

## Compact cylinder, single-acting AEN-S

**FESTO**



## Characteristics

### At a glance

Further information → [aen-s](#)

- Very compact design: shorter than comparable cylinders
- Reduced housing length: saving materials and weight
- Reduced housing width: for space-critical applications
- Design by Festo: visually compelling

### Diagrams

Further information → [aen-s](#)



The diagrams shown in this document are also available online. These can be used to display precise values.

### Design type

[S] Short

Particularly suitable for applications where space is critical

### Piston rod thread type

[A] Male thread

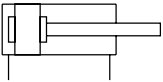


[I] Female thread



### Cushioning

[P] Elastic cushioning rings/plates on both sides



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

Benefits:

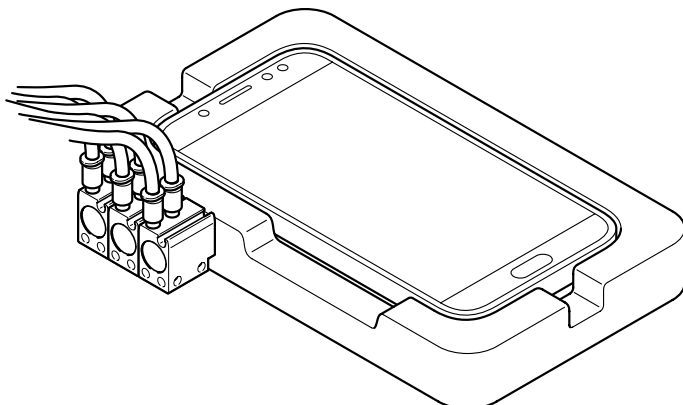
- No adjustment required
- Saves time

### Position sensing

[A] For proximity sensor

By using proximity switches, any position can be detected.

### Application example



- Endurance testing of smartphone buttons

## Type code

001	Series
<b>AEN-S</b>	Compact cylinder, single-acting

002	Design type
<b>S</b>	Short

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

004	Stroke [mm]
<b>5</b>	5
<b>10</b>	10
<b>25</b>	25

005	Piston rod thread type
<b>A</b>	Male thread
<b>I</b>	Female thread

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

007	Position sensing
	None
<b>A</b>	For proximity sensor

## Datasheet

### General technical data

Piston diameter	6 mm	10 mm	12 mm	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm	
Stroke	5 mm; 10 mm			5 mm; 10 mm; 25 mm					10 mm; 25 mm		
Design	Piston Piston rod										
Mode of operation	Pushing										
Piston-rod end	Male thread Female thread										
Pneumatic connection	M3			M5					G1/8		
Cushioning	No cushioning			Elastic cushioning rings/plates at both ends							
Position detection	Via proximity switch										
Type of mounting	With through-hole			Either: With through-hole Via female thread With accessories							
Mounting position	optional										

### Operating and environmental conditions

Piston diameter	6 mm	10 mm	12 mm	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm	
Operating pressure <sup>1)</sup>	0.25 ... 0.8 MPa	0.15 ... 0.8 MPa	0.1 ... 1 MPa		0.06 ... 1 MPa			0.04 ... 1 MPa			
Operating pressure <sup>2)</sup>	2.5 ... 8 bar	1.5 ... 8 bar	1 ... 10 bar		0.6 ... 10 bar			0.4 ... 10 bar			
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]										
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)										
Ambient temperature <sup>3)</sup>	-10 ... 60°C			0 ... 60°C							
Corrosion resistance class CRC <sup>4)</sup>	1 - Low corrosion stress 2 - Moderate corrosion stress			1 - Low corrosion stress							

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

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

3) Note the operating range of the proximity switches.

4) Corrosion resistance class for each individual type → Ordering information. More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

### Forces for Ø 6 ... 20 mm

Piston diameter	6 mm		10 mm		12 mm		16 mm			20 mm		
Stroke	5 mm	10 mm	5 mm	10 mm	5 mm	10 mm	5 mm	10 mm	25 mm	5 mm	10 mm	25 mm
Theoretical force at 0.6 MPa (6 bar, 87 psi), advance stroke	13 N		41.7 N		60 N		95 N			162 N		
Theoretical force at 0.6 MPa (6 bar, 87 psi), return stroke	4 N		5.3 N		6 N	8 N		9.5 N	25 N	13 N	17 N	26 N

### Forces for Ø 25 ... 63 mm

Piston diameter	25 mm			32 mm			40 mm			50 mm		63 mm	
Stroke	5 mm	10 mm	25 mm	5 mm	10 mm	25 mm	5 mm	10 mm	25 mm	10 mm	25 mm	10 mm	25 mm
Theoretical force at 0.6 MPa (6 bar, 87 psi), advance stroke	259 N			439 N			700 N			1,106 N		1,780 N	
Theoretical force at 0.6 MPa (6 bar, 87 psi), return stroke	18 N	22 N	35 N	44 N	42 N	38 N	46 N	54 N	66.2 N	71.5 N	69.9 N	89.6 N	

### Impact energy without position sensing

Piston diameter	6 mm	10 mm	12 mm	16 mm	20 mm	25 mm	32 mm
Impact energy in end positions	0.006 J	0.012 J	0.022 J	0.038 J	0.055 J	0.09 J	0.18 J

### Impact energy with position sensing

Piston diameter	6 mm	10 mm	12 mm	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm
Impact energy in end positions	0.006 J	0.012 J	0.022 J	0.038 J	0.055 J	0.3 J	0.4 J	0.7 J	1 J	1.3 J

## Datasheet

## Weight without position sensing for Ø 6 ... 10 mm

Piston diameter	6 mm		10 mm	
Stroke	5 mm	10 mm	5 mm	10 mm
Product weight	9.2 g	15 g	17 g	19 g
Moving mass	1.5 g	2.3 g	4.1 g	5.3 g

## Weight with position sensing for Ø 6 ... 10 mm

Piston diameter	6 mm		10 mm	
Stroke	5 mm	10 mm	5 mm	10 mm
Product weight	10.9 g	15 g	17 g	19 g
Moving mass	1.6 g	2.4 g	4.5 g	5.7 g

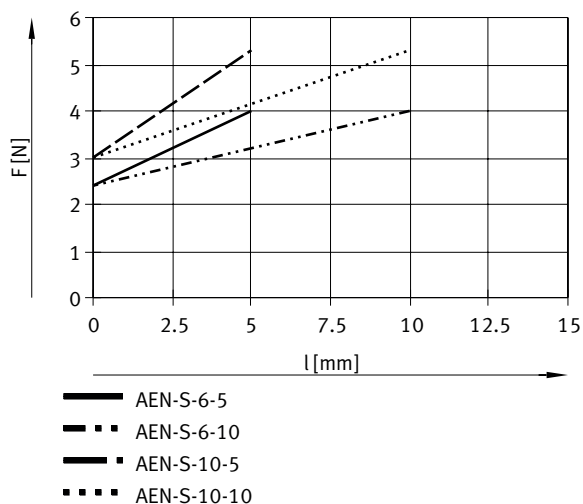
## Weight without position sensing for Ø 12 ... 63 mm

Piston diameter	12 mm	16 mm	20 mm	25 mm	32 mm
Basic weight for 0 mm stroke	26 g	32.5 g	51 g	70 g	107 g
Additional weight per 10 mm stroke	15 g	18 g	26 g	30 g	36 g
Moving mass for 0 mm stroke	3.5 g	6 g	11 g	17 g	31 g
Additional moving mass per 10 mm stroke	2 g	4 g	6 g		9 g

## Weight with position sensing for Ø 12 ... 63 mm

Piston diameter	12 mm	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm
Basic weight for 0 mm stroke	33 g	42 g	65 g	88 g	117 g	304 g	324 g	499 g
Additional weight per 10 mm stroke	15 g	18 g	26 g	30 g	36 g	45 g	63 g	77 g
Moving mass for 0 mm stroke	6 g	11 g	18 g	25 g	37 g	62 g	104 g	151 g
Additional moving mass per 10 mm stroke	2 g	4 g	6 g		9 g		16 g	

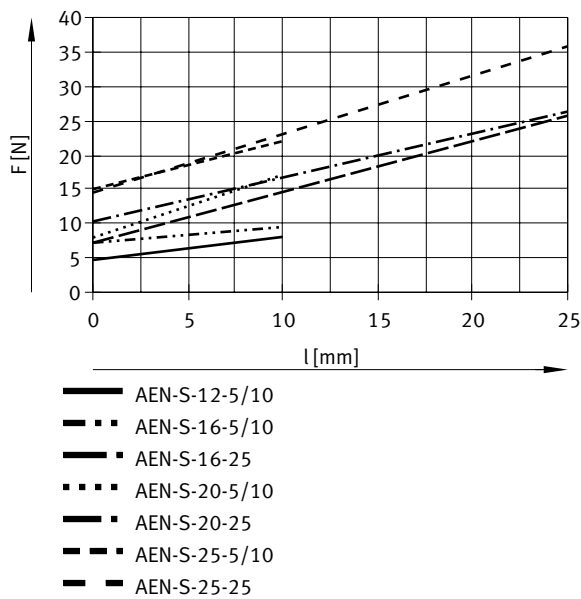
## Theoretical spring force, return for Ø 6 ... 10 mm



Friction depends on the mounting position and the type of load. Operate single-acting cylinders without transverse force if possible.

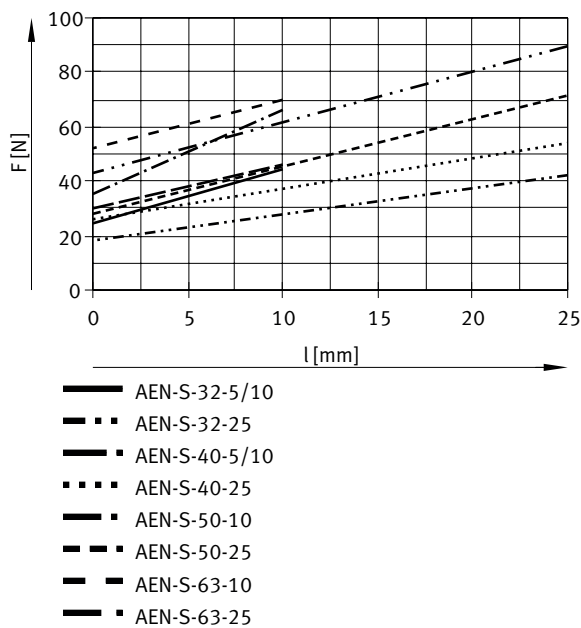
## Datasheet

### Theoretical spring force, return for $\varnothing$ 12 ... 25 mm



Friction depends on the mounting position and the type of load. Operate single-acting cylinders without transverse force if possible.

### Theoretical spring force, return for $\varnothing$ 32 ... 63 mm



Friction depends on the mounting position and the type of load. Operate single-acting cylinders without transverse force if possible.

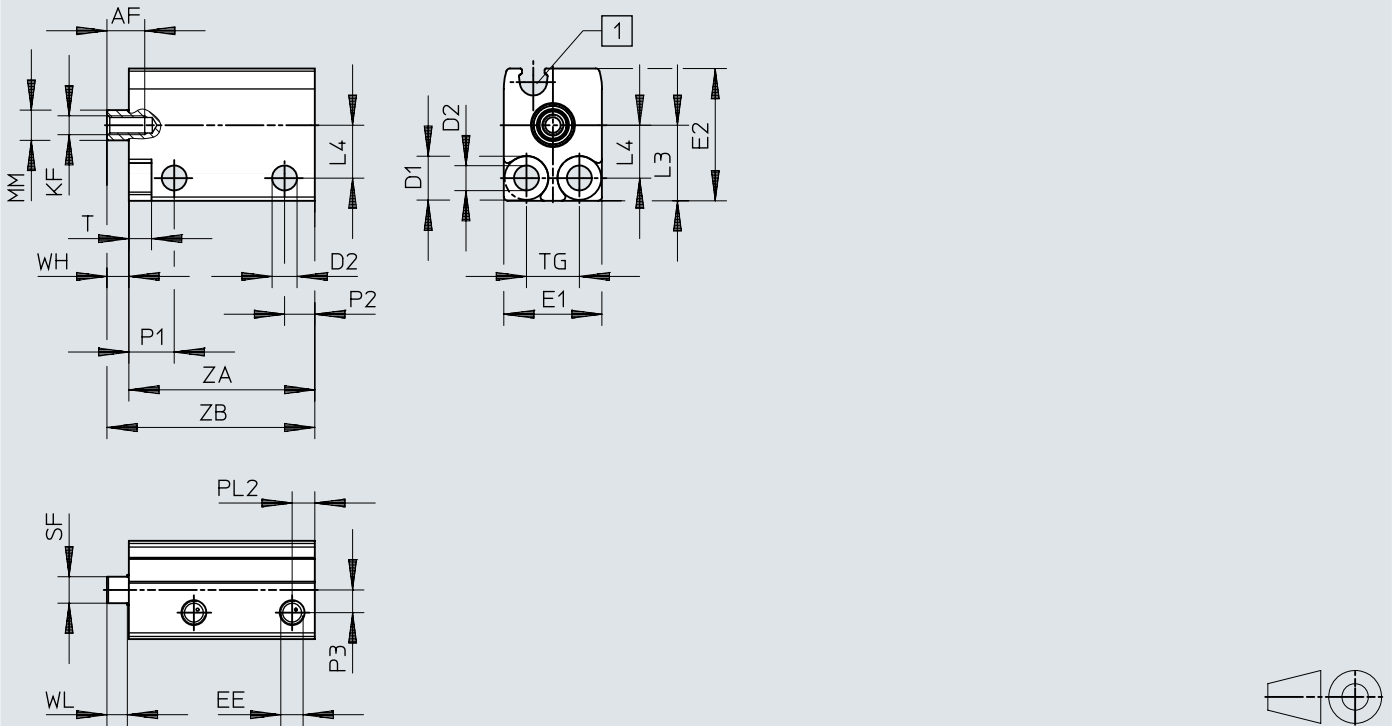
### Materials

Piston diameter	6 mm	10 mm	12 mm	16 mm	20 mm	25 mm	32 mm	40 mm	50 mm	63 mm
Material housing	Wrought aluminium alloy, Anodised		Anodised wrought aluminium alloy							
Material cover	Wrought aluminium alloy		Anodised wrought aluminium alloy							
Material piston rod	High-alloy stainless steel									
Material dynamic seals	NBR TPE-U(PU)							TPE-U(PU)		
Note on materials	RoHS-compliant									
LABS (PWIS) conformity	VDMA24364-B2-L									

## Dimensions

Dimensions – Ø 6 ... 10 mm – with female thread

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



[1] C-slot for proximity switch

	AF min.	D1 Ø H13	D2 Ø	EE	E1 max.	E2 max.	KF	L3	L4	MM Ø
AEN-S-6	5	5,8	3,3	M3	13	17,5	M2,5	10	7	4
AEN-S-10	6				13,5	20,5	M3	11	8	6

	P1	P2	P3	PL2	SF	T	TG ±0,1	WH	WL
AEN-S-6	6	4	3	3	3,5	3	7	3	2,7
AEN-S-10			3,2		5				

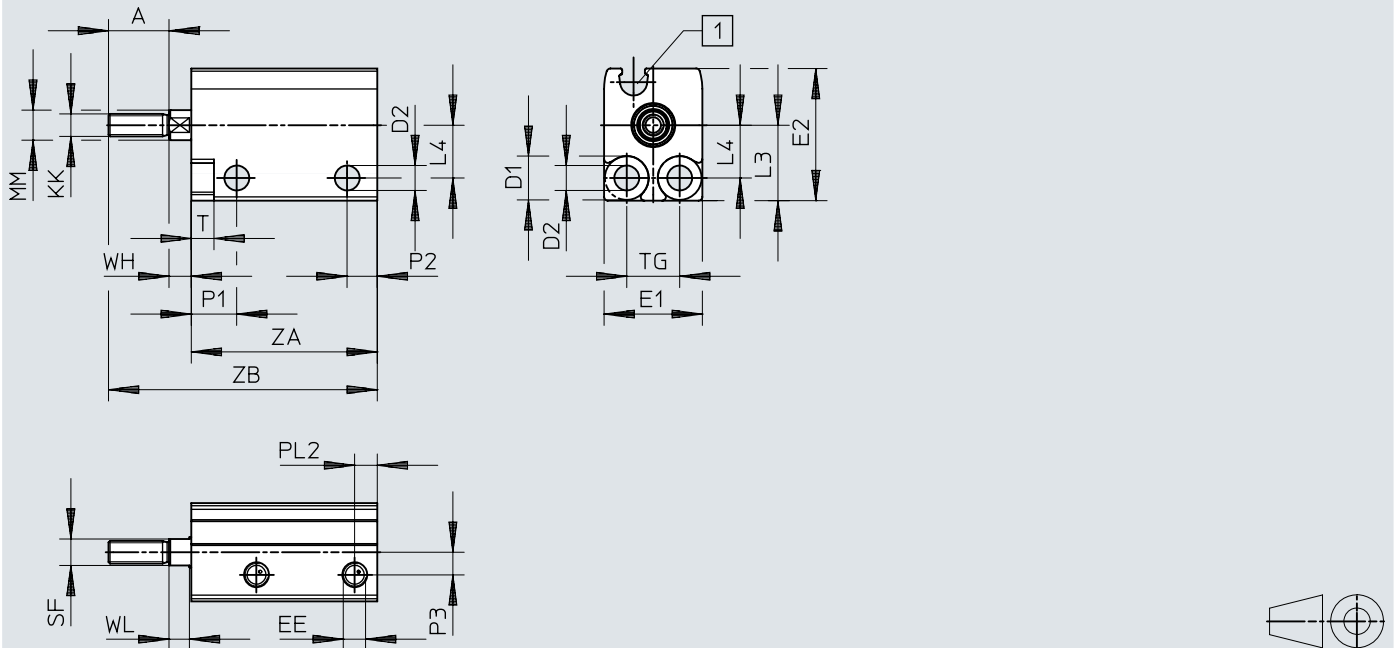
	L <sup>1)</sup> [mm]	2)	ZA +0,3	ZB ±0,35
AEN-S-6	5	–	20,5	23,5
		■	24,5	27,5
	10	–	25,5	28,5
		■	29,5	32,5
AEN-S-10	5	–	20,5	23,5
		■	24,5	27,5
	10	–	25,5	28,5
		■	29,5	32,5

- 1) Stroke
- 2) Position sensing

## Dimensions

Dimensions – Ø 6 ... 10 mm – with male thread

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[1] C-slot for proximity switch

	A	D1 Ø H13	D2 Ø	EE	E1 max.	E2 max.	KK	L3	L4	MM Ø
AEN-S-6	8	5,8	3,3	M3	13	17,5	M3	10	7	4
AEN-S-10	10				13,5	20,5	M4	11	8	6

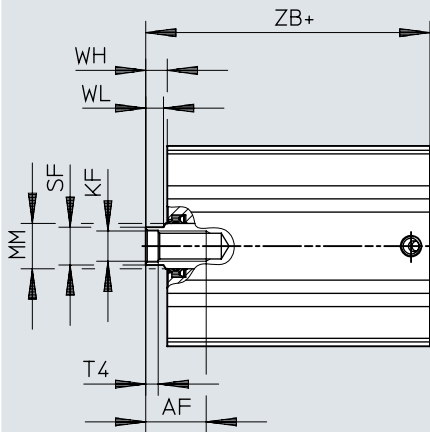
	P1	P2	P3	PL2	SF	T	TG ±0,1	WH	WL
AEN-S-6	6	4	3	3	3,5	3	7	3	2,7
AEN-S-10			3,2		5				

	L <sup>1)</sup> [mm]	2)	ZA +0,3	ZB ±0,35
AEN-S-6	5	–	20,5	31,5
		■	24,5	35,5
	10	–	25,5	36,5
AEN-S-10	5	–	20,5	33,5
		■	24,5	37,5
	10	–	25,5	38,5
		■	29,5	42,5

- 1) Stroke
- 2) Position sensing



## Dimensions

Dimensions –  $\varnothing 12 \dots 63$  mm – with female threadDownload CAD data → [www.festo.com](http://www.festo.com)

[1] + = plus stroke length

## Dimensions

	AF min.	KF	MM ∅ h8	SF h13	T4	WH +1	WL -0,15
AEN-S-12	8	M3	6	5	1,5	2,5	2,7
AEN-S-16	10	M4	8	7	1,5	3	3,5
AEN-S-20	11	M6	10	9	2,6	3	4
AEN-S-25	11	M6	10	9	2,6	3,5	4,2
AEN-S-32	12	M8	12	10	3,3	4	4,7
AEN-S-40	16	M8	12	10	3,3	5	4,7
AEN-S-50	16	M10	16	13	4,7	7	6,5
AEN-S-63	20	M10	16	13	4,7	7	6,5

	L <sup>1)</sup> [mm]	2)	ZB +1,2
AEN-S-12	5	–	23
		■	27
	10	–	28
		■	32
AEN-S-16	5	–	24
		■	28,5
	10	–	29
		■	33,5
25	–	46	
	■	51,5	
AEN-S-20	5	–	25,5
		■	30
	10	–	30,5
		■	35
25	–	48,5	
	■	53	
AEN-S-25	5	–	27,5
		■	32
	10	–	32,5
		■	37
25	–	50,5	
	■	55	
AEN-S-32	5	–	30,5
		■	34
	10	–	35,5
		■	39
25	–	53,5	
	■	57	
AEN-S-40	5	■	39,5
	10	■	44,5
	25	■	62,5
AEN-S-50	10	■	49
	25	■	67
AEN-S-63	10	■	52
	25	■	69,5

1) Stroke

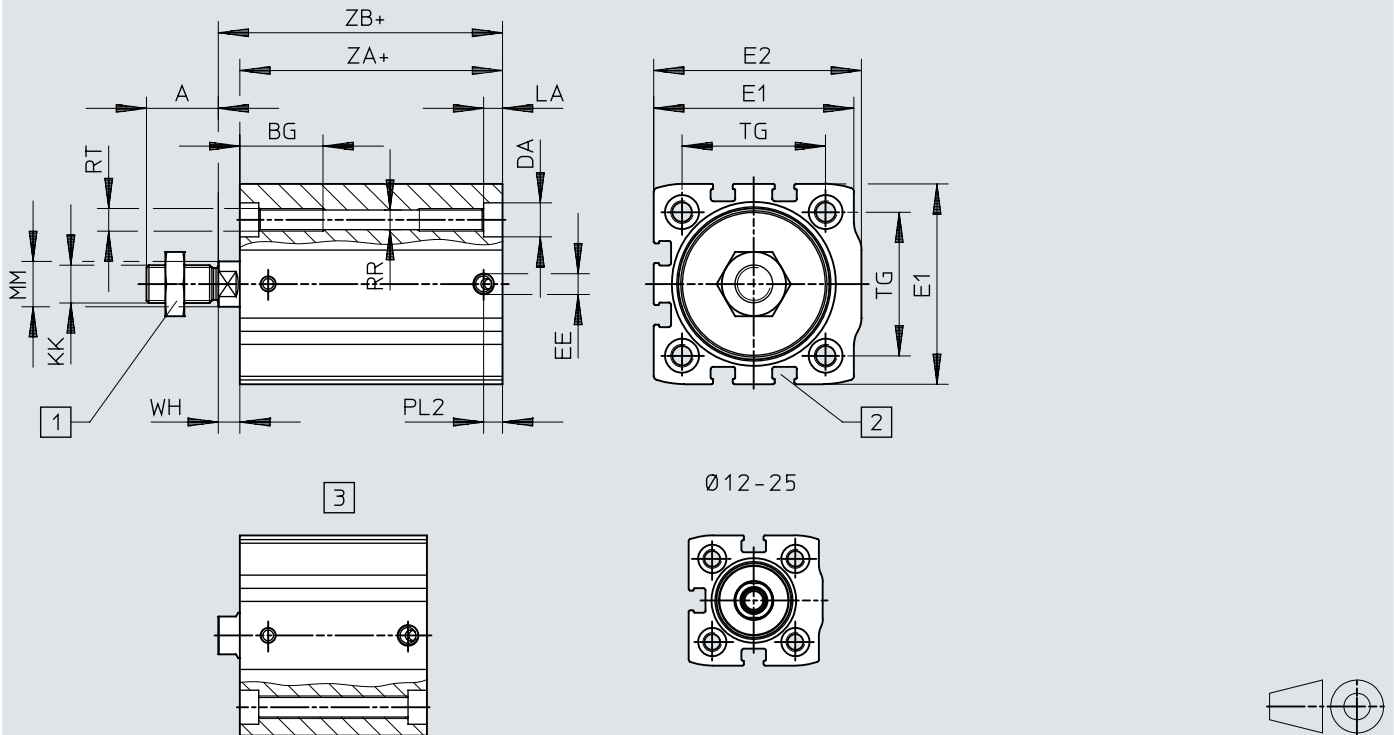
2) Position sensing



## Dimensions

Dimensions – Ø 12 ... 63 mm – with male thread

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



[1] Hex nut DIN 439-B only from Ø 32

[2] T-slot for proximity switch

[3] Continuous thread Ø 12 ... 25: ZA 0 ... 40, Ø 32 ... 63: ZA 0 ... 50

[4] + = plus stroke length

## Dimensions

	L <sup>1)</sup> [mm]	2)	ZA +0,2	ZB ±0,35
AEN-S-12	5	–	20,5	23
		■	24,5	27
	10	–	25,5	28
		■	29,5	32
AEN-S-16	5	–	21	24
		■	25,5	28,5
	10	–	26	29
		■	30,5	33,5
	25	–	43	46
		■	48,5	51,5
AEN-S-20	5	–	22,5	25,5
		■	27	30
	10	–	27,5	30,5
		■	32	35
	25	–	45,5	48,5
		■	50	53
AEN-S-25	5	–	24	27,5
		■	28,5	32
	10	–	29	32,5
		■	33,5	37
	25	–	47	50,5
		■	51,5	55
AEN-S-32	5	–	26,5	30,5
		■	30	34
	10	–	31,5	35,5
		■	35	39
	25	–	49,5	53,5
		■	53	57
AEN-S-40	5	■	34,5	39,5
	10	■	39,5	44,5
	25	■	57,5	62,5
AEN-S-50	10	■	42	49
	25	■	60	67
AEN-S-63	10	■	45	52
	25	■	62,5	69,5

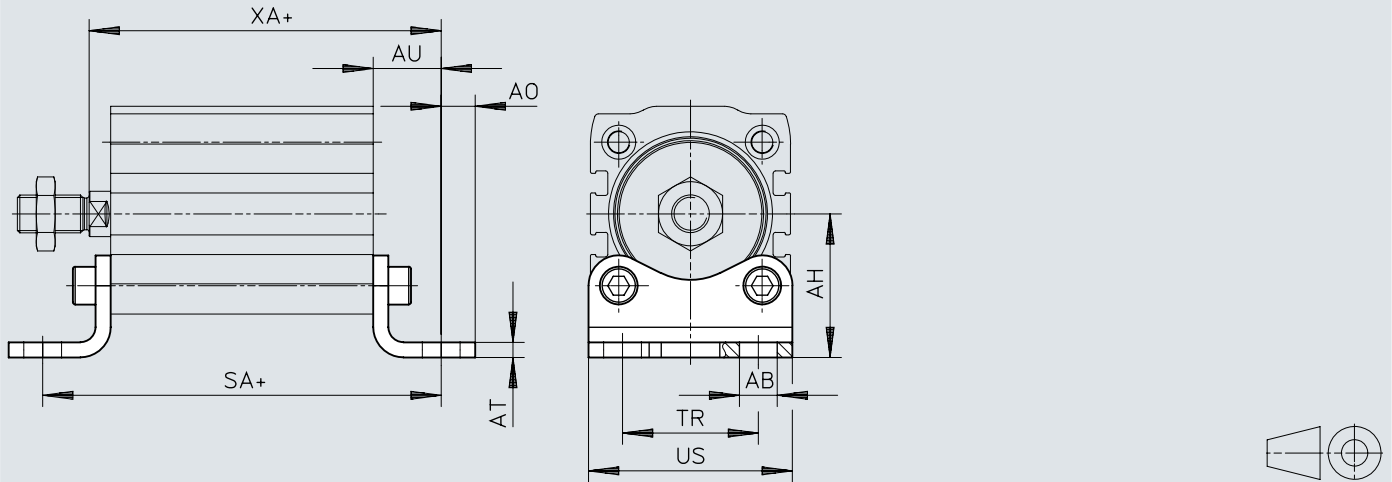
1) Stroke

2) Position sensing

## Dimensions

### Dimensions – Foot mounting HNA

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



[1] += plus stroke length

	AB	AH	AO	AT	AU	SA <sup>3)</sup>		TR	US	XA <sup>3)</sup>	
	∅						<sup>2)</sup>				<sup>2)</sup>
	H14	JS14		±0,5	±0,2	+0,2	+0,2	±0,2	-0,5	+1,2	+1,2
HNA-12	5,8	21	5	3	13	41,5	45,5	16	26	31	35
HNA-16	5,8	22	4,75	3	13	42	46,5	18	27,5	32	36,5
HNA-20	7	27	6,25	4	16	49,5	54	22	34,5	36,5	41
HNA-25	7	29	6,25	4	16	51	55,5	26	38,5	38,5	43
HNA-32	7	33,5	7	4	16	53,5	57	32	46	41,5	45
HNA-40	10	38	9	4	18	62	65,5	36	54	49	52,5
HNA-50	10	45	8	5	21	71	74	45	64	57	60
HNA-63	10	50	8	5	21	74	77	50	75	60	63

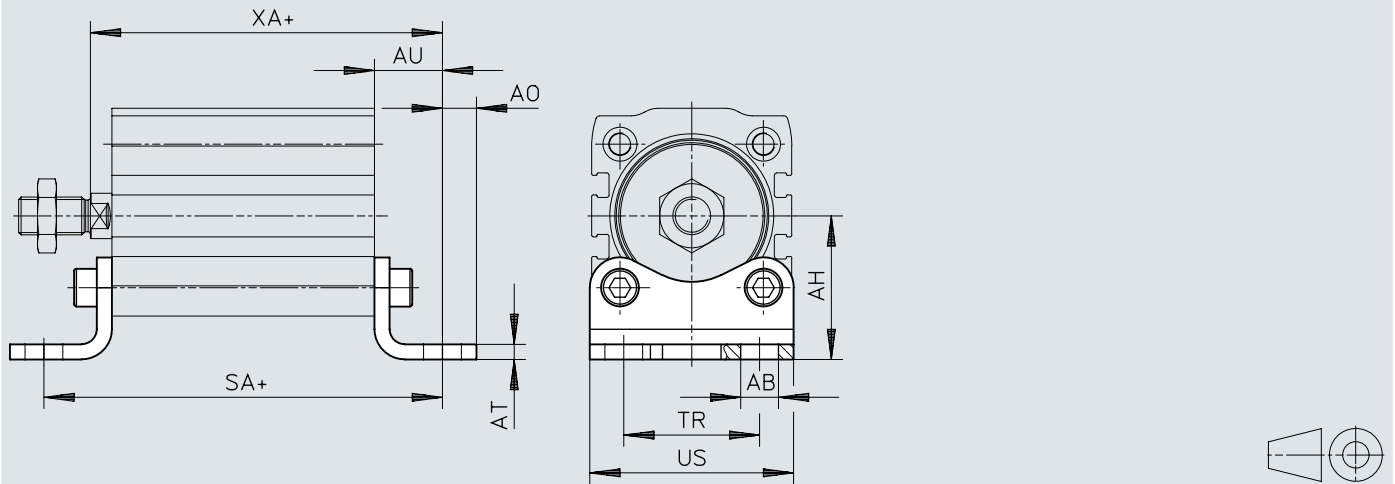
2) Position sensing

3) Deviating dimensions for the strokes 5, 10 and 25

## Dimensions

### Dimensions – Foot mounting HNA

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[1] += plus stroke length

Dimensions

	L <sup>1)</sup> [mm]	2)	SA +0,2	XA +1,2
HNA-12	5	–	46,5	36
		■	50,5	40
	10	–	51,5	41
		■	55,5	45
HNA-16	5	–	47	37
		■	51,5	41,5
	10	–	52	42
		■	56,5	46,5
	25	–	69	59
		■	74,5	64,5
HNA-20	5	–	54,5	41,5
		■	59	46
	10	–	59,5	46,5
		■	64	51
	25	–	77,5	64,5
		■	82	69
HNA-25	5	–	56	43,5
		■	60,5	48
	10	–	61	48,5
		■	65,5	53
	25	–	79	66,5
		■	83,5	71
HNA-32	5	–	58,5	46,5
		■	62	50
	10	–	63,5	51,5
		■	67	55
	25	–	81,5	69,5
		■	85	73
HNA-40	5	–	67	54
		■	70,5	57,5
	10	–	72	59
		■	75,5	62,5
	25	–	90	77
		■	93,5	80,5
HNA-50	10	–	81	67
		■	84	70
	25	–	98,5	84,5
		■	102	88
HNA-63	10	–	84	70
		■	87	73
	25	–	101,5	87,5
		■	104,5	90,5

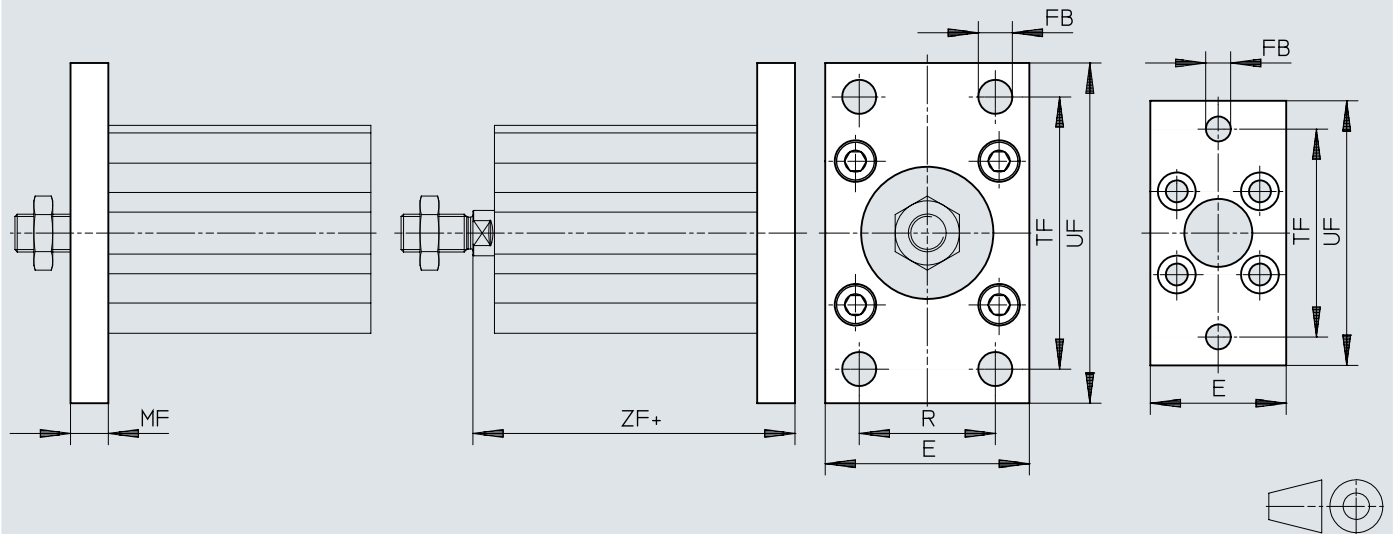
1) Stroke  
2) Position sensing



## Dimensions

### Dimensions – Flange mounting FNC

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



[1] + = plus stroke length


## Dimensions

	E	FB ∅	MF	R	TF	UF ±1	ZF	
							+0,2	<sup>2)</sup> +0,2
FNC-12	28	5,5	8	–	40	50	26	30
FNC-16	29	5,5	8	–	43	55	27	31,5
FNC-20	36	6,6	8	–	55	70	28,5	33
FNC-25	40	6,6	8	–	60	76	30,5	35
FNC-32	45	7	10	32	64	80	35,5	39
FNC-40	54	9	10	36	72	90	41	44,5
FNC-50	65	9	12	45	90	110	48	51
FNC-63	75	9	12	50	100	120	51	54


	L <sup>1)</sup> [mm]	<sup>2)</sup>	ZF +0,2
FNC-12	5	–	31
		■	35
	10	–	36
		■	40
FNC-16	5	–	32
		■	36,5
	10	–	37
		■	41,5
	25	–	54
		■	59,5
FNC-20	5	–	33,5
		■	38
	10	–	38,5
		■	43
	25	–	56,5
		■	61
FNC-25	5	–	35,5
		■	40
	10	–	40,5
		■	45
	25	–	58,5
		■	63
FNC-32	5	–	40,5
		■	44
	10	–	45,5
		■	49
	25	–	63,5
		■	67
FNC-40	5	–	46
		■	49,5
	10	–	51
		■	54,5
	25	–	69
		■	72,5
FNC-50	10	–	58
		■	61
	25	–	75,5
		■	79
FNC-63	10	–	61
		■	64
	25	–	78,5
		■	81,5

1) Stroke  
2) Position sensing


## Ordering data

With female thread – I					
	Piston diameter	Stroke	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	6 mm	5 mm	2 - Moderate corrosion stress	4984929	AEN-S-6-5-I
		10 mm		4984930	AEN-S-6-10-I
	10 mm	5 mm		4891759	AEN-S-10-5-I
		10 mm		4891760	AEN-S-10-10-I


1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

With female thread – I; with position sensing – A					
	Piston diameter	Stroke	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	6 mm	5 mm	1 - Low corrosion stress	5267300	AEN-S-6-5-I-A
		10 mm		5267301	AEN-S-6-10-I-A
	10 mm	5 mm		5269268	AEN-S-10-5-I-A
		10 mm		5269269	AEN-S-10-10-I-A


1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

With cushioning – P; with male thread – A					
	Piston diameter	Stroke	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	6 mm	5 mm	2 - Moderate corrosion stress	8080593	AEN-S-6-5-A
		10 mm		8080594	AEN-S-6-10-A
	10 mm	5 mm		8080583	AEN-S-10-5-A
		10 mm		8080586	AEN-S-10-10-A

1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)


With cushioning – P; with male thread – A; with position sensing – A					
	Piston diameter	Stroke	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	6 mm	5 mm	2 - Moderate corrosion stress	8080591	AEN-S-6-5-A-A
		10 mm		8080592	AEN-S-6-10-A-A
	10 mm	5 mm		8080584	AEN-S-10-5-A-A
		10 mm		8080585	AEN-S-10-10-A-A

1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

With cushioning – P; with female thread – I					
	Piston diameter	Stroke	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	12 mm	5 mm	1 - Low corrosion stress	8076479	AEN-S-12-5-I-P
		10 mm		8076476	AEN-S-12-10-I-P
	16 mm	5 mm		8076496	AEN-S-16-5-I-P
		10 mm		8076492	AEN-S-16-10-I-P
		25 mm		8076497	AEN-S-16-25-I-P
	20 mm	5 mm		8076501	AEN-S-20-5-I-P
		10 mm		8076499	AEN-S-20-10-I-P
		25 mm		8076503	AEN-S-20-25-I-P
	25 mm	5 mm		8076509	AEN-S-25-5-I-P
		10 mm		8076507	AEN-S-25-10-I-P
		25 mm		8076504	AEN-S-25-25-I-P


Ordering data

**With cushioning – P; with female thread – I**

	Piston diameter	Stroke	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	32 mm	5 mm	1 - Low corrosion stress	8076512	AEN-S-32-5-I-P
		10 mm		8076510	AEN-S-32-10-I-P
		25 mm		8076514	AEN-S-32-25-I-P


1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

**With cushioning – P; with female thread – I; with position sensing – A**

	Piston diameter	Stroke	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	12 mm	5 mm	1 - Low corrosion stress	8076475	AEN-S-12-5-I-P-A
		10 mm		8076477	AEN-S-12-10-I-P-A
		16 mm		5 mm	8076495
	10 mm			8076493	AEN-S-16-10-I-P-A
	25 mm			8076494	AEN-S-16-25-I-P-A
	20 mm	5 mm		8076502	AEN-S-20-5-I-P-A
		10 mm		8076498	AEN-S-20-10-I-P-A
		25 mm		8076500	AEN-S-20-25-I-P-A
	25 mm	5 mm		8076506	AEN-S-25-5-I-P-A
		10 mm		8076505	AEN-S-25-10-I-P-A
		25 mm		8076508	AEN-S-25-25-I-P-A
	32 mm	5 mm		8076511	AEN-S-32-5-I-P-A
		10 mm		8076515	AEN-S-32-10-I-P-A
		25 mm		8076513	AEN-S-32-25-I-P-A
	40 mm	5 mm		5149290	AEN-S-40-5-I-P-A
		10 mm		5149291	AEN-S-40-10-I-P-A
		25 mm		5149292	AEN-S-40-25-I-P-A
	50 mm	10 mm		5137803	AEN-S-50-10-I-P-A
		25 mm		5137804	AEN-S-50-25-I-P-A
	63 mm	10 mm		5132651	AEN-S-63-10-I-P-A
		25 mm		5132652	AEN-S-63-25-I-P-A


1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

**With cushioning – P; with male thread – A**

	Piston diameter	Stroke	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	12 mm	5 mm	1 - Low corrosion stress	8092150	AEN-S-12-5-A-P
		10 mm		8092149	AEN-S-12-10-A-P
	16 mm	5 mm		8092144	AEN-S-16-5-A-P
		10 mm		8092143	AEN-S-16-10-A-P
		25 mm		8092140	AEN-S-16-25-A-P
	20 mm	5 mm		8092220	AEN-S-20-5-A-P
		10 mm		8092219	AEN-S-20-10-A-P
		25 mm		8092224	AEN-S-20-25-A-P
	25 mm	5 mm		8092182	AEN-S-25-5-A-P
		10 mm		8092179	AEN-S-25-10-A-P
		25 mm		8092180	AEN-S-25-25-A-P
	32 mm	5 mm		8092167	AEN-S-32-5-A-P
		10 mm		8092164	AEN-S-32-10-A-P
		25 mm		8092163	AEN-S-32-25-A-P

1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

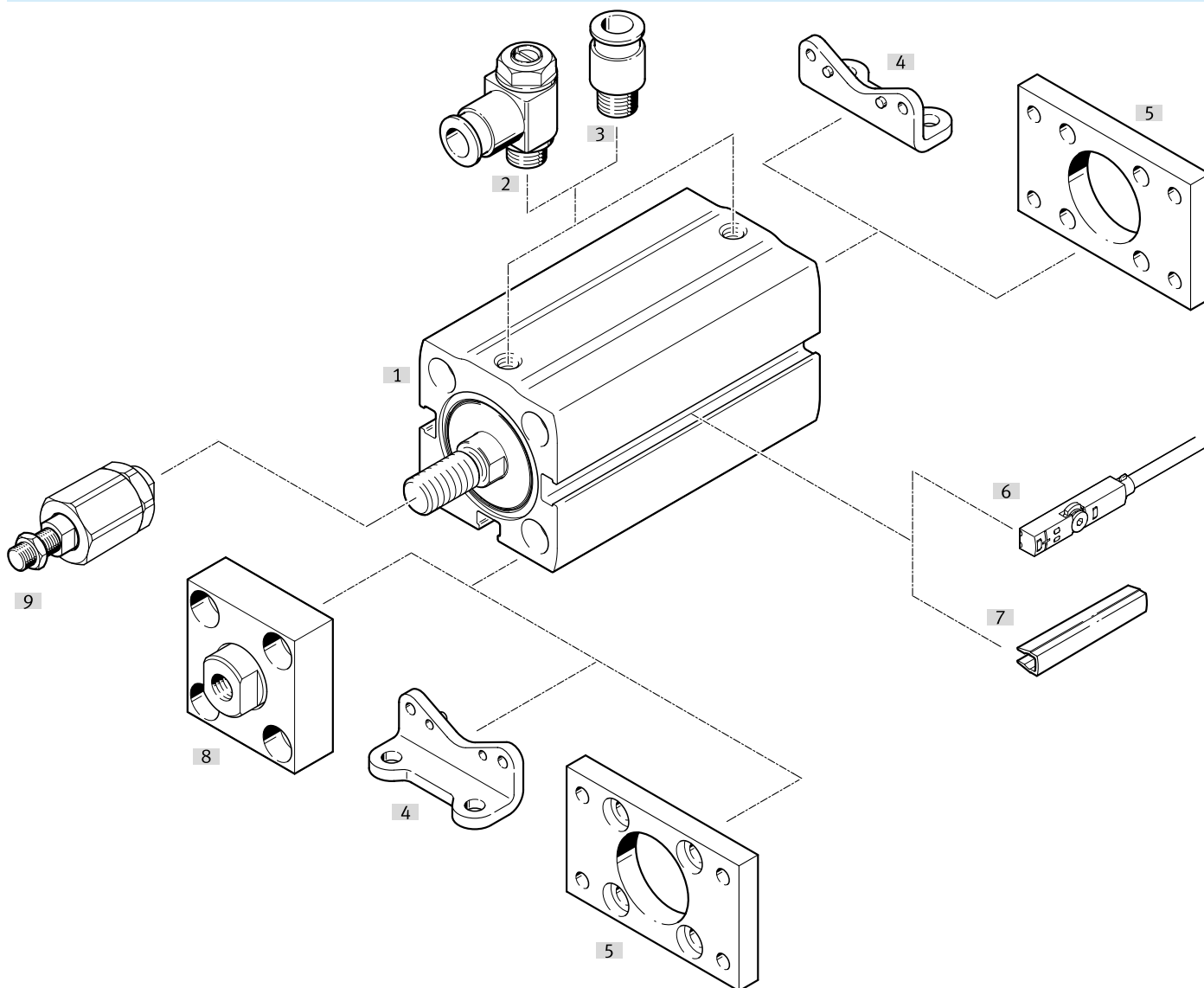
## Ordering data

With cushioning – P; with male thread – A; with position sensing – A					
	Piston diameter	Stroke	Corrosion resistance class CRC <sup>1)</sup>	Part no.	Type
	12 mm	5 mm	1 - Low corrosion stress	8092152	AEN-S-12-5-A-P-A
		10 mm		8092151	AEN-S-12-10-A-P-A
	16 mm	5 mm		8092142	AEN-S-16-5-A-P-A
		10 mm		8092139	AEN-S-16-10-A-P-A
		25 mm		8092141	AEN-S-16-25-A-P-A
	20 mm	5 mm		8092222	AEN-S-20-5-A-P-A
		10 mm		8092221	AEN-S-20-10-A-P-A
		25 mm		8092223	AEN-S-20-25-A-P-A
	25 mm	5 mm		8092177	AEN-S-25-5-A-P-A
		10 mm		8092178	AEN-S-25-10-A-P-A
		25 mm		8092181	AEN-S-25-25-A-P-A
	32 mm	5 mm		8092165	AEN-S-32-5-A-P-A
		10 mm		8092166	AEN-S-32-10-A-P-A
		25 mm		8092168	AEN-S-32-25-A-P-A
	40 mm	5 mm		8092162	AEN-S-40-5-A-P-A
		10 mm		8092161	AEN-S-40-10-A-P-A
		25 mm		8092160	AEN-S-40-25-A-P-A
	50 mm	10 mm		8092153	AEN-S-50-10-A-P-A
		25 mm		8092154	AEN-S-50-25-A-P-A
	63 mm	10 mm		8092148	AEN-S-63-10-A-P-A
		25 mm		8092146	AEN-S-63-25-A-P-A

1) More information [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

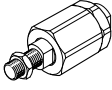
## Peripherals

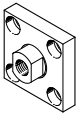
### Peripherals overview

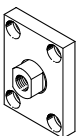


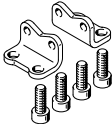
Accessories			→ Page/Internet
Type/order code	Description		
[1] Compact cylinder AEN-S	Single-acting		aen-s
[2] One-way flow control valve GRLZ	For piston Ø 12 ... 63: for regulating speed		24
[2] One-way flow control valve GRLA	For piston Ø 12 ... 63: for regulating speed		24
[3] Push-in fitting QS	For piston Ø 12 ... 63: for connecting tubing with standard O.D.		qs
[4] Foot mounting HNA	For piston Ø 12 ... 63: for bearing or end caps		23
[5] Flange mounting FNC	For piston Ø 12 ... 63: for bearing or end caps		23
[6] Proximity switch SMT-10	For piston Ø 6 ... 10: can be integrated in the cylinder profile barrel		24
[6] Proximity switches SMT-8	For piston Ø 12 ... 63: can be integrated in the cylinder profile barrel		25
[6] Position transmitter SDAS-MHS	For piston Ø 12 ... 63: can be integrated in the cylinder profile barrel		25
[6] Position transmitter SDAT-MHS	For piston Ø 12 ... 63: can be integrated in the cylinder profile barrel		25
[6] Position transmitter SMAT-8	For piston Ø 12 ... 63: can be integrated in the cylinder profile barrel		25
[7] Slot cover ABP	For piston Ø 12 ... 63: for protecting the sensor cables and the sensor slots from contamination		26
[8] Coupling piece KSG	For piston Ø 32 ... 63: to compensate for radial deviations		23
[8] Coupling piece KSZ	For piston Ø 32 ... 63: to compensate for radial deviations		23
[9] Self-aligning rod coupler FK	For piston Ø 12 ... 63: To compensate for radial and angular deviations		23

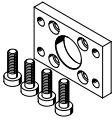
## Accessories


Self-aligning rod coupler FK					
	Description	Material housing	Product weight	Part no.	Type
	For Ø 12	Steel, Galvanised	20 g	30984	FK-M5
	For Ø 16		23 g	★ 2061	FK-M6
	For Ø 20, 25		50 g	★ 2062	FK-M8
	For Ø 32, 40		210 g	★ 6140	FK-M10X1,25
	For Ø 50, 63		215 g	★ 6141	FK-M12X1,25

Coupling piece KSG					
	Description	Material mounting	Product weight	Part no.	Type
	For Ø 32, 40	Steel, Galvanised	229 g	32963	KSG-M10X1,25
	For Ø 50, 63		447 g	32964	KSG-M12X1,25

Coupling piece KSZ					
	Description	Material mounting	Product weight	Part no.	Type
	For Ø 32, 40	Steel, Galvanised	110 g	36125	KSZ-M10X1,25
	For Ø 50, 63		180 g	36126	KSZ-M12X1,25


Foot mounting HNA					
	Description	Material bracket	Product weight	Part no.	Type
	For Ø 12	Steel, Galvanised	39 g	537237	HNA-12
	For Ø 16		42 g	537238	HNA-16
	For Ø 20		84 g	537239	HNA-20
	For Ø 25		90 g	537240	HNA-25
	For Ø 32		123 g	537241	HNA-32
	For Ø 40		157 g	537242	HNA-40
	For Ø 50		278 g	537243	HNA-50
	For Ø 63		328 g	537244	HNA-63

Flange mounting FNC					
	Description	Material mounting	Product weight	Part no.	Type
	For Ø 12	Steel, Galvanised	79 g	537245	FNC-12
	For Ø 16		88 g	537246	FNC-16
	For Ø 20		141 g	537247	FNC-20
	For Ø 25		165 g	537248	FNC-25
	For Ø 32		221 g	174376	FNC-32
	For Ø 40		291 g	174377	FNC-40
	For Ø 50		536 g	174378	FNC-50
	For Ø 63		679 g	174379	FNC-63


One-way flow control valves GRLA – for exhaust air					
	Description	Pneumatic connection 1	Pneumatic connection, port 2	Part no.	Type
	For Ø 6, 10	Push-in connector 3 mm	M3	175041	GRLA-M3-QS-3
	For Ø 12, 16, 20, 25, 32, 40		Push-in connector 4 mm	M5	★ 193137
		Push-in connector 6 mm		★ 193138	GRLA-M5-QS-4-D
				★ 193139	GRLA-M5-QS-6-D

## Accessories

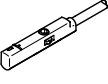
### One-way flow control valves GRLA – for exhaust air

	Description	Pneumatic connection 1	Pneumatic connection, port 2	Part no.	Type
	For Ø 50, 63	Push-in connector 3 mm	G1/8	193142	GRLA-1/8-QS-3-D
		Push-in connector 4 mm		★ 193143	GRLA-1/8-QS-4-D
		Push-in connector 6 mm		★ 193144	GRLA-1/8-QS-6-D
		Push-in connector 8 mm		★ 193145	GRLA-1/8-QS-8-D

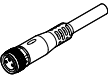
### One-way flow control valves GRLZ – For supply air

	Description	Pneumatic connection 1	Pneumatic connection, port 2	Part no.	Type
	For Ø 6, 10 For Ø 12, 16, 20, 25, 32, 40	Push-in connector 3 mm	M3	175043	GRLZ-M3-QS-3
		Push-in connector 4 mm	M5	★ 193153	GRLZ-M5-QS-3-D
		Push-in connector 6 mm		★ 193154	GRLZ-M5-QS-4-D
	For Ø 50, 63	Push-in connector 3 mm	G1/8	★ 193155	GRLZ-M5-QS-6-D
		Push-in connector 4 mm		193156	GRLZ-1/8-QS-3-D
		Push-in connector 6 mm		★ 193157	GRLZ-1/8-QS-4-D
		Push-in connector 8 mm		★ 193158	GRLZ-1/8-QS-6-D
				★ 193159	GRLZ-1/8-QS-8-D

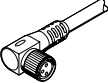
### Proximity switch SMT-10 for C-slot, magneto-resistive – for Ø 6 ... 10

	Type of mounting	Switching output	Electrical connection	Cable length	Part no.	Type
	Screw-clamped, Insertable in the slot from above	3-wire NPN N/O contact	Open end	2.5 m	★ 551377	SMT-10M-NS-24V-E-2,5-L-OE
			Plug M8, A-coded	0.3 m	★ 551379	SMT-10M-NS-24V-E-0,3-L-M8D
		3-wire PNP N/O contact	Open end	2.5 m	★ 551373	SMT-10M-PS-24V-E-2,5-L-OE
			Plug M8, A-coded	0.3 m	★ 551375	SMT-10M-PS-24V-E-0,3-L-M8D

### Connecting cables NEBU, straight

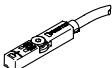
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	★ 541333	NEBU-M8G3-K-2.5-LE3
				5 m	★ 541334	NEBU-M8G3-K-5-LE3

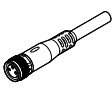
### Connecting cables NEBU, angled

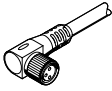
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	★ 541338	NEBU-M8W3-K-2.5-LE3
				5 m	★ 541341	NEBU-M8W3-K-5-LE3

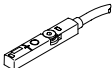


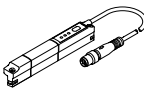
## Accessories

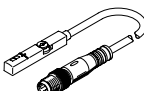
Proximity switch SMT-8 for T-slot, magneto-resistive - for $\varnothing$ 12 ... 63						
	Type of mounting	Switching output	Electrical connection	Cable length	Part no.	Type
	Screw-clamped, insertable in the slot from above	3-wire NPN N/O contact	Open end	2.5 m	★ 574338	SMT-8M-A-NS-24V-E-2,5-OE
			Plug M8, A-coded	0.3 m	★ 574339	SMT-8M-A-NS-24V-E-0,3-M8D
		3-wire PNP N/C contact	Open end	7.5 m	★ 574340	SMT-8M-A-PO-24V-E-7,5-OE
			3-wire PNP N/O contact	2.5 m	★ 574335	SMT-8M-A-PS-24V-E-2,5-OE
				Plug M8, A-coded	0.3 m	★ 574334

Connecting cables NEBU, straight						
	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	★ 541333	NEBU-M8G3-K-2.5-LE3
				5 m	★ 541334	NEBU-M8G3-K-5-LE3

Connecting cables NEBU, angled						
	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	★ 541338	NEBU-M8W3-K-2.5-LE3
				5 m	★ 541341	NEBU-M8W3-K-5-LE3


Position transmitter SDAS for T-slot, plug M8, A-coded – for $\varnothing$ 12 ... 63						
	Description	Sensing range	Electrical connection 1, number of connections/cores	Cable length	Part no.	Type
	Operating modes: two adjustable switching outputs; IO-Link®	52 mm	4	0.3 m	8063974	SDAS-MHS-M40-1L-PNLK-PN-E-0.3-M8
				2.5 m	8063975	SDAS-MHS-M40-1L-PNLK-PN-E-2.5-LE

Position transmitter SDAT for T-slot, plug M8, A-coded - for $\varnothing$ 12 ... 63						
	Sensing range	Analogue output	Electrical connection 1, number of connections/cores	Cable length	Part no.	Type
	0 ... 50.000 mm	4 - 20 mA	4	0.3 m	1531265	SDAT-MHS-M50-1L-SA-E-0.3-M8

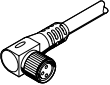
Position transmitter SMAT for T-slot, plug M8, A-coded – for $\varnothing$ 12 ... 63						
	Sensing range	Analogue output	Electrical connection 1, number of connections/cores	Cable length	Part no.	Type
	52 mm	0 - 10 V	4	0.3 m	553744	SMAT-8M-U-E-0,3-M8D

## Accessories

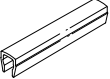
### Connecting cables NEBU, straight

	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	4	2.5 m	541342	NEBU-M8G4-K-2.5-LE4
				5 m	541343	NEBU-M8G4-K-5-LE4

### Connecting cables NEBU, angled

	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	4	2.5 m	541344	NEBU-M8W4-K-2.5-LE4
				5 m	541345	NEBU-M8W4-K-5-LE4

### Slot cover ABP for T-slot

	Description	Material housing	Packaging quantity [pieces]	Part no.	Type
	Length 0.5 m, Inserted from above	ABS	2	151680	ABP-5-S