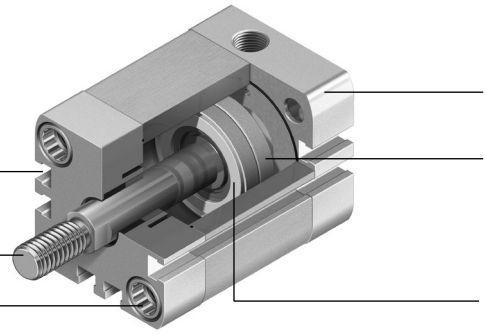
Compact cylinders ADN/AEN, to ISO 21287

★	Festo Core Range Solves the majority of your automation tasks	With the Festo Core Range, we have selected the most important products and functions from our broad product catalogue, and added the quickest delivery.
Worldwide:	Quickest delivery – wherever, whenever	The Core Range offers you the best value

Just look for the star!

Key features

At a glance



More than the standard

- The compact cylinders comply with or are based on the ISO 21287 standard, depending on the piston diameter
- The ADN/AEN is characterised by its compact design and wide range of application thanks to the large number of variants
- The variants can be configured using a modular product system

Powerful

- Integrated cushioning for absorbing residual energy
- Long service life thanks to exceptional cushioning characteristics and low friction values

Convenient

- Easy to mount with a comprehensive range of mounting accessories for just about every type of installation
- Highly flexible thanks to the wide range of variants
- Contactless position sensing using proximity switches

Reliable

- Optimised manufacturing methods, patented technology and more than 40 years of experience in the field of cylinders make Festo and ADN/AEN a great partner

Cushioning types

Cushioning P

Operating mode

- The drive is fitted with polymer elastic end-position cushioning

Application

- Small loads
- Low speeds
- Small cushioning capacity

Benefits

- No adjustment required
- Saves time

Cushioning PPS

Operating mode

- The drive has self-adjusting, pneumatic end-position cushioning

Application

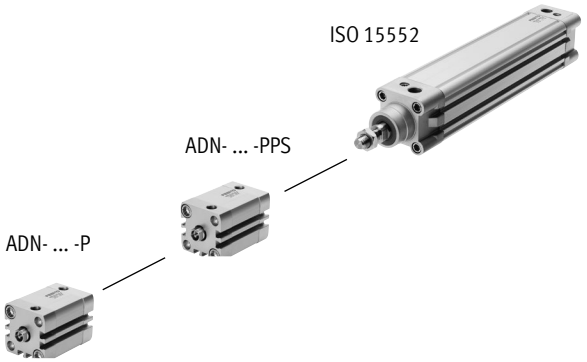
- Larger loads
- Higher speeds
- Larger cushioning capacity

Benefits

- No adjustment required
- Cushioning capacity is four times bigger than ADN-...-P
- Saves time
- Reduces noise

Cushioning capacity of ISO 21287 and ISO 15552

The cushioning capacity of the compact cylinder ADN-...-PPS fills the gap between ADN-...-P and standards-based cylinders to ISO 15552.



For manufacturing lithium-ion batteries

ADN-...-F1A

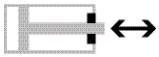
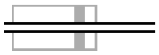
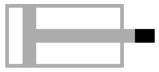
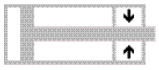
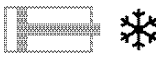
Recommended for production systems for manufacturing lithium-ion batteries. Metals with copper, zinc or nickel as the main constituent are excluded from use. Exceptions are nickel in steels, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils.

Accessories

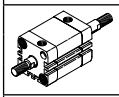
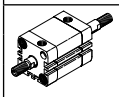
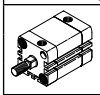
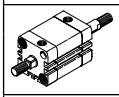
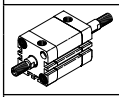
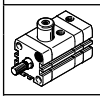
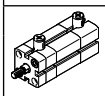
Please contact your Festo representative for information on which accessories are suitable for manufacturing lithium-ion batteries.

Key features

Variants from the modular product system

Symbol	Key features	Description
	S1 Reinforced piston rod	Increased lateral loads. Absorbs many times more lateral load than a basic cylinder
	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	–
	K5 Special piston rod thread	Metric standard thread to ISO
	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
	TL Captive rating plate	Laser-etched rating plate. Easy identification for spare parts, even after years in a harsh environment
	TT Low temperature	Temperature resistance down to max. -40°C
	F1A Recommended for production plants for manufacturing lithium-ion batteries	Cylinders free of copper, zinc and nickel (≤ 1%)

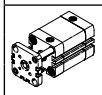
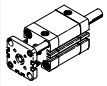
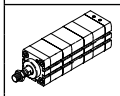
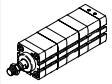
Product range overview

Function	Version	Type	Piston diameter	Stroke		Position sensing	Recommended for production systems for manufacturing lithium-ion batteries	Cushioning	
								Fixed	Self-adjusting
			[mm]	[mm]		A	F1A	P	PPS
Double-acting	**Basic version**								
		**ADN**	12	5, 10, 15, 20, 25, 30, 35, 40, 50, 60	1 ... 300	■	■	■	■ Ø 20 ... 100
			16	5, 10, 15, 20, 25, 30, 35, 40, 50, 60, 70	1 ... 300				
			20	5, 10, 15, 20, 25, 30, 35, 40, 50, 60, 70	1 ... 300				
			25	5, 10, 15, 20, 25, 30, 35, 40, 50, 60, 70, 80	1 ... 300				
			32, 40, 50	5, 10, 15, 20, 25, 30, 35, 40, 50, 60, 70, 80	1 ... 400				
			63	10, 15, 20, 25, 30, 35, 40, 50, 60, 70, 80	1 ... 400				
			80, 100	10, 15, 20, 25, 30, 40, 50, 60, 80	1 ... 500				
			125	–	1 ... 500				
		**ADN-...-S2** Through piston rod	12, 16, 20, 25	–	1 ... 300	■	■	■	■ Ø 20 ... 100
			32, 40, 50, 63	–	1 ... 400				
			80, 100, 125	–	1 ... 500				
		**ADN-...-S20** Through, hollow piston rod	16, 20, 25	–	1 ... 300	■	–	■	■ Ø 20 ... 100
			32, 40, 50, 63	–	1 ... 400				
			80, 100, 125	–	1 ... 500				
	Reinforced piston rod								
		**ADN-...-S1**	25	–	5 ... 300	■	–	■	–
			40, 63	–	10 ... 400				
			100	–	10 ... 500				
	Protected against rotation with square piston rod								
		**ADN-...-Q**	12, 16, 20, 25	–	1 ... 300	■	–	■	–
			32, 40, 50, 63	–	1 ... 400				
			80, 100, 125	–	1 ... 500				
		**ADN-...-Q-S2** Through piston rod	12, 16, 20, 25	–	1 ... 300	■	–	■	–
			32, 40, 50, 63	–	1 ... 400				
			80, 100, 125	–	1 ... 500				
		**ADN-...-Q-S20** Through, hollow piston rod	16, 20, 25	–	1 ... 200	■	–	■	–
			32, 40, 50, 63	–	1 ... 300				
			80, 100, 125	–	1 ... 400				
	Standard hole pattern, with clamping unit								
		**ADN-...-KP**	20, 25	–	10 ... 300	■	–	■	–
			32, 40, 50, 63	–	10 ... 400				
			80, 100	–	10 ... 500				
	Standard hole pattern, with end-position locking								
		**ADN-...-EL**	20, 25	–	10 ... 300	■	–	■	–
			32, 40, 50, 63	–	10 ... 400				
			80, 100	–	10 ... 500				

Product range overview

Type	Male piston rod thread	Female piston rod thread	Extended male piston rod thread	Special piston rod thread	Extended piston rod	Smooth anodised piston rod	Heat-resistant seals max. 120 °C	Slow speed (constant motion)	Low friction	High corrosion protection	Dust protection	Low temperature	→ Page/Internet
	A	I	K2	K5	K8	K10	S6	S10	S11	R3	R8	TT	
Basic version													
ADN	■	■	■	■	■	■ from Ø 20	■	■	■	■	■ from Ø 20	■ Ø 20 ... 100	13
ADN-...-S2 Through piston rod	■	■	■	■	■	–	■	–	–	–	–	■ Ø 20 ... 100	13
ADN-...-S20 Through, hollow piston rod	■	–	■	■	■	–	■	–	–	–	–	–	13
Reinforced piston rod													
ADN-...-S1	■	■	■	■	■	–	■	–	–	■	–	–	13
Protected against rotation with square piston rod													
ADN-...-Q	■	■	■	■	■	–	■	–	–	–	–	–	13
ADN-...-Q-S2 Through piston rod	■	■	■	■	■	–	■	–	–	–	–	–	13
ADN-...-Q-S20 Through, hollow piston rod	■	–	■	■	■	–	■	–	–	–	–	–	13
Standard hole pattern, with clamping unit													
ADN-...-KP	■	■	■	■	■	–	–	–	–	–	–	–	44
Standard hole pattern, with end-position locking													
ADN-...-EL	■	■	■	■	■	–	–	–	–	–	–	–	53

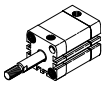
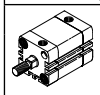
Product range overview

Function	Version	Type	Piston diameter	Stroke		Position sensing	Cushioning	
							Fixed	Self-adjusting
			[mm]	[mm]		A	P	PPS
Double-acting	**Standard hole pattern, non-rotating with yoke**							
		**ADNGF**	12	5, 10, 15, 20, 25, 30, 40	1 ... 200	■	■	■ ø 20 ... 100
			16	5, 10, 15, 20, 25, 30, 40, 50	1 ... 200			
			20, 25	5, 10, 15, 20, 25, 30, 40, 50, 60	3 ... 200			
			32, 40, 50	5, 10, 15, 20, 25, 30, 40, 50, 60, 80	5 ... 300			
			63, 80	10, 15, 20, 25, 30, 40, 50, 60, 80	5 ... 300			
			100	10, 15, 20, 25, 30, 40, 50, 60, 80	5 ... 400			
		**ADNGF-...-S2** Through piston rod	12, 16	–	1 ... 200	■	■	■ ø 20 ... 100
			20, 25		3 ... 200			
			32, 40, 50, 63, 80, 100		5 ... 250			
	Standard hole pattern, high-force cylinder							
		**ADNH**	25	–	1 ... 150	■	■	–
			40					
			63					
			100					
	Standard hole pattern, multi-position cylinder							
		**ADNM**	25	–	1 ... 2 000	■	■	–
			40					
			63					
			100					

Product range overview

Type	Male piston rod thread	Female piston rod thread	Extended male piston rod thread	Special piston rod thread	Extended piston rod	Heat-resistant seals max. 120 °C	→ Page/Internet
	A	I	K2	K5	K8	S6	
Standard hole pattern, non-rotating with yoke							
ADNGF	–	–	–	–	–	■	adngf
ADNGF-...-S2 Through piston rod	–	–	–	–	–	■	adngf
Standard hole pattern, high-force cylinder							
ADNH	■	■	■	■	■	■	adnh
Standard hole pattern, multi-position cylinder							
ADNM	■	■	■	■	■	■	adnh

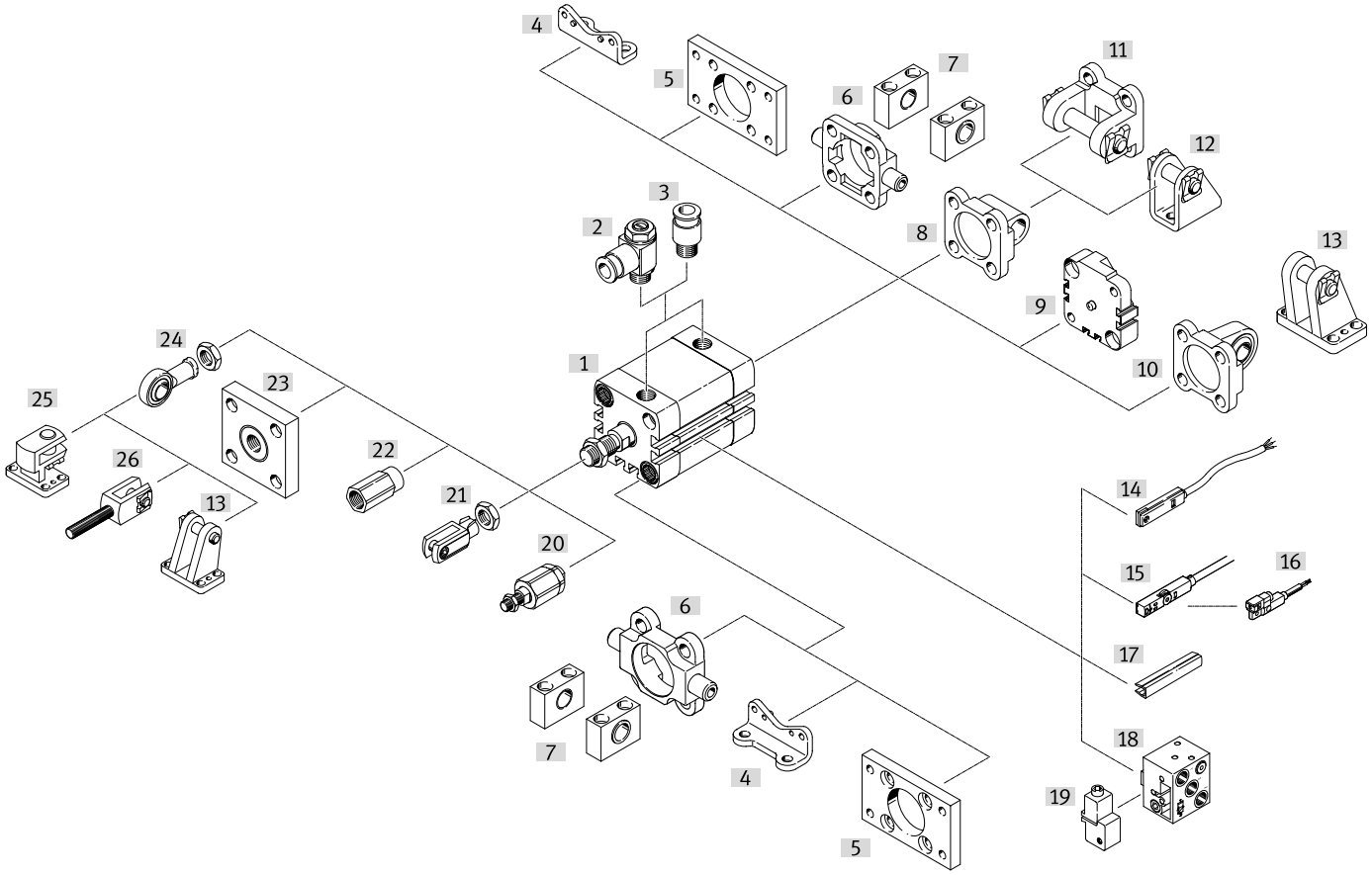
Product range overview

Function	Version	Type	Piston diameter	Stroke	Position sensing	Cushioning
			[mm]	[mm]	A	P
Single-acting	Basic version					
		AEN	12	1 ... 10	■	■
			16, 20, 25, 32, 40, 50, 63, 80, 100	1 ... 25		
		AEN-...-Z Pulling	12	1 ... 10	■	■
			16, 20, 25, 32, 40, 50, 63, 80, 100	1 ... 25		
	Protected against rotation with square piston rod					
		AEN-...-Q	16	1 ... 25	■	■
			20, 25, 32, 40, 50, 63, 80, 100	1 ... 25		

Product range overview

Type	Male piston rod thread	Female piston rod thread	Extended male piston rod thread	Special piston rod thread	Extended piston rod	Smooth anodised piston rod	Heat-resistant seals max. 120 °C	→ Page/Internet
	A	I	K2	K5	K8	K10	S6	
Basic version								
AEN	■	■	■	■	■	■ from Ø 20	■	63
AEN-...-Z Pulling	■	■	■	■	■	■ from Ø 20	■	63
Protected against rotation with square piston rod								
AEN-...-Q	■	■	■	■	■	–	■	63

Peripherals overview



Peripherals overview

Mounting attachments and accessories			
		Description	**→ Page/Internet**
[1]	Compact cylinder ADN	Double-acting cylinder	13
	Compact cylinder AEN	Single acting cylinder	63
[2]	One-way flow control valve GRLA/GRLZ	For regulating speed	89
[3]	Push-in fitting QS	For connecting tubing with standard O.D.	qs
[4]	Foot mounting HNA	For bearing or end caps	78
[5]	Flange mounting FNC	For bearing or end caps	79
[6]	Trunnion flange ZNCF/CRZNG	For bearing caps	86
[7]	Trunnion support LNZG	For trunnion flange ZNCF/CRZNG	87
[8]	Swivel flange SNCL/SNCL-...-R3	For end caps	80
[9]	Multi-position kit DPNA	For connecting two cylinders with the same piston diameter to form a multi-position cylinder	83
[10]	Swivel flange SNCS/CRSNCS/SNCS-...-R3	For end caps	81
[11]	Swivel flange SNCB/SNCB-...-R3	For swivel flange SNCL	85
[12]	Clevis foot LBN/CRLBN	For swivel flange SNCL	84
[13]	Clevis foot LBG/LBG-...-R3	For swivel flange SNCS	82
[14]	Proximity switch SME-8	Can be integrated in the cylinder profile barrel	91
[15]	Proximity switch SME/SMT-8M	Can be integrated in the cylinder profile barrel	91
[16]	Proximity switch SMT-8G	Inserted into the slot lengthwise	91
[17]	Slot cover ABP-5-S	For protecting the sensor cables and the sensor slots from contamination	92
[18]	Proximity switch SMPO-8E	Pneumatic output signal	92
[19]	Mounting kit SMB-8E	For proximity switch SMPO-8E	92
[20]	Self-aligning rod coupler FK/CRFK/DARP	To compensate for radial and angular deviations	88
[21]	Rod clevis SG/CRSG	Permits a swivelling movement of the cylinder in one plane	88
[22]	Adapter AD	For mounting a suction cup on a hollow piston rod	88
[23]	Coupling piece KSG/KSZ	To compensate for radial deviations	88
[24]	Rod eye SGS/CRSGS	With spherical bearing	88
[25]	Right-angle clevis foot LQG	For rod eye SGS	89
[26]	Rod clevis SGA	With male thread	88

Type codes

001	Series	
ADN	Compact cylinder, double-acting, based on ISO 21287	

002	Piston diameter [mm]	
12	12	
16	16	
20	20	
25	25	
32	32	
40	40	
50	50	
63	63	
80	80	
100	100	
125	125	

003	Stroke range [mm]	
...	1 ... 500	

004	Piston rod thread type	
A	Male thread	
I	Female thread	

005	Cushioning	
P	Elastic cushioning rings/plates on both sides	
PPS	Pneumatic cushioning, self-adjusting at both ends	

006	Position sensing	
A	For proximity sensor	

007	Special material properties	
	None	
F1A	Recommended for production plants for manufacturing lithium-ion batteries, F1A	

008	Protection against rotation	
	None	
Q	Square piston rod	

009	Piston rod type	
	At one end	
S2	Through piston rod	
S20	Through, hollow piston rod	

010	Custom thread	
“M5”K5	M5	
“M6”K5	M6	
“M8”K5	M8	
“M10”K5	M10	
“M10x1,25”K5	M10x1.25	
“M12”K5	M12	
“M16”K5	M16	
“M20”K5	M20	
“M20x1,5”K5	M20x1.5	

011	Temperature range	
	Standard	
S6	Heat-resistant seals max. 120 °C	

012	Constant motion	
	Standard	
S10	Uniform, slow movement	

013	Running characteristics	
	Standard	
S11	Low friction	

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

015	Corrosion protection	
	Standard	
R3	High corrosion protection	

016	Increased lateral force	
	None	
S1	Reinforced piston rod or extended piston rod bearing	

017	Captive rating plate	
	Rating plate, glued	
TL	Laser etched rating plate	

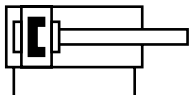
018	Low temperature	
	None	
TT	-40 °C ... +80 °C	

019	Scraper variant	
	Standard	
R8	Dust protection	

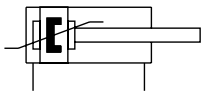
020	EU certification	
	None	
EX4	II 2GD	

Datasheet

Function
cushioning P



PPS cushioning



- Ø - Diameter
12 ... 125 mm

- | - Stroke length
1 ... 500 mm

Variants → page 3

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General technical data

Piston diameter	12	16	20	25	32	40	50	63	80	100	125
Standard	Based on ISO 21287		Conforms to ISO 21287								Based on ISO 21287
Design	Piston										
	Piston rod										
	Cylinder barrel										
Operating mode	Double-acting										
Cushioning											
P	Elastic cushioning rings/plates at both ends										
PPS	–		Pneumatic cushioning, self-adjusting at both ends								–
Cushioning length											
PPS [mm]	–		3	3.5	4	5	6	7	7.5	10	–
Position sensing	Via proximity switch										
Type of mounting	Via through-hole										
	With female thread										
	With accessories										
Mounting position	Any										

Technical data – Basic version and variants

Piston diameter	12	16	20	25	32	40
Pneumatic connection						
–	M5	M5	M5	M5	G1/8	G1/8
S1	–	–	–	M5	–	M5
Female piston rod thread						
–	M3	M4	M6	M6	M8	M8
K5	–	–	M5	M5	M6	M6
S1	–	–	–	M6	–	M10
S1-K5	–	–	–	M5	–	M8
Male piston rod thread						
–	M5	M6	M8	M8	M10x1.25	M10x1.25
K5	M6	M8	M10; M10x1.25	M10; M10x1.25	M10; M12	M10; M12
S1	–	–	–	M8	–	M12x1.25
S1-K5	–	–	–	M10; M10x1.25	–	M10x1.25; M12
Q-K5	M6	M8	M10; M10x1.25	M10; M10x1.25	M10	M10
Max. torsional backlash of the piston rod [°]						
Q	2	1.8	1.6	1.6	1.2	1.2

Datasheet

Technical data – Basic version and variants					
Piston diameter	50	63	80	100	125
Pneumatic connection					
–	G1/8	G1/8	G1/8	G1/8	G1/4
S1	–	G1/8	–	G1/8	–
Female piston rod thread					
–	M10	M10	M12	M12	M16
K5	M8	M8	M10	M10	–
S1	–	M12	–	M16	–
S1-K5	–	M10	–	–	–
Male piston rod thread					
–	M12x1.25	M12x1.25	M16x1.5	M16x1.5	M20x1.5
K5	M12; M16	M12; M16	M16; M20; M20x1.5	M16; M20; M20x1.5	M20
S1	–	M16x1.5	–	M20x1.5	–
S1-K5	–	M12x1.25; M16	–	M16x1.5; M20	–
Q-K5	M12	M12	M16	M16	M20
Max. torsional backlash of the piston rod [°]					
Q	1	1	0.8	0.8	0.8

Operating and environmental conditions											
Piston diameter	12	16	20	25	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											
in [MPa]											
–	0.1 ... 1		0.06 ... 1								
PPS	–		0.15 ... 1			0.1 ... 1					–
Q	0.15 ... 1		0.1 ... 1								
Q-S6	0.15 ... 0.6		0.1 ... 0.6								
S1	–			0.1 ... 1	–	0.1 ... 1	–	0.1 ... 1	–	0.1 ... 1	–
S2, S20	0.15 ... 1		0.12 ... 1		0.1 ... 1			0.08 ... 1			
S6	0.1 ... 1		0.06 ... 1								
S11	0.045 ... 1				0.025 ... 1						
R8, TT	–		0.15 ... 1			0.1 ... 1					–
in [bar]											
–	1 ... 10		0.6 ... 10								
PPS	–		1.5 ... 10			1 ... 10					–
Q	1.5 ... 10		1 ... 10								
Q-S6	1.5 ... 6		1 ... 6								
S1	–			1 ... 10	–	1 ... 10	–	1 ... 10	–	1 ... 10	–
S2, S20	1.5 ... 10		1.2 ... 10		1 ... 10			0.8 ... 10			
S6	1 ... 10		0.6 ... 10								
S11	0.45 ... 10				0.25 ... 10						
R8, TT	–		1.5 ... 10			1 ... 10					–
in [psi]											
–	14.5 ... 145		8.7 ... 145								
PPS	–		21.76 ... 145			14.5 ... 145					–
Q	21.76 ... 145		14.5 ... 145								
Q-S6	21.76 ... 87		14.5 ... 87								
S1	–			14.5 ... 145	–	14.5 ... 145	–	14.5 ... 145	–	14.5 ... 145	–
S2, S20	21.76 ... 145		17.4 ... 145		14.5 ... 145			11.6 ... 145			
S6	14.5 ... 145		8.7 ... 145								
S11	6.53 ... 145				3.63 ... 145						
R8, TT	–		21.76 ... 145			14.5 ... 145					–
Ambient temperature[1] [°C]											
–	–20 ... +80										
S6	0 ... +120										
S10, S11	+5 ... +80										
R3	–20 ... +80										
TT	–		–40 ... +80								–

1) Note operating range of proximity switches

Datasheet

Operating and environmental conditions											
Piston diameter	12	16	20	25	32	40	50	63	80	100	125
Corrosion resistance class CRC[1]											
–	2 - Moderate corrosion stress										
R3	3 - High corrosion stress										
F1A	0 - no corrosion stress										
ATEX	Selected types ➔ www.festo.com										

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

Forces [N] and impact energy [J]											
Piston diameter	12	16	20	25	32	40	50	63	80	100	125
Theoretical force at 6 bar, advancing											
–	68	121	188	295	483	754	1178	1870	3016	4712	7363
S1	–	–	–	295	–	754	–	1870	–	4712	–
S2	51	90	141	247	415	686	1057	1750	2827	4524	7069
Theoretical force at 6 bar, retracting											
–	51	90	141	247	415	686	1057	1750	2827	4524	7069
S1	–	–	–	247	–	633	–	1681	–	4417	–
S2	51	90	141	247	415	686	1057	1750	2827	4524	7069
Max. impact energy in the end positions											
–	0.07	0.15	0.2	0.3	0.4	0.7	1	1.3	1.8	2.5	3.3
S1	–	–	–	0.3	–	0.7	–	1.3	–	2.5	–
S6, S10, S11, TT	0.035	0.075	0.1	0.15	0.2	0.35	0.5	0.65	0.9	1.25	1.75
K10	–	–	0.16	0.24	0.32	0.56	0.8	1	1.4	2	2.6
S20	–	0.016	0.024	0.083	0.15	0.39	0.48	0.62	0.8	0.9	0.95

Note

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

Permissible impact speed: $V = \sqrt{\frac{2 \times E}{m_1 + m_2}}$

Maximum permissible mass: $m_2 = \frac{2 \times E}{v^2} - m_1$

V	Permissible impact speed
E	max. impact energy
m1	Moving mass (drive)
m2	Moving payload

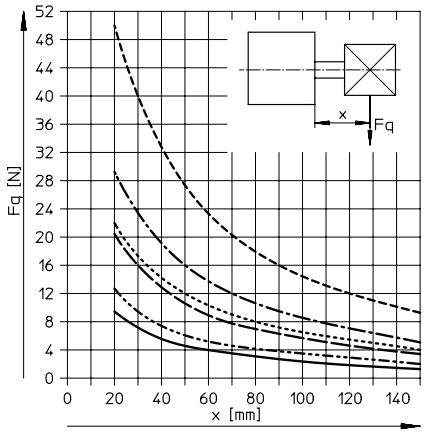
Note

The maximum impact energy is still maintained in combination with cushioning PPS.

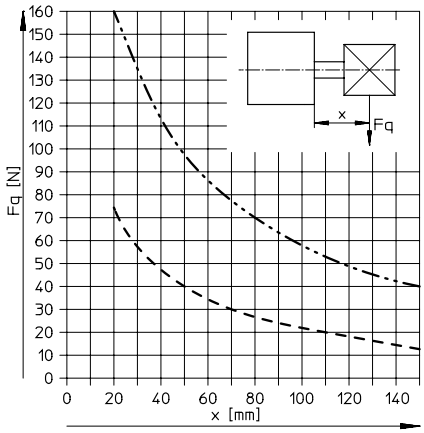
Max. energy conversion capacity [J]								
Piston diameter	20	25	32	40	50	63	80	100
For cushioning PPS	0.65	0.8	1	1.7	2.8	4.8	8	12

Max. lateral force Fq as a function of projection x

Ø 12 ... 63



Ø 80 ... 125



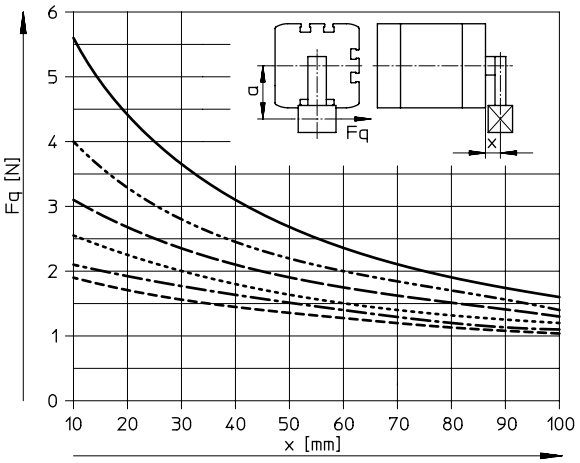
Ø 12
Ø 16
Ø 20
Ø 25
Ø 32/40
Ø 50/63
Ø 80/100
Ø 125

Datasheet

Max. lateral load Fq as a function of projection x and lever arm a

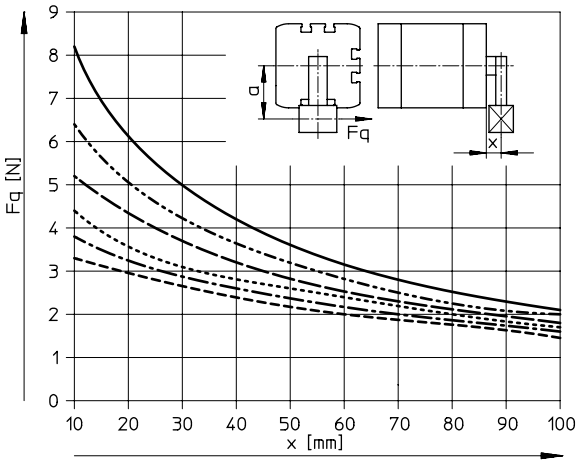
Q – Square piston rod

Ø 12



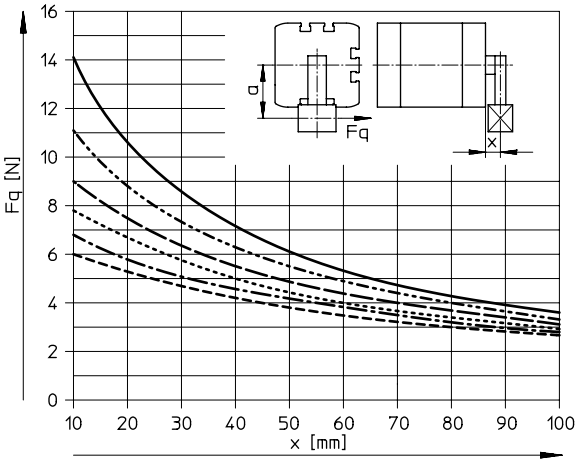
- a = 5 mm
- a = 10 mm
- a = 15 mm
- a = 20 mm
- a = 25 mm
- a = 30 mm

Ø 16



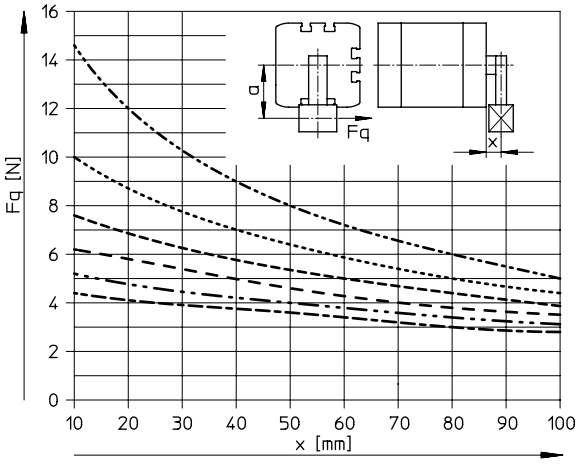
- a = 5 mm
- a = 10 mm
- a = 15 mm
- a = 20 mm
- a = 25 mm
- a = 30 mm

Ø 20/25



- a = 5 mm
- a = 10 mm
- a = 15 mm
- a = 20 mm
- a = 25 mm
- a = 30 mm

Ø 32/40



- a = 10 mm
- a = 20 mm
- a = 30 mm
- a = 40 mm
- a = 50 mm
- a = 60 mm

Note

- For cantilevers that are larger than those shown in the diagrams, torques on the piston rod must be ruled out.

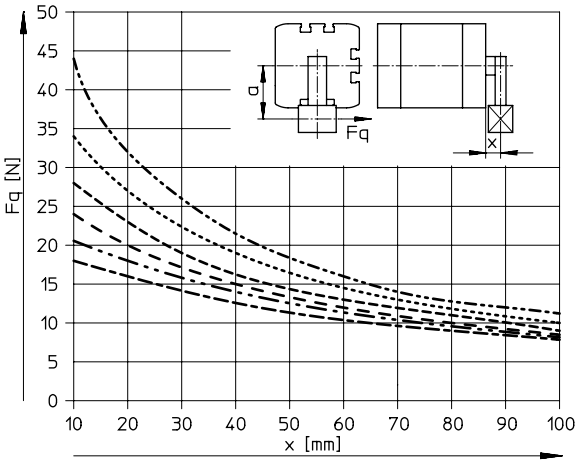
- If a = 0, the corresponding lateral load line of the basic version of the ADN can be used (→ page 15).

Datasheet

Max. lateral load Fq as a function of projection x and lever arm a

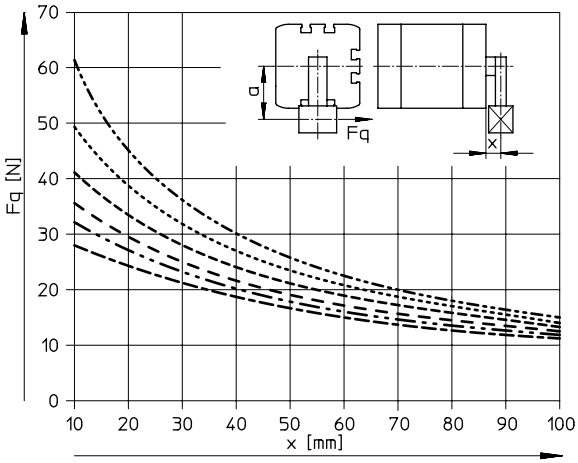
Q – Square piston rod

Ø 50/63



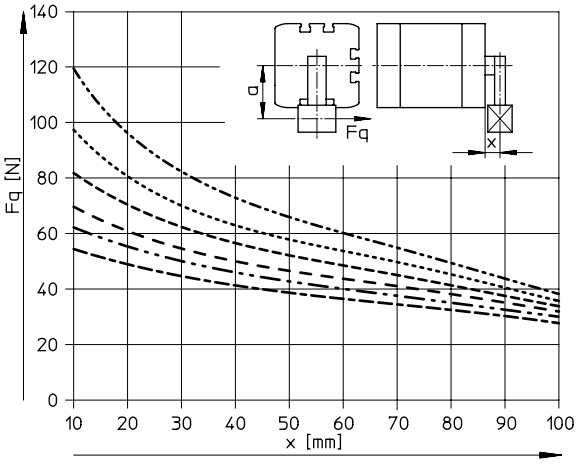
- a = 10 mm
- a = 20 mm
- a = 30 mm
- a = 40 mm
- a = 50 mm
- a = 60 mm

Ø 80/100



- a = 10 mm
- a = 20 mm
- a = 30 mm
- a = 40 mm
- a = 50 mm
- a = 60 mm

Ø 125



- a = 10 mm
- a = 20 mm
- a = 30 mm
- a = 40 mm
- a = 50 mm
- a = 60 mm

Note

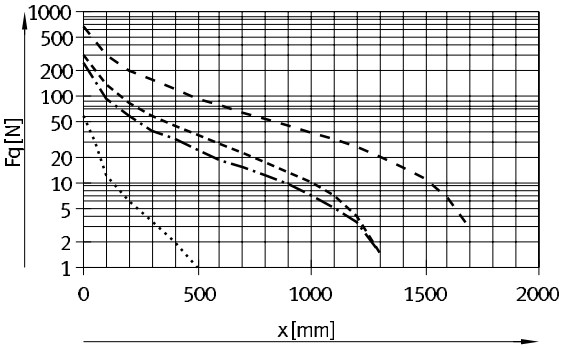
- For cantilevers that are larger than those shown in the diagrams, torques on the piston rod must be ruled out.

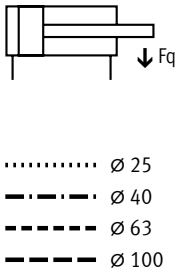
- If a = 0, the corresponding lateral load line of the basic version of the ADN can be used (→ page 15).

Datasheet

Max. lateral force Fq as a function of projection x

S1 – Reinforced piston rod





Weight [g]

Piston diameter	12	16	20	25	32	40	50	63	80	100	125
ADN-...											
Product weight with 0 mm stroke	64	75	128	181	265	361	531	755	1140	1741	2952
Additional weight per 10 mm stroke	12	14	22	26	29	38	51	60	80	99	116
Moving mass with 0 mm stroke	11	18	32	41	76	103	164	222	431	595	1020
Additional mass per 10 mm stroke	2	4	6	6	9	9	16	16	25	25	29
ADN-...-I											
Product weight with 0 mm stroke	62	71	119	172	240	318	489	713	1012	1605	2768
Additional weight per 10 mm stroke	12	14	22	26	29	38	51	60	80	99	116
Moving mass with 0 mm stroke	9	14	23	32	51	60	122	180	303	459	836
Additional mass per 10 mm stroke	2	4	6	6	9	9	16	16	25	25	29
ADN-...-S2											
Product weight with 0 mm stroke	68	83	144	200	294	389	582	805	1220	1830	3245
Additional weight per 10 mm stroke	15	18	29	33	38	47	68	76	105	123	156
Moving mass with 0 mm stroke	15	26	48	55	105	127	205	265	493	665	1308
Additional mass per 10 mm stroke	5	8	13	13	18	18	33	32	50	49	69
ADN-...-S20											
Product weight with 0 mm stroke	–	84	140	193	284	377	563	786	1162	1771	3076
Additional weight per 10 mm stroke	–	17	27	31	36	45	62	71	96	115	136
Moving mass with 0 mm stroke	–	22	42	48	96	115	186	245	435	606	1099
Additional mass per 10 mm stroke	–	7	11	11	16	16	27	27	41	41	49
ADN-...-Q											
Product weight with 0 mm stroke	65	78	132	180	270	361	537	749	1144	1741	2945
Additional weight per 10 mm stroke	12	14	22	26	28	37	46	55	75	94	108
Moving mass with 0 mm stroke	11	17	32	41	73		153	209	413	575	985
Additional mass per 10 mm stroke	2	4	6	6	8	8	11	11	20	20	21
ADN-...-S1											
Product weight with 0 mm stroke	–	–	–	183	–	394	–	886	–	2710	–
Additional weight per 10 mm stroke	–	–	–	26	–	44	–	68	–	136	–
Moving mass with 0 mm stroke	–	–	–	45	–	134	–	308	–	737	–
Additional mass per 10 mm stroke	–	–	–	6	–	15	–	24	–	38	–
ADN-...-PPS											
Product weight with 0 mm stroke	–	–	128	173	272	372	547	773	1162	1766	–
Additional weight per 10 mm stroke	–	–	22	26	29	38	51	60	80	99	–
Moving mass with 0 mm stroke	–	–	33	39	83	114	180	240	453	620	–
Additional mass per 10 mm stroke	–	–	6	6	9	9	16	16	25	25	–
ADN-...-TT/-R8											
Product weight with 0 mm stroke	–	–	133	181	280	380	561	786	1167	1768	–
Additional weight per 10 mm stroke	–	–	22	26	29	38	51	60	80	99	–
Moving mass with 0 mm stroke	–	–	35	44	82	109	175	234	447	612	–
Additional mass per 10 mm stroke	–	–	6	6	9	9	16	16	25	25	–

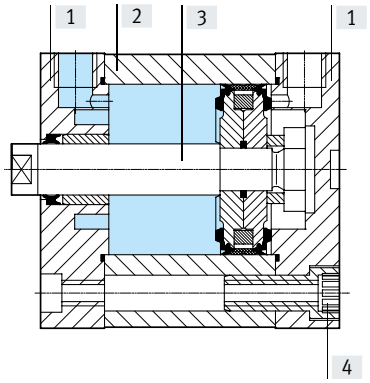
Datasheet

Weight [g]											
Piston diameter	12	16	20	25	32	40	50	63	80	100	125
ADN-...-K10											
Product weight with 0 mm stroke	–	–	131	183	281	373	562	780	1158	1754	2932
Additional weight per 10 mm stroke	–	–	18	22	23	29	40	48	61	80	86
Moving mass with 0 mm stroke	–	–	35	43	92	115	195	247	449	608	1000
Additional mass per 10 mm stroke	–	–	2	2	3	0	5	4	6	6	0
ADN-...-R3											
Product weight with 0 mm stroke	64	75	128	181	265	361	531	755	1301	2171	2952
Additional weight per 10 mm stroke	12	14	22	26	29	38	51	60	80	99	116
Moving mass with 0 mm stroke	11	18	32	41	76	103	164	222	431	595	1020
Additional mass per 10 mm stroke	2	4	6	6	9	9	16	16	25	25	29
ADN-...-K8											
Additional weight and mass per 10 mm piston rod extension	2	4	6	6	9	9	16	16	25	25	–
ADN-...-K2											
Additional weight and mass per 10 mm extended piston rod thread	2	2	4	4	6	6	9	9	16	16	–

Datasheet

Materials

Sectional view

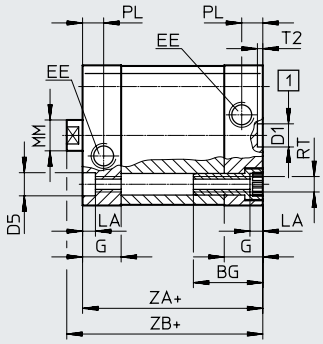


Compact cylinder		Basic version, Q	R8	S6, S10, S11	R3	K10	F1A
[1]	Cover						
	Ø 12 ... 63	Anodised aluminium					
	Ø 80 ... 125	Coated die-cast aluminium					
[2]	Cylinder barrel	Anodised aluminium					
[3]	Piston rod	High-alloy steel	Hard-chrome-plated tempered steel	High-alloy steel		Anodised aluminium	High-alloy steel
[4]	Flange screws						
	Ø 12 ... 16	High-alloy steel			High-alloy steel	–	Steel, chemically nickel-plated
	Ø 20 ... 63	Galvanised steel			Tempered steel	Galvanised steel	
	Ø 80 ... 125	Standard screws, galvanised steel			Standard screws, high-alloy steel	Standard screws, galvanised steel	
–	Seals	Polyurethane		Fluoro rubber	Polyurethane		Polyurethane
	Note on materials						
	ADN-...	RoHS-compliant					
		LABS (PWIS) conformity: VDMA24364-B1/B2-L					
	Ø 12 ... 63	Cleanroom class 6 to ISO 14644-1					
	ADN-...-S10/11	Contains paint-wetting impairment substances					
		LABS (PWIS) conformity: VDMA24364-Zone III					
	ADN-...-F1A	Metals with copper, zinc or nickel as the main constituent are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils.					

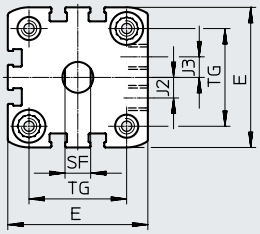
Datasheet

Dimensions – Basic version Download CAD data ➔ www.festo.com

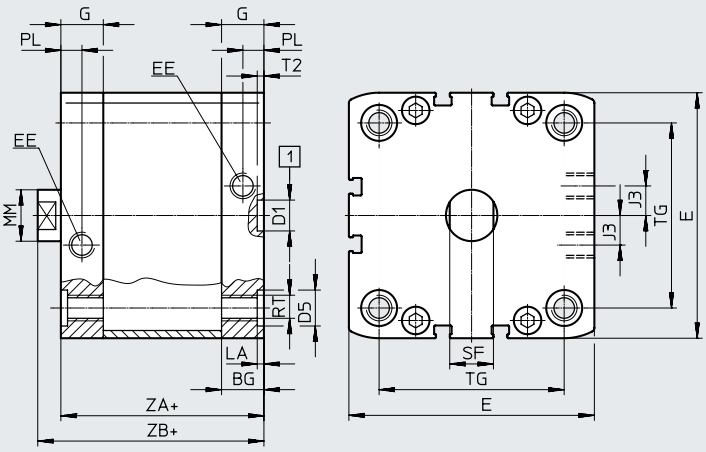
Ø 12 ... 63



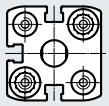
Ø 32 ... 63



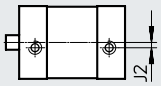
Ø 80 ... 125



Ø 12 ... 25



Ø 12



\+ = plus stroke length

[1] = Drilled hole for centring pin/sleeve

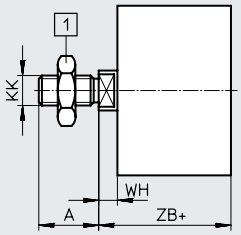
Ø [mm]	BG min.	D1 Ø H9	D5 Ø	E	EE	G	J2	J3	PW +0.2
12	17	9	6^{F9}	27.5 $^{+0.3}$	M5	10.5	2	–	3.5
16				29 $^{+0.3}$		11	2.6		
20	19.5		9^{F9}	35.5 $^{+0.3}$		12			5
25				39.5 $^{+0.3}$					
32	26			47 $^{+0.3}$	G1/8	15	6		
40				54.5 $^{+0.3}$			8		
50	27	12	12^{F9}	65.5 $^{+0.3}$			11.5		
63				75.5 $^{+0.3}$					
80	17		15	95.5 $^{+0.6}$		16.5			2.6
100	21.5			113.5 $^{+0.6}$		21.5	20		
125	20		–	134.6 $^{+0.3}$	G1/4	20	21.15		–

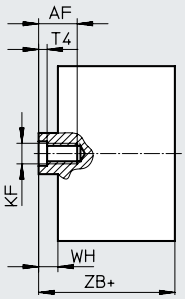
Ø [mm]	MM Ø	PL +0.2	RT	ST h13	T2 +0.1	TG ±0.2	ZA ±0.6	ZB +1.2	ZB PPS +1.3
12	6	6	M4	5	2.1	16	35	39.2	–
16	8			7		18		39.7	
20	10		M5	9		22	37	42.5	42.5
25						26	39	44.5	45.3
32	12	8.2	M6	10		32.5	44	50	50.6
40						38	45	51.1	51.7
50	16		M8	13	2.6	46.5		52.7	53.2
63						56.5	49	56.5	57
80	20		M10	17		72	54	62.9	63.4
100		10.5				89	67	76	76.8
125	25		M12	21		110	81	92	–

Datasheet

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

Basic version

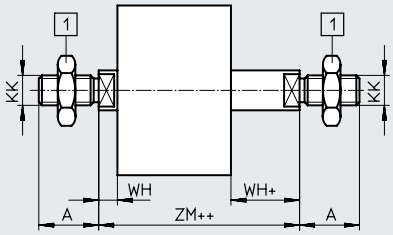


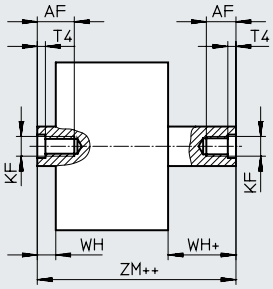


[1] Hex nut DIN 439-B only with Ø 32 ... 125

\+ = plus stroke length

S2 – Through piston rod



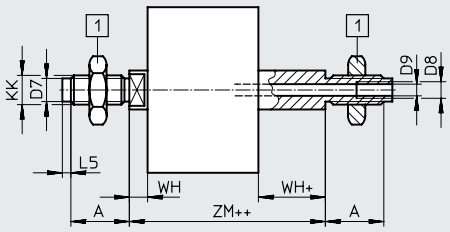


[1] Hex nut DIN 439-B only with Ø 32 ... 125

\+ = plus stroke length

++ = plus 2x stroke length

S20 – Through, hollow piston rod

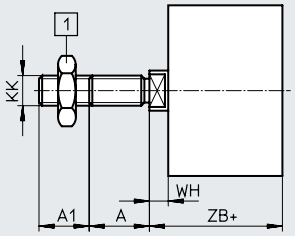


[1] Hex nut DIN 439-B only with Ø 32 ... 125

\+ = plus stroke length

++ = plus 2x stroke length

K2 – Extended male piston rod thread



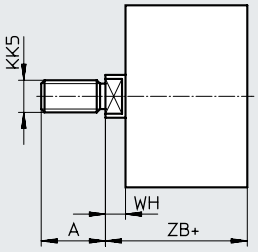
Note

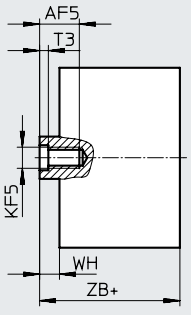
In combination with variants S2/ S20, the piston rod thread is extended at both ends

[1] Hex nut DIN 439-B only with Ø 32 ... 125

\+ = plus stroke length

K5 – Special piston rod thread

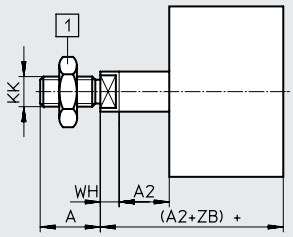


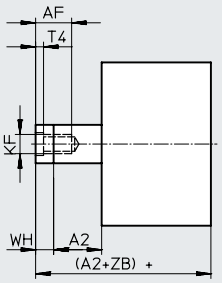


Datasheet

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

K8 – Extended piston rod





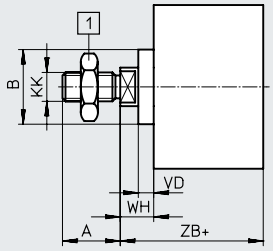
Note

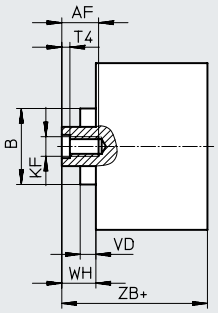
In combination with variants S2/ S20, the piston rod thread is extended at one end

[1] Hex nut DIN 439-B only with Ø 32 ... 125

\+ = plus stroke length

R8 – Dust protection / TT – Low temperature





[1] Hex nut DIN 439-B only with Ø 32 ... 125

\+ = plus stroke length

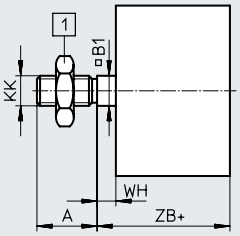
Ø [mm]	A –0.5	A1	A2	AF min.	AF5 min.	B Ø	D7 Ø	D8	D9 Ø	L5	KF	KF5	KK
12	10	1 ... 10	1 ... 300	8	–	–	–	–	–	–	M3	–	M5
16	12			10			4.5		3.2	3	M4		M6
20	16	1 ... 20		14	12	18	6	–	3.8	2	M6	M5	M8
25													
32	19		1 ...400	16	14	27	8		4.5	3	M8	M6	M10x1.25
40													
50	22			20	16	31	10		6	3.5	M10	M8	M12x1.25
63													
80	28	1 ... 30	1 ... 500		20	35	–	G1/8	8	–	M12	M10	M16x1.5
100													
125	40	1 ... 40		25	–	–		G1/4	11.7		M16	–	M20x1.5

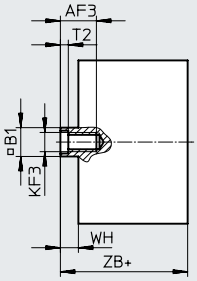
Ø [mm]	KK5	T3	T4	VD	WH			ZB			ZM	
					+1.3	PPS +1.4	R8/TT +1.3	+1.2	PPS +1.3	R8/TT +1.2		PPS
12	M6	–	1.5	–	4.2	–	–	39.2	–	–	44.5 $^{+0.5}$	–
16	M8				4.7			39.7			45.7 $^{+0.5}$	
20	M10x1.25	2	2.6	5.2	5.5	5.5	10.5	42.5	42.5	47.5	49.5 $^{+0.5}$	49.5 $^{+0.5}$
25	M10					5.5		44.5	45.3	49.5	51.5 $^{+0.5}$	51.5 $^{+0.5}$
32	M10	2.6	3.3	6.4	6	6.5	12.5	50	50.6	56.5	57.5 $^{+0.5}$	58.6 $^{+0.6}$
40	M12				6.1	6.6		51.1	51.7	57.5	58.6 $^{+0.6}$	59.7 $^{+0.7}$
50	M12	3.3	4.7		7.7	8.2	14.7	52.7	53.2	59.7	62.0 $^{+0.6}$	63.1 $^{+0.7}$
63	M16				7.5	8	14.6	56.5	57	63.6	65.4 $^{+0.6}$	66.5 $^{+0.7}$
80	M16	4.7	6.1		8.9	9.4	15.4	62.9	63.4	69.4	73.2 $^{+0.6}$	74.3 $^{+0.7}$
100	M20x1.5 M20				9	9.8	15.5	76	76.8	82.5	86.4 $^{+0.6}$	88 $^{+0.7}$
125	M20	–	7	–	11	–	–	92	–	–	104.4 $^{+0.6}$	–

Datasheet

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

Q – Square piston rod

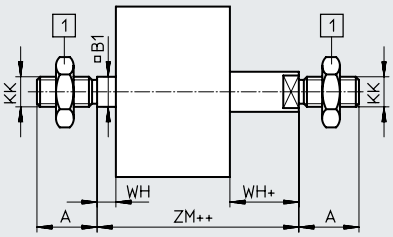


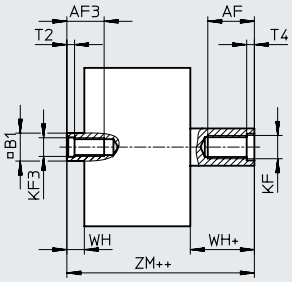


[1] Hex nut DIN 439-B only with Ø 32 ... 125

\+ = plus stroke length

Q-S2 – Square, through piston rod



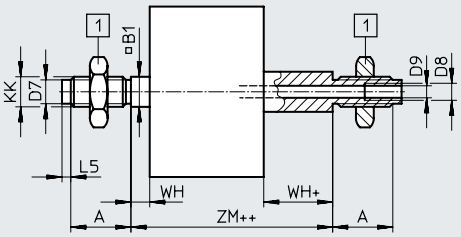


[1] Hex nut DIN 439-B only with Ø 32 ... 125

\+ = plus stroke length

++ = plus 2x stroke length

Q-S20 – Square, through, hollow piston rod

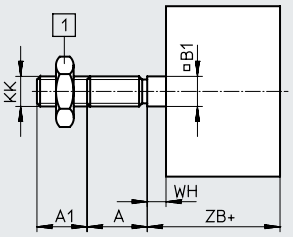


[1] Hex nut DIN 439-B only with Ø 32 ... 125

\+ = plus stroke length

++ = plus 2x stroke length

Q-K2 – Square piston rod with extended male thread



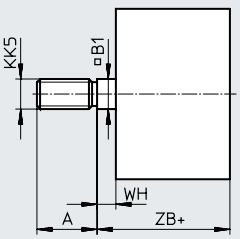
Note

In combination with variants S2/ S20, the piston rod thread is extended at both ends.

[1] Hex nut DIN 439-B only with Ø 32 ... 125

\+ = plus stroke length

Q-K5 – Square piston rod with special piston rod thread

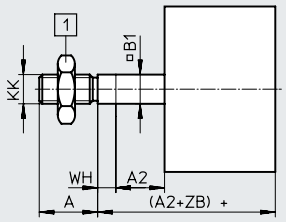


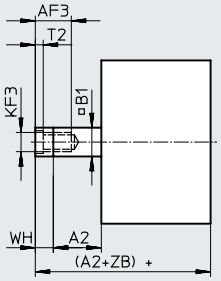
\+ = plus stroke length

Datasheet

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

Q-K8 – Square, extended piston rod





Note

In combination with variants S2/ S20, the piston rod thread is extended at both ends.

[1] Hex nut DIN 439-B only with Ø 32 ... 125

\+ = plus stroke length

Ø [mm]	A –0.5	A1	A2	AF min.	AF3 min.	B1 □	D7 Ø	D8	D9 Ø
12	10	1 ... 10	1 ... 300	8	8	5.5	–	–	–
16	12			10	10	7	4.5		3.2
20	16	1 ... 20		14	12	9	6	–	3.8
25									
32	19		1 ...400	16	14	10	8		4.5
40									
50	22			20	16	12	10		6
63									
80	28	1 ... 30	1 ... 500	20	20	16	–	G1/8	8
100									
125	40	1 ... 40		25	24	20		G1/4	11.7

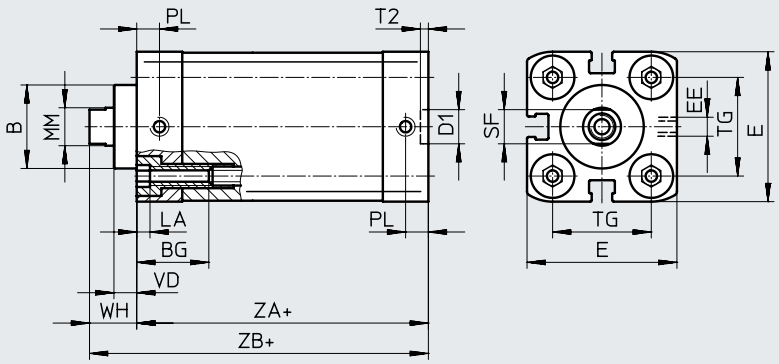
Ø [mm]	L5	KF	KF3	KK	KK5	T2	T4	WH +1.3	ZB +1.2	ZM
12	–	M3	M3	M5	M6	1.5	1.5	4.2	39.2	44.5 $^{+0.5}$
16	3	M4	M4	M6	M8			4.7	39.7	45.7 $^{+0.5}$
20	2	M6	M5	M8	M10x1.25 M10	2	2.6	5.5	42.5	49.5 $^{+0.5}$
25									44.5	51.5 $^{+0.5}$
32	3	M8	M6	M10x1.25	M10	2.6	3.3	6	50	57.5 $^{+0.5}$
40								6.1	51.1	58.6 $^{+0.6}$
50	3.5	M10	M8	M12x1.25	M12	3.3	4.7	8.2	53.2	62.8 $^{+0.6}$
63								8.1	57.1	66.6 $^{+0.6}$
80	–	M12	M10	M16x1.5	M16	4.7	6.1	8.9	62.9	73.2 $^{+0.6}$
100								9	76	86.4 $^{+0.6}$
125		M16	M12	M20x1.5	M20	6.1	7	11	92	104.4 $^{+0.6}$

Datasheet

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

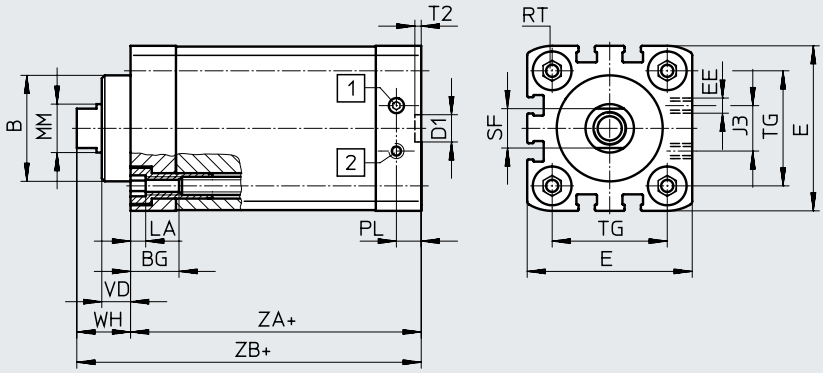
S1 – Reinforced piston rod

Ø 25



\+ = plus stroke length

Ø 40 ... 100



[1] Cylinder extending
[2] Cylinder retracting

\+ = plus stroke length

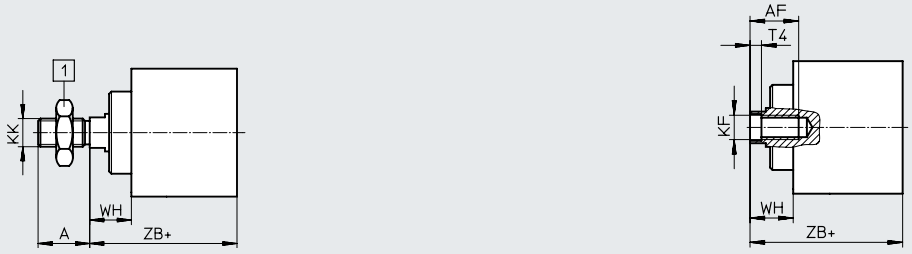
Ø [mm]	B Ø f8	BG min.	D1 Ø H9	E	EE	J3	PW	MM Ø	PL
25	22	15	9	39.5 +0.3	M5	–	5	10	6
40	35	16		54.5 +0.3		15		16	8.2
63	42		12	75.5 +0.3	G1/8	23		20	
100	55	17		113.5 +0.6		40		25	10.5

Ø [mm]	RT	ST h13	T2 +0.1	TG ±0.2	VD	WH +1.3	ZA ±0.6	ZB +1.2
25	M5	9	2.1	26	6	11.8	39	50.9
40	M6	13		38	9.5	18	45	62.9
63	M8	17	2.6	56.5	12	21	49	70.2
100	M10	21		89	15.5	26.5	67	93.5

Datasheet

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

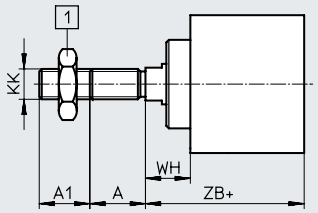
S1 – Reinforced piston rod



[1] Hex nut DIN 439-B only with ø 40 ... 100

\+ = plus stroke length

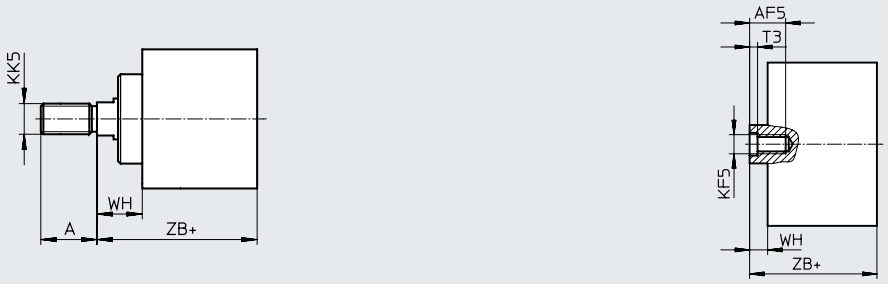
S1-K2 – Reinforced piston rod with extended male piston rod thread



[1] Hex nut DIN 439-B only with ø 40 ... 100

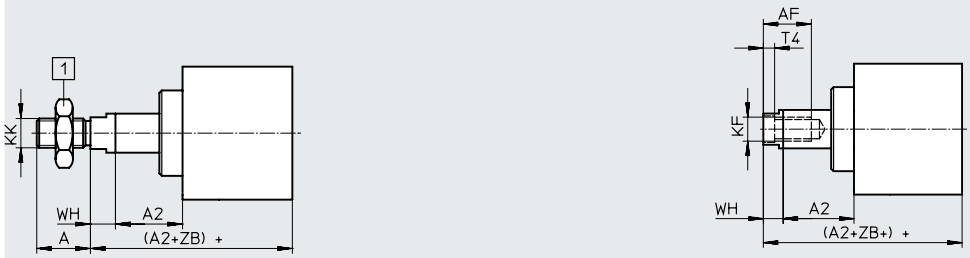
\+ = plus stroke length

S1-K5 – Reinforced piston rod with special piston rod thread



\+ = plus stroke length

S1-K8 – Reinforced piston rod with piston rod extension



[1] Hex nut DIN 439-B only with ø 40 ... 100

\+ = plus stroke length

ø [mm]	A –0.5	A1	A2	AF min.	AF5 min.	KF	KF5	KK	KK5	T3	T4	WH +1.3	ZB +1.2
25	16	1 ... 20	1 ... 300	14	12	M6	M5	M8	M10x1.25 M10	2	2.6	11.8	50.9
40	22		1 ... 400	20	16	M10	M8	M12x1.25	M10x1.25 M12	3.3	4.7	18	62.9
63	28				20	M12	M10	M16x1.5	M12x1.25 M16	4.7	6.1	21	70.2
100	40	1 ... 30	1 ... 500	25	–	M16	–	M20x1.5	M16x1.5 M20	–	7	26.5	93.5

Datasheet

★ Core Range

Ordering data

Type	Piston diameter [mm]	Stroke [mm]	I – Piston rod with female thread P – Elastic cushioning rings/plates at both ends Part no.	Type	A – Piston rod with male thread P – Elastic cushioning rings/plates at both ends Part no.	Type
	12	5	★ 536211	ADN-12-5-I-P-A	★ 536204	ADN-12-5-A-P-A
		10	★ 536212	ADN-12-10-I-P-A	★ 536205	ADN-12-10-A-P-A
		15	★ 536213	ADN-12-15-I-P-A	★ 536206	ADN-12-15-A-P-A
		20	★ 536214	ADN-12-20-I-P-A	★ 536207	ADN-12-20-A-P-A
		25	★ 536215	ADN-12-25-I-P-A	★ 536208	ADN-12-25-A-P-A
		30	★ 536216	ADN-12-30-I-P-A	★ 536209	ADN-12-30-A-P-A
		40	★ 536217	ADN-12-40-I-P-A	★ 536210	ADN-12-40-A-P-A
	16	5	★ 536226	ADN-16-5-I-P-A	★ 536219	ADN-16-5-A-P-A
		10	★ 536227	ADN-16-10-I-P-A	★ 536220	ADN-16-10-A-P-A
		15	★ 536228	ADN-16-15-I-P-A	★ 536221	ADN-16-15-A-P-A
		20	★ 536229	ADN-16-20-I-P-A	★ 536222	ADN-16-20-A-P-A
		25	★ 536230	ADN-16-25-I-P-A	★ 536223	ADN-16-25-A-P-A
		30	★ 536231	ADN-16-30-I-P-A	★ 536224	ADN-16-30-A-P-A
		40	★ 536232	ADN-16-40-I-P-A	★ 536225	ADN-16-40-A-P-A
		50	★ 536341	ADN-16-50-I-P-A	★ 536331	ADN-16-50-A-P-A
	20	5	★ 536242	ADN-20-5-I-P-A	★ 536234	ADN-20-5-A-P-A
		10	★ 536243	ADN-20-10-I-P-A	★ 536235	ADN-20-10-A-P-A
		15	★ 536244	ADN-20-15-I-P-A	★ 536236	ADN-20-15-A-P-A
		20	★ 536245	ADN-20-20-I-P-A	★ 536237	ADN-20-20-A-P-A
		25	★ 536246	ADN-20-25-I-P-A	★ 536238	ADN-20-25-A-P-A
		30	★ 536247	ADN-20-30-I-P-A	★ 536239	ADN-20-30-A-P-A
		40	★ 536248	ADN-20-40-I-P-A	★ 536240	ADN-20-40-A-P-A
		50	★ 536249	ADN-20-50-I-P-A	★ 536241	ADN-20-50-A-P-A
		60	★ 536362	ADN-20-60-I-P-A	★ 536352	ADN-20-60-A-P-A
	25	5	★ 536259	ADN-25-5-I-P-A	★ 536251	ADN-25-5-A-P-A
		10	★ 536260	ADN-25-10-I-P-A	★ 536252	ADN-25-10-A-P-A
		15	★ 536261	ADN-25-15-I-P-A	★ 536253	ADN-25-15-A-P-A
		20	★ 536262	ADN-25-20-I-P-A	★ 536254	ADN-25-20-A-P-A
		25	★ 536263	ADN-25-25-I-P-A	★ 536255	ADN-25-25-A-P-A
		30	★ 536264	ADN-25-30-I-P-A	★ 536256	ADN-25-30-A-P-A
		40	★ 536265	ADN-25-40-I-P-A	★ 536257	ADN-25-40-A-P-A
		50	★ 536266	ADN-25-50-I-P-A	★ 536258	ADN-25-50-A-P-A
		60	★ 536383	ADN-25-60-I-P-A	★ 536373	ADN-25-60-A-P-A
	32	5	★ 536278	ADN-32-5-I-P-A	★ 536268	ADN-32-5-A-P-A
		10	★ 536279	ADN-32-10-I-P-A	★ 536269	ADN-32-10-A-P-A
		15	★ 536280	ADN-32-15-I-P-A	★ 536270	ADN-32-15-A-P-A
		20	★ 536281	ADN-32-20-I-P-A	★ 536271	ADN-32-20-A-P-A
		25	★ 536282	ADN-32-25-I-P-A	★ 536272	ADN-32-25-A-P-A
		30	★ 536283	ADN-32-30-I-P-A	★ 536273	ADN-32-30-A-P-A
		40	★ 536284	ADN-32-40-I-P-A	★ 536274	ADN-32-40-A-P-A
		50	★ 536285	ADN-32-50-I-P-A	★ 536275	ADN-32-50-A-P-A
		60	★ 536286	ADN-32-60-I-P-A	★ 536276	ADN-32-60-A-P-A
		80	★ 536287	ADN-32-80-I-P-A	★ 536277	ADN-32-80-A-P-A

Datasheet

★ Core Range

Ordering data

Type	Piston diameter [mm]	Stroke [mm]	I – Piston rod with female thread P – Elastic cushioning rings/plates at both ends Part no.	Type	A – Piston rod with male thread P – Elastic cushioning rings/plates at both ends Part no.	Type
	40	5	★ 536299	ADN-40-5-I-P-A	★ 536289	ADN-40-5-A-P-A
		10	★ 536300	ADN-40-10-I-P-A	★ 536290	ADN-40-10-A-P-A
		15	★ 536301	ADN-40-15-I-P-A	★ 536291	ADN-40-15-A-P-A
		20	★ 536302	ADN-40-20-I-P-A	★ 536292	ADN-40-20-A-P-A
		25	★ 536303	ADN-40-25-I-P-A	★ 536293	ADN-40-25-A-P-A
		30	★ 536304	ADN-40-30-I-P-A	★ 536294	ADN-40-30-A-P-A
		40	★ 536305	ADN-40-40-I-P-A	★ 536295	ADN-40-40-A-P-A
		50	★ 536306	ADN-40-50-I-P-A	★ 536296	ADN-40-50-A-P-A
		60	★ 536307	ADN-40-60-I-P-A	★ 536297	ADN-40-60-A-P-A
		80	★ 536308	ADN-40-80-I-P-A	★ 536298	ADN-40-80-A-P-A
	50	5	★ 536320	ADN-50-5-I-P-A	★ 536310	ADN-50-5-A-P-A
		10	★ 536321	ADN-50-10-I-P-A	★ 536311	ADN-50-10-A-P-A
		15	★ 536322	ADN-50-15-I-P-A	★ 536312	ADN-50-15-A-P-A
		20	★ 536323	ADN-50-20-I-P-A	★ 536313	ADN-50-20-A-P-A
		25	★ 536324	ADN-50-25-I-P-A	★ 536314	ADN-50-25-A-P-A
		30	★ 536325	ADN-50-30-I-P-A	★ 536315	ADN-50-30-A-P-A
		40	★ 536326	ADN-50-40-I-P-A	★ 536316	ADN-50-40-A-P-A
		50	★ 536327	ADN-50-50-I-P-A	★ 536317	ADN-50-50-A-P-A
		60	★ 536328	ADN-50-60-I-P-A	★ 536318	ADN-50-60-A-P-A
		80	★ 536329	ADN-50-80-I-P-A	★ 536319	ADN-50-80-A-P-A
	63	10	★ 536342	ADN-63-10-I-P-A	★ 536332	ADN-63-10-A-P-A
		15	★ 536343	ADN-63-15-I-P-A	★ 536333	ADN-63-15-A-P-A
		20	★ 536344	ADN-63-20-I-P-A	★ 536334	ADN-63-20-A-P-A
		25	★ 536345	ADN-63-25-I-P-A	★ 536335	ADN-63-25-A-P-A
		30	★ 536346	ADN-63-30-I-P-A	★ 536336	ADN-63-30-A-P-A
		40	★ 536347	ADN-63-40-I-P-A	★ 536337	ADN-63-40-A-P-A
		50	★ 536348	ADN-63-50-I-P-A	★ 536338	ADN-63-50-A-P-A
		60	★ 536349	ADN-63-60-I-P-A	★ 536339	ADN-63-60-A-P-A
		80	★ 536350	ADN-63-80-I-P-A	★ 536340	ADN-63-80-A-P-A
	80	10	★ 536363	ADN-80-10-I-P-A	★ 536353	ADN-80-10-A-P-A
		15	★ 536364	ADN-80-15-I-P-A	★ 536354	ADN-80-15-A-P-A
		20	★ 536365	ADN-80-20-I-P-A	★ 536355	ADN-80-20-A-P-A
		25	★ 536366	ADN-80-25-I-P-A	★ 536356	ADN-80-25-A-P-A
		30	★ 536367	ADN-80-30-I-P-A	★ 536357	ADN-80-30-A-P-A
		40	★ 536368	ADN-80-40-I-P-A	★ 536358	ADN-80-40-A-P-A
		50	★ 536369	ADN-80-50-I-P-A	★ 536359	ADN-80-50-A-P-A
		60	★ 536370	ADN-80-60-I-P-A	★ 536360	ADN-80-60-A-P-A
		80	★ 536371	ADN-80-80-I-P-A	★ 536361	ADN-80-80-A-P-A

Datasheet

★ Core Range

Ordering data

Type	Piston diameter [mm]	Stroke [mm]	I – Piston rod with female thread PPS – Pneumatic cushioning, self-adjusting at both ends Part no.	Type	A – Piston rod with male thread PPS – Pneumatic cushioning, self-adjusting at both ends Part no.	Type
	32	10	★ 572646	ADN-32-10-I-PPS-A	★ 572655	ADN-32-10-A-PPS-A
		15	★ 572647	ADN-32-15-I-PPS-A	★ 572656	ADN-32-15-A-PPS-A
		20	★ 572648	ADN-32-20-I-PPS-A	★ 572657	ADN-32-20-A-PPS-A
		25	★ 572649	ADN-32-25-I-PPS-A	★ 572658	ADN-32-25-A-PPS-A
		30	★ 572650	ADN-32-30-I-PPS-A	★ 572659	ADN-32-30-A-PPS-A
		40	★ 572651	ADN-32-40-I-PPS-A	★ 572660	ADN-32-40-A-PPS-A
		50	★ 572652	ADN-32-50-I-PPS-A	★ 572661	ADN-32-50-A-PPS-A
		60	★ 572653	ADN-32-60-I-PPS-A	★ 572662	ADN-32-60-A-PPS-A
		80	★ 572654	ADN-32-80-I-PPS-A	★ 572663	ADN-32-80-A-PPS-A
	40	10	★ 572664	ADN-40-10-I-PPS-A	★ 572673	ADN-40-10-A-PPS-A
		15	★ 572665	ADN-40-15-I-PPS-A	★ 572674	ADN-40-15-A-PPS-A
		20	★ 572666	ADN-40-20-I-PPS-A	★ 572675	ADN-40-20-A-PPS-A
		25	★ 572667	ADN-40-25-I-PPS-A	★ 572676	ADN-40-25-A-PPS-A
		30	★ 572668	ADN-40-30-I-PPS-A	★ 572677	ADN-40-30-A-PPS-A
		40	★ 572669	ADN-40-40-I-PPS-A	★ 572678	ADN-40-40-A-PPS-A
		50	★ 572670	ADN-40-50-I-PPS-A	★ 572679	ADN-40-50-A-PPS-A
		60	★ 572671	ADN-40-60-I-PPS-A	★ 572680	ADN-40-60-A-PPS-A
		80	★ 572672	ADN-40-80-I-PPS-A	★ 572681	ADN-40-80-A-PPS-A
	50	10	★ 572682	ADN-50-10-I-PPS-A	★ 572691	ADN-50-10-A-PPS-A
		15	★ 572683	ADN-50-15-I-PPS-A	★ 572692	ADN-50-15-A-PPS-A
		20	★ 572684	ADN-50-20-I-PPS-A	★ 572693	ADN-50-20-A-PPS-A
		25	★ 572685	ADN-50-25-I-PPS-A	★ 572694	ADN-50-25-A-PPS-A
		30	★ 572686	ADN-50-30-I-PPS-A	★ 572695	ADN-50-30-A-PPS-A
		40	★ 572687	ADN-50-40-I-PPS-A	★ 572696	ADN-50-40-A-PPS-A
		50	★ 572688	ADN-50-50-I-PPS-A	★ 572697	ADN-50-50-A-PPS-A
		60	★ 572689	ADN-50-60-I-PPS-A	★ 572698	ADN-50-60-A-PPS-A
		80	★ 572690	ADN-50-80-I-PPS-A	★ 572699	ADN-50-80-A-PPS-A

Datasheet

★ Core Range

Ordering data

Type	Piston diameter [mm]	Stroke [mm]	I – Piston rod with female thread, PPS – Pneumatic cushioning, self-adjusting at both ends		A – Piston rod with male thread, PPS – Pneumatic cushioning, self-adjusting at both ends	
			Part no.	Type	Part no.	Type
	63	10	★ 572700	ADN-63-10-I-PPS-A	★ 572709	ADN-63-10-A-PPS-A
		15	★ 572701	ADN-63-15-I-PPS-A	★ 572710	ADN-63-15-A-PPS-A
		20	★ 572702	ADN-63-20-I-PPS-A	★ 572711	ADN-63-20-A-PPS-A
		25	★ 572703	ADN-63-25-I-PPS-A	★ 572712	ADN-63-25-A-PPS-A
		30	★ 572704	ADN-63-30-I-PPS-A	★ 572713	ADN-63-30-A-PPS-A
		40	★ 572705	ADN-63-40-I-PPS-A	★ 572714	ADN-63-40-A-PPS-A
		50	★ 572706	ADN-63-50-I-PPS-A	★ 572715	ADN-63-50-A-PPS-A
		60	★ 572707	ADN-63-60-I-PPS-A	★ 572716	ADN-63-60-A-PPS-A
		80	★ 572708	ADN-63-80-I-PPS-A	★ 572717	ADN-63-80-A-PPS-A
	80	10	★ 572718	ADN-80-10-I-PPS-A	★ 572727	ADN-80-10-A-PPS-A
		15	★ 572719	ADN-80-15-I-PPS-A	★ 572728	ADN-80-15-A-PPS-A
		20	★ 572720	ADN-80-20-I-PPS-A	★ 572729	ADN-80-20-A-PPS-A
		25	★ 572721	ADN-80-25-I-PPS-A	★ 572730	ADN-80-25-A-PPS-A
		30	★ 572722	ADN-80-30-I-PPS-A	★ 572731	ADN-80-30-A-PPS-A
		40	★ 572723	ADN-80-40-I-PPS-A	★ 572732	ADN-80-40-A-PPS-A
		50	★ 572724	ADN-80-50-I-PPS-A	★ 572733	ADN-80-50-A-PPS-A
		60	★ 572725	ADN-80-60-I-PPS-A	★ 572734	ADN-80-60-A-PPS-A
		80	★ 572726	ADN-80-80-I-PPS-A	★ 572735	ADN-80-80-A-PPS-A

Datasheet

Ordering data

Type	Piston diameter [mm]	Stroke [mm]	I – Piston rod with female thread P – Elastic cushioning rings/plates at both ends Part no.	Type	A – Piston rod with male thread P – Elastic cushioning rings/plates at both ends Part no.	Type
	12	35	**8178328**	**ADN-12-35-I-P-A**	**8178327**	**ADN-12-35-A-P-A**
		50	**8178550**	**ADN-12-50-I-P-A**	**8178548**	**ADN-12-50-A-P-A**
		60	**604883**	**ADN-12-60-I-P-A**	**8178549**	**ADN-12-60-A-P-A**
	16	35	**8178765**	**ADN-16-35-I-P-A**	**8178762**	**ADN-16-35-A-P-A**
		60	**8178766**	**ADN-16-60-I-P-A**	**8178763**	**ADN-16-60-A-P-A**
		70	**8178767**	**ADN-16-70-I-P-A**	**594950**	**ADN-16-70-A-P-A**
	20	35	**578011**	**ADN-20-35-I-P-A**	**8178859**	**ADN-20-35-A-P-A**
		70	**8178862**	**ADN-20-70-I-P-A**	**595275**	**ADN-20-70-A-P-A**
	25	35	**608920**	**ADN-25-35-I-P-A**	**574647**	**ADN-25-35-A-P-A**
		70	**8178880**	**ADN-25-70-I-P-A**	**8178877**	**ADN-25-70-A-P-A**
		80	**578450**	**ADN-25-80-I-P-A**	**576652**	**ADN-25-80-A-P-A**
	32	35	**8179019**	**ADN-32-35-I-P-A**	**576645**	**ADN-32-35-A-P-A**
		70	**8173462**	**ADN-32-70-I-P-A**	**564092**	**ADN-32-70-A-P-A**
	40	35	**8179033**	**ADN-40-35-I-P-A**	**8179031**	**ADN-40-35-A-P-A**
		70	**8179034**	**ADN-40-70-I-P-A**	**582549**	**ADN-40-70-A-P-A**
	50	35	**8178619**	**ADN-50-35-I-P-A**	**8178336**	**ADN-50-35-A-P-A**
		70	**8178338**	**ADN-50-70-I-P-A**	**572851**	**ADN-50-70-A-P-A**
	63	35	**8178659**	**ADN-63-35-I-P-A**	**8178283**	**ADN-63-35-A-P-A**
		70	**8178285**	**ADN-63-70-I-P-A**	**8178284**	**ADN-63-70-A-P-A**
	100	10	**536384**	**ADN-100-10-I-P-A**	**536374**	**ADN-100-10-A-P-A**
		15	**536385**	**ADN-100-15-I-P-A**	**536375**	**ADN-100-15-A-P-A**
		20	**536386**	**ADN-100-20-I-P-A**	**536376**	**ADN-100-20-A-P-A**
		25	**536387**	**ADN-100-25-I-P-A**	**536377**	**ADN-100-25-A-P-A**
		30	**536388**	**ADN-100-30-I-P-A**	**536378**	**ADN-100-30-A-P-A**
		40	**536389**	**ADN-100-40-I-P-A**	**536379**	**ADN-100-40-A-P-A**
		50	**536390**	**ADN-100-50-I-P-A**	**536380**	**ADN-100-50-A-P-A**
		60	**536391**	**ADN-100-60-I-P-A**	**536381**	**ADN-100-60-A-P-A**
		80	**536392**	**ADN-100-80-I-P-A**	**536382**	**ADN-100-80-A-P-A**

Datasheet

Ordering data

Type	Piston diameter [mm]	Stroke [mm]	I – Piston rod with female thread PPS – Pneumatic cushioning, self-adjusting at both ends Part no.	Type	A – Piston rod with male thread PPS – Pneumatic cushioning, self-adjusting at both ends Part no.	Type
	20	10	**577158**	**ADN-20-10-I-PPS-A**	**577166**	**ADN-20-10-A-PPS-A**
		15	**577159**	**ADN-20-15-I-PPS-A**	**577167**	**ADN-20-15-A-PPS-A**
		20	**577160**	**ADN-20-20-I-PPS-A**	**577168**	**ADN-20-20-A-PPS-A**
		25	**577161**	**ADN-20-25-I-PPS-A**	**577169**	**ADN-20-25-A-PPS-A**
		30	**577162**	**ADN-20-30-I-PPS-A**	**577170**	**ADN-20-30-A-PPS-A**
		35	**8178865**	**ADN-20-35-I-PPS-A**	**8178863**	**ADN-20-35-A-PPS-A**
		40	**577163**	**ADN-20-40-I-PPS-A**	**577171**	**ADN-20-40-A-PPS-A**
		50	**577164**	**ADN-20-50-I-PPS-A**	**577172**	**ADN-20-50-A-PPS-A**
		60	**577165**	**ADN-20-60-I-PPS-A**	**577173**	**ADN-20-60-A-PPS-A**
		70	**8178866**	**ADN-20-70-I-PPS-A**	**593451**	**ADN-20-70-A-PPS-A**
	25	10	**577174**	**ADN-25-10-I-PPS-A**	**577182**	**ADN-25-10-A-PPS-A**
		15	**577175**	**ADN-25-15-I-PPS-A**	**577183**	**ADN-25-15-A-PPS-A**
		20	**577176**	**ADN-25-20-I-PPS-A**	**577184**	**ADN-25-20-A-PPS-A**
		25	**577177**	**ADN-25-25-I-PPS-A**	**577185**	**ADN-25-25-A-PPS-A**
		30	**577178**	**ADN-25-30-I-PPS-A**	**577186**	**ADN-25-30-A-PPS-A**
		35	**8178885**	**ADN-25-35-I-PPS-A**	**8178882**	**ADN-25-35-A-PPS-A**
		40	**577179**	**ADN-25-40-I-PPS-A**	**577187**	**ADN-25-40-A-PPS-A**
		50	**577180**	**ADN-25-50-I-PPS-A**	**577188**	**ADN-25-50-A-PPS-A**
		60	**577181**	**ADN-25-60-I-PPS-A**	**577189**	**ADN-25-60-A-PPS-A**
		70	**8178886**	**ADN-25-70-I-PPS-A**	**8178883**	**ADN-25-70-A-PPS-A**
		80	**8178887**	**ADN-25-80-I-PPS-A**	**8178884**	**ADN-25-80-A-PPS-A**
	32	35	**8179023**	**ADN-32-35-I-PPS-A**	**8179021**	**ADN-32-35-A-PPS-A**
		70	**8179024**	**ADN-32-70-I-PPS-A**	**8179022**	**ADN-32-70-A-PPS-A**
	40	35	**8179037**	**ADN-40-35-I-PPS-A**	**8179035**	**ADN-40-35-A-PPS-A**
		70	**8179038**	**ADN-40-70-I-PPS-A**	**8179036**	**ADN-40-70-A-PPS-A**
	50	35	**8178620**	**ADN-50-35-I-PPS-A**	**8178339**	**ADN-50-35-A-PPS-A**
		70	**8178341**	**ADN-50-70-I-PPS-A**	**8178340**	**ADN-50-70-A-PPS-A**
	63	35	**609539**	**ADN-63-35-I-PPS-A**	**610152**	**ADN-63-35-A-PPS-A**
		70	**609538**	**ADN-63-70-I-PPS-A**	**8178287**	**ADN-63-70-A-PPS-A**
	100	15	**577191**	**ADN-100-15-I-PPS-A**	**577200**	**ADN-100-15-A-PPS-A**
		20	**577192**	**ADN-100-20-I-PPS-A**	**577201**	**ADN-100-20-A-PPS-A**
		25	**577193**	**ADN-100-25-I-PPS-A**	**577202**	**ADN-100-25-A-PPS-A**
		30	**577194**	**ADN-100-30-I-PPS-A**	**577203**	**ADN-100-30-A-PPS-A**
		40	**577195**	**ADN-100-40-I-PPS-A**	**577204**	**ADN-100-40-A-PPS-A**
		50	**577196**	**ADN-100-50-I-PPS-A**	**577205**	**ADN-100-50-A-PPS-A**
		60	**577197**	**ADN-100-60-I-PPS-A**	**577206**	**ADN-100-60-A-PPS-A**
		80	**577198**	**ADN-100-80-I-PPS-A**	**577207**	**ADN-100-80-A-PPS-A**

Ordering data – Modular product system, basic version and variants

Ordering table

Size		12	16	20	25	32	40	Conditions	Code		Enter code
Module no.		**536203**	**536218**	**536233**	**536250**	**536267**	**536288**				
Function		Compact cylinder, double-acting							**ADN**		ADN
Standard		Based on ISO 21287		Conforms to ISO 21287							
Piston diameter	[mm]	12	16	20	25	32	40		★ **-...**		
Stroke	[mm]	1 ... 300				1 ... 400		[10]	★ **-...**		
Piston rod thread		Male thread							★ **-A**		
		Female thread						[1]	★ **-I**		
Cushioning		Elastic cushioning rings/plates at both ends							★ **-P**		
		–		Pneumatic cushioning, self-adjusting at both ends				[8]	★ **-PPS**		
Position sensing		Via proximity switch							★ **-A**		-A

[1] **I** Not with piston rod type S20.
Not with extended male thread K2

[8] **PPS** Not with improved running performance K10, temperature resistance S6, low temperature TT, scraper R8
Minimum stroke 5 mm

[10] **Stroke** Minimum stroke 5 mm with a combination of piston rod thread I and piston rod type S2

Ordering data – Modular product system, basic version and variants

Ordering table

Size		12	16	20	25	32	40	Conditions	Code	Enter code
Piston rod type		Through piston rod						[2]	★ **-S2**	
		–	Through, hollow piston rod					[2]	**-S20**	
	[mm]		1 … 300			1 … 400				
Extended male thread		Extended male piston rod thread								
	[mm]	1 … 10		1 … 20					**-…K2**	
Special piston rod thread	Male thread	M6	M8	M10x1.25 M10	M10x1.25 M10	M10 M12	M10 M12		**-"…"K5**	
	Female thread	–	–	M5	M5	M6	M6			
Extended piston rod		Extended piston rod								
	[mm]	1 … 300				1 … 400		[3]	★ **-…K8**	
Improved running performance		–	–	Smooth anodised aluminium piston rod				[4]	**-K10**	
Temperature resistance		Heat-resistant seals max. 120 °C							★ **-S6**	
Corrosion protection		High corrosion protection						[5]	★ **-R3**	
Captive rating plate		Laser-etched rating plate							**-TL**	
Low temperature	[°C]	–	–	–40 … +80				[6] [7]	**-TT**	
Scraper		–	–	Dust protection				[6]	**-R8**	
Special material properties		None								
		Recommended for production systems for manufacturing lithium-ion batteries						[9]	**-F1A**	

[2] **S2, S20** Not with improved running performance K10.
Not with corrosion protection R3.
Not with scraper R8

[3] **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

[4] **K10** Not with extended male thread K2.
Not with special piston rod thread K5.
Not with corrosion protection R3

[5] **R3** Not with captive rating plate TL
Not with scraper R8

[6] **TT, R8** Not with improved running performance K10.
Not with temperature resistance S6

[7] **TT** Not with scraper R8

[9] **F1A** Not with S6, S20, K10, R3, TL, TT, R8, PPS

Note

NSF-H1 lubricants are used in combination with R3 and in combination with R3 and K2, K5 or K8.

Ordering data – Modular product system, basic version and variants

Ordering table

Size	50	63	80	100	125	Conditions	Code	Enter code
Module no.	**536309**	**536330**	**536351**	**536372**	**536393**			
Function	Compact cylinder, double-acting						**ADN**	ADN
Standard	Conforms to ISO 21287				Based on ISO 21287			
Piston diameter [mm]	50	63	80	–	–		★ -...	
	–	–	–	100	125		-...	
Stroke [mm]	1 ... 400		1 ... 500			[10]	★ -...	
Piston rod thread	Male thread						★ **-A**	
	Female thread					[1]	★ **-I**	
Cushioning	Elastic cushioning rings/plates at both ends						★ **-P**	
	Pneumatic cushioning, self-adjusting at both ends				–	[8]	★ **-PPS**	
Position sensing	Via proximity switch						★ **-A**	-A

[1] **I** Not with piston rod type S20.
Not with extended male thread K2

[8] **PPS** Not with improved running performance K10, temperature resistance S6, low temperature TT, scraper R8
Minimum stroke 5 mm

[10] **Stroke** Minimum stroke 5 mm with a combination of piston rod thread I and piston rod type S2

Ordering data – Modular product system, basic version and variants

Ordering table

Size		50	63	80	100	125	Conditions	Code	Enter code
Piston rod type		Through piston rod					[2]	★ **-S2**	
		Through, hollow piston rod					[2]	**-S20**	
	[mm]	1 … 400		1 … 500					
Extended male thread		Extended male piston rod thread							
	[mm]	1 … 20		1 … 30		1 … 40		**-…K2**	
Special piston rod thread	Male thread	M12 M16	M12 M16	M16 M20 M20x1.5	M16 M20 M20x1.5	M20		**-"…"K5**	
	Female thread	M8	M8	M10	M10	–			
Extended piston rod		Extended piston rod							
	[mm]	1 … 400		1 … 500			[3]	★ **-…K8**	
Improved running performance		Smooth anodised aluminium piston rod Restricted stroke					[4]	**-K10**	
	[mm]	2 … 400	5 … 400	5 … 500					
Temperature resistance		Heat-resistant seals max. 120 °C						★ **-S6**	
Corrosion protection		High corrosion protection					[5]	★ **-R3**	
Captive rating plate		Laser-etched rating plate						**-TL**	
Low temperature	[°C]	–40 … +80				–	[6] [7]	**-TT**	
Scraper		Dust protection				–	[6]	**-R8**	
Special material properties		None							
		Recommended for production systems for manufacturing lithium-ion batteries					[9]	**-F1A**	

[2] **S2, S20** Not with improved running performance K10.
Not with corrosion protection R3.
Not with scraper R8

[3] **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

[4] **K10** Not with extended male thread K2.
Not with special piston rod thread K5.
Not with corrosion protection R3

[5] **R3** Not with captive rating plate TL
Not with scraper R8

[6] **TT, R8** Not with improved running performance K10.
Not with temperature resistance S6

[7] **TT** Not with scraper R8

[9] **F1A** Not with S6, S20, K10, R3, TL, TT, R8, PPS

Note

NSF-H1 lubricants are used in combination with R3 and in combination with R3 and K2, K5 or K8.

Ordering data – Modular product system, S10 – constant motion, S11 – low friction

Ordering table

Size		12	16	20	25	32	40	Conditions	Code	Enter code
Module no.		**536203**	**536218**	**536233**	**536250**	**536267**	**536288**			
Function		Compact cylinder, double-acting							**ADN**	ADN
Standard		Based on ISO 21287		Conforms to ISO 21287						
Piston diameter	[mm]	12	16	20	25	32	40		**-...**	
Stroke	[mm]	1 ... 300				1 ... 400			**-...**	
Piston rod thread		Male thread							**-A**	
		Female thread						[1]	**-I**	
Cushioning		Elastic cushioning rings/plates at both ends							**-P**	-P
Position sensing		Via proximity switch							**-A**	-A
Extended male thread	[mm]	Extended male piston rod thread 1 ... 10		1 ... 20					**-...K2**	
Special piston rod thread	Male thread	M6	M8	M10x1.25 M10	M10x1.25 M10	M10 M12	M10 M12		**-"..."K5**	
	Female thread	–	–	M5	M5	M6	M6			
Extended piston rod	[mm]	Extended piston rod 1 ... 300				1 ... 400		[2]	**-...K8**	
Improved running performance		–	–	Smooth anodised aluminium piston rod				[3]	**-K10**	
Constant motion	[mm]	Slow speed (constant motion at low piston speeds) Restricted stroke 20 ... 300				20 ... 400		[4]	**-S10**	
Low friction		Low friction						[5]	**-S11**	
Corrosion protection		High corrosion protection						[6]	**-R3**	
Captive rating plate		Laser-etched rating plate							**-TL**	

[1] **I** Not with extended male thread K2
[2] **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length
[3] **K10** Not with extended male thread K2
Not with special piston rod thread K5
Not with corrosion protection R3
[4] **S10** Not with low friction S11
[5] **S11** Not with constant motion S10
[6] **R3** Not with captive rating plate TL

Note

NSF-H1 lubricants are used in combination with R3 and in combination with R3 and K2, K5 or K8.

Ordering data – Modular product system, S10 – constant motion, S11 – low friction

Ordering table

Size		50	63	80	100	125	Conditions	Code	Enter code
Module no.		**536309**	**536330**	**536351**	**536372**	**536393**			
Function		Compact cylinder, double-acting						**ADN**	ADN
Standard		Conforms to ISO 21287				Based on ISO 21287			
Piston diameter	[mm]	50	63	80	100	125		**-...**	
Stroke	[mm]	1 ... 400		1 ... 500				**-...**	
Piston rod thread		Male thread						**-A**	
		Female thread					[1]	**-I**	
Cushioning		Elastic cushioning rings/plates at both ends						**-P**	-P
Position sensing		Via proximity switch						**-A**	-A
Extended male thread		Extended male piston rod thread							
	[mm]	1 ... 20		1 ... 30		1 ... 40		**-...K2**	
Special piston rod thread	Male thread	M12 M16	M12 M16	M16 M20 M20x1.5	M16 M20 M20x1.5	M20		**-"...”K5**	
	Female thread	M8	M8	M10	M10	–			
Extended piston rod		Extended piston rod							
	[mm]	1 ... 400		1 ... 500			[2]	**-...K8**	
Improved running performance		Smooth anodised aluminium piston rod					[3]	**-K10**	
		Restricted stroke							
	[mm]	2 ... 400	5 ... 400	5 ... 500					
Constant motion		Slow speed (constant motion at low piston speeds)					[4]	**-S10**	
		Restricted stroke							
	[mm]	20 ... 400		20 ... 500					
Low friction		Low friction					[5]	**-S11**	
Corrosion protection		High corrosion protection					[6]	**-R3**	
Captive rating plate		Laser-etched rating plate						**-TL**	

[1] **I** Not with extended male thread K2

[2] **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

[3] **K10** Not with extended male thread K2
Not with special piston rod thread K5
Not with corrosion protection R3

[4] **S10** Not with low friction S11

[5] **S11** Not with constant motion S10

[6] **R3** Not with captive rating plate TL

Note

NSF-H1 lubricants are used in combination with R3 and in combination with R3 and K2, K5 or K8.

Ordering data – Modular product system, Q – Square piston rod, non-rotating

Ordering table

Size	12	16	20	25	32	40	Conditions	Code	Enter code
Module no.	**536203**	**536218**	**536233**	**536250**	**536267**	**536288**			
Function	Compact cylinder, double-acting							**ADN**	ADN
Standard	Based on ISO 21287		Conforms to ISO 21287						
Piston diameter [mm]	12	16	20	25	32	40		★ **-...**	
Stroke [mm]	1 ... 300				1 ... 400		[10]	★ **-...**	
Piston rod thread	Male thread							★ **-A**	
	Female thread						[1]	★ **-I**	
Cushioning	Elastic cushioning rings/plates at both ends							★ **-P**	-P
Position sensing	Via proximity switch							★ **-A**	-A
Protection against rotation	Square piston rod							★ **-Q**	-Q
Piston rod type	Through piston rod							★ **-S2**	
	–	Through, hollow piston rod Restricted stroke						**-S20**	
[mm]		1 ... 200			1 ... 300				
Extended male thread	Extended male piston rod thread								
[mm]	1 ... 10		1 ... 20					**-...K2**	
Special piston rod thread Male thread	M6	M8	M10x1.25 M10	M10x1.25 M10	M10	M10		**-"..."K5**	
Extended piston rod	Extended piston rod								
[mm]	1 ... 300				1 ... 400		[2]	★ **-...K8**	
Temperature resistance	Heat-resistant seals max. 120 °C							★ **-S6**	
Corrosion protection	High corrosion protection						[3]	★ **-R3**	
Captive rating plate	Laser-etched rating plate							**-TL**	

[1] **I** Not with piston rod type S20.
Not with extended male thread K2

[2] **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

[3] **R3** Not with captive rating plate TL

[10] **Stroke** Minimum stroke 5 mm with a combination of piston rod thread I and piston rod type S2

Note

NSF-H1 lubricants are used in combination with R3 and in combination with R3 and K2, K5 or K8.

Ordering data – Modular product system, Q – Square piston rod, non-rotating

Ordering table

Size		50	63	80	100	125	Conditions	Code	Enter code
Module no.		**536309**	**536330**	**536351**	**536372**	**536393**			
Function		Compact cylinder, double-acting						**ADN**	ADN
Standard		Conforms to ISO 21287				Based on ISO 21287			
Piston diameter	[mm]	50	63	80	100	125		★ **-...**	
Stroke	[mm]	1 ... 400		1 ... 500				★ **-...**	
Piston rod thread		Male thread						★ **-A**	
		Female thread					[1]	★ **-I**	
Cushioning		Elastic cushioning rings/plates at both ends						★ **-P**	-P
Position sensing		Via proximity switch						★ **-A**	-A
Protection against rotation		Square piston rod						★ **-Q**	-Q
Piston rod type		Through piston rod						★ **-S2**	
		Through, hollow piston rod						**-S20**	
		Restricted stroke							
	[mm]	1 ... 300		1 ... 400					
Extended male thread		Extended male piston rod thread							
	[mm]	1 ... 20		1 ... 30		1 ... 40		**-...K2**	
Special piston rod thread	Male thread	M12	M12	M16	M16	M20		**-"..."K5**	
Extended piston rod		Extended piston rod							
	[mm]	1 ... 400		1 ... 500			[2]	★ **-...K8**	
Temperature resistance		Heat-resistant seals max. 120 °C						★ **-S6**	
Corrosion protection		High corrosion protection					[3]	★ **-R3**	
Captive rating plate		Laser-etched rating plate						**-TL**	

[1] **I** Not with piston rod type S20.
Not with extended male thread K2

[2] **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

[3] **R3** Not with captive rating plate TL

Note

NSF-H1 lubricants are used in combination with R3 and in combination with R3 and K2, K5 or K8.

Ordering data – Modular product system, S1 – Reinforced piston rod

Ordering table

Size		25	40	63	100	Conditions	Code		Enter code
Module no.		**536250**	**536288**	**536330**	**536372**				
Function		Compact cylinder, double-acting					**ADN**		ADN
Standard		Conforms to ISO 21287							
Piston diameter	[mm]	25	40	63	100		**-...**		
Stroke	[mm]	5 ... 300	10 ... 400		10 ... 500		**-...**		
Piston rod thread		Male thread					**-A**		
		Female thread				[1]	**-I**		
Cushioning		Elastic cushioning rings/plates at both ends					**-P**		-P
Position sensing		Via proximity switch					**-A**		-A
Extended male thread	[mm]	Extended male piston rod thread 1 ... 20			1 ... 30		**-...K2**		
Special piston rod thread	Male thread	M10x1.25 M10	M10x1.25 M12	M12x1.25 M16	M16x1.5 M20		**-"...”K5**		
	Female thread	M5	M8	M10	–				
Extended piston rod	[mm]	Extended piston rod 1 ... 300	1 ... 400		1 ... 500	[2]	**-...K8**		
Temperature resistance		Heat-resistant seals max. 120 °C					**-S6**		
Increased lateral force		Reinforced piston rod or extended piston rod bearing					**-S1**		-S1
Captive rating plate		Laser-etched rating plate					**-TL**		

[1] **I** Not with extended male thread K2

[2] **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

Type codes

001	Series	
ADN	Compact cylinder, double-acting, based on ISO 21287	

002	Piston diameter	
20	20	
25	25	
32	32	
40	40	
50	50	
63	63	
80	80	
100	100	

003	Stroke	
...	10 ... 500	

004	Clamping unit	
KP	Attached	

005	Piston rod thread type	
A	Male thread	
I	Female thread	

006	Cushioning	
P	Elastic cushioning rings/plates on both sides	

007	Position sensing	
A	For proximity sensor	

008	Piston rod thread extension	
	None	
...K2	1 ... 30 mm	

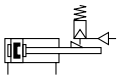
009	Custom thread	
“M6”K5	M6	
“M8”K5	M8	
“M10”K5	M10	
“M10x-1,25”K5	M10x1.25	
“M12”K5	M12	
“M16”K5	M16	
“M20x-1,5”K5	M20x1.5	
“M5”K5	M5	
“M20”K5	M20	

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

011	Captive rating plate	
	Rating plate, glued	
TL	Laser etched rating plate	

Datasheet

Function



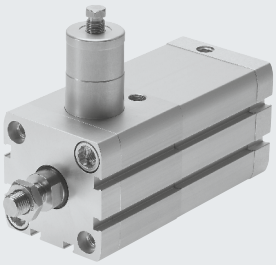
- Diameter
  20 ... 100 mm
- Stroke length
  10 ... 500 mm

Variants

K2

K5

K8



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 diameter		20	25	32	40	50	63	80	100
Pneumatic connection									
Cylinders		M5	M5	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8
KP		M5	M5	M5	G1/8	G1/8	G1/8	G1/8	G1/8
Female piston rod thread									
–		M6		M8		M10		M12	
K5		M5		M6		M8		M10	
Male piston rod thread									
–		M8		M10x1.25		M12x1.25		M16x1.5	
K5		M10; M10x1.25		M10; M12		M12; M16		M16; M20; M20x1.5	
Axial backlash under load	[mm]	0.5				0.8			
Design		Piston							
		Piston rod							
		Cylinder barrel							
Cushioning		Elastic cushioning rings/plates at both ends							
Position sensing		Via proximity switch							
Type of mounting		Via through-hole							
		With female thread							
		With accessories							
Mounting position		Any							
Clamping type with operating direction		At both ends							

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	[MPa]	0.15 ... 1
	[bar]	1.5 ... 10
	[psi]	21.76 ... 145
Min. release pressure	[MPa]	0.3
	[bar]	3
	[psi]	43.5
Ambient temperature[1]	[°C]	–10 ... +80
Corrosion resistance class CRC[2]		2 - Moderate corrosion stress

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

Datasheet

Impact energy [J]								
Piston diameter	20	25	32	40	50	63	80	100
Max. impact energy in the end positions	0.2	0.3	0.4	0.7	1	1.3	1.8	2.5

Note

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

Permissible impact speed: $V = \sqrt{\frac{2 \times E}{m_1 + m_2}}$

Maximum permissible mass: $m_2 = \frac{2 \times E}{v^2} - m_1$

V	Permissible impact speed
E	max. impact energy
m1	Moving mass (drive)
m2	Moving payload

Forces [N]								
Piston diameter	20	25	32	40	50	63	80	100
Theoretical force at 6 bar, advancing	188	295	483	754	1178	1870	3016	4712
Theoretical force at 6 bar, retracting	141	247	415	633	990	1682	2721	4418
Static holding force	350	350	600	1000	1400	2000	5000	5000

Note

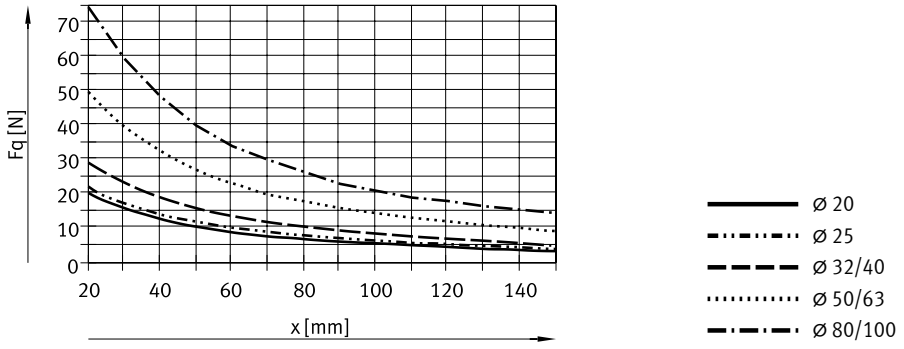
The specified holding force refers to a static load. If this value is exceeded, slippage may occur. Dynamic forces occurring during operation must not exceed the static holding force. The clamping unit is not backlash-free in the clamped condition if varying loads are applied to the piston rod

Actuation

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.

Max. lateral force Fq as a function of projection x

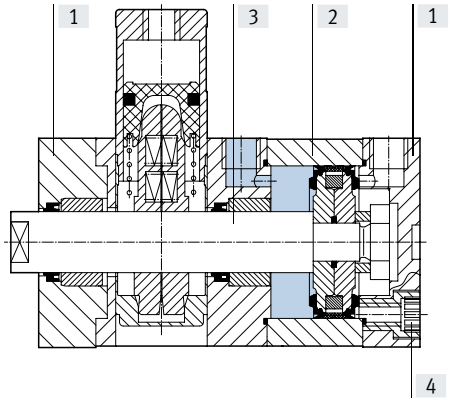


Weight [g]								
Piston diameter	20	25	32	40	50	63	80	100
Product weight with 0 mm stroke	282	344	503	789	1268	1894	3973	5497
Additional weight per 10 mm stroke	22	26	29	45	60	68	93	112
Moving mass with 0 mm stroke	53	63	100	173	296	368	755	932
Additional mass per 10 mm stroke	6	6	9	16	25	25	39	39

Datasheet

Materials

Sectional view

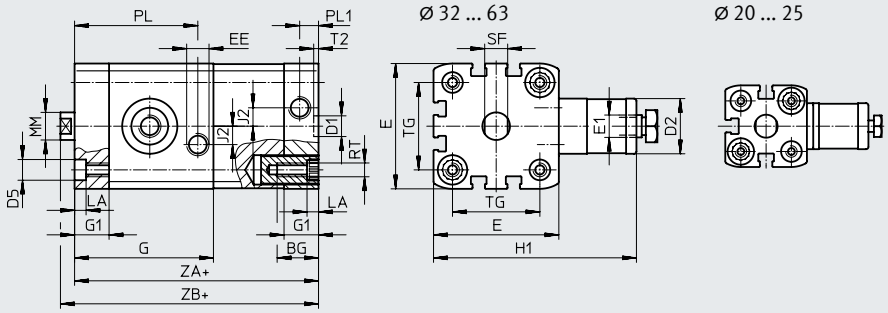


Compact cylinder			
[1]	Cover		Anodised aluminium
[2]	Cylinder barrel		Anodised aluminium
[3]	Piston rod		High-alloy steel
[4]	Flange screws	⌀ 20 ... 63	Galvanised steel
		⌀ 80 ... 100	Standard screws, galvanised steel
–	Seals		Polyurethane, nitrile rubber
	Note on materials		RoHS-compliant

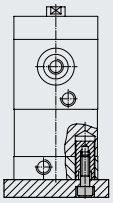
Datasheet

Dimensions – Basic version Download CAD data ➔ www.festo.com

Ø 20 ... 63



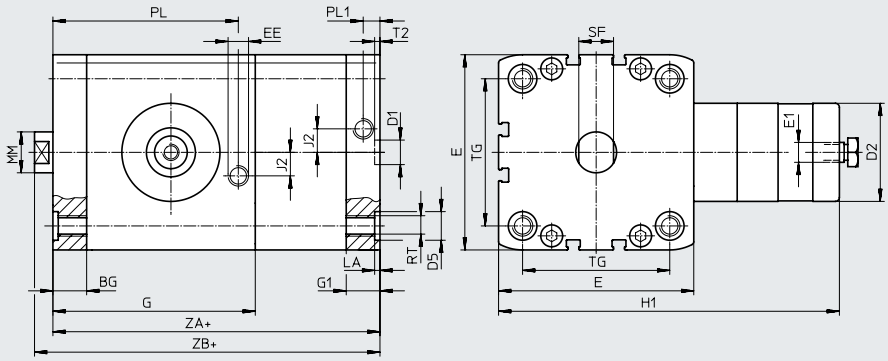
Only direct mounting is possible with this variant.



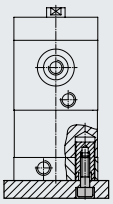
\+ = plus stroke length

Dimensions – Basic version Download CAD data ➔ www.festo.com

Ø 80, 100



Only direct mounting is possible with this variant.



\+ = plus stroke length

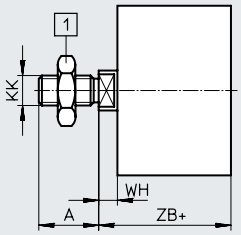
Ø [mm]	BG min.	D1 Ø H9	D2 Ø	D5 Ø	E	E1	EE	G	G1	H1	J2
20	19.5	9	20	9^{F9}	35.5 $^{+0.3}$	M5	M5	49.8	12	63	2.6
25					39.5 $^{+0.3}$			50.6		65	
32	26				47 $^{+0.3}$		G1/8	56.4	15	68	6
40			24		54.5 $^{+0.3}$	G1/8		60.4		89	8
50	27	12	30	12^{F9}	65.5 $^{+0.3}$			67.4		108	
63			38		75.5 $^{+0.3}$			76.8		120	11.5
80	17		48	15	95.5 $^{+0.6}$			99	16.5	167	
100	21.5				113.5 $^{+0.6}$			99.6	21.5	176	20

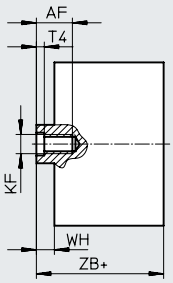
Ø [mm]	PW +0.2	MM Ø	PL +0.2	PL1 +0.2	RT	ST h13	T2 +0.2	TG ±0.2	ZA ±0.6	ZB +1.2
20	5	10	42.8	6	M5	9	2.1	22	74.8	80.8
25			44.6					26	77.6	83.1
32		12	49.6	8.2	M6	10		32.5	85.4	91.4
40		16	53.6			13		38	90.4	96.5
50		20	60.6		M8	17	2.6	46.5	97.4	105.6
63			70					56.5	110.8	118.9
80	2.6	25	90.7		M10	21		72	136.5	145.4
100			88.6	10.5				89	145.1	154.1

Datasheet

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

Basic version

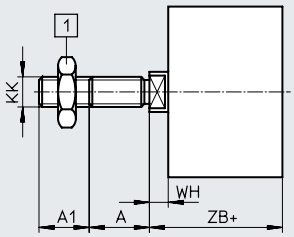




[1] Hex nut DIN 439-B
only with Ø 32 ... 100

\+ = plus stroke length

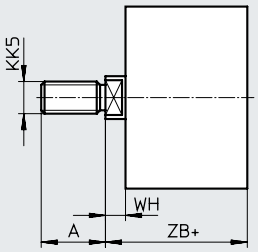
K2 – Extended male piston rod thread

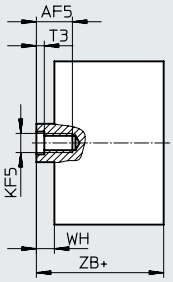


[1] Hex nut DIN 439-B
only with Ø 32 ... 100

\+ = plus stroke length

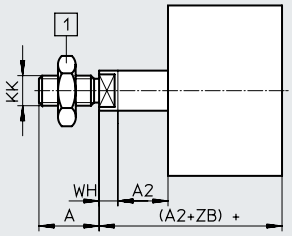
K5 – Special piston rod thread

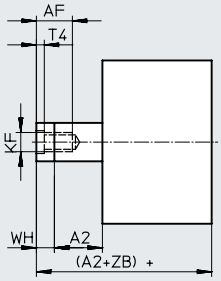




\+ = plus stroke length

K8 – Extended piston rod





[1] Hex nut DIN 439-B
only with Ø 32 ... 100

\+ = plus stroke length

Datasheet

ø [mm]	A –0.5	A1	A2	AF min.	AF5 min.	KF	KF5
20	16	1 ... 20	1 ... 300	14	12	M6	M5
25							
32	19		1 ...400	16	14	M8	M6
40							
50	22			20	16	M10	M8
63							
80	28	1 ... 30	1 ... 500		20	M12	M10
100							

ø [mm]	KK	KK5	T3	T4	WH +1.3	ZB +1.2
20	M8	M10x1.25 M10	2	2.6	5.5	80.8
25						83.1
32	M10x1.25	M10 M12	2.6	3.3	6	91.4
40					6.1	96.5
50	M12x1.25	M12 M16	3.3	4.7	8.2	105.6
63					8.1	118.9
80	M16x1.5	M16 M20x1.5 M20	4.7	6.1	8.9	145.4
100					9	154.1

Ordering data – Modular product system

Ordering table

Size		20	25	32	40	Conditions	Code	Enter code
Module no.		**548206**	**548207**	**548208**	**548209**			
Function		Compact cylinder, double-acting, standard hole pattern, with clamping unit					**ADN**	ADN
Piston diameter	[mm]	20	25	32	40		**-...**	
Stroke	[mm]	10 ... 300		10 ... 400			**-...**	
Clamping unit		Attached					**-KP**	-KP
Piston rod thread		Male thread					**-A**	
		Female thread				[1]	**-I**	
Cushioning		Elastic cushioning rings/plates at both ends					**-P**	-P
Position sensing		Via proximity switch					**-A**	-A
Extended male thread	[mm]	Extended male piston rod thread 1 ... 20					**-...K2**	
Special piston rod thread	Male thread	M10x1.25 M10	M10x1.25 M10	M10 M12	M10 M12		**-"..."K5**	
	Female thread	M5	M5	M6	M6			
Extended piston rod	[mm]	Extended piston rod 1 ... 300		1 ... 400		[2]	**-...K8**	
Captive rating plate		Laser-etched rating plate					**-TL**	

[1] **I** Not with extended male thread K2

[2] **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

Ordering data – Modular product system

Ordering table

Size		50	63	80	100	Conditions	Code	Enter code
Module no.		**548210**	**548211**	**548212**	**548213**			
Function		Compact cylinder, double-acting, standard hole pattern, with clamping unit					**ADN**	ADN
Piston diameter	[mm]	50	63	80	100		**-...**	
Stroke	[mm]	10 ... 400		10 ... 500			**-...**	
Clamping unit		Attached					**-KP**	-KP
Piston rod thread		Male thread					**-A**	
		Female thread				[1]	**-I**	
Cushioning		Elastic cushioning rings/plates at both ends					**-P**	-P
Position sensing		Via proximity switch					**-A**	-A
Extended male thread		Extended male piston rod thread						
	[mm]	1 ... 20		1 ... 30			**-...K2**	
Special piston rod thread	Male thread	M12 M16	M12 M16	M16 M20 M20x1.5	M16 M20 M20x1.5		**-"..."K5**	
	Female thread	M8	M8	M10	M10			
Extended piston rod		Extended piston rod						
	[mm]	1 ... 400		1 ... 500		[2]	**-...K8**	
Captive rating plate		Laser-etched rating plate					**-TL**	

[1] **I** Not with extended male thread K2

[2] **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

Type codes

001	Series	
ADN	Compact cylinder, double-acting, based on ISO 21287	

002	Piston diameter	
20	20	
25	25	
32	32	
40	40	
50	50	
63	63	
80	80	
100	100	

003	Stroke	
...	10 ... 500	

004	End-position locking	
ELB	Both sides	
ELH	Rear	
ELV	Front	

005	Piston rod thread type	
A	Male thread	
I	Female thread	

006	Cushioning	
P	Elastic cushioning rings/plates on both sides	

007	Position sensing	
A	For proximity sensor	

008	Piston rod thread extension	
	None	
...K2	1 ... 30 mm	

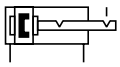
009	Custom thread	
“M6”K5	M6	
“M8”K5	M8	
“M10”K5	M10	
“M10x1,25”K5	M10x1.25	
“M12”K5	M12	
“M16”K5	M16	
“M20x1,5”K5	M20x1.5	
“M5”K5	M5	
“M20”K5	M20	

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

011	Captive rating plate	
	Rating plate, glued	
TL	Laser etched rating plate	

Datasheet

Function



Diameter
20 ... 100 mm

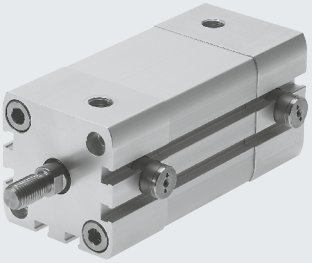
Stroke length
10 ... 500 mm

Variants

K2

K5

K8



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 diameter	20	25	32	40	50	63	80	100
Pneumatic connection	M5	M5	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8
Female piston rod thread								
–	M6		M8		M10		M12	
K5	M5		M6		M8		M10	
Male piston rod thread								
–	M8		M10x1.25		M12x1.25		M16x1.5	
K5	M10; M10x1.25		M10; M12		M12; M16		M16; M20; M20x1.5	
Max. axial backlash with end position locked [mm]	1.3						2.1	
Design	Piston							
	Piston rod							
	Cylinder barrel							
End-position locking								
ELB	At both ends							
ELV	Advanced							
ELH	Rear							
Cushioning	Elastic cushioning rings/plates at both ends							
Position sensing	Via proximity switch							
Type of mounting	With female thread							
	With accessories							
Mounting position	Any							

Note

- 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.
- The piston rod can be locked in 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.
- Avoid operating the cylinder using a 3-way valve, especially with the function “mid-position closed” and those with “metallic sealing”. The residual pressure that is enclosed on the locking side of the cylinder can release the locking function.
- The cylinder must not be operated with external stops (e.g. shock absorber, buffer, oil brake, etc.):
  – It may not be possible to reliably reach the internal end position.
  – The locking mechanism can wear out prematurely. (If the pressure in the opposite chamber drops to less than the locking pressure, the locking piston will prematurely fall to its lower end position.)

Datasheet

Operating and environmental conditions									
Piston diameter		20	25	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	[MPa]	0.25 ... 1				0.15 ... 1			
	[bar]	2.5 ... 10				1.5 ... 10			
	[psi]	36.26 ... 145				21.76 ... 145			
Ambient temperature[1]	[°C]	–20 ... +80							
Corrosion resistance class CRC[2]		2 - Moderate corrosion stress							

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

Forces [N]								
Piston diameter	20	25	32	40	50	63	80	100
Theoretical force at 6 bar, advancing	188	295	483	754	1178	1870	3016	4712
Theoretical force at 6 bar, retracting	141	247	415	686	1057	1750	2827	4524
Static holding force	250	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 32 mm piston diameter:
Theoretical force at 6 bar, advancing = 483 N
50% of the theoretical force = 241.5 N
Static holding force with 32 mm piston diameter = 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.

Impact energy [J]								
Piston diameter	20	25	32	40	50	63	80	100
Max. impact energy in the end positions	0.2	0.3	0.4	0.7	1	1.3	1.8	2.5

Note

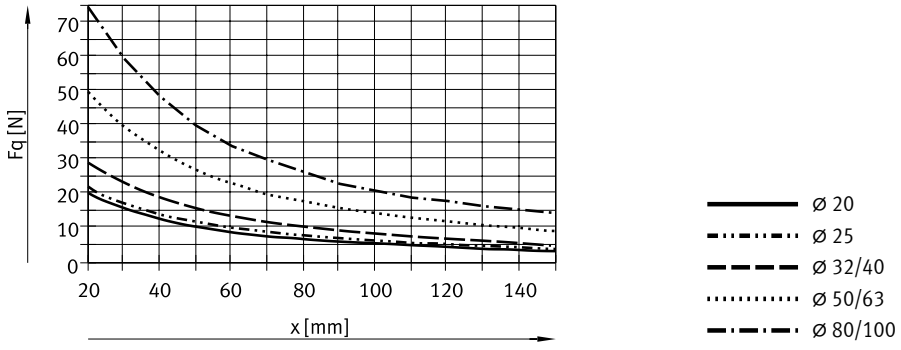
These specifications represent the maximum values that can be achieved. The maximum permissible impact energy must be observed.

Permissible impact speed: $V = \sqrt{\frac{2 \times E}{m_1 + m_2}}$

Maximum permissible mass: $m_2 = \frac{2 \times E}{v^2} - m_1$

V	Permissible impact speed
E	max. impact energy
m1	Moving mass (drive)
m2	Moving payload

Max. lateral force Fq as a function of projection x

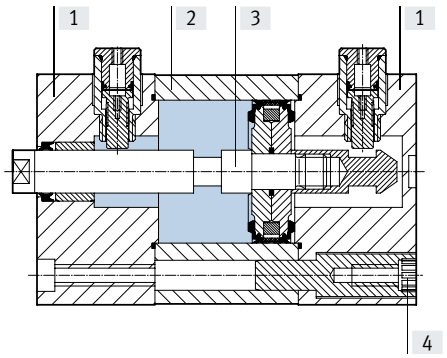


Datasheet

Weight [g]								
Piston diameter	20	25	32	40	50	63	80	100
End position locking at both ends								
Product weight with 0 mm stroke	234	339	518	665	1334	1734	3300	4735
Additional weight per 10 mm stroke	22	26	29	38	51	59	79	98
Moving mass with 0 mm stroke	43	53	85	101	199	248	475	637
Additional mass per 10 mm stroke	6	6	9	9	16	16	25	25
End-position locking at front								
Product weight with 0 mm stroke	177	248	387	498	922	1228	2296	3448
Additional weight per 10 mm stroke	22	26	29	38	51	59	79	98
Moving mass with 0 mm stroke	35	46	75	98	175	225	464	626
Additional mass per 10 mm stroke	6	6	9	9	16	16	25	25
End-position locking at rear								
Product weight with 0 mm stroke	181	252	380	505	920	1217	2233	3409
Additional weight per 10 mm stroke	22	26	29	38	51	59	79	98
Moving mass with 0 mm stroke	37	45	73	89	168	217	413	582
Additional mass per 10 mm stroke	6	6	9	9	16	16	25	25

Materials

Sectional view



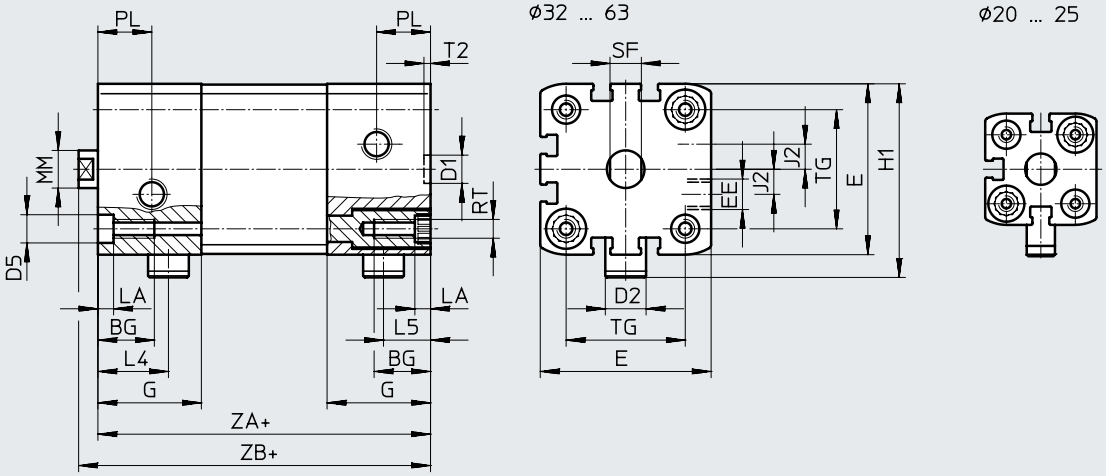
Compact cylinder			
[1]	Cover		Anodised aluminium
[2]	Cylinder barrel		Anodised aluminium
[3]	Piston rod		High-alloy steel
[4]	Flange screws	⌀ 20 ... 63	Galvanised steel
		⌀ 80 ... 100	Standard screws, galvanised steel
–	Seals		Polyurethane, nitrile rubber
	Note on materials		RoHS-compliant

Datasheet

Dimensions – Basic version Download CAD data ➔ www.festo.com

ELB – End-position locking at both ends

Ø 20 ... 63

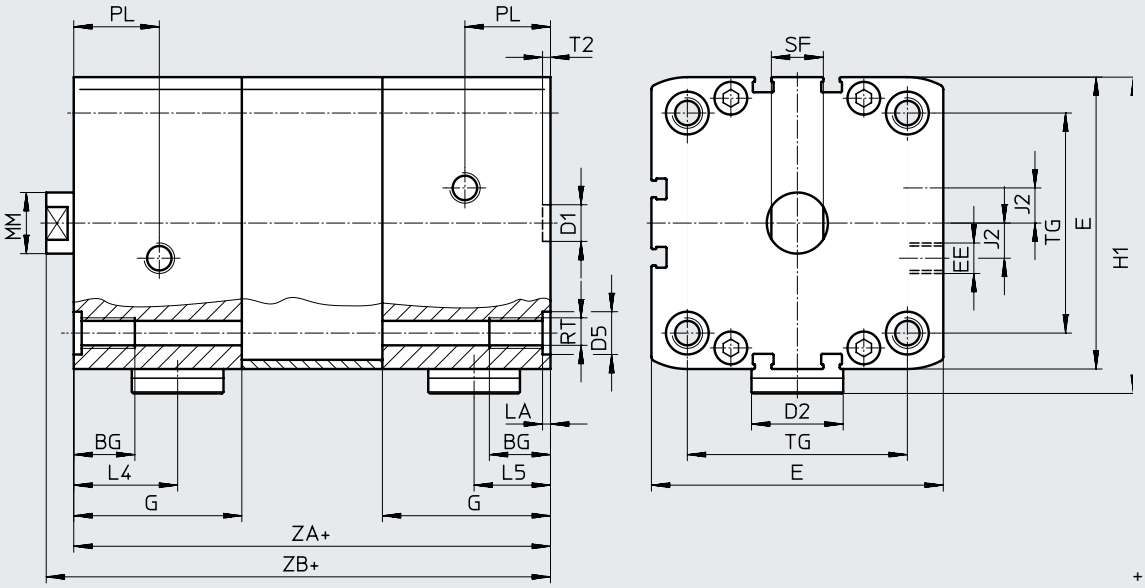


ø32 ... 63

ø20 ... 25

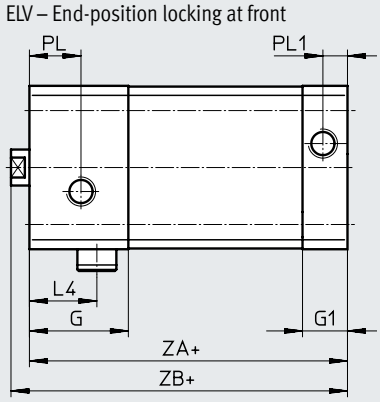
\+ = plus stroke length

Ø 80 ... 100

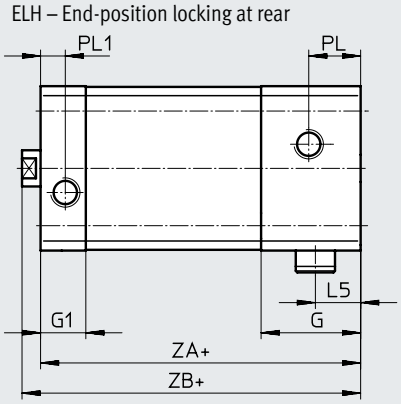


\+ = plus stroke length

ELV – End-position locking at front



ELH – End-position locking at rear



\+ = plus stroke length

Datasheet

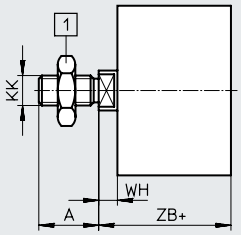
ø [mm]	BG min.	D1 ø H9	D2 ø	D5 ø	E	EE	G	G1	H1	J2	L4	L5
20	18	9	9	9^{F9}	35.5 $^{+0.3}$	M5	25	12	45.5	2.6	18.5	12.5
25			13		39.5 $^{+0.3}$		29.5		53.3		20.8	14
32					47 $^{+0.3}$	G1/8	33	15	58	6	22.5	15
40					54.5 $^{+0.3}$				61.8	8		
50	20	12	20	12^{F9}	65.5 $^{+0.3}$		43		77		27.5	20.5
63					75.5 $^{+0.3}$				82	11.5		21.7
80			30	15	95.5 $^{+0.6}$		55	16.5	103.5		34	25
100					113.5 $^{+0.6}$		57	21.5	113.5	20	35	27

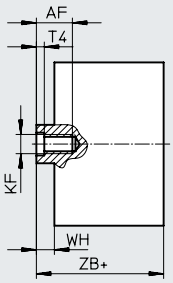
ø [mm]	PW +0.2	MM ø	PL	PL1	RT	ST h13	T2 +0.1	TG ±0.2	ZA ±0.6 ELB	 ELV, ELH	ZB +1.2 ELB	 ELV, ELH
20	5	10	6	6	M5	9	2.1	22	63	50	68.8	55.5
25								26	74	56.5	79.5	62
32		12	16	8.2	M6	10		32.5	80	62	86	68
40								38	81	63	87.1	69
50		16	21		M8	13	2.6	46.5	101	73	109.2	81.2
63								56.5	105	77	113.1	85.1
80	2.6	20	28		M10	17		72	131	92.5	139.9	101.4
100				10.5				89	138	102.5	147	111.5

Datasheet

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

Basic version

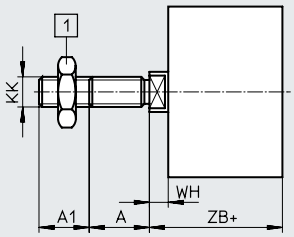




[1] Hex nut DIN 439-B
only with ø 32 ... 100

\+ = plus stroke length

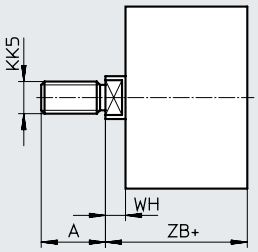
K2 – Extended male piston rod thread

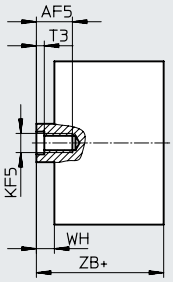


[1] Hex nut DIN 439-B
only with ø 32 ... 100

\+ = plus stroke length

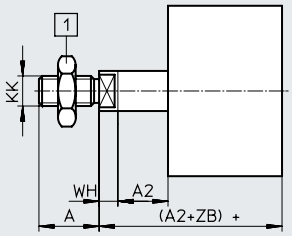
K5 – Special piston rod thread

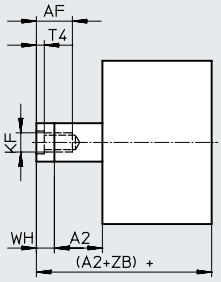




\+ = plus stroke length

K8 – Extended piston rod





[1] Hex nut DIN 439-B
only with ø 32 ... 100

\+ = plus stroke length

Datasheet

ø [mm]	A –0.5	A1	A2	AF min.	AF5 min.	KF	KF5
20	16	1 ... 20	1 ... 300	14	12	M6	M5
25							
32	19		1 ...400	16	14	M8	M6
40							
50	22			20	16	M10	M8
63							
80	28	1 ... 30	1 ... 500		20	M12	M10
100							

ø [mm]	KK	KK5	T3	T4	WH +1.3	ZB +1.2	
						ELB	ELV, ELH
20	M8	M10x1.25 M10	2	2.6	5.5	68.8	55.5
25						79.5	62
32	M10x1.25	M10 M12	2.6	3.3	6	86	68
40					6.1	87.1	69
50	M12x1.25	M12 M16	3.3	4.7	8.2	109.2	81.2
63					8.1	113.1	85.1
80	M16x1.5	M16 M20x1.5 M20	4.7	6.1	8.9	139.9	101.4
100					9	147	111.5

Ordering data – Modular product system

Ordering table Size		20	25	32	40	Conditions	Code		Enter code
Module no.		**548214**	**548215**	**548216**	**548217**				
Function		Compact cylinder, double-acting, standard hole pattern, with end-position locking					**ADN**		ADN
Piston diameter	[mm]	20	25	32	40		**-...**		
Stroke	[mm]	10 ... 300		10 ... 400			**-...**		
End-position locking		At both ends					**-ELB**		
		Advanced					**-ELV**		
		Rear					**-ELH**		
Piston rod thread		Male thread					**-A**		
		Female thread				[1]	**-I**		
Cushioning		Elastic cushioning rings/plates at both ends					**-P**		-P
Position sensing		Via proximity switch					**-A**		-A
Extended male thread	[mm]	Extended male piston rod thread 1 ... 20					**-...K2**		
Special piston rod thread	Male thread	M10x1.25 M10	M10x1.25 M10	M10 M12	M10 M12		**-"..."K5**		
	Female thread	M5	M5	M6	M6				
Extended piston rod		Extended piston rod							
	[mm]	1 ... 300		1 ... 400		[2]	**-...K8**		
Captive rating plate		Laser-etched rating plate					**-TL**		

[1] **I** Not with extended male thread K2

[2] **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

Ordering data – Modular product system

Ordering table

Size		50	63	80	100	Conditions	Code	Enter code
Module no.		**548218**	**548219**	**548220**	**548221**			
Function		Compact cylinder, double-acting, standard hole pattern, with end-position locking					**ADN**	ADN
Piston diameter	[mm]	50	63	80	100		**-...**	
Stroke	[mm]	10 ... 400		10 ... 500			**-...**	
End-position locking		At both ends					**-ELB**	
		Advanced					**-ELV**	
		Rear					**-ELH**	
Piston rod thread		Male thread					**-A**	
		Female thread				[1]	**-I**	
Cushioning		Elastic cushioning rings/plates at both ends					**-P**	-P
Position sensing		Via proximity switch					**-A**	-A
Extended male thread		Extended male piston rod thread						
	[mm]	1 ... 20		1 ... 30			**-...K2**	
Special piston rod thread	Male thread	M12 M16	M12 M16	M16 M20 M20x1.5	M16 M20 M20x1.5		**-"..."K5**	
	Female thread	M8	M8	M10	M10			
Extended piston rod		Extended piston rod						
	[mm]	1 ... 400		1 ... 500		[2]	**-...K8**	
Captive rating plate		Laser-etched rating plate					**-TL**	

[1] **I** Not with extended male thread K2

[2] **K8** The sum of the stroke length and piston rod extension must not exceed the maximum permissible stroke length

Type codes

001	Series	
AEN	Compact cylinder, single-acting, based on ISO 21287	

002	Piston diameter [mm]	
12	12	
16	16	
20	20	
25	25	
32	32	
40	40	
50	50	
63	63	
80	80	
100	100	

003	Stroke [mm]	
...	1 ... 25	

004	Piston rod thread type	
A	Male thread	
I	Female thread	

005	Cushioning	
P	Elastic cushioning rings/plates on both sides	

006	Position sensing	
A	For proximity sensor	

007	Active direction	
Z	Single-acting, pulling	
	Single-acting, pushing	

008	Piston rod thread extension	
	None	
...K2	1 ... 30 mm	

009	Custom thread	
“M5”K5	M5	
“M6”K5	M6	
“M8”K5	M8	
“M10”K5	M10	
“M10x1,25”K5	M10x1.25	
“M12”K5	M12	
“M16”K5	M16	
“M20”K5	M20	
“M20x1,5”K5	M20x1.5	

010	Piston rod extension	
	None	
...K8	1 ... 25 mm	

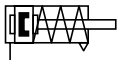
011	Improved running performance	
	None	
K10	Smooth anodised aluminium coated piston rod	

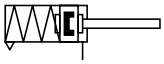
012	Temperature resistance	
	Standard	
S6	Heat-resistant seals max. 120 °C	

013	Captive rating plate	
	Rating plate, glued	
TL	Laser etched rating plate	

Datasheet

Function





Pulling

Diameter
12 ... 100 mm

Stroke length
1 ... 25 mm

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Variants


S6

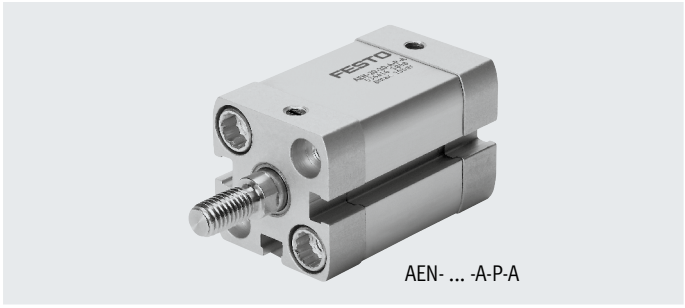

K2


K5

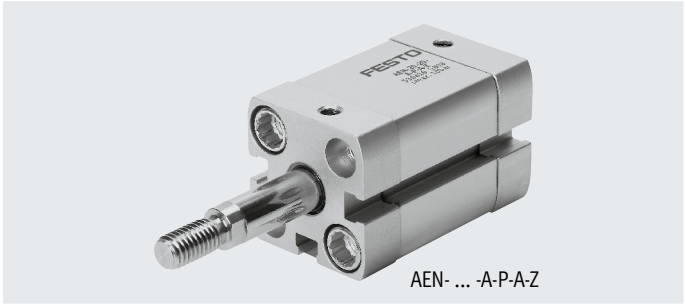

K8


K10


Q



AEN- ... -A-P-A



AEN- ... -A-P-A-Z

General technical data

Piston diameter	12	16	20	25	32	40	50	63	80	100
Design	Piston									
	Piston rod									
	Cylinder barrel									
Cushioning	Elastic cushioning rings/plates at both ends									
Position sensing	Via proximity switch									
Type of mounting	Via through-hole									
	With female thread									
	With accessories									
Mounting position	Any									

Technical data – Basic version and variants

Piston diameter	12	16	20	25	32
Pneumatic connection	M5	M5	M5	M5	G1/8
Female piston rod thread					
–	M3	M4	M6	M6	M8
K5	–	–	M5	M5	M6
Male piston rod thread					
–	M5	M6	M8	M8	M10x1.25
K5	M6	M8	M10; M10x1.25	M10; M10x1.25	M10; M12
Q-K5	–	M8	M10; M10x1.25	M10; M10x1.25	M10

Piston diameter	40	50	63	80	100
Pneumatic connection	G1/8	G1/8	G1/8	G1/8	G1/8
Female piston rod thread					
–	M8	M10	M10	M12	M12
K5	M6	M8	M8	M10	M10
Male piston rod thread					
–	M10x1.25	M12x1.25	M12x1.25	M16x1.5	M16x1.5
K5	M10; M12	M12; M16	M12; M16	M16; M20; M20x1.5	M16; M20; M20x1.5
Q-K5	M10	M12	M12	M16	M16

Datasheet

Operating and environmental conditions										
Piston diameter	12	16	20	25	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										
in [MPa]										
–	0.15 ... 1		0.1 ... 1							
Z	0.17 ... 1	0.22 ... 1	0.13 ... 1		0.07 ... 1	0.06 ... 1				
Q	0.15 ... 1		0.1 ... 1							
Q-S6	0.15 ... 0.6		0.1 ... 0.6							
in [bar]										
–	1.5 ... 10		1 ... 10							
Z	1.7 ... 10	2.2 ... 10	1.3 ... 10		0.7 ... 10	0.6 ... 10				
Q	1.5 ... 10		1 ... 10							
Q-S6	1.5 ... 6		1 ... 6							
in [psi]										
–	21.76 ... 145		14.5 ... 145							
Z	24.66 ... 145	31.91 ... 145	18.85 ... 145		10.15 ... 145	8.7 ... 145				
Q	21.76 ... 145		14.5 ... 145							
Q-S6	21.76 ... 87		14.5 ... 87							
Ambient temperature[1] [°C]										
–	–20 ... +80									
S6	0 ... +120									
Corrosion resistance class CRC[2]	2 - Moderate corrosion stress									

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

Forces [N] and impact energy [J]										
Piston diameter	12	16	20	25	32	40	50	63	80	100
AEN										
Theoretical force at 6 bar, advancing	56	95	162	259	441	702	1098	1783	2899	4511
AEN-...-Z, pulling										
Theoretical force at 6 bar, retracting	39	65	115	211	373	634	977	1663	2610	4323
Max. impact energy at the end positions	0.04	0.04	0.04	0.08	0.1	0.15	0.18	0.28	0.35	0.7

Note

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

Permissible impact speed: $V = \sqrt{\frac{2 \times E}{m_1 + m_2}}$

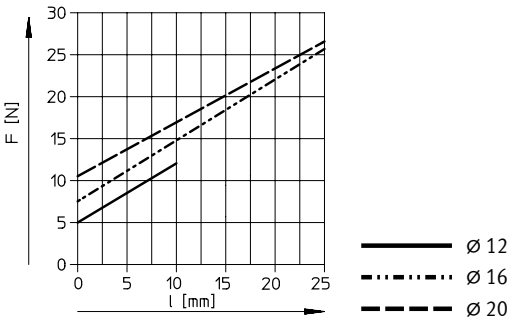
Maximum permissible mass: $m_2 = \frac{2 \times E}{v^2} - m_1$

V	Permissible impact speed
E	max. impact energy
m1	Moving mass (drive)
m2	Moving payload

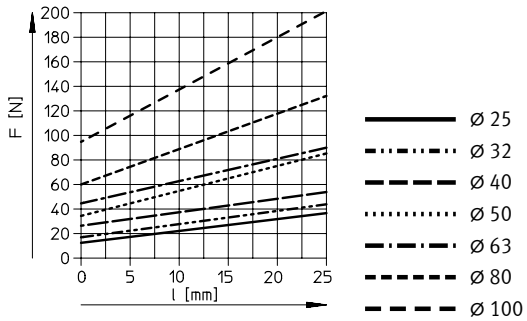
Datasheet

Spring return force F as a function of stroke l

Ø 12 ... 20



Ø 25 ... 100



Note

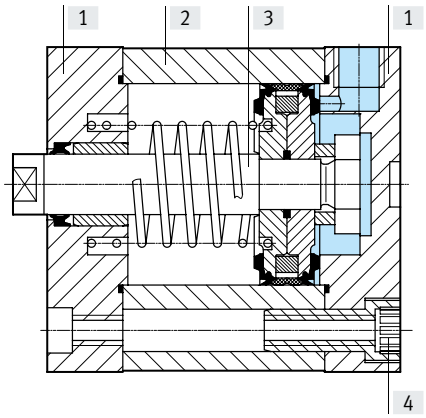
The degree of friction depends on the mounting position and the type of load involved. Single-acting cylinders should as far as possible be operated without transverse loads.

Weight [g]										
Piston diameter	12	16	20	25	32	40	50	63	80	100
AEN-...										
Product weight with 0 mm stroke	67	78	131	168	273	361	532	752	1135	1733
Additional weight per 10 mm stroke	12	14	22	26	29	38	51	60	80	99
Moving mass with 0 mm stroke	11	18	32	41	76	103	164	220	425	587
Additional mass per 10 mm stroke	2	4	6	6	9	9	16	16	25	25
AEN-...-I										
Product weight with 0 mm stroke	65	75	122	159	248	336	490	710	1050	1648
Additional weight per 10 mm stroke	12	14	22	26	29	38	51	60	80	99
Moving mass with 0 mm stroke	9	15	23	32	51	78	122	178	340	502
Additional mass per 10 mm stroke	2	4	6	6	9	9	16	16	25	25
AEN-...-Q										
Product weight with 0 mm stroke	–	78	130	168	270	362	539	754	1147	1741
Additional weight per 10 mm stroke	–	14	22	26	28	37	47	55	75	94
Moving mass with 0 mm stroke	–	18	32	41	73	97	155	210	415	567
Additional mass per 10 mm stroke	–	4	6	6	8	8	11	11	20	20
AEN-...-K10										
Product weight with 0 mm stroke	–	–	134	170	278	366	551	764	1135	1725
Additional weight per 10 mm stroke	–	–	18	22	23	32	41	47	61	80
Moving mass with 0 mm stroke	–	–	35	43	89	108	184	231	425	579
Additional mass per 10 mm stroke	–	–	2	2	3	3	5	4	6	6
AEN-...-K8										
Additional weight and mass per 10 mm piston rod extension	2	4	6	6	9	9	16	16	25	25
AEN-...-K2										
Additional weight and mass per 10 mm extended piston rod thread	2	2	4	4	6	6	9	9	16	16
AEN-...-Z										
Product weight with 0 mm stroke	64	74	125	166	265	361	532	752	1135	1733
Additional weight per 10 mm stroke	12	14	22	26	29	38	51	60	80	99
Moving mass with 0 mm stroke	11	18	32	41	76	103	164	220	425	587
Additional mass per 10 mm stroke	2	4	6	6	9	9	16	16	25	25

Datasheet

Materials

Sectional view



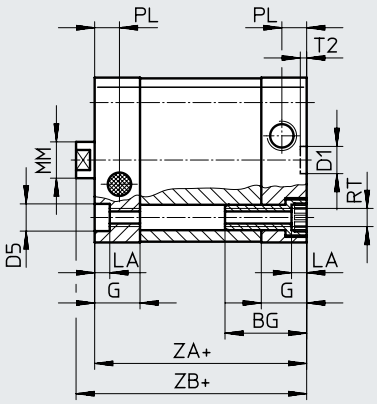
Datasheet

Compact cylinder			Basic version	S6
[1]	Cover	Ø 12 ... 80	Anodised aluminium	
		Ø 100	Coated die-cast aluminium	
[2]	Cylinder barrel		Anodised aluminium	
[3]	Piston rod		High-alloy steel	
[4]	Flange screws	Ø 12 ... 16	High-alloy steel	
		Ø 20 ... 63	Galvanised steel	
		Ø 80 ... 100	Standard screws, galvanised steel	
–	Seals		Polyurethane	Fluoro rubber
	Note on materials		RoHS-compliant	

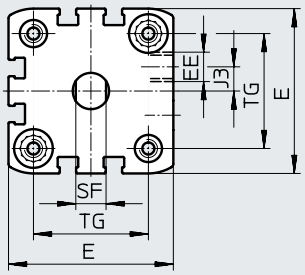
Datasheet

Dimensions – Basic version Download CAD data ➔ www.festo.com

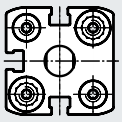
Ø 12 ... 63



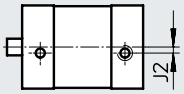
Ø 32 ... 63



Ø 12 ... 25

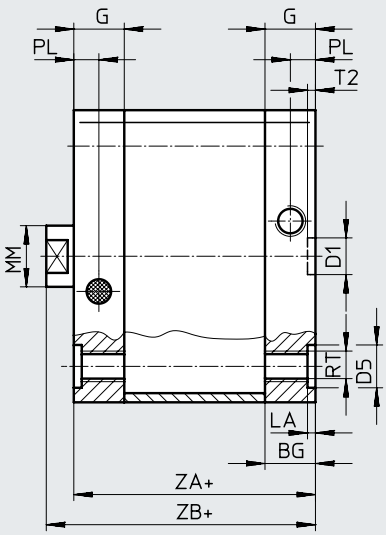


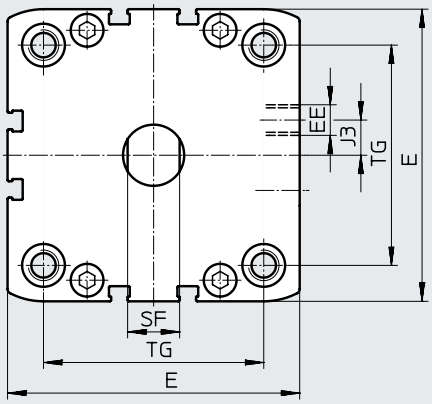
Ø 12



\+ = plus stroke length

Ø 80 ... 100





\+ = plus stroke length

Datasheet

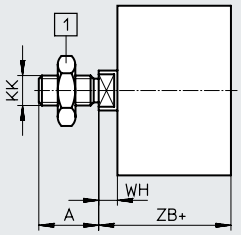
ø [mm]	BG min.	D1 ø H9	D5 ø	E	EE	G	J2	J3	PW +0.2
12	17	9	6^{F9}	27.5 $^{+0.3}$	M5	10.5	2	–	3.5
16				29 $^{+0.3}$		11	2.6		
20	19.5		9^{F9}	35.5 $^{+0.3}$		12			5
25				39.5 $^{+0.3}$					
32	26			47 $^{+0.3}$	G1/8	15	6		
40				54.5$^{+0.3}$			8		
50	27	12	12^{F9}	65.5 $^{+0.3}$			11.5		
63				75.5 $^{+0.3}$					
80	17		15	95.5 $^{+0.6}$		16.5			2.6
100	21.5			113.5 $^{+0.6}$		21.5	20		

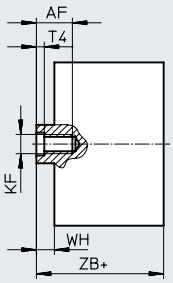
ø **[mm]**	MM ø	PL +0.2	RT	ST h13	T2 +0.1	TG ±0.2	ZA ±0.3	ZB +1.2
12	6	6	M4	5	2.1	16	35	39.2
16	8			7		18		39.7
20	10		M5	9		22	37	42.5
25						26	39	44.5
32	12	8.2	M6	10		32.5	44	50
40						38	45	51.1
50	16		M8	13	2.6	46.5		53.2
63						56.5	49	57.1
80	20		M10	17		72	54	62.9
100		10.5				89	67	76

Datasheet

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

Basic version

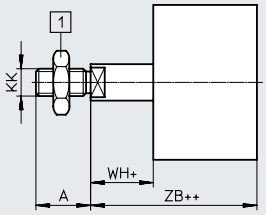


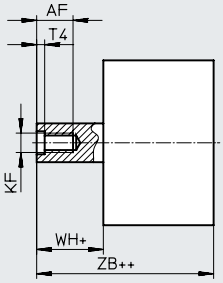


[1] Hex nut DIN 439-B only with Ø 32 ... 100

\+ = plus stroke length

Z – Pulling



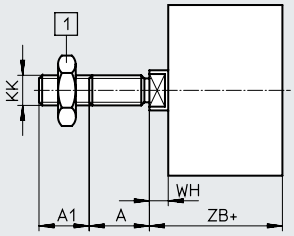


[1] Hex nut DIN 439-B only with Ø 32 ... 100

\+ = plus stroke length

++ = plus 2x stroke length

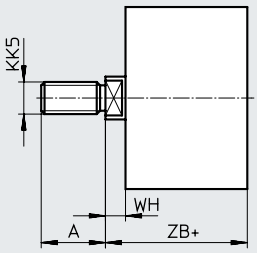
K2 – Extended male piston rod thread

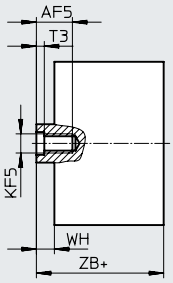


[1] Hex nut DIN 439-B only with Ø 32 ... 100

\+ = plus stroke length

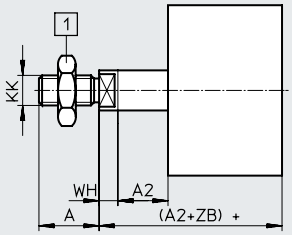
K5 – Special piston rod thread

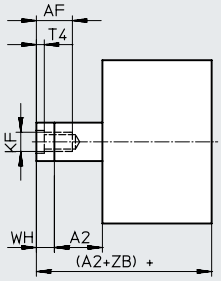




\+ = plus stroke length

K8 – Extended piston rod





[1] Hex nut DIN 439-B only with Ø 32 ... 100

\+ = plus stroke length

Datasheet

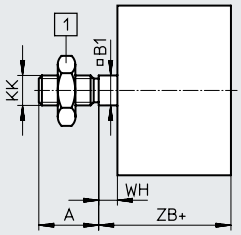
ø [mm]	A –0.5	A1	A2	AF min.	AF5 min.	KF	KF5
12	10	1 ... 10	1 ... 300	8	–	M3	–
16	12			10		M4	
20	16	1 ... 20		14	12	M6	M5
25							
32	19		1 ...400	16	14	M8	M6
40							
50	22			20	16	M10	M8
63							
80	28	1 ... 30	1 ... 500		20	M12	M10
100							

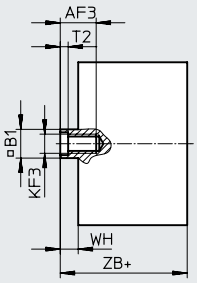
ø [mm]	KK	KK5	T3	T4	WH +1.3	ZB +1.2
12	M5	M6	–	1.5	4.2	39.2
16	M6	M8			4.7	39.7
20	M8	M10x1.25	2	2.6	5.5	42.5
25		M10				44.5
32	M10x1.25	M10	2.6	3.3	6	50
40		M12			6.1	51.1
50	M12x1.25	M12	3.3	4.7	8.2	53.2
63		M16			8.1	57.1
80	M16x1.5	M16	4.7	6.1	8.9	62.9
100		M20x1.5 M20			9	76

Datasheet

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

Q – Square piston rod



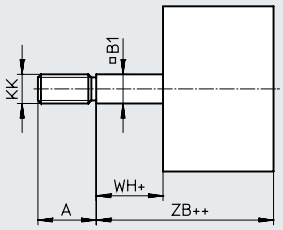


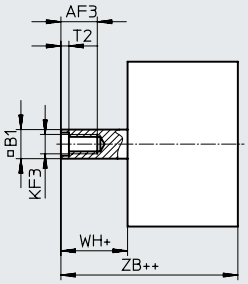
[1] Hex nut DIN 439-B only with Ø 32 ... 100

\+ = plus stroke length

++ = plus 2x stroke length

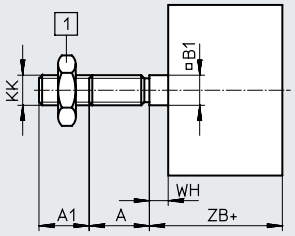
Q – Z – Pulling





\+ = plus stroke length

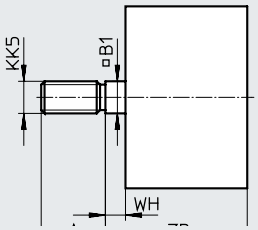
Q-K2 – Square piston rod with extended male thread



[1] Hex nut DIN 439-B only with Ø 32 ... 100

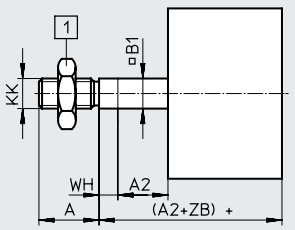
\+ = plus stroke length

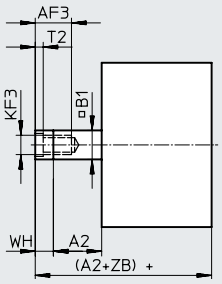
Q-K5 – Square piston rod with special piston rod thread



\+ = plus stroke length

Q-K8 – Square, extended piston rod





[1] Hex nut DIN 439-B only with Ø 32 ... 100

\+ = plus stroke length

Datasheet

ø [mm]	A –0.5	A1	A2	AF3 min.	B1 □	KF3
16	12	1 ... 10	1 ... 300	10	7	M4
20	16	1 ... 20		12	9	M5
25						
32	19		1 ...400	14	10	M6
40						
50	22			16	12	M8
63						
80	28	1 ... 30	1 ... 500	20	16	M10
100						

ø [mm]	KK	KK5	T2	WH +1.3	ZB +1.2
16	M6	M8	1.5	4.7	39.7
20	M8	M10x1.25	2	5.5	42.5
25		M10			44.5
32	M10x1.25	M10	2.6	6	50
40				6.1	51.1
50	M12x1.25	M12	3.3	8.2	53.2
63				8.1	57.1
80	M16x1.5	M16	4.7	8.9	62.9
100				9	76

Ordering data – Modular product system, basic version and variants

Ordering table

Size		12	16	20	25	32	Conditions	Code	Enter code
Module no.		**536414**	**536415**	**536416**	**536417**	**536418**			
Function		Compact cylinder, single-acting						**AEN**	AEN
Standard		Based on ISO 21287		Conforms to ISO 21287					
Piston diameter	[mm]	12	16	20	25	32		**-...**	
Stroke	[mm]	1 ... 10	1 ... 25					**-...**	
Thread type		Male thread						**-A**	
		Female thread					[1]	**-I**	
Cushioning		Elastic cushioning rings/plates at both ends						**-P**	-P
Position sensing		Via proximity switch						**-A**	-A
Effective direction		Single-acting, pulling						**-Z**	
Extended male thread	[mm]	Extended male piston rod thread 1 ... 10		1 ... 20			[2]	**-...K2**	
Special piston rod thread	Male thread	M6	M8	M10x1.25 M10	M10x1.25 M10	M10 M12	[2]	**-"...”K5**	
	Female thread	–	–	M5	M5	M6			
Extended piston rod	[mm]	Extended piston rod 1 ... 10	1 ... 25					**-...K8**	
Improved running performance		–	–	Smooth anodised aluminium piston rod				**-K10**	
Temperature resistance		Heat-resistant seals max. 120 °C						**-S6**	
Captive rating plate		Laser-etched rating plate						**-TL**	

[1] **I** Not with extended male thread K2

[2] **K2, K5** Not with improved running performance K10

Ordering data – Modular product system, basic version and variants

Ordering table

Size		40	50	63	80	100	Conditions	Code	Enter code
Module no.		**536419**	**536420**	**536421**	**536422**	**536423**			
Function		Compact cylinder, single-acting						**AEN**	AEN
Standard		Conforms to ISO 21287							
Piston diameter	[mm]	40	50	63	80	100		**-...**	
Stroke	[mm]	1 ... 25						**-...**	
Thread type		Male thread						**-A**	
		Female thread					[1]	**-I**	
Cushioning		Elastic cushioning rings/plates at both ends						**-P**	-P
Position sensing		Via proximity switch						**-A**	-A
Effective direction		Single-acting, pulling						**-Z**	
Extended male thread	[mm]	Extended male piston rod thread 1 ... 20			1 ... 30		[2]	**-...K2**	
Special piston rod thread	Male thread	M10 M12	M12 M16	M12 M16	M16 M20 M20x1.5	M16 M20 M20x1.5	[2]	**-"..."K5**	
	Female thread	M6	M8	M8	M10	M10			
Extended piston rod	[mm]	Extended piston rod 1 ... 25						**-...K8**	
Improved running performance		Smooth anodised aluminium piston rod						**-K10**	
Temperature resistance		Heat-resistant seals max. 120 °C						**-S6**	
Captive rating plate		Laser-etched rating plate						**-TL**	

[1] **I** Not with extended male thread K2

[2] **K2, K5** Not with improved running performance K10

Ordering data – Modular product system, Q – Square piston rod, non-rotating

Ordering table

Size	16	20	25	32	Conditions	Code	Enter code
Module no.	**536415**	**536416**	**536417**	**536418**			
Function	Compact cylinder, single-acting					**AEN**	AEN
Standard	Based on ISO 21287	Conforms to ISO 21287					
Piston diameter [mm]	16	20	25	32		**-...**	
Stroke [mm]	1 ... 25					**-...**	
Thread type	Male thread					**-A**	
	Female thread				[1]	**-I**	
Cushioning	Elastic cushioning rings/plates at both ends					**-P**	-P
Position sensing	Via proximity switch					**-A**	-A
Effective direction	Single-acting, pulling					**-Z**	
Protection against rotation	Square piston rod					**-Q**	-Q
Extended male thread [mm]	Extended male piston rod thread 1 ... 10	1 ... 20				**-...K2**	
Special piston rod thread Male thread	M8	M10x1.25 M10	M10x1.25 M10	M10		**-"..."K5**	
Extended piston rod [mm]	Extended piston rod 1 ... 25					**-...K8**	
Temperature resistance	Heat-resistant seals max. 120 °C					**-S6**	
Captive rating plate	Laser-etched rating plate					**-TL**	

[1] **I** Not with extended male thread K2

Ordering data – Modular product system, Q – Square piston rod, non-rotating

Ordering table

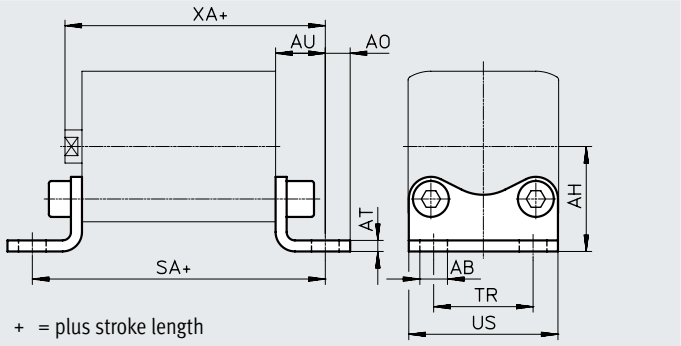
Size	40	50	63	80	100	Conditions	Code	Enter code
Module no.	**536419**	**536420**	**536421**	**536422**	**536423**			
Function	Compact cylinder, single-acting						**AEN**	AEN
Standard	Conforms to ISO 21287							
Piston diameter [mm]	40	50	63	80	100		**-...**	
Stroke [mm]	1 ... 25						**-...**	
Thread type	Male thread						**-A**	
	Female thread					[1]	**-I**	
Cushioning	Elastic cushioning rings/plates at both ends						**-P**	-P
Position sensing	Via proximity switch						**-A**	-A
Effective direction	Single-acting, pulling						**-Z**	
Protection against rotation	Square piston rod						**-Q**	-Q
Extended male thread [mm]	Extended male piston rod thread 1 ... 20			1 ... 30			**-...K2**	
Special piston rod thread Male thread	M10	M12	M12	M16	M16		**-"...”K5**	
Extended piston rod [mm]	Extended piston rod 1 ... 25						**-...K8**	
Temperature resistance	Heat-resistant seals max. 120 °C						**-S6**	
Captive rating plate	Laser-etched rating plate						**-TL**	

[1] **I** Not with extended male thread K2

Accessories

Foot mounting HNA/HNA-...-R3

Material:
HNA: Galvanised steel
HNA-...-R3: steel,
with protective coating
RoHS-compliant



Dimensions and ordering data

For ø [mm]	AB ø H14	AH JS14	AO	AT ±0.5	AU ±0.2	SA	TR ±0.2	US –0.5	XA
12	5.8	21	5	3	13	61	16	26	52.2
16		22	4.75				18	27.5	52.9
20	7	27	6.25	4	16	69	22	34.5	58.7
25		29				71	26	38.5	60.7
32		33.5	7			76	32	46	66.2
40	10	38	9		18	81	36	54	69.2
50		45	8	5	21	87	45	64	74.2
63		50				91	50	75	78.2
80	12	63	10.5	6	26	106	63	93	89
100	14.5	74	12.5		27	121	75	110	103

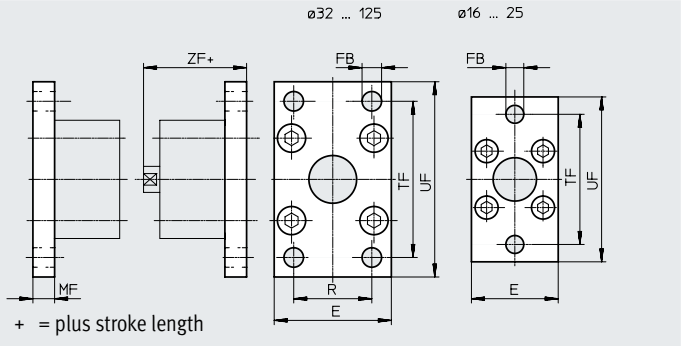
For ø	Basic version				R3 – High corrosion protection			
	CRC[1]	Weight	Part no.	Type	CRC[1]	Weight	Part no.	Type
[mm]		[g]				[g]		
12	1 - low	39	**537237**	**HNA-12**	3	39	**537252**	**HNA-12-R3**
16	1 - low	42	**537238**	**HNA-16**	3	42	**537253**	**HNA-16-R3**
20	1 - low	84	**537239**	**HNA-20**	3	84	**537254**	**HNA-20-R3**
25	1 - low	90	**537240**	**HNA-25**	3	90	**537255**	**HNA-25-R3**
32	1 - low	123	**537241**	**HNA-32**	3	123	**537256**	**HNA-32-R3**
40	1 - low	157	**537242**	**HNA-40**	3	157	**537257**	**HNA-40-R3**
50	1 - low	278	**537243**	**HNA-50**	3	278	**537258**	**HNA-50-R3**
63	1 - low	328	**537244**	**HNA-63**	3	328	**537259**	**HNA-63-R3**
80	1 - low	634	**537249**	**HNA-80**	3	634	**537260**	**HNA-80-R3**
100	1 - low	814	**537250**	**HNA-100**	3	814	**537261**	**HNA-100-R3**

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

Accessories

Flange mounting FNC

Material:
Galvanised steel
RoHS-compliant



Dimensions and ordering data

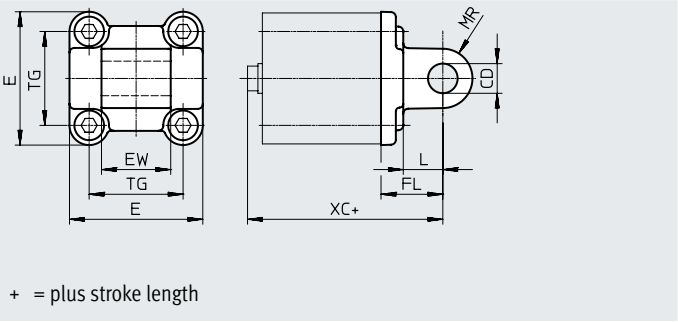
For ø [mm]	E	FB ø	MF	R	TF	UF ±1	ZF	CRC[1]	Weight [g]	Part no.	Type
12	28	5.5	8	–	40	50	47.2	1 - low	79	**537245**	**FNC-12**
16	29				43	55	47.9	1 - low	88	**537246**	**FNC-16**
20	36	6.6			55	70	50.7	1 - low	141	**537247**	**FNC-20**
25	40				60	76	52.7	1 - low	165	**537248**	**FNC-25**
32	45	7	10	32	64	80	60.2	1 - low	221	★ **174376**	**FNC-32**
40	54	9		36	72	90	61.2	1 - low	291	★ **174377**	**FNC-40**
50	65		12	45	90	110	65.2	1 - low	536	★ **174378**	**FNC-50**
63	75			50	100	120	69.2	1 - low	679	★ **174379**	**FNC-63**
80	93	12	16	63	126	150	79	1 - low	1495	★ **174380**	**FNC-80**
100	110	14		75	150	175	92	1 - low	2041	**174381**	**FNC-100**
125	132	16	20	90	180	210	112	1 - low	3775	**174382**	**FNC-125**

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

Accessories

Swivel flange
SNCL/SNCL-...-R3

Material:
SNCL 12 ... 25:
Wrought aluminium alloy
SNCL 32 ... 125:
Die-cast aluminium
SNCL-...-R3: Wrought aluminium alloy with protective coating
RoHS-compliant



+ = plus stroke length

Dimensions and ordering data

For Ø [mm]	CD Ø H10	E	EW	FL ±0.2	L	MR	TG	XC
12	6	$25_{-0.6}$	12_{h12}	16	10	6	16	55.2
16		$27.5_{-0.6}$					18	55.9
20	8	$34.5_{-0.6}$	16_{h12}	20	14	8	22	62.7
25		$38.5_{-0.6}$					26	64.7
32	10	$45_{+0.2/-0.5}$	$26_{-0.2/-0.6}$	22	13	10	32.5	72.2
40	12	$54_{-0.5}$	$28_{-0.2/-0.6}$	25	16	12	38	75.2
50		$64_{-0.6}$	$32_{-0.2/-0.6}$	27			46.5	80.2
63	16	$75_{-0.6}$	$40_{-0.2/-0.6}$	32	21	16	56.5	89.2
80		$93_{-0.8}$	$50_{-0.2/-0.6}$	36	22		72	99
100	20	$110_{+0.3/-0.8}$	$60_{-0.2/-0.6}$	41	27	20	89	117
125	25	$131_{-0.8}$	$70_{-0.2/-0.6}$	50	30	25	110	142

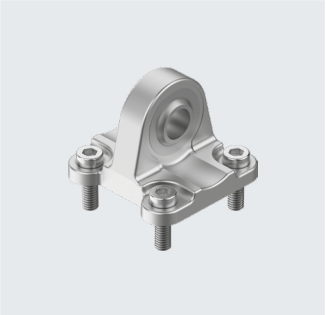
For Ø [mm]	Basic version				R3 – High corrosion protection			
	CRC[1]	Weight [g]	Part no.	Type	CRC[1]	Weight [g]	Part no.	Type
12	2 - moderate	20	**537790**	**SNCL-12**	3	20	**537794**	**SNCL-12-R3**
16	2 - moderate	21	**537791**	**SNCL-16**	3	21	**537795**	**SNCL-16-R3**
20	2 - moderate	38	**537792**	**SNCL-20**	3	38	**537796**	**SNCL-20-R3**
25	2 - moderate	41	**537793**	**SNCL-25**	3	41	**537797**	**SNCL-25-R3**
32	1 - low	71	★ **174404**	**SNCL-32**	–	–	–	
40	1 - low	95	★ **174405**	**SNCL-40**	–	–	–	
50	1 - low	158	★ **174406**	**SNCL-50**	–	–	–	
63	1 - low	225	★ **174407**	**SNCL-63**	–	–	–	
80	1 - low	436	★ **174408**	**SNCL-80**	–	–	–	
100	1 - low	606	**174409**	**SNCL-100**	–	–	–	
125	1 - low	1135	**174410**	**SNCL-125**	–	–	–	

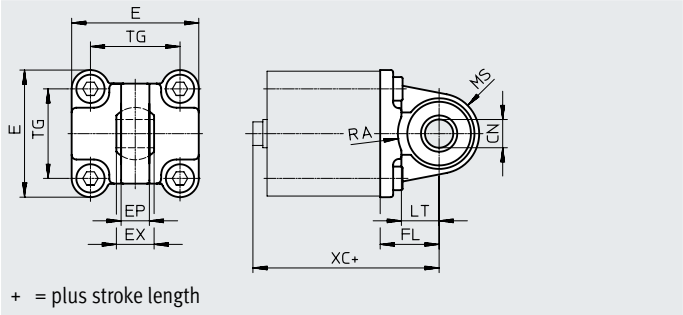
1) More information: www.festo.com/x/topic/crc

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





\+ = plus stroke length

Dimensions and ordering data

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

For Ø	LT	MS		RA		TG	XC
		ADN-...	ADN-...-R3	ADN-... +1	ADN-...-R3 +1		
[mm]							
32	13	$15^{+0.5}$	$15^{+0.5}$	14.5	14.5	32.5	72.2
40	16	$17^{+0.5}$	$17^{+0.5}$	17.5	17.5	38	75.2
50	16	$20^{+0.5}$	$20^{+0.5}$	18.5	19	46.5	80.2
63	21	$23_{-0.5}$	$22^{+0.5}$	23	23	56.5	89.2
80	22	$28_{-0.5}$	$27^{+0.5}$	25	25	72	99
100	27	30±0.5	30±0.5	95	100	89	117
125	30	39±0.5	39±0.5	100	100	110	142

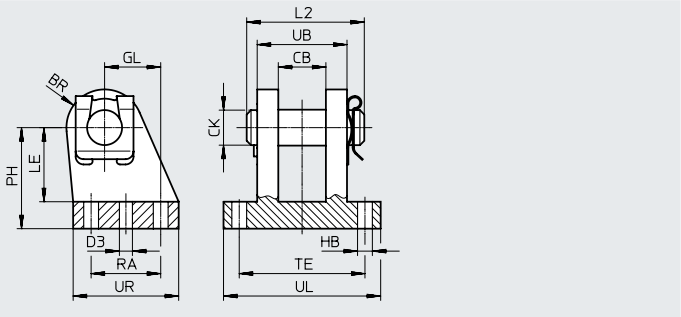
For Ø	Basic version				High corrosion protection			
	CRC[1]	Weight	Part no.	Type	CRC[1]	Weight	Part no.	Type
[mm]		[g]				[g]		
32	1 - low	86	★ **174397**	**SNCS-32**	4	161	**2895920**	**CRSNCS-32**
40	1 - low	122	★ **174398**	**SNCS-40**	4	239	**2895921**	**CRSNCS-40**
50	1 - low	216	★ **174399**	**SNCS-50**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

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

Accessories

Clevis foot LBG/LBG-...-R3
The pivot pin is secured against rotation with a spring pin.

Material:
LBG 32 ... 63: Stainless steel casting
LBG 80 ... 125: Spheroidal graphite cast iron
LBG-...-R3: High-alloy stainless steel
RoHS-compliant



Dimensions and ordering data

For ø [mm]	BR	ADN-...-R3	CB	CK ø	D3 ø	GL	HB ø	L2	LE	PH	RA	TE	UB	UL	UR
32	12	12	14.1	10	4.8	16	6.8	35	24	32	20	42	28	56	36
40	14	14	16.1	12	5.8	20	6.8	39	26	36	26	44	30	58	41.5
50	15	15	21.1	16	5.8	25	9.2	50	33	45	31	56	40	70	47
63	17	17	21.1	16	7.8	25	9.2	50	38	50	31	56	40	70	49
80	17	17	25.1	20	7.8	30	11	60	49	63	36	70	50	89	55
100	20	22	25.1	20	9.8	41	11	60	56	71	46	70	50	89	65
125	25	25	37.2	30	11.8	60	14	89	70	90	70	106	80	128	96

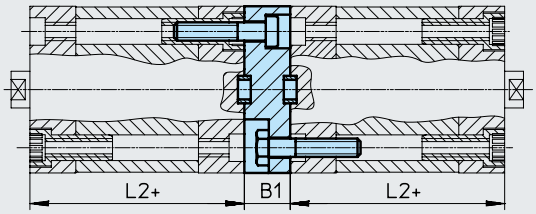
For ø	Basic version				R3 – High corrosion protection			
	CRC[1]	Weight	Part no.	Type	CRC[1]	Weight	Part no.	Type
[mm]		[g]				[g]		
32	2 - moderate	220	**31761**	**LBG-32**	3	220	**2078790**	**LBG-32-R3**
40	2 - moderate	300	**31762**	**LBG-40**	3	300	**2078792**	**LBG-40-R3**
50	2 - moderate	540	**31763**	**LBG-50**	3	540	**2078794**	**LBG-50-R3**
63	2 - moderate	580	**31764**	**LBG-63**	3	580	**2078795**	**LBG-63-R3**
80	2 - moderate	1050	**31765**	**LBG-80**	3	1050	**2078797**	**LBG-80-R3**
100	2 - moderate	1375	**31766**	**LBG-100**	3	1375	**2078799**	**LBG-100-R3**
125	2 - moderate	4140	**31767**	**LBG-125**	3	4140	**2078837**	**LBG-125-R3**

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

Accessories

Multi-position kit DPNA

Material:
Flange:
Wrought aluminium alloy
Screws: Galvanised steel
RoHS-compliant



\+ = plus stroke length

Note

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

Dimensions and ordering data

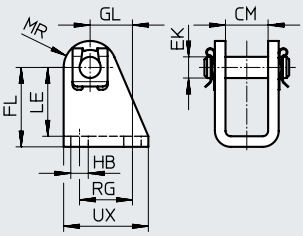
For ø [mm]	L2	B1	Max. overall stroke length [mm]	CRC[1]	Weight [g]	Part no.	Type[1]
12	35	13	600	2 - moderate	28	**537263**	**DPNA-12**
16					33	**537264**	**DPNA-16**
20	37				50	**537265**	**DPNA-20**
25	39				60	**537266**	**DPNA-25**
32	44	15	800		99	**537267**	**DPNA-32**
40	45				129	**537268**	**DPNA-40**
50					16	**537269**	**DPNA-50**
63	49				249	**537270**	**DPNA-63**
80	54	17	1000		474	**537271**	**DPNA-80**
100	67	19.5			712	**537272**	**DPNA-100**

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

Accessories

Clevis foot LBN

Material:
Galvanised steel
RoHS-compliant



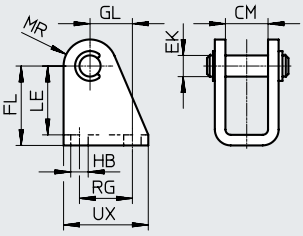
Dimensions and ordering data

For Ø [mm]	CM	EK Ø	FL	GL	HB Ø	LE	MR	RG	UX	CRC[1]	Weight [g]	Part no.	Type
12/16	12.1	6	27 +0.3/–0.2	13	5.5	24	7	15	25	1 - low	40	★ 6058	LBN-12/16
20/25	16.1	8	30 +0.4/–0.2	16	6.6	26	10	20	32	1 - low	84	★ 6059	LBN-20/25

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

Clevis foot CRLBN, stainless steel

Material:
High-alloy steel
RoHS-compliant



Dimensions and ordering data

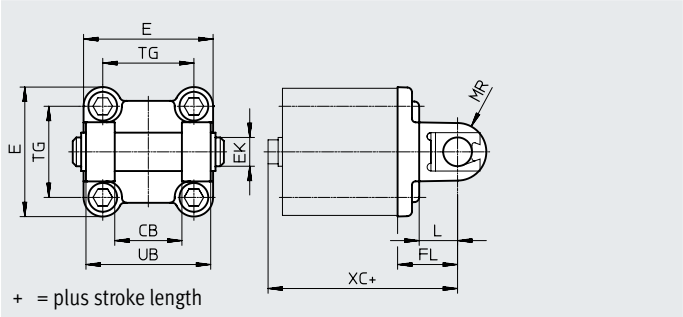
For Ø [mm]	CM	EK Ø	FL	GL	HB Ø	LE	MR	RG	UX	CRC[1]	Weight [g]	Part no.	Type
12/16	12.1	6	27 +0.3/–0.2	13	5.5	24	7	15	25	4 - very high	39	161862	CRLBN-12/16
20/25	16.1	8	30 +0.4/–0.2	16	6.6	26	10	20	32	4 - very high	82	161863	CRLBN-20/25

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



Dimensions and ordering data

For Ø [mm]	CB H14	E	EK Ø H9/e8	FL ±0.2	L	MR –0.5	TG	UB h14	XC
32	26	45+0.2/–0.5	10	22	13	8.5	32.5	45	72
40	28	54–0.5	12	25	16	12	38	52	76
50	32	64–0.6	12	27	16	12	46.5	60	80
63	40	75–0.6	16	32	21	16	56.5	70	89
80	50	93–0.8	16	36	22	16	72	90	99
100	60	110+0.3/–0.8	20	41	27	20	89	110	117
125	70	131–0.8	25	50	30	25	110	130	142

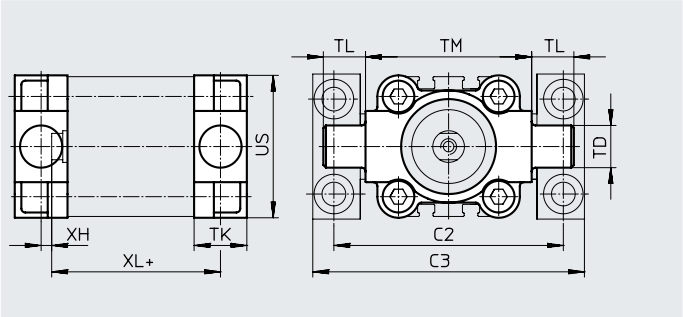
For Ø	Basic version				R3 – High corrosion protection			
[mm]	CRC[1]	Weight [g]	Part no.	Type	CRC[1]	Weight [g]	Part no.	Type
32	1 - low	103	★ **174390**	**SNCB-32**	3	100	**176944**	**SNCB-32-R3**
40	1 - low	155	★ **174391**	**SNCB-40**	3	151	**176945**	**SNCB-40-R3**
50	1 - low	233	★ **174392**	**SNCB-50**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

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



Dimensions and ordering data

For ø [mm]	C2)1)	C3)1)	TD ø e9	TK	TL	TM	US	XH	XL
32	71	86	12	16	12	50	45	2	58
40	87	105	16	20	16	63	54	4	61.1
50	99	117	16	24	16	75	64	4	64.7
63	116	136	20	24	20	90	75	4	68.5
80	136	156	20	28	20	110	93	5	76.9
100	164	189	25	38	25	132	110	10	95
125	192	217	25	50	25	160	131	14	117

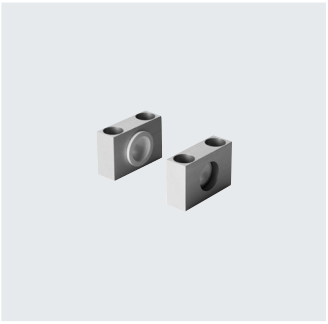
For ø	Basic version				R3 – High corrosion protection			
	CRC[1]	Weight	Part no.	Type	CRC[1]	Weight	Part no.	Type
[mm]		[g]				[g]		
32	2 - moderate	150	**174411**	**ZNCF-32**	4	150	**161852**	**CRZNG-32**
40	2 - moderate	285	**174412**	**ZNCF-40**	4	285	**161853**	**CRZNG-40**
50	2 - moderate	473	**174413**	**ZNCF-50**	4	473	**161854**	**CRZNG-50**
63	2 - moderate	687	**174414**	**ZNCF-63**	4	687	**161855**	**CRZNG-63**
80	2 - moderate	1296	**174415**	**ZNCF-80**	4	1296	**161856**	**CRZNG-80**
100	2 - moderate	2254	**174416**	**ZNCF-100**	4	2254	**161857**	**CRZNG-100**
125	2 - moderate	3484	**174417**	**ZNCF-125**	4	3484	**185362**	**CRZNG-125**

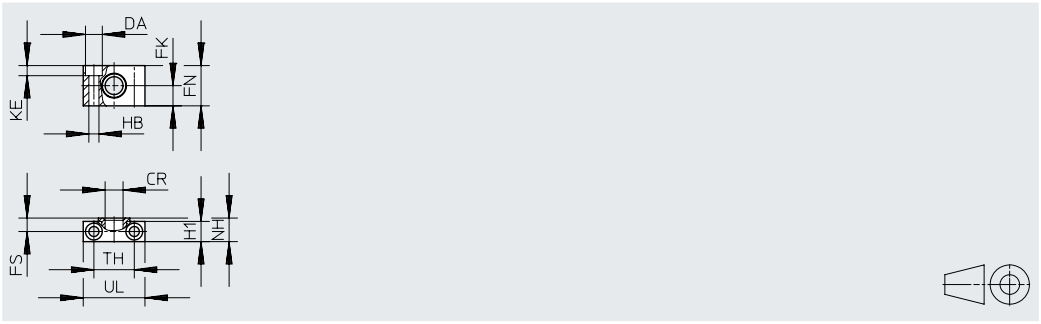
1) More information: www.festo.com/x/topic/crc

Accessories

Trunnion support LNZG

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





Dimensions and ordering data

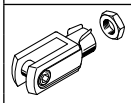
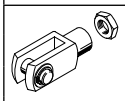
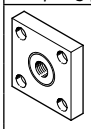
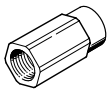
For Ø [mm]	CR Ø D11	DA Ø H13	FK Ø ±0.1	FN	FS	H1	HB Ø H13	KE	NH	TH ±0.2	UL	CRC[1]	Weight [g]	Part no.	Type
32	12	11	15	30	10.5	15	6.6	6.8	18	32	46	2 - moderate	83	**32959**	**LNZG-32**
40, 50	16	15	18	36	12	18	9	9	21	36	55	2 - moderate	129	**32960**	**LNZG-40/50**
63, 80	20	18	20	40	13	20	11	11	23	42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

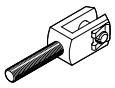
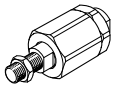
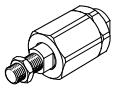
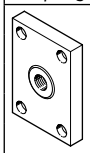
1) More information: www.festo.com/x/topic/crc

Accessories

Ordering data – Piston rod attachments

Datasheets → Internet: piston rod attachment

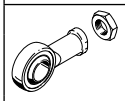
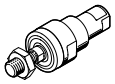
Designation	For ⌀	Part no.	Type
Rod eye SGS			
	16	★ 9254	SGS-M6
	20, 25	★ 9255	SGS-M8
	32, 40	★ 9261	SGS-M10x1.25
	50, 63	★ 9262	SGS-M12x1.25
	80, 100	★ 9263	SGS-M16x1.5
	125	★ 9264	SGS-M20x1.5
Rod clevis SG			
	12	–	
	16	★ 3110	SG-M6
	20, 25	★ 3111	SG-M8
	32, 40	★ 6144	SG-M10x1.25
	50, 63	★ 6145	SG-M12x1.25
	80, 100	★ 6146	SG-M16x1.5
	125	★ 6147	SG-M20x1.5
Coupling piece KSG			
	12, 16, 20, 25	–	
	32, 40	32963	KSG-M10x1.25
	50, 63	32964	KSG-M12x1.25
	80, 100	32965	KSG-M16x1.5
	125	32966	KSG-M20x1.5
Adapter AD			
	12	–	
	16	157328	AD-M6-M5
		157329	AD-M6-1/8
		157330	AD-M6-1/4
	20	157331	AD-M8-1/8
	25	157332	AD-M8-1/4
	32	157333	AD-M10x1.25-1/8
	40	157334	AD-M10x1.25-1/4
	50	160256	AD-M12x1.25-1/4
	63	160257	AD-M12x1.25-3/8

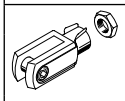
Designation	For ⌀	Part no.	Type
Rod clevis SGA for rod eye SGS			
	12, 16, 20, 25	–	
	32, 40	32954	SGA-M10x1.25
	50, 63	10767	SGA-M12x1.25
	80, 100	10768	SGA-M16x1.5
	125	10769	SGA-M20x1.5
Self-aligning rod coupler FK			
	12	30984	FK-M5
	16	★ 2061	FK-M6
	20, 25	★ 2062	FK-M8
	32, 40	★ 6140	FK-M10x1.25
	50, 63	★ 6141	FK-M12x1.25
	80, 100	★ 6142	FK-M16x1.5
	125	★ 6143	FK-M20x1.5
Self-aligning rod coupler DARP			
	12	8170112	DARP-M5-F
	16	8170115	DARP-M6-F
	20, 25	8170116	DARP-M8-F
	32, 40	8170119	DARP-M10P-F
	50, 63	8170120	DARP-M12P-F
	80, 100	8170121	DARP-M16P-F
	125	8170124	DARP-M20P-F
Coupling piece KSZ			
	12	–	
	16	36123	KSZ-M6
	20, 25	36124	KSZ-M8
	32, 40	36125	KSZ-M10x1.25
	50, 63	36126	KSZ-M12x1.25
	80, 100	36127	KSZ-M16x1.5
	125	36128	KSZ-M20x1.5

Accessories

Ordering data – Piston-rod attachments, corrosion-resistant

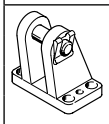
Datasheets → Internet: piston rod attachment

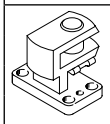
Designation	For Ø	Part no.	Type
Rod eye CRSGS			
	12	–	
	16	**195580**	**CRSGS-M6**
	20, 25	**195581**	**CRSGS-M8**
	32, 40	**195582**	**CRSGS-M10x1.25**
	50, 63	**195583**	**CRSGS-M12x1.25**
	80, 100	**195584**	**CRSGS-M16x1.5**
	125	**195585**	**CRSGS-M20x1.5**
Self-aligning rod coupler CRFK			
	32, 40	**2305778**	**CRFK-M10x1.25**
	50, 63	**2305779**	**CRFK-M12x1.25**
	80, 100	**2490673**	**CRFK-M16x1.5**
	125	**2545677**	**CRFK-M20x1.5**

Designation	For Ø	Part no.	Type
Rod clevis CRSG			
	12	–	
	16, 20	**13567**	**CRSG-M6**
	20, 25	**13568**	**CRSG-M8**
	32, 40	**13569**	**CRSG-M10x1.25**
	50, 63	**13570**	**CRSG-M12x1.25**
	80, 100	**13571**	**CRSG-M16x1.5**
	125	**13572**	**CRSG-M20x1.5**

Ordering data – Mounting components

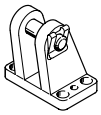
Datasheets → Internet: clevis foot

Designation	For Ø	Part no.	Type
Right-angle clevis foot LBG for rod eye SGS			
	32, 40	**31761**	**LBG-32**
	50, 63	**31762**	**LBG-40**
	80, 100	**31763**	**LBG-50**
		31764	**LBG-63**
	125	**31765**	**LBG-80**
		31766	**LBG-100**

Designation	For Ø	Part no.	Type
Right-angle clevis foot LQG for rod eye SGS			
	32, 40	**31768**	**LQG-32**
	50, 63	**31769**	**LQG-40**
	80, 100	**31770**	**LQG-50**
		31771	**LQG-63**
	125	**31772**	**LQG-80**
		31773	**LQG-100**

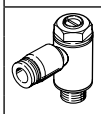
Ordering data – Mounting components, high corrosion protection

Datasheets → Internet: clevis foot

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

Ordering data – One-way flow control valves

Datasheets → Internet: grla

	Connection		Material	Part no.	Type
	For Ø	For tubing O.D.			
For exhaust air					
	12, 16, 20, 25	3	Metal design	★ **193137**	**GRLA-M5-QS-3-D**
		4		★ **193138**	**GRLA-M5-QS-4-D**
		6		★ **193139**	**GRLA-M5-QS-6-D**
	32, 40, 50, 63, 80, 100	3		★ **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**
	125	6		★ **193146**	**GRLA-1/4-QS-6-D**
		8		★ **193147**	**GRLA-1/4-QS-8-D**
		10		★ **193148**	**GRLA-1/4-QS-10-D**

Accessories

Ordering data – One-way flow control valves

Datasheets → Internet: grlz

	Connection		Material	Part no.	Type
	For Ø	For tubing O.D.			
For supply air					
	12, 16, 20, 25	3	Metal design	★ 193153	GRLZ-M5-QS-3-D
		4		★ 193154	GRLZ-M5-QS-4-D
		6		★ 193155	GRLZ-M5-QS-6-D
	32, 40, 50, 63, 80, 100	3		★ 193156	GRLZ-1/8-QS-3-D
		4		★ 193157	GRLZ-1/8-QS-4-D
		6		★ 193158	GRLZ-1/8-QS-6-D
		8		★ 193159	GRLZ-1/8-QS-8-D
	125	–		151195	GRLZ-1/4-B

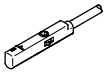
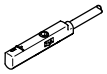
Ordering data – One-way flow control valves for cylinders ADNH and ADNM

Datasheets → Internet: grla

	Connection		Material	Part no.	Type
	For Ø	For tubing O.D.			
For exhaust air					
	25, 40	3	Metal design	193137	GRLA-M5-QS-3-D
		4		193138	GRLA-M5-QS-4-D
	63, 100	4		193143	GRLA-1/8-QS-4-D
		6		193144	GRLA-1/8-QS-6-D
		8		193145	GRLA-1/8-QS-8-D

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
			Plug M12x1, 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
			Plug M8x1, 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, magneto-resistive

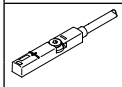
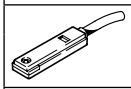
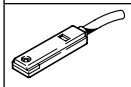
Datasheets → Internet: smt

	Type of mounting	Electrical connection, outlet direction of connection	Switching output	Cable length [m]	Part no.	Type
N/O						
	Inserted into the slot lengthwise	Cable, 3-core, crosswise	PNP	2.5	547859	SMT-8G-PS-24V-E-2.5Q-OE
		Plug M8x1, 3-pin, crosswise		0.3	547860	SMT-8G-PS-24V-E-0.3Q-M8D
		Cable, 3-core, crosswise	NPN	2.5	8065028	SMT-8G-NS-24V-E-2.5Q-OE
		Plug M8x1, 3-pin, crosswise		0.3	8065027	SMT-8G-NS-24V-E-0.3Q-M8D

Accessories

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

Datasheets → Internet: sme

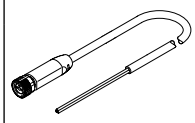
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type
N/O						
	Inserted in the slot from above, flush with the cylinder profile	Contacting	Cable, 3-core	2.5	★ 543862	SME-8M-DS-24V-K-2.5-OE
				5.0	★ 543863	SME-8M-DS-24V-K-5.0-OE
			Cable, 2-core	2.5	★ 543872	SME-8M-ZS-24V-K-2.5-OE
			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

Ordering data – Connecting cables

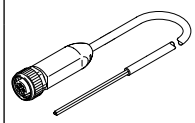
Datasheets → Internet: nebu

	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-core	2.5	★ 541333	NEBU-M8G3-K-2.5-LE3
			5	★ 541334	NEBU-M8G3-K-5-LE3
	Straight socket, M12x1, 5-pin	Cable, open end, 3-core	2.5	★ 541363	NEBU-M12G5-K-2.5-LE3
			5	★ 541364	NEBU-M12G5-K-5-LE3
	Angled socket, M8x1, 3-pin	Cable, open end, 3-core	2.5	★ 541338	NEBU-M8W3-K-2.5-LE3
			5	★ 541341	NEBU-M8W3-K-5-LE3
	Angled socket, M12x1, 5-pin	Cable, open end, 3-core	2.5	541367	NEBU-M12W5-K-2.5-LE3
			5	541370	NEBU-M12W5-K-5-LE3

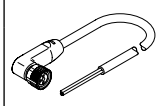
Connecting cables NEBA, straight, connection M8

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/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, straight, connection M12

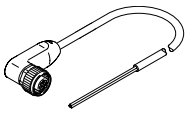
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M12x1, A-coded to EN 61076-2-101	Open end	3	2.5 m	★ 8078236	NEBA-M12G5-U-2.5-N-LE3
				5 m	★ 8078237	NEBA-M12G5-U-5-N-LE3

Connecting cables NEBA, angled, connection M8

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/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, angled, connection M12

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/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 – Proximity switch, cuboid shape, pneumatic

Datasheets → Internet: smpo

	Pneumatic connection	Part no.	Type
3/2-way valve, normally closed			
	Female thread M5	**178563**	**SMPO-8E**

Ordering data – Mounting kit for proximity switch SMPO-8E

Datasheets → Internet: smb

	Assembly	Part no.	Type
	Clamped in T-slot	**178230**	**SMB-8E**

Ordering data – Slot cover for T-slot

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