

## Stainless-steel cylinders

**FESTO**



### Characteristics

#### 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 render them non-resistant to 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.

#### Their strengths

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 material surface 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.

#### Good to know

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

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



## Characteristics

### 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 resistance to media 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 to wet cleaning to foam cleaning with different exposure times and concentrations.

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

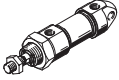
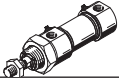
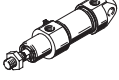
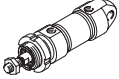
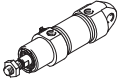

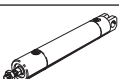
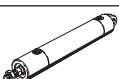
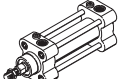
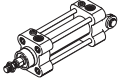


Wet cleaning



Foam cleaning

Product range overview

Function	Design	Type	Piston diameter [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>								
		<b>CRDSNU</b> Piston rod at one end	12, 16	1 ... 200	■	■	■	■ From ø 25	■ From ø 20
			20	1 ... 320					
			25	1 ... 500					
		<b>CRDSNU-MQ</b> Short end cap without swivel mounting	12, 16	1 ... 200	-	■	■	■ From ø 25	■ From ø 20
			20	1 ... 320					
			25	1 ... 500					
		<b>CRDSNU-MG</b> Bearing cap without mounting thread	12, 16	1 ... 200	-	■	■	■ From ø 25	■ From ø 20
			20	1 ... 320					
			25	1 ... 500					
		<b>CRDSNU-B-MG</b> 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>								
		<b>CRDSNU</b> Piston rod at one end	32, 40, 50, 63	1 ... 500	■	■	■	■	■
		<b>CRDSNU-MG</b> Bearing cap without mounting thread	32, 40, 50, 63	1 ... 500	-	■	■	■	■
<b>CRDSNU-B-MG</b> Bearing cap without mounting thread (stocked parts)									
	<b>CRHD-MQ</b> Bearing cap with male thread	32, 40, 50, 63, 80, 100	10 ... 500 Special lengths on request	-	-	-	-	-	
	<b>CRHD-MC</b> End cap with clevis	32, 40, 50, 63, 80, 100	10 ... 500 Special lengths on request	-	-	-	-	-	
	<b>CRHD-MS</b> End cap with lug	32, 40, 50, 63, 80, 100	10 ... 500 Special lengths on request	-	-	-	-	-	
<b>Standards-based cylinder to ISO 15552 (ISO 6431 and VDMA 24562)</b>									
	<b>CRDNG</b> Piston rod at one end	32, 40, 50, 63, 80, 100, 125	10 ... 2000	■	-	-	-	-	
<b>Standards-based cylinder with swivel bearing at rear to ISO 15552 (ISO 6431 and VDMA 24562)</b>									
	<b>CRDNGS</b> 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 ø 20	■ From ø 16	■	■	■	■	■ From ø 16	■	6
<b>CRDSNU-MQ</b> Short end cap without swivel mounting	■	■	■ From ø 20	■ From ø 16	■	■	■	■	■ From ø 16	■	6
<b>CRDSNU-MG</b> Bearing cap without mounting thread	■	■	■ From ø 20	■ From ø 16	■	–	■	■	–	■	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	■	■	■	■	■	■	■	■	■	■	18
<b>CRDSNU-MQ</b> Short end cap without swivel mounting	■	■	■	■	■	■	■	■	■	■	18
<b>CRDSNU-MG</b> Bearing cap without mounting thread	■	■	■	■	■	–	■	■	–	■	18
<b>CRDSNU-B-MG</b> Bearing cap without mounting thread (stocked parts)	■	–	–	■	■	–	–	–	–	■	
<b>CRHD-MQ</b> Bearing cap with male thread	■	–	■	–	–	–	–	■	–	–	30
<b>CRHD-MC</b> End cap with clevis	■	–	■	–	–	–	–	■	–	–	30
<b>CRHD-MS</b> End cap with lug	■	–	■	–	–	–	–	■	–	–	30
<b>Standards-based cylinder to ISO 15552 (ISO 6431 and VDMA 24562)</b>											
<b>CRDNG</b> Piston rod at one end	■	–	■	–	–	–	–	■	–	–	38
<b>Standards-based cylinder with swivel bearing at rear to ISO 15552 (ISO 6431 and VDMA 24562)</b>											
<b>CRDNGS</b> Piston rod at one end	■	–	■	–	–	–	–	■	–	–	38

## Characteristics

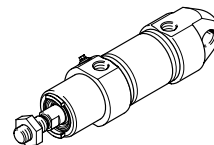
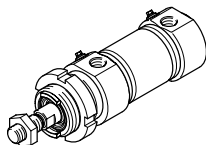
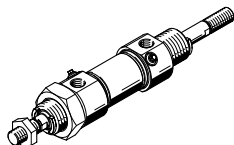
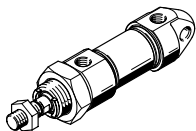
### Variants

CRDSNU  
Basic type

CRDSNU-S2:  
Through piston rod

CRDSNU-MQ:  
Short end cap without swivel  
mounting

CRDSNU-MG/CRDSNU-B-MG:  
Bearing cap without mounting thread



### Other variants

Symbol	Characteristics	Description
	S2 Through piston rod	For working at both ends with the same force in the forward and return stroke, for attaching external stops
	S6 Heat-resistant seals	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
	EX4 EU certification	Can be used in potentially explosive areas

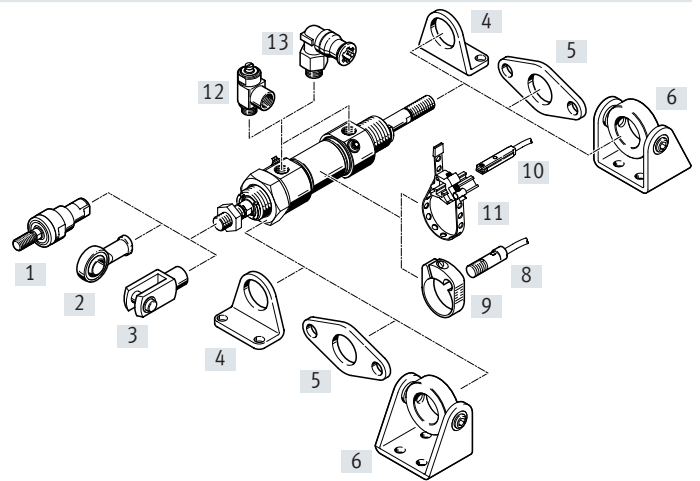
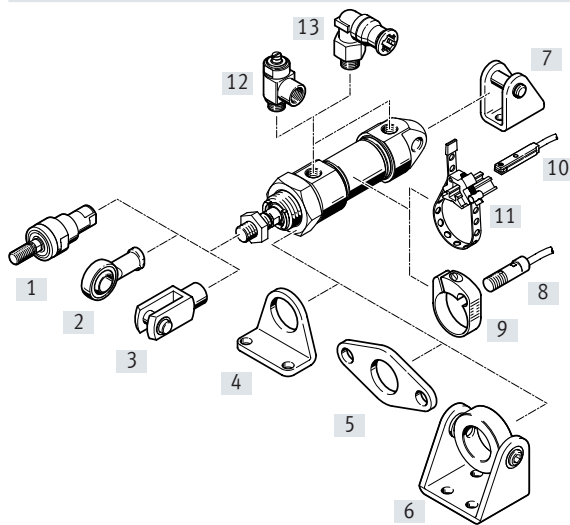
### Cushioning types

	Cushioning P	Cushioning PPS	Cushioning PPV
<b>Mode of operation</b>	<ul style="list-style-type: none"> <li>The drive is equipped with elastic, polymer 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 components and accessories

	Description	CRDSNU-				CRDSNU-B	→ Page/ Internet
		Basic type	MQ	MG	S2	MG	
[1]	Self-aligning rod coupler CRFK	■	■	■	■	■	53
[2]	Rod eye CRSGS	■	■	■	■	■	53
[3]	Rod clevis CRSG	■	■	■	■	■	53
[4]	Foot mounting CRHBN	■	■	–	■	–	46
[5]	Flange mounting CRFBN	■	■	–	■	–	48
[6]	Swivel mounting CRSBN	■	■	–	■	–	46
[7]	Clevis foot CRLBN	■	–	■	–	■	51
[8]	Proximity switch CRSMEO-4	■	■	■	■	■	53
[9]	Mounting kit CRSMBR	■	■	■	■	■	54
[10]	Proximity switch CRSMT-8M	■	■	■	■	■	53
[11]	Mounting kit SMBR	■	■	■	■	■	54
[12]	One-way flow control valve CRGRLA	■	■	■	■	■	54
[13]	Push-in fitting CRQS	■	■	■	■	■	qs

## Type codes

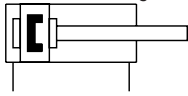
<b>001</b>	<b>Series</b>	
<b>CRDSNU</b>	Round cylinder, double-acting, stainless steel	
<b>002</b>	<b>Piston diameter</b>	
<b>12</b>	12	
<b>16</b>	16	
<b>20</b>	20	
<b>25</b>	25	
<b>003</b>	<b>Stroke</b>	
<b>...</b>	1 ... 500	
<b>004</b>	<b>Cushioning</b>	
<b>P</b>	Elastic cushioning rings/plates on both sides	
<b>PPV</b>	Pneumatic cushioning, adjustable at both ends	
<b>PPS</b>	Pneumatic cushioning, self-adjusting 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 range</b>	
	Standard	
<b>S6</b>	Heat-resistant seals max. 120 °C	
<b>TT</b>	-40 ... +80°C	
<b>013</b>	<b>EU certification</b>	
	None	
<b>EX4</b>	II 2GD	



## Data sheet

## Elastic cushioning



-  Diameter  
12 ... 25 mm
-  Stroke length  
1 ... 500 mm
-  Spare parts management



General technical data		12	16	20	25
Piston diameter		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/plates at both ends			
	PPV	-		Cushioning, adjustable at both ends	
	PPS	-		Cushioning, self-adjusting at both ends	
Cushioning length	PPV [mm]	-		15	17
	PPS [mm]	-		12	15
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 operating/ pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure <sup>1)</sup> [bar]	1 ... 10
Food-safe <sup>2)</sup>	→ supplementary material information

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

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

Environmental conditions		Basic type/A3	A1	S6	TT	EX4
Ambient temperature <sup>1)</sup> [°C]		-20 ... +80	0 ... +80	0 ... +120	-40 ... +80	-20 ... +60
Corrosion resistance 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. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.

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.

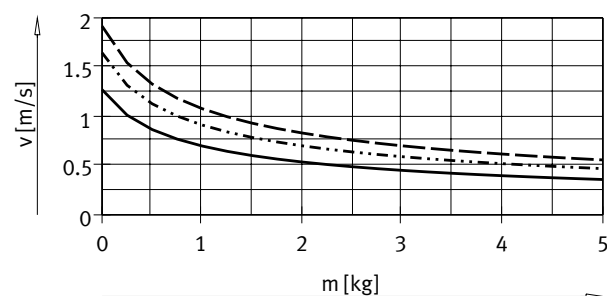
## Data sheet

Forces [N] and impact energy [J]				
Piston diameter	12	16	20	25
Theoretical force at 6 bar, advancing	68	121	188	295
Theoretical force at 6 bar, retracting	51	104	158	247
Impact energy in the end positions for elastic 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

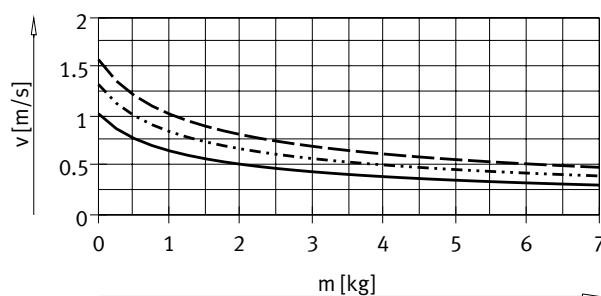
### Average piston speed $v$ as a function of applied load $m$ in combination with cushioning PPS

Piston diameter 16



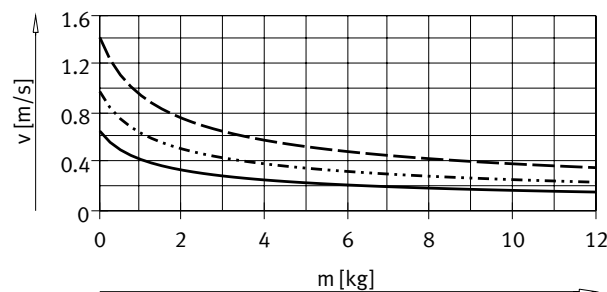
— DSNU-16-50  
 ..... DSNU-16-100  
 - - - DSNU-16-200

Piston diameter 20



— DSNU-20-50  
 ..... DSNU-20-100  
 - - - DSNU-20-200

Piston diameter 25



— DSNU-25-50  
 ..... DSNU-25-100  
 - - - DSNU-25-200

Note

Engineering software for elastic cushioning  
 PPV cushioning  
 → [https://www.festo.com/eap/en\\_gb/PneumaticSizing/](https://www.festo.com/eap/en_gb/PneumaticSizing/)

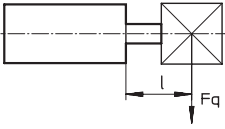
Average piston speed  
 = Stroke/movement time

Additional graphs for PPS cushioning  
 → [www.festo.com](http://www.festo.com)

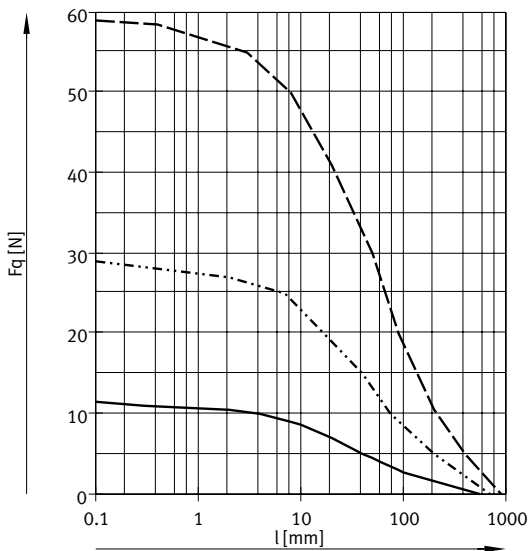
Weight [g]				
Piston diameter	12	16	20	25
Basic weight with 0 mm stroke	101	130	310	410
Additional weight per 10 mm stroke	4	5	7	11
Moving mass with 0 mm stroke	19	21	42	73
Additional mass per 10 mm stroke	2	2	4	6

## Data sheet

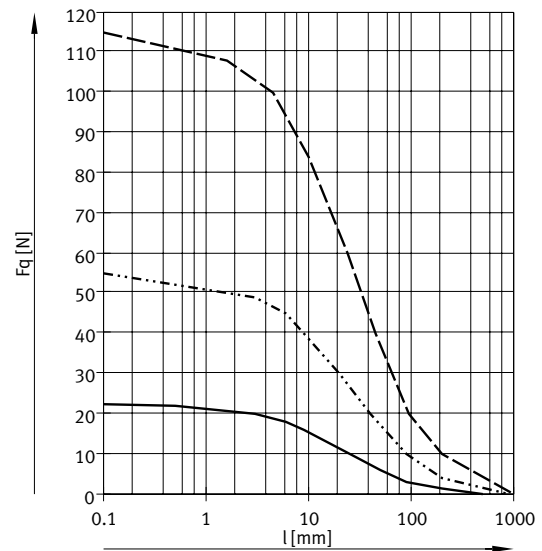
### Max. transverse load $F_q$ as a function of projection $l$



#### Basic type



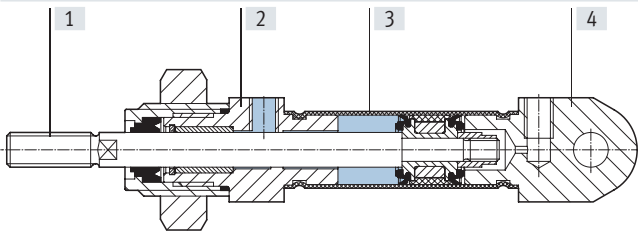
#### S2 – Through piston rod



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

### Materials

#### Sectional view



Standards-based cylinder	Basic type	S6/A1	A3	TT
[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)
Note on materials	RoHS-compliant		Contains paint-wetting impairment substances	
Maritime classification <sup>1)</sup>	See certificate			

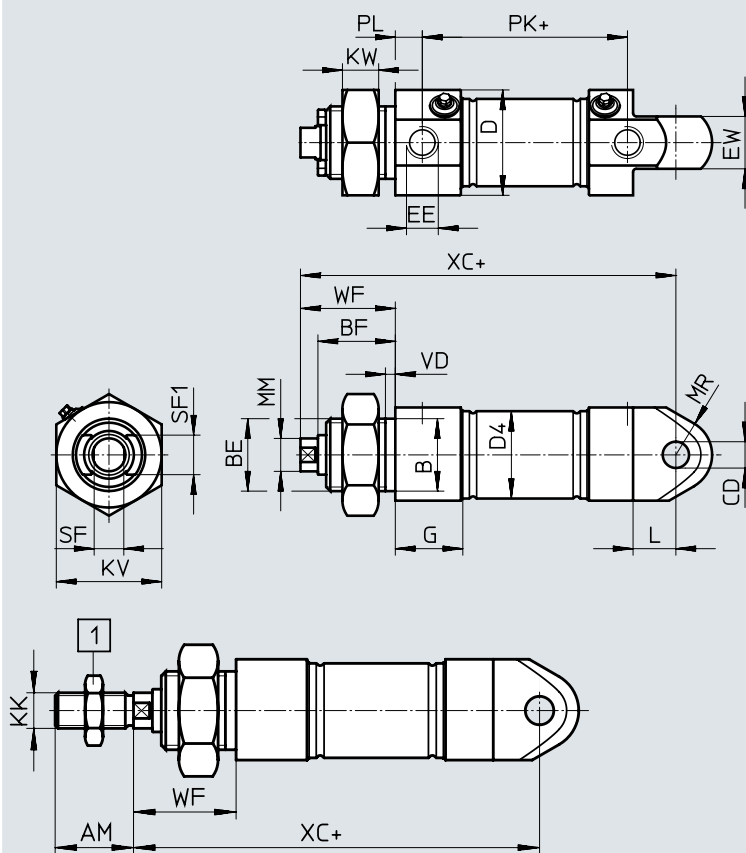
1) Additional information is available at [www.festo.com/sp](http://www.festo.com/sp) → Certificates


Data sheet

Dimensions

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

Basic type



 **Note**  
 [1] Piston rod nut is not included in the scope of delivery for diameter 8 ... 20.  
 + = plus stroke length

∅	AM	B	BE	BF	CD	D	D4
[mm]		∅ h9			∅ H8	∅	∅
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

∅	EE	EW	G	KK	KV	KW	L	MM
[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

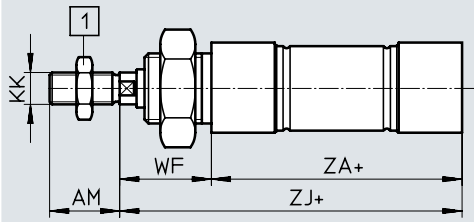
∅	MR	PL	SF	SF1	VD	WF	XC
[mm]							±1
12	8	6	5	9	3.5	22	75
16	8	6	5	9	3.5	22	82
20	11	8.2	7	12	3.5	24	95
25	11	8.2	9	12	3.5	28	104

Data sheet

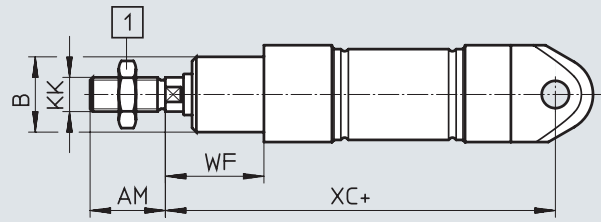
Dimensions

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

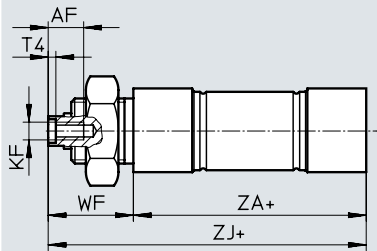
MQ – Short end cap without swivel mounting



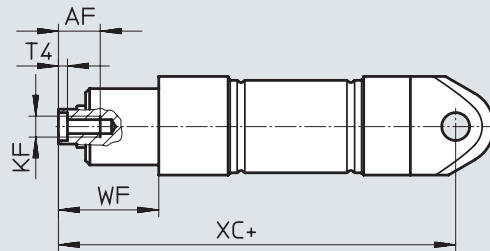
MG – Bearing cap without mounting thread



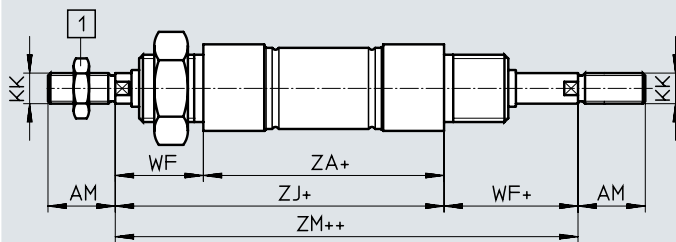
MQ-K3 – Short end cap without swivel mounting, with female piston rod thread



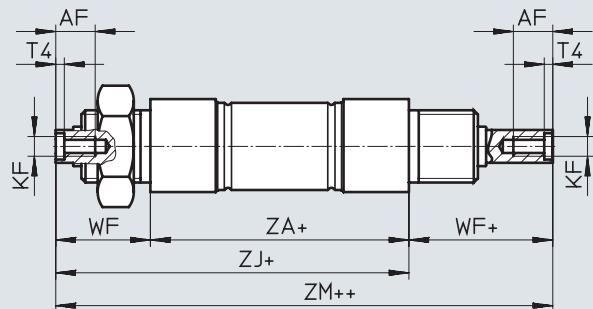
MG-K3 – Bearing cap without mounting thread, with female piston rod thread



S2 – Through piston rod



S2-K3 – Through piston rod, with female thread



- 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 ∅ h9	KF	KK
[mm]					
12	-	16	16	-	M6
16	-	16	16	-	M6
20	12	20	22	M4	M8
25	12	22	22	M6	M10x1.25

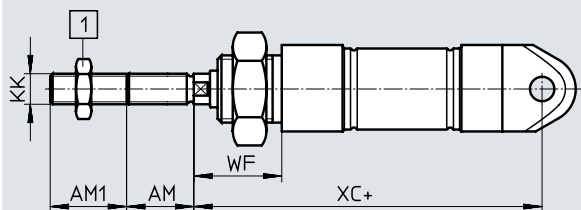
∅	T4	WF	XC	ZA	ZJ	ZM
[mm]			±1			
12	-	22	75	50	72	95
16	-	22	82	56	78	101
20	2	24	95	68	92	117
25	2.6	28	104	69.5	97.5	126

Data sheet

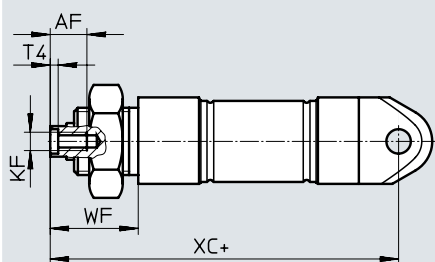
Dimensions

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

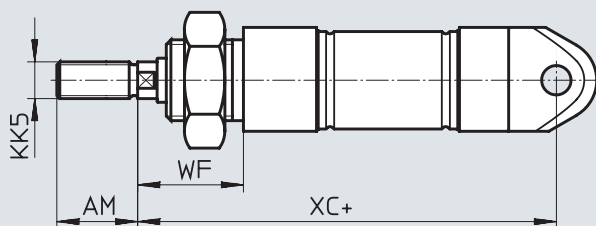
K2 – Extended male piston rod thread



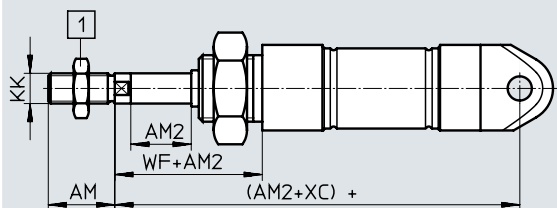
K3 – Female piston rod thread



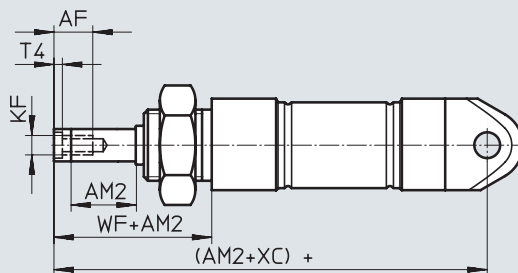
K5 – Custom piston rod thread



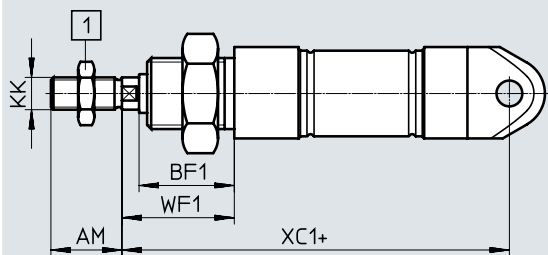
K8 – Extended piston rod




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 – Stocked parts				
Type	Piston diameter	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
	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

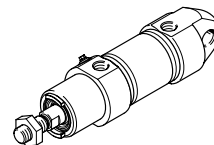
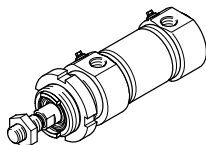
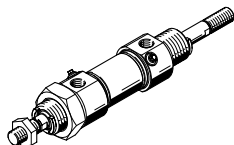
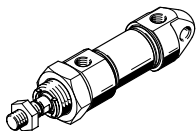
Ordering table – Modular product system							
Size	12	16	20	25	Conditions	Code	Enter code
Module no.	<b>552787</b>	<b>552788</b>	<b>552789</b>	<b>552790</b>			
Design	Stainless steel					<b>CR</b>	CR
Function	Standards-based cylinder, double-acting, based on ISO 6432					<b>DSNU</b>	DSNU
Piston diameter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

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

## Characteristics

### Variants

CRDSNU Basic type	CRDSNU-S2: Through piston rod	CRDSNU-MQ: Short end cap without swivel mounting	CRDSNU-MG: Bearing cap without mounting thread
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Other variants Symbol	Characteristics	Description
	S2 Through piston rod	For working at both ends with the same force in the forward and return stroke, for attaching external stops
	S6 Heat-resistant seals	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
	EX4 EU certification	Can be used in potentially explosive areas

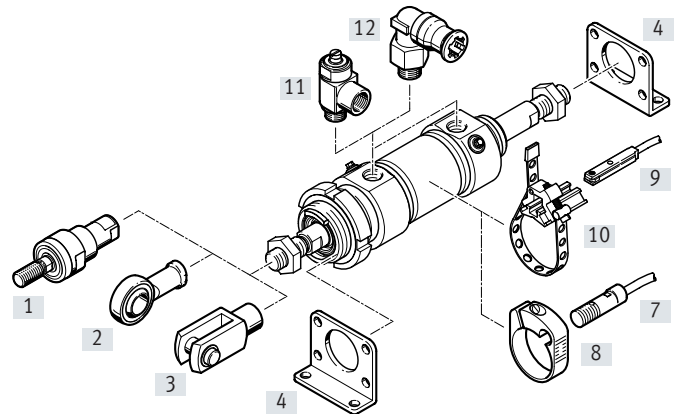
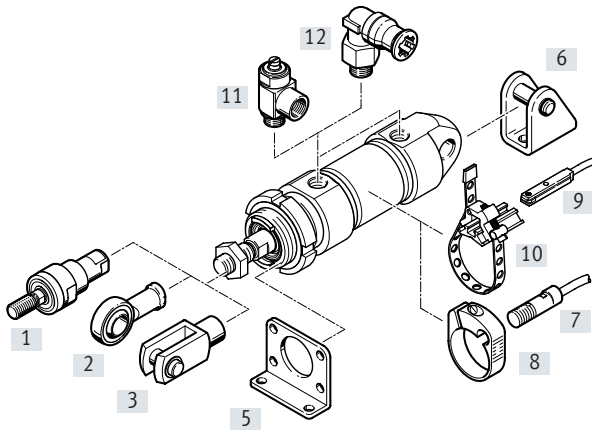
### Cushioning types

	Cushioning P	Cushioning PPS	Cushioning PPV
<b>Mode of operation</b>	<ul style="list-style-type: none"> <li>The drive is equipped with elastic, polymer 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 components and accessories

		Description	CRDSNU- Basic type	MQ	MG	S2	→ Page/ Internet
[1]	Self-aligning rod coupler CRFK	For compensating radial and angular deviations	■	■	■	■	53
[2]	Rod eye CRSGS	With spherical bearing	■	■	■	■	53
[3]	Rod clevis CRSG	Permits a swivelling movement of the cylinder in one plane	■	■	■	■	53
[4]	Foot mounting CRH	<ul style="list-style-type: none"> <li>• 2 included in the scope of delivery</li> <li>• With CRDSNU-S2 for bearing and end caps</li> </ul>	–	–	–	■	47
[5]	Flange mounting CRFV	<ul style="list-style-type: none"> <li>• 1 included in the scope of delivery</li> <li>• For bearing cap</li> </ul>	■	■	–	–	48
[6]	Clevis foot CRLBN	For end cap	■	–	■	–	51
[7]	Proximity switch CRSMEO-4	<ul style="list-style-type: none"> <li>• Round design</li> <li>• For position sensing</li> </ul>	■	■	■	■	53
[8]	Mounting kit CRSMBR	For proximity switch CRSMEO-4	■	■	■	■	54
[9]	Proximity switch CRSMT-8M	<ul style="list-style-type: none"> <li>• Design for T-slot</li> <li>• For position sensing</li> </ul>	■	■	■	■	53
[10]	Mounting kit SMBR	For proximity switch CRSMT-8	■	■	■	■	54
[11]	One-way flow control valve CRGRLA	For speed regulation	■	■	■	■	54
[12]	Push-in fitting CRQS	For connecting compressed air tubing with standard O.D.	■	■	■	■	qs

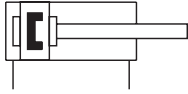
Type codes

<b>001</b>	<b>Series</b>	
<b>CRDSNU</b>	Round cylinder, double-acting, stainless steel	
<b>002</b>	<b>Piston diameter</b>	
<b>32</b>	32	
<b>40</b>	40	
<b>50</b>	50	
<b>63</b>	63	
<b>003</b>	<b>Stroke</b>	
<b>...</b>	1 ... 500	
<b>004</b>	<b>Cushioning</b>	
<b>P</b>	Elastic cushioning rings/plates on both sides	
<b>PPV</b>	Pneumatic cushioning, adjustable at both ends	
<b>PPS</b>	Pneumatic cushioning, self-adjusting 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 extension</b>	
	None	
<b>...K2</b>	1 ... 70 mm	
<b>010</b>	<b>Piston rod thread type</b>	
	Male thread	
<b>K3</b>	Female thread	
<b>011</b>	<b>Custom thread</b>	
<b>"M10"K5</b>	M10	
<b>"M12"K5</b>	M12	
<b>"M16"K5</b>	M16	
<b>012</b>	<b>Piston rod extension</b>	
	None	
<b>...K8</b>	1 ... 500 mm	
<b>013</b>	<b>Temperature range</b>	
	Standard	
<b>S6</b>	Heat-resistant seals max. 120 °C	
<b>TT</b>	-40 ... +80°C	
<b>014</b>	<b>EU certification</b>	
	None	
<b>EX4</b>	II 2GD	

## Data sheet

## Elastic cushioning



 Diameter  
 32 ... 63 mm

 Stroke length  
 1 ... 500 mm

 Spare parts management


**General technical data**

Piston diameter		32	40	50	63
Pneumatic connection		G1/8	G1/4	G1/4	G3/8
Piston rod thread		M10x1.25	M12x1.25	M16x1.5	M16x1.5
Design		Piston			
		Piston rod			
		Cylinder barrel			
Cushioning	P	Elastic cushioning rings/plates at both ends			
	PPV	Cushioning, adjustable at both ends			
	PPS	Cushioning, self-adjusting at both ends			
Cushioning length	PPV [mm]	14	18	20	21
	PPS [mm]	14	18	20	21
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 operating/ pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)			
Operating pressure <sup>1)</sup>	[bar]	1 ... 10			
Food-safe <sup>2)</sup>		→ supplementary material information			

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

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

**Environmental conditions**

Standards-based cylinder		Basic type/A3	A1	S6	TT	EX4
Ambient temperature <sup>1)</sup>	[°C]	-20 ... +80	0 ... +80	0 ... +120	-40 ... +80	-20 ... +60
Corrosion resistance 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. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.

**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.

Data sheet

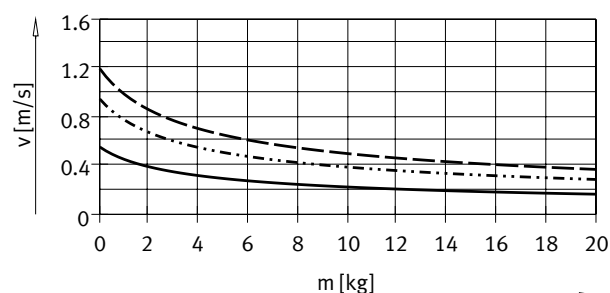
Forces [N] and impact energy [J]				
Piston diameter	32	40	50	63
Theoretical force at 6 bar, advancing	483	754	1178	1870
Theoretical force at 6 bar, retracting	415	633	990	1682
Impact energy in the end positions for elastic cushioning <sup>1)</sup>	0.4	0.7	1.0	1.3

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

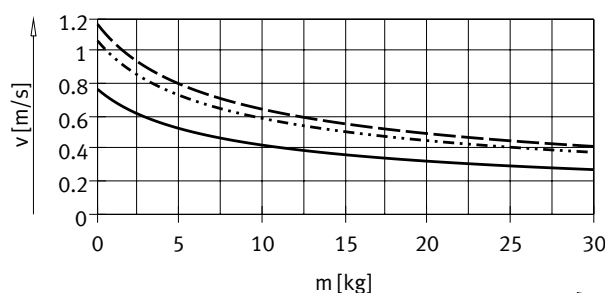
Average piston speed  $v$  as a function of applied load  $m$  in combination with cushioning PPS

Piston diameter 32

Piston diameter 40



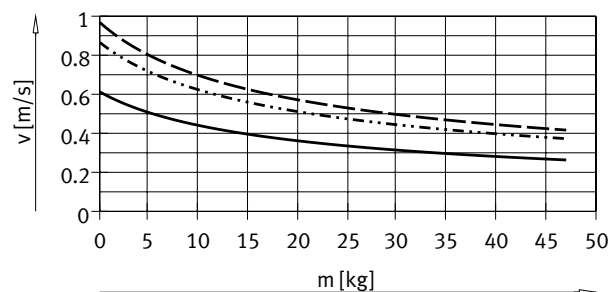
— DSNU-32-50  
 ..... DSNU-32-100  
 - - - DSNU-32-200



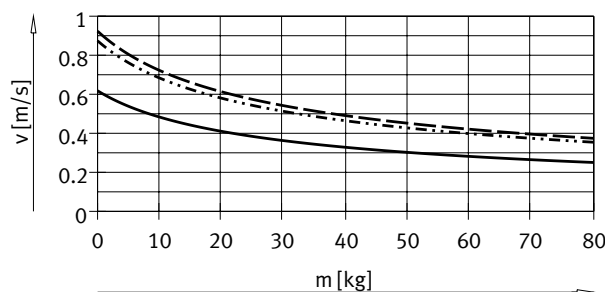
— DSNU-40-50  
 ..... DSNU-40-100  
 - - - DSNU-40-200

Piston diameter 50

Piston diameter 63



— DSNU-50-50  
 ..... DSNU-50-100  
 - - - DSNU-50-200



— DSNU-63-50  
 ..... DSNU-63-100  
 - - - DSNU-63-200

Note

Engineering software for elastic cushioning PPV cushioning  
 → [https://www.festo.com/eap/en\\_gb/PneumaticSizing/](https://www.festo.com/eap/en_gb/PneumaticSizing/)

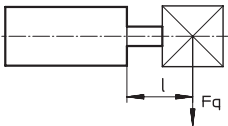
Average piston speed = Stroke/movement time

Additional graphs for PPS cushioning  
 → [www.festo.com](http://www.festo.com)

Data sheet

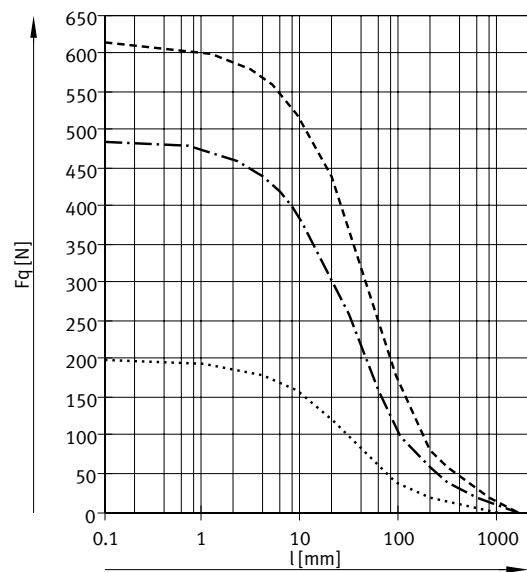
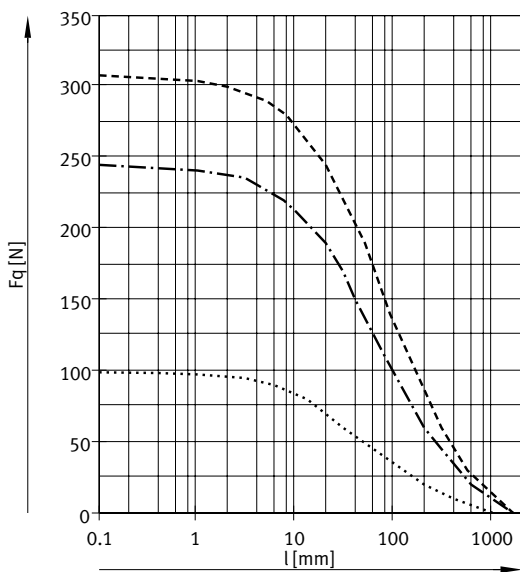
Weight [g]				
Piston diameter	32	40	50	63
Basic weight with 0 mm stroke	670	1327	2020	2943
Additional weight per 10 mm stroke	15	24	40	44
Moving mass with 0 mm stroke	118	232	416	472
Additional mass per 10 mm stroke	9	16	25	25

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



Basic type

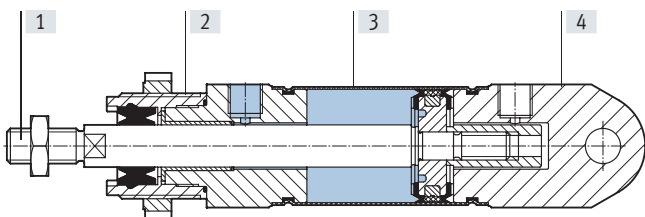
S2 – Through piston rod



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

Materials

Sectional view



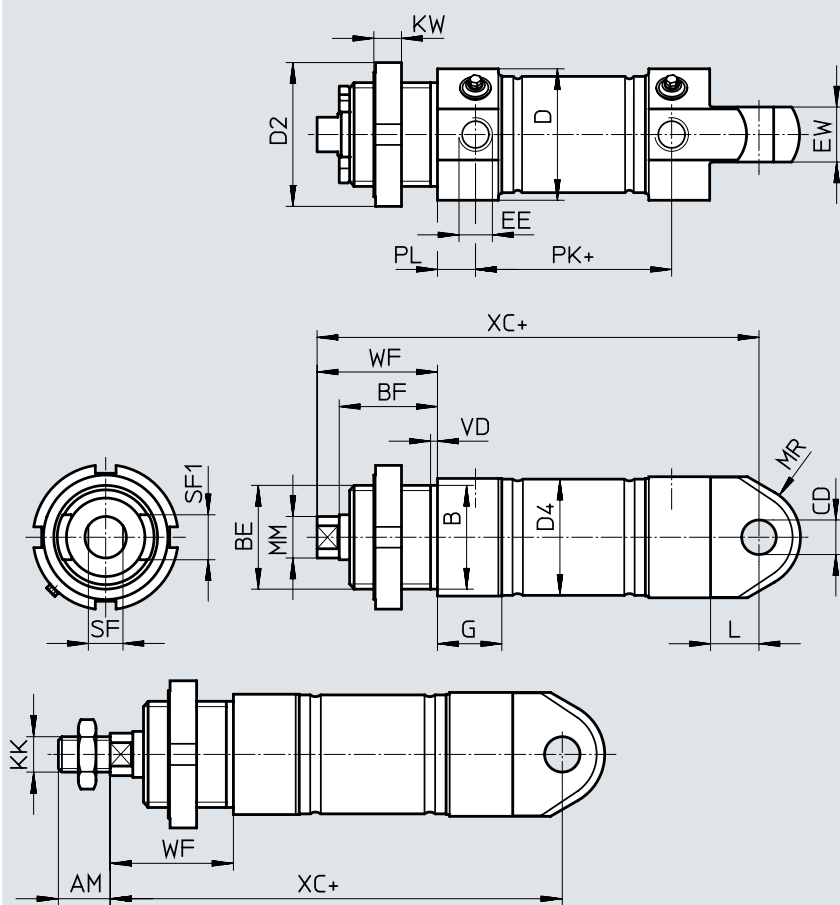
Standards-based cylinder	Basic type	S6/A1	A3	TT
[1] Piston rod	High-alloy stainless steel			
[2] Bearing cap	High-alloy stainless steel			
[3] Cylinder barrel	High-alloy stainless steel			
[4] End cap	High-alloy stainless steel			
- Seals	TPE-U (PUR) media seal (modified for resistance to hydrolysis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

Data sheet

Dimensions

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

Basic type



+ = 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

∅ [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

∅ [mm]	MR	PL	SF	SF1	VD	WF	XC ±1
32	15	9	10	13	4.3	34	117.5
40	19	12	13	18	4.3	39	139.6
50	22.5	12	17	22	4.3	44	147.2
63	22.5	13	17	22	4.3	44	155.4

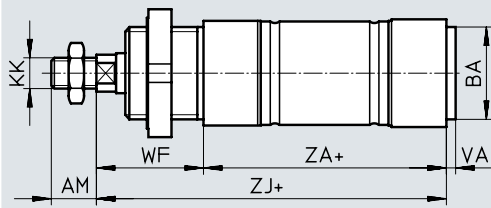


Data sheet

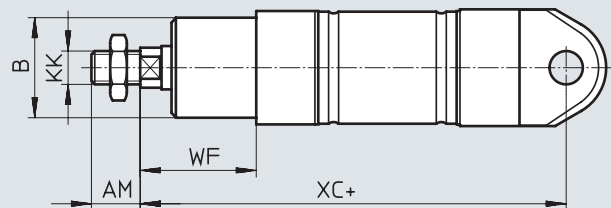
Dimensions

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

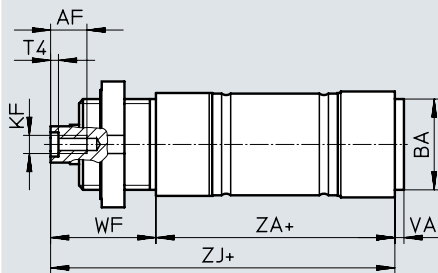
MQ – Short end cap without swivel mounting



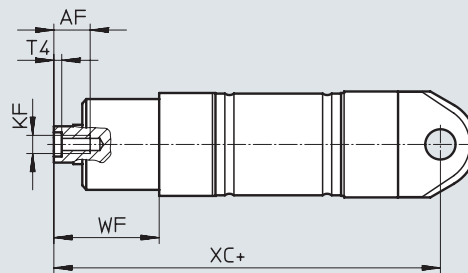
MG – Bearing cap without mounting thread



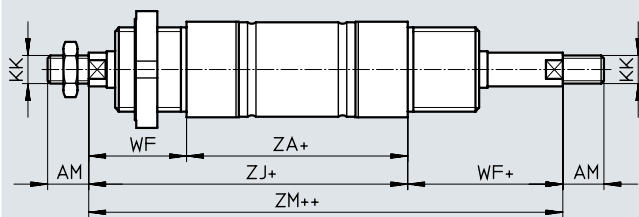
MQ-K3 – Short end cap without swivel mounting, with female piston rod thread



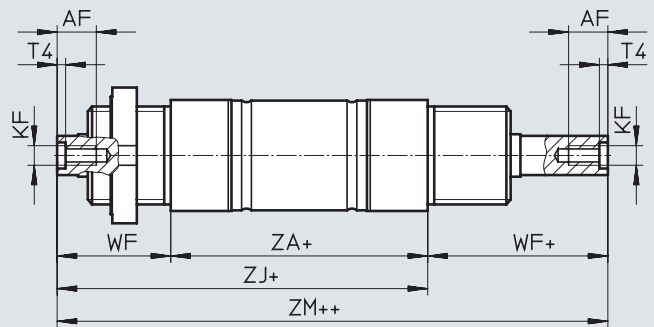
MG-K3 – Bearing cap without mounting thread, with female piston rod thread



S2 – Through piston rod



S2-K3 – Through piston rod, with female thread



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

∅	AF	AM	B	BA	KF	KK
[mm]			∅ h9	h9		
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

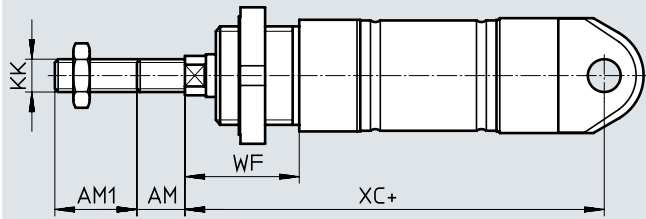
∅	T4	VA	WF	XC	ZA	ZJ	ZM
[mm]				±1			
32	2.6	3	34	118	69.5	104	138
40	3.3	4	39	140	84.6	124	163
50	4.7	4	44	147	86.2	130	175
63	4.7	4	44	156	94.2	139	183

Data sheet

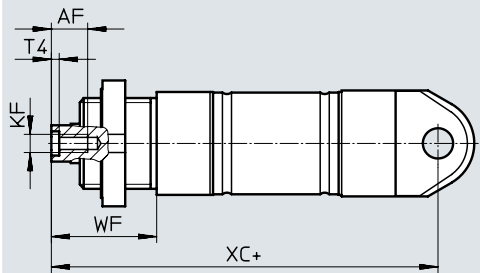
Dimensions

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

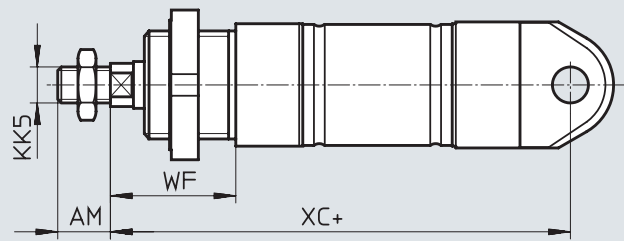
K2 – Extended male piston rod thread



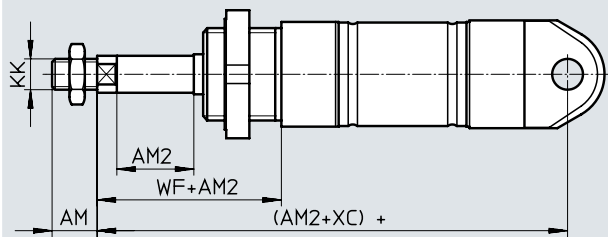
K3 – Female piston rod thread



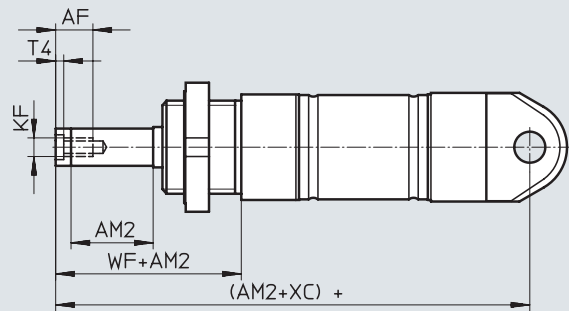
K5 – Custom piston rod thread



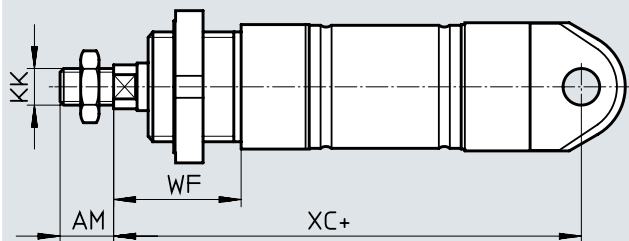
K8 – Extended piston rod



K3-K8 – Extended piston rod, with female thread



TT – Low temperature / A2 – Hard wiper




+ = plus stroke length


## Data sheet

∅	AF	AM	AM1	AM2	KF
[mm]			max.	max.	
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

∅	KK	KK5	T4	WF	XC
[mm]					±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

## Ordering data

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

[1] PPS, A1, A3 Not with S6, TT

[2] A2 Not with MG, S6, TT

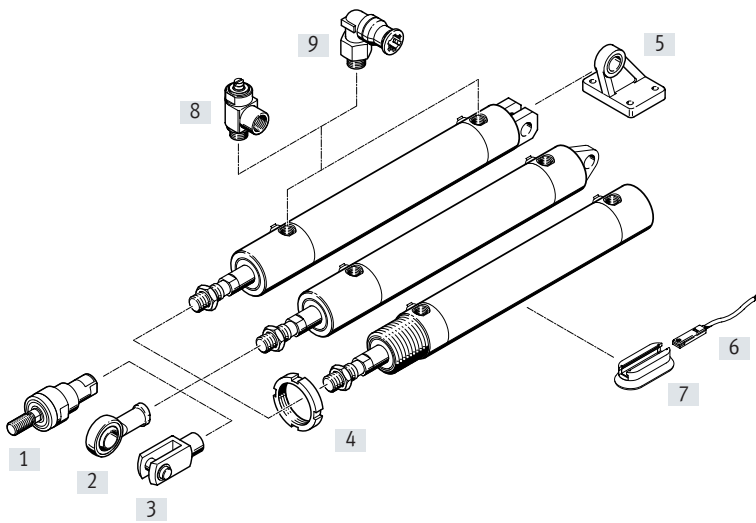
[3] S2 Not with MQ, MG

[4] K3 Not with K2, K5

[5] TT Not with MG, S6

[6] EX4 Not with S6, TT

Peripherals overview



Mounting components and accessories		CRHD-MQ	CRHD-MC	CRHD-MS	→ Page/Internet
	Description				
[1]	Self-aligning rod coupler CRFK	■	■	■	53
[2]	Rod eye CRSGS	■	■	■	53
[3]	Rod clevis CRSG	■	■	■	53
[4]	Nut CR	■	–	–	52
[5]	Clevis foot CRLMC	–	■	–	52
[6]	Proximity switch CRSMT	■	■	■	53
[7]	Mounting kit CRSMB-8-32/100	■	■	■	54
[8]	One-way flow control valve CRGRLA	■	■	■	54
[9]	Push-in fittings CRQS	■	■	■	qs

## Type codes

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

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

003	Stroke	
...	10 ... 500	

004	Cushioning	
PPV	Pneumatic cushioning, adjustable at both ends	

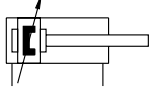
005	Position sensing	
A	For proximity sensor	

006	Type of end cap	
MQ	Without mounting threads	
MS	With strap	
MC	With clevis	

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

## Data sheet

### PPV cushioning



⊘ Diameter  
32 ... 100 mm

┆ Stroke length  
10 ... 500 mm

Spare parts management

### 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 diameter	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 operating/ pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Operating pressure	1 ... 10 bar
Ambient temperature <sup>1)</sup> [°C]	-20 ... +80   0 ... +120
Food-safe <sup>2)</sup>	→ supplementary material information
Corrosion resistance CRC <sup>3)</sup>	3

1) Note operating range of proximity switches

2) Additional information is available at [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. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.

Forces [N]						
Piston diameter	32	40	50	63	80	100
Theoretical force at 6 bar, advancing	483	754	1178	1870	3016	4712
Theoretical force at 6 bar, retracting	415	633	990	1682	2721	4418

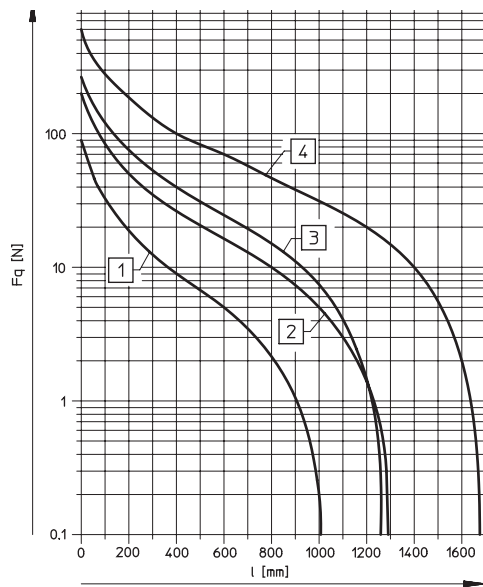
Weight [g]						
Piston diameter	32	40	50	63	80	100
Basic weight with 10 mm stroke	676	1196	1849	2977	5172	8472
Additional weight per 10 mm stroke	26	42	57	65	100	115
Moving mass with 10 mm stroke	106	198	340	398	717	968
Additional mass per 10 mm stroke	9	16	25	25	38	38



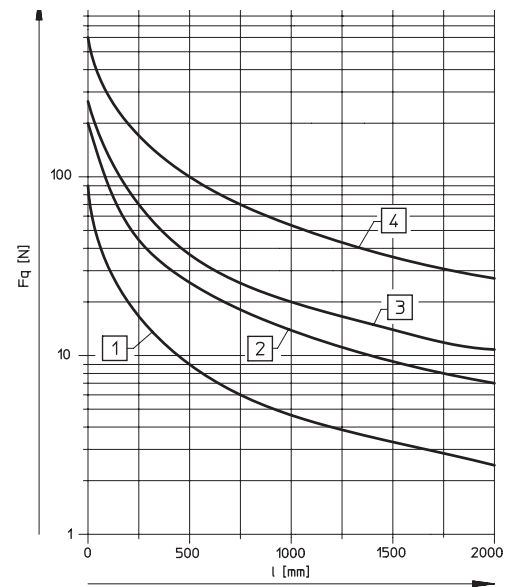
## Data sheet

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

Horizontal installation



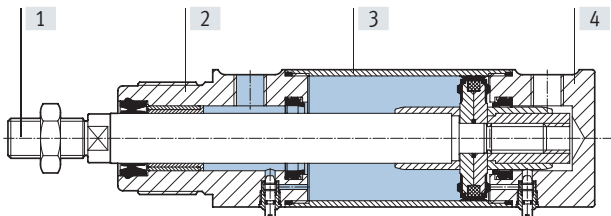
Vertical installation



- [1] Diameter 32
- [2] Diameter 40
- [3] Diameters 50, 63
- [4] Diameters 80, 100

### Materials

Sectional view



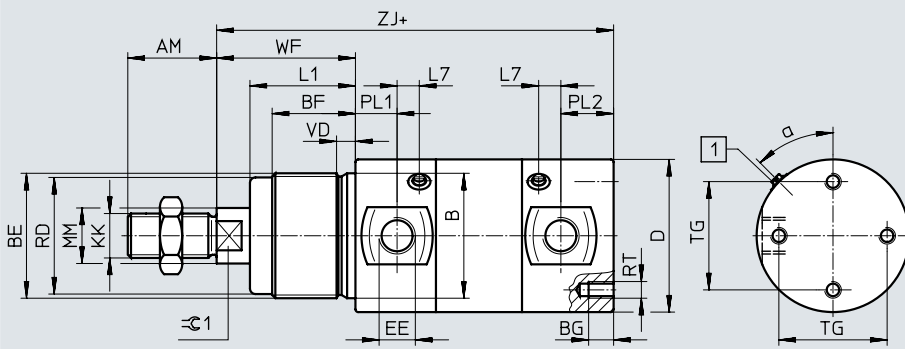
Round cylinder	Basic type	S6
[1] Piston rod	High-alloy stainless steel	
[2] Bearing cap	High-alloy stainless steel	
[3] Cylinder barrel	High-alloy stainless steel	
[4] End cap	High-alloy stainless steel	
- Seals	NBR, TPE-U (PUR) media seal (modified for resistance to hydrolysis and cleaning)	FPM

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

∅	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

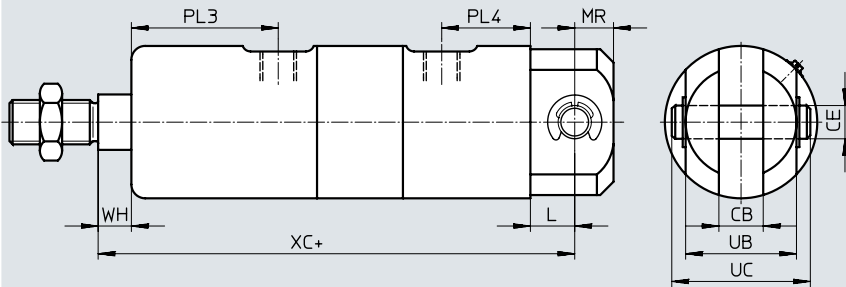
∅	L7	MM ∅	RD ∅	RT	PL1	PL2	TG	VD	WF	ZJ	⊖G1
32	5	12	27	M5	13	21	22	7	38	120	10
40	8	16	35	M6	15	18	30	7	45	135	13
50	5	20	42	M6	15	19	39	6.25	50	143	17
63	8	20	42	M8	17	24	49	6.25	50	158	17
80	9	25	47	M10	18	31	65	7.5	50	174	22
100	13	25	47	M10	22	30	82	7.5	50	189	22

Data sheet

Dimensions

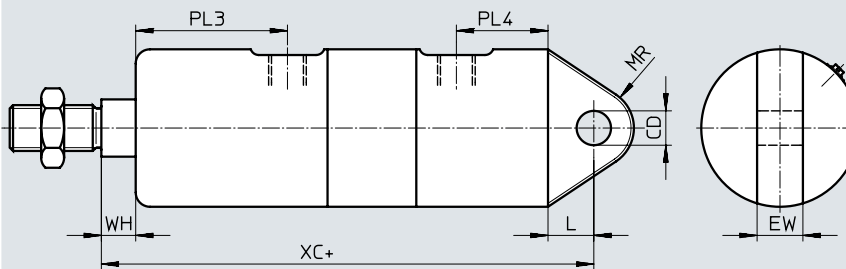
Download CAD data → [www.festo.com](http://www.festo.com)

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

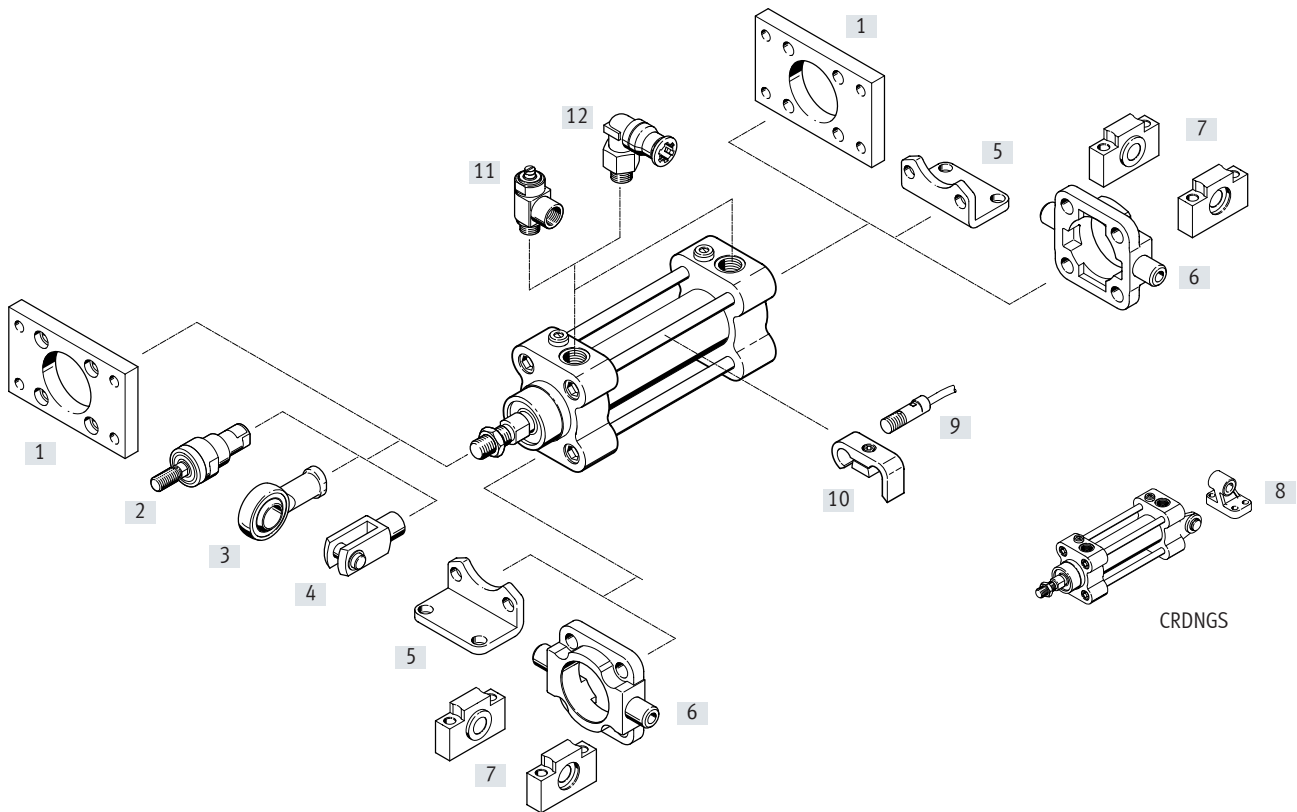
Data sheet

Ordering data				
Type	Piston diameter [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

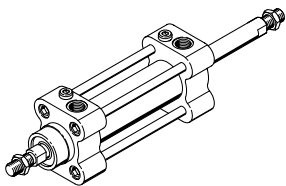
Ordering data				
Type	Piston diameter [mm]	Stroke [mm]	Part no.	Type
<b>S6 – Heat-resistant up to 120°C</b>				
	32	10 ... 500	195549	CRHD-32-...-PPV-A-MC-S6
	40		195550	CRHD-40-...-PPV-A-MC-S6
	50		195551	CRHD-50-...-PPV-A-MC-S6
	63		195552	CRHD-63-...-PPV-A-MC-S6
	80		195553	CRHD-80-...-PPV-A-MC-S6
	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 components and accessories		Description	CRDNG	CRDNGS	→ Page/Internet
[1]	Flange mounting CRFNG	For bearing or end caps	■	–	49
[2]	Self-aligning rod coupler CRFK	For compensating radial and angular deviations	■	■	53
[3]	Rod eye CRSGS	With spherical bearing	■	■	53
[4]	Rod clevis CRSG	Permits a swivelling movement of the cylinder in one plane	■	■	53
[5]	Foot mounting CRHNC	For bearing and end caps	■	–	47
[6]	Trunnion flange CRZNG	For bearing and end caps in combination with trunnion supports CRLNZG	■	–	50
[7]	Trunnion support CRLNZG	For retaining trunnion flange CRZNG	■	–	50
[8]	Clevis foot CRLNG	For variant with swivel flange	–	■	51
[9]	Proximity switch CRSMEO-4	With light emitting diode for switching status indication	■	■	53
[10]	Mounting kit CRSMB	For proximity switch CRSMEO-4	■	■	54
[11]	One-way flow control valve CRGRLA	For speed regulation	■	■	54
[12]	Push-in fittings CRQS	For connecting compressed air tubing with standard O.D.	■	■	qs

## 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
<b>...</b>	10 ... 2000

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

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

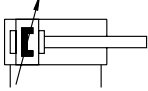
  

006	Temperature range
	Standard
<b>S6</b>	Heat-resistant seals max. 120 °C




## Data sheet

## PPV cushioning



- Ø - Diameter  
32 ... 125 mm

- l - Stroke length  
10 ... 2000 mm

 Spare parts management

## Variant

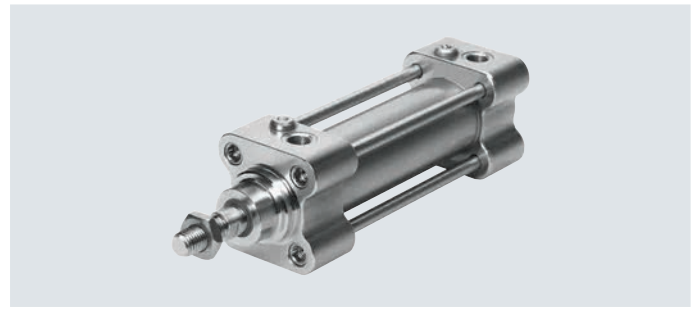
S2



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

1) Note operating range of proximity switches

2) Additional information is available at [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 special tests (→ also FN 940082), using appropriate media.

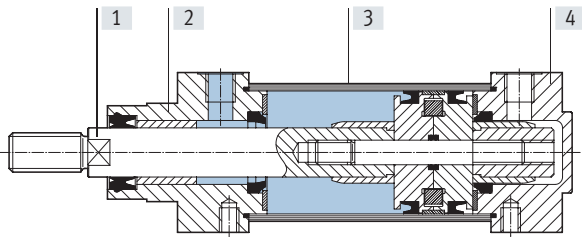
Forces [N]							
Piston diameter	32	40	50	63	80	100	125
Theoretical force at 6 bar, advancing	482	753	1178	1870	3015	4712	7360
Theoretical force at 6 bar, retracting	415	633	990	1682	2720	4418	6880

## Data sheet

Weight [g]							
Piston diameter	32	40	50	63	80	100	125
<b>CRDNG</b>							
Basic weight with 0 mm stroke	1045	1360	2160	3455	5935	8070	
Additional weight per 10 mm stroke	20	30	60	60	100	110	
<b>CRDNGS</b>							
Basic weight with 0 mm stroke	1070	1460	2330				
Additional weight per 10 mm stroke	20	30	60				

### Materials

Sectional view of CRDNG



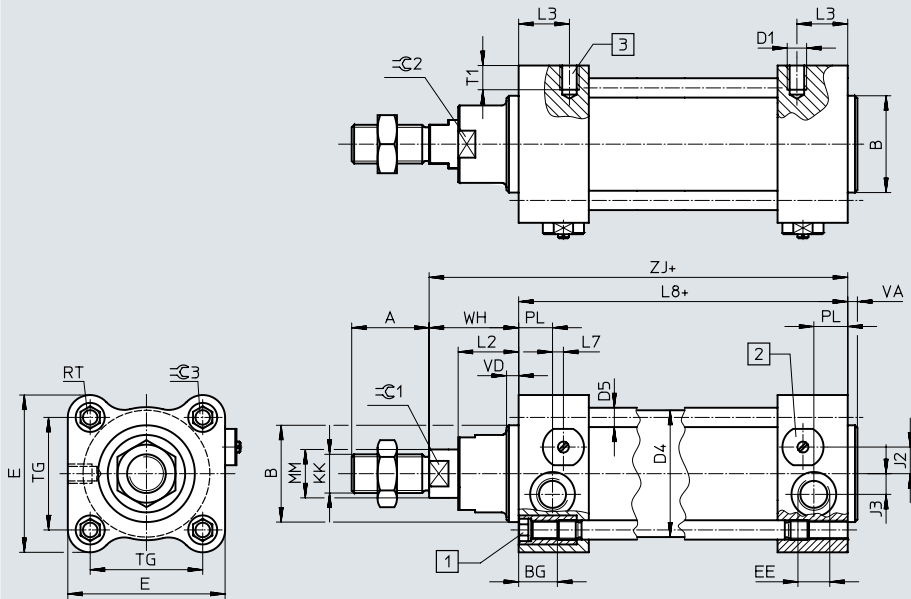
Standards-based cylinder	Basic type	S6
[1] Piston rod	High-alloy stainless steel	
[2] Bearing cap	Stainless-steel casting	
[3] Cylinder barrel	High-alloy stainless steel	
[4] End cap	Stainless-steel casting	
- Tie rod	High-alloy stainless steel	
- Seals	NBR, TPE-U (PUR) media seal (modified for resistance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

Data sheet

Dimensions CRDNG

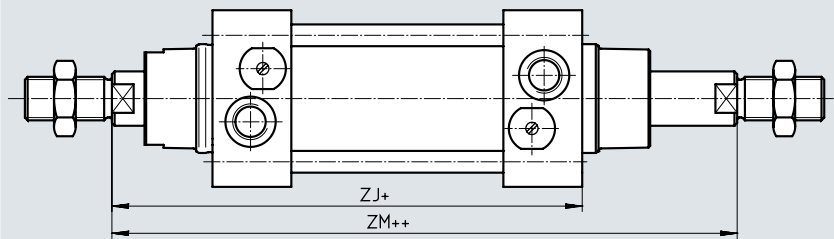
Download CAD data → [www.festo.com](http://www.festo.com)

Basic type



- [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

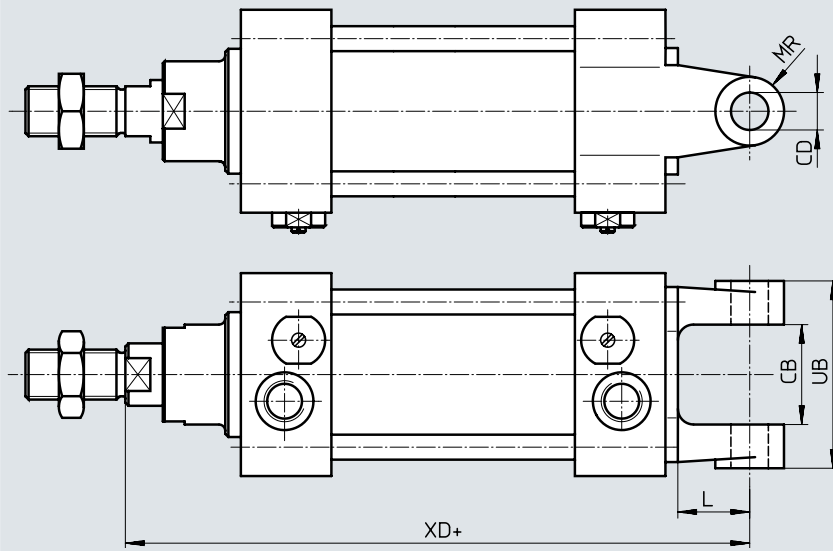
∅	A	B	BG	D1	D4	D5	E	EE	J2	J3	KK	L2	L3
[mm]		∅ e11			∅	∅							
32	22	30	16	M6	33.6	6	50	G1/8	7	5.7	M10x1.25	16	13
40	24	35	16	M6	41.6	6	55	G1/4	10	6.5	M12x1.25	18	16.5
50	32	40	16	M8	52.4	8	65	G1/4	11.5	8.6	M16x1.5	25	21
63	32	45	16	M10	65.4	8	75	G3/8	14.5	12	M16x1.5	25	22
80	40	45	23	M10	82.8	10	100	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)



∅ [mm]	CB H14	CD ∅ H9	L	MR	UB	XD
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 diam. [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 diameter [mm]	Part no.	Type	Piston diameter [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>

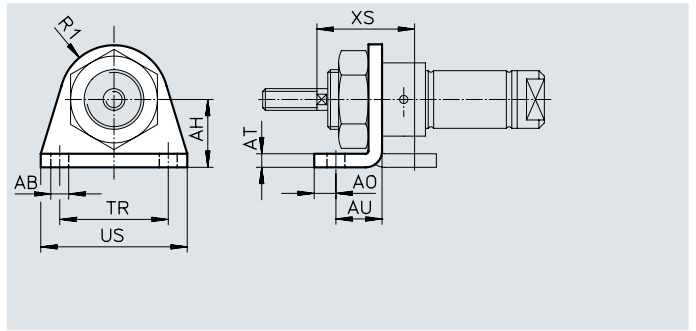
1) Assembly grease included in the scope of delivery

## Data sheet

### Foot mounting CRHBN

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

Material:  
 High-alloy steel  
 Free of copper and PTFE



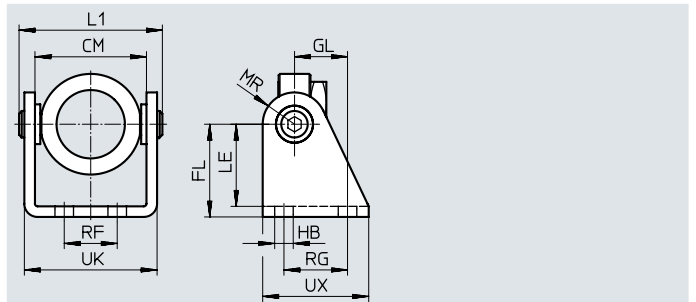
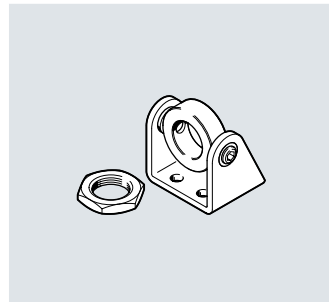
#### Dimensions and ordering data

For diam.	AB ∅	AH	AO	AT	AU	R1	TR	US	XS	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
[mm]													
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 special tests  
 (→ also FN 940082), using appropriate media.

### Swivel mounting CRSBN

Material:  
 High-alloy steel  
 Free of copper and PTFE



#### Dimensions and ordering data

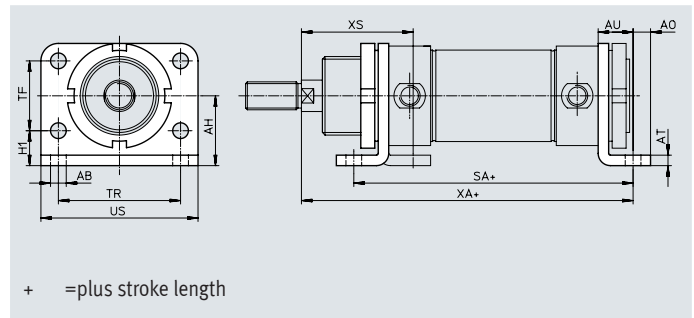
For diam.	CM	FL	GL	HB ∅	L1	LE	MR	RF	RG	UK	UX	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
[mm]															
20	38.1	35	20	7	55	31	12	20	24	50.1	40	4	230	552904	CRSBN-20/25
25															

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 special tests  
 (→ also FN 940082), using appropriate media.

## Data sheet

## Foot mounting CRH

Material:  
High-alloy steel  
Free of copper and PTFE



## Dimensions and ordering data

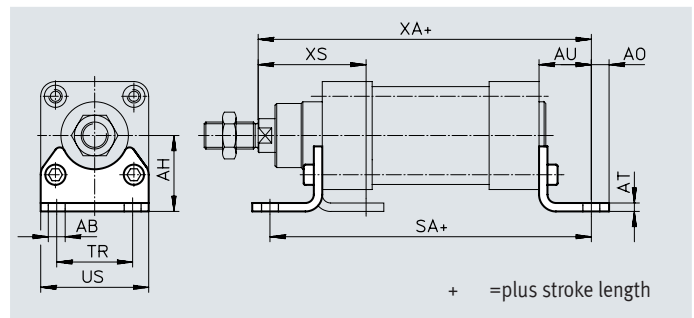
For diam. [mm]	AB ∅	AH	AO	AT	AU	H1	SA	TF	TR	US	XA	XS	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
32	7	28	7	4	14	14	124	28	52	66	148	48	4	237	162951	CRH-32
40	9	33	10	5	20	18	153	30	60	80	178	60	4	341	162952	CRH-40
50	9	40	10	6	20	20	160	40	70	90	190	64	4	559	162953	CRH-50
63	9	45	10	6	20	20	164	50	76	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 special tests (→ also FN 940082), using appropriate media.

## Foot mounting CRHNC

Material:  
High-alloy steel  
Free of copper and PTFE



## Dimensions and ordering data

For diam. [mm]	AB ∅	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

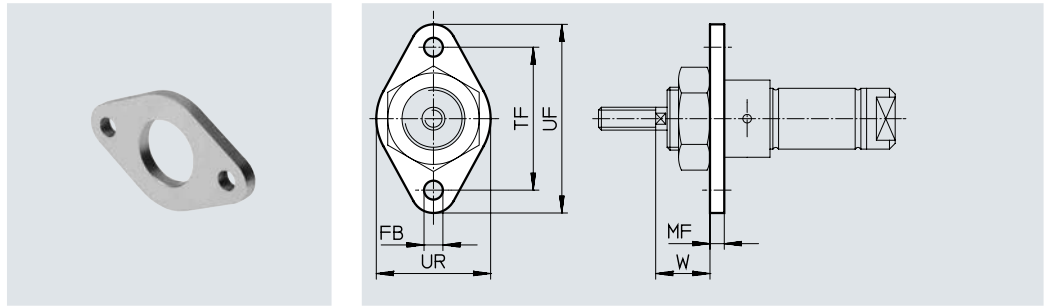
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

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 special tests (→ also FN 940082), using appropriate media.

## Data sheet

### Flange mounting CRFBN

Material:  
High-alloy steel  
Free of copper and PTFE



#### Dimensions and ordering data

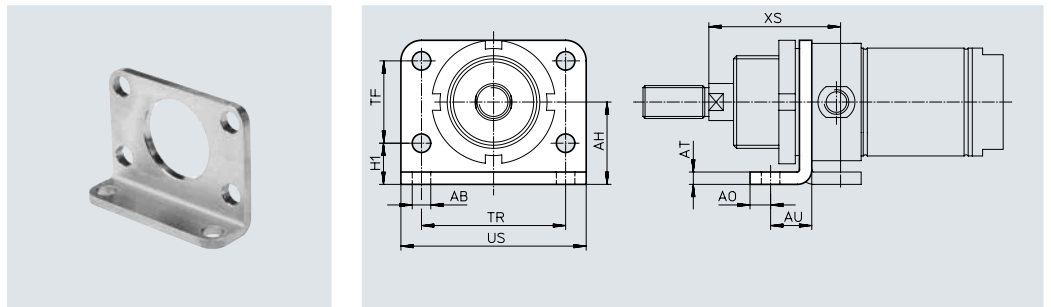
For diam.	FB ∅	MF	TF	UF	UR	W	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
12, 16	5.5	4	40	53	30	18	4	26	161864	CRFBN-12/16
20	6.6	5	50	66	40	19	4	52	161865	CRFBN-20/25
25	6.6	5	50	66	40	23	4	52	161865	CRFBN-20/25

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 special tests (→ also FN 940082), using appropriate media.

### Flange mounting CRFV

Material:  
High-alloy steel  
Free of copper and PTFE



#### Dimensions and ordering data

For diam.	AB ∅	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

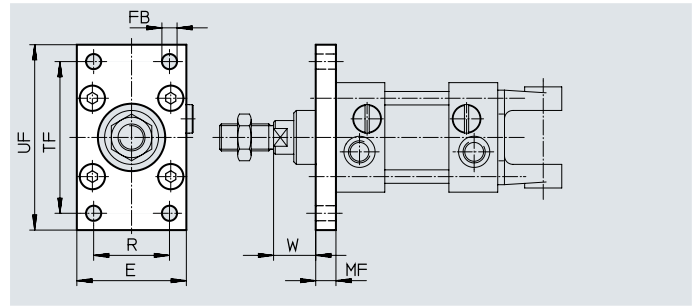
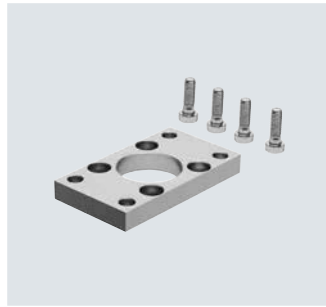
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.



## Data sheet

## Flange mounting CRFNG

Material:  
High-alloy steel  
Free of copper and PTFE



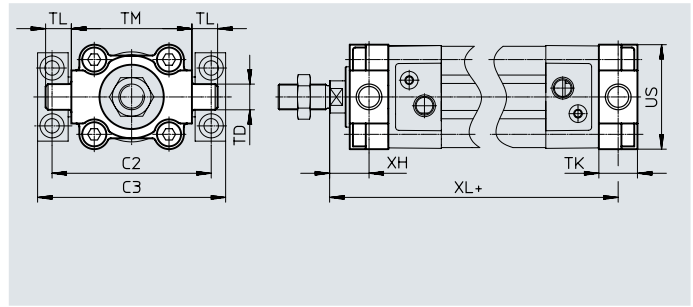
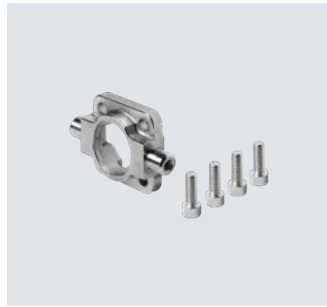
Dimensions and ordering data											
For diam.	E	FB ∅	MF	R	TF	UF	W	CRC <sup>1)</sup>	Weight	Part no.	Type
[mm]									[g]		
32	45	7	10	32	64	80	16	4	220	161846	CRFNG-32
40	54	9	10	36	72	90	20	4	291	161847	CRFNG-40
50	65	9	12	45	90	110	25	4	526	161848	CRFNG-50
63	75	9	12	50	100	120	25	4	680	161849	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 special tests  
(→ also FN 940082), using appropriate media.

## Data sheet

### Trunnion flange CRZNG

Material:  
High-alloy steel  
Free of copper and PTFE



#### Dimensions and ordering data

For diam.	C2	C3	TD ∅ e9	TK	TL	TM	UW	XH	XL	CRC <sup>1)</sup>	Weight	Part no.	Type
[mm]											[g]		
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

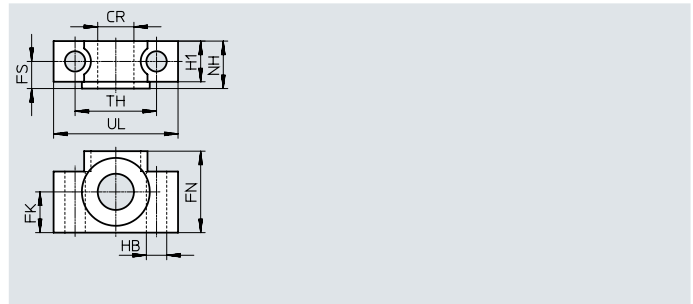
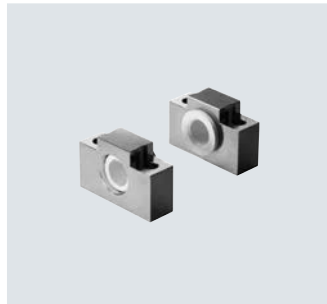
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, e.g. in the chemical or food industries. Such applications may need to be safeguarded by special tests (→ also FN 940082), using appropriate media.

#### Note

Screws with a special length are required to mount diameter 125 mm.  
Diameter 125: M12x55

### Trunnion supports CRLNZG

Material:  
High-alloy steel  
Free of copper and PTFE



#### Dimensions and ordering data

For diam.	CR	FK ∅	FN	FS	H1	HB ∅ H13	NH	TH	UL	CRC <sup>1)</sup>	Weight	Part no.	Type
[mm]	∅ D11	±0.1						±0.2			[g]		
32	12	15	30	10.5	15	6.6	18	32	46	4	205	161874	CRLNZG-32
40, 50	16	18	36	12	18	9	21	36	55	4	323	161875	CRLNZG-40/50
63, 80	20	20	40	13	20	11	23	42	65	4	435	161876	CRLNZG-63/80
100/125	25	25	50	16	24.5	14	28.5	50	75	4	739	161877	CRLNZG-100/125

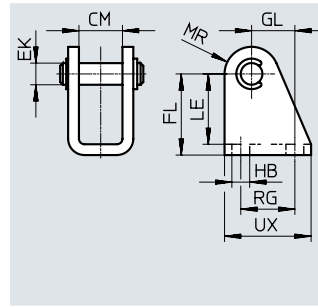
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

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 special tests (→ also FN 940082), using appropriate media.

## Data sheet

## Clevis foot CRLBN

Material:  
High-alloy steel  
Free of copper and PTFE



## Dimensions and ordering data

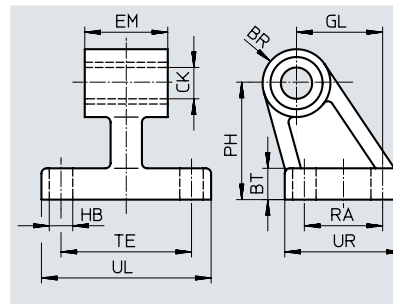
For diam.	CM	EK ∅	FL	GL	HB	LE	MR	RG	UX	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
[mm]													
12, 16	12.1	6	27 +0.3/-0.2	13	5.5	24	7	15	25	4	39	161862	CRLBN-12/16
20, 25	16.1	8	30 +0.4/-0.2	16	6.6	26	10	20	32	4	82	161863	CRLBN-20/25
32	16.1	10	35 +0.4/-0.2	18.5	6.6	31	11	24	35	4	106	195866	CRLBN-32
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 special tests (→ also FN 940082), using appropriate media.

## Clevis foot CRLNG

Material:  
High-alloy steel  
Free of copper and PTFE



## Dimensions and ordering data

For diam.	BR	BT	CK ∅ D11	EB ∅ H13	EM -0.4	GL	HB ∅ H13	OF	PH	RA	TE	UL	UR	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
[mm]																	
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

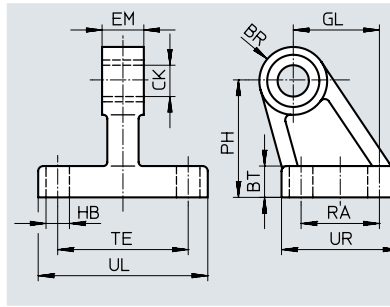
1) Corrosion resistance class CRC 4 to Festo standard FN 940070

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 special tests (→ also FN 940082), using appropriate media.

## Data sheet

### Clevis foot CRLMC

Material:  
High-alloy steel  
Free of copper and PTFE



#### Dimensions and ordering data

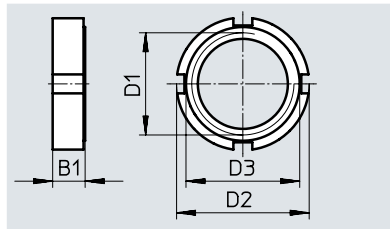
For diam.	BR	BT	CK ∅ D11	EB ∅ H13	EM -0.4	GL	HB ∅ H13	OF	PH	RA	TE	UL	UR	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
32	10	8	10	-	10	21	6.6	-	32	18	38	51	31	4	112	<b>197320</b>	<b>CRLMC-32</b>
40	11	10	12	-	12	24	6.6	-	36	22	41	54	35	4	144	<b>197321</b>	<b>CRLMC-40</b>
50	12	12	12	-	16	33	9	-	45	30	50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

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 special tests (→ also FN 940082), using appropriate media.

### Nut CR

Material:  
High-alloy steel  
Free of copper and PTFE




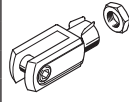
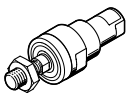


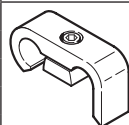
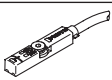
#### Dimensions and ordering data

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



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 special tests (→ also FN 940082), using appropriate media.

## Data sheet


Ordering data – Piston rod attachments, corrosion-resistant				Data sheets → Internet: piston rod attachment			
	For diam.	Part no.	Type		For diam.	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
<b>Self-aligning rod coupler CRFK</b>							
	25, 32	2305778	CRFK-M10x1.25				
	40	2305779	CRFK-M12x1.25				
	50, 63	2490673	CRFK-M16x1.5				
	80, 100	2545677	CRFK-M20x1.5				
<b>Ordering data – Proximity switch, magnetic reed, CRSME0</b>				Data sheets → Internet: crsmeo			
	Electrical connection	Cable length	Part no.	Type			
	Cable	[m]					
	<b>N/O contact</b>						
	Corrosion-resistant						
	3-wire	2.5	161 775	CRSME0-4-K-LED-24			
<b>Ordering data – Mounting kits</b>				Data sheets → Internet: crsmb			
	For diam.	Part no.	Type		For diam.	Part no.	Type
<b>Mounting kit CRSMBR</b>				<b>Mounting kit CR SMB</b>			
	12	164581	CRSMBR-12		32	161763	CRSMB-32
	16	164582	CRSMBR-16		40	161764	CRSMB-40
	20	164583	CRSMBR-20		50	161765	CRSMB-50
	25	164584	CRSMBR-25		63	161766	CRSMB-63
	32	163888	CRSMBR-32		80	161767	CRSMB-80
	40	163889	CRSMBR-40		100	161768	CRSMB-100
	50	163890	CRSMBR-50		125	185365	CRSMB-125
63	163891	CRSMBR-63					
<b>Ordering data – Proximity switch for T-slot, magneto-resistive, CRSMT-8M</b>				Data sheets → Internet: crsmt			
	Type of mounting	Switching output	Electrical connection	Cable length	Part no.	Type	
				[m]			
	<b>N/O contact</b>						
	Insertable 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		


Data sheet

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

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 cylinder CRHD	525565   CRSMB-8-32/100

Ordering data – One-way flow control valves CRGRLA				Data sheets → Internet: crgla
	Connecting 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 reservoir CRVZS					Data sheets → Internet: crvzs
	Connecting 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 – Compressed air tubing		Data sheets → Internet: tubing
		Part no.   Type
	Standard O.D.	PLN, PFAN

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