

Compact cylinders ADN-S/AEN-S

FESTO



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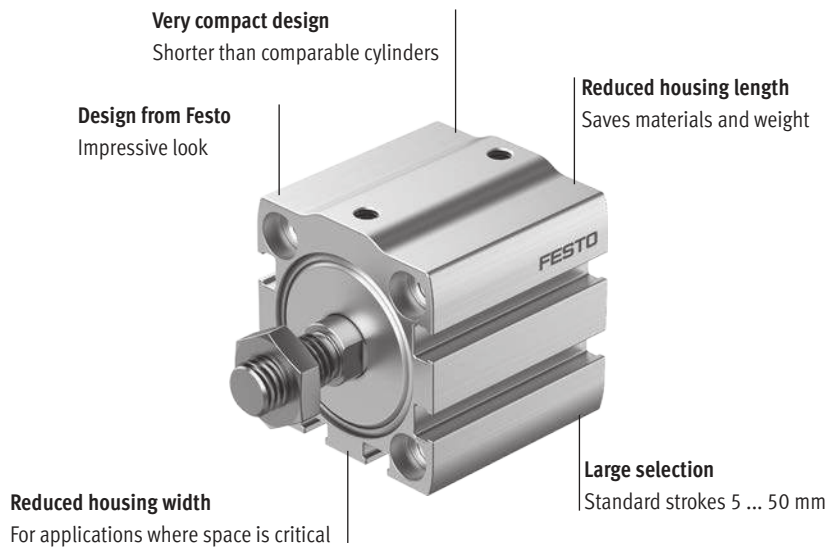
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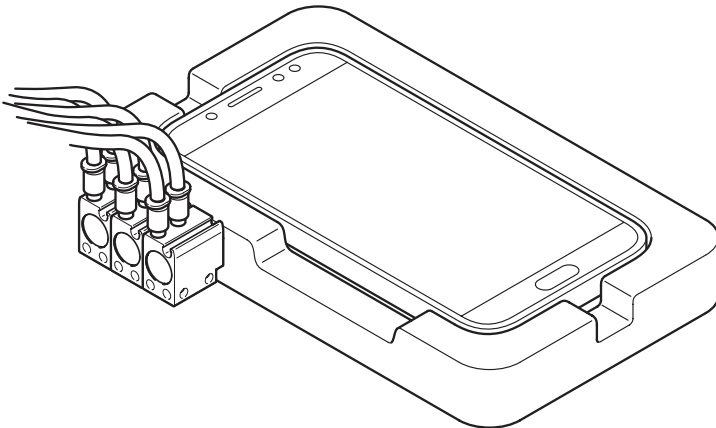
Characteristics

At a glance



Application example

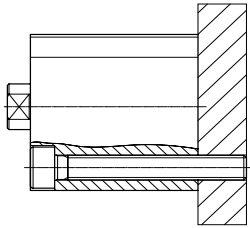
Long-term tests of smartphone keys



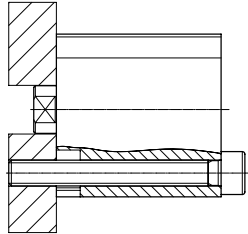
Characteristics

Mounting options

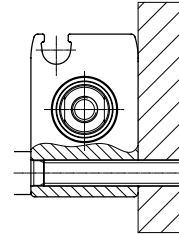
From the front
 $\varnothing 6 \dots 10$



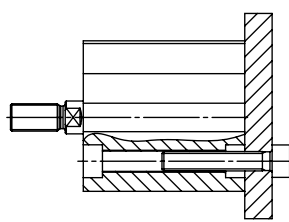
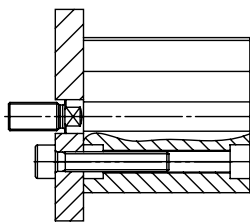
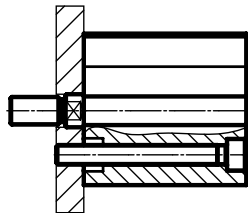
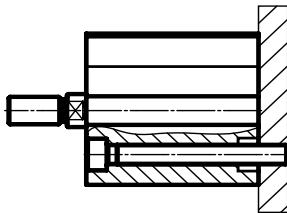
From the rear




From the side



$\varnothing 12 \dots 63$



-  - **Note**
 $\varnothing 12 \dots 63$ mm:
 Hole pattern conforms to ISO 21287

For manufacturing lithium-ion batteries

ADN-S-...-F1A

Recommended for production facilities for the manufacture of lithium-ion batteries.

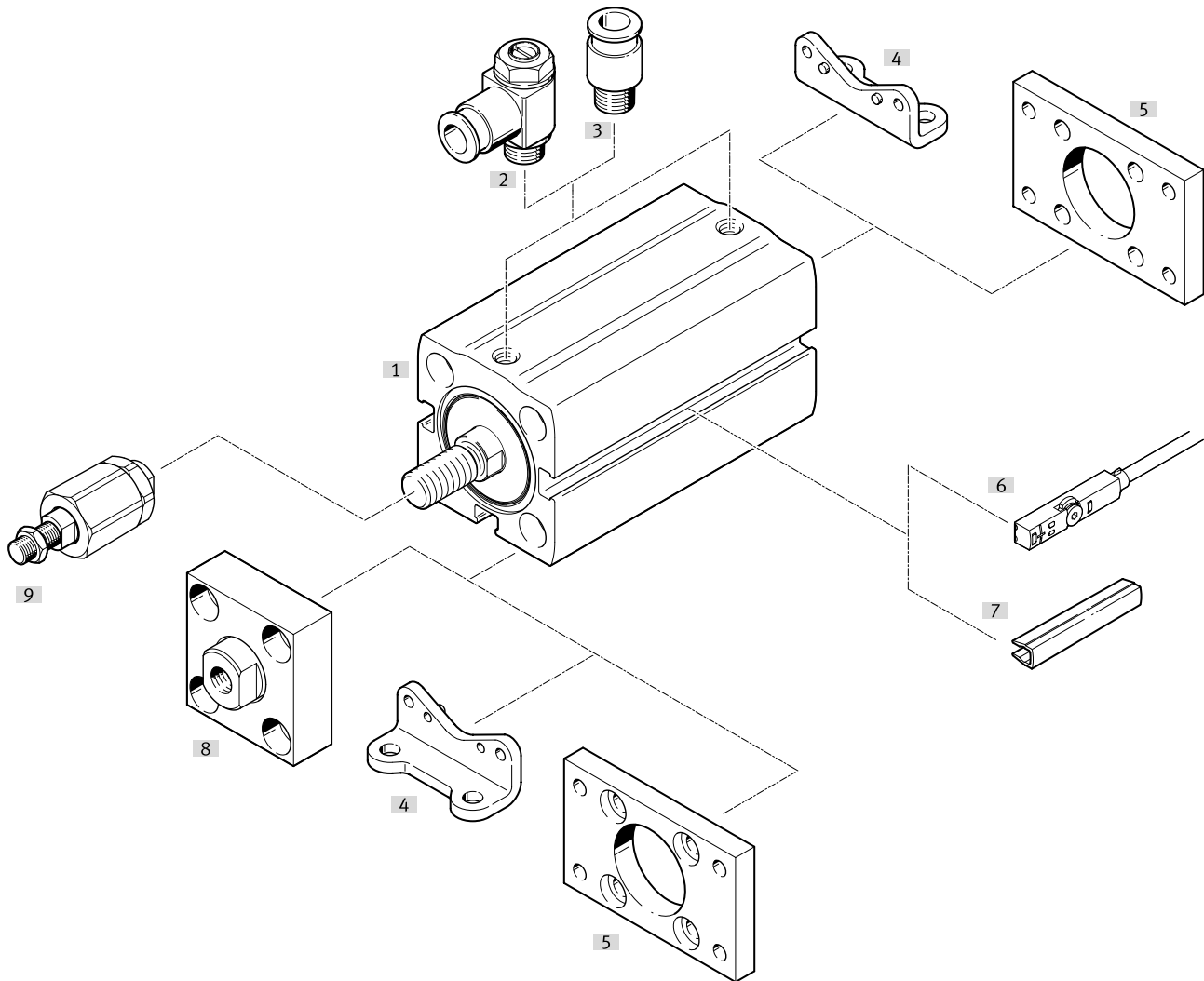
Metals with more than 1% copper, zinc or nickel by mass are excluded from use.

Exceptions are nickel in steel, chemically nickel-plated surfaces, circuit boards, cables, electrical plug connectors and coils

Accessories

Your Festo contact partner can provide information about which accessories are suitable for manufacturing lithium-ion batteries.

Peripherals overview



Peripherals overview

Accessories				
	Type/order code	For piston \varnothing	Description	→ Page/Internet
[1]	Compact cylinder ADN-S	6 ... 63	Double-acting cylinder	6
	Compact cylinder AEN-S	6 ... 63	Single-acting cylinder	22
[2]	One-way flow control valve GRLA/GRLZ	12 ... 63	For regulating speed	38
[3]	Push-in fitting QS	12 ... 63	For connecting tubing with standard O.D.	qs
[4]	Foot mounting HNA	12 ... 63	For bearing or end caps	34
[5]	Flange mounting FNC	12 ... 63	For bearing or end caps	36
[6]	Proximity switch SMT-10	6 ... 10	Can be integrated in the cylinder profile barrel	38
	Proximity switch SMT-8M	12 ... 63		39
	Position transmitter SDAS-MHS/SDAT-MHS SMAT-8M	12 ... 63		39
[7]	Slot cover ABP-5-S	12 ... 63	For protecting the sensor cables and the sensor slots from contamination	39
[8]	Coupling piece KSG/KSZ	32 ... 63	To compensate for radial deviations	33
[9]	Self-aligning rod coupler FK	12 ... 63	To compensate for radial and angular deviations	33

Type codes

001	Series
ADN-S	Compact cylinder, double-acting

002	Design type
S	Short

003	Piston diameter [mm]
6	6
10	10
12	12
16	16
20	20
25	25
32	32
40	40
50	50
63	63

004	Stroke [mm]
5	5
10	10
15	15
20	20
25	25
30	30
35	35
40	40
45	45
50	50

005	Piston rod thread type
A	Male thread
I	Female thread

006	Cushioning
	No cushioning
P	Elastic cushioning rings/plates on both sides

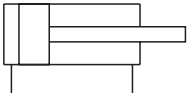
007	Position sensing
	None
A	For proximity sensor

008	Special material properties
	None
F1A	Recommended for production facilities for the manufacture of lithium-ion batteries

Data sheet

Function

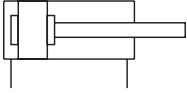
ADN-S



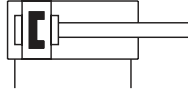
ADN-S...-A



ADN-S...-P



ADN-S...-P-A



- \varnothing - Diameter
6 ... 63 mm

- | - Stroke length
5 ... 50 mm

General technical data

Piston \varnothing	6	10	12	16	20	25	32	40	50	63	
Design	Piston Piston rod										
Mode of operation	Double-acting										
Piston rod end	Male thread Female thread										
Pneumatic connection	M3		M5					G1/8			
Stroke [mm]	5, 10		5, 10, 15, 20, 25, 30, 35			5, 10, 15, 20, 25, 30, 35, 40, 45, 50					
Cushioning	-		Elastic cushioning rings/pads at both ends								
Position sensing	Via proximity switch										
Type of mounting	With through-hole - - With female thread - With accessories										
Mounting position	Any										

Operating and environmental conditions

Piston \varnothing	6	10	12	16	20	25	32	40	50	63
Operating pressure ¹⁾										
	[MPa]	0.2 ... 0.8	0.1 ... 0.8	0.1 ... 1		0.06 ... 1			0.04 ... 1	
	[bar]	2 ... 8	1 ... 8	1 ... 10		0.6 ... 10			0.4 ... 10	
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]									
Information on the operating medium	Lubricated operation possible (in which case lubricated operation will always be required)									
Ambient temperature ²⁾ [°C]	-10 ... +60			0 ... +60						
Corrosion resistance class CRC ³⁾	2									
Battery manufacturing [F1A] and female thread [I]	2						2			
Battery manufacturing [F1A] and male thread [A]	2						0			

1) The minimum pressure values in the retracting direction may be slightly higher after an extended idle time.

2) Note operating range of proximity switches.

3) Corrosion resistance class CRC 0 to Festo standard FN 940070

No corrosion stress. Applies to small, visually unimportant standards-based parts such as threaded pins, circlips and clamping sleeves which are usually only available on the market in a phosphated or burnished version (and possibly oiled) as well as to ball bearings (for components < CRC 3) and plain bearings.

Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Data sheet

Forces [N] and impact energy [J]										
Piston \varnothing	6	10	12	16	20	25	32	40	50	63
Theoretical force at 0.6 MPa (6 bar), advancing	17	47	68	121	188	295	483	754	1178	1870
Theoretical force at 0.6 MPa (6 bar), retracting	9.4	30.2	51	90	141	247	415	686	1057	1750
Impact energy in the end positions										
ADN-S	0.006	0.012	0.06	0.1	0.14	0.18	0.26	-		
ADN-S-...-A	0.006	0.012	0.07	0.15	0.2	0.3	0.4	0.7	1	1.3

Weights [g]		
Piston \varnothing	6	10
Product weight		
with 5 mm stroke	9.2/10.9 ¹⁾	
with 10 mm stroke	11.9/13.6 ¹⁾	
Moving mass		
with 5 mm stroke	1.5/1.6 ¹⁾	
with 10 mm stroke	2.3/2.4 ¹⁾	

1) With position sensing

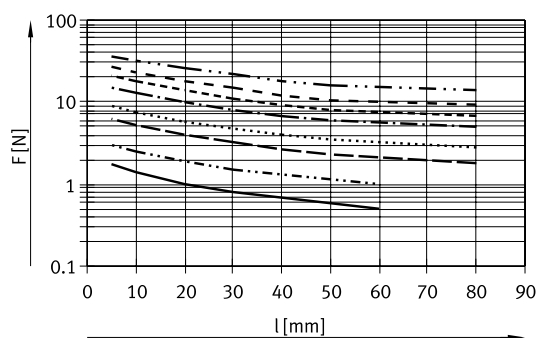
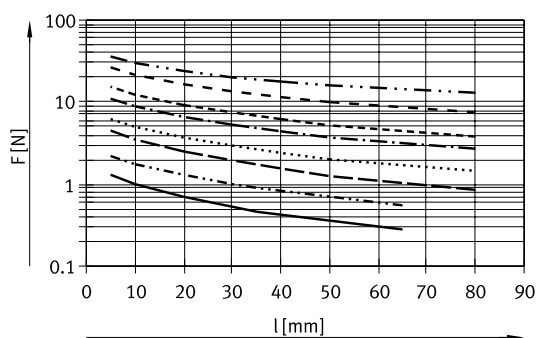
Weights [g]								
Piston \varnothing	12	16	20	25	32	40	50	63
Product weight with 0 mm stroke	26/33 ¹⁾	32.5/42 ¹⁾	51/65 ¹⁾	70/88 ¹⁾	107/117 ¹⁾	304 ¹⁾	324 ¹⁾	499 ¹⁾
Additional weight per 10 mm stroke	15/15 ¹⁾	18/18 ¹⁾	26/26 ¹⁾	30/30 ¹⁾	36/36 ¹⁾	45 ¹⁾	63 ¹⁾	77 ¹⁾
Moving mass with 0 mm stroke	3.5/6 ¹⁾	6/11 ¹⁾	11/18 ¹⁾	17/25 ¹⁾	31/37 ¹⁾	62 ¹⁾	104 ¹⁾	151 ¹⁾
Additional mass per 10 mm stroke	2/2 ¹⁾	4/4 ¹⁾	6/6 ¹⁾	6/6 ¹⁾	9/9 ¹⁾	9 ¹⁾	16 ¹⁾	16 ¹⁾

1) With position sensing

Max. transverse load F_q as a function of projection l

Without sensing

With sensing



- \varnothing 12
- · - · - \varnothing 16
- - - \varnothing 20
- · · · · \varnothing 25
- · - · - \varnothing 32
- - - \varnothing 40
- - - \varnothing 50
- · - · - \varnothing 63

Note

Transverse loads must not be applied to piston \varnothing 6 ... 10. Additional information is available at www.festo.com/sp → User documentation.

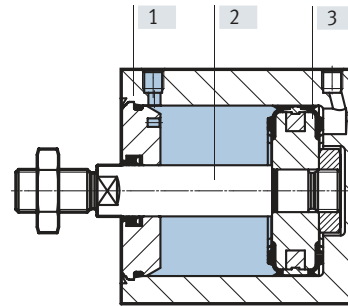
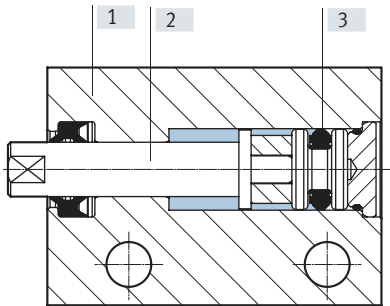
Data sheet

Materials

Sectional view

Ø 6 ... 10

Ø 12 ... 63



Compact cylinders

[1]	Housing	Anodised wrought aluminium alloy
[2]	Piston rod	High-alloy stainless steel
[3]	Seals	NBR, TPE-U(PU)
-	Note on materials	RoHS-compliant
	PWIS conformity	VDMA24364-B2-L
	Cleanroom class	Class 6 to ISO 14644-1
	ADN-S-...-F1A	Metals with more than 1% copper, zinc or nickel by mass are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, circuit boards, cables, electrical plug connectors and coils

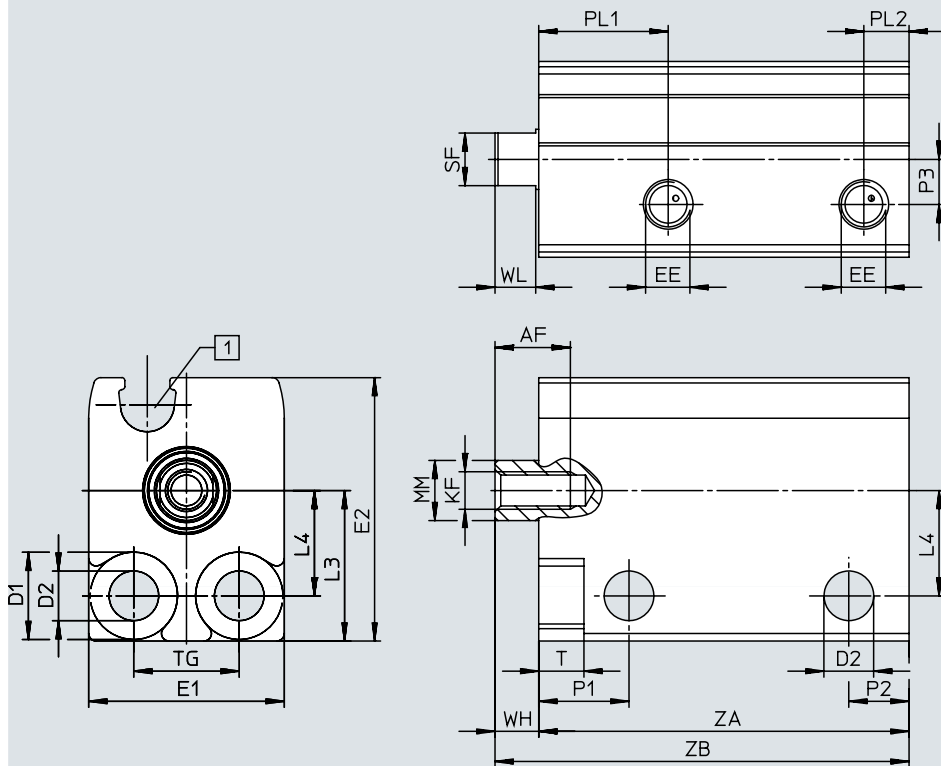
Data sheet

Dimensions

Download CAD data → www.festo.com

∅ 6 ... 10

With female thread



[1] C-slot for proximity switch

∅	AF	D1	D2	EE	E1	E2	KF	L3	L4	MM
[mm]	min.	∅ H13	∅		max.	max.				∅
6	5	5.8	3.3	M3	13	17.5	M2.5	10	7	4
10	6				13.5	20.5	M3	11	8	6

∅	P1	P2	P3	PL2	SF	T	TG	WH	WL
[mm]							±0.1		
6	6	4	3	3	3.5	3	7	3	2.7
10			3.2		5				

∅	Stroke	Position sensing	PL1	ZA	ZB
[mm]	[mm]			+0.3	±0.35
6	5	—	8.6	20.5	23.5
		■	8.6	24.5	27.5
	10	—	8.6	25.5	28.5
		■	8.6	29.5	32.5
10	5	—	9.2	20.5	23.5
		■	9.9	24.5	27.5
	10	—	9.2	25.5	28.5
		■	9.9	29.5	32.5

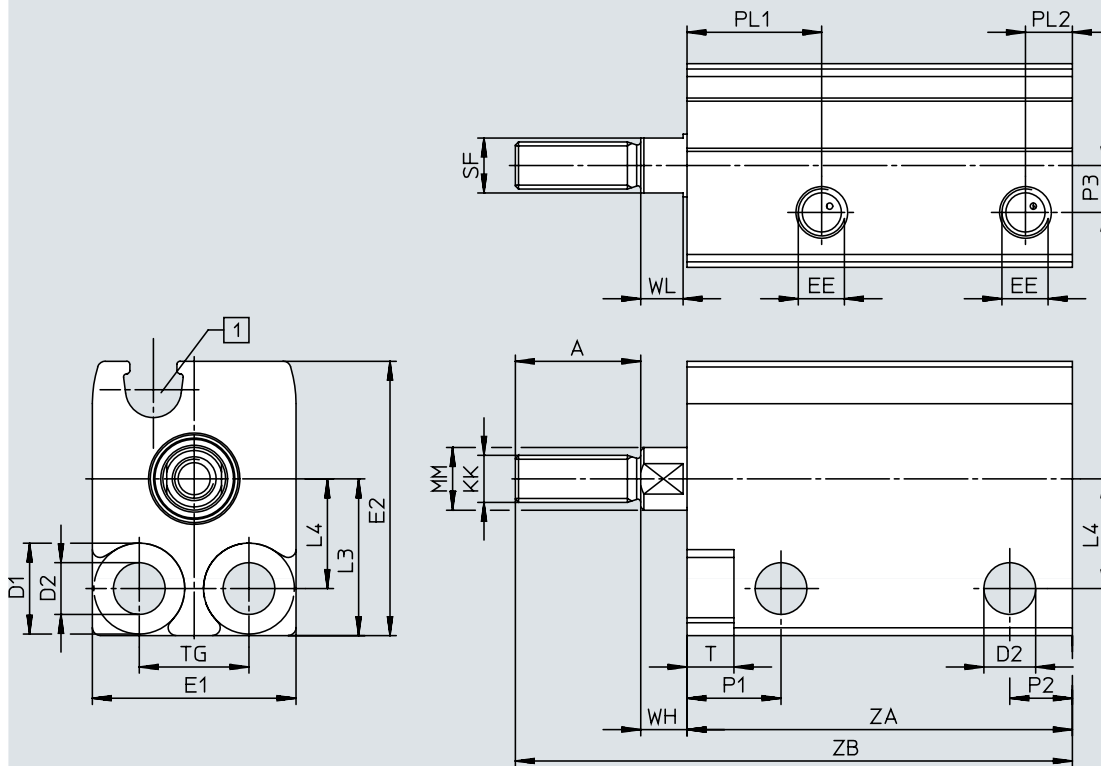
Data sheet

Dimensions

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∅ 6 ... 10

With male thread



[1] C-slot for proximity switch

∅ [mm]	A	D1 ∅ H13	D2 ∅	EE	E1 max.	E2 max.	KK	L3	L4	MM ∅
6	8	5.8	3.3	M3	13	17.5	M3	10	7	4
10	10				13.5	20.5	M4	11	8	6

∅ [mm]	P1	P2	P3	PL2	SF	T	TG ±0.1	WH	WL
6	6	4	3	3	3.5	3	7	3	2.7
10			3.2		5				

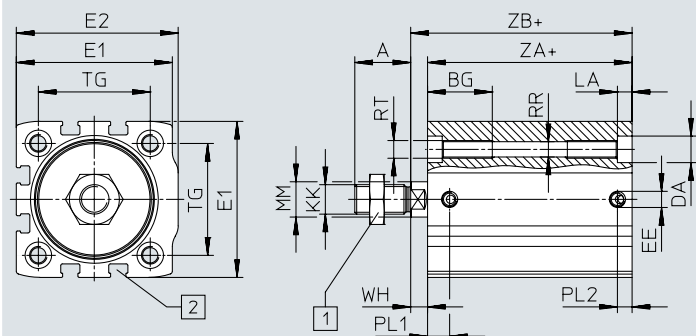
∅ [mm]	Stroke [mm]	Position sensing	PL1	ZA +0.3	ZB ±0.35
6	5	—	8.6	20.5	31.5
		■	8.6	24.5	35.5
	10	—	8.6	25.5	36.5
		■	8.6	29.5	40.5
10	5	—	9.2	20.5	33.5
		■	9.9	24.5	37.5
	10	—	9.2	25.5	38.5
		■	9.9	29.5	42.5

Data sheet

Dimensions

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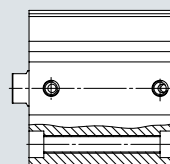
∅ 12 ... 63



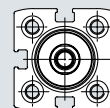
Through thread

∅ 12 ... 25; ZA 0 ... 40

∅ 32 ... 63; ZA 0 ... 50



∅ 12 ... 25



+ = plus stroke length

[1] Hex nut DIN 439-B only from ∅ 32 upwards

[2] T-slot for proximity switch

∅	A	BG	DA ∅	E1	E2	EE	KK	LA	MM ∅	PL1
[mm]	-0.5	min.	F9					±0.1	h8	
12	10	19	6	27 ^{+0.15}	27.5 ^{+0.15}	M5	M5	3.5	6	5
16	12	19	6	29 ^{+0.15}	30 ^{+0.15}	M5	M6	3.5	8	6
20	16	20	7.5	34.5 ^{+0.15}	35.5 ^{+0.15}	M5	M8	5	10	6
25	16	20	7.5	38.5 ^{+0.15}	39.5 ^{+0.15}	M5	M8	5	10	5.5
32	19	22	9	45 ^{+0.15}	47 ^{+0.15}	M5	M10x1.25	5	12	6.1
40	19	22	9	53 ^{+0.15}	55 ^{+0.15}	M5	M10x1.25	5	12	7.5
50	22	23	11	63 ^{+0.2}	66 ^{+0.2}	G1/8	M12x1.25	5	16	8.2
63	22	23	11	75 ^{+0.2}	78.5 ^{+0.2}	G1/8	M12x1.25	5	16	8.5

∅	PL2	RR ∅	RT	TG	WH +1	ZA		ZB	
						+0.2	[A] +0.2	+1.2	[A] +1.2
[mm]									
12	5	3.5	M4	16	2.5	15.5	19.5	18	22
16	5	3.5	M4	18	3	16	20.5	19	23.5
20	5	4.2	M5	22	3	17.5	22	20.5	25
25	5	4.2	M5	26	3.5	19	23.5	22.5	27
32	5	5.2	M6	32.5	4	21.5	25	25.5	29
40	5	5.2	M6	38	5	26	29.5	31	34.5
50	7.5	6.8	M8	46.5	7	29	32	36	39
63	8	6.8	M8	56.5	7	32	35	39	42

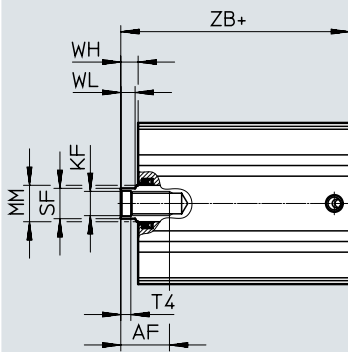
Data sheet

Dimensions

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∅ 12 ... 63

With female thread



+ = plus stroke length

∅ [mm]	AF min.	KF	MM ∅ h8	SF h13	T4	WH +1	WL -0.15	ZB	
								+1.2	[A] +1.2
12	8	M3	6	5	1.5	2.5	2.7	18	22
16	10	M4	8	7	1.5	3	3.5	19	23.5
20	11	M6	10	9	2.6	3	4	20.5	25
25	11	M6	10	9	2.6	3.5	4.2	22.5	27
32	12	M8	12	10	3.3	4	4.7	25.5	29
40	16	M8	12	10	3.3	5	4.7	31	34.5
50	16	M10	16	13	4.7	7	6.5	36	39
63	20	M10	16	13	4.7	7	6.5	39	42

Data sheet

★ Core Range

Ordering data – With elastic cushioning rings/pads at both ends

Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
12					
Without position sensing					
5	★ 8076407	ADN-S-12-5-I-P	★ 8091419	ADN-S-12-5-A-P	
10	★ 8076419	ADN-S-12-10-I-P	★ 8091428	ADN-S-12-10-A-P	
15	★ 8076417	ADN-S-12-15-I-P	★ 8091416	ADN-S-12-15-A-P	
20	★ 8076415	ADN-S-12-20-I-P	★ 8091420	ADN-S-12-20-A-P	
25	★ 8076413	ADN-S-12-25-I-P	★ 8091426	ADN-S-12-25-A-P	
30	★ 8076411	ADN-S-12-30-I-P	★ 8091423	ADN-S-12-30-A-P	
35	★ 8076409	ADN-S-12-35-I-P	★ 8091418	ADN-S-12-35-A-P	
With position sensing					
5	★ 8076406	ADN-S-12-5-I-P-A	★ 8091427	ADN-S-12-5-A-P-A	
10	★ 8076418	ADN-S-12-10-I-P-A	★ 8091424	ADN-S-12-10-A-P-A	
15	★ 8076416	ADN-S-12-15-I-P-A	★ 8091422	ADN-S-12-15-A-P-A	
20	★ 8076414	ADN-S-12-20-I-P-A	★ 8091429	ADN-S-12-20-A-P-A	
25	★ 8076412	ADN-S-12-25-I-P-A	★ 8091421	ADN-S-12-25-A-P-A	
30	★ 8076410	ADN-S-12-30-I-P-A	★ 8091417	ADN-S-12-30-A-P-A	
35	★ 8076408	ADN-S-12-35-I-P-A	★ 8091425	ADN-S-12-35-A-P-A	

16					
Without position sensing					
5	★ 8076393	ADN-S-16-5-I-P	★ 8091671	ADN-S-16-5-A-P	
10	★ 8076405	ADN-S-16-10-I-P	★ 8091670	ADN-S-16-10-A-P	
15	★ 8076403	ADN-S-16-15-I-P	★ 8091677	ADN-S-16-15-A-P	
20	★ 8076401	ADN-S-16-20-I-P	★ 8091666	ADN-S-16-20-A-P	
25	★ 8076399	ADN-S-16-25-I-P	★ 8091665	ADN-S-16-25-A-P	
30	★ 8076397	ADN-S-16-30-I-P	★ 8091672	ADN-S-16-30-A-P	
35	★ 8076395	ADN-S-16-35-I-P	★ 8091676	ADN-S-16-35-A-P	
With position sensing					
5	★ 8076392	ADN-S-16-5-I-P-A	★ 8091668	ADN-S-16-5-A-P-A	
10	★ 8076404	ADN-S-16-10-I-P-A	★ 8091678	ADN-S-16-10-A-P-A	
15	★ 8076402	ADN-S-16-15-I-P-A	★ 8091667	ADN-S-16-15-A-P-A	
20	★ 8076400	ADN-S-16-20-I-P-A	★ 8091674	ADN-S-16-20-A-P-A	
25	★ 8076398	ADN-S-16-25-I-P-A	★ 8091675	ADN-S-16-25-A-P-A	
30	★ 8076396	ADN-S-16-30-I-P-A	★ 8091669	ADN-S-16-30-A-P-A	
35	★ 8076394	ADN-S-16-35-I-P-A	★ 8091673	ADN-S-16-35-A-P-A	

Ordering data – With elastic cushioning rings/pads at both ends and recommended for production plants for manufacturing lithium-ion batteries

Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
12					
With position sensing					
5	★ 8142562	ADN-S-12-5-I-P-A-F1A	★ 8142576	ADN-S-12-5-A-P-A-F1A	
10	★ 8142563	ADN-S-12-10-I-P-A-F1A	★ 8142577	ADN-S-12-10-A-P-A-F1A	
15	★ 8142564	ADN-S-12-15-I-P-A-F1A	★ 8142578	ADN-S-12-15-A-P-A-F1A	
20	★ 8142565	ADN-S-12-20-I-P-A-F1A	★ 8142579	ADN-S-12-20-A-P-A-F1A	
25	★ 8142566	ADN-S-12-25-I-P-A-F1A	★ 8142580	ADN-S-12-25-A-P-A-F1A	
30	★ 8142567	ADN-S-12-30-I-P-A-F1A	★ 8142581	ADN-S-12-30-A-P-A-F1A	
35	★ 8142568	ADN-S-12-35-I-P-A-F1A	★ 8142582	ADN-S-12-35-A-P-A-F1A	
16					
With position sensing					
5	★ 8142728	ADN-S-16-5-I-P-A-F1A	★ 8142735	ADN-S-16-5-A-P-A-F1A	
10	★ 8142729	ADN-S-16-10-I-P-A-F1A	★ 8142736	ADN-S-16-10-A-P-A-F1A	
15	★ 8142730	ADN-S-16-15-I-P-A-F1A	★ 8142737	ADN-S-16-15-A-P-A-F1A	
20	★ 8142731	ADN-S-16-20-I-P-A-F1A	★ 8142738	ADN-S-16-20-A-P-A-F1A	
25	★ 8142732	ADN-S-16-25-I-P-A-F1A	★ 8142739	ADN-S-16-25-A-P-A-F1A	
30	★ 8142733	ADN-S-16-30-I-P-A-F1A	★ 8142740	ADN-S-16-30-A-P-A-F1A	
35	★ 8142734	ADN-S-16-35-I-P-A-F1A	★ 8142741	ADN-S-16-35-A-P-A-F1A	

Data sheet

★ Core Range

Ordering data – With elastic cushioning rings/pads at both ends					
Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
20	Without position sensing				
	5	★ 8076323	ADN-S-20-5-I-P	★ 8091431	ADN-S-20-5-A-P
	10	★ 8076341	ADN-S-20-10-I-P	★ 8091449	ADN-S-20-10-A-P
	15	★ 8076339	ADN-S-20-15-I-P	★ 8091447	ADN-S-20-15-A-P
	20	★ 8076337	ADN-S-20-20-I-P	★ 8091445	ADN-S-20-20-A-P
	25	★ 8076335	ADN-S-20-25-I-P	★ 8091443	ADN-S-20-25-A-P
	30	★ 8076333	ADN-S-20-30-I-P	★ 8091441	ADN-S-20-30-A-P
	35	★ 8076331	ADN-S-20-35-I-P	★ 8091439	ADN-S-20-35-A-P
	40	★ 8076329	ADN-S-20-40-I-P	★ 8091437	ADN-S-20-40-A-P
	45	★ 8076327	ADN-S-20-45-I-P	★ 8091435	ADN-S-20-45-A-P
	50	★ 8076325	ADN-S-20-50-I-P	★ 8091433	ADN-S-20-50-A-P
	With position sensing				
	5	★ 8076322	ADN-S-20-5-I-P-A	★ 8091430	ADN-S-20-5-A-P-A
	10	★ 8076340	ADN-S-20-10-I-P-A	★ 8091448	ADN-S-20-10-A-P-A
	15	★ 8076338	ADN-S-20-15-I-P-A	★ 8091446	ADN-S-20-15-A-P-A
	20	★ 8076336	ADN-S-20-20-I-P-A	★ 8091444	ADN-S-20-20-A-P-A
	25	★ 8076334	ADN-S-20-25-I-P-A	★ 8091442	ADN-S-20-25-A-P-A
	30	★ 8076332	ADN-S-20-30-I-P-A	★ 8091440	ADN-S-20-30-A-P-A
	35	★ 8076330	ADN-S-20-35-I-P-A	★ 8091438	ADN-S-20-35-A-P-A
	40	★ 8076328	ADN-S-20-40-I-P-A	★ 8091436	ADN-S-20-40-A-P-A
	45	★ 8076326	ADN-S-20-45-I-P-A	★ 8091434	ADN-S-20-45-A-P-A
	50	★ 8076324	ADN-S-20-50-I-P-A	★ 8091432	ADN-S-20-50-A-P-A

Ordering data – With elastic cushioning rings/pads at both ends and recommended for production plants for manufacturing lithium-ion batteries					
Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
20	With position sensing				
	5	★ 8142756	ADN-S-20-5-I-P-A-F1A	★ 8142766	ADN-S-20-5-A-P-A-F1A
	10	★ 8142757	ADN-S-20-10-I-P-A-F1A	★ 8142767	ADN-S-20-10-A-P-A-F1A
	15	★ 8142758	ADN-S-20-15-I-P-A-F1A	★ 8142768	ADN-S-20-15-A-P-A-F1A
	20	★ 8142759	ADN-S-20-20-I-P-A-F1A	★ 8142769	ADN-S-20-20-A-P-A-F1A
	25	★ 8142760	ADN-S-20-25-I-P-A-F1A	★ 8142770	ADN-S-20-25-A-P-A-F1A
	30	★ 8142761	ADN-S-20-30-I-P-A-F1A	★ 8142771	ADN-S-20-30-A-P-A-F1A
	35	★ 8142762	ADN-S-20-35-I-P-A-F1A	★ 8142772	ADN-S-20-35-A-P-A-F1A
	40	★ 8142763	ADN-S-20-40-I-P-A-F1A	★ 8142773	ADN-S-20-40-A-P-A-F1A
	45	★ 8142764	ADN-S-20-45-I-P-A-F1A	★ 8142774	ADN-S-20-45-A-P-A-F1A
	50	★ 8142765	ADN-S-20-50-I-P-A-F1A	★ 8142775	ADN-S-20-50-A-P-A-F1A

Data sheet

★ Core Range

Ordering data – With elastic cushioning rings/pads at both ends				A – Piston rod with male thread	
Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		Part no.	Type
		Part no.	Type		
25	Without position sensing				
	5	★ 8076343	ADN-S-25-5-I-P	★ 8092103	ADN-S-25-5-A-P
	10	★ 8076361	ADN-S-25-10-I-P	★ 8092102	ADN-S-25-10-A-P
	15	★ 8076359	ADN-S-25-15-I-P	★ 8092107	ADN-S-25-15-A-P
	20	★ 8076357	ADN-S-25-20-I-P	★ 8092091	ADN-S-25-20-A-P
	25	★ 8076355	ADN-S-25-25-I-P	★ 8092092	ADN-S-25-25-A-P
	30	★ 8076353	ADN-S-25-30-I-P	★ 8092099	ADN-S-25-30-A-P
	35	★ 8076351	ADN-S-25-35-I-P	★ 8092097	ADN-S-25-35-A-P
	40	★ 8076349	ADN-S-25-40-I-P	★ 8092094	ADN-S-25-40-A-P
	45	★ 8076347	ADN-S-25-45-I-P	★ 8092106	ADN-S-25-45-A-P
	50	★ 8076345	ADN-S-25-50-I-P	★ 8092105	ADN-S-25-50-A-P
	With position sensing				
	5	★ 8076342	ADN-S-25-5-I-P-A	★ 8092104	ADN-S-25-5-A-P-A
	10	★ 8076360	ADN-S-25-10-I-P-A	★ 8092093	ADN-S-25-10-A-P-A
	15	★ 8076358	ADN-S-25-15-I-P-A	★ 8092096	ADN-S-25-15-A-P-A
	20	★ 8076356	ADN-S-25-20-I-P-A	★ 8092109	ADN-S-25-20-A-P-A
	25	★ 8076354	ADN-S-25-25-I-P-A	★ 8092100	ADN-S-25-25-A-P-A
	30	★ 8076352	ADN-S-25-30-I-P-A	★ 8092098	ADN-S-25-30-A-P-A
	35	★ 8076350	ADN-S-25-35-I-P-A	★ 8092108	ADN-S-25-35-A-P-A
	40	★ 8076348	ADN-S-25-40-I-P-A	★ 8092095	ADN-S-25-40-A-P-A
45	★ 8076346	ADN-S-25-45-I-P-A	★ 8092110	ADN-S-25-45-A-P-A	
50	★ 8076344	ADN-S-25-50-I-P-A	★ 8092101	ADN-S-25-50-A-P-A	

Ordering data – With elastic cushioning rings/pads at both ends and recommended for production plants for manufacturing lithium-ion batteries					
Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		Part no.	Type
		Part no.	Type		
25	With position sensing				
	5	★ 8142806	ADN-S-25-5-I-P-A-F1A	★ 8142826	ADN-S-25-5-A-P-A-F1A
	10	★ 8142807	ADN-S-25-10-I-P-A-F1A	★ 8142827	ADN-S-25-10-A-P-A-F1A
	15	★ 8142808	ADN-S-25-15-I-P-A-F1A	★ 8142828	ADN-S-25-15-A-P-A-F1A
	20	★ 8142809	ADN-S-25-20-I-P-A-F1A	★ 8142829	ADN-S-25-20-A-P-A-F1A
	25	★ 8142810	ADN-S-25-25-I-P-A-F1A	★ 8142830	ADN-S-25-25-A-P-A-F1A
	30	★ 8142811	ADN-S-25-30-I-P-A-F1A	★ 8142831	ADN-S-25-30-A-P-A-F1A
	35	★ 8142812	ADN-S-25-35-I-P-A-F1A	★ 8142832	ADN-S-25-35-A-P-A-F1A
	40	★ 8142813	ADN-S-25-40-I-P-A-F1A	★ 8142833	ADN-S-25-40-A-P-A-F1A
	45	★ 8142814	ADN-S-25-45-I-P-A-F1A	★ 8142834	ADN-S-25-45-A-P-A-F1A
	50	★ 8142815	ADN-S-25-50-I-P-A-F1A	★ 8142835	ADN-S-25-50-A-P-A-F1A

Data sheet

★ Core Range

Ordering data – With elastic cushioning rings/pads at both ends					
Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
32	Without position sensing				
	5	★ 8076364	ADN-S-32-5-I-P	★ 8091452	ADN-S-32-5-A-P
	10	★ 8076382	ADN-S-32-10-I-P	★ 8091461	ADN-S-32-10-A-P
	15	★ 8076380	ADN-S-32-15-I-P	★ 8091460	ADN-S-32-15-A-P
	20	★ 8076378	ADN-S-32-20-I-P	★ 8091453	ADN-S-32-20-A-P
	25	★ 8076376	ADN-S-32-25-I-P	★ 8091467	ADN-S-32-25-A-P
	30	★ 8076374	ADN-S-32-30-I-P	★ 8091465	ADN-S-32-30-A-P
	35	★ 8076372	ADN-S-32-35-I-P	★ 8091456	ADN-S-32-35-A-P
	40	★ 8076370	ADN-S-32-40-I-P	★ 8091450	ADN-S-32-40-A-P
	45	★ 8076368	ADN-S-32-45-I-P	★ 8091451	ADN-S-32-45-A-P
	50	★ 8076366	ADN-S-32-50-I-P	★ 8091462	ADN-S-32-50-A-P
	With position sensing				
	5	★ 8076363	ADN-S-32-5-I-P-A	★ 8091464	ADN-S-32-5-A-P-A
	10	★ 8076381	ADN-S-32-10-I-P-A	★ 8091457	ADN-S-32-10-A-P-A
	15	★ 8076379	ADN-S-32-15-I-P-A	★ 8091469	ADN-S-32-15-A-P-A
	20	★ 8076377	ADN-S-32-20-I-P-A	★ 8091468	ADN-S-32-20-A-P-A
	25	★ 8076375	ADN-S-32-25-I-P-A	★ 8091459	ADN-S-32-25-A-P-A
	30	★ 8076373	ADN-S-32-30-I-P-A	★ 8091454	ADN-S-32-30-A-P-A
	35	★ 8076371	ADN-S-32-35-I-P-A	★ 8091463	ADN-S-32-35-A-P-A
	40	★ 8076369	ADN-S-32-40-I-P-A	★ 8091455	ADN-S-32-40-A-P-A
45	★ 8076367	ADN-S-32-45-I-P-A	★ 8091466	ADN-S-32-45-A-P-A	
50	★ 8076365	ADN-S-32-50-I-P-A	★ 8091458	ADN-S-32-50-A-P-A	

Ordering data – With elastic cushioning rings/pads at both ends and recommended for production plants for manufacturing lithium-ion batteries					
Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
32	With position sensing				
	5	★ 8142846	ADN-S-32-5-I-P-A-F1A	★ 8142866	ADN-S-32-5-A-P-A-F1A
	10	★ 8142847	ADN-S-32-10-I-P-A-F1A	★ 8142867	ADN-S-32-10-A-P-A-F1A
	15	★ 8142848	ADN-S-32-15-I-P-A-F1A	★ 8142868	ADN-S-32-15-A-P-A-F1A
	20	★ 8142849	ADN-S-32-20-I-P-A-F1A	★ 8142869	ADN-S-32-20-A-P-A-F1A
	25	★ 8142850	ADN-S-32-25-I-P-A-F1A	★ 8142870	ADN-S-32-25-A-P-A-F1A
	30	★ 8142851	ADN-S-32-30-I-P-A-F1A	★ 8142871	ADN-S-32-30-A-P-A-F1A
	35	★ 8142852	ADN-S-32-35-I-P-A-F1A	★ 8142872	ADN-S-32-35-A-P-A-F1A
	40	★ 8142853	ADN-S-32-40-I-P-A-F1A	★ 8142873	ADN-S-32-40-A-P-A-F1A
	45	★ 8142854	ADN-S-32-45-I-P-A-F1A	★ 8142874	ADN-S-32-45-A-P-A-F1A
	50	★ 8142855	ADN-S-32-50-I-P-A-F1A	★ 8142875	ADN-S-32-50-A-P-A-F1A

Data sheet

★ Core Range

Ordering data – With elastic cushioning rings/pads at both ends

Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
40	With position sensing				
	5	★ 5138606	ADN-S-40-5-I-P-A	★ 8092050	ADN-S-40-5-A-P-A
	10	★ 5138607	ADN-S-40-10-I-P-A	★ 8092067	ADN-S-40-10-A-P-A
	15	★ 5138608	ADN-S-40-15-I-P-A	★ 8092053	ADN-S-40-15-A-P-A
	20	★ 5138609	ADN-S-40-20-I-P-A	★ 8092064	ADN-S-40-20-A-P-A
	25	★ 5138610	ADN-S-40-25-I-P-A	★ 8092056	ADN-S-40-25-A-P-A
	30	★ 5138611	ADN-S-40-30-I-P-A	★ 8092061	ADN-S-40-30-A-P-A
	35	★ 5138612	ADN-S-40-35-I-P-A	★ 8092051	ADN-S-40-35-A-P-A
	40	★ 5138613	ADN-S-40-40-I-P-A	★ 8092059	ADN-S-40-40-A-P-A
	45	★ 5138614	ADN-S-40-45-I-P-A	★ 8092065	ADN-S-40-45-A-P-A
	50	★ 5138615	ADN-S-40-50-I-P-A	★ 8092054	ADN-S-40-50-A-P-A

Ordering data – With elastic cushioning rings/pads at both ends and recommended for production plants for manufacturing lithium-ion batteries

Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
40	With position sensing				
	5	★ 8142876	ADN-S-40-5-I-P-A-F1A	★ 8142886	ADN-S-40-5-A-P-A-F1A
	10	★ 8142877	ADN-S-40-10-I-P-A-F1A	★ 8142887	ADN-S-40-10-A-P-A-F1A
	15	★ 8142878	ADN-S-40-15-I-P-A-F1A	★ 8142888	ADN-S-40-15-A-P-A-F1A
	20	★ 8142879	ADN-S-40-20-I-P-A-F1A	★ 8142889	ADN-S-40-20-A-P-A-F1A
	25	★ 8142880	ADN-S-40-25-I-P-A-F1A	★ 8142890	ADN-S-40-25-A-P-A-F1A
	30	★ 8142881	ADN-S-40-30-I-P-A-F1A	★ 8142891	ADN-S-40-30-A-P-A-F1A
	35	★ 8142882	ADN-S-40-35-I-P-A-F1A	★ 8142892	ADN-S-40-35-A-P-A-F1A
	40	★ 8142883	ADN-S-40-40-I-P-A-F1A	★ 8142893	ADN-S-40-40-A-P-A-F1A
	45	★ 8142884	ADN-S-40-45-I-P-A-F1A	★ 8142894	ADN-S-40-45-A-P-A-F1A
	50	★ 8142885	ADN-S-40-50-I-P-A-F1A	★ 8142895	ADN-S-40-50-A-P-A-F1A

Data sheet

★ Core Range

Ordering data – With elastic cushioning rings/pads at both ends					
Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
50	With position sensing				
	5	★ 5138188	ADN-S-50-5-I-P-A	★ 8092081	ADN-S-50-5-A-P-A
	10	★ 5138189	ADN-S-50-10-I-P-A	★ 8092073	ADN-S-50-10-A-P-A
	15	★ 5138190	ADN-S-50-15-I-P-A	★ 8092085	ADN-S-50-15-A-P-A
	20	★ 5138191	ADN-S-50-20-I-P-A	★ 8092076	ADN-S-50-20-A-P-A
	25	★ 5138192	ADN-S-50-25-I-P-A	★ 8092075	ADN-S-50-25-A-P-A
	30	★ 5138193	ADN-S-50-30-I-P-A	★ 8092074	ADN-S-50-30-A-P-A
	35	★ 5138194	ADN-S-50-35-I-P-A	★ 8092071	ADN-S-50-35-A-P-A
	40	★ 5138195	ADN-S-50-40-I-P-A	★ 8092087	ADN-S-50-40-A-P-A
	45	★ 5138196	ADN-S-50-45-I-P-A	★ 8092079	ADN-S-50-45-A-P-A
	50	★ 5138197	ADN-S-50-50-I-P-A	★ 8092086	ADN-S-50-50-A-P-A

Ordering data – With elastic cushioning rings/pads at both ends and recommended for production plants for manufacturing lithium-ion batteries					
Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
50	With position sensing				
	5	★ 8142897	ADN-S-50-5-I-P-A-F1A	★ 8142907	ADN-S-50-5-A-P-A-F1A
	10	★ 8142898	ADN-S-50-10-I-P-A-F1A	★ 8142908	ADN-S-50-10-A-P-A-F1A
	15	★ 8142899	ADN-S-50-15-I-P-A-F1A	★ 8142909	ADN-S-50-15-A-P-A-F1A
	20	★ 8142900	ADN-S-50-20-I-P-A-F1A	★ 8142910	ADN-S-50-20-A-P-A-F1A
	25	★ 8142901	ADN-S-50-25-I-P-A-F1A	★ 8142911	ADN-S-50-25-A-P-A-F1A
	30	★ 8142902	ADN-S-50-30-I-P-A-F1A	★ 8142912	ADN-S-50-30-A-P-A-F1A
	35	★ 8142903	ADN-S-50-35-I-P-A-F1A	★ 8142913	ADN-S-50-35-A-P-A-F1A
	40	★ 8142904	ADN-S-50-40-I-P-A-F1A	★ 8142914	ADN-S-50-40-A-P-A-F1A
	45	★ 8142905	ADN-S-50-45-I-P-A-F1A	★ 8142915	ADN-S-50-45-A-P-A-F1A
	50	★ 8142906	ADN-S-50-50-I-P-A-F1A	★ 8142916	ADN-S-50-50-A-P-A-F1A

Data sheet

★ Core Range

Ordering data – With elastic cushioning rings/pads at both ends					
Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
63	With position sensing				
	5	★ 5132663	ADN-S-63-5-I-P-A	★ 8092130	ADN-S-63-5-A-P-A
	10	★ 5132664	ADN-S-63-10-I-P-A	★ 8092128	ADN-S-63-10-A-P-A
	15	★ 5132665	ADN-S-63-15-I-P-A	★ 8092135	ADN-S-63-15-A-P-A
	20	★ 5132666	ADN-S-63-20-I-P-A	★ 8092120	ADN-S-63-20-A-P-A
	25	★ 5132667	ADN-S-63-25-I-P-A	★ 8092121	ADN-S-63-25-A-P-A
	30	★ 5132668	ADN-S-63-30-I-P-A	★ 8092125	ADN-S-63-30-A-P-A
	35	★ 5132669	ADN-S-63-35-I-P-A	★ 8092133	ADN-S-63-35-A-P-A
	40	★ 5132670	ADN-S-63-40-I-P-A	★ 8092134	ADN-S-63-40-A-P-A
	45	★ 5132671	ADN-S-63-45-I-P-A	★ 8092138	ADN-S-63-45-A-P-A
	50	★ 5132672	ADN-S-63-50-I-P-A	★ 8092119	ADN-S-63-50-A-P-A

Ordering data – With elastic cushioning rings/pads at both ends and recommended for production plants for manufacturing lithium-ion batteries					
Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
63	With position sensing				
	5	★ 8142917	ADN-S-63-5-I-P-A-F1A	★ 8142927	ADN-S-63-5-A-P-A-F1A
	10	★ 8142918	ADN-S-63-10-I-P-A-F1A	★ 8142928	ADN-S-63-10-A-P-A-F1A
	15	★ 8142919	ADN-S-63-15-I-P-A-F1A	★ 8142929	ADN-S-63-15-A-P-A-F1A
	20	★ 8142920	ADN-S-63-20-I-P-A-F1A	★ 8142930	ADN-S-63-20-A-P-A-F1A
	25	★ 8142921	ADN-S-63-25-I-P-A-F1A	★ 8142931	ADN-S-63-25-A-P-A-F1A
	30	★ 8142922	ADN-S-63-30-I-P-A-F1A	★ 8142932	ADN-S-63-30-A-P-A-F1A
	35	★ 8142923	ADN-S-63-35-I-P-A-F1A	★ 8142933	ADN-S-63-35-A-P-A-F1A
	40	★ 8142924	ADN-S-63-40-I-P-A-F1A	★ 8142934	ADN-S-63-40-A-P-A-F1A
	45	★ 8142925	ADN-S-63-45-I-P-A-F1A	★ 8142935	ADN-S-63-45-A-P-A-F1A
	50	★ 8142926	ADN-S-63-50-I-P-A-F1A	★ 8142936	ADN-S-63-50-A-P-A-F1A

Data sheet

Ordering data – Without cushioning					
Piston \varnothing [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
6	Without position sensing				
	5	4886885	ADN-S-6-5-I	8080598	ADN-S-6-5-A
	10	4886886	ADN-S-6-10-I	8080596	ADN-S-6-10-A
	With position sensing				
	5	5173732	ADN-S-6-5-I-A	8080597	ADN-S-6-5-A-A
	10	5173733	ADN-S-6-10-I-A	8080595	ADN-S-6-10-A-A
10	Without position sensing				
	5	4887523	ADN-S-10-5-I	8080589	ADN-S-10-5-A
	10	4887524	ADN-S-10-10-I	8080588	ADN-S-10-10-A
	With position sensing				
	5	5177082	ADN-S-10-5-I-A	8080587	ADN-S-10-5-A-A
	10	5177085	ADN-S-10-10-I-A	8080590	ADN-S-10-10-A-A

Ordering data – Without cushioning and recommended for production plants for manufacturing lithium-ion batteries					
Piston \varnothing [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Type	Part no.	Type
6	Without position sensing				
	5	8142509	ADN-S-6-5-I-F1A	8142513	ADN-S-6-5-A-F1A
	10	8142510	ADN-S-6-10-I-F1A	8142514	ADN-S-6-10-A-F1A
	With position sensing				
	5	8142511	ADN-S-6-5-I-A-F1A	8142515	ADN-S-6-5-A-A-F1A
	10	8142512	ADN-S-6-10-I-A-F1A	8142516	ADN-S-6-10-A-A-F1A
10	Without position sensing				
	5	8142518	ADN-S-10-5-I-F1A	8142522	ADN-S-10-5-A-F1A
	10	8142519	ADN-S-10-10-I-F1A	8142523	ADN-S-10-10-A-F1A
	With position sensing				
	5	8142520	ADN-S-10-5-I-A-F1A	8142517	ADN-S-10-5-A-A-F1A
	10	8142521	ADN-S-10-10-I-A-F1A	8142524	ADN-S-10-10-A-A-F1A

Type codes

001	Series
AEN-S	Compact cylinder, single-acting

002	Design type
S	Short

003	Piston diameter
6	6
10	10
12	12
16	16
20	20
25	25
32	32
40	40
50	50
63	63

004	Stroke
5	5
10	10
25	25

005	Piston rod thread type
A	Male thread
I	Female thread

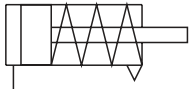
006	Cushioning
P	Elastic cushioning rings/plates on both sides

007	Position sensing
	None
A	For proximity sensor

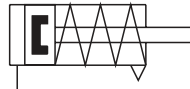
Data sheet

Function

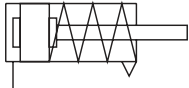
AEN-S



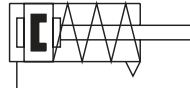
AEN-S-...-A



AEN-S-...-P



AEN-S-...-P-A



⌀ - Diameter
6 ... 63 mm

l - Stroke length
5 ... 25 mm

General technical data

Piston ⌀	6	10	12	16	20	25	32	40	50	63	
Design	Piston										
	Piston rod										
Mode of operation	Single-acting										
	Pushing										
Piston rod end	Male thread										
	Female thread										
Pneumatic connection	M3				M5				G1/8		
Stroke [mm]	5, 10				5, 10, 25				10, 25		
Cushioning	-				Elastic cushioning rings/pads at both ends						
Position sensing	Via proximity switch										
Type of mounting	With through-hole										
	-				With female thread						
	-				With accessories						
Mounting position	Any										

Operating and environmental conditions

Piston ⌀	6	10	12	16	20	25	32	40	50	63
Operating pressure ¹⁾										
	[MPa]	0.25 ... 0.8	0.15 ... 0.8	0.15 ... 1		0.1 ... 1				
	[bar]	2.5 ... 8	1.5 ... 8	1.5 ... 10		1 ... 10				
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]									
Information on the operating medium	Lubricated operation possible (in which case lubricated operation will always be required)									
Ambient temperature ²⁾ [°C]	-10 ... +60			0 ... +60						
Corrosion resistance class CRC ³⁾	2									

1) The minimum pressure values in the retracting direction may be slightly higher after an extended idle time.

2) Note operating range of proximity switches.

3) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Data sheet

Forces [N] and impact energy [J]										
Piston ø	6	10	12	16	20	25	32	40	50	63
Theoretical force at 0.6 MPa (6 bar), advancing	13	42	60	95	162	259	439	700	1106	1780
Theoretical force at 0.6 MPa (6 bar), retracting	See "Theoretical spring force for retraction"									
Impact energy in the end positions										
AEN-S	0.006	0.012	0.022	0.038	0.055	0.09	0.18	–		
AEN-S-...A	0.006	0.012	0.022	0.038	0.055	0.3	0.4	0.7	1	1.3

Weights [g]		
Piston ø	6	10
Product weight		
with 5 mm stroke	9.2/10.9 ¹⁾	12.2/17 ¹⁾
with 10 mm stroke	11.9/15 ¹⁾	15.4/19 ¹⁾
Moving mass		
with 5 mm stroke	1.5/1.6 ¹⁾	4.1/4.5 ¹⁾
with 10 mm stroke	2.3/2.4 ¹⁾	5.3/5.7 ¹⁾

1) With position sensing

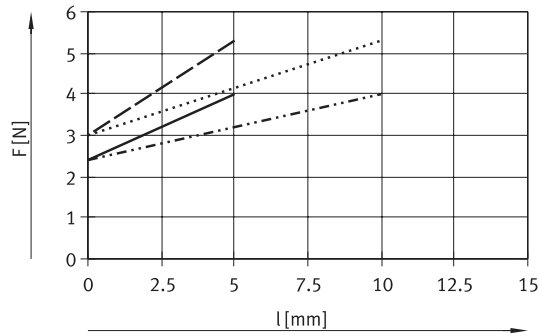
Weights [g]								
Piston ø	12	16	20	25	32	40	50	63
Product weight with 0 mm stroke	26/33 ¹⁾	32.5/42 ¹⁾	51/65 ¹⁾	70/88 ¹⁾	107/117 ¹⁾	304 ¹⁾	324 ¹⁾	499 ¹⁾
Additional weight per 10 mm stroke	15/15 ¹⁾	18/18 ¹⁾	26/26 ¹⁾	30/30 ¹⁾	36/36 ¹⁾	45 ¹⁾	63 ¹⁾	77 ¹⁾
Moving mass with 0 mm stroke								
Additional mass per 10 mm stroke	3.5/6 ¹⁾	6/11 ¹⁾	11/18 ¹⁾	17/25 ¹⁾	31/37 ¹⁾	62 ¹⁾	104 ¹⁾	151 ¹⁾

1) With position sensing

Data sheet

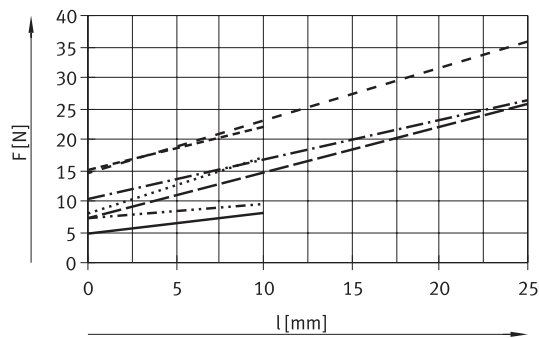
Theoretical spring force for retraction

∅ 6 ... 10



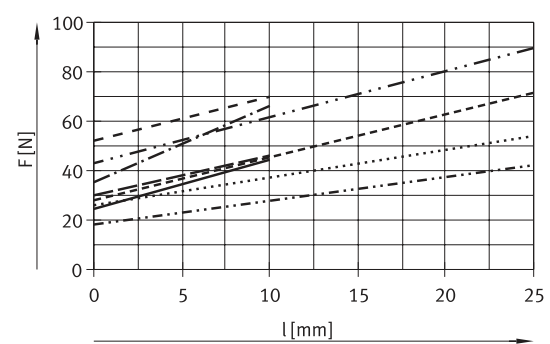
- AEN-S-6-5
- AEN-S-6-10
- - - AEN-S-10-5
- · - · AEN-S-10-10

∅ 12 ... 25



- AEN-S-12-5/10
- AEN-S-16-5/10
- - - AEN-S-16-25
- · - · AEN-S-20-5/10
- · - · AEN-S-20-25
- - - AEN-S-25-5/10
- - - AEN-S-25-25

∅ 32 ... 63



- AEN-S-32-5/10
- AEN-S-32-25
- - - AEN-S-40-5/10
- · - · AEN-S-40-25
- · - · AEN-S-50-10
- - - AEN-S-50-25
- - - AEN-S-63-10
- - - AEN-S-63-25

Note

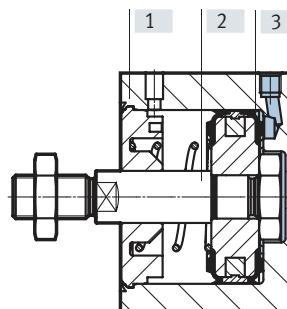
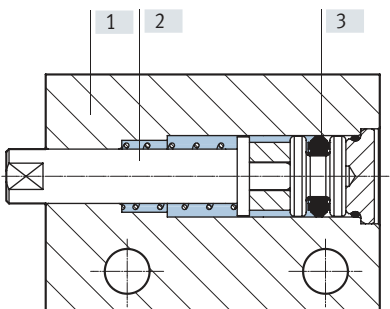
The degree of friction depends on the mounting position and the Type of load involved. Single-acting cylinders should as far as possible be operated without transverse loads.

Materials

Sectional view

∅ 6 ... 10

∅ 12 ... 63



Compact cylinders

[1]	Housing	Anodised wrought aluminium alloy
[2]	Piston rod	High-alloy stainless steel
[3]	Seals	NBR, TPE-U(PU)
-	Note on materials	RoHS-compliant
-	PWIS conformity	VDMA24364-B2-L

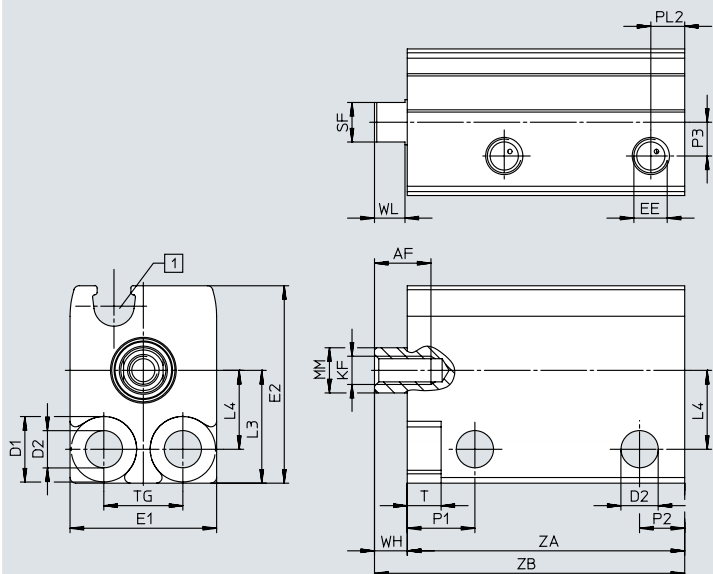
Data sheet

Dimensions

Download CAD data → www.festo.com

∅ 6 ... 10

With female thread



[1] C-slot for proximity switch

∅ [mm]	AF min.	D1 ∅ H13	D2 ∅	EE	E1 max.	E2 max.	KF	L3	L4	MM ∅
6	5	5.8	3.3	M3	13	17.5	M2.5	10	7	4
10	6				13.5	20.5	M3	11	8	6

∅ [mm]	P1	P2	P3	PL2	SF	T	TG ±0.1	WH	WL
6	6	4	3	3	3.5	3	7	3	2.7
10			3.2		5				

∅ [mm]	Stroke [mm]	Position sensing	ZA +0.3	ZB ±0.35
6	5	—	20.5	23.5
		■	24.5	27.5
	10	—	25.5	28.5
		■	29.5	32.5
10	5	—	20.5	23.5
		■	24.5	27.5
	10	—	25.5	28.5
		■	29.5	32.5

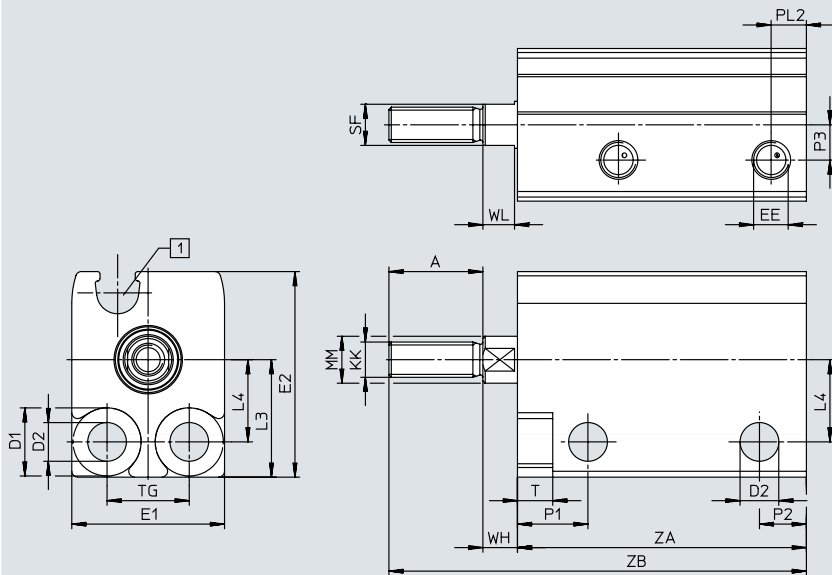
Data sheet

Dimensions

 Download CAD data → www.festo.com

∅ 6 ... 10

With male thread



[1] C-slot for proximity switch

∅	A	D1 ∅ H13	D2 ∅	EE	E1	E2	KK	L3	L4	MM ∅
6	8	5.8	3.3	M3	max. 13	max. 17.5	M3	10	7	4
10	10				max. 13.5	max. 20.5	M4	11	8	6

∅	P1	P2	P3	PL2	SF	T	TG	WH	WL
6	6	4	3	3	3.5	3	±0.1 7	3	2.7
10			3.2		5				

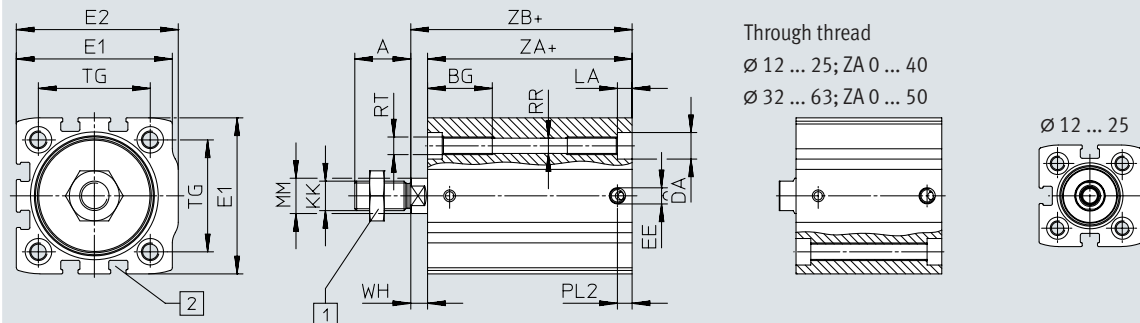
∅	Stroke [mm]	Position sensing	ZA +0.3	ZB ±0.35
6	5	—	20.5	31.5
		■	24.5	35.5
	10	—	25.5	36.5
		■	29.5	40.5
10	5	—	20.5	33.5
		■	24.5	37.5
	10	—	25.5	38.5
		■	29.5	42.5

Data sheet

Dimensions

Download CAD data → www.festo.com

∅ 12 ... 63



* = plus stroke length

[1] Hex nut DIN 439-B only from ∅ 32 upwards

[2] T-slot for proximity switch

∅	A	BG	DA ∅	E1	E2	EE	KK
[mm]	-0.5	min.	F9				
12	10	19	6	27±0.15	27.5±0.15	M5	M5
16	12	19	6	29±0.15	30±0.15	M5	M6
20	16	20	7.5	34.5±0.15	35.5±0.15	M5	M8
25	16	20	7.5	38.5±0.15	39.5±0.15	M5	M8
32	19	22	9	45±0.15	47±0.15	M5	M10x1.25
40	19	22	9	53±0.15	55±0.15	M5	M10x1.25
50	22	23	11	63±0.2	66±0.2	G1/8	M12x1.25
63	22	23	11	75±0.2	78.5±0.2	G1/8	M12x1.25

∅	LA	MM ∅	PL2	RR ∅	RT	TG	WH
[mm]	±0.1	h8					+1
12	3.5	6	5	3.5	M4	16	2.5
16	3.5	8	5	3.5	M4	18	3
20	5	10	5	4.2	M5	22	3
25	5	10	5	4.2	M5	26	3.5
32	5	12	5	5.2	M6	32.5	4
40	5	12	5	5.2	M6	38	5
50	5	16	7.5	6.8	M8	46.5	7
63	5	16	8	6.8	M8	56.5	7

Data sheet

For ø [mm]	Stroke [mm]	Position sensing	ZA	ZB
			+0.2	+1.2
12	5	–	20.5	23
		■	24.5	27
	10	–	25.5	28
		■	29.5	32
16	5	–	21	24
		■	25.5	28.5
	10	–	26	29
		■	30.5	33.5
	25	–	43	46
		■	48.5	51.5
20	5	–	22.5	25.5
		■	27	30
	10	–	27.5	30.5
		■	32	35
	25	–	45.5	48.5
		■	50	53
25	5	–	24	27.5
		■	28.5	32
	10	–	29	32.5
		■	33.5	37
	25	–	47	50.5
		■	51.5	55
32	5	–	26.5	30.5
		■	30	34
	10	–	31.5	35.5
		■	35	39
	25	–	49.5	53.5
		■	53	57
40	5	–	31	36
		■	34.5	39.5
	10	–	36	41
		■	39.5	44.5
	25	–	54	59
		■	57.5	62.5
50	10	–	39	46
		■	42	49
	25	–	56.5	63.5
		■	60	67
63	10	–	42	49
		■	45	52
	25	–	59.5	66.5
		■	62.5	69.5

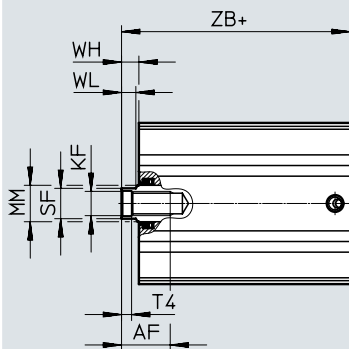
Data sheet

Dimensions

Download CAD data → www.festo.com

∅ 12 ... 63

With female thread



* = plus stroke length

∅	AF	KF	MM ∅	SF	T4	WH	WL
[mm]	min.		h8	h13		+1	-0.15
12	8	M3	6	5	1.5	2.5	2.7
16	10	M4	8	7	1.5	3	3.5
20	11	M6	10	9	2.6	3	4
25	11	M6	10	9	2.6	3.5	4.2
32	12	M8	12	10	3.3	4	4.7
40	16	M8	12	10	3.3	5	4.7
50	16	M10	16	13	4.7	7	6.5
63	20	M10	16	13	4.7	7	6.5

Data sheet

For ø [mm]	Stroke [mm]	Position sensing	ZB +1.2
12	5	–	23
		■	27
	10	–	28
		■	32
16	5	–	24
		■	28.5
	10	–	29
		■	33.5
	25	–	46
		■	51.5
20	5	–	25.5
		■	30
	10	–	30.5
		■	35
	25	–	48.5
		■	53
25	5	–	27.5
		■	32
	10	–	32.5
		■	37
	25	–	50.5
		■	55
32	5	–	30.5
		■	34
	10	–	35.5
		■	39
	25	–	53.5
		■	57
40	5	–	36
		■	39.5
	10	–	41
		■	44.5
	25	–	59
		■	62.5
50	10	–	46
		■	49
	25	–	63.5
		■	67
63	10	–	49
		■	52
	25	–	66.5
		■	69.5

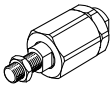
Data sheet

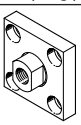
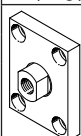
Ordering data – Without cushioning					
Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Typee	Part no.	Typee
6	Without position sensing				
	5	4984929	AEN-S-6-5-I	8080593	AEN-S-6-5-A
	10	4984930	AEN-S-6-10-I	8080594	AEN-S-6-10-A
	With position sensing				
	5	5267300	AEN-S-6-5-I-A	8080591	AEN-S-6-5-A-A
	10	5267301	AEN-S-6-10-I-A	8080592	AEN-S-6-10-A-A
10	Without position sensing				
	5	4891759	AEN-S-10-5-I	8080583	AEN-S-10-5-A
	10	4891760	AEN-S-10-10-I	8080586	AEN-S-10-10-A
	With position sensing				
	5	5269268	AEN-S-10-5-I-A	8080584	AEN-S-10-5-A-A
	10	5269269	AEN-S-10-10-I-A	8080585	AEN-S-10-10-A-A
Ordering data – With elastic cushioning rings/pads at both ends					
Piston ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Typee	Part no.	Typee
12	Without position sensing				
	5	8076479	AEN-S-12-5-I-P	8092150	AEN-S-12-5-A-P
	10	8076476	AEN-S-12-10-I-P	8092149	AEN-S-12-10-A-P
	With position sensing				
	5	8076475	AEN-S-12-5-I-P-A	8092152	AEN-S-12-5-A-P-A
	10	8076477	AEN-S-12-10-I-P-A	8092151	AEN-S-12-10-A-P-A
16	Without position sensing				
	5	8076496	AEN-S-16-5-I-P	8092144	AEN-S-16-5-A-P
	10	8076492	AEN-S-16-10-I-P	8092143	AEN-S-16-10-A-P
	25	8076497	AEN-S-16-25-I-P	8092140	AEN-S-16-25-A-P
	With position sensing				
	5	8076495	AEN-S-16-5-I-P-A	8092142	AEN-S-16-5-A-P-A
10	8076493	AEN-S-16-10-I-P-A	8092139	AEN-S-16-10-A-P-A	
25	8076494	AEN-S-16-25-I-P-A	8092141	AEN-S-16-25-A-P-A	
20	Without position sensing				
	5	8076501	AEN-S-20-5-I-P	8092220	AEN-S-20-5-A-P
	10	8076499	AEN-S-20-10-I-P	8092219	AEN-S-20-10-A-P
	25	8076503	AEN-S-20-25-I-P	8092224	AEN-S-20-25-A-P
	With position sensing				
	5	8076502	AEN-S-20-5-I-P-A	8092222	AEN-S-20-5-A-P-A
10	8076498	AEN-S-20-10-I-P-A	8092221	AEN-S-20-10-A-P-A	
25	8076500	AEN-S-20-25-I-P-A	8092223	AEN-S-20-25-A-P-A	
25	Without position sensing				
	5	8076509	AEN-S-25-5-I-P	8092182	AEN-S-25-5-A-P
	10	8076507	AEN-S-25-10-I-P	8092179	AEN-S-25-10-A-P
	25	8076504	AEN-S-25-25-I-P	8092180	AEN-S-25-25-A-P
	With position sensing				
	5	8076506	AEN-S-25-5-I-P-A	8092177	AEN-S-25-5-A-P-A
10	8076505	AEN-S-25-10-I-P-A	8092178	AEN-S-25-10-A-P-A	
25	8076508	AEN-S-25-25-I-P-A	8092181	AEN-S-25-25-A-P-A	

Data sheet/accessories

Ordering data – With elastic cushioning rings/pads at both ends					
Piston \varnothing [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
		Part no.	Typee	Part no.	Typee
32	Without position sensing				
	5	8076512	AEN-S-32-5-I-P	8092167	AEN-S-32-5-A-P
	10	8076510	AEN-S-32-10-I-P	8092164	AEN-S-32-10-A-P
	25	8076514	AEN-S-32-25-I-P	8092163	AEN-S-32-25-A-P
	With position sensing				
	5	8076511	AEN-S-32-5-I-P-A	8092165	AEN-S-32-5-A-P-A
10	8076515	AEN-S-32-10-I-P-A	8092166	AEN-S-32-10-A-P-A	
25	8076513	AEN-S-32-25-I-P-A	8092168	AEN-S-32-25-A-P-A	
40	With position sensing				
	5	5149290	AEN-S-40-5-I-P-A	8092162	AEN-S-40-5-A-P-A
	10	5149291	AEN-S-40-10-I-P-A	8092161	AEN-S-40-10-A-P-A
	25	5149292	AEN-S-40-25-I-P-A	8092160	AEN-S-40-25-A-P-A
50	With position sensing				
	10	5137803	AEN-S-50-10-I-P-A	8092153	AEN-S-50-10-A-P-A
	25	5137804	AEN-S-50-25-I-P-A	8092154	AEN-S-50-25-A-P-A
63	With position sensing				
	10	5132651	AEN-S-63-10-I-P-A	8092148	AEN-S-63-10-A-P-A
	25	5132652	AEN-S-63-25-I-P-A	8092146	AEN-S-63-25-A-P-A

Accessories

Ordering data – Piston rod attachments				Data sheets → Internet: piston rod attachment
Designation	For \varnothing	Part no.	Typee	
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	

Ordering data – Piston rod attachments				Data sheets → Internet: piston rod attachment
Designation	For \varnothing	Part no.	Typee	
Coupling piece KSG				
	32, 40	32963	KSG-M10x1.25	
	50, 63	32964	KSG-M12x1.25	
Coupling piece KSZ				
	32, 40	36125	KSZ-M10x1.25	
	50, 63	36126	KSZ-M12x1.25	

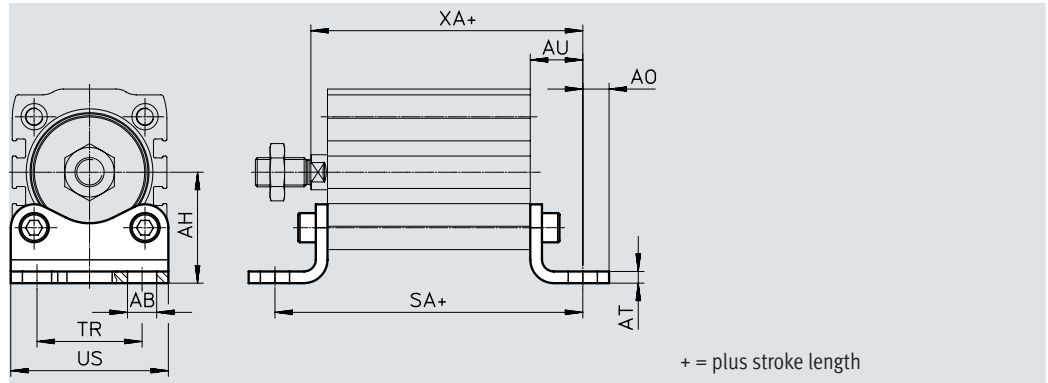
Accessories

Foot mounting HNA

Material:

Galvanised steel

RoHS-compliant



Dimensions and ordering data

For \varnothing [mm]	AB \varnothing H14	AH JS14	AO	AT ± 0.5	AU ± 0.2	SA ²⁾		TR ± 0.2	US -0.5	XA ²⁾		CRC ¹⁾	Weight [g]	Basic version	
						+0.2	[A] +0.2			+1.2	[A] +1.2			Part no.	Typee
12	5.8	21	5	3	13	41.5	45.5	16	26	31	35	1	39	537237	HNA-12
16	5.8	22	4.75	3	13	42	46.5	18	27.5	32	36.5	1	42	537238	HNA-16
20	7	27	6.25	4	16	49.5	54	22	34.5	36.5	41	1	84	537239	HNA-20
25	7	29	6.25	4	16	51	55.5	26	38.5	38.5	43	1	90	537240	HNA-25
32	7	33.5	7	4	16	53.5	57	32	46	41.5	45	1	123	537241	HNA-32
40	10	38	9	4	18	62	65.5	36	54	49	52.5	1	157	537242	HNA-40
50	10	45	8	5	21	71	74	45	64	57	60	1	278	537243	HNA-50
63	10	50	8	5	21	74	77	50	75	60	63	1	328	537244	HNA-63

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. Dry indoor application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

2) Deviating dimensions in the case of strokes 5, 10 and 25 → page 35

Accessories

For ø [mm]	Stroke [mm]	Position sensing	SA	XA
			+0.2	+1.2
12	5	–	46.5	36
		■	50.5	40
	10	–	51.5	41
		■	55.5	45
16	5	–	47	37
		■	51.5	41.5
	10	–	52	42
		■	56.5	46.5
	25	–	69	59
		■	74.5	64.5
20	5	–	54.5	41.5
		■	59	46
	10	–	59.5	46.5
		■	64	51
	25	–	77.5	64.5
		■	82	69
25	5	–	56	43.5
		■	60.5	48
	10	–	61	48.5
		■	65.5	53
	25	–	79	66.5
		■	83.5	71
32	5	–	58.5	46.5
		■	62	50
	10	–	63.5	51.5
		■	67	55
	25	–	81.5	69.5
		■	85	73
40	5	–	67	54
		■	70.5	57.5
	10	–	72	59
		■	75.5	62.5
	25	–	90	77
		■	93.5	80.5
50	10	–	81	67
		■	84	70
	25	–	98.5	84.5
		■	102	88
63	10	–	84	70
		■	87	73
	25	–	101.5	87.5
		■	104.5	90.5

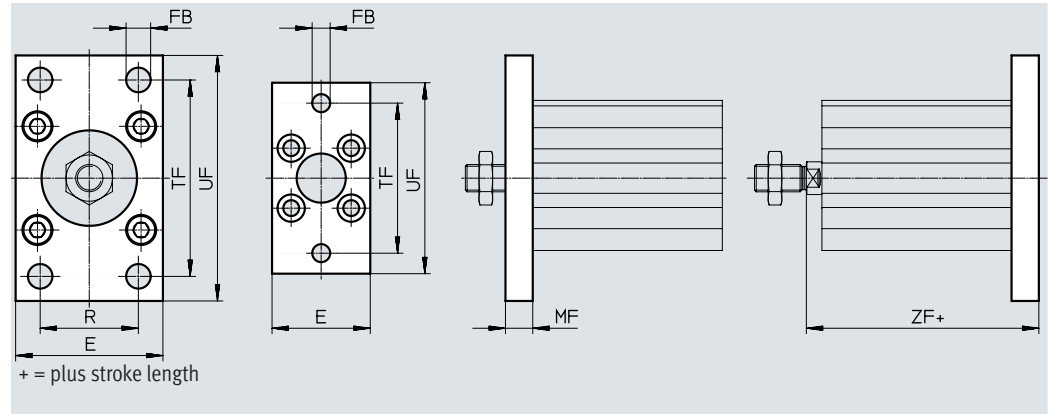
Accessories

Flange mounting FNC

Material:

Galvanised steel

RoHS-compliant



Dimensions and ordering data

For \varnothing [mm]	E	FB \varnothing	MF	R	TF	UF ± 1	ZF ²⁾		Basic version			
							+0.2	[A] +0.2	CRC ¹⁾	Weight [g]	Part no.	Type
12	28	5.5	8	–	40	50	26	30	1	79	537245	FNC-12
16	29	5.5	8	–	43	55	27	31.5	1	88	537246	FNC-16
20	36	6.6	8	–	55	70	28.5	33	1	141	537247	FNC-20
25	40	6.6	8	–	60	76	30.5	35	1	165	537248	FNC-25
32	45	7	10	32	64	80	35.5	39	1	221	★ 174376	FNC-32
40	54	9	10	36	72	90	41	44.5	1	291	★ 174377	FNC-40
50	65	9	12	45	90	110	48	51	1	536	★ 174378	FNC-50
63	75	9	12	50	100	120	51	54	1	679	★ 174379	FNC-63

1) Corrosion resistance class CRC 1 to Festo standard FN 940070



Low corrosion stress. Dry indoor application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

2) Deviating dimensions in the case of strokes 5, 10 and 25 → page 1


Accessories



For ø [mm]	Stroke [mm]	Position sensing	ZF +0.2
12	5	–	31
		■	35
	10	–	36
		■	40
16	5	–	32
		■	36.5
	10	–	37
		■	41.5
	25	–	54
		■	59.5
20	5	–	33.5
		■	38
	10	–	38.5
		■	43
	25	–	56.5
		■	61
25	5	–	35.5
		■	40
	10	–	40.5
		■	45
	25	–	58.5
		■	63
32	5	–	40.5
		■	44
	10	–	45.5
		■	49
	25	–	63.5
		■	67
40	5	–	46
		■	49.5
	10	–	51
		■	54.5
	25	–	69
		■	72.5
50	10	–	58
		■	61
	25	–	75.5
		■	79
63	10	–	61
		■	64
	25	–	78.5
		■	81.5

Accessories

Ordering data – One-way flow control valves					Data sheets → Internet: grla	
	Connection for \varnothing	for tubing O.D.	Material	Part no.	Typee	
For exhaust air						
	6, 10	3	Metal design	175041	GRLA-M3-QS-3	
	12, 16, 20, 25, 32, 40	3		★ 193137	GRLA-M5-QS-3-D	
		4		★ 193138	GRLA-M5-QS-4-D	
		6		★ 193139	GRLA-M5-QS-6-D	
		3		★ 193142	GRLA-1/8-QS-3-D	
	50, 63	4		★ 193143	GRLA-1/8-QS-4-D	
		6		★ 193144	GRLA-1/8-QS-6-D	
		8		★ 193145	GRLA-1/8-QS-8-D	
	For supply air					
	6, 10	3	Metal design	175043	GRLZ-M3-QS-3	
	12, 16, 20, 25, 32, 40	3		★ 193153	GRLZ-M5-QS-3-D	
		4		★ 193154	GRLZ-M5-QS-4-D	
		6		★ 193155	GRLZ-M5-QS-6-D	
		3		★ 193156	GRLZ-1/8-QS-3-D	
	50, 63	4		★ 193157	GRLZ-1/8-QS-4-D	
		6		★ 193158	GRLZ-1/8-QS-6-D	
		8		★ 193159	GRLZ-1/8-QS-8-D	

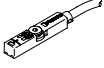
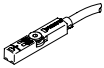
Proximity switches for piston \varnothing 6 ... 10

Ordering data – Proximity switches for C-slot, magneto-resistive					Data sheets → Internet: smt	
	Type of mounting	Switching output	Electrical connection, outlet direction of connection	Cable length [m]	Part no.	Typee
N/O contact						
	Inserted in the slot from above	PNP	Plug M8x1, 3-pin, in-line	0.3	★ 551375	SMT-10M-PS-24V-E-0.3-L-M8D
			Cable, 3-wire, in-line	2.5	★ 551373	SMT-10M-PS-24V-E-2.5-L-OE
		NPN	Plug M8x1, 3-pin, in-line	0.3	★ 551379	SMT-10M-NS-24V-E-0.3-L-M8D
			Cable, 3-wire, in-line	2.5	★ 551377	SMT-10M-NS-24V-E-2.5-L-OE



Ordering data – Connecting cables					Data sheets → Internet: nebu	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Typee	
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	★ 541333	NEBU-M8G3-K-2.5-LE3	
			5	★ 541334	NEBU-M8G3-K-5-LE3	
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	★ 541338	NEBU-M8W3-K-2.5-LE3	
			5	★ 541341	NEBU-M8W3-K-5-LE3	

Accessories

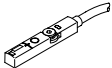
Proximity switches for piston \varnothing 12 ... 63

Ordering data – Proximity switches for T-slot, magneto-resistive							Data sheets → Internet: smt
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Typee	
N/O contact							
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	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	
		NPN	Cable, 3-wire	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 contact							
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	7.5	★ 574340	SMT-8M-A-PO-24V-E-7.5-OE	



Ordering data – Connecting cables

Ordering data – Connecting cables						Data sheets → Internet: nebu
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Typee	
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	★ 541333	NEBU-M8G3-K-2.5-LE3	
			5	★ 541334	NEBU-M8G3-K-5-LE3	
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	★ 541338	NEBU-M8W3-K-2.5-LE3	
			5	★ 541341	NEBU-M8W3-K-5-LE3	



Position transmitters for piston \varnothing 12 ... 63

Ordering data – Position transmitters for T-slot							Data sheets → Internet: sdas
	Position measuring range	Description	Type of mounting	Electrical connection	Cable length [m]	Part no.	Typee
	Depends on the piston \varnothing	Choice of two operating modes: • Two adjustable switching outputs • IO-Link	Inserted in the slot from above	Plug M8x1, 4-pin, in-line	0.3	8063974	SDAS-MHS-M40-1L-PNLK-PN-E-0.3-M8
				Cable, open end	2.5	8063975	SDAS-MHS-M40-1L-PNLK-PN-E-2.5-LE

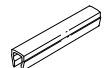
Ordering data – Position transmitters for T-slot

Ordering data – Position transmitters for T-slot						Data sheets → Internet: position transmitter		
	Position measuring range	Analogue output [V]	[mA]	Type of mounting	Electrical connection	Cable length [m]	Part no.	Typee
	0 ... 50	–	4 ... 20	Inserted in the slot from above	Plug M8x1, 4-pin, in-line	0.3	1531265	SDAT-MHS-M50-1L-SA-E-0.3-M8
	0 ... 40	0 ... 10	–	Inserted in the slot from above	Plug M8x1, 4-pin, in-line	0.3	553744	SMAT-8M-U-E-0.3-M8D

Ordering data – Connecting cables

Ordering data – Connecting cables						Data sheets → Internet: nebu
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Typee	
	Straight socket, M8x1, 4-pin	Cable, open end, 4-wire	2.5	541342	NEBU-M8G4-K-2.5-LE4	
			5	541343	NEBU-M8G4-K-5-LE4	
	Angled socket, M8x1, 4-pin	Cable, open end, 4-wire	2.5	541344	NEBU-M8W4-K-2.5-LE4	
			5	541345	NEBU-M8W4-K-5-LE4	

Ordering data – Slot cover for T-slot

Ordering data – Slot cover for T-slot				Data sheets → Internet: abp
	Mounting	Length	Part no.	Typee
	Insertable	2x 0.5 m	151680	ABP-5-S

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