

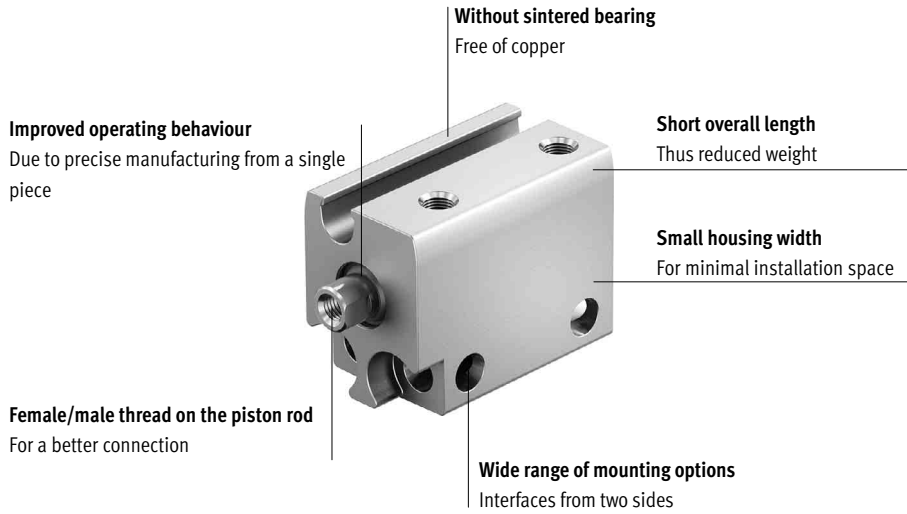
Compact cylinders ADN-S, AEN-S



## Compact cylinders ADN-S, AEN-S

Key features

### At a glance

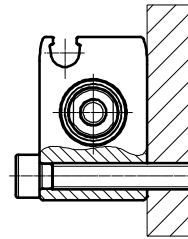
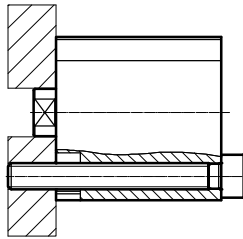
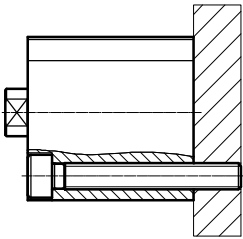


### Mounting options

From the front

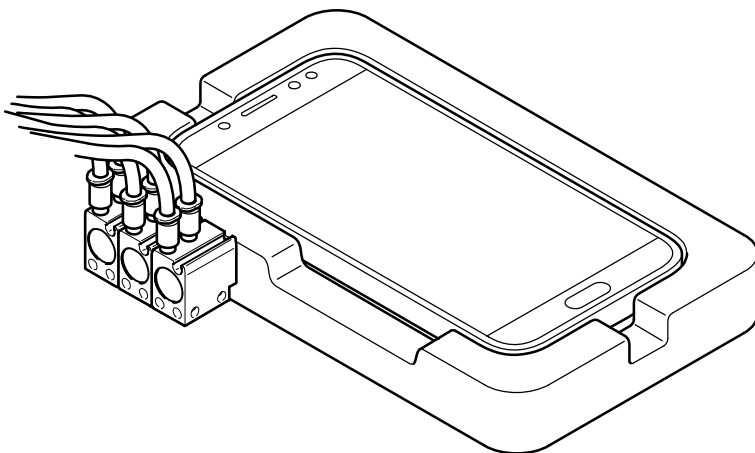
From the rear

Side



### Application example

Long term tests of smartphone keys



## Compact cylinders ADN-S, double-acting

Type codes

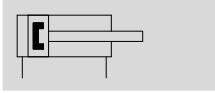
ADN - S - 6 - 10 - A - A


Type code	
Double-acting	
ADN	Compact cylinder
Type	
S	Short
Piston Ø [mm]	
6	6 mm
10	10 mm
Stroke [mm]	
5	5 mm
10	10 mm
Piston rod thread	
A	Male thread
I	Female thread
Position sensing	
-	None
A	Via proximity sensor

# Compact cylinders ADN-S

Technical data

Function



 Diameter  
6, 10 mm

 Stroke length  
5, 10 mm



General technical data	
Design	Piston Piston rod
Mode of operation	Double-acting
Piston rod end	Male thread Female thread
Pneumatic connection	M3
Stroke [mm]	5, 10
Cushioning	None
Position sensing	Via proximity sensor
Type of mounting	Via through-hole
Mounting position	Optional

Operating and environmental conditions		
Piston Ø	6	10
Operating medium	Compressed air according to ISO 8573-1:2010 [7:4:4]	
Note on the operating medium	Lubricated operation possible (is then required for further operation)	
Operating pressure <sup>1)</sup> [bar]	1.5 ... 8	1 ... 8
Ambient temperature <sup>2)</sup> [°C]	-10 ... +60	
Corrosion resistance class CRC <sup>3)</sup>	1	

1) After a longer downtime, the minimum pressure in the retracting direction may be slightly higher.

2) Note operating range of proximity sensors

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

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

Weight [g]		
Piston Ø	6	10
Product weight		
With 5 mm stroke	9.2/10.9 <sup>1)</sup>	12.2/14.5 <sup>1)</sup>
With 10 mm stroke	11.9/13.6 <sup>1)</sup>	15.4/17.7 <sup>1)</sup>
Moving mass		
With 5 mm stroke	1.5/1.6 <sup>1)</sup>	4.1/4.5 <sup>1)</sup>
With 10 mm stroke	2.3/2.4 <sup>1)</sup>	5.3/5.7 <sup>1)</sup>

1) With position sensing

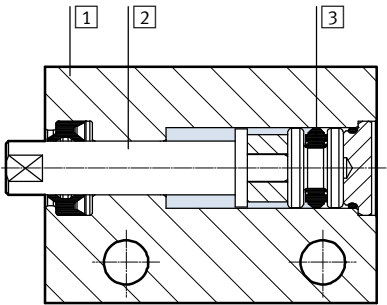
# Compact cylinders ADN-S

Technical data

Forces [N] and impact energy [J]		
Piston $\varnothing$	6	10
Theoretical force at 6 bar, advancing	17	47
Theoretical force at 6 bar, retracting	9.4	30.2
Impact energy at the end positions	0.006	0.012

## Materials

Sectional view



Compact cylinder		
1	Housing	Anodised wrought aluminium alloy
2	Piston rod	High-alloy stainless steel
3	Seals	NBR, TPE-U(PU)
-	Note on materials	RoHS-compliant

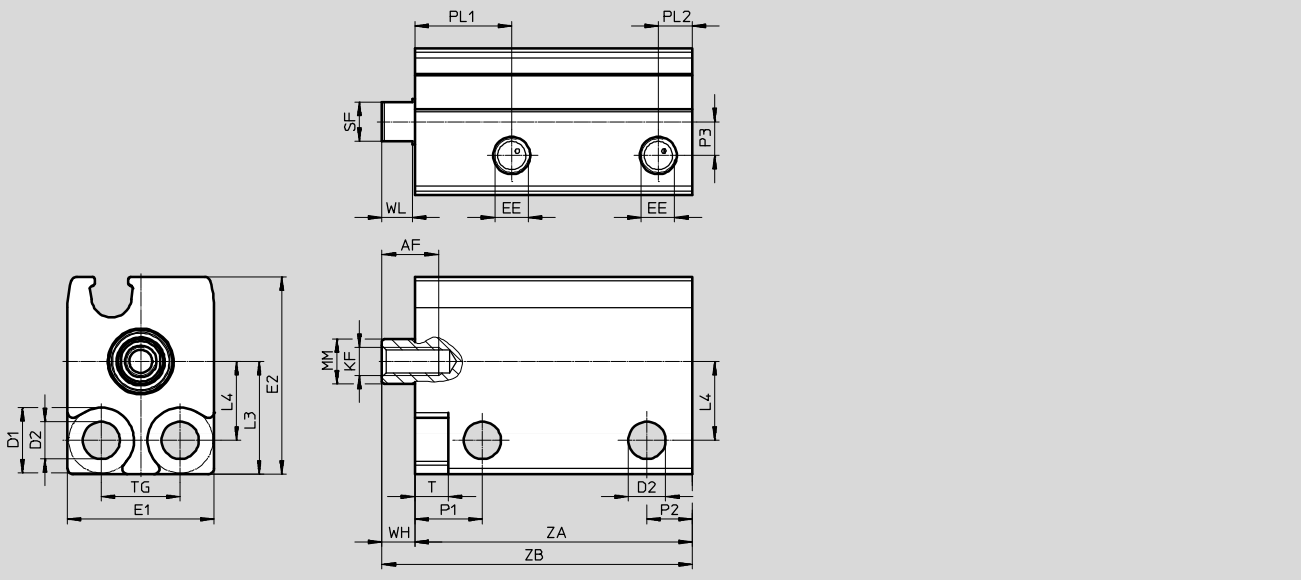
# Compact cylinders ADN-S

Technical data

**Dimensions**

Download CAD data → [www.festo.com](http://www.festo.com)

With female thread



∅	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	ST	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

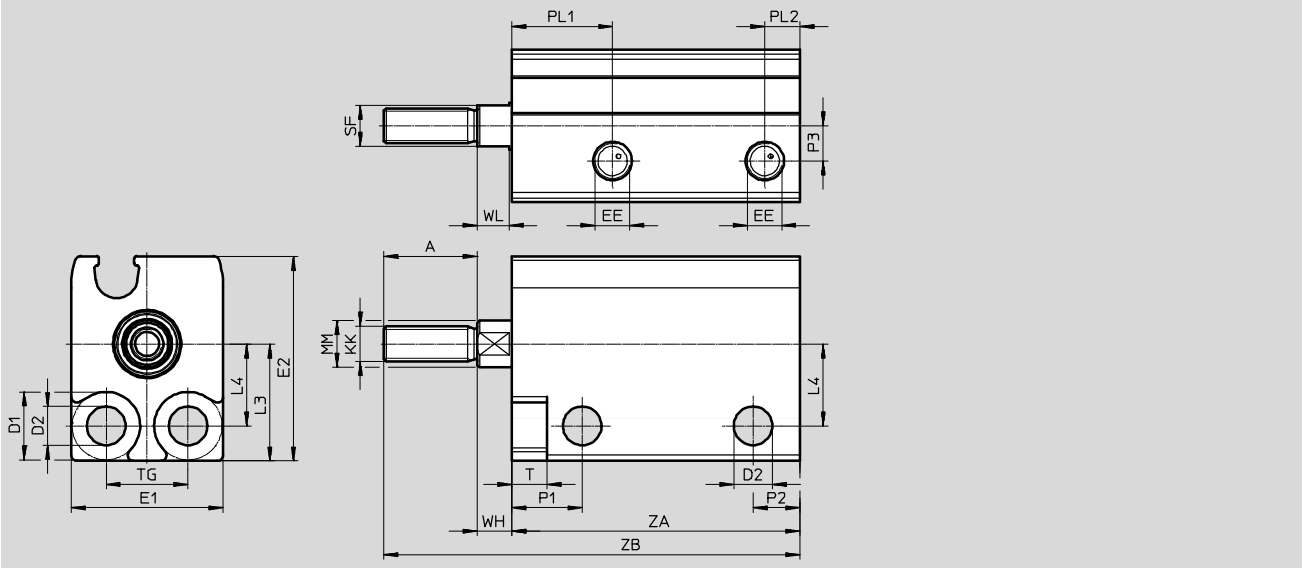
# Compact cylinders ADN-S

Technical data

**Dimensions**

Download CAD data → [www.festo.com](http://www.festo.com)

With male thread




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

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

∅	Stroke [mm]	Position sensing	PL1	ZA +0.3	ZB +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

# Compact cylinders ADN-S

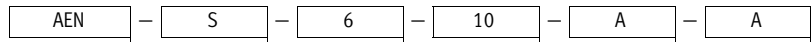
Technical data

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



# Compact cylinders AEN-S, single-acting

Type codes



Type	
Single-acting	
AEN	Compact cylinder

Type	
S	Short

Piston Ø [mm]	
6	6 mm
10	10 mm

Stroke [mm]	
5	5 mm
10	10 mm

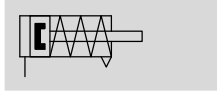
Piston rod thread	
A	Male thread
I	Female thread


Position sensing	
-	None
A	Via proximity sensor


# Compact cylinders AEN-S

Technical data

Function



 Diameter  
6, 10 mm

 Stroke length  
5, 10 mm



General technical data	
Design	Piston Piston rod
Mode of operation	Single-acting Pushing
Piston rod end	Male thread Female thread
Pneumatic connection	M3
Stroke [mm]	5, 10
Cushioning	None
Position sensing	Via proximity sensor
Type of mounting	Via through-hole
Mounting position	Optional

Operating and environmental conditions		
Piston $\varnothing$	6	10
Operating medium	Compressed air according to ISO 8573-1:2010 [7:4:4]	
Note on the operating medium	Lubricated operation possible (is then required for further operation)	
Operating pressure [bar]	2.5 ... 8	1.5 ... 8
Ambient temperature <sup>1)</sup> [°C]	-10 ... +60	
Corrosion resistance class CRC <sup>2)</sup>	1	

1) Note operating range of proximity sensors

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

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

Weight [g]		
Piston $\varnothing$	6	10
Product weight		
With 5 mm stroke	9.2/10.9 <sup>1)</sup>	12.2/17 <sup>1)</sup>
With 10 mm stroke	11.9/15 <sup>1)</sup>	15.4/19 <sup>1)</sup>
Moving mass		
With 5 mm stroke	1.5/1.6 <sup>1)</sup>	4.1/4.5 <sup>1)</sup>
With 10 mm stroke	2.3/2.4 <sup>1)</sup>	5.3/5.7 <sup>1)</sup>

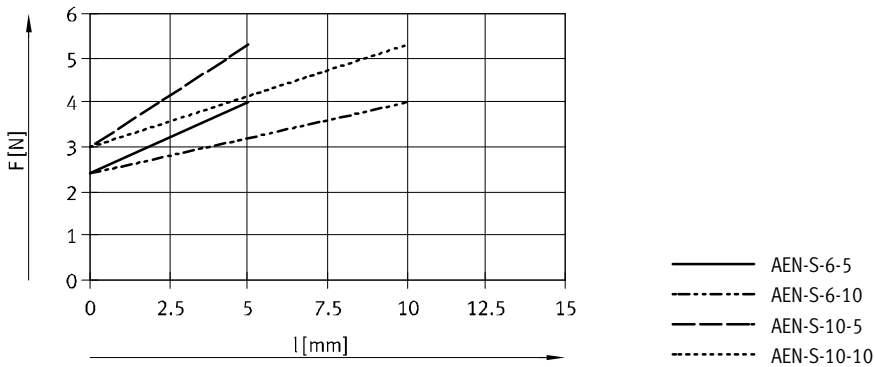
1) With position sensing


# Compact cylinders AEN-S

Technical data

Forces [N] and impact energy [J]		
Piston $\varnothing$	6	10
Theoretical force at 6 bar, advancing	13	41.7
Impact energy at the end positions	0.006	0.012

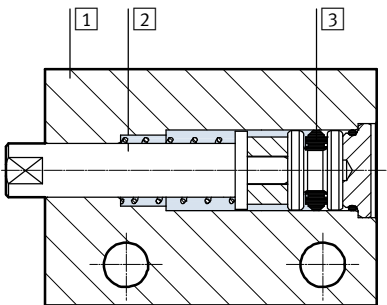
## Theoretical spring force for retraction



 Note  
 The degree of friction depends upon the mounting position and the type of load involved. Single-acting cylinders should as far as possible be operated without lateral forces.

## Materials

Sectional view



Compact cylinder		
1	Housing	Anodised wrought aluminium alloy
2	Piston rod	High-alloy stainless steel
3	Seals	NBR, TPE-U(PU)
-	Note on materials	RoHS-compliant

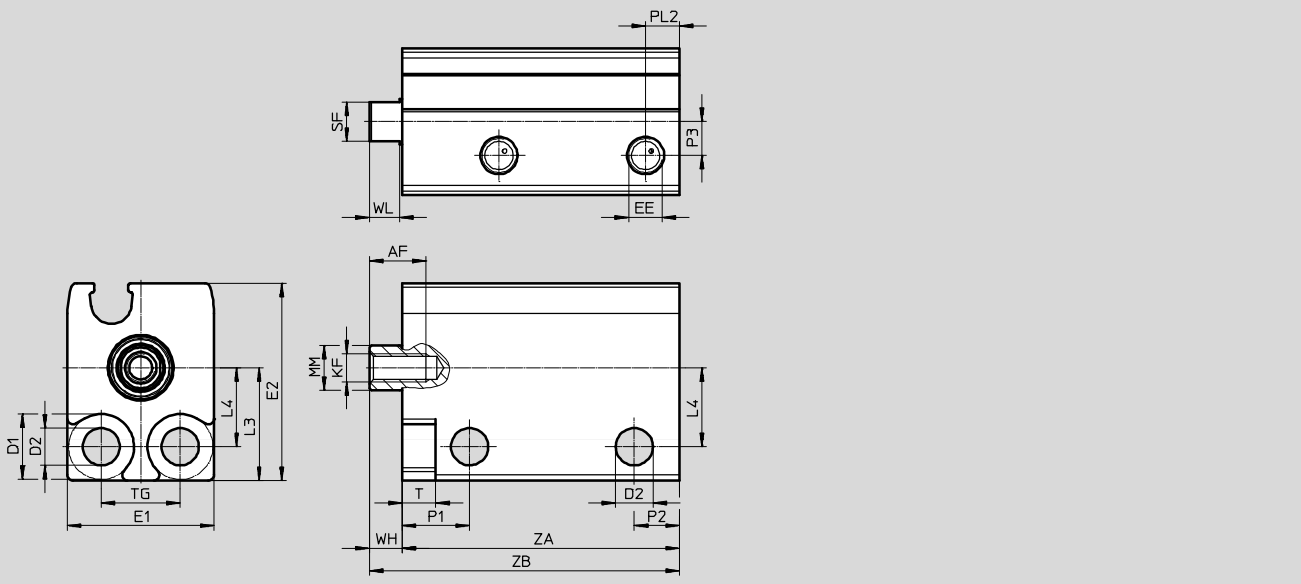
# Compact cylinders AEN-S

Technical data

**Dimensions**

Download CAD data → [www.festo.com](http://www.festo.com)

With female thread



∅	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	ST	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	ZA	ZB
[mm]	[mm]		+0.3	+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

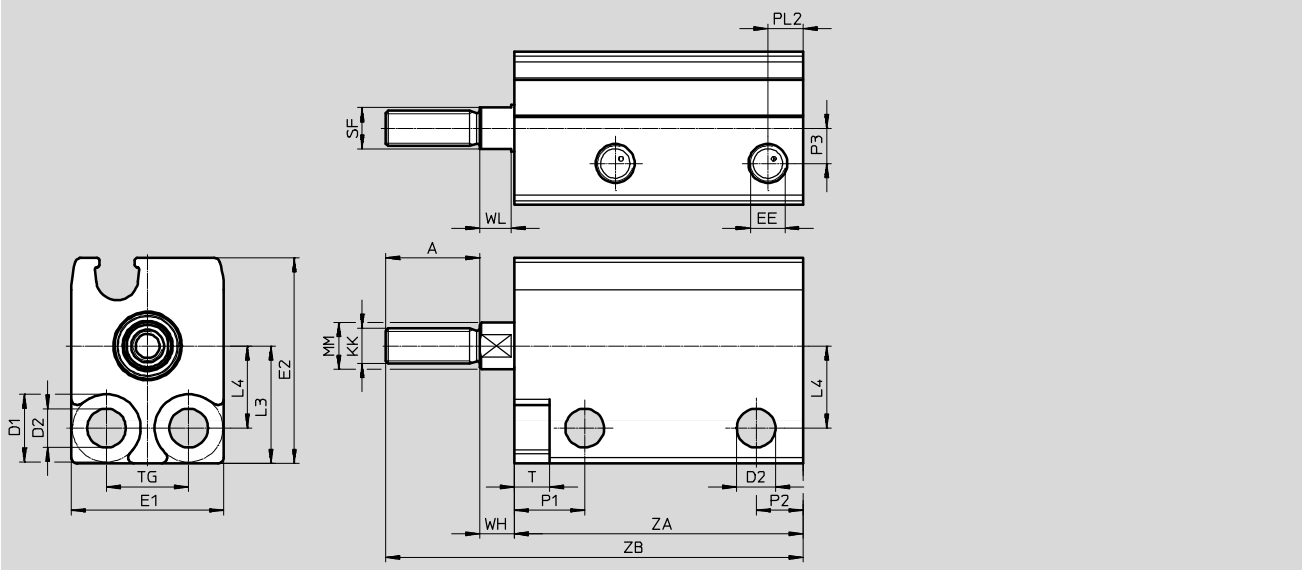
# Compact cylinders AEN-S

Technical data

**Dimensions**

Download CAD data → [www.festo.com](http://www.festo.com)

With male thread




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

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

∅	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


# Compact cylinders AEN-S


Technical data


Ordering data						
Type code	Piston Ø [mm]	Stroke [mm]	I – Piston rod with female thread		A – Piston rod with male thread	
			Part no.	Type code	Part no.	Type code
	6	Without position sensing				
		5	<b>4984929</b>	<b>AEN-S-6-5-I</b>	<b>8080593</b>	<b>AEN-S-6-5-A</b>
		10	<b>4984930</b>	<b>AEN-S-6-10-I</b>	<b>8080594</b>	<b>AEN-S-6-10-A</b>
		With position sensing				
		5	<b>5267300</b>	<b>AEN-S-6-5-I-A</b>	<b>8080591</b>	<b>AEN-S-6-5-A-A</b>
		10	<b>5267301</b>	<b>AEN-S-6-10-I-A</b>	<b>8080592</b>	<b>AEN-S-6-10-A-A</b>
	10	Without position sensing				
		5	<b>4891759</b>	<b>AEN-S-10-5-I</b>	<b>8080583</b>	<b>AEN-S-10-5-A</b>
		10	<b>4891760</b>	<b>AEN-S-10-10-I</b>	<b>8080586</b>	<b>AEN-S-10-10-A</b>
		With position sensing				
5		<b>5269268</b>	<b>AEN-S-10-5-I-A</b>	<b>8080584</b>	<b>AEN-S-10-5-A-A</b>	
10		<b>5269269</b>	<b>AEN-S-10-10-I-A</b>	<b>8080585</b>	<b>AEN-S-10-10-A-A</b>	



## Compact cylinders ADN-S, AEN-S

Accessories

Ordering data – Proximity sensor for C-slot, magneto-resistive						Technical data → Internet: smt
	Type of mounting	Switching output	Electrical connection, connection outlet direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above	PNP	Plug M8x1, 3-pin, lengthwise	0.3	551375	SMT-10M-PS-24V-E-0,3-L-M8D
			Cable, 3-wire, lengthwise	2.5	551373	SMT-10M-PS-24V-E-2,5-L-OE

Ordering data – Proximity sensor for C-slot, magnetic reed						Technical data → Internet: sme
	Type of mounting	Switching output	Electrical connection, connection outlet direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above	Contacting	Plug M8x1, 3-pin, lengthwise	0.3	551367	SME-10M-DS-24V-E-0,3-L-M8D
			Cable, 3-wire, lengthwise	2.5	551365	SME-10M-DS-24V-E-2,5-L-OE
			Cable, 2-wire, lengthwise	2.5	551369	SME-10M-ZS-24V-E-2,5-L-OE

Ordering data – Proximity sensor for C-slot, magneto-resistive						Technical data → Internet: smt
	Type of mounting	Electrical connection, connection outlet direction	Switching output	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot lengthwise	Cable, 3-wire, crosswise	PNP	2.5	547862	SMT-10G-PS-24V-E-2,5Q-OE
		Plug M8x1, 3-pin, crosswise		0.3	547863	SMT-10G-PS-24V-E-0,3Q-M8D
		Cable, 3-wire, crosswise	NPN	2.5	8065030	SMT-10G-NS-24V-E-2,5Q-OE
		Plug M8x1, 3-pin, crosswise		0.3	8065029	SMT-10G-NS-24V-E-0,3Q-M8D

Ordering data – Connecting cables						Technical data → Internet: nebu
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type	
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	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	

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