

## Stainless-steel cylinders

**FESTO**



### Key features

#### Their applications

Reliable components need to be fully functional and operational, even in harsh operating conditions. The aim is to maximise availability of machinery while minimising downtimes. Stainless-steel cylinders are therefore used in applications where the surface finish of normal pneumatic drives would not be able to withstand the surrounding media. However, designing a corrosion-resistant system involves more than simply selecting a suitable steel: it also requires the selection of a matching concept for mounting components and accessories.

#### Sample application:

The atmosphere in the maturing cellar of a cheese factory consists of an unpleasant mix of ammonia, lactic acid and 98% humidity.

#### Our strength

Festo's stainless-steel cylinders are characterised by resistant materials, such as 1.4301 and 1.4401. These popular high-alloy, stainless austenitic chrome-nickel and chrome-nickel-molybdenum steels protect against chemical or electrochemical stress as well as damage to the surface materials caused by cleaning agents or disinfectants. These groups of materials are particularly resistant to uniform surface corrosion and offer increased protection against pitting and crevice corrosion.

#### The benefits to you

Festo's worldwide service network ensures optimum availability of stainless-steel cylinders. As well as a comprehensive range of standards-based cylinders to DIN ISO 15552 and 6432, we also offer a range of matching mounting components and accessories. The stainless-steel cylinders are assembled with grease that is compliant with NSF-H1 and wipers in accordance with BGVV (Federal Institute for Risk Assessment) guidelines. This means that they are suitable for use in the food area. We will be pleased to provide you with further information about future additions to our stainless-steel range. Just get in touch with us.

#### Good to know

Our many years of experience in the area of stainless steel are invaluable when you are investigating solutions for harsh environments. Our experts will answer any questions you might have about surface finishes and chemical resistance.

## Key features

### Resistance

Complete resistance to pitting and crevice corrosion is not always possible, even with ideal application parameters. The following parameters increase the pitting effect of chloride ions:

- Concentration of chloride ions
- Duration of contact
- Temperature
- Decreasing pH value

It must therefore be ensured during design, assembly and operation that all parts of the machinery can be properly cleaned to avoid an accumulation of chloride ions.

Selected sealing materials ensure very high resistance to a wide range of chemical compounds.

Further information on media resistance can be obtained on the Internet at [www.festo.com](http://www.festo.com).

In principle, we recommend that the cylinder be cleaned with the piston rod in the retracted position to avoid the risk of washing out the lifetime lubrication.

Various types of machinery contamination make cleaning processes necessary in many industry sectors. The degree of cleaning required ranges from wiping the machinery with a dry cloth to wet cleaning to foam cleaning with different exposure times and concentrations.

It is therefore impossible to make a general recommendation on compatibility.

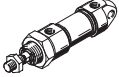


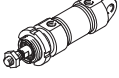
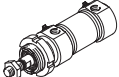
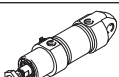



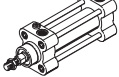
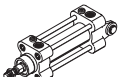


Wet cleaning



Foam cleaning

Product range overview

Function	Design	Type	Piston $\varnothing$ [mm]	Stroke [mm]	Piston rod				
					Through S2	Extended K8	Male thread		Female thread K3
							Extended K2	Custom thread K5	
Double-acting	<b>Standards-based cylinders to ISO 6432</b>								
		CRDSNU Piston rod at one end	12, 16	1 ... 200	■	■	■	■ From diam. 25	■ From diam. 20
			20	1 ... 320					
			25	1 ... 500					
		CRDSNU-MQ Short end cap without swivel mounting	12, 16	1 ... 200	-	■	■	■ From diam. 25	■ From diam.
			20	1 ... 320					
			25	1 ... 500					
		CRDSNU-MG Bearing cap without mounting thread	12, 16	1 ... 200	-	■	■	■ From diam. 25	■ From diam. 20
			20	1 ... 320					
			25	1 ... 500					
		CRDSNU-B-MG Bearing cap without mounting thread (stocked parts)	16	10, 25, 40, 50, 80, 100, 125, 160, 200	-	-	-	-	-
	20, 25	10, 25, 40, 50, 80, 100, 125, 160, 200							
	<b>Round cylinders</b>								
		CRDSNU Piston rod at one end	32, 40, 50, 63	1 ... 500	■	■	■	■	■
			80, 100	1 ... 500					
	CRDSNU-MQ Short end cap without swivel mounting	32, 40, 50, 63	1 ... 500	-	■	■	■	■	
		80, 100	1 ... 500						
	CRDSNU-MG Bearing cap without mounting thread	32, 40, 50, 63	1 ... 500	-	■	■	■	■	
		80, 100	1 ... 500						
	CRDSNU-B-MG Bearing cap without mounting thread (stocked parts)	32, 40	10, 25, 40, 50, 80, 100, 125, 160, 200	-	-	-	-	-	
	CRHD-MQ Bearing cap with male thread	32, 40, 50, 63, 80, 100	10 ... 500 Special lengths on request	-	-	-	-	-	
	CRHD-MC End cap with clevis	32, 40, 50, 63, 80, 100	10 ... 500 Special lengths on request	-	-	-	-	-	
	CRHD-MS End cap with lug	32, 40, 50, 63, 80, 100	10 ... 500 Special lengths on request	-	-	-	-	-	
<b>Standards-based cylinders to ISO 15552 (ISO 6431 and VDMA 24562)</b>									
	CRDNG Piston rod at one end	32, 40, 50, 63, 80, 100, 125	10 ... 2000	■	-	-	-	-	
<b>Standards-based cylinders with swivel bearing at rear to ISO 15552 (ISO 6431 and VDMA 24562)</b>									
	CRDNGS Piston rod at one end	32, 40, 50, 63, 80, 100, 125	10 ... 2000	-	-	-	-	-	

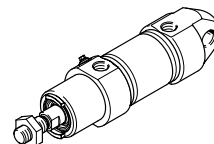
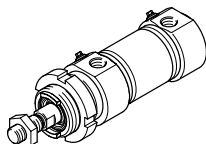
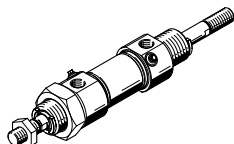
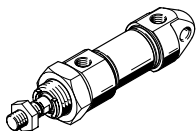
## Product range overview

Type	Position sensing	Cushioning			Wiper variant			Heat-resistant seal	Low temperature	EU certification	→ Page/ Internet
		Fixed	Adjustable	Self-adjusting	Increased chem. resistance	Hard wiper	Unlubricated operation				
A	P	PPV	PPS	A1	A2	A3	S6	TT	EX4		
<b>Standards-based cylinders to ISO 6432</b>											
<b>CRDSNU</b> Piston rod at one end	■	■	■ From diam. 20	■ From diam. 16	■	■	■	■	■ From diam. 16	■	6
<b>CRDSNU-MQ</b> Short end cap without swivel mounting	■	■	■ From diam. 20	■ From diam. 20	■	■	■	■	■ From diam. 16	■	6
<b>CRDSNU-MG</b> Bearing cap without mounting thread	■	■	■ From diam. 20	■ From diam.	■	–	■	■	–	■	6
<b>CRDSNU-B-MG</b> Bearing cap without mounting thread (stocked parts)	■	■	–	–	■	–	–	–	–	■	
<b>Round cylinders</b>											
<b>CRDSNU</b> Piston rod at one end	■	■	■	■	■	■	■	■	■	■	19
	■	■	■	■	■	–	■	■	–	■	
<b>CRDSNU-MQ</b> Short end cap without swivel mounting	■	■	■	■	■	■	■	■	■	■	19
	■	■	■	■	■	–	■	■	–	■	
<b>CRDSNU-MG</b> Bearing cap without mounting thread	■	■	■	■	■	–	■	■	–	■	19
	■	■	■	■	■	–	■	■	–	■	
<b>CRDSNU-B-MG</b> Bearing cap without mounting thread (stocked parts)	■	–	–	■	■	–	–	–	–	■	
<b>CRHD-MQ</b> Bearing cap with male thread	■	–	■	–	–	–	–	■	–	–	32
<b>CRHD-MC</b> End cap with clevis	■	–	■	–	–	–	–	■	–	–	32
<b>CRHD-MS</b> End cap with lug	■	–	■	–	–	–	–	■	–	–	32
<b>Standards-based cylinders to ISO 15552 (ISO 6431 and VDMA 24562)</b>											
<b>CRDNG</b> Piston rod at one end	■	–	■	–	–	–	–	■	–	–	40
<b>Standards-based cylinders with swivel bearing at rear to ISO 15552 (ISO 6431 and VDMA 24562)</b>											
<b>CRDNGS</b> Piston rod at one end	■	–	■	–	–	–	–	■	–	–	40

## Key features

### Variants

CRDSNU Basic version	CRDSNU-S2: Through piston rod	CRDSNU-MQ: Short end cap without swivel mounting	CRDSNU-MG/CRDSNU-B-MG: Bearing cap without mounting thread
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Further variants Symbol	Key features	Description
	S2 Through piston rod	For working at both ends, equal force in the forward and return stroke, for attaching external stops
	S6 Heat-resistant seal	Temperature resistance up to max. 120°C
	K2 Extended male piston rod thread	–
	K3 Female piston rod thread	–
	K5 Custom piston rod thread	Metric standard thread to ISO
	K8 Extended piston rod	–
	A1 Wiper variant	Increased chemical resistance: Wiper made from fluoro rubber
	A2 Wiper variant	Hard wiper: Cylinder with hard wiper seal for dust, particles and viscous media
	A3 Wiper variant	Unlubricated operation: Cleaning processes degrease the piston rod. A special piston rod seal permits a longer service life compared to the standard seal.
	TT Low temperature	Temperature resistance down to max. –40°C

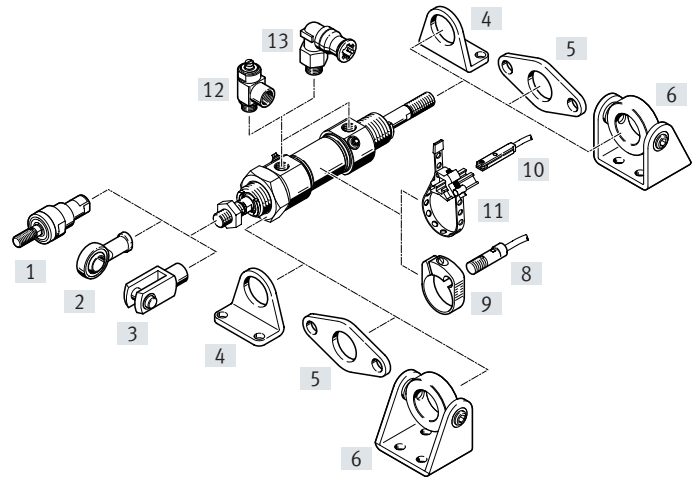
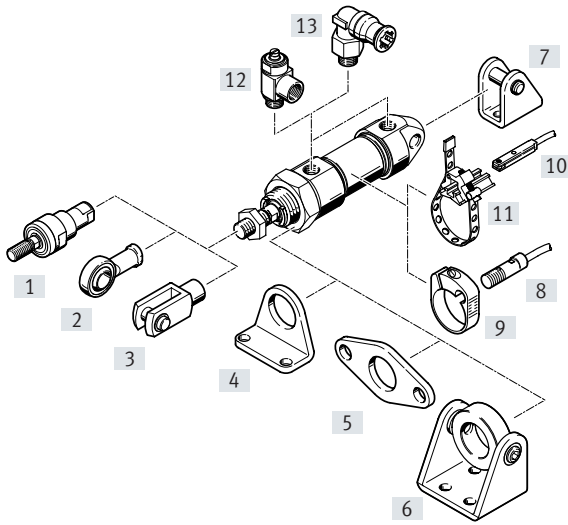
### Cushioning types

	Cushioning P	Cushioning PPS	Cushioning PPV
<b>Mode of operation</b>	<ul style="list-style-type: none"> <li>The drive is equipped with polymer flexible end-position cushioning</li> </ul>	<ul style="list-style-type: none"> <li>The drive is equipped with self-adjusting end-position cushioning</li> </ul>	<ul style="list-style-type: none"> <li>The drive is equipped with adjustable end-position cushioning</li> </ul>
<b>Application</b>	<ul style="list-style-type: none"> <li>Small loads</li> <li>Low speeds</li> <li>Low impact energies</li> </ul>	<ul style="list-style-type: none"> <li>Small to medium loads</li> <li>Low to medium speeds</li> <li>Medium impact energies</li> </ul>	<ul style="list-style-type: none"> <li>Medium to high loads</li> <li>High speeds</li> <li>High impact energies</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>No adjustment required</li> <li>Saves time</li> </ul>	<ul style="list-style-type: none"> <li>No adjustment required</li> <li>Saves time</li> <li>Powerful</li> </ul>	<ul style="list-style-type: none"> <li>Very powerful</li> </ul>

## Peripherals overview

CRDSNU-...

CRDSNU-...S2



## Mounting attachments and accessories

	Description	CRDSNU-				CRDSNU-B	→ Page/ Internet
		Basic version	MQ	MG	S2	MG	
[1]	Self-aligning rod coupler CRFK	To compensate for radial and angular deviations	■	■	■	■	56
[2]	Rod eye CRSGS	With spherical bearing	■	■	■	■	56
[3]	Rod clevis CRSG	Permits a swivelling movement of the cylinder in one plane	■	■	■	■	56
[4]	Foot mounting CRHBN	<ul style="list-style-type: none"> <li>For bearing caps</li> <li>With CRDSNU-S2 for bearing and end caps</li> </ul>	■	■	–	–	48
[5]	Flange mounting CRFBN	<ul style="list-style-type: none"> <li>For bearing caps</li> <li>With CRDSNU-S2 for bearing and end caps</li> </ul>	■	■	–	–	50
[6]	Swivel mounting CRSBN	<ul style="list-style-type: none"> <li>For bearing caps</li> <li>With CRDSNU-S2 for bearing and end caps</li> </ul>	■	■	–	–	48
[7]	Clevis foot CRLBN	For end caps	■	–	■	–	53
[8]	Proximity switch CRSMEO-4	<ul style="list-style-type: none"> <li>Round design</li> <li>For position sensing</li> </ul>	■	■	■	■	56
[9]	Mounting kit CRSMBR	For proximity switches CRSMEO-4	■	■	■	■	57
[10]	Proximity switch CRSMT-8M	<ul style="list-style-type: none"> <li>Design for T-slot</li> <li>For position sensing</li> </ul>	■	■	■	■	56
[11]	Mounting kit SMBR	For proximity switches CRSMT-8	■	■	■	■	57
[12]	One-way flow control valve CRGRLA	For regulating speed	■	■	■	■	57
[13]	Push-in fitting CRQS	For connecting tubing with standard O.D.	■	■	■	■	qs

## Type codes

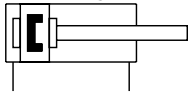
<b>001</b>	<b>Series</b>	
<b>CRDSNU</b>	Round cylinder, double-acting, stainless steel	
<b>002</b>	<b>Piston diameter [mm]</b>	
<b>12</b>	12	
<b>16</b>	16	
<b>20</b>	20	
<b>25</b>	25	
<b>003</b>	<b>Stroke range [mm]</b>	
<b>...</b>	1 ... 500	
<b>004</b>	<b>Cushioning</b>	
<b>P</b>	Elastic cushioning rings/plates on both sides	
<b>PPS</b>	Pneumatic cushioning, self-adjusting at both ends	
<b>PPV</b>	Pneumatic cushioning, adjustable at both ends	
<b>005</b>	<b>Position sensing</b>	
<b>A</b>	For proximity sensor	
<b>006</b>	<b>Cylinder end cap</b>	
	Standard	
<b>MQ</b>	Short end cap without swivel mounting	
<b>MG</b>	Bearing cap without mounting thread	
<b>007</b>	<b>Scraper variant</b>	
	None	
<b>A1</b>	Increased chemical resistance	
<b>A2</b>	Hard scraper	
<b>A3</b>	For unlubricated operation	




<b>008</b>	<b>Piston rod type</b>	
	At one end	
<b>S2</b>	Through piston rod	
<b>009</b>	<b>Piston rod thread type</b>	
	Male thread	
<b>K3</b>	Female thread	
<b>010</b>	<b>Custom thread</b>	
<b>"M10"K5</b>	M10	
<b>011</b>	<b>Piston rod extension</b>	
	None	
<b>...K8</b>	1 ... 500 mm	
<b>012</b>	<b>Temperature resistance</b>	
	Standard	
<b>S6</b>	Heat-resistant seals max. 120 °C	
<b>013</b>	<b>Temperature range</b>	
	Standard	
<b>TT</b>	-40 ... +80°C	
<b>014</b>	<b>EU certification</b>	
	None	
<b>EX4</b>	II 2GD	



## Data sheet

## P cushioning



-  - Diameter  
12 ... 25 mm
-  - Stroke length  
1 ... 500 mm  
Longer strokes on request
-  - Spare parts service



## General technical data

Piston Ø		12	16	20	25
Pneumatic connection		M5	M5	G1/8	G1/8
Piston rod thread		M6	M6	M8	M10x1.25
Design		Piston			
		Piston rod			
		Cylinder barrel			
Cushioning	P	Elastic cushioning rings/pads at both ends			
	PPV	-		Cushioning, adjustable at both ends	
	PPS	-		Cushioning, self-adjusting at both ends	
Cushioning length	PPV [mm]	-		15	17
	PPS [mm]	-		15	17
Position sensing		Via proximity switch			
Type of mounting		With accessories			
		With male thread			
Mounting position		Any			

## Operating conditions

Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]			
Note on the operating/ pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)			
Operating pressure <sup>1)</sup>	[MPa]	0.1 ... 1			
	[bar]	1 ... 10			
	[psi]	14.5 ... 145			
Food-safe <sup>2)</sup>		→ Supplementary material information			

1) An increase in the minimum operating pressure is possible with variants

2) Additional information [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

## Environmental conditions

Standards-based cylinders		Basic type/A3	A1	TT	S6
Ambient temperature <sup>1)</sup> [°C]		-20 ... +80	0 ... +80	-40 ... +80	0 ... +120
Corrosion resistance class CRC <sup>2)</sup>		3			

1) Note operating range of proximity switches

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

High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.

## Data sheet

ATEX <sup>1)</sup>	
ATEX category for gas	II 2G
Type of ignition protection for gas	Ex h IIC T4 Gb
ATEX category for dust	II 2D
Type of ignition protection for dust	Ex h IIICT120°C Db
Explosion-proof ambient temperature	-20°C ≤ Ta ≤ +60°C
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)

1) Note the ATEX certification of the accessories.

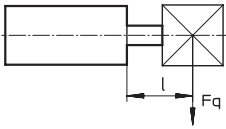
Forces [N] and impact energy [J]				
Piston ø	12	16	20	25
Theoretical force at 0.6 MPa (6 bar, 87 psi) advancing	68	121	188	295
Theoretical force at 0.6 MPa (6 bar, 87 psi), retracting	51	104	158	247
Impact energy in the end positions for P cushioning <sup>1)</sup>	0.07	0.15	0.20	0.30

1) The values are reduced by approx. 50% at an ambient temperature of 80°C

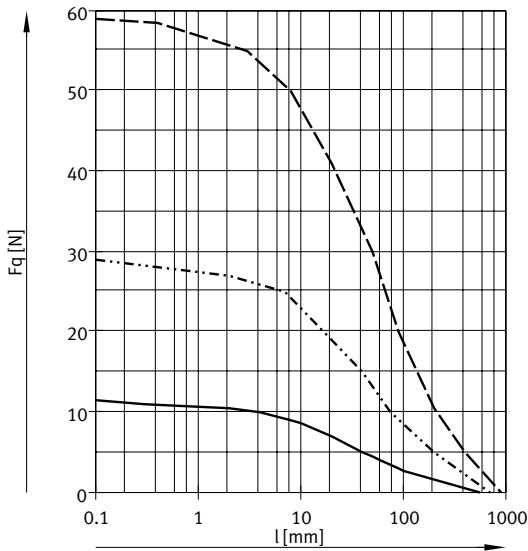
Weight [g]				
Piston ø	12	16	20	25
Basic weight with 0 mm stroke	101	130	310	410
Additional weight per 10 mm stroke	4	5	7	11
Moving mass with 0 mm stroke	19	21	42	73
Add. moving mass per 10 mm stroke	2	2	4	6

## Data sheet

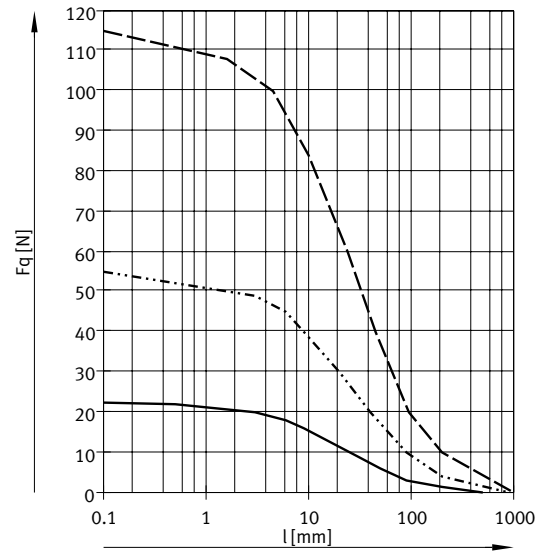
### Max. transverse force $F_q$ as a function of projection $l$



#### Basic version



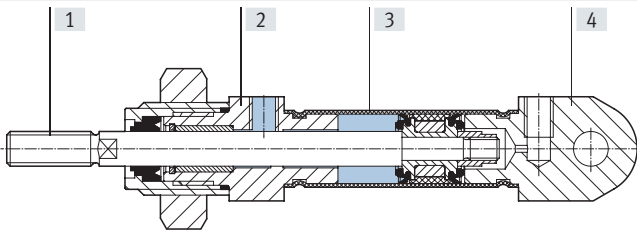
#### S2 – Through piston rod



- DSNU-12/16
- DSNU-20
- - - DSNU-25

### Materials

#### Sectional view



Standards-based cylinders	Basic version	A1	A3	TT	S6
[1] Piston rod	High-alloy stainless steel				
[2] Bearing cap	High-alloy stainless steel				
[3] Cylinder barrel	High-alloy stainless steel				
[4] End cap	High-alloy stainless steel				
- Seals	TPE-U (PUR) media seal (modified for resistance to hydrolysis and cleaning)	FPM	UHMW-PE	TPE-U (PUR) (suitable for low temperatures)	FPM
Note on materials	RoHS-compliant				
PWS conformity	VDMA24364-B2-L		Contains paint-wetting impairment substances		-
Maritime classification <sup>1)</sup>	See certificate				

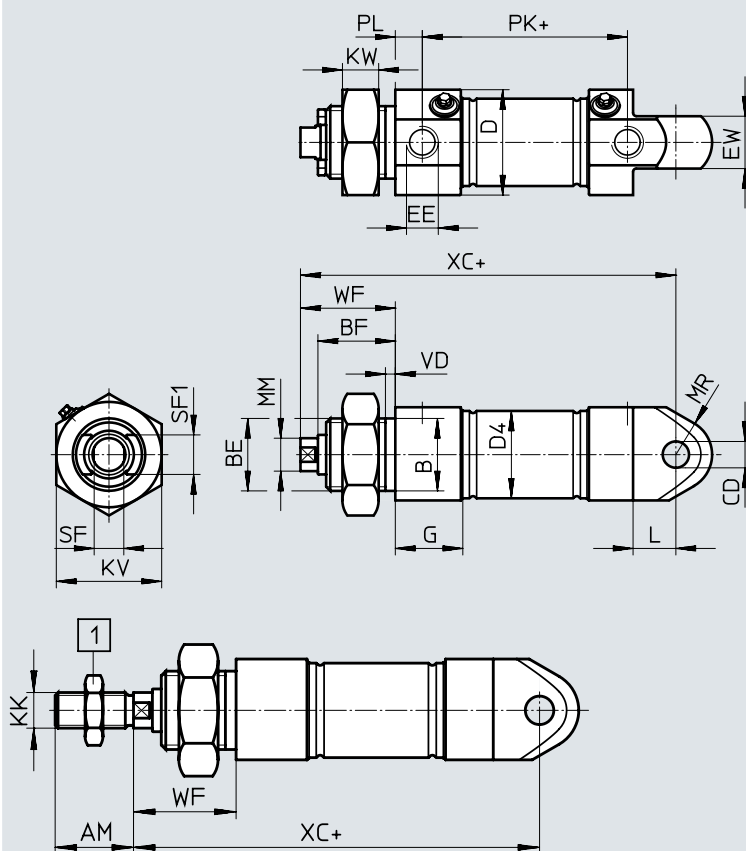
1) Additional information [www.festo.com/sp](http://www.festo.com/sp) → Certificates

Data sheet

Dimensions

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

Basic version



-  - Note

[1] Piston rod nut is not included in the scope of delivery for diameter 8 ... 20.

+ = plus stroke length

∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ H8	D ∅	D4 ∅
12	16	16	M16x1.5	18	6	20	13.3
16	16	16	M16x1.5	18	6	20	17.3
20	20	22	M22x1.5	20.7	8	30	21.3
25	22	22	M22x1.5	23.5	8	32	26.5

∅ [mm]	EE	EW	G	KK	KV	KW	L	MM ∅
12	M5	12	9.5	M6	24	8	10	6
16	M5	12	9.7	M6	24	8	10	6
20	G1/8	16	20.5	M8	32	11	13	8
25	G1/8	16	20.5	M10x1.25	32	11	13	10

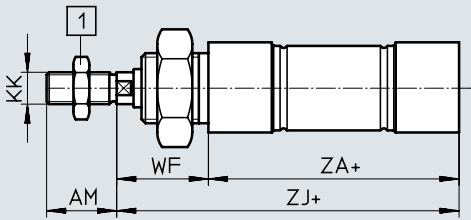
∅ [mm]	MR	PL	SF	SF1	VD	WF	XC ±1
12	8	6	5	9	3.5	22	75
16	8	6	5	9	3.5	22	82
20	11	8.2	7	12	3.5	24	95
25	11	8.2	9	12	3.5	28	104

Data sheet

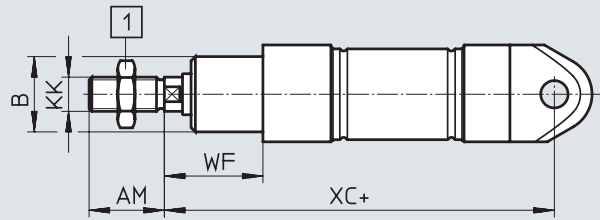
Dimensions

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

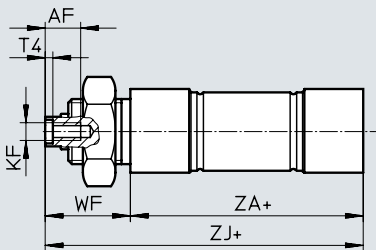
MQ – Short end cap without swivel mounting



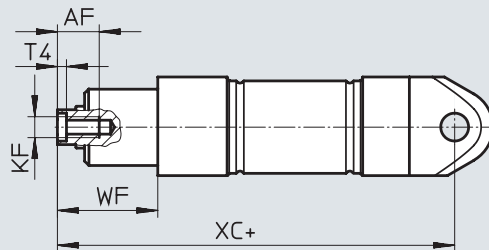
MG – Bearing cap without mounting thread



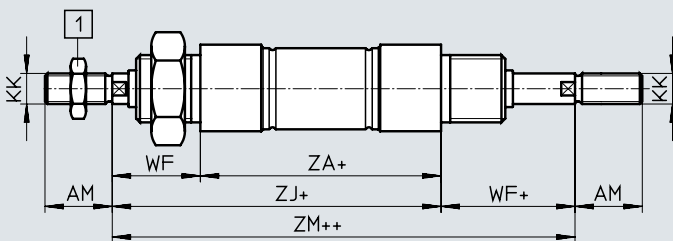
MQ-K3 – Short end cap without swivel mounting, with female piston rod thread



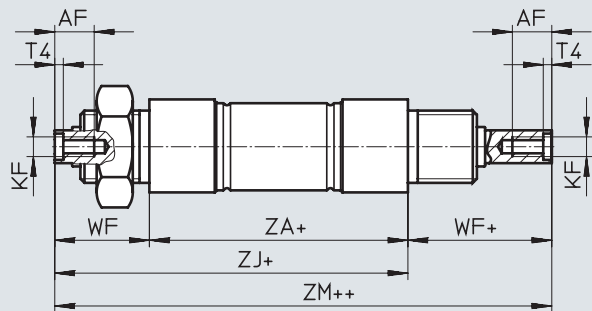
MG-K3 – Bearing cap without mounting thread, with female piston rod thread



S2 – Through piston rod



S2-K3 – Through piston rod, with female thread



- [1] - Note

[1] Piston rod nut is not included in the scope of delivery for diameter 8 ... 20.

+ = plus stroke length

++ = plus 2x stroke length

∅	AF	AM	B	KF	KK
[mm]			∅ h9		
12	–	16	16	–	M6
16	–	16	16	–	M6
20	12	20	22	M4	M8
25	12	22	22	M6	M10x1.25

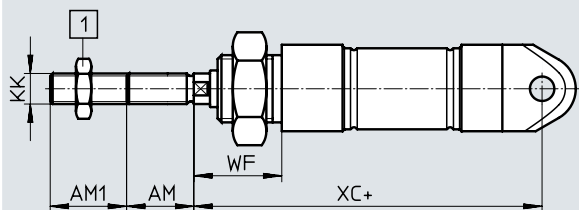
∅	T4	WF	XC	ZA	ZJ	ZM
[mm]			±1			
12	–	22	75	50	72	95
16	–	22	82	56	78	101
20	2	24	95	68	92	117
25	2.6	28	104	69.5	97.5	126

## Data sheet

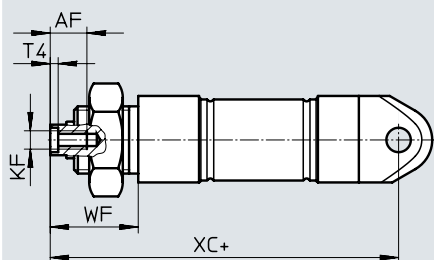
### Dimensions

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

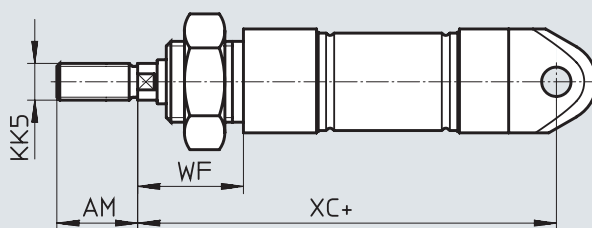
K2 – Extended male piston rod thread



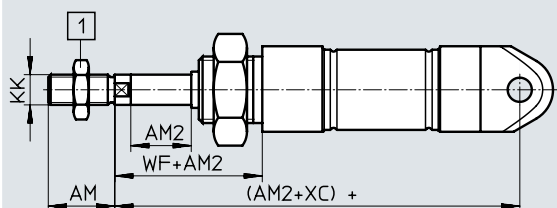
K3 – Female piston rod thread



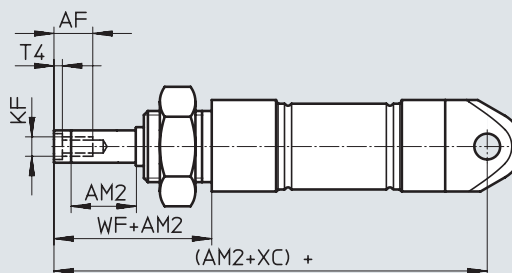
K5 – Custom piston rod thread



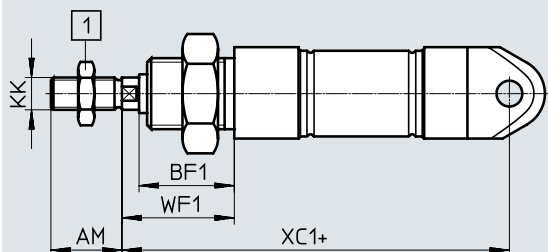
K8 – Extended piston rod




K3-K8 – Extended piston rod, with female thread



TT – Low temperature / A2 – Hard wiper



-  - **Note**

[1] Piston rod nut is not included in the scope of delivery for diameter 8 ... 20.

+ = plus stroke length


## Data sheet

∅	AF	AM	AM1	AM2
[mm]			max.	max.
12	–	16	1 ... 20	1 ... 100
16	–	16	1 ... 20	1 ... 100
20	12	20	1 ... 25	1 ... 100
25	12	22	1 ... 35	1 ... 100

∅	BF1	KF	KK	KK5
[mm]				
12	24	–	M6	–
16	24	–	M6	–
20	26.7	M4	M8	–
25	29.5	M6	M10x1.25	M10


∅	T4	WF	WF1	XC	XC1
[mm]				±1	±1
12	–	22	28	75	81
16	–	22	28	82	88
20	2	24	30	95	101
25	2.6	28	34	104	110


## Ordering data

Ordering data			
Type	Piston ø	Stroke	P – Elastic cushioning rings/plates A – With position sensing
	[mm]	[mm]	Part no.   Type
	12	10	8152524   CRDSNU-12-10-P-A
		25	8152525   CRDSNU-12-25-P-A
		40	8152526   CRDSNU-12-40-P-A
		50	8152527   CRDSNU-12-50-P-A
		80	8152528   CRDSNU-12-80-P-A
		100	8152529   CRDSNU-12-100-P-A
	16	10	8152548   CRDSNU-16-10-P-A
		15	8152549   CRDSNU-16-15-P-A
		20	8152550   CRDSNU-16-20-P-A
		25	8152551   CRDSNU-16-25-P-A
		40	8152552   CRDSNU-16-40-P-A
		50	8152553   CRDSNU-16-50-P-A
		80	8152554   CRDSNU-16-80-P-A
		100	8152555   CRDSNU-16-100-P-A
	20	10	8152557   CRDSNU-20-10-P-A
		15	8152558   CRDSNU-20-15-P-A
		20	8152559   CRDSNU-20-20-P-A
		25	8152560   CRDSNU-20-25-P-A
		40	8152561   CRDSNU-20-40-P-A
		50	8152562   CRDSNU-20-50-P-A
		80	8152563   CRDSNU-20-80-P-A
100		8152564   CRDSNU-20-100-P-A	
25	10	8152627   CRDSNU-25-10-P-A	
	15	8152628   CRDSNU-25-15-P-A	
	20	8152629   CRDSNU-25-20-P-A	
	25	8152630   CRDSNU-25-25-P-A	
	40	8152631   CRDSNU-25-40-P-A	
	50	8152632   CRDSNU-25-50-P-A	
	80	8152633   CRDSNU-25-80-P-A	
	100	8152634   CRDSNU-25-100-P-A	



## Ordering data

Ordering data – Stocked parts				
Type	Piston ø	Stroke	P – Elastic cushioning rings/plates PPS – Pneumatic cushioning, self-adjusting at both ends A – With position sensing MG – Bearing cap without mounting thread A1 – Wiper variant: increased chemical resistance	
	[mm]	[mm]	Part no.	Type
	16	10	8073759	CRDSNU-B-16-10-P-A-MG-A1
		25	8073760	CRDSNU-B-16-25-P-A-MG-A1
		40	8073761	CRDSNU-B-16-40-P-A-MG-A1
		50	8073762	CRDSNU-B-16-50-P-A-MG-A1
		80	8073763	CRDSNU-B-16-80-P-A-MG-A1
		100	8073764	CRDSNU-B-16-100-P-A-MG-A1
		125	8073765	CRDSNU-B-16-125-P-A-MG-A1
		160	8073766	CRDSNU-B-16-160-P-A-MG-A1
		200	8073767	CRDSNU-B-16-200-P-A-MG-A1
	20	10	8073980	CRDSNU-B-20-10-PPS-A-MG-A1
		25	8073979	CRDSNU-B-20-25-PPS-A-MG-A1
		40	8073978	CRDSNU-B-20-40-PPS-A-MG-A1
		50	8073977	CRDSNU-B-20-50-PPS-A-MG-A1
		80	8073976	CRDSNU-B-20-80-PPS-A-MG-A1
		100	8073975	CRDSNU-B-20-100-PPS-A-MG-A1
		125	8073974	CRDSNU-B-20-125-PPS-A-MG-A1
		160	8073973	CRDSNU-B-20-160-PPS-A-MG-A1
		200	8073972	CRDSNU-B-20-200-PPS-A-MG-A1
	25	10	2159636	CRDSNU-B-25-10-PPS-A-MG-A1
		25	2159637	CRDSNU-B-25-25-PPS-A-MG-A1
		40	2159638	CRDSNU-B-25-40-PPS-A-MG-A1
		50	2159639	CRDSNU-B-25-50-PPS-A-MG-A1
		80	2159640	CRDSNU-B-25-80-PPS-A-MG-A1
		100	2159641	CRDSNU-B-25-100-PPS-A-MG-A1
125		2159642	CRDSNU-B-25-125-PPS-A-MG-A1	
160		2159643	CRDSNU-B-25-160-PPS-A-MG-A1	
	200	2159644	CRDSNU-B-25-200-PPS-A-MG-A1	

 **Note**

The bearing cap on stocked parts is made of one piece.  
 When ordered using the modular product system, the bearing cap is made of two pieces, which makes it possible to exchange the wiper in the event of a repair.

## Ordering data

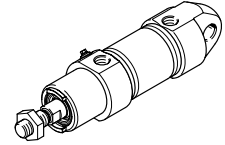
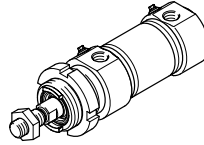
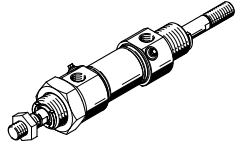
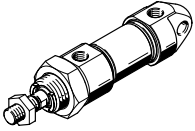
Ordering table – Modular product system							
Size	12	16	20	25	Conditions	Code	Enter code
Module no.	<b>552787</b>	<b>552788</b>	<b>552789</b>	<b>552790</b>			
Design	Stainless steel					<b>CR</b>	CR
Function	Standards-based cylinder, double-acting, to ISO 6432					<b>DSNU</b>	DSNU
Piston Ø [mm]	12	16	20	25		<b>-...</b>	
Stroke [mm]	1 ... 200		1 ... 320	1 ... 500	[1]	<b>-...</b>	
Cushioning	Elastic cushioning rings/pads at both ends				[10]	<b>-P</b>	
	-		Pneumatic cushioning, self-adjusting		[2] [8]	<b>-PPS</b>	
	-		Pneumatic cushioning, adjustable at both ends			<b>-PPV</b>	
Position sensing	Via proximity switch					<b>-A</b>	-A
Cylinder cap	Short end cap without swivel mounting					<b>-MQ</b>	
	Bearing cap without mounting thread					<b>-MG</b>	
Wiper variant	Increased chemical resistance				[2]	<b>-A1</b>	
	Hard wiper				[2] [3] [9]	<b>-A2</b>	
	Unlubricated operation				[2]	<b>-A3</b>	
Piston rod	Through piston rod				[3] [4]	<b>-S2</b>	
Extended male thread	Extended male piston rod thread						
	[mm]	1 ... 20		1 ... 25	1 ... 35		<b>-...K2</b>
Female thread	Piston rod with female thread						
	-	-	(M4)	(M6)	[5]	<b>-K3</b>	
Custom thread	Custom thread on the piston rod						
	-	-	-	M10		<b>-“...”K5</b>	
Extended piston rod [mm]	1 ... 100					<b>-...K8</b>	
Temperature resistance	Heat-resistant seal up to max. 120°C					<b>-S6</b>	
Low temperature	-	Seals and lubricating grease from -40°C ... +80°C			[3] [6] [9]	<b>-TT</b>	
EU certification	II 2GD				[7]	<b>-EX4</b>	

- [1] -... Longer strokes on request  
 [2] PPS, A1, A2, A3 Not with S6, TT  
 [3] A2, S2, TT Not with MG  
 [4] S2 Not with MQ  
 [5] K3 Not with K2, K5  
 [6] TT Not with S6  
 [7] EX4 Not with S6, TT  
 [8] PPS Not with MQ for piston Ø 16  
 [9] A2, TT Not with S2, K3  
 [10] P Not with B except for piston Ø 16

## Key features

### Variants

CRDSNU Basic version	CRDSNU-S2: Through piston rod	CRDSNU-MQ: Short end cap without swivel mounting	CRDSNU-MG: Bearing cap without mounting thread
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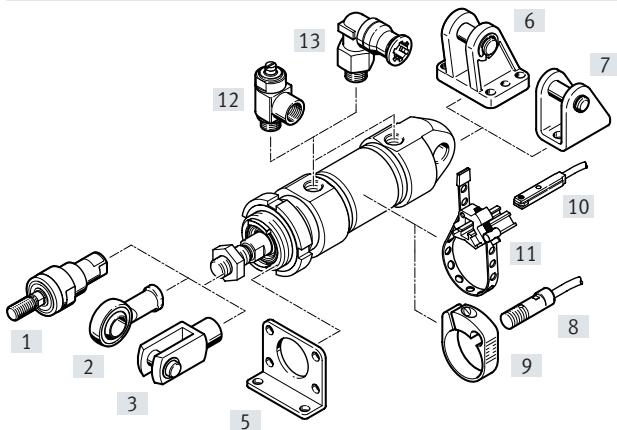
Further variants Symbol	Key features	Description
	S2 Through piston rod	For working at both ends, equal force in the forward and return stroke, for attaching external stops
	S6 Heat-resistant seal	Temperature resistance up to max. 120°C
	K2 Extended male piston rod thread	–
	K3 Female piston rod thread	–
	K5 Custom piston rod thread	Metric standard thread to ISO
	K8 Extended piston rod	–
	A1 Wiper variant	Increased chemical resistance
	A2 Wiper variant	Hard wiper: Cylinder with hard
	A3 Wiper variant	Unlubricated operation: Cleaning processes degrease the piston rod. A special piston rod seal permits a longer service life compared to the standard seal.
	TT Low temperature	Temperature resistance down to max. –40°C

### Cushioning types

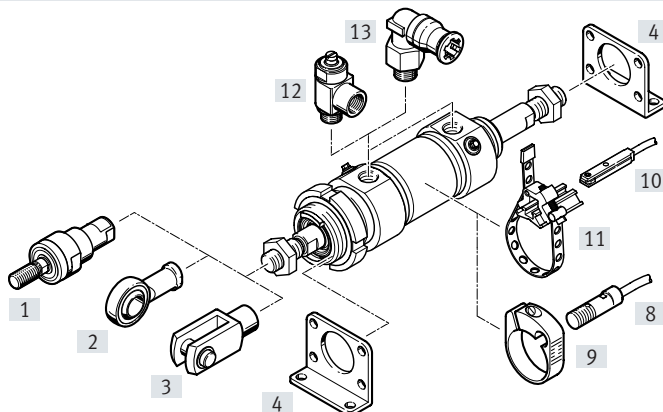
	Cushioning P	Cushioning PPS	Cushioning PPV
<b>Mode of operation</b>	<ul style="list-style-type: none"> <li>The drive is equipped with polymer flexible end-position cushioning</li> </ul>	<ul style="list-style-type: none"> <li>The drive is equipped with self-adjusting end-position cushioning</li> </ul>	<ul style="list-style-type: none"> <li>The drive is equipped with adjustable end-position cushioning</li> </ul>
<b>Application</b>	<ul style="list-style-type: none"> <li>Small loads</li> <li>Low speeds</li> <li>Low impact energies</li> </ul>	<ul style="list-style-type: none"> <li>Small to medium loads</li> <li>Low to medium speeds</li> <li>Medium impact energies</li> </ul>	<ul style="list-style-type: none"> <li>Medium to high loads</li> <li>High speeds</li> <li>High impact energies</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>No adjustment required</li> <li>Saves time</li> </ul>	<ul style="list-style-type: none"> <li>No adjustment required</li> <li>Saves time</li> <li>Powerful</li> </ul>	<ul style="list-style-type: none"> <li>Very powerful</li> </ul>

## Peripherals overview

CRDSNU-...



CRDSNU-...S2



### Mounting attachments and accessories

	Description	CRDSNU-				→ Page/ Internet
		Basic version	MQ	MG	S2	
[1]	Self-aligning rod coupler CRFK	■	■	■	■	56
[2]	Rod eye CRSGS	■	■	■	■	56
[3]	Rod clevis CRSG	■	■	■	■	56
[4]	Foot mounting CRH	–	–	–	■	49
[5]	Flange mounting CRFV	■	■	–	–	50
[6]	Clevis foot CRLBN	■	–	■	–	53
[7]	Clevis foot LBG	■	–	■	–	54
[8]	Proximity switch CRSMEO-4	■	■	■	■	56
[9]	Mounting kit CRSMBR	■	■	■	■	57
[10]	Proximity switch CRSMT-8M	■	■	■	■	56
[11]	Mounting kit SMBR	■	■	■	■	57
[12]	One-way flow control valve CRGRLA	■	■	■	■	57
[13]	Push-in fitting CRQS	■	■	■	■	qs

## Type codes

001	Series
CRDSNU	Round cylinder, double-acting, stainless steel

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

003	Stroke
...	1 ... 500

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

005	Position sensing
A	For proximity sensor

006	Cylinder end cap
	Standard
MQ	Short end cap without swivel mounting
MG	Bearing cap without mounting thread

007	Scraper variant
	None
A1	Increased chemical resistance
A2	Hard scraper
A3	For unlubricated operation

008	Piston rod type
	At one end
S2	Through piston rod

009	Piston rod thread extension
	None
...K2	1 ... 70 mm

010	Piston rod thread type
	Male thread
K3	Female thread

011	Custom thread
"M10"K5	M10
"M12"K5	M12
"M16"K5	M16
"M20"K5	M20

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

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

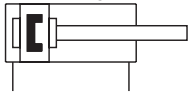
014	Temperature range
	Standard
TT	-40 ... +80°C




  

015	EU certification
	None
EX4	II 2GD

## Data sheet

### P cushioning



-  - Diameter  
32 ... 100 mm
-  - Stroke length  
1 ... 500 mm  
Longer strokes on request
-  - Spare parts service



General technical data		32	40	50	63	80	100
Piston $\varnothing$		32	40	50	63	80	100
Pneumatic connection		G1/8	G1/4	G1/4	G3/8	G3/8	G1/2
Piston rod thread		M10x1.25	M12x1.25	M16x1.5	M16x1.5	M20x1.5	M20x1.5
Design	Piston						
	Piston rod						
	Cylinder barrel						
Cushioning	P	Elastic cushioning rings/pads at both ends					
	PPV	Cushioning, adjustable at both ends					
	PPS	Cushioning, self-adjusting at both ends					
Cushioning length	PPV [mm]	14	18	20	21	31	31
	PPS [mm]	14	18	20	21	31	31
Position sensing		Via proximity switch					
Type of mounting		With accessories					
		With male thread					
Mounting position		Any					

Operating conditions		
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]	
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)	
Operating pressure <sup>1)</sup>	[MPa]	0.1 ... 1
	[bar]	1 ... 10
	[psi]	14.5 ... 145
Food-safe <sup>2)</sup>	→ Supplementary material information	

- 1) An increase in the minimum operating pressure is possible with variants  
 2) Additional information [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

Environmental conditions		Basic type/A3	A1	TT	S6
Standards-based cylinders					
Ambient temperature <sup>1)</sup>	[°C]	-20 ... +80	0 ... +80	-40 ... +80	0 ... +120
Corrosion resistance class CRC					
$\varnothing$ 32 ... 63		3 <sup>2)</sup>			
$\varnothing$ 80 ... 100		4 <sup>3)</sup>			

- 1) Note operating range of proximity switches  
 2) Corrosion resistance class CRC 3 to Festo standard FN 940070  
 High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.  
 3) Corrosion resistance class CRC 4 to Festo standard FN 940070  
 Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

## Data sheet

ATEX <sup>1)</sup>	
ATEX category for gas	II 2G
Type of ignition protection for gas	Ex h IIC T4 Gb
ATEX category for dust	II 2D
Type of ignition protection for dust	Ex h IIIC T120°C Db
Explosion-proof ambient temperature	-20°C ≤ Ta ≤ +60°C
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)

1) Note the ATEX certification of the accessories.

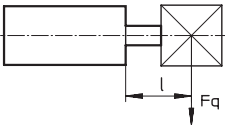
Forces [N] and impact energy [J]						
Piston ø	32	40	50	63	80	100
Theoretical force at 0.6 MPa (6 bar, 87 psi), advancing	483	754	1178	1870	3016	4712
Theoretical force at 0.6 MPa (6 bar, 87 psi), retracting	415	633	990	1682	2721	4418
Impact energy in the end positions for P cushioning <sup>1)</sup>	0.4	0.7	1.0	1.3	1.8	2.5

1) The values are reduced by approx. 50% at an ambient temperature of 80°C

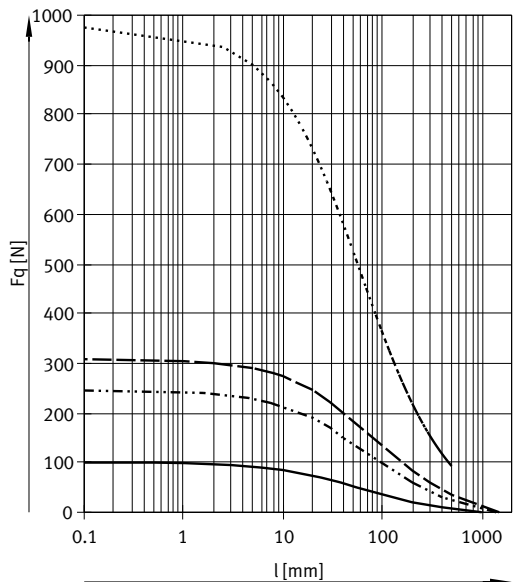
Weight [g]						
Piston ø	32	40	50	63	80	100
Basic weight with 0 mm stroke	670	1327	2020	2943	5891	8527
Additional weight per 10 mm stroke	15	24	40	44	68	75
Moving mass with 0 mm stroke	118	232	416	472	860	1018
Add. moving mass per 10 mm stroke	9	16	25	25	39	39

Data sheet

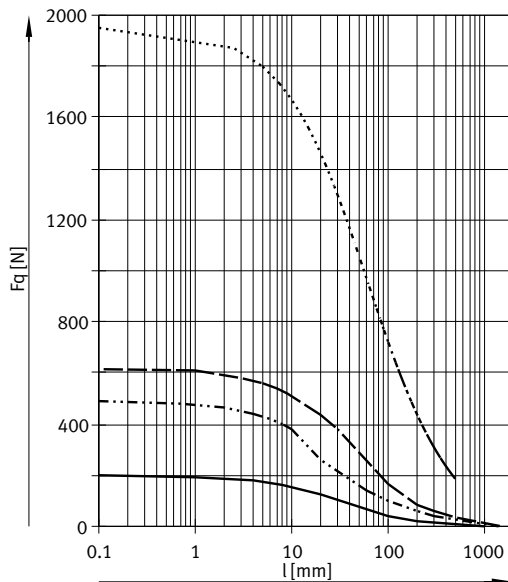
Max. transverse force  $F_q$  as a function of projection  $l$



Basic version



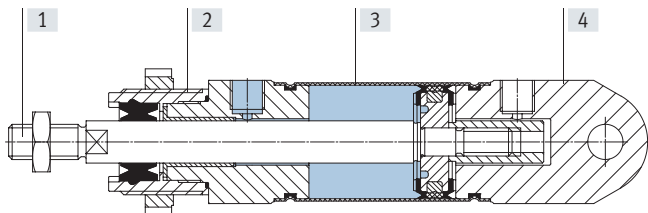
S2 – Through piston rod



- DSNU-32
- DSNU-40
- - - DSNU-50/63
- · - · DSNU-80/100

Materials

Sectional view



Standards-based cylinders	Basic version	A1	A3	TT	S6
[1] Piston rod	High-alloy stainless steel				
[2] Bearing cap	High-alloy stainless steel				
[3] Cylinder barrel	High-alloy stainless steel				
[4] End cap	High-alloy stainless steel				
- Seals	TPE-U (PUR) media seal (modified for resistance to hydrolysis and cleaning)	FPM	UHMW-PE	TPE-U (PUR) (suitable for low temperatures)	FPM
Note on materials	RoHS-compliant				
PWIS conformity	VDMA24364-B2-L			Contains paint-wetting impairment substances	

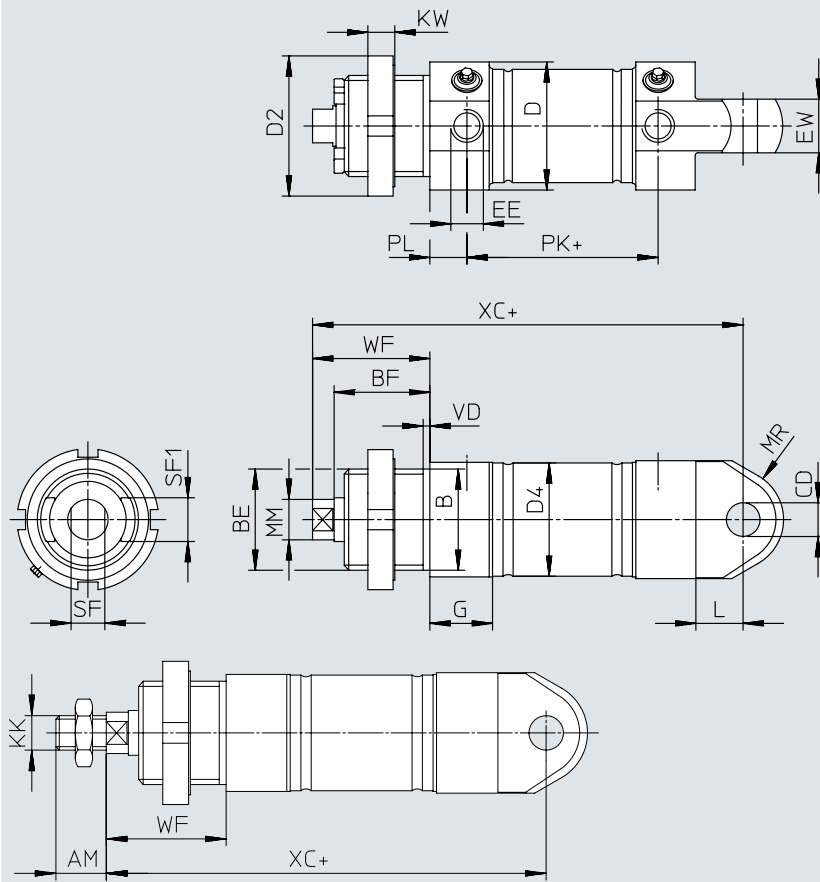


## Data sheet

## Dimensions

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

Basic version



+ = plus stroke length

∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ H8	D ∅	D2 ∅	D4 ∅
32	22	30	M30x1.5	28.4	10	38	42	33.6
40	24	38	M38x1.5	32	12	49	50	41.6
50	32	45	M45x1.5	36.4	16	57	60	52.4
63	32	45	M45x1.5	36.4	16	70	60	65.4
80	40	50	M50x2	42.2	20	88	75	82.8
100	40	50	M50x2	42.2	20	108	75	102.8

∅ [mm]	EE	EW	G	KK	KW	L	MM ∅
32	G1/8	16	18.6	M10x1.25	8	14	12
40	G1/4	18	24.7	M12x1.25	10	16	16
50	G1/4	21	24.4	M16x1.5	10	17	20
63	G3/8	21	27.4	M16x1.5	10	17	20
80	G3/8	35	32.4	M20x1.5	13	22	25
100	G1/2	35	32.4	M20x1.5	13	22	25

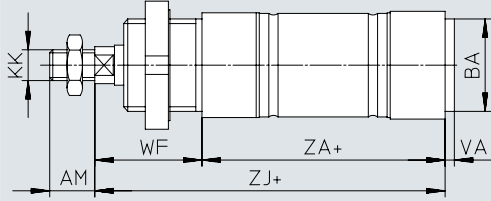
∅ [mm]	MR	PL	SF	SF1	VD	WF	XC ±1
32	15	9	10	13	4.3	34	118
40	19	12	13	18	4.3	39	140
50	22.5	12	17	22	4.3	44	147
63	22.5	13	17	22	4.3	44	156
80	30	16	22	22	4.5	50	193
100	36	16	22	22	4.5	50	196

Data sheet

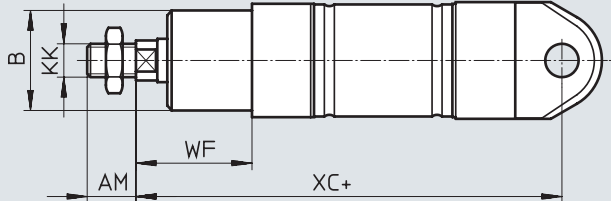
Dimensions

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

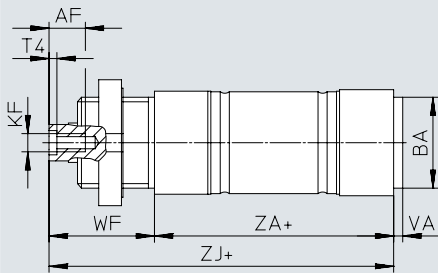
MQ – Short end cap without swivel mounting



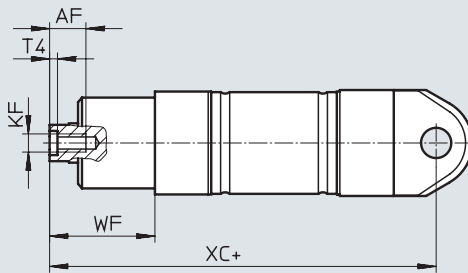
MG – Bearing cap without mounting thread



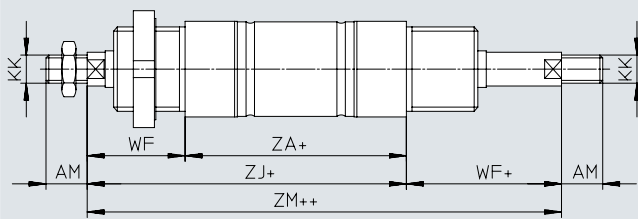
MQ-K3 – Short end cap without swivel mounting, with female piston rod thread



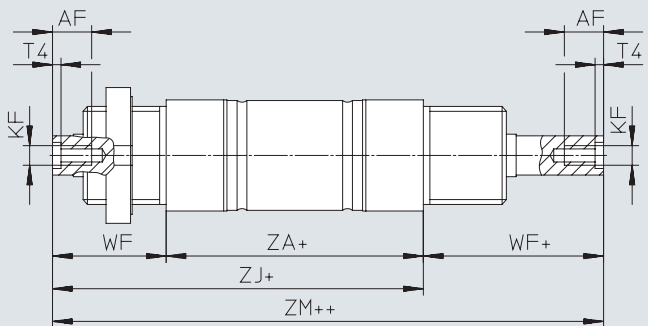
MG-K3 – Bearing cap without mounting thread, with female piston rod thread



S2 – Through piston rod



S2-K3 – Through piston rod, with female thread



- + = plus stroke length
- ++ = plus 2x stroke length

## Data sheet

∅ [mm]	AF	AM	B ∅ h9	BA h9	KF	KK
32	12	22	30	30	M6	M10x1.25
40	12	24	38	38	M8	M12x1.25
50	16	32	45	45	M10	M16x1.5
63	16	32	45	45	M10	M16x1.5
80	20	40	50	45	M12	M20x1.5
100	20	40	50	55	M12	M20x1.5

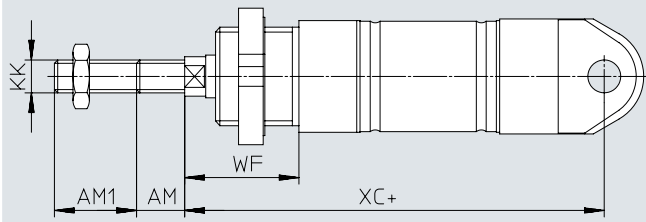
∅ [mm]	T4	VA	WF	XC ±1	ZA	ZJ	ZM
32	2.6	3	34	118	69.5	104	138
40	3.3	4	39	140	84.6	124	163
50	4.7	4	44	147	86.2	130	175
63	4.7	4	44	156	94.2	139	183
80	6.1	4	50	193	120.7	171	221
100	6.1	4	50	196	123.7	174	224

Data sheet

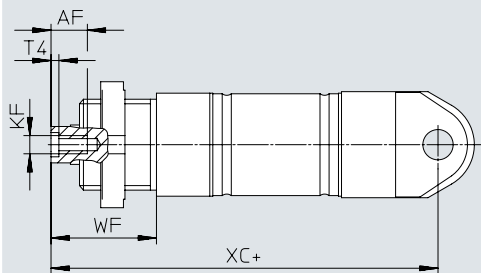
Dimensions

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

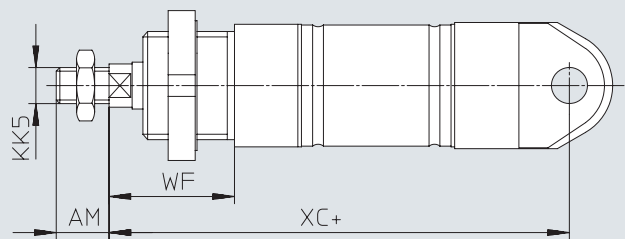
K2 – Extended male piston rod thread



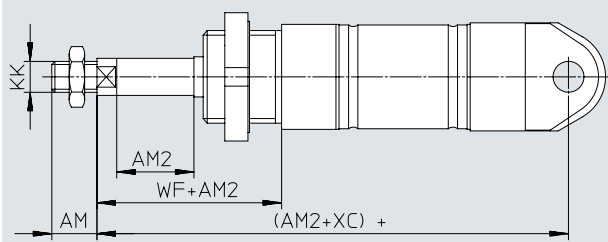
K3 – Female piston rod thread



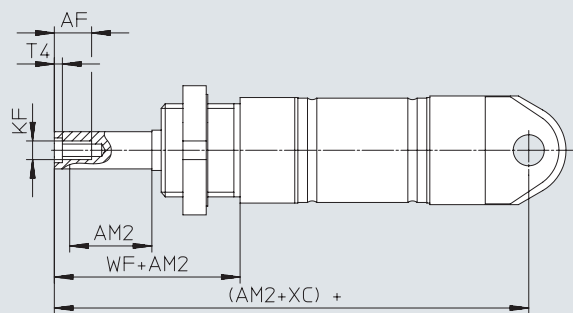
K5 – Custom piston rod thread



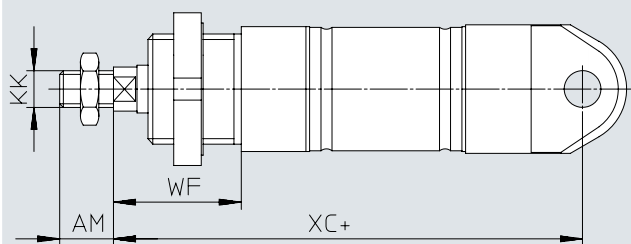
K8 – Extended piston rod



K3-K8 – Extended piston rod, with female thread



TT – Low temperature / A2 – Hard wiper




+ = plus stroke length


## Data sheet


∅ [mm]	AF	AM	AM1 max.	AM2 max.	KF
32	12	22	1 ... 35	1 ... 500	M6
40	12	24	1 ... 35	1 ... 500	M8
50	16	32	1 ... 70	1 ... 500	M10
63	16	32	1 ... 70	1 ... 500	M10
80	20	40	1 ... 70	1 ... 500	M12
100	20	40	1 ... 70	1 ... 500	M12

∅ [mm]	KK	KK5	T4	WF	XC ±1
32	M10x1.25	M10	2.6	34	118
40	M12x1.25	M12	3.3	39	140
50	M16x1.5	M16	4.7	44	147
63	M16x1.5	M16	4.7	44	156
80	M20x1.5	M20	6.1	50	193
100	M20x1.5	M20	6.1	50	196

## Ordering data

Ordering data				
Type	Piston ø	Stroke	P – Elastic cushioning rings/plates	
	[mm]		Part no.	Type
	32	10	8152637	CRDSNU-32-10-P-A
		25	8152638	CRDSNU-32-25-P-A
		40	8152639	CRDSNU-32-40-P-A
		50	8152640	CRDSNU-32-50-P-A
		80	8152641	CRDSNU-32-80-P-A
		100	8152642	CRDSNU-32-100-P-A

Ordering data – Stocked parts				
Type	Piston ø	Stroke	PPS – Pneumatic cushioning, self-adjusting at both ends	
	[mm]		Part no.	Type
	32	10	2176399	CRDSNU-B-32-10-PPS-A-MG-A1
		25	2176400	CRDSNU-B-32-25-PPS-A-MG-A1
		40	2176401	CRDSNU-B-32-40-PPS-A-MG-A1
		50	2176402	CRDSNU-B-32-50-PPS-A-MG-A1
		80	2176403	CRDSNU-B-32-80-PPS-A-MG-A1
		100	2176404	CRDSNU-B-32-100-PPS-A-MG-A1
		125	2176405	CRDSNU-B-32-125-PPS-A-MG-A1
		160	2176406	CRDSNU-B-32-160-PPS-A-MG-A1
		200	2176407	CRDSNU-B-32-200-PPS-A-MG-A1
	40	10	8073989	CRDSNU-B-40-10-PPS-A-MG-A1
		25	8073988	CRDSNU-B-40-25-PPS-A-MG-A1
		40	8073987	CRDSNU-B-40-40-PPS-A-MG-A1
		50	8073986	CRDSNU-B-40-50-PPS-A-MG-A1
		80	8073985	CRDSNU-B-40-80-PPS-A-MG-A1
		100	8073984	CRDSNU-B-40-100-PPS-A-MG-A1
		125	8073983	CRDSNU-B-40-125-PPS-A-MG-A1
		160	8073982	CRDSNU-B-40-160-PPS-A-MG-A1
		200	8073981	CRDSNU-B-40-200-PPS-A-MG-A1

 **Note**

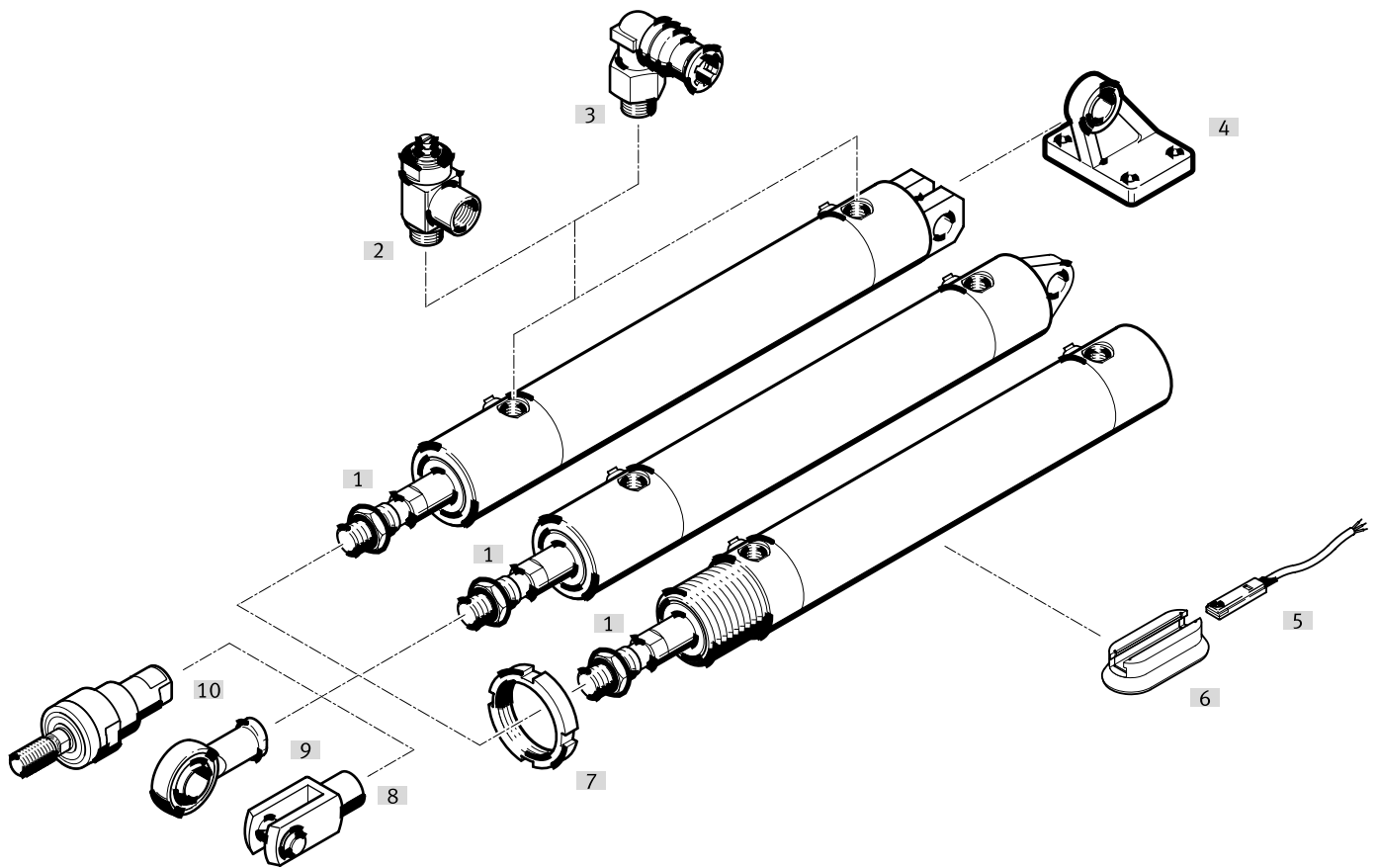
The bearing cap on stocked parts is made of one piece.  
When ordered using the modular product system, the bearing cap is made of two pieces, which makes it possible to exchange the wiper in the event of a repair.

## Ordering data

Ordering table – Modular product system									
Size	32	40	50	63	80	100	Conditions	Code	Enter code
Module no.	552791	552792	552793	552794	8126418	8126417			
Design	Stainless steel							<b>CR</b>	CR
Function	Round cylinder, double-acting							<b>DSNU</b>	DSNU
Piston Ø [mm]	32	40	50	63	80	100		-...	
Stroke [mm]	1 ... 500						[1]	-...	
Cushioning	Elastic cushioning rings/pads at both ends							<b>-P</b>	
	Pneumatic cushioning, self-adjusting						[2]	<b>-PPS</b>	
	Pneumatic cushioning, adjustable at both ends							<b>-PPV</b>	
Position sensing	Via proximity switch							<b>-A</b>	-A
Cylinder cap	Short end cap without swivel mounting							<b>-MQ</b>	
	Bearing cap without mounting thread							<b>-MG</b>	
Wiper variant	Increased chemical resistance						[2]	<b>-A1</b>	
	Hard wiper				-		[2] [3]	<b>-A2</b>	
	Unlubricated operation						[2]	<b>-A3</b>	
Piston rod	Through piston rod						[3] [4]	<b>-S2</b>	
Extended male thread	Extended male piston rod thread								
[mm]	1 ... 35		1 ... 70					<b>-...K2</b>	
Female thread	Piston rod with female thread								
	M6	M8	M10	M10	M12	M12	[5]	<b>-K3</b>	
Custom thread	Custom thread on the piston rod								
	M10	M12	M16	M16	M20	M20		<b>-“...”K5</b>	
Extended piston rod [mm]	1 ... 500							<b>-...K8</b>	
Temperature resistance	Heat-resistant seal up to max. 120°C							<b>-S6</b>	
Low temperature	Seals and lubricating grease from -40°C ... +80°C				-		[3] [6]	<b>-TT</b>	
EU certification	II 2GD						[7]	<b>-EX4</b>	

- [1] -... Longer strokes on request  
 [2] PPS, A1, A2, A3 Not with S6, TT  
 [3] A2, S2, TT Not with MG  
 [4] S2 Not with MQ  
 [5] K3 Not with K2, K5  
 [6] TT Not with S6  
 [7] EX4 Not with S6, TT

Peripherals overview



	Description	CRHD-MQ	CRHD-MC	CRHD-MS	→ Page/ Internet
[1]	Round cylinder CRHD	Double-acting, stainless steel			
[2]	One-way flow control valve CRGRLA	■	■	■	57
[3]	Push-in fittings CRQS	■	■	■	qs
[4]	Clevis foot CRLMC	–	■	–	54
[5]	Proximity switch CRSMT	■	■	■	56
[6]	Mounting kit CRSMB-8-3 2/100	■	■	■	57
[7]	Nut CR	■	–	–	55
[8]	Rod clevis CRSG	■	■	■	56
[9]	Rod eye CRSGS	■	■	■	56
[10]	Self-aligning rod coupler CRFK	■	■	■	56



## Type codes

<b>001</b>	Series	
<b>CRHD</b>	Round cylinder, double-acting, stainless steel	

<b>002</b>	Piston diameter	
<b>32</b>	32	
<b>40</b>	40	
<b>50</b>	50	
<b>63</b>	63	
<b>80</b>	80	
<b>100</b>	100	

<b>003</b>	Stroke	
<b>...</b>	10 ... 500	

<b>004</b>	Cushioning	
<b>PPV</b>	Pneumatic cushioning, adjustable at both ends	

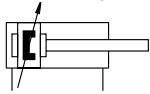
<b>005</b>	Position sensing	
<b>A</b>	For proximity sensor	

<b>006</b>	Type of end cap	
<b>MQ</b>	Without mounting threads	
<b>MS</b>	With strap	
<b>MC</b>	With clevis	

<b>007</b>	Temperature range	
	Standard	
<b>S6</b>	Heat-resistant seals max. 120 °C	

Data sheet

PPV cushioning



- Diameter  
32 ... 100 mm

- Stroke length  
10 ... 500 mm

Spare parts service

Variant  
S6



The variant S6 is not suitable for direct contact with food products because of the seals and the grease used.



General technical data						
Piston $\varnothing$	32	40	50	63	80	100
Pneumatic connection	G1/8	G1/8	G1/4	G3/8	G3/8	G3/8
Piston rod thread	M10x1.25	M12x1.25	M16x1.5	M16x1.5	M20x1.5	M20x1.5
Design	Piston					
	Piston rod					
	Cylinder barrel					
Cushioning	Pneumatic cushioning, adjustable at both ends					
Cushioning length	17	19.5	21	21	31	31
Position sensing	Via proximity switch					
Type of mounting	With accessories					
Mounting position	Any					

Operating and environmental conditions	
Variant	CRHD   S6
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/ pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure	[MPa] 0.1 ... 1
	[bar] 1 ... 10
	[psi] 14.5 ... 145
Ambient temperature <sup>1)</sup>	[-20 ... +80]   [0 ... +120]
Food-safe <sup>2)</sup>	→ Supplementary material information
Corrosion resistance class CRC <sup>3)</sup>	3

1) Note operating range of proximity switches

2) Additional information [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

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

High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.

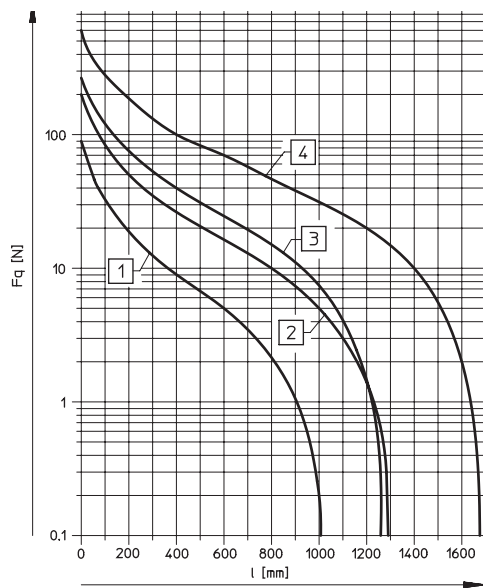
Forces [N]						
Piston $\varnothing$	32	40	50	63	80	100
Theoretical force at 0.6 MPa (6 bar, 87 psi), advancing	483	754	1178	1870	3016	4712
Theoretical force at 0.6 MPa (6 bar, 87 psi), retracting	415	633	990	1682	2721	4418

Weight [g]						
Piston $\varnothing$	32	40	50	63	80	100
Basic weight with 10 mm stroke	676	1196	1849	2977	5172	8472
Additional weight per 10 mm stroke	26	42	57	65	100	115
Moving mass with 10 mm stroke	106	198	340	398	717	968
Add. moving mass per 10 mm stroke	9	16	25	25	38	38

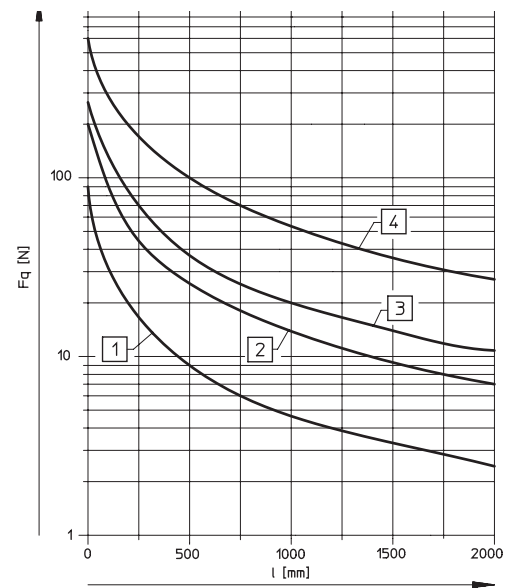
## Data sheet

### Permissible transverse force $F_q$ as a function of stroke length $l$

Horizontal installation



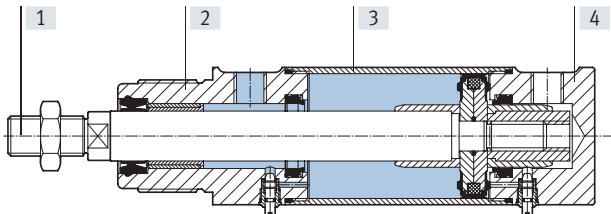
Vertical installation



- [1]  $\varnothing 32$
- [2]  $\varnothing 40$
- [3]  $\varnothing 50, 63$
- [4]  $\varnothing 80, 100$

### Materials

Sectional view



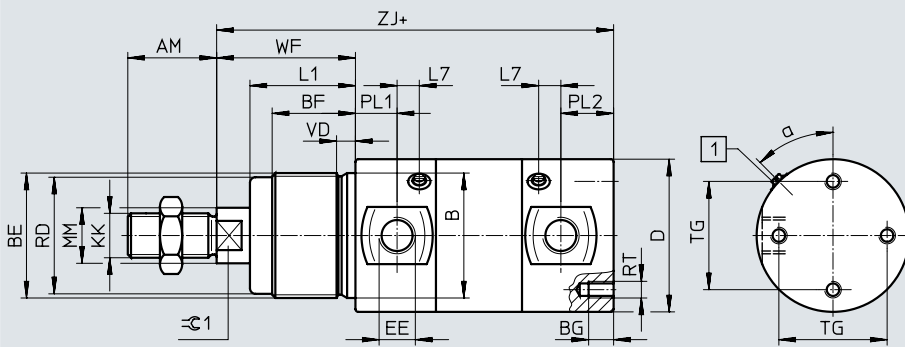
Round cylinders	Basic version	S6
[1] Piston rod	High-alloy stainless steel	
[2] Bearing cap	High-alloy stainless steel	
[3] Cylinder barrel	High-alloy stainless steel	
[4] End cap	High-alloy stainless steel	
- Seals	NBR, TPE-U (PUR) media seal (modified for resistance to hydrolysis and cleaning)	FPM

Data sheet

Dimensions

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

MQ – Bearing cap with male thread



[1] Adjusting screw for end-position cushioning  
+ = plus stroke length

∅ [mm]	α	AM	B ∅ h9	BE	BF	BG	D ∅	EE	KK	L1
32	50°	22	30	M30x1.5	25	8	36	G1/8	M10x1.25	30
40	45°	24	38	M38x1.5	29	8	45	G1/8	M12x1.25	35
50	45°	32	45	M45x1.5	30	8	55	G1/4	M16x1.5	38
63	45°	32	45	M45x1.5	30	10	68	G3/8	M16x1.5	38
80	45°	40	50	M50x2	30	15	86	G3/8	M20x1.5	38
100	45°	40	50	M50x2	30	15	106	G3/8	M20x1.5	38

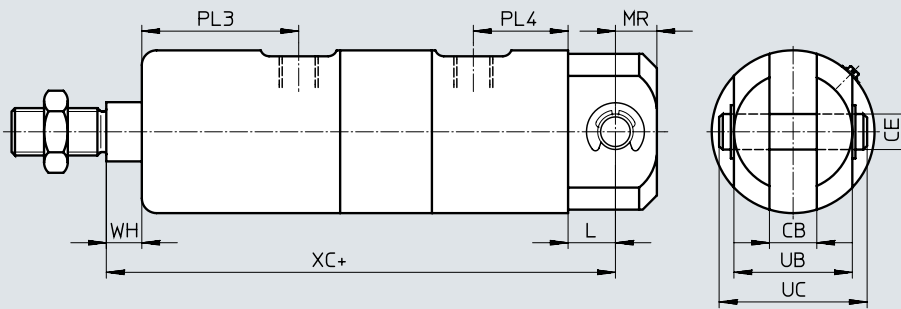
∅ [mm]	L7	MM ∅	RD ∅	RT	PL1	PL2	TG	VD	WF	ZJ	⊖1
32	5	12	27	M5	13	21	22	7	38	120	10
40	8	16	35	M6	15	18	30	7	45	135	13
50	5	20	42	M6	15	19	39	6.25	50	143	17
63	8	20	42	M8	17	24	49	6.25	50	158	17
80	9	25	47	M10	18	31	65	7.5	50	174	22
100	13	25	47	M10	22	30	82	7.5	50	189	22

Data sheet

Dimensions

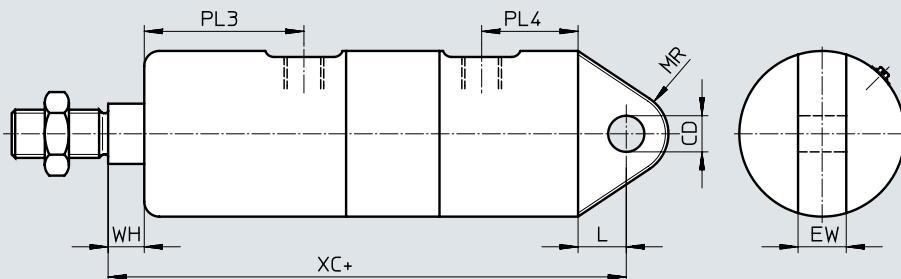
Download CAD data → [www.festo.com](http://www.festo.com)

MC – End cap with clevis



+ = plus stroke length




MS – End cap with lug



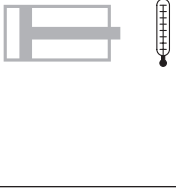

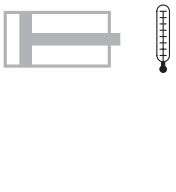
+ = plus stroke length

∅	CB	CD	CE	EW	L	MR	PL3	PL4	UB	UC	WH	XC
[mm]	+0.2/+0.1	∅ H9	∅ e8	-0.1/-0.2					-0.1/-0.2			
32	10	10	10	10	15	12	43	28	26	35	8	142
40	12	12	12	12	16	14	50	27	32	43	10	160
50	16	12	12	16	16	14	53	30	40	51	12	170
63	16	16	16	16	22	18	55	34	40	53	12	190
80	20	16	16	20	22	20	56	45	60	73	12	210
100	20	20	20	20	27	25	60	43.5	60	73	12	230

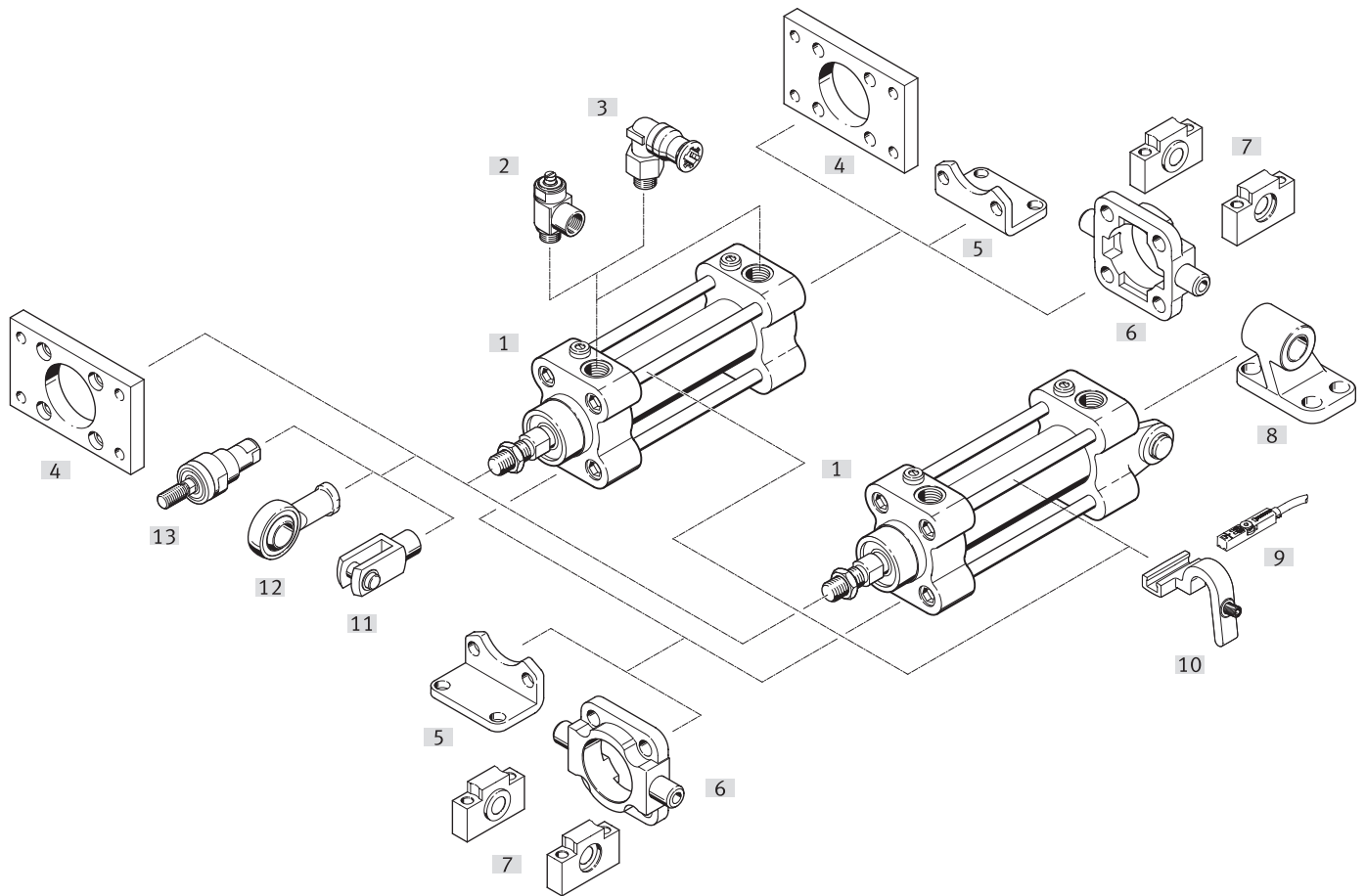
Data sheet

Ordering data				
Type	Piston ø [mm]	Stroke [mm]	Part no.	Type
<b>MQ – Bearing cap with male thread</b>				
	32	10 ... 500	195507	CRHD-32-...-PPV-A-MQ
	40		195508	CRHD-40-...-PPV-A-MQ
	50		195509	CRHD-50-...-PPV-A-MQ
	63		195510	CRHD-63-...-PPV-A-MQ
	80		195511	CRHD-80-...-PPV-A-MQ
	100		195512	CRHD-100-...-PPV-A-MQ
<b>S6 – Heat-resistant up to 120°C</b>				
	32	10 ... 500	195543	CRHD-32-...-PPV-A-MQ-S6
	40		195544	CRHD-40-...-PPV-A-MQ-S6
	50		195545	CRHD-50-...-PPV-A-MQ-S6
	63		195546	CRHD-63-...-PPV-A-MQ-S6
	80		195547	CRHD-80-...-PPV-A-MQ-S6
	100		195548	CRHD-100-...-PPV-A-MQ-S6
<b>MC – End cap with clevis (pivot pin and lock included in the scope of delivery)</b>				
	32	10 ... 500	195513	CRHD-32-...-PPV-A-MC
	40		195514	CRHD-40-...-PPV-A-MC
	50		195515	CRHD-50-...-PPV-A-MC
	63		195516	CRHD-63-...-PPV-A-MC
	80		195517	CRHD-80-...-PPV-A-MC
	100		195518	CRHD-100-...-PPV-A-MC

## Data sheet

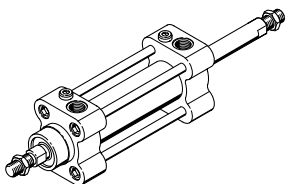
Ordering data				
Type	Piston ø [mm]	Stroke [mm]	Part no.	Type
<b>S6 – Heat-resistant up to 120°C</b>				
	32	10 ... 500	195549	CRHD-32-...-PPV-A-MC-S6
	40		195550	CRHD-40-...-PPV-A-MC-S6
	50		195551	CRHD-50-...-PPV-A-MC-S6
	63		195552	CRHD-63-...-PPV-A-MC-S6
	80		195553	CRHD-80-...-PPV-A-MC-S6
	100		195554	CRHD-100-...-PPV-A-MC-S6
<b>MS – End cap with lug</b>				
	32	10 ... 500	195519	CRHD-32-...-PPV-A-MS
	40		195520	CRHD-40-...-PPV-A-MS
	50		195521	CRHD-50-...-PPV-A-MS
	63		195522	CRHD-63-...-PPV-A-MS
	80		195523	CRHD-80-...-PPV-A-MS
	100		195524	CRHD-100-...-PPV-A-MS
<b>S6 – Heat-resistant up to 120°C</b>				
	32	10 ... 500	195555	CRHD-32-...-PPV-A-MS-S6
	40		195556	CRHD-40-...-PPV-A-MS-S6
	50		195557	CRHD-50-...-PPV-A-MS-S6
	63		195558	CRHD-63-...-PPV-A-MS-S6
	80		195559	CRHD-80-...-PPV-A-MS-S6
	100		195560	CRHD-100-...-PPV-A-MS-S6

## Peripherals overview



### Variant

CRDNG-S2





## Peripherals overview

Mounting attachments and accessories		Description	CRDNG	CRDNGS	→ Page/Internet
[1]	Standards-based cylinder CRDNG/S	Double-acting, based on ISO 15552, stainless steel			
[2]	One-way flow control valve CRGRLA	For regulating speed	■	■	57
[3]	Push-in fittings CRQS	For connecting tubing with standard O.D.	■	■	qs
[4]	Flange mounting CRFNG	For bearing or end caps	■	–	51
[5]	Foot mounting CRHNC	For bearing and end caps	■	–	49
[6]	Trunnion flange CRZNG	For bearing and end caps in combination with trunnion supports CRLNZG	■	–	52
[7]	Trunnion support CRLNZG	For supporting trunnion flange CRZNG	■	–	52
[8]	Clevis foot CRLNG	For variant with swivel flange	–	■	53
[9]	Proximity switch CRSMT-8M	<ul style="list-style-type: none"> <li>• Design for T-slot</li> <li>• For switching status indication</li> </ul>	■	■	56
[10]	Mounting kit DASP-V4	For proximity switches CRSMT-8M	■	■	56
[11]	Rod clevis CRSG	Permits a swivelling movement of the cylinder in one plane	■	■	56
[12]	Rod eye CRSGS	With spherical bearing	■	■	56
[13]	Self-aligning rod coupler CRFK	To compensate for radial and angular deviations	■	■	56

## Type codes

001	Series
<b>CRDNG</b>	Standard-based cylinder, double-acting, based on ISO 15552, stainless steel
<b>CRDNGS</b>	Standards-based cylinder with swivel flange, double-acting, based on ISO 15552, stainless steel

002	Piston diameter
<b>32</b>	32
<b>40</b>	40
<b>50</b>	50
<b>63</b>	63
<b>80</b>	80
<b>100</b>	100
<b>125</b>	125

003	Stroke
...	10 ... 2000

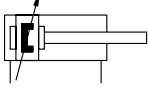
004	Cushioning
<b>PPV</b>	Pneumatic cushioning, adjustable at both ends

005	Position sensing
<b>A</b>	For proximity sensor

006	Temperature range
	Standard
<b>S6</b>	Heat-resistant seals max. 120 °C

## Data sheet

## PPV cushioning



Ø - Diameter  
32 ... 125 mm

l - Stroke length  
10 ... 2000 mm

Spare parts service

## Variant

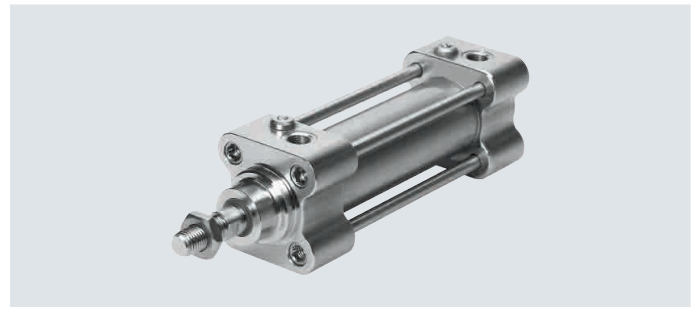
S2



S6



The variant S6 is not suitable for direct contact with food products because of the seals and the grease used.



Conforms to standard

- ISO 15552
- ISO 6431
- VDMA 24562



General technical data							
Piston Ø	32	40	50	63	80	100	125
Pneumatic connection	G1/8	G1/4	G1/4	G3/8	G3/8	G1/2	G1/2
Piston rod thread	M10x1.25	M12x1.25	M16x1.5	M16x1.5	M20x1.5	M20x1.5	M27x2
Design	Piston						
	Piston rod						
	Cylinder barrel						
Cushioning	Pneumatic cushioning, adjustable at both ends						
Cushioning length [mm]	19	21	23	23	30	30	40
Position sensing	Via proximity switch						
Type of mounting	With accessories						
	With female thread						
Mounting position	Any						

Operating and environmental conditions		CRDNG/CRDNGS	S6
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]	
Note on the operating/ pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)	
Operating pressure	[MPa]	0.06 ... 1	
	[bar]	0.6 ... 10	
	[psi]	8.7 ... 145	
Ambient temperature <sup>1)</sup>	[°C]	-20 ... +80	0 ... +120
Food-safe <sup>2)</sup>		→ Supplementary material information	
Corrosion resistance class CRC <sup>3)</sup>		4	

1) Note operating range of proximity switches

2) Additional information [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

3) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

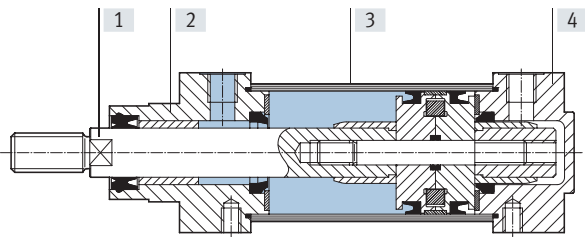
Forces [N]							
Piston Ø	32	40	50	63	80	100	125
Theoretical force at 0.6 MPa (6 bar, 87 psi), advancing	482	753	1178	1870	3015	4712	7360
Theoretical force at 0.6 MPa (6 bar, 87 psi), retracting	415	633	990	1682	2720	4418	6880

## Data sheet

Weight [g]							
Piston ø	32	40	50	63	80	100	125
<b>CRDNG-...</b>							
Basic weight with 0 mm stroke	1040	1420	2260	3555	5545	8330	15500
Additional weight per 10 mm stroke	25	33	56	60	92	99	156
Moving mass with 0 mm stroke	154	268	485	609	1018	1310	2523
Additional moving mass per 10 mm stroke	9	16	25	25	39	39	64
<b>CRDNG-...S2</b>							
Basic weight with 0 mm stroke	1078	1519	2469	3779	5898	8772	16402
Additional weight per 10 mm stroke	34	49	81	85	131	138	220
Moving mass with 0 mm stroke	203	363	679	817	1364	1688	3239
Additional moving mass per 10 mm stroke	18	32	50	50	78	78	128
<b>CRDNGS</b>							
Basic weight with 0 mm stroke	1104	1515	2419	3807	5804	8897	16543
Additional weight per 10 mm stroke	25	33	56	60	92	99	156
Moving mass with 0 mm stroke	154	268	485	609	1018	131	2523
Additional moving mass per 10 mm stroke	9	16	25	25	39	39	64

### Materials

#### Sectional view CRDNG



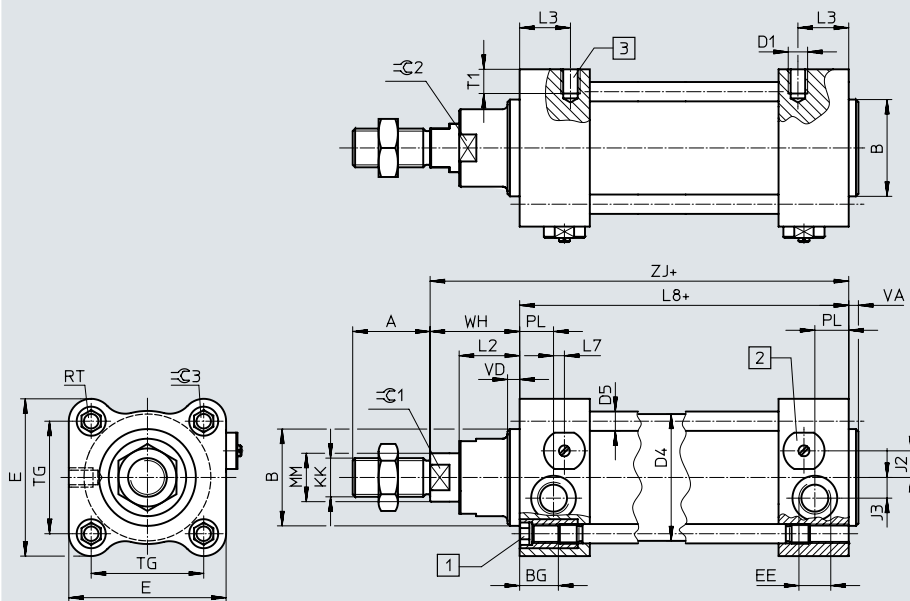
Standards-based cylinders	Basic version	S6
[1] Piston rod	High-alloy stainless steel	
[2] Bearing cap	Stainless steel casting	
[3] Cylinder barrel	High-alloy stainless steel	
[4] End cap	Stainless steel casting	
- Tie rod	High-alloy stainless steel	
- Seals	NBR, TPE-U (PUR) media seal (modified for resistance to hydrolysis and cleaning)	FPM

## Data sheet

## Dimensions CRDNG

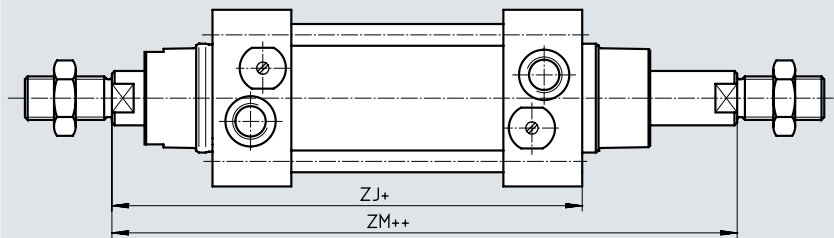
Download CAD data → [www.festo.com](http://www.festo.com)

## Basic version



- [1] Socket head screw with female thread  
 [2] Covering for adjustable end-position cushioning  
 [3] Threaded hole for direct mounting  
 + = plus stroke length

## S2 – Through piston rod



- + = plus stroke length  
 ++ = plus 2x stroke length

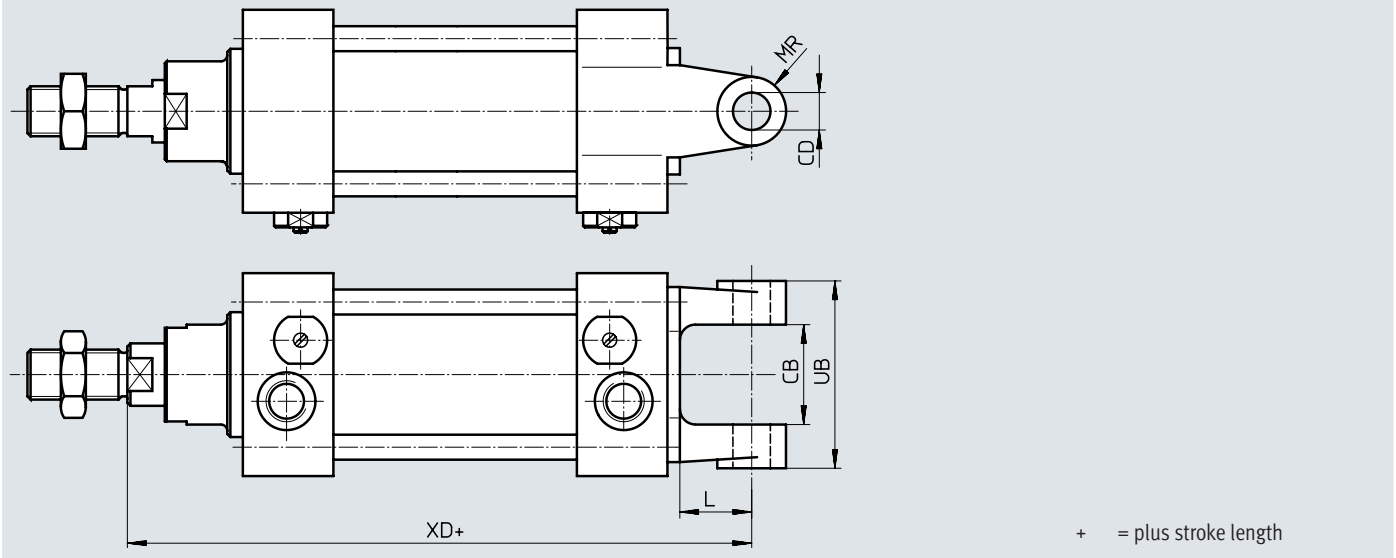
∅	A	B	BG	D1	D4	D5	E	EE	J2	J3	KK	L2	L3
[mm]		∅ e11			∅	∅							
32	22	30	16	M6	33.6	6	50	G1/8	7	5.7	M10x1.25	16	13
40	24	35	16	M6	41.6	6	55	G1/4	10	6.5	M12x1.25	18	16.5
50	32	40	16	M8	52.4	8	65	G1/4	11.5	8.6	M16x1.5	25	21
63	32	45	16	M10	65.4	8	75	G3/8	14.5	12	M16x1.5	25	22
80	40	45	23	M10	82.8	10	100	G3/8	15	13	M20x1.5	31	22.5
100	40	55	23	M12	102.8	10	120	G1/2	23	14	M20x1.5	36	22.5
125	54	60	23	M12	128.6	12	145	G1/2	28.5	8	M27x2	46	23.5

∅	L7	L8	MM	PL	RT	T1	TG	VA	VD	WH	ZJ	ZM	∅C1	∅C2	∅C3
[mm]			∅												
32	5.3	94 +0.4	12	13	M6	9	32.5	4	6	26	120	148	10	26	6
40	2.5	105 +0.4/-0.6	16	14	M6	9	38	4	6	30	135	167	13	30	6
50	4.5	106 +0.4/-0.6	20	14	M8	10	46.5	4	6	37	143	183	17	34	8
63	5	121 +0.4/-0.6	20	18	M8	12	56.5	4	6	37	158	199	17	36	8
80	6	128 +0.4/-0.6	25	17	M10	15	72	4	7	46	174	222	22	41	10
100	9	138 +0.4/-0.6	25	18	M10	18	89	4	7	51	189	240	22	41	10
125	4.5	160 +0.4/-0.6	32	27	M12	18	110	6	6	66	226	292	27	50	12

Data sheet






Dimensions

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



∅	CB	CD	L	MR	UB	XD
[mm]	H14	∅ H9				
32	26	10	18	9	45	142
40	28	12	21	10	52	160
50	32	12	23	11	60	170
63	40	16	28	13	70	190
80	50	16	32	13	90	210
100	60	20	37	17	110	230
125	70	25	44	23	130	276

## Data sheet

Ordering data					
Variant	Piston ø [mm]	Stroke [mm]	Part no.	Type	
<b>CRDNG</b>					
	32	10 ... 2000	160884	CRDNG-32-...-PPV-A	
	40	10 ... 2000	160885	CRDNG-40-...-PPV-A	
	50	10 ... 2000	160886	CRDNG-50-...-PPV-A	
	63	10 ... 2000	160887	CRDNG-63-...-PPV-A	
	80	10 ... 2000	160888	CRDNG-80-...-PPV-A	
	100	10 ... 2000	160889	CRDNG-100-...-PPV-A	
	125	10 ... 2000	185280	CRDNG-125-...-PPV-A	
<b>S6 – Heat-resistant up to 120°C</b>					
	32	10 ... 2000	185293	CRDNG-32-...-PPV-A-S6	
	40	10 ... 2000	185294	CRDNG-40-...-PPV-A-S6	
	50	10 ... 2000	185295	CRDNG-50-...-PPV-A-S6	
	63	10 ... 2000	185296	CRDNG-63-...-PPV-A-S6	
	80	10 ... 2000	185297	CRDNG-80-...-PPV-A-S6	
	100	10 ... 2000	185298	CRDNG-100-...-PPV-A-S6	
	125	10 ... 2000	185299	CRDNG-125-...-PPV-A-S6	
<b>S2 – Through piston rod</b>					
	32	10 ... 2000	185282	CRDNG-32-...-PPV-A-S2	
	40	10 ... 2000	185283	CRDNG-40-...-PPV-A-S2	
	50	10 ... 2000	185284	CRDNG-50-...-PPV-A-S2	
	63	10 ... 2000	185285	CRDNG-63-...-PPV-A-S2	
	80	10 ... 2000	185286	CRDNG-80-...-PPV-A-S2	
	100	10 ... 2000	185287	CRDNG-100-...-PPV-A-S2	
	125	10 ... 2000	185288	CRDNG-125-...-PPV-A-S2	
<b>CRDNGS</b>					
	32	10 ... 2000	160890	CRDNGS-32-...-PPV-A	
	40	10 ... 2000	160891	CRDNGS-40-...-PPV-A	
	50	10 ... 2000	160892	CRDNGS-50-...-PPV-A	
	63	10 ... 2000	160893	CRDNGS-63-...-PPV-A	
	80	10 ... 2000	160894	CRDNGS-80-...-PPV-A	
	100	10 ... 2000	160895	CRDNGS-100-...-PPV-A	
	125	10 ... 2000	185281	CRDNGS-125-...-PPV-A	
<b>S6 – Heat-resistant up to 120°C</b>					
	32	10 ... 2000	185300	CRDNGS-32-...-PPV-A-S6	
	40	10 ... 2000	185301	CRDNGS-40-...-PPV-A-S6	
	50	10 ... 2000	185302	CRDNGS-50-...-PPV-A-S6	
	63	10 ... 2000	185303	CRDNGS-63-...-PPV-A-S6	
	80	10 ... 2000	185304	CRDNGS-80-...-PPV-A-S6	
	100	10 ... 2000	185305	CRDNGS-100-...-PPV-A-S6	
	125	10 ... 2000	185306	CRDNGS-125-...-PPV-A-S6	
<b>Ordering data – Sets of wearing parts</b>					
Piston ø [mm]	Part no.	Type	Piston ø [mm]	Part no.	Type
32	125713	CRDNG/S-32-...-PPV-A <sup>1)</sup>	63	125716	CRDNG/S-63-...-PPV-A <sup>1)</sup>
40	125714	CRDNG/S-40-...-PPV-A <sup>1)</sup>	80	125717	CRDNG/S-80-...-PPV-A <sup>1)</sup>
50	125715	CRDNG/S-50-...-PPV-A <sup>1)</sup>	100	125718	CRDNG/S-100-...-PPV-A <sup>1)</sup>

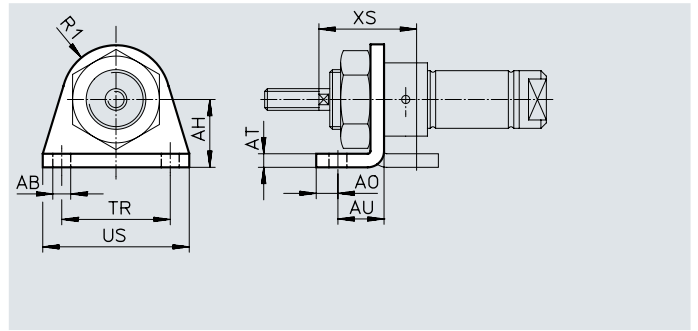
1) Assembly grease included in the scope of delivery

## Data sheet

### Foot mounting CRHBN

Scope of delivery:  
 CRHBN-... x1: 1 foot  
 CRHBN-... x2: 2 feet, 1 nut

Material:  
 High-alloy steel



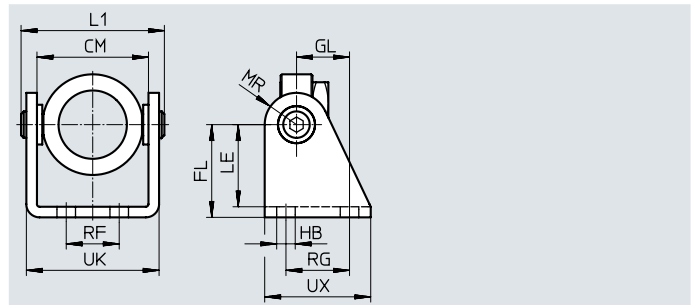
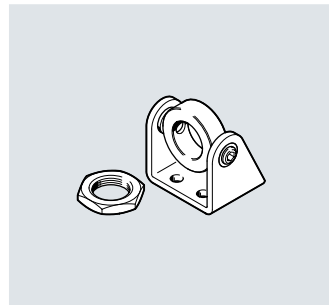
#### Dimensions and ordering data

For $\varnothing$ [mm]	AB $\varnothing$	AH	AO	AT	AU	R1	TR	US	XS	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
12	5.5	20	6	4	14	13	32	42	32	4	43	161866	CRHBN-12/16x1
16	5.5	20	6	4	14	13	32	42	32	4	107	162999	CRHBN-12/16x2
20	6.6	25	8	5	17	20	40	54	36	4	94	161867	CRHBN-20/25x1
25	6.6	25	8	5	17	20	40	54	40	4	236	162998	CRHBN-20/25x2

1) Corrosion resistance class CRC 4 to Festo standard FN 940070  
 Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

### Swivel mounting CRSBN

Material:  
 High-alloy steel



#### Dimensions and ordering data

For $\varnothing$ [mm]	CM	FL	GL	HB $\varnothing$	L1	LE	MR	RF	RG	UK	UX	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
20	38.1	35	20	7	55	31	12	20	24	50.1	40	4	230	552904	CRSBN-2 0/25
25															

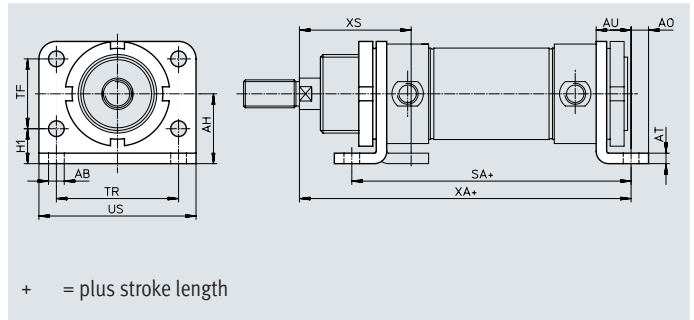
1) Corrosion resistance class CRC 4 to Festo standard FN 940070  
 Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.



## Data sheet

### Foot mounting CRH

Material:  
High-alloy steel



#### Dimensions and ordering data

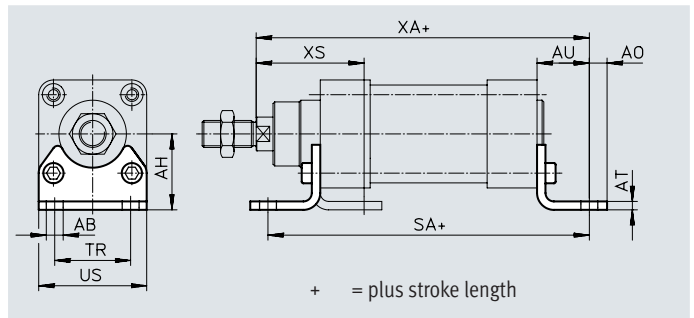
For $\varnothing$ [mm]	AB $\varnothing$	AH	AO	AT	AU	H1	SA	TF	TR	US	XA	XS	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
32	7	28	7	4	14	14	124	28	52	66	148	48	4	237	162951	CRH-32
40	9	33	10	5	20	18	153	30	60	80	178	60	4	341	162952	CRH-40
50	9	40	10	6	20	20	160	40	70	90	190	64	4	559	162953	CRH-50
63	9	45	10	6	20	20	164	50	76	96	195	64	4	680	162954	CRH-63

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

### Foot mounting CRHNC

Material:  
High-alloy steel



#### Dimensions and ordering data

For $\varnothing$ [mm]	AB $\varnothing$	AH	AO	AT	AU	SA	TR	US	XA	XS	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
32	7	32	6.5	4	24	142	32	45	144.7	45.7	4	139	176937	CRHNC-32
40	10	36	9	4	28	160.8	36	54	163.6	53.8	4	188	176938	CRHNC-40
50	10	45	9.5	5	31	167.9	45	64	175	63.1	4	341	176939	CRHNC-50
63	10	50	12.5	5	32	184.9	50	75	191.5	64.6	4	424	176940	CRHNC-63
80	12	63	15	6	41	209.9	63	93	215.5	81.6	4	810	176941	CRHNC-80
100	14.5	71	17.5	6	41	220.1	75	110	229.6	85.5	4	990	176942	CRHNC-100
125	16.5	90	22	8	45	250	90	131	270	102	4	1920	176943	CRHNC-125

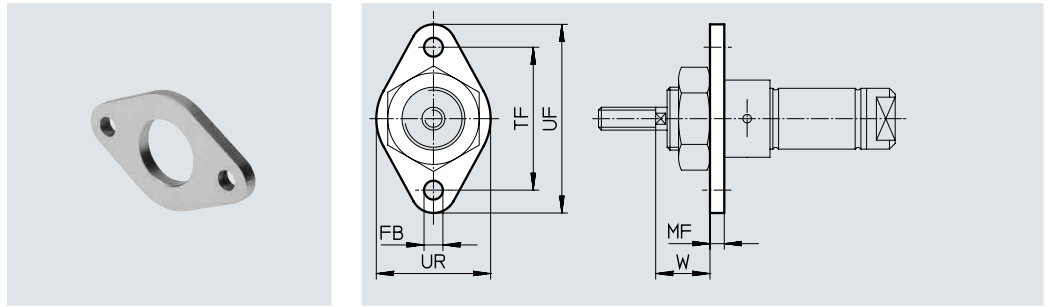
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

## Data sheet

### Flange mounting CRFBN

Material:  
High-alloy steel



#### Dimensions and ordering data

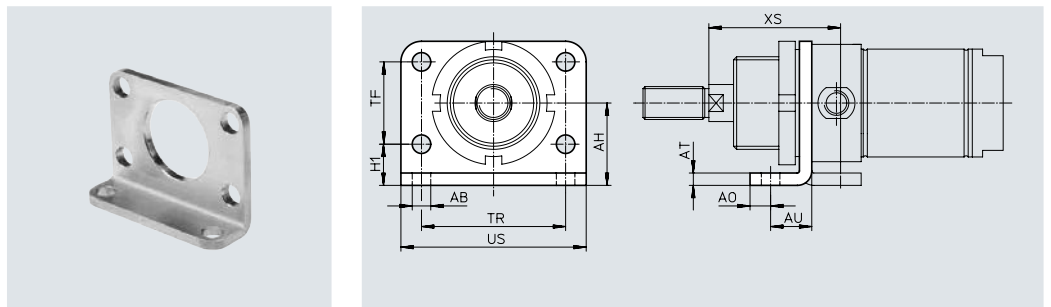
For $\varnothing$ [mm]	FB $\varnothing$	MF	TF	UF	UR	W	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
12, 16	5.5	4	40	53	30	18	4	26	161864	CRFBN-12/16
20	6.6	5	50	66	40	19	4	52	161865	CRFBN-20/25
25	6.6	5	50	66	40	23	4	52	161865	CRFBN-20/25

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

### Flange mounting CRFV

Material:  
High-alloy steel



#### Dimensions and ordering data

For $\varnothing$ [mm]	AB $\varnothing$	AH	AO	AT	AU	H1	TF	TR	US	XS	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
32	7	28	7	4	14	14	28	52	66	48	4	102	161858	CRFV-32
40	9	33	10	5	20	18	30	60	80	60	4	190	161859	CRFV-40
50	9	40	10	6	20	20	40	70	90	64	4	290	161860	CRFV-50
63	9	45	10	6	20	20	50	76	96	64	4	365	161861	CRFV-63

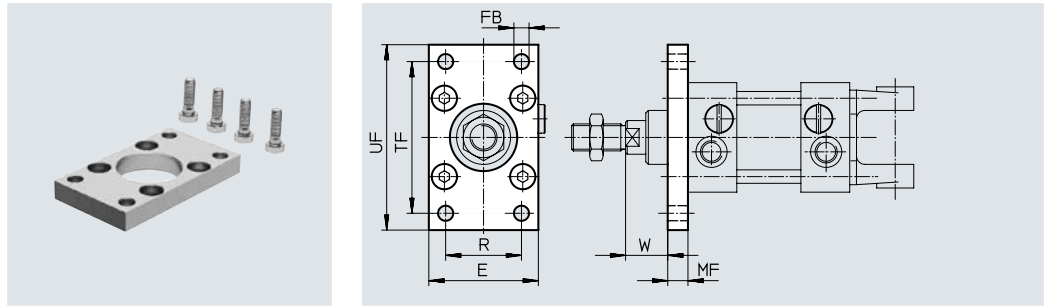
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

## Data sheet

### Flange mounting CRFNG

Material:  
High-alloy steel



#### Dimensions and ordering data

For $\varnothing$ [mm]	E	FB $\varnothing$	MF	R	TF	UF	W	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
32	45	7	10	32	64	80	16	4	220	161846	CRFNG-32
40	54	9	10	36	72	90	20	4	291	161847	CRFNG-40
50	65	9	12	45	90	110	25	4	526	161848	CRFNG-50
63	75	9	12	50	100	120	25	4	680	161849	CRFNG-63
80	93	12	16	63	126	150	30	4	1508	161850	CRFNG-80
100	110	14	16	75	150	175	35	4	2054	161851	CRFNG-100
125	132	16	20	90	180	210	45	4	3787	185363	CRFNG-125

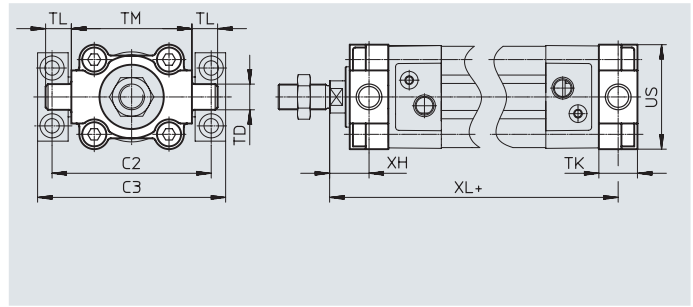
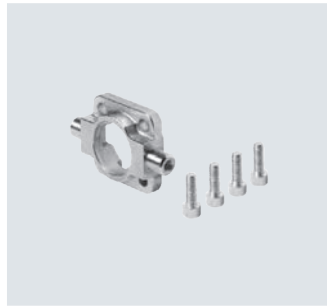
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

## Data sheet

### Trunnion flange CRZNG

Material:  
High-alloy steel



#### Dimensions and ordering data

For $\varnothing$	C2	C3	TD $\varnothing$ e9	TK	TL	TM	UW	XH	XL	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
32	71	86	12	16	12	50	50	18	128	4	150	161852	CRZNG-32
40	87	105	16	20	16	63	55	20	145	4	285	161853	CRZNG-40
50	99	117	16	24	16	75	65	25	155	4	473	161854	CRZNG-50
63	116	136	20	24	20	90	75	25	170	4	687	161855	CRZNG-63
80	136	156	20	28	20	110	100	32	188	4	1296	161856	CRZNG-80
100	164	189	25	38	25	132	120	32	208	4	2254	161857	CRZNG-100
125	192	217	25	50	25	160	150	40	250	4	3484	185362	CRZNG-125

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

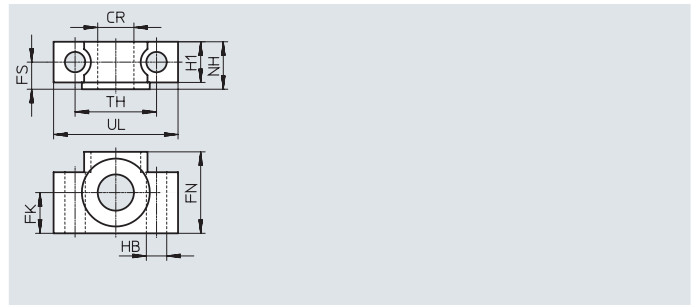
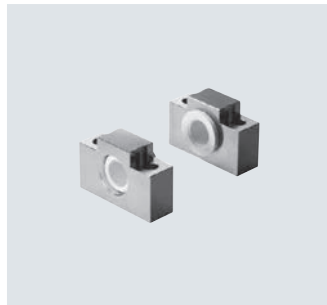
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

#### Note

Screws with a special length are required to mount diameter 125 mm.  
→ Page 57

### Trunnion supports CRLNZG

Material:  
High-alloy steel



#### Dimensions and ordering data

For $\varnothing$	CR $\varnothing$	FK $\varnothing$	FN	FS	H1	HB $\varnothing$	NH	TH $\pm 0.2$	UL	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
32	D11	$\pm 0.1$	30	10.5	15	6.6	18	32	46	4	205	161874	CRLNZG-32
40, 50			36	12	18	9	21	36	55	4	323	161875	CRLNZG-40/50
63, 80			40	13	20	11	23	42	65	4	435	161876	CRLNZG-63/80
100/125			50	16	24.5	14	28.5	50	75	4	739	161877	CRLNZG-100/125

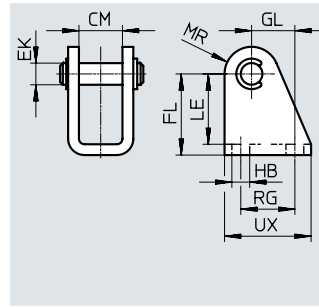
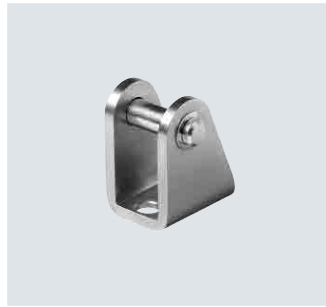
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

## Data sheet

### Clevis foot CRLBN

Material:  
High-alloy steel



#### Dimensions and ordering data

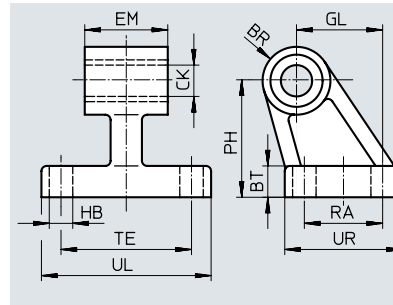
For $\varnothing$ [mm]	CM	EK $\varnothing$	FL	GL	HB	LE	MR	RG	UX	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
12, 16	12.1	6	27 +0.3/-0.2	13	5.5	24	7	15	25	4	39	161862	CRLBN-12/16
20, 25	16.1	8	30 +0.4/-0.2	16	6.6	26	10	20	32	4	82	161863	CRLBN-20/25
32	16.1	10	35 +0.4/-0.2	18.5	6.6	31	11	24	35	4	106	195866	CRLBN-32
40	18.1	12	40 +0.4/-0.2	24.5	9	35	13	30	45	4	185	195867	CRLBN-40
50, 63	21.1	16	45 +0.5/-0.2	28	9	39	14	34	50	4	293	195868	CRLBN-50/63

1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

### Clevis foot CRLNG

Material:  
High-alloy steel



#### Dimensions and ordering data

For $\varnothing$ [mm]	BR	BT	CK $\varnothing$ D11	EB $\varnothing$ H13	EM -0.4	GL	HB $\varnothing$ H13	OF	PH	RA	TE	UL	UR	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
32	10	8	10	-	25.8	21	6.6	-	32	18	38	51	31	4	133	161840	CRLNG-32
40	11	10	12	-	27.8	24	6.6	-	36	22	41	54	35	4	161	161841	CRLNG-40
50	12	12	12	-	31.8	33	9	-	45	30	50	65	45	4	281	161842	CRLNG-50
63	15	12	16	15	39.8	37	9	10.8	50	35	52	67	50	4	370	161843	CRLNG-63
80	15	14	16	18	49.8	47	11	12.7	63	40	66	86	60	4	562	161844	CRLNG-80
100	19	15	20	18	59.8	55	11	13.7	71	50	76	96	70	4	915	161845	CRLNG-100
125	22	20	25	20	69.8	70	14	18.6	90	60	94	124	90	4	2539	176951	CRLNG-125

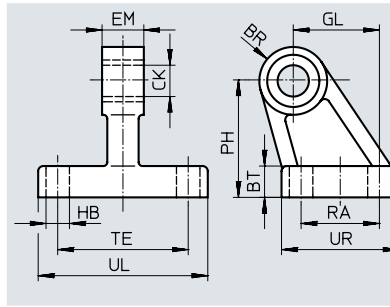
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

## Data sheet

### Clevis foot CRLMC

Material:  
High-alloy steel



#### Dimensions and ordering data

For $\varnothing$ [mm]	BR	BT	CK $\varnothing$ D11	EB $\varnothing$ H13	EM -0.4	GL	HB $\varnothing$ H13	OF	PH	RA	TE	UL	UR	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
32	10	8	10	–	10	21	6.6	–	32	18	38	51	31	4	112	197320	CRLMC-32
40	11	10	12	–	12	24	6.6	–	36	22	41	54	35	4	144	197321	CRLMC-40
50	12	12	12	–	16	33	9	–	45	30	50	65	45	4	254	197322	CRLMC-50
63	15	12	16	15	16	37	9	10.8	50	35	52	67	50	4	306	197323	CRLMC-63
80	15	14	16	18	20	47	11	12.7	63	40	66	86	60	4	482	197324	CRLMC-80
100	19	15	20	18	20	55	11	13.7	71	50	76	96	70	4	722	197325	CRLMC-100

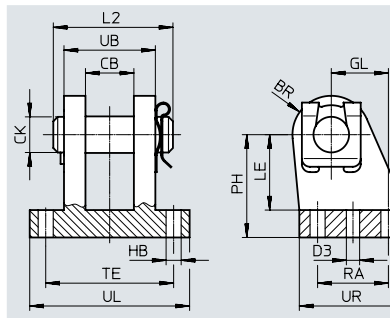
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

### Clevis foot LBG-...-R3

The pivot pin is secured against rotation with a spring pin.

Material: High-alloy stainless steel  
RoHS-compliant



#### Dimensions and ordering data

For $\varnothing$ [mm]	CL	CM	EK $\varnothing$	FL	GL	HB $\varnothing$	L2	LE	MR
80	50	25.1	20	63	30	11	60	49	18
100	50	25.1	20	71	41	11	60	56	22

For $\varnothing$ [mm]	RF	RG	S1 $\varnothing$	UK	UX	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
80	70	36	7.8	89	55	3	1050	2078797	LBG-80-R3
100	70	46	9.8	89	65	3	1375	2078799	LBG-100-R3

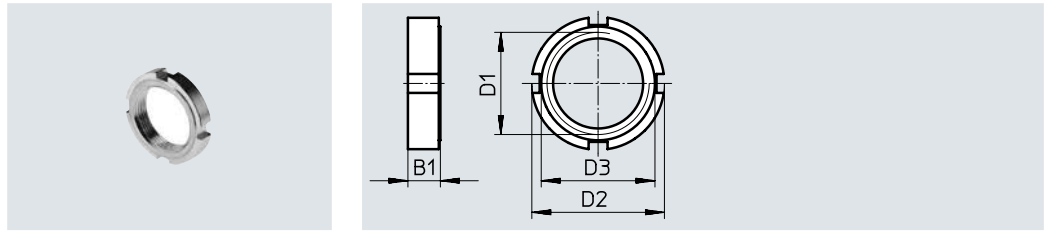
1) Corrosion resistance class CRC 3 to Festo standard FN 940070

High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.

## Data sheet

### Nut CR


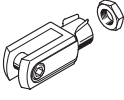
Material:  
High-alloy steel

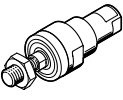


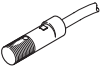
Dimensions and ordering data								
For $\varnothing$	B1	D1	D2	D3	CRC <sup>1)</sup>	Weight	Part no.	Type
[mm]						[g]		
32	8	M30x1.5	42	36	4	40	197326	CR-M30x1.5
40	10	M38x1.5	50	48	4	61	197327	CR-M38x1.5
50, 63	10	M45x1.5	60	56	4	89	197328	CR-M45x1.5
80, 100	13	M50x2	75	67	4	228	197329	CR-M50x2


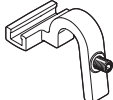
- 1) Corrosion resistance class CRC 4 to Festo standard FN 940070  
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by means of special testing (→ also FN 940082), using appropriate media.

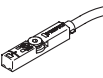
Data sheet



Ordering data – Piston rod attachments, corrosion-resistant				Data sheets → Internet: piston rod attachment			
	For ø	Part no.	Type		For ø	Part no.	Type
<b>Rod eye CRSGS</b>				<b>Rod clevis CRSG</b>			
	12, 16	195580	CRSGS-M6		12, 16	13567	CRSG-M6
	20	195581	CRSGS-M8		20	13568	CRSG-M8
	25, 32	195582	CRSGS-M10x1.25		25, 32	13569	CRSG-M10x1.25
	40	195583	CRSGS-M12x1.25		40	13570	CRSG-M12x1.25
	50, 63	195584	CRSGS-M16x1.5		50, 63	13571	CRSG-M16x1.5
	80, 100	195585	CRSGS-M20x1.5		80, 100	13572	CRSG-M20x1.5
	125	195586	CRSGS-M27x2		125	185361	CRSG-M27x2

Self-aligning rod coupler CRFK			
	For ø	Part no.	Type
	25, 32	2305778	CRFK-M10x1.25
	40	2305779	CRFK-M12x1.25
	50, 63	2490673	CRFK-M16x1.5
	80, 100	2545677	CRFK-M20x1.5

Ordering data – Proximity switches, magnetic reed CRSMEO				Data sheets → Internet: crsmeo	
	Electrical connection	Cable length [m]	Part no.	Type	
	<b>N/O contact</b>				
	Corrosion-resistant				
	3-wire	2.5	161775	CRSMEO-4-K-LED-24	




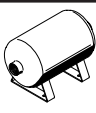


Ordering data – Mounting kits				Data sheets → Internet: crsmbrr/dasp			
	For ø	Part no.	Type		For ø	Part no.	Type
<b>Mounting kit CRSMBR</b>				<b>Mounting kit DASP for standards-based cylinder CRDNG/S</b>			
	12	164581	CRSMBR-12		32 ... 63	8174843	DASP-V4-8-A-R1
	16	164582	CRSMBR-16		80 ... 125	8174844	DASP-V4-12-A-R1
	20	164583	CRSMBR-20				
	25	164584	CRSMBR-25				
	32	163888	CRSMBR-32				
	40	163889	CRSMBR-40				
	50	163890	CRSMBR-50				
	63	163891	CRSMBR-63				

Ordering data – Proximity switches for T-slot, magneto-resistive, CRSMT-8M				Data sheets → Internet: crsmt		
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type
	<b>N/O contact</b>					
	Inserted in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	5.0	574380	CRSMT-8M-PS-24V-K-5.0-OE
			Cable, 3-wire	10.0	574381	CRSMT-8M-PS-24V-K-10.0-OE
			Plug M8x1, 3-pin	0.3	574383	CRSMT-8M-PS-24V-K-0.3-M8D
			Plug M12x1, 3-pin	0.3	574382	CRSMT-8M-PS-24V-K-0.3-M12

Ordering data – Connecting cables				Data sheets → 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	
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541363	NEBU-M12G5-K-2.5-LE3	
			5	541364	NEBU-M12G5-K-5-LE3	
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541338	NEBU-M8W3-K-2.5-LE3	
			5	541341	NEBU-M8W3-K-5-LE3	
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541367	NEBU-M12W5-K-2.5-LE3	
			5	541370	NEBU-M12W5-K-5-LE3	



## Data sheet

Ordering data – Mounting kit SMBR				Data sheets → Internet: smbr		
		Part no.	Type			
	For standards-based cylinder CRDSNU	538937	SMBR-8-8/100-S6			
Ordering data – Mounting kit CRSMB				Data sheets → Internet: crsmb		
		Part no.	Type			
	For round cylinders CRHD	525565	CRSMB-8-32/100			
Ordering data – One-way flow control valves CRGRLA				Data sheets → Internet: crgrla		
Connection Thread		For push-in fitting	Material	Part no.	Type	
	M5	CRQS/CRQSL/CRQST	Electropolished stainless steel casting	161403	CRGRLA-M5-B	
	G1/8			161404	CRGRLA-1/8-B	
	G1/4			161405	CRGRLA-1/4-B	
	G3/8			161406	CRGRLA-3/8-B	
	G1/2			161407	CRGRLA-1/2-B	
Ordering data – Air reservoirs CRVZS				Data sheets → Internet: crvzs		
Connection Thread		Volume [l]	Material	Part no.	Type	
	G1/8	0.1	High-alloy stainless steel	160233	CRVZS-0.1	
	G1/4	0.4		160234	CRVZS-0.4	
	G1/4	0.75		160235	CRVZS-0.75	
	G1/2	2		160236	CRVZS-2	
	G1, G3/8	5		192159	CRVZS-5	
	G1, G3/8	10		160237	CRVZS-10	
Ordering data – Tubing				Data sheets → Internet: tubing		
		Standard O.D. tubing		PLN, PFAN		
Ordering data – Screws						
For ø		For accessories	Part no.	Type	PU <sup>1)</sup>	
		125	CRZNG	8081899	DIN 912-M12X55-A4-70	1

1) Packaging unit

# Festo - Your Partner in Automation



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