and ISO 228-1.

Note

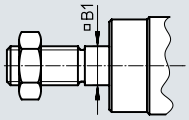
The dimensions for the cylinder/valve combination are on ➔ page 44

Datasheet

Dimensions – Variants

Download CAD data ➔ www.festo.com

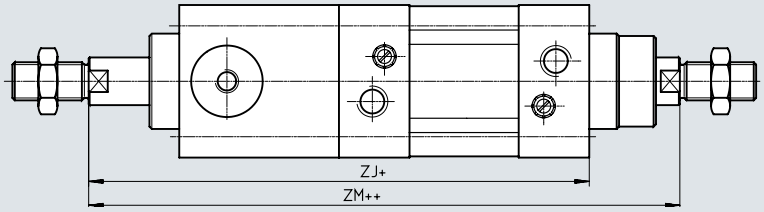
Q – Square piston rod



Note

Clamping unit and variant Q only in combination with S2

S2 – Through piston rod



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

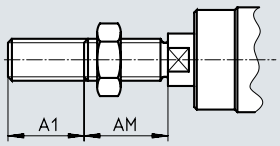
Note

The thread types at both piston rod ends are identical.

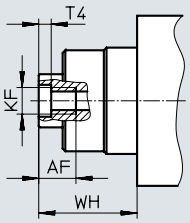
In combination with variant Q, the left-hand piston rod is round, the right-hand piston rod square.

The clamping unit is mounted on the left-hand, round piston rod.

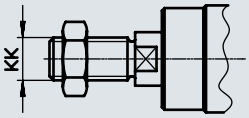
K2 – Extended male piston rod thread



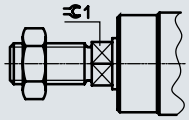
K3 – Female piston rod thread



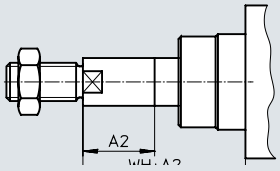
K5 – Custom piston rod thread



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, only the square piston rod is extended.

ø [mm]	A1 max.	A2 max.	AF	AM	B1 □	KF	KK Basic thread	KK Custom thread[1]	T4	WH	ZJ	ZM	⬡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 custom threads are only available as male threads. The mounting nut on the piston rod thread is included in the scope of delivery

Ordering data – Modular product system

Ordering table

Size		32	40	50	63	80	100	125	Conditions	Code		Enter code
Module no.		**163302**	**163334**	**163366**	**163398**	**163430**	**163462**	**163494**				
Function		Standards-based cylinders, double-acting, standard hole pattern, with clamping unit								**DNC**		DNC
Piston ⌀	[mm]	32	40	50	63	80	100	125		**-...**		
Stroke	[mm]	10 ... 2000								**-...**		
Cushioning		Elastic cushioning rings/plates at both ends								**-P**		
		Pneumatic cushioning adjustable at both ends								**-PPV**		
Position sensing		Via proximity switch								**-A**		
Protection against rotation		Square piston rod						–	[1]	**-Q**		
Piston rod type		Through piston rod							[2]	**-S2**		

[1] Q
Max. stroke: 10 ... 1500 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 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 extension at bearing cap end only
In combination with KP: clamping unit on end cap
Not with K7

Ordering data – Modular product system

Ordering table

Size	32	40	50	63	80	100	125	Conditions	Code		Enter code
Extended male thread [mm]	Extended male piston rod thread 1 … 35		1 … 70					[3]	**-…K2**		
Female thread	Piston rod with female thread (M6)	(M8)	(M10)	(M10)	(M12)	(M12)	(M16)	[4]	**-K3**		
Custom thread	Special piston rod thread M10	M12	M16	M16	M20	M20	M27		**-…K5**		
Special spanner flats	Piston rod with external hexagon								**-K7**		
Extended piston rod [mm]	Extended piston rod 1 … 500								**-…K8**		
Clamping unit	Attached							[5]	**-KP**		-KP
Cylinder/valve combination	Single solenoid valve, mounted on right, piston rod retracted when unactuated						–	[6]	**-V1**		
	Single solenoid valve, mounted on right, piston rod advanced when unactuated						–	[6]	**-V2**		
	Double solenoid valve, mounted on right						–	[6]	**-V3**		
	Single solenoid valve, mounted on left, piston rod retracted when unactuated						–	[6]	**-V4**		
	Single solenoid valve, mounted on left, piston rod advanced when unactuated						–	[6]	**-V5**		
	Double solenoid valve, mounted on left						–	[6]	**-V6**		

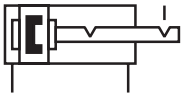
[3] K2 Not with K3
[4] K3 With K5: on request
Not with K7
[5] KP Without S2: clamping unit positioned at the bearing cap
[6] V… Min. stroke: 100 mm

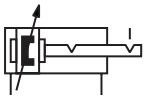
Ordering data

Sets of wearing parts	Part no.	Type
Piston ⌀	**Basic version**	
32	**369195**	**DNC-32-...-PPV-(A)**
40	**369196**	**DNC-40-...-PPV-(A)**
50	**369197**	**DNC-50-...-PPV-(A)**
63	**369198**	**DNC-63-...-PPV-(A)**
80	**369199**	**DNC-80-...-PPV-(A)**
100	**369200**	**DNC-100-...-PPV-(A)**
125	**369201**	**DNC-125-...-PPV-(A)**

Datasheet

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





Diameter
32 ... 125 mm

Stroke length
10 ... 2000 mm

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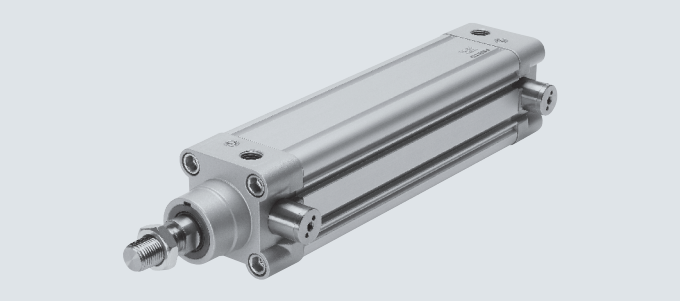
Sets of wearing parts
→ Page 24

Repair service



Note.

Additional measures are required for use in safety-related applications; 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 as a safety-relevant component in control systems.

General technical data							
Piston ⌀		32	40	50	63	80	100
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
Max. axial backlash with end position locked	[mm]	≤ 1.3				≤ 2.1	
Design		Piston					
		Piston rod					
		Profile barrel					
End-position locking	ELB	At both ends					
	ELV	Advanced					
	ELH	Rear					
Cushioning		Elastic cushioning rings/plates 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 switch					
Type of mounting		With female thread					
		With accessories					
Mounting position		Any					

Note: This product conforms to ISO 1179-1 and ISO 228-1.

Note

- End-position locking should only be used in conjunction with double-acting cylinders with exhaust air flow control in order to ensure that the lock is always completely released prior to starting the drive movement.
- Screws with a head or similar must not be used in place of end-position locking, as there is a risk that the function will be impaired if they are screwed in too deeply.
- The exhaust bore must not be closed.
- Locking can be activated from any stroke position once the drive is brought mechanically into its end position.
- End-position locking has been designed to prevent the load from dropping in case of pressure failure.
- A very tightly set end-position cushioning (more than 50% closed) can result in the locking bolt not engaging reliably, resulting in premature wear.

Datasheet

Operating and environmental conditions						
Piston Ø	32	40	50	63	80	100
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]					
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)					
Operating pressure [bar]	2.5 ... 12		1.5 ... 12			
Ambient temperature[1] [°C]	–20 ... +80					
Corrosion resistance class CRC[2]	2					

1) Note operating range of proximity switches
2) More information: www.festo.com/x/topic/crc

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

Permissible impact velocity:

$$v = \sqrt{\frac{2 \cdot E}{m_1 + m_2}}$$

Maximum permissible mass:

$$m_2 = \frac{2 \cdot E}{v^2} - m_1$$

V	Permissible impact velocity
E	Max. impact energy
m1	Moving mass (drive)
m2	Moving payload

Note

These specifications represent the maximum values that can be achieved. The maximum permissible impact energy must be observed.

Forces [N]						
Piston Ø	32	40	50	63	80	100
Theoretical force at 6 bar, advancing	483	754	1178	1870	3016	4712
Theoretical force at 6 bar, retracting	415	633	990	1682	2721	4418
Static holding force	500		2000		5000	

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.

Assuming:
Mounting position = vertical
Workpiece load = 44 kg
F = m x g = 44 kg x 9.81 m/s^2
= 431.6 N

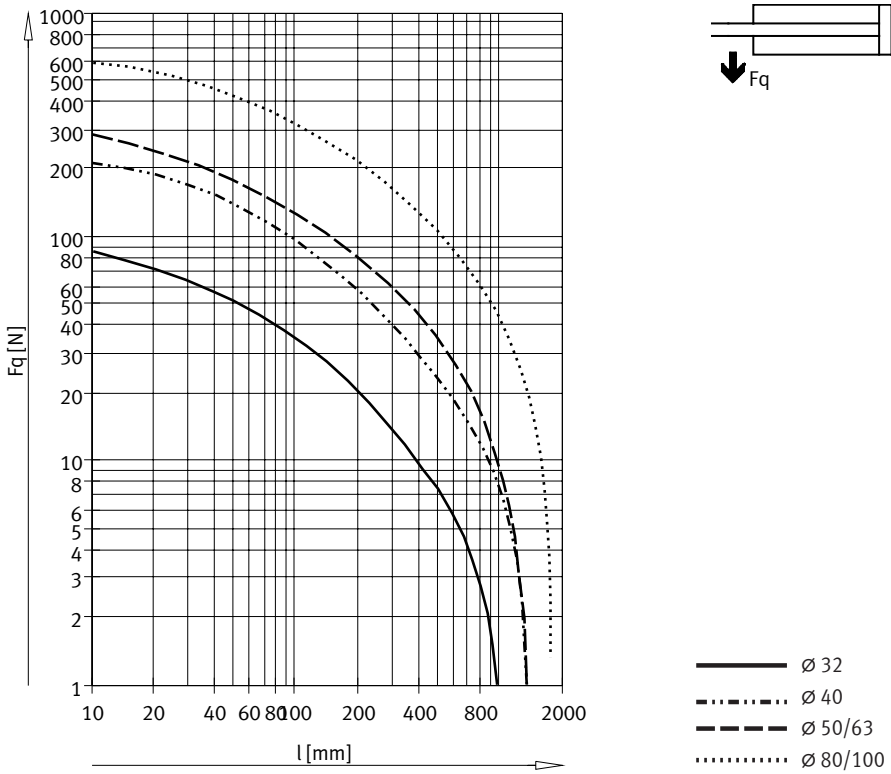
To be determined:
Suitable piston diameter

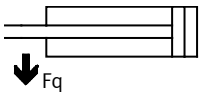
Example with piston diameter 32 mm:
Theoretical force at 6 bar, advancing = 483 N
50% of the theoretical force = 241.5 N
Static holding force with piston diameter 32 mm = 500 N
The static holding force of end-position locking is within the permissible range (max. 500 N) for a workpiece load of 44 kg (431.6 N); however, the cylinder would be at 89% capacity.

Results:
A cylinder with a piston diameter of 40 mm is therefore recommended for this application.

Datasheet

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

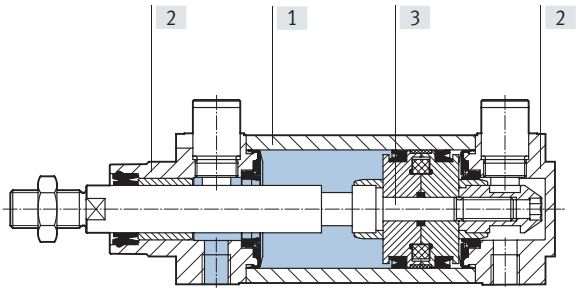




Weight [g]						
Piston Ø	32	40	50	63	80	100
Basic version						
Product weight with 0 mm stroke	537	820	1320	1769	2970	4833
Additional weight per 10 mm stroke	30	45	64	73	106	115
S2 – Through piston rod						
Product weight with 0 mm stroke	596	915	1450	1977	3294	5477
Additional weight per 10 mm stroke	39	61	89	98	144	153

Materials

Sectional view

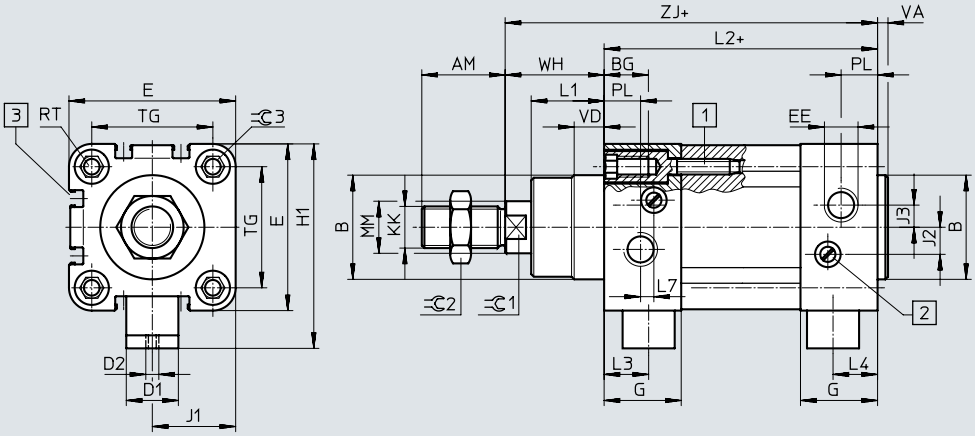


Standards-based cylinder		
[1]	Profile tube	Smooth-anodised wrought aluminium alloy
[2]	Bearing and end caps	Die-cast aluminium
[3]	Piston rod	High-alloy steel
–	Seals	Polyurethane, nitrile rubber
	Note on materials	RoHS-compliant
	LABS (PWIS) conformity	VDMA24364-B1/B2-L

Datasheet

Dimensions – Basic version

Download CAD data ➔ www.festo.com



[1] Socket head screw with female thread for mounting components

[2] Adjusting screw for adjustable end-position cushioning

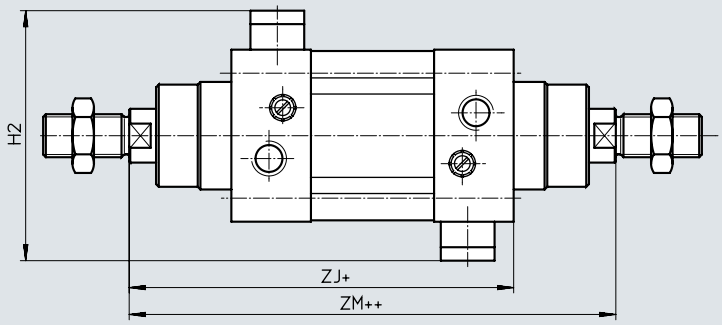
[3] Sensor slot for proximity switch

\+ = plus stroke length

Dimensions – Variants

Download CAD data ➔ www.festo.com

S2 – Through piston rod



\+ = plus stroke length

++ = plus 2x stroke length

ø [mm]	AM	B ø d11	BG	D1 ø f8	D2	E	EE	G	H1	H2	J1	J2	J3	KK	L1
32	22	30	16	13	M3	45	G1/8	25.1	57.5	70	22.5	6	5.2	M10x1.25	18
40	24	35	16	13	M3	54	G1/4	29.6	64	74	27	8	6	M12x1.25	21.5
50	32	40	17	20	M5	64	G1/4	29.6	78.5	93	32	10.4	8.5	M16x1.5	28
63	32	45	17	20	M5	75	G3/8	35.6	84.5	93	37.5	12.4	10	M16x1.5	28.5
80	40	45	17	30	M5	93	G3/8	35.9	104.5	116	46.5	12.5	8	M20x1.5	34.7
100	40	55	17	30	M5	110	G1/2	38.8	113.5	116	55	12	10	M20x1.5	38.2

ø [mm]	L2	L3	L4	L7	MM ø	PL	RT	TG	VA	VD	WH ±2	ZM	ZJ	=⊂1	=⊂2	=⊂3
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

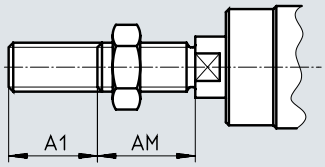
Note: This product conforms to ISO 1179-1 and ISO 228-1.

Datasheet

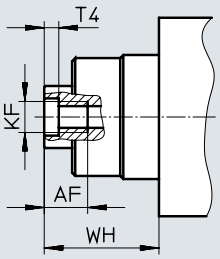
Dimensions – Variants

Download CAD data ➔ www.festo.com

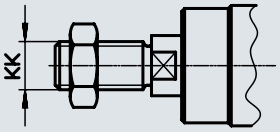
K2 – Extended male piston rod thread



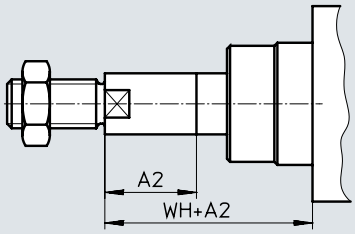
K3 – Female piston rod thread



K5 – Special piston rod thread



K8 – Extended piston rod



Note

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

Ø [mm]	A1 max.	A2 max.	AF	AM	KF	KK		T4	WH	=⊂1
						Basic thread	Custom 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 custom threads are only available as male threads. The mounting nut on the piston rod thread is included in the scope of delivery

Ordering data – Modular product system

Ordering table

Size		32	40	50	63	80	100	Conditions	Code		Enter code
Module no.		**163302**	**163334**	**163366**	**163398**	**163430**	**163462**				
Function		Standards-based cylinders, double-acting, standard hole pattern, with end-position locking							**DNC**		DNC
Piston ø	[mm]	32	40	50	63	80	100		**-...**		
Stroke	[mm]	10 ... 2000							**-...**		
Cushioning		Elastic cushioning rings/plates at both ends							**-P**		
		Pneumatic cushioning, adjustable at both ends							**-PPV**		
Position sensing		Via proximity switch							**-A**		
Piston rod type		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: custom thread at both ends

Ordering data – Modular product system

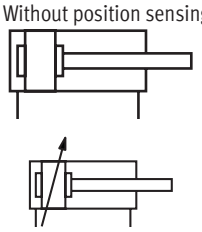
Ordering table

Size	32	40	50	63	80	100	Conditions	Code		Enter code
Extended male thread	Extended male piston rod thread									
[mm]	1 … 35		1 … 70				[2]	**-…K2**		
Female thread	Piston rod with female thread									
	(M6)	(M8)	(M10)	(M10)	(M12)	(M12)	[3]	**-K3**		
Custom thread	Special piston rod thread									
	M10	M12	M16	M16	M20	M20		**-…K5**		
Extended piston rod	Extended piston rod									
[mm]	1 … 500							**-…K8**		
End-position locking	On both sides						[4]	**-ELB**		
	Advanced						[4]	**-ELV**		
	Rear						[4]	**-ELH**		

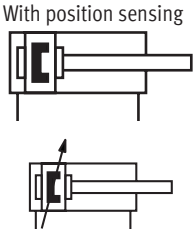
[2] K2 Not with K3
[3] K3 With K5: on request
[4] ELB, ELV, ELH In combination with K8 and S2 on request only

Datasheet

Function
DNC-...
Without position sensing



DNC-...-A-...
With position sensing



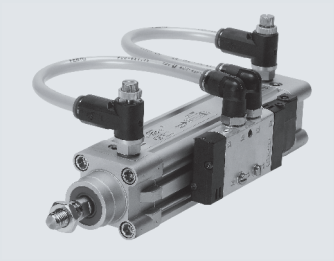
Diameter
32 ... 100 mm

Stroke length
100 ... 2000 mm

www.festo.com

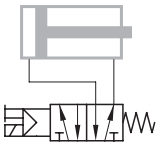
Sets of wearing parts
→ Page 32

Repair service
Piston diameter 80, 100 mm

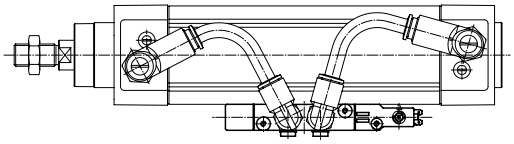


Valve variants

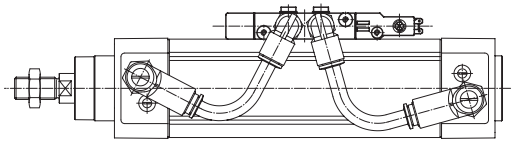
Single solenoid valve unactuated, piston rod retracted



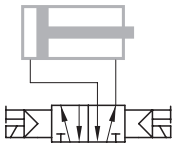
DNC- ... -V1 – mounted on right



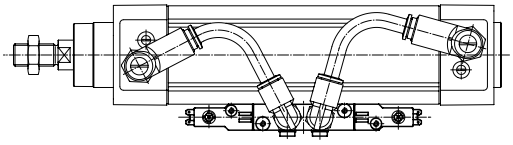
DNC- ... -V4 – mounted on left



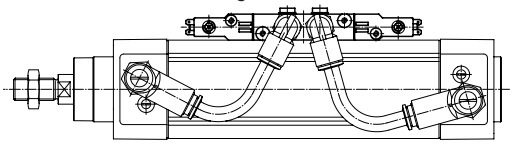
Double solenoid valve unactuated, piston rod retracted



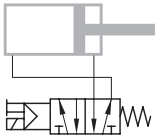
DNC- ... -V3 – mounted on right



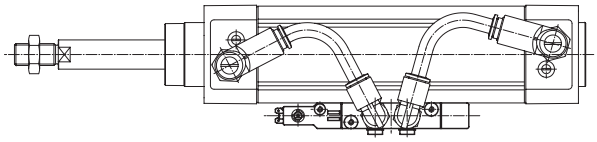
DNC- ... -V6 – mounted on right



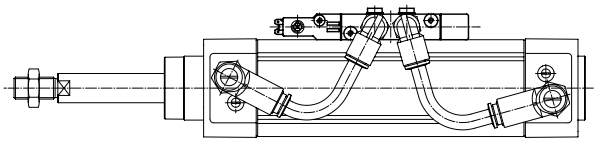
Single solenoid valve unactuated, piston rod advanced



DNC- ... -V2 – mounted on right

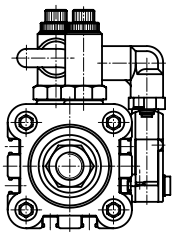


DNC- ... -V5 – mounted on left



Note
Mounted on left or right refers to looking at the piston rod from the front.

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



Datasheet

General technical data							
Piston ⌀		32	40	50	63	80	100
Cylinders							
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	M12
	K5	M10	M12	M16	M16	M20	M20
Design		Piston					
		Piston rod					
		Profile barrel					
Cushioning		Elastic cushioning rings/plates at both ends					
		Pneumatic cushioning adjustable at both ends					
Cushioning length PPV	[mm]	20	20	22	22	32	32
Position sensing		Via proximity switch					
Type of mounting		With female thread					
		With accessories					
Mounting position		Any					
Valve							Ordering data – Valve and accessories ➔ page 48
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	
Design		Piston spool valve					
Type of mounting		With mounting kit					
Operating voltage	[V DC]	24 +10/–15%					
Power consumption	[W]	1		1.5			
Duty cycle		100%					
Degree of protection with plug socket		IP65					

Note: This product conforms to ISO 1179-1 and ISO 228-1.

Operating and environmental conditions							
Piston ⌀		32	40	50	63	80	100
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]					
Note on the operating/pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)					
Operating pressure [bar]		3 ... 8		2.5 ... 10			
	Q	1 ... 12					
Ambient temperature[1]	[°C]	0 ... +50					
Corrosion resistance class CRC[2]		2					

1) Note operating range of proximity switches
2) More information: www.festo.com/x/topic/crc

Datasheet

Forces [N] and impact energy [J]							
Piston Ø		32	40	50	63	80	100
Theoretical force at 6 bar, advancing		483	754	1178	1870	3016	4712
	S2/S20	415	633	990	1682	2721	4418
Theoretical force at 6 bar, retracting		415	633	990	1682	2721	4418
	S2/S20	415	633	990	1682	2721	4418
Max. impact energy in the end positions[1)]		0.1	0.2	0.2	0.5	0.9	1.2

1) With variant K10 and S20, the permissible impact energy is reduced by approx. 10%

Permissible impact velocity:

$$v = \sqrt{\frac{2 \cdot E}{m_1 + m_2}}$$

Maximum permissible mass:

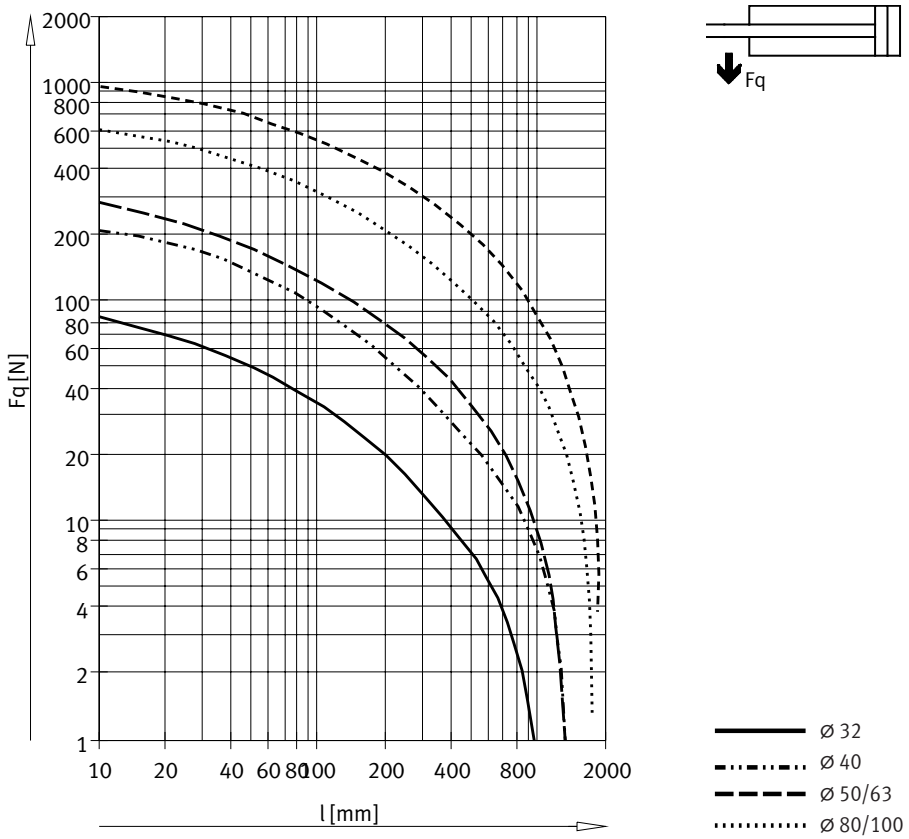
$$m_2 = \frac{2 \cdot E}{v^2} - m_1$$

V	Permissible impact velocity
E	Max. impact energy
m1	Moving mass (drive)
m2	Moving payload

Note

These specifications represent the maximum values that can be achieved. The maximum permissible impact energy must be observed.

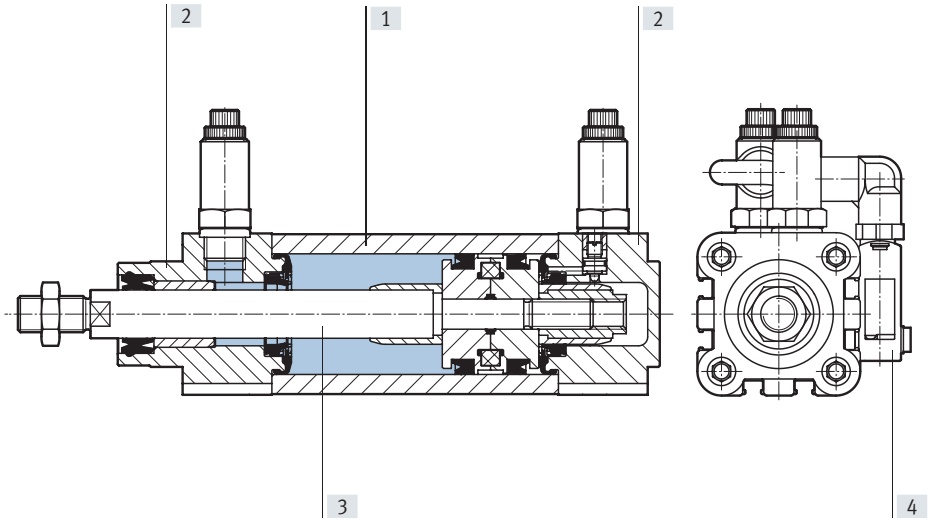
Max. transverse load Fq as a function of stroke length l



Datasheet

Materials

Sectional view

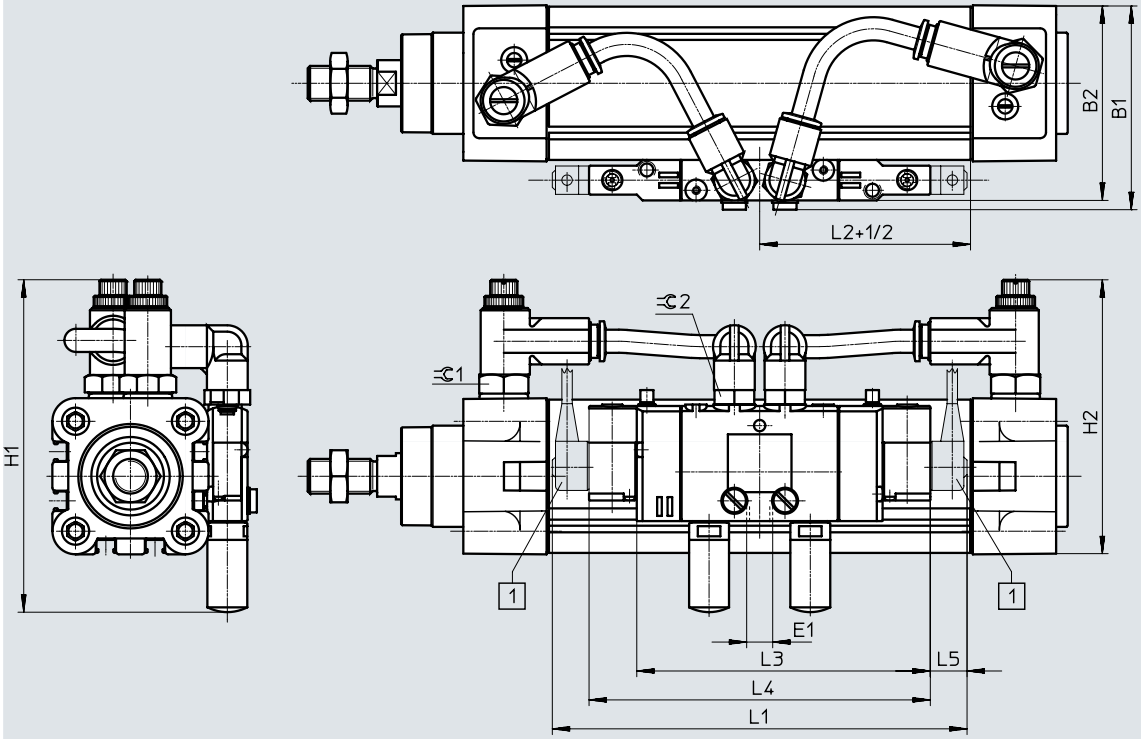


Standards-based cylinder		Basic version	R8	S10	S11	K10
[1]	Profile tube	Smooth-anodised wrought aluminium alloy				
[2]	Bearing and end caps	Die-cast aluminium				
[3]	Piston rod	High-alloy steel	Tempered steel	High-alloy steel		Anodised wrought aluminium alloy
–	Seals, cylinder	Polyurethane, nitrile rubber		Fluoro rubber		Polyurethane, nitrile rubber
[4]	Housing, valve	Die-cast aluminium, polyamide, steel				
–	Seals, valve	Nitrile rubber				
	Note on materials	RoHS-compliant				
	LABS (PWIS) conformity	VDMA24364-B1/B2-L		VDMA24364 zone III		VDMA24364-B1/B2-L

Datasheet

Dimensions

Download CAD data ➔ www.festo.com



[1] Connecting cable not included in scope of delivery

+1/2 = plus half stroke length

Datasheet

ø [mm]	B1	B2	E1	H1	H2	L1 max.	L2 ±3	L3	L4	L5	=⊂1	=⊂2
32	62	59	G1/8	$94^{+1.4}$	$71^{+1.4}$	136	22	102	118	13	13	14
40	71	68	G1/8	$106^{+1.9}$	$86^{+1.9}$	136	23	102	118	13	17	14
50	86	82	G1/4	$123^{+1.9}$	$96^{+1.9}$	209	24	138	163	23	17	14
63	97	93	G1/4	$138^{+2.2}$	$111^{+2.2}$	209	25	138	163	23	19	14
80	123	119	G3/8	$190^{+2.2}$	$129^{+2.2}$	236	28	165	190	23	19	17
100	140	136	G3/8	$213^{+2.0}$	$158^{+2.0}$	236	30	165	190	23	27	17

Note: This product conforms to ISO 1179-1 and ISO 228-1.

Note

Additional dimensions relating to the basic type and its variants can be found on
➔ page 15,
with clamping unit on
➔ page 28.

Ordering data – Modular product system

Ordering table

Size		32	40	50	63	80	100	Conditions	Code		Enter code
Module no.		**163302**	**163334**	**163366**	**163398**	**163430**	**163462**				
Function		Standards-based cylinders, double-acting, standard hole pattern, cylinder/valve combination							**DNC**		DNC
Piston ⌀	[mm]	32	40	50	63	80	100		**-...**		
Stroke	[mm]	100 ... 2000							**-...**		
Cushioning		Elastic cushioning rings/plates at both ends							**-P**		
		Pneumatic cushioning adjustable at both ends							**-PPV**		
Position sensing		Via proximity switch							**-A**		
Protection against rotation		Square piston rod						[1]	**-Q**		
Piston rod type		Through piston rod						[2]	**-S2**		
		Through, hollow piston rod						[3]	**-S20**		

[1] Q Max. stroke: 100 ... 1500 mm
In combination with S2: square piston rod at bearing cap end only
In combination with KP: only supplied with variant S2
Not with S20, K7, K10, S10, S11

[2] 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 extension at bearing cap end only
In combination with KP: clamping unit on end cap
Not with S20, K7, S10, S11

[3] S20 Max. stroke: 850 mm
Not with K2, K3, K5, K8, K10, KP, S10, S11

Ordering data – Modular product system

Ordering table Size	32	40	50	63	80	100	Conditions	Code		Enter code
Extended male thread [mm]	Extended male piston rod thread 1 ... 35		1 ... 70				[4]	-...K2		
Female thread	Piston rod with female thread (M6)	(M8)	(M10)	(M10)	(M12)	(M12)	[5]	-K3		
Custom thread	Special piston rod thread M10	M12	M16	M16	M20	M20	[6]	-...K5		
Special spanner flats	Piston rod with external hexagon						[7]	-K7		
Extended piston rod [mm]	Extended piston rod 1 ... 500							-...K8		
Improved running performance	Smooth anodised aluminium piston rod						[8]	-K10		
Clamping unit	Attached						[9]	-KP		
Constant motion	Slow speed (constant motion at low piston speeds)						[10]	-S10		
Running characteristic	Low friction						[11]	-S11		
Cylinder/valve combination	Monostable valve, mounted on the right, piston rod retracted when not actuated							-V1		
	Monostable valve, mounted on the right, piston rod advanced when not actuated							-V2		
	Double solenoid valve, mounted on right							-V3		
	Monostable valve, mounted on the left, piston rod retracted when not actuated							-V4		
	Monostable valve, mounted on the left, piston rod advanced when not actuated							-V5		
	Double solenoid valve, mounted on left							-V6		

[4] K2 Not with K3, K10
[5] K3 With K5: on request
Not with K7
[6] K5 Not with K10
[7] K7 Not with Q, S2, K10
[8] K10 Max. stroke: 1 000 mm
Not with KP
[9] KP Without S2: clamping unit positioned at the bearing cap
Not with S10, S11
[10] S10 Max. stroke: 500 mm; additional strokes on request
Not with S11
[11] S11 Max. stroke: 500 mm; additional strokes on request

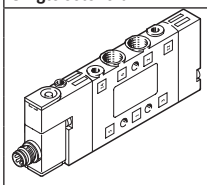
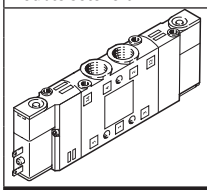
Note

If feature ...K5 (custom thread) is selected, the scope of delivery does not include the piston rod nut.

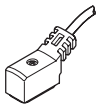
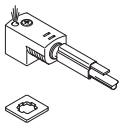
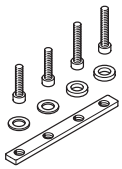
Accessories

Ordering data – Valves

Datasheets → Internet: cpe

	For ⌀ [mm]	Pneumatic connection	Degree of protection	Part no.	Type
Single solenoid					
	32	G1/8	IP65	**196941**	**CPE14-M1BH-5L-1/8**
	40				
	50	G1/4	IP65	**163142**	**CPE18-M1H-5L-1/4**
	63				
	80	G3/8	IP65	**163166**	**CPE24-M1H-5L-3/8**
	100				
Double solenoid					
	32	G1/8	IP65	**196939**	**CPE14-M1BH-5J-1/8**
	40				
	50	G1/4	IP65	**163143**	**CPE18-M1H-5J-1/4**
	63				
	80	G3/8	IP65	**163167**	**CPE24-M1H-5J-3/8**
	100				

Ordering data – Valve accessories

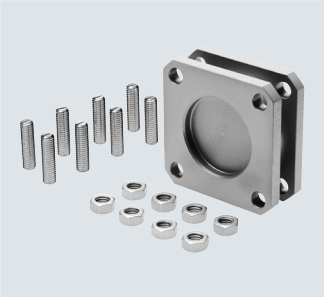
	For valve		Part no.	Type	PU[1]
Push-in fitting QS			Datasheets → Internet: qs		
	CPE14		**153015**	**QS-1/8-8-I**	10
	CPE18		**153018**	**QS-1/4-10-I**	
	CPE24		**153020**	**QS-3/8-12-I**	
Connecting cable NEBV/KMEB			Datasheets → Internet: nebv		
	CPE14	Cable length: 2.5 m	**8047679**	**NEBV-Z4WA2L-R-E-2.5-N-LE2-S1**	1
		Cable length: 5 m	**8047680**	**NEBV-Z4WA2L-R-E-5-N-LE2-S1**	
	CPE18	Cable length: 2.5 m	**151688**	**KMEB-1-24-2.5-LED**	1
	CPE24	Cable length: 5 m	**151689**	**KMEB-1-24-5-LED**	
		Cable length: 10 m	**193457**	**KMEB-1-24-10-LED**	
Mounting kit ZVB					
	CPE14		**185705**	**ZVB-8-1 4/18**	–
	CPE18				
	CPE24		**187388**	**ZVB-8-24**	–

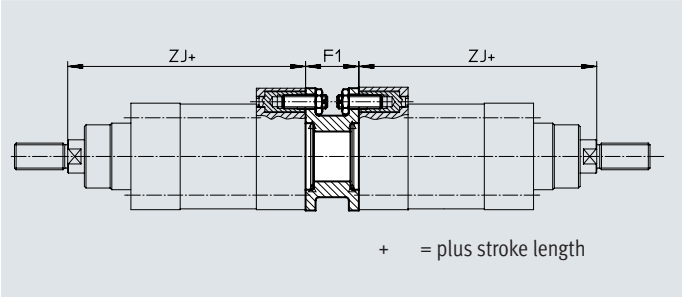
1) Packaging unit

Accessories

Multi-position kit DPNC

Material:
Flange: Wrought aluminium alloy
Threaded pins, hex nuts:
Galvanised steel
RoHS-compliant





Note

The maximum total stroke length must not be exceeded when combining cylinders and multi-position kits.

Dimensions and ordering data

For ⌀ [mm]	F1	ZJ Basic version	ZJ KP	Max. Total stroke [mm]	Weight [g]	Part no.	Type[1)]
32	27	120	165	500	249	**174418**	**DPNC-32**
40	27	135	188	800	343	**174419**	**DPNC-40**
50	32	143	210	800	332	**174420**	**DPNC-50**
63	28	158	234	700	387	**174421**	**DPNC-63**
80	38	174	269	1000	840	**174422**	**DPNC-80**
100	38	189	287	900	1194	**174423**	**DPNC-100**
125	48	225	350	1000	2090	**174424**	**DPNC-125**

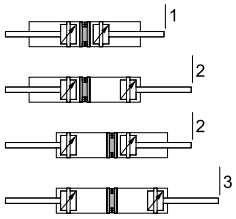
Connecting two cylinders with identical piston diameters to form a 3- or 4-position cylinder

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

This means that, depending on the actuation and stroke pattern, this type of cylinder can assume up to four positions. In each case the cylinder is moved precisely against a stop. Note that when one end of the piston rod is fixed, the cylinder barrel executes the movement. The connections to the cylinder must therefore be flexible.

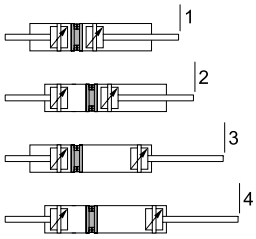
To achieve 3 positions

Two cylinders with the same stroke length must be connected to each other.



To achieve 4 positions

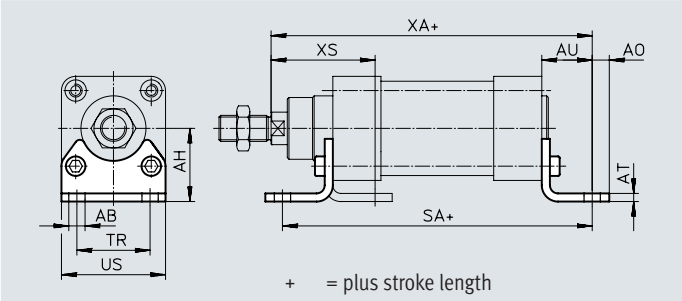
Two cylinders with different stroke lengths must be connected to each other.



Accessories

Foot mounting HNC/CRHNC

Material:
HNC: Galvanised steel
CRHNC: High-alloy steel



Dimensions and ordering data

For Ø [mm]	AB Ø	AH	AO	AT	AU	SA DNC-...	SA DNC-...-KP	TR	US	XA DNC-...	XA DNC-...-KP	XS
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

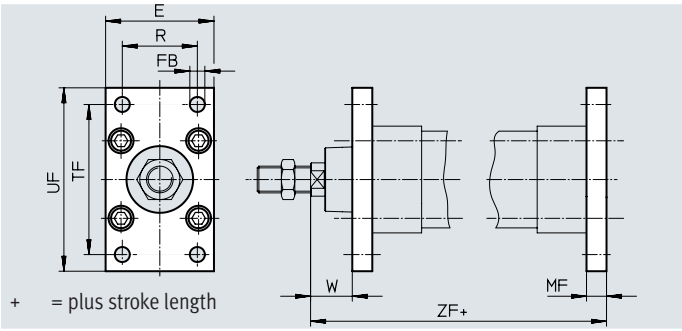
For Ø [mm]	Basic version CRC[1]	Basic version Weight [g]	Basic version Part no.	Basic version Type	Corrosion resistant CRC[1]	Corrosion resistant Weight [g]	Corrosion resistant Part no.	Corrosion resistant Type
32	1	144	**174369**	**HNC-32**	4	139	**176937**	**CRHNC-32**
40	1	193	**174370**	**HNC-40**	4	188	**176938**	**CRHNC-40**
50	1	353	**174371**	**HNC-50**	4	341	**176939**	**CRHNC-50**
63	1	436	**174372**	**HNC-63**	4	424	**176940**	**CRHNC-63**
80	1	829	**174373**	**HNC-80**	4	809	**176941**	**CRHNC-80**
100	1	1009	**174374**	**HNC-100**	4	990	**176942**	**CRHNC-100**
125	1	1902	**174375**	**HNC-125**	4	1920	**176943**	**CRHNC-125**

1) More information: www.festo.com/x/topic/crc

Accessories

Flange mounting FNC/CRFNG

Material:
FNC: Galvanised steel
CRFNG: high-alloy steel
RoHS-compliant
Cannot be used on the bearing cap in combination with bellows kit DADB.



Dimensions and ordering data

For Ø [mm]	E	FB Ø H13	MF	R	TF	UF	W	ZF DNC-...	ZF DNC-...-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

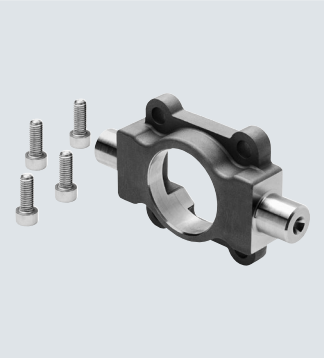
For Ø [mm]	Basic version				Corrosion resistant			
	CRC[1]	Weight [g]	Part no.	Type	CRC[1]	Weight [g]	Part no.	Type
32	1	221	**174376**	**FNC-32**	4	220	**161846**	**CRFNG-32**
40	1	291	**174377**	**FNC-40**	4	291	**161847**	**CRFNG-40**
50	1	536	**174378**	**FNC-50**	4	526	**161848**	**CRFNG-50**
63	1	679	**174379**	**FNC-63**	4	680	**161849**	**CRFNG-63**
80	1	1495	**174380**	**FNC-80**	4	1508	**161850**	**CRFNG-80**
100	1	2041	**174381**	**FNC-100**	4	2054	**161851**	**CRFNG-100**
125	1	3775	**174382**	**FNC-125**	4	3787	**185363**	**CRFNG-125**

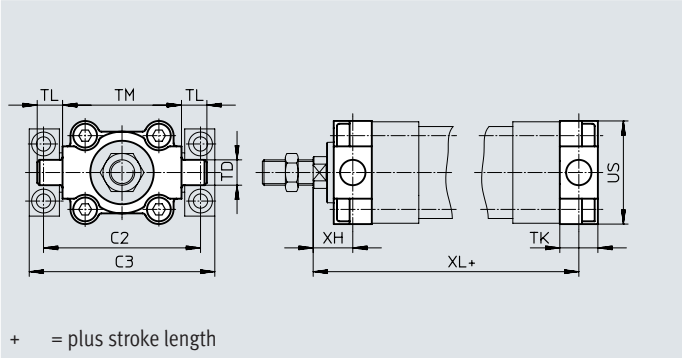
1) More information: www.festo.com/x/topic/crc

Accessories

Trunnion flange ZNCF/CRZNG

Material:
ZNCF: Stainless steel casting
CRZNG: Electropolished stainless steel casting
RoHS-compliant
Cannot be used on the bearing cap in combination with bellows kit DADB.





+ = plus stroke length

Dimensions and ordering data

For Ø [mm]	C2)	C3)	TD Ø e9	TK	TL	TM	US	XH	XL DNC-...	XL DNC-...-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	Basic version				Corrosion resistant			
[mm]	CRC[1)]	Weight [g]	Part no.	Type	CRC[1)]	Weight [g]	Part no.	Type
32	2	150	**174411**	**ZNCF-32**	4	150	**161852**	**CRZNG-32**
40	2	285	**174412**	**ZNCF-40**	4	285	**161853**	**CRZNG-40**
50	2	473	**174413**	**ZNCF-50**	4	473	**161854**	**CRZNG-50**
63	2	687	**174414**	**ZNCF-63**	4	687	**161855**	**CRZNG-63**
80	2	1296	**174415**	**ZNCF-80**	4	1296	**161856**	**CRZNG-80**
100	2	2254	**174416**	**ZNCF-100**	4	2254	**161857**	**CRZNG-100**
125	2	3484	**174417**	**ZNCF-125**	4	3484	**185362**	**CRZNG-125**

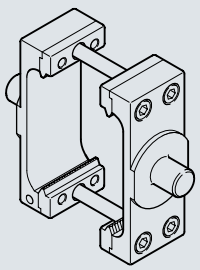
1) More information: www.festo.com/x/topic/crc

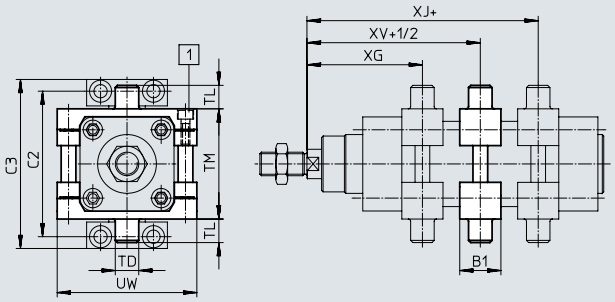
Accessories

Trunnion flange kit DAMT
for basic version DNC

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

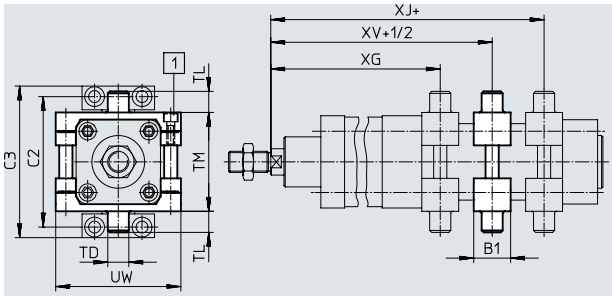
Material:
High-alloy steel





\+ = plus stroke length
\+ ½ = plus half stroke length [1] Max. Tightening torque

for DNC-KP



\+ = plus stroke length
\+ ½ = plus half stroke length [1] Max. tightening torque

Dimensions and ordering data

For Ø [mm]	B1	C2)	C3)	TD Ø e9	TL	TM	UW	XG DNC-...	XG DNC-...-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

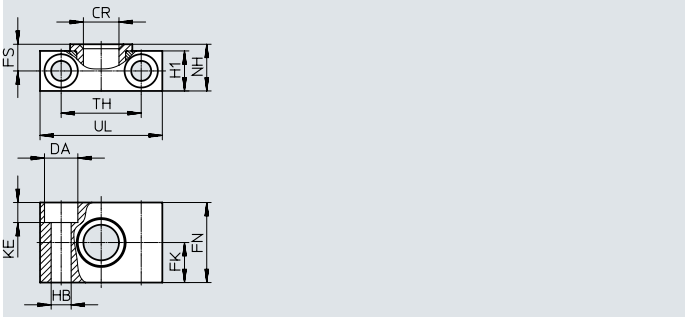
For Ø [mm]	XJ	XJ KP	XV	XV KP	Max. tightening torque [Nm]	CRC[1)]	Weight [g]	Part no.	Type
32	79.9	124.9	73	118	4+1	1	213	**2213233**	**DAMT-V1-32-A**
40	89.4	142.4	82.5	135.5	8+1	1	388	**2214899**	**DAMT-V1-40-A**
50	96.4	163.4	90	157	8+2	1	608	**2214909**	**DAMT-V1-50-A**
63	101.9	177.9	97.5	173.5	18+2	1	911	**2214971**	**DAMT-V1-63-A**
80	116.1	211.1	110	205	28+2	1	1494	**163529**	**DAMT-V1-80-A**
100	126.2	224.2	120	218	28+2	1	2095	**163530**	**DAMT-V1-100-A**
125	155.3	280.3	145	270	40+2	1	3013	**163531**	**DAMT-V7-125-A**

1) More information: www.festo.com/x/topic/crc

Accessories

Trunnion support LNZG

Material:
Trunnion support: Anodised aluminium
Plain bearing: Plastic
RoHS-compliant



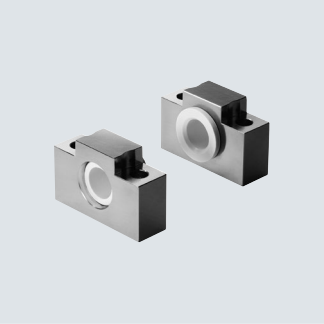
Dimensions and ordering data

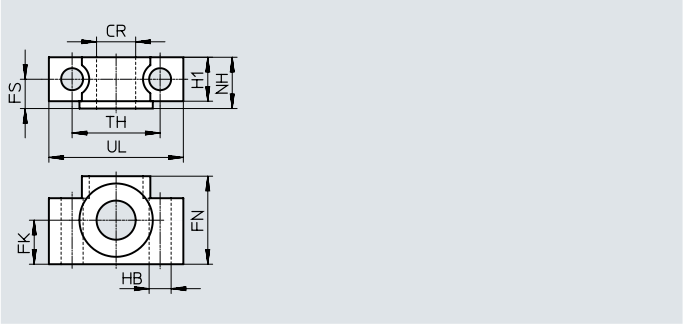
For Ø [mm]	CR Ø D11	DA Ø H13	FK Ø ±0.1	FN	FS	H1	HB Ø H13	KE	NH	TH ±0.2	UL	CRC[1]	Weight [g]	Part no.	Type
32	12	11	15	30	10.5	15	6.6	6.8	18	32	46	2	83	**32959**	**LNZG-32**
40, 50	16	15	18	36	12	18	9	9	21	36	55	2	129	**32960**	**LNZG-4 0/50**
63, 80	20	18	20	40	13	20	11	11	23	42	65	2	178	**32961**	**LNZG-6 3/80**
100, 125	25	20	25	50	16	24.5	14	13	28.5	50	75	2	306	**32962**	**LNZG-10 0/125**

1) More information: www.festo.com/x/topic/crc

Trunnion support CRLNZG

Material:
High-alloy steel
RoHS-compliant





Dimensions and ordering data

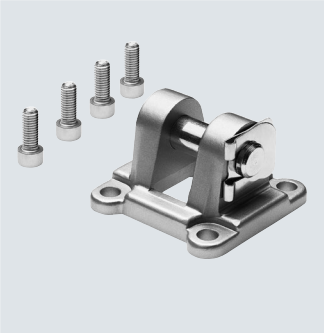
For Ø [mm]	CR Ø D11	FK Ø ±0.1	FN	FS	H1	HB Ø H13	NH	TH ±0.2	UL	CRC[1]	Weight [g]	Part no.	Type
32	12	15	30	10.5	15	6.6	18	32	46	4	205	**161874**	**CRLNZG-32**
40, 50	16	18	36	12	18	9	21	36	55	4	323	**161875**	**CRLNZG-4 0/50**
63, 80	20	20	40	13	20	11	23	42	65	4	435	**161876**	**CRLNZG-6 3/80**
100, 125	25	25	50	16	24.5	14	28.5	50	75	4	739	**161877**	**CRLNZG-10 0/125**

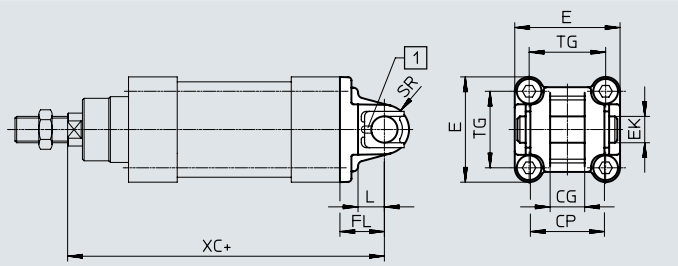
1) More information: www.festo.com/x/topic/crc

Accessories

Swivel flange SNC

Material:
Die-cast aluminium
RoHS-compliant





\+ = plus stroke length
[1] The pivot pin is secured against rotation with a spring pin

Dimensions and ordering data

For ⌀ [mm]	CG H14	CP h14	E	EK ⌀ H9	FL ±0.2	L	SR
32	14	34	$45_{+0.2/-0.5}$	10	22	13	10
40	16	40	$54_{-0.5}$	12	25	16	12
50	21	45	$64_{-0.6}$	16	27	16	12
63	21	51	$75_{-0.6}$	16	32	21	16
80	25	65	$93_{-0.8}$	20	36	22	16
100	25	75	$110_{+0.3/-0.8}$	20	41	27	20
125	37	97	$131_{-0.8}$	30	50	30	25

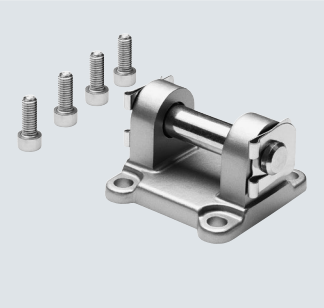
For ⌀ [mm]	TG	XC		CRC[1]	Weight [g]	Part no.	Type
		DNC-...	DNC-...-KP				
32	32.5	142	187	1	93	**174383**	**SNC-32**
40	38	160	213	1	140	**174384**	**SNC-40**
50	46.5	170	237	1	234	**174385**	**SNC-50**
63	56.5	190	266	1	331	**174386**	**SNC-63**
80	72	210	305	1	618	**174387**	**SNC-80**
100	89	230	328	1	865	**174388**	**SNC-100**
125	110	275	400	1	1728	**174389**	**SNC-125**

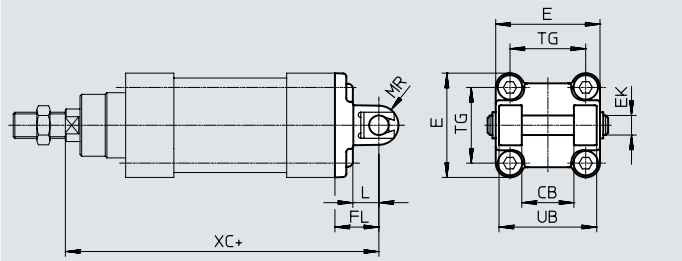
1) More information: www.festo.com/x/topic/crc

Accessories

Swivel flange
SNCB/SNCB-...-R3

Material:
SNCB: Die-cast aluminium
SNCB-...-R3: Die-cast aluminium with protective coating
RoHS-compliant





+ = plus stroke length

Dimensions and ordering data

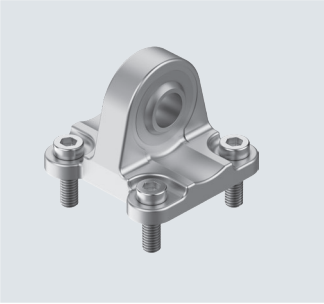
For ⌀	CB	E	EK ⌀	FL	L	MR	TG	UB	XC	
[mm]	H14	H9/e8	e8	±0.2		–0.5		h14	DNC-...	DNC-...-KP
32	26	45+0.2/–0.5	10	22	13	8.5	32.5	45	142	187
40	28	$54_{-0.5}$	12	25	16	12	38	52	160	213
50	32	$64_{-0.6}$	12	27	16	12	46.5	60	170	237
63	40	$75_{-0.6}$	16	32	21	16	56.5	70	190	266
80	50	$93_{-0.8}$	16	36	22	16	72	90	210	305
100	60	110+0.3/–0.8	20	41	27	20	89	110	230	328
125	70	$131_{-0.8}$	25	50	30	25	110	130	275	400

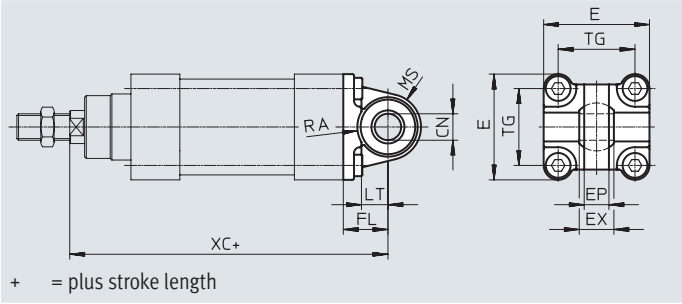
For ⌀	Basic version				R3 – High corrosion protection			
[mm]	CRC[1)]	Weight [g]	Part no.	Type	CRC[1)]	Weight [g]	Part no.	Type
32	1	103	**174390**	**SNCB-32**	3	100	**176944**	**SNCB-32-R3**
40	1	155	**174391**	**SNCB-40**	3	151	**176945**	**SNCB-40-R3**
50	1	233	**174392**	**SNCB-50**	3	228	**176946**	**SNCB-50-R3**
63	1	375	**174393**	**SNCB-63**	3	371	**176947**	**SNCB-63-R3**
80	1	636	**174394**	**SNCB-80**	3	632	**176948**	**SNCB-80-R3**
100	1	1035	**174395**	**SNCB-100**	3	986	**176949**	**SNCB-100-R3**
125	1	1860	**174396**	**SNCB-125**	3	1776	**176950**	**SNCB-125-R3**

1) More information: www.festo.com/x/topic/crc

Accessories

Swivel flange
SNCS/CRSNCS/SNCS-...-R3
Material:
SNCS 32 ... 50:
Die-cast aluminium
SNCS 63 ... 125:
Wrought aluminium alloy
CRSNCS 32 ... 80:
High-alloy stainless steel
SNCS-...-R3 100 ... 125:
Wrought aluminium alloy with protective coating
RoHS-compliant





Dimensions and ordering data

For Ø [mm]	CN Ø DNC-...	CN Ø DNC-...-R3	E DNC-...	E DNC-...-R3	EP ±0.2	EX	FL ±0.2	LT
32	$10^{+0.013}$	10+0.015/–0.04	45+0.2/–0.5	$45_{-0.5}$	10.5	14	22	13
40	$12^{+0.015}$	12+0.018/–0.04	$54_{-0.5}$	$54_{-0.5}$	12	16	25	16
50	$16^{+0.015}$	16+0.018/–0.04	$64_{-0.6}$	$64_{-0.6}$	15	21	27	16
63	$16^{+0.015}$	16+0.018/–0.04	74.5±0.5	$75_{-0.6}$	15	21	32	21
80	$20^{+0.018}$	20+0.021/–0.04	92.2±0.8	$93_{-0.8}$	18	25	36	22
100	$20^{+0.018}$	20+0.021/–0.04	109+1/–0.7	109+1/–0.7	18	25	41	27
125	$30^{+0.018}$	30+0.021/–0.04	132+1/–0.7	132+1/–0.7	25	37	50	30

For Ø [mm]	MS DNC-...	MS DNC-...-R3	RA DNC-... +1	RA DNC-...-R3 +1	TG	XC DNC-...	XC DNC-...-KP
32	$15^{+0.5}$	$15^{+0.5}$	14.5	14.5	32.5	142	187
40	$17^{+0.5}$	$17^{+0.5}$	17.5	17.5	38	160	213
50	$20^{+0.5}$	$20^{+0.5}$	18.5	19	46.5	170	237
63	$23_{-0.5}$	$22^{+0.5}$	23	23	56.5	190	266
80	$28_{-0.5}$	$27^{+0.5}$	25	25	72	210	305
100	30±0.5	30±0.5	95	100	89	230	328
125	39±0.5	39±0.5	100	100	110	275	400

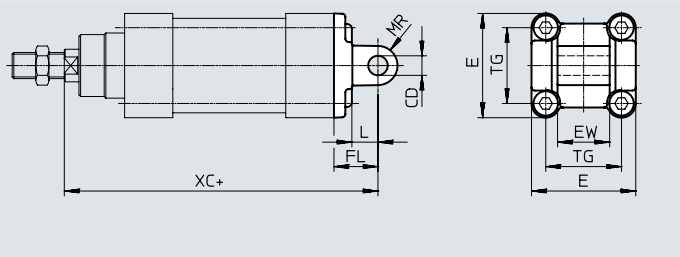
For Ø [mm]	Basic version CRC[1]	Basic version Weight [g]	Basic version Part no.	Basic version Type	High corrosion protection CRC[1]	High corrosion protection Weight [g]	High corrosion protection Part no.	High corrosion protection Type
32	1	86	**174397**	**SNCS-32**	4	161	**2895920**	**CRSNCS-32**
40	1	122	**174398**	**SNCS-40**	4	239	**2895921**	**CRSNCS-40**
50	1	216	**174399**	**SNCS-50**	4	403	**2895922**	**CRSNCS-50**
63	2	281	**174400**	**SNCS-63**	4	576	**2895923**	**CRSNCS-63**
80	2	557	**174401**	**SNCS-80**	4	1173	**2895924**	**CRSNCS-80**
100	2	683	**174402**	**SNCS-100**	3	684	**2895925**	**SNCS-100-R3**
125	2	1369	**174403**	**SNCS-125**	3	1369	**2895926**	**SNCS-125-R3**

1) More information: www.festo.com/x/topic/crc

Accessories

Swivel flange SNCL

Material:
Die-cast aluminium
RoHS-compliant



+ = plus stroke length

Dimensions and ordering data

For Ø [mm]	CD Ø H9	E	EW –0.2/–0.6	FL ±0.2	L	MR
32	10	45+0.2/–0.5	26	22	13	10
40	12	$54_{-0.5}$	28	25	16	12
50	12	$64_{-0.6}$	32	27	16	12
63	16	$75_{-0.6}$	40	32	21	16
80	16	$93_{-0.8}$	50	36	22	16
100	20	110+0.3/–0.8	60	41	27	20
125	25	$131_{-0.8}$	70	50	30	25

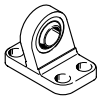
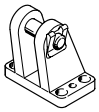
For Ø [mm]	TG	XC		CRC[1]	Weight [g]	Part no.	Type
		DNC-...	DNC-...-KP				
32	32.5	142	187	1	71	**174404**	**SNCL-32**
40	38	160	213	1	95	**174405**	**SNCL-40**
50	46.5	170	237	1	158	**174406**	**SNCL-50**
63	56.5	190	266	1	225	**174407**	**SNCL-63**
80	72	210	305	1	436	**174408**	**SNCL-80**
100	89	230	328	1	606	**174409**	**SNCL-100**
125	110	275	400	1	1135	**174410**	**SNCL-125**

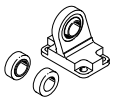
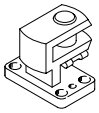
1) More information: www.festo.com/x/topic/crc

Accessories

Ordering data – Mounting components

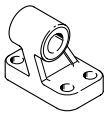
Datasheets → Internet: clevis foot

Designation	For Ø	Part no.	Type
Clevis foot LNG			
	32	**33890**	**LNG-32**
	40	**33891**	**LNG-40**
	50	**33892**	**LNG-50**
	63	**33893**	**LNG-63**
	80	**33894**	**LNG-80**
	100	**33895**	**LNG-100**
	125	**33896**	**LNG-125**
Clevis foot LSNG			
	32	**31740**	**LSNG-32**
	40	**31741**	**LSNG-40**
	50	**31742**	**LSNG-50**
	63	**31743**	**LSNG-63**
	80	**31744**	**LSNG-80**
	100	**31745**	**LSNG-100**
	125	**31746**	**LSNG-125**
Clevis foot LBG			
	32	**31761**	**LBG-32**
	40	**31762**	**LBG-40**
	50	**31763**	**LBG-50**
	63	**31764**	**LBG-63**
	80	**31765**	**LBG-80**
	100	**31766**	**LBG-100**
	125	**31767**	**LBG-125**

Designation	For Ø	Part no.	Type
Clevis foot LSN			
	32	**5561**	**LSN-32**
	40	**5562**	**LSN-40**
	50	**5563**	**LSN-50**
	63	**5564**	**LSN-63**
	80	**5565**	**LSN-80**
	100	**5566**	**LSN-100**
	125	**6987**	**LSN-125**
Clevis foot LSNSG			
	32	**31747**	**LSNSG-32**
	40	**31748**	**LSNSG-40**
	50	**31749**	**LSNSG-50**
	63	**31750**	**LSNSG-63**
	80	**31751**	**LSNSG-80**
	100	**31752**	**LSNSG-100**
	125	**31753**	**LSNSG-125**
Right angle clevis foot LQG			
	32	**31768**	**LQG-32**
	40	**31769**	**LQG-40**
	50	**31770**	**LQG-50**
	63	**31771**	**LQG-63**
	80	**31772**	**LQG-80**
	100	**31773**	**LQG-100**
	125	**31774**	**LQG-125**

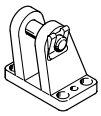
Ordering data – Mounting components, corrosion-resistant

Datasheets → Internet: crlng

Designation	For Ø	Part no.	Type
Clevis foot CRLNG			
	32	**161840**	**CRLNG-32**
	40	**161841**	**CRLNG-40**
	50	**161842**	**CRLNG-50**
	63	**161843**	**CRLNG-63**
	80	**161844**	**CRLNG-80**
	100	**161845**	**CRLNG-100**
	125	**176951**	**CRLNG-125**

Ordering data – Mounting components, high corrosion protection

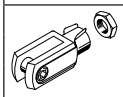
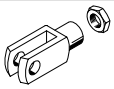
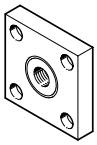
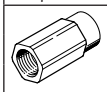
Datasheets → Internet: clevis foot

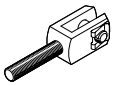
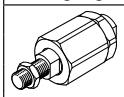
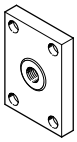
Designation	For Ø	Part no.	Type
Clevis foot LBG-R3			
	32	**2078790**	**LBG-32-R3**
	40	**2078792**	**LBG-40-R3**
	50	**2078794**	**LBG-50-R3**
	63	**2078795**	**LBG-63-R3**
	80	**2078797**	**LBG-80-R3**
	100	**2078799**	**LBG-100-R3**
	125	**2078837**	**LBG-125-R3**

Accessories

Ordering data – Piston rod attachments

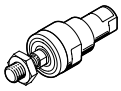
Datasheets → Internet: piston rod attachment

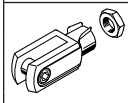
Designation	For ⌀	Part no.	Type
Rod eye SGS			
	32	9261	SGS-M10x1.25
	40	9262	SGS-M12x1.25
	50	9263	SGS-M16x1.5
	63		
	80	9264	SGS-M20x1.5
	100		
	125	10774	SGS-M27x2
Rod clevis SG			
	32	6144	SG-M10x1.25
	40	6145	SG-M12x1.25
	50	6146	SG-M16x1.5
	63		
	80	6147	SG-M20x1.5
	100		
	125	14987	SG-M27x2-B
Coupling piece KSG			
	32	32963	KSG-M10x1.25
	40	32964	KSG-M12x1.25
	50	32965	KSG-M16x1.5
	63		
	80	32966	KSG-M20x1.5
	100		
	125	32967	KSG-M27x2
Adapter AD			
	32	157333	AD-M10x1.25-1/8
		157334	AD-M10x1.25-1/4
	40	160256	AD-M12x1.25-1/4
		160257	AD-M12x1.25-3/8

Designation	For ⌀	Part no.	Type
Rod clevis SGA			
	32	32954	SGA-M10x1.25
	40	10767	SGA-M12x1.25
	50	10768	SGA-M16x1.5
	63		
	80	10769	SGA-M20x1.5
	100		
	125	10770	SGA-M27x2
Self-aligning rod coupler FK			
	32	6140	FK-M10x1.25
	40	6141	FK-M12x1.25
	50	6142	FK-M16x1.5
	63		
	80	6143	FK-M20x1.5
	100		
	125	10485	FK-M27x2
Coupling piece KSZ			
	32	36125	KSZ-M10x1.25
	40	36126	KSZ-M12x1.25
	50	36127	KSZ-M16x1.5
	63		
	80	36128	KSZ-M20x1.5
	100		
	125	–	–

Ordering data – Piston-rod attachments, corrosion-resistant

Datasheets → Internet: piston rod attachment

Designation	For ⌀	Part no.	Type
Rod eye CRSGS			
	32	195582	CRSGS-M10x1.25
	40	195583	CRSGS-M12x1.25
	50	195584	CRSGS-M16x1.5
	63		
	80	195585	CRSGS-M20x1.5
	100		
	125	195586	CRSGS-M27x2
Self-aligning rod coupler CRFK			
	32	2305778	CRFK-M10x1.25
	40	2305779	CRFK-M12x1.25
	50	2490673	CRFK-M16x1.5
	63		
	80	2545677	CRFK-M20x1.5
	100		

Designation	For ⌀	Part no.	Type
Rod clevis CRSG			
	32	13569	CRSG-M10x1.25
	40	13570	CRSG-M12x1.25
	50	13571	CRSG-M16x1.5
	63		
	80	13572	CRSG-M20x1.5
	100		
	125	185361	CRSG-M27x2

Accessories

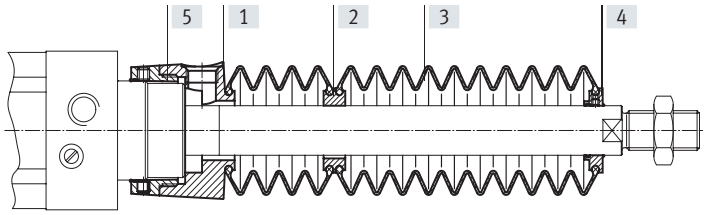
Bellows kit DADB

General technical data Type DADB-V6-		32	40	50	63	80	100
Max. stroke range of the cylinder[1]	[mm]	10 ... 500	10 ... 500	10 ... 500	10 ... 500	10 ... 500	10 ... 500
Type of mounting		Via threaded pin					
Mounting position		Any					
Media resistance		Dust, chippings, oil, grease, fuel (➔ Internet: media resistance)					
Ambient temperature[2]	[°C]	–10 ... +80					
Degree of protection		IP54					
Corrosion resistance class CRC[3]		3					

1) In combination with bellows kit DADB
2) Note operating range of proximity switches and cylinder
3) More information: www.festo.com/x/topic/crc

Materials

Sectional view



Protective bellows		
[1]	Connection	Polyamide
[2]	Adapter	Polyamide
[3]	Protective bellows	NBR
[4]	End piece	Polyamide
[5]	Connector	Polyamide
–	O-ring	NBR
	Note on materials	RoHS-compliant

Weight [g] Type DADB-V6- Stroke [mm]	32	40	50	63	80	100
10 ... 50	29	42	71	69	99	124
51 ... 125	41	56	91	89	127	152
126 ... 175	52	68	105	103	140	165
176 ... 250	66	85	129	127	193	218
251 ... 300	79	100	147	145	231	255
301 ... 350	92	115	166	164	268	293
351 ... 375	92	115	167	165	259	284
376 ... 425	104	129	185	183	296	321
426 ... 475	117	144	204	202	334	359
476 ... 500	117	144	205	203	324	349

Accessories

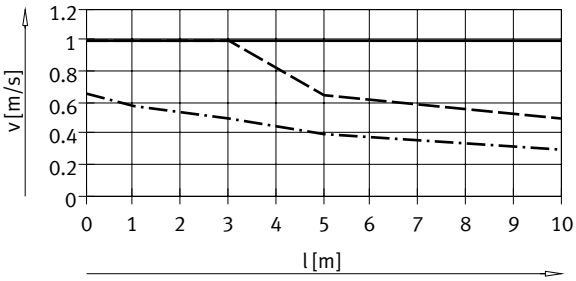
Travel speed v as a function of tubing length l

The bellows kit is a leak-free system. To prevent unwanted media from being drawn in, the supply and exhaust air must be ducted via a pressure compensation hole in the connection part [1].

The pressure generated in the bellows kit by the positioning motion is primarily defined by the travel speed and tubing length.

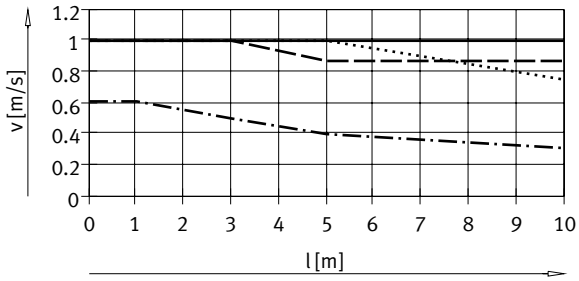
The recommended tubing length in relation to the travel speed of the drive can be read from the graph.

Advancing



- Ø 32/ 50/63
- Ø 40
- Ø 80/100

Retracting



- Ø 32
- Ø 40
- Ø 50/63
- Ø 80/100

Note

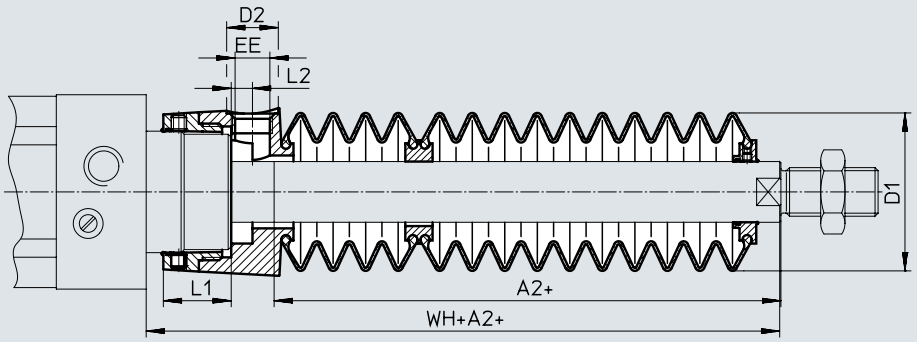
The push-in fittings in the adjacent table must be used for the pressure compensation hole.
Silencers can be used as an alternative. This reduces the travel speed slightly.

Tubing size and push-in fitting for pressure compensation hole

Ø [mm]	Tubing O.D. [mm]	Push-in fitting Part no.	Type
32, 40	8	★ **186109**	**QS-G1/8-8-I**
		578376	**NPQH-DK-G18-Q8-P10**
		578362	**NPQH-D-G18-S8-P10**
50, 63, 80, 100	12	★ **186350**	**QS-G1/4-12**
		578344	**NPQH-D-G14-Q12-P10**
		578366	**NPQH-D-G14-S12-P10**

Accessories

Dimensions Download CAD data ➔ www.festo.com



\+ = plus stroke length

ø	32							40						
Stroke [mm]	A2[1]	D1 max.	D2	EE	L1	L2	WH+A2	A2[1]	D1 max.	D2	EE	L1	L2	WH+A2
10 … 50	29	38	14	G1/8	12.9	5.4	55	28	46	14	G1/8	16.3	5.4	58
51 … 125	47						73	43						73
126 … 175	61						87	56						86
176 … 250	80						106	72						102
251 … 300	96						122	86						116
301 … 350	112						138	100						130
351 … 375	114						140	101						131
376 … 425	130						156	115						145
426 … 475	145						171	130						160
476 … 500	147						173	131						161

ø	50							63						
Stroke [mm]	A2[1]	D1 max.	D2	EE	L1	L2	WH+A2	A2[1]	D1 max.	D2	EE	L1	L2	WH+A2
10 … 50	28	57	17	G1/4	22.35	7	65	28	57	17	G1/4	22.4	7	65
51 … 125	46						83	46						83
126 … 175	56						93	56						93
176 … 250	73						110	73						110
251 … 300	86						123	86						123
301 … 350	97						134	97						134
351 … 375	105						142	105						142
376 … 425	116						153	116						153
426 … 475	126						163	126						163
476 … 500	134						171	134						171

ø	80							100						
Stroke [mm]	A2[1]	D1 max.	D2	EE	L1	L2	WH+A2	A2[1]	D1 max.	D2	EE	L1	L2	WH+A2
10 … 50	25	93	17	G1/4	28	4	71	25	93	17	G1/4	28	4	71
51 … 125	37						83	37						83
126 … 175	49						95	49						95
176 … 250	62						108	62						108
251 … 300	74						120	74						120
301 … 350	86						132	86						132
351 … 375	87						133	87						133
376 … 425	98						144	98						144
426 … 475	110						156	110						156
476 … 500	111						157	111						157

1) The dimension corresponds to the K8 value (advanced piston rod) of the drive

Accessories

Ordering data – Bellows kit

An extended piston rod (order code K8) is absolutely essential when using a bellows kit ➔ Ordering data – Modular product system.

The necessary dimension for K8 as a function of piston diameter and cylinder stroke as well as the corresponding bellows kit is indicated in the table below:

Order example:
Selected standards-based cylinder:
DNC-32-320-PPV-A-...
The dimension for the corresponding K8 value (see table):
112 mm
Complete order reference for standards-based cylinder:
DNC-32-320-PPV-A-...-112K8
The corresponding bellows kit:
DADB-V6-32-S301-350

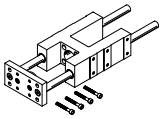
Cylinder data			Bellows kit	
⌀ [mm]	Stroke [mm]	Dimension for K8 [mm]	Part no.	Type
32	10 ... 50	29	**553271**	**DADB-V6-32-S10-50**
	51 ... 125	47	**553273**	**DADB-V6-32-S51-125**
	126 ... 175	61	**553275**	**DADB-V6-32-S126-175**
	176 ... 250	80	**553277**	**DADB-V6-32-S176-250**
	251 ... 300	96	**553279**	**DADB-V6-32-S251-300**
	301 ... 350	112	553281	**DADB-V6-32-S301-350**
	351 ... 375	114	**553283**	**DADB-V6-32-S351-375**
	376 ... 425	130	**553285**	**DADB-V6-32-S376-425**
	426 ... 475	145	**553287**	**DADB-V6-32-S426-475**
	476 ... 500	147	**553289**	**DADB-V6-32-S476-500**
50	10 ... 50	28	**553311**	**DADB-V6-50-S10-50**
	51 ... 125	46	**553313**	**DADB-V6-50-S51-125**
	126 ... 175	56	**553315**	**DADB-V6-50-S126-175**
	176 ... 250	73	**553317**	**DADB-V6-50-S176-250**
	251 ... 300	86	**553319**	**DADB-V6-50-S251-300**
	301 ... 350	97	**553321**	**DADB-V6-50-S301-350**
	351 ... 375	105	**553323**	**DADB-V6-50-S351-375**
	376 ... 425	116	**553325**	**DADB-V6-50-S376-425**
	426 ... 475	126	**553327**	**DADB-V6-50-S426-475**
	476 ... 500	134	**553329**	**DADB-V6-50-S476-500**
80	10 ... 50	25	**553351**	**DADB-V6-80-S10-50**
	51 ... 125	37	**553353**	**DADB-V6-80-S51-125**
	126 ... 175	49	**553355**	**DADB-V6-80-S126-175**
	176 ... 250	62	**553357**	**DADB-V6-80-S176-250**
	251 ... 300	74	**553359**	**DADB-V6-80-S251-300**
	301 ... 350	86	**553361**	**DADB-V6-80-S301-350**
	351 ... 375	87	**553363**	**DADB-V6-80-S351-375**
	376 ... 425	98	**553365**	**DADB-V6-80-S376-425**
	426 ... 475	110	**553367**	**DADB-V6-80-S426-475**
	476 ... 500	111	**553369**	**DADB-V6-80-S476-500**

Cylinder data			Bellows kit	
⌀ [mm]	Stroke [mm]	Dimension for K8 [mm]	Part no.	Type
40	10 ... 50	28	**553291**	**DADB-V6-40-S10-50**
	51 ... 125	43	**553293**	**DADB-V6-40-S51-125**
	126 ... 175	56	**553295**	**DADB-V6-40-S126-175**
	176 ... 250	72	**553297**	**DADB-V6-40-S176-250**
	251 ... 300	86	**553399**	**DADB-V6-40-S251-300**
	301 ... 350	100	**553301**	**DADB-V6-40-S301-350**
	351 ... 375	101	**553303**	**DADB-V6-40-S351-375**
	376 ... 425	115	**553305**	**DADB-V6-40-S376-425**
	426 ... 475	130	**553307**	**DADB-V6-40-S426-475**
	476 ... 500	131	**553309**	**DADB-V6-40-S476-500**
63	10 ... 50	28	**553331**	**DADB-V6-63-S10-50**
	51 ... 125	46	**553333**	**DADB-V6-63-S51-125**
	126 ... 175	56	**553335**	**DADB-V6-63-S126-175**
	176 ... 250	73	**553337**	**DADB-V6-63-S176-250**
	251 ... 300	86	**553339**	**DADB-V6-63-S251-300**
	301 ... 350	97	**553341**	**DADB-V6-63-S301-350**
	351 ... 375	105	**553343**	**DADB-V6-63-S351-375**
	376 ... 425	116	**553345**	**DADB-V6-63-S376-425**
	426 ... 475	126	**553347**	**DADB-V6-63-S426-475**
	476 ... 500	134	**553349**	**DADB-V6-63-S476-500**
100	10 ... 50	25	**553371**	**DADB-V6-100-S10-50**
	51 ... 125	37	**553373**	**DADB-V6-100-S51-125**
	126 ... 175	49	**553375**	**DADB-V6-100-S126-175**
	176 ... 250	62	**553377**	**DADB-V6-100-S176-250**
	251 ... 300	74	**553379**	**DADB-V6-100-S251-300**
	301 ... 350	86	**553381**	**DADB-V6-100-S301-350**
	351 ... 375	87	**553383**	**DADB-V6-100-S351-375**
	376 ... 425	98	**553385**	**DADB-V6-100-S376-425**
	426 ... 475	110	**553387**	**DADB-V6-100-S426-475**
	476 ... 500	111	**553389**	**DADB-V6-100-S476-500**

Accessories

Ordering data – Guide units for fixed strokes (recirculating ball bearing guide only)

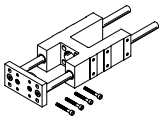
Datasheets → Internet: feng



Stroke [mm]	Part no.	Type	Stroke [mm]	Part no.	Type
For ⌀ 32 mm			**For ⌀ 40 mm**		
10 … 50	**34493**	**FENG-32-50-KF**	10 … 50	**34499**	**FENG-40-50-KF**
10 … 100	**34494**	**FENG-32-100-KF**	10 … 100	**34500**	**FENG-40-100-KF**
10 … 160	**34495**	**FENG-32-160-KF**	10 … 160	**34501**	**FENG-40-160-KF**
10 … 200	**34496**	**FENG-32-200-KF**	10 … 200	**34502**	**FENG-40-200-KF**
10 … 250	**150289**	**FENG-32-250-KF**	10 … 250	**34503**	**FENG-40-250-KF**
10 … 320	**34497**	**FENG-32-320-KF**	10 … 320	**34504**	**FENG-40-320-KF**
10 … 400	**150290**	**FENG-32-400-KF**	10 … 400	**150291**	**FENG-40-400-KF**
10 … 500	**34498**	**FENG-32-500-KF**	10 … 500	**34505**	**FENG-40-500-KF**
For ⌀ 50 mm			**For ⌀ 63 mm**		
10 … 50	**34506**	**FENG-50-50-KF**	10 … 50	**34513**	**FENG-63-50-KF**
10 … 100	**34507**	**FENG-50-100-KF**	10 … 100	**34514**	**FENG-63-100-KF**
10 … 160	**34508**	**FENG-50-160-KF**	10 … 160	**34515**	**FENG-63-160-KF**
10 … 200	**34509**	**FENG-50-200-KF**	10 … 200	**34516**	**FENG-63-200-KF**
10 … 250	**34510**	**FENG-50-250-KF**	10 … 250	**34517**	**FENG-63-250-KF**
10 … 320	**34511**	**FENG-50-320-KF**	10 … 320	**34518**	**FENG-63-320-KF**
10 … 400	**150292**	**FENG-50-400-KF**	10 … 400	**34519**	**FENG-63-400-KF**
10 … 500	**34512**	**FENG-50-500-KF**	10 … 500	**34520**	**FENG-63-500-KF**
For ⌀ 80 mm			**For ⌀ 100 mm**		
10 … 50	**34521**	**FENG-80-50-KF**	10 … 50	**34529**	**FENG-100-50-KF**
10 … 100	**34522**	**FENG-80-100-KF**	10 … 100	**34530**	**FENG-100-100-KF**
10 … 160	**34523**	**FENG-80-160-KF**	10 … 160	**34531**	**FENG-100-160-KF**
10 … 200	**34524**	**FENG-80-200-KF**	10 … 200	**34532**	**FENG-100-200-KF**
10 … 250	**34525**	**FENG-80-250-KF**	10 … 250	**34533**	**FENG-100-250-KF**
10 … 320	**34526**	**FENG-80-320-KF**	10 … 320	**34534**	**FENG-100-320-KF**
10 … 400	**34527**	**FENG-80-400-KF**	10 … 400	**34535**	**FENG-100-400-KF**
10 … 500	**34528**	**FENG-80-500-KF**	10 … 500	**34536**	**FENG-100-500-KF**

Ordering data – Guide units for variable strokes

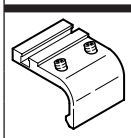
Datasheets → Internet: feng



For ⌀ [mm]	Stroke [mm]	With recirculating ball bearing guide		With plain-bearing guide	
		Part no.	Type	Part no.	Type
32	10 … 500	**34487**	**FENG-32-…-KF**	**34481**	**FENG-32-…-GF**
40	10 … 500	**34488**	**FENG-40-…-KF**	**34482**	**FENG-40-…-GF**
50	10 … 500	**34489**	**FENG-50-…-KF**	**34483**	**FENG-50-…-GF**
63	10 … 500	**34490**	**FENG-63-…-KF**	**34484**	**FENG-63-…-GF**
80	10 … 500	**34491**	**FENG-80-…-KF**	**34485**	**FENG-80-…-GF**
100	10 … 500	**34492**	**FENG-100-…-KF**	**34486**	**FENG-100-…-GF**

Ordering data – Mounting kits for proximity switch SMT-8

Datasheets → Internet: smb

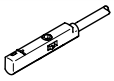
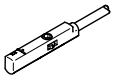


For ⌀ [mm]	Part no.	Type
32	**175705**	**SMB-8-FENG-3 2/40**
40		
50	**175706**	**SMB-8-FENG-5 0/63**
63		
80	**175707**	**SMB-8-FENG-8 0/100**
100		

Accessories

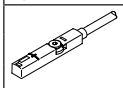
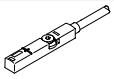
Ordering data – Proximity switch for T-slot, magneto-resistive

Datasheets → Internet: smt

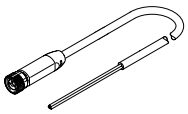
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type
N/O						
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-core	2.5	**574335**	**SMT-8M-A-PS-24V-E-2.5-OE**
			Plug M8x1, 3-pin	0.3	**574334**	**SMT-8M-A-PS-24V-E-0.3-M8D**
			1x M12 plug, 3-pin	0.3	**574337**	**SMT-8M-A-PS-24V-E-0.3-M12**
		NPN	Cable, 3-core	2.5	**574338**	**SMT-8M-A-NS-24V-E-2.5-OE**
			1x M8 plug, 3-pin	0.3	**574339**	**SMT-8M-A-NS-24V-E-0.3-M8D**
N/C						
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-core	7.5	**574340**	**SMT-8M-A-PO-24V-E-7.5-OE**

Ordering data – Proximity switch for T-slot, magnetic reed

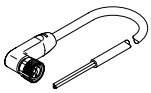
Datasheets → Internet: sme

	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type
N/O						
	Inserted in the slot from above, flush with the cylinder profile	Contacting	Cable, 3-core	2.5	**543862**	**SME-8M-DS-24V-K-2.5-OE**
				5.0	**543863**	**SME-8M-DS-24V-K-5.0-OE**
			Cable, 2-core	2.5	**543872**	**SME-8M-ZS-24V-K-2.5-OE**
			Plug M8x1, 3-pin	0.3	**543861**	**SME-8M-DS-24V-K-0.3-M8D**
	Inserted in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-core	2.5	**150855**	**SME-8-K-LED-24**
			Plug M8x1, 3-pin	0.3	**150857**	**SME-8-S-LED-24**
N/C						
	Inserted in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-core	7.5	**160251**	**SME-8-O-K-LED-24**

Connecting cables NEBA, straight, M8 connection

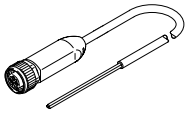
	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M8x1 A-coded to EN 61076-2-104	Open end	3	2.5 m	**8078223**	**NEBA-M8G3-U-2.5-N-LE3**
				5 m	**8078224**	**NEBA-M8G3-U-5-N-LE3**

Connecting cables NEBA, angled, M8 connection

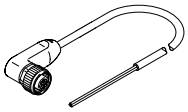
	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M8x1 A-coded to EN 61076-2-104	Open end	3	2.5 m	**8078230**	**NEBA-M8W3-U-2.5-N-LE3**
				5 m	**8078231**	**NEBA-M8W3-U-5-N-LE3**

Accessories

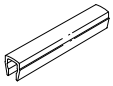
Connecting cables NEBA, straight, M12 connection

	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	Open end	3	2.5 m	**8078236**	**NEBA-M12G5-U-2.5-N-LE3**
				5 m	**8078237**	**NEBA-M12G5-U-5-N-LE3**

Connecting cables NEBA, angled, M12 connection

	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	Open end	3	2.5 m	**8078245**	**NEBA-M12W5-U-2.5-N-LE3**
				5 m	**8078246**	**NEBA-M12W5-U-5-N-LE3**

Ordering data – Slot cover for T-slot

	Mounting	Length	Part no.	Type
	Insertable	2x 0.5 m	**151680**	**ABP-5-S**

Ordering data – One-way flow control valves

Datasheets → Internet: grla

	Connection Thread	For tubing O.D.	Material	Part no.	Type
	G1/8	3	Metal design	**193142**	**GRLA-1/8-QS-3-D**
		4		**193143**	**GRLA-1/8-QS-4-D**
		6		**193144**	**GRLA-1/8-QS-6-D**
		8		**193145**	**GRLA-1/8-QS-8-D**
	G1/4	6		**193146**	**GRLA-1/4-QS-6-D**
		8		**193147**	**GRLA-1/4-QS-8-D**
		10		**193148**	**GRLA-1/4-QS-10-D**
	G3/8	6		**193149**	**GRLA-3/8-QS-6-D**
		8		**193150**	**GRLA-3/8-QS-8-D**
		10		**193151**	**GRLA-3/8-QS-10-D**
	G1/2	12		**193152**	**GRLA-1/2-QS-12-D**