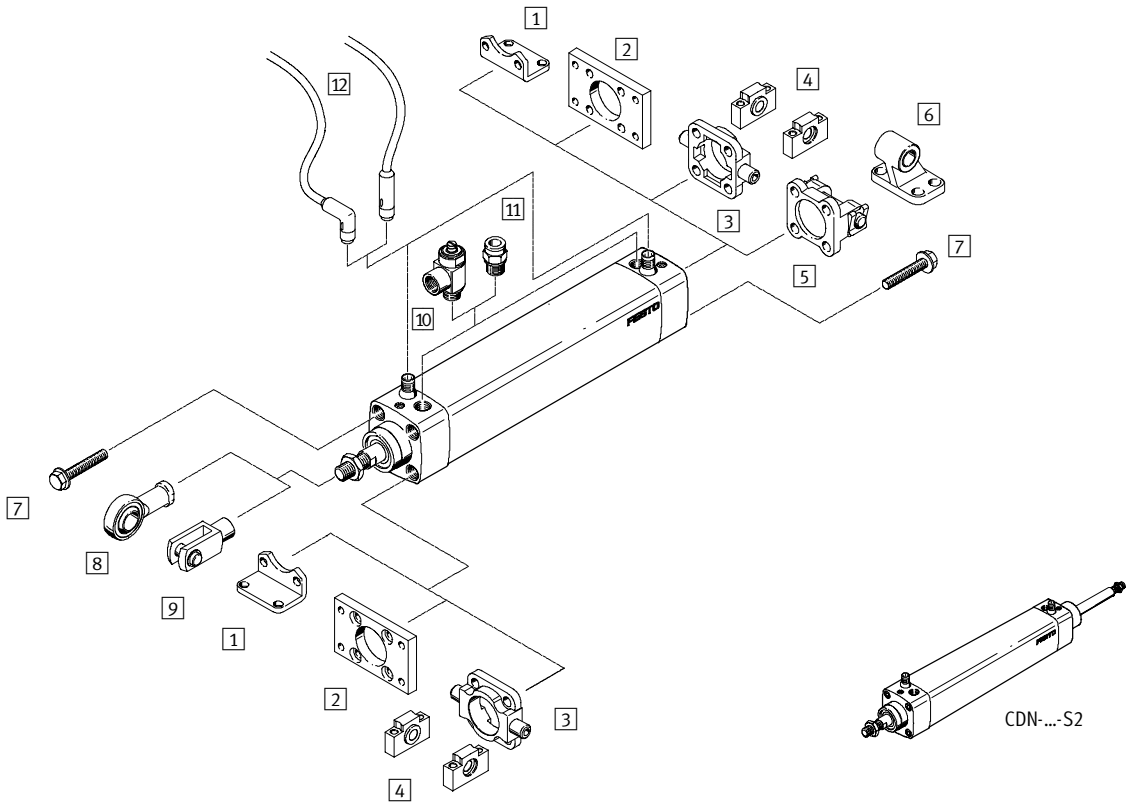




- Resistant to corrosion caused by harsh ambient conditions
- Easy to clean design
- Optional integrated position sensing
- Comprehensive range of accessories

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design

Peripherals overview



ISO standard cylinders
ISO 6431 and VDMA 24 562

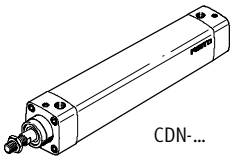
1.2

Variants

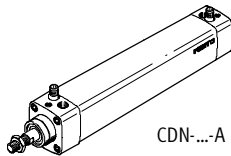
Without sensing

Integrated sensing in the end positions

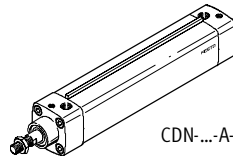
With external sensing across the entire stroke



CDN-...



CDN-...-A



CDN-...-A-R

-  - Note

A combination of integrated and external sensing is likewise possible.

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design

Peripherals overview

Mounting attachments and accessories		
	Brief description	→ Page
1	Foot mounting CRHNC	1 / 1.2-129
2	Flange mounting CRFNG	1 / 1.2-129
3	Trunnion flange CRZNG	1 / 1.2-130
4	Trunnion supports CRLNZG	1 / 1.2-130
5	Swivel flange SNCB- ... -R3	1 / 1.2-131
6	Clevis foot CRLNG	1 / 1.2-131
7	4 blanking screws CR	1 / 1.2-133
8	Rod eye CRSGS	1 / 1.2-133
9	Rod clevis CRSG	1 / 1.2-133
10	One-way flow control valve CRGRLA	1 / 1.2-133
11	Push-in/threaded fittings QS-F	1 / 1.2-133
12	Plug socket with cable SIM-K ... -CDN	1 / 1.2-132

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design



Type codes

CDN - 50 - 200 - PPV - AIB - SME - K2

Type	
Double-acting	
CDN	Clean Design cylinder

Piston Ø [mm]

Stroke [mm]

Cushioning	
PPV	Adjustable at both ends

Position sensing	
A	External
AIB	Integrated, at both ends
AIV	Integrated, advanced end position
AIH	Integrated, retracted end position

Proximity sensor	
SME	Reed contact
SMT	Electronic

Variant	
K2	Piston rod male thread extended
K3	Female piston rod thread
K8	Piston rod extended
S2	Through piston rod
S6	Heat-resistant seals up to maximum 150 °C
R	Sensor strip

ISO standard cylinders
ISO 6431 and VDMA 24 562

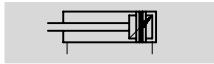
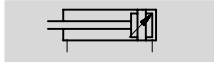
1.2

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design



Technical data

Function



⌀ - Diameter
32 ... 100 mm

— - Hublänge
10 ... 2,000 mm

- www.festo.com/en/Spare_parts_service

Wearing parts kits

→ 1 / 1.2-126

Variants



K2



K3



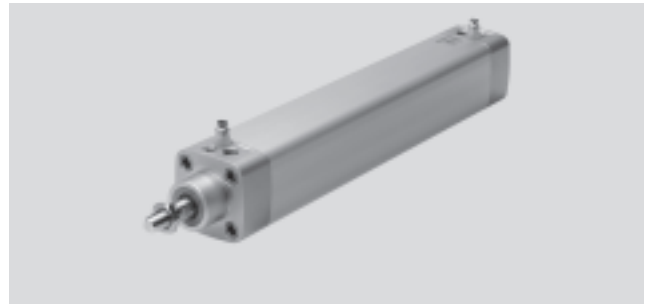
K8



S2



S6



Conforms to

- ISO 6431
- DIN ISO 6431
- VDMA 24 562
- NF E49 003.1
- UNI 10 290



General technical data							
Piston Ø		32	40	50	63	80	100
Pneumatic connection		G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{3}{8}$	G $\frac{1}{2}$
Piston rod thread		M10x1.25	M12x1.25	M16x1.5	M16x1.5	M20x1.5	M20x1.5
Constructional design		Piston					
		Piston rod					
		Cylinder barrel					
Cushioning		Adjustable at both ends					
Cushioning length	[mm]	20	20	22	22	32	32
Position sensing	[A]	External					
	[AIB]	Integrated, at both ends					
	[AIV]	Integrated, advanced end position (bearing cap)					
	[AIH]	Integrated, retracted end position (end cap)					
Type of mounting		Via female thread					
		Via accessories					
Assembly position		Any					

Operating conditions							
Piston Ø		32	40	50	63	80	100
Operating medium		Filtered compressed air, lubricated or unlubricated					
Operating pressure	[bar]	0.6 ... 12					

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design



Technical data

Ambient conditions		
Piston \varnothing	Basic version	S6
Ambient temperature ¹⁾ [°C]	-20 ... +80 without position sensing	-20 ... +150
	-20 ... +60 with position sensing	
Corrosion resistance class CRC ²⁾	3	

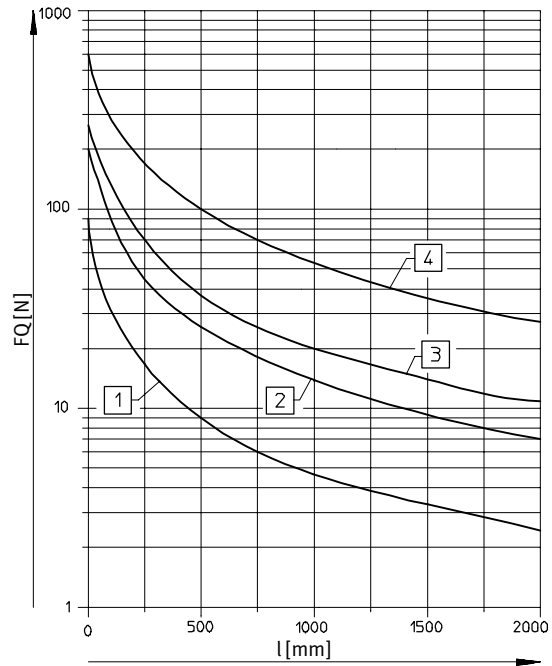
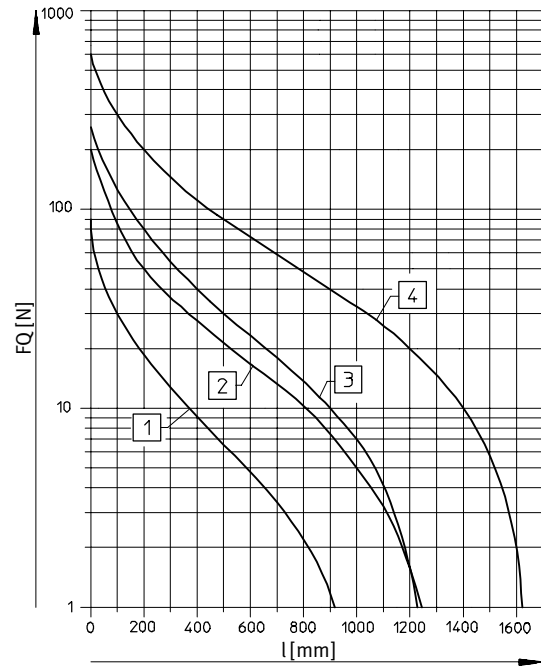
- 1) Note operating range of proximity sensors
 2) Corrosion resistance class 3 according to Festo standard 940 070
 Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Forces [N]						
Piston \varnothing	32	40	50	63	80	100
Theoretical force at 6 bar, advancing	483	754	1,178	1,870	3,016	4,712
Theoretical force at 6 bar, retracting	415	633	990	1,682	2,721	4,418

Permissible lateral force F_Q as a function of the stroke length l

Horizontal mounting

Vertical mounting



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

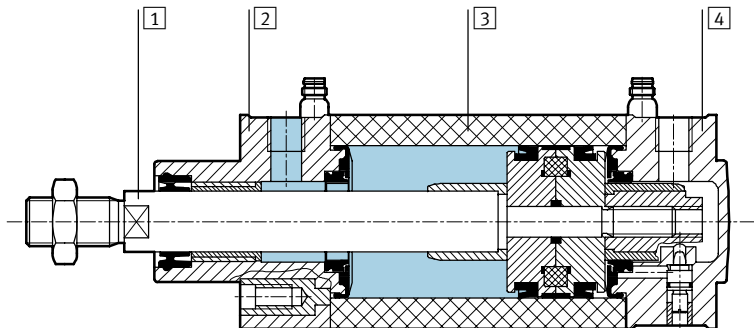
Weights [g]						
Piston \varnothing	32	40	50	63	80	100
Product weight at 0 mm stroke	620	1,116	1,568	2,747	3,791	5,480
Additional weight per 10 mm stroke	33	43	65	70	111	128
Moving load at 0 mm stroke	162	307	538	663	1,131	1,544
Additional load per 10 mm stroke	9	16	25	25	38	38

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design

Technical data

Materials

Sectional view



Cylinder		
1	Piston rod	High-alloy steel
2	Bearing cap	Smooth anodised aluminium
3	Cylinder barrel	Smooth anodised aluminium
4	End cap	Smooth anodised aluminium
-	Seals	Polyurethane, nitrile rubber
-	Proximity sensor contacts	Gold-plated brass

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design

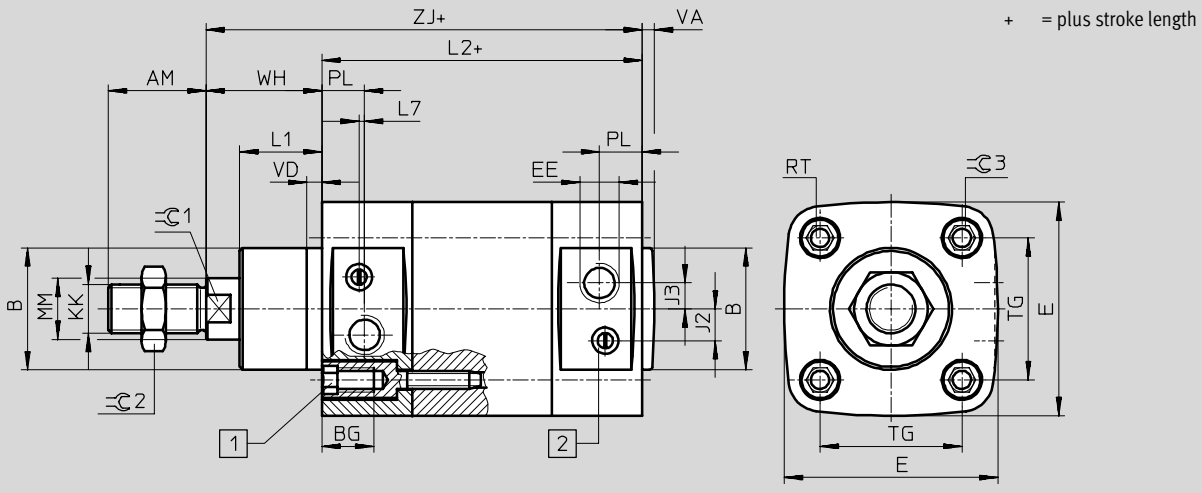
Technical data

FESTO

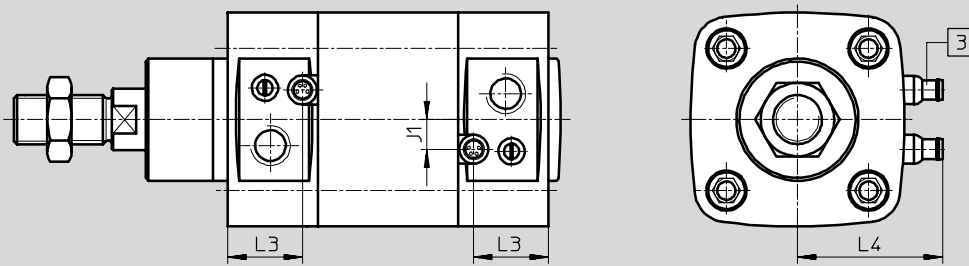
Dimensions – Basic version

Download CAD data → www.festo.com/en/engineering

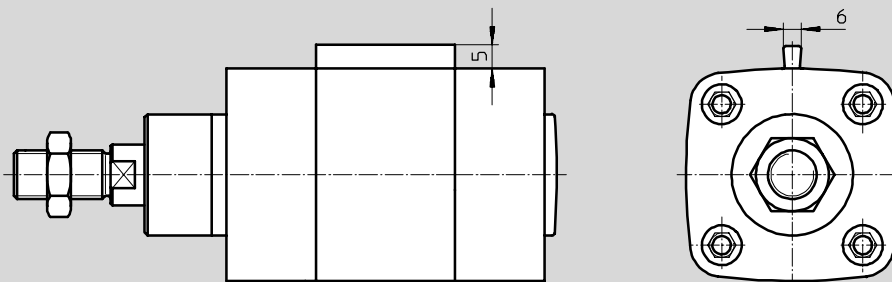
without position sensing



with position sensing integrated in the end positions



with sensor mounting rail for external position sensing



1 Socket head screw with female thread for mounting attachments

2 Regulating screw for adjustable end-position cushioning

3 Miniature plug connector, 3 pin, with integrated proximity sensor SME or SMT; suitable for plug socket with cable SIM-K-...-CDN

ISO standard cylinders
ISO 6431 and VDMA 24 562

1.2

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design



Technical data

∅ [mm]	AM	B ∅ d11	BG	E	EE	J1	J2	J3	KK	L1	L2	L3
32	22	30	16	50	G1/8	6	6	5.5	M10x1.25	18	94 ±0.4	23.2
40	24	35	16	58	G1/4	8.4	8.4	6.5	M12x1.25	21	105 ±0.7	28.2
50	32	40	17	70	G1/4	9	9	8.5	M16x1.5	27	106 ±0.7	28.2
63	32	45	17	81	G3/8	14	14	11	M16x1.5	27	121 ±0.8	35.7
80	40	45	17	100	G3/8	21.5	14.5	8	M20x1.5	33	128 ±0.8	30.6
100	40	55	17	120	G1/2	22	16	17.5	M20x1.5	37	139 ±0.1	33.5

∅ [mm]	L4 ±2	L7	MM ∅	PL	RT	TG	VA	VD	WH ±1.2	ZJ ±1.5	≈C1	≈C2	≈C3
32	35.5	6.5	12	17	M6	32.5	4	5	26	120	10	17	6
40	39	6	16	22	M6	38	4	5	30	135	13	19	6
50	45	8	20	20	M8	46.5	4	5	37	143	17	24	8
63	50.5	8.5	20	26	M8	56.5	4	5	37	158	17	24	8
80	60	1	25	16.4	M10	72	4	5	46	174	22	30	6
100	70	3.2	25	19	M10	89	4	5	51	189	22	30	6

ISO standard cylinders
ISO 6431 and VDMA 24 562

1.2

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design

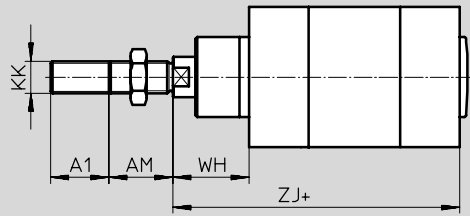


Technical data

Dimensions – Variants

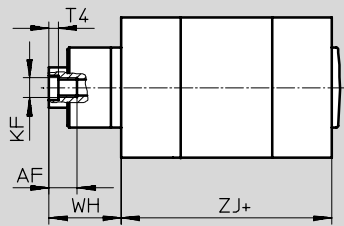
Download CAD data → www.festo.com/en/engineering

K2 – Piston rod male thread extended



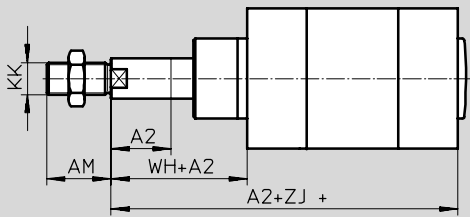
+ = plus stroke length

K3 – Female piston rod thread



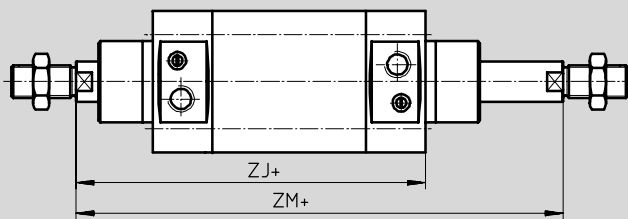
+ = plus stroke length

K8 – Piston rod extended



+ = plus stroke length

S2 – Through piston rod



+ = plus stroke length

ISO standard cylinders
ISO 6431 and VDMA 24 562

1.2

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design

FESTO

Technical data

∅	AF	AM	A1	A2	KF	KK	T4	WH	ZJ	ZM
[mm]			max.	max.				±1.2	±1.5	
32	12	22	35	500	M6	M10x1.25	2.6	26	120	148
40	12	24	35		M8	M12x1.25	3.3	30	135	167
50	16	32	70		M10	M16x1.5	4.7	37	143	183
63	16	32	70		M10	M16x1.5	4.7	37	158	199
80	20	40	70		M12	M20x1.5	6.1	46	174	222
100	20	40	70		M12	M20x1.5	6.1	51	189	240

Ordering data – Wearing parts kits						
Piston ∅	Part No.	Type		Piston ∅	Part No.	Type
[mm]				[mm]		
32	397 440	CDN-32-...-PPV-A ¹⁾		63	397 443	CDN-63-...-PPV-A ¹⁾
40	397 441	CDN-40-...-PPV-A ¹⁾		80	397 444	CDN-80-...-PPV-A ¹⁾
50	397 442	CDN-50-...-PPV-A ¹⁾		100	397 445	CDN-100-...-PPV-A ¹⁾

1) Assembly grease included in scope of delivery.

ISO standard cylinders
ISO 6431 and VDMA 24 562

1.2

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design



Ordering data – Modular products

ISO standard cylinders
ISO 6431 and VDMA 24 562

1.2

M Mandatory data					O Options							
Module No.	Function	Piston ∅	Stroke	Cushioning	Position sensing	Proximity sensor	Sensor strip	Type of piston rod	Male thread extended	Female thread	Piston rod extended	Temperature-resistant
193 660	CDN	32	10	PPV	A	SME	R	S2	...K2	K3	...K8	S6
193 661		40	... 2,0		AIB	SMT						
193 662		50	00		AIV							
193 663		63			AIH							
193 664		80										
193 665		100										
Ordering example												
193 663	CDN	- 63	- 900	- PPV	- AIV	- SME	-	-	- 30K2	-	-	-

Ordering table											
Size	32	40	50	63	80	100	Conditions	Code	Enter code		
M Module No.	193 660	193 661	193 662	193 663	193 664	193 665					
Function	Double-acting standard cylinder, Clean Design								CDN	CDN	
Piston ∅ [mm]	32	40	50	63	80	100		-...			
Stroke [mm]	10 ... 2,000								-...		
Cushioning	Pneumatic cushioning adjustable at both ends								-PPV	-PPV	
O Position sensing	Position sensing external							1	-A		
	Integrated position sensing at both ends							2	-AIB		
	Integrated position sensing, advanced end position							2	-AIV		
	Position sensing, retracted end position							2	-AIH		
Proximity sensor	SME (contact type)							3	-SME		
	SMT (contactless)							3	-SMT		
Sensor strip	Sensor strip for external position sensing							4	-R		
Type of piston rod	Through piston rod								-S2		
Male thread extended [mm]	Piston rod with extended male thread			1 ... 35				1 ... 70		-...K2	
Female thread	Female piston rod thread								5	-K3	
	(M6)	(M8)	(M10)	(M12)							
Piston rod extended [mm]	Extended piston rod at front									-...K8	
Temperature-resistant	Heat-resistant seals max. 150 °C							6	-S6		

- | | | | |
|-----------------|---|------|--|
| 1 A | Only with sensor strip R. | 4 R | Only with position sensing A, AIB, AIV or AIH. |
| 2 AIB, AIV, AIH | Only with proximity sensor SME or SMT. | 5 K3 | Not with male thread extended K2. |
| 3 SME, SMT | Only with position sensing AIB, AIV or AIH. | 6 S6 | Only with position sensing AIB, AIV or AIH. |

Transfer order code

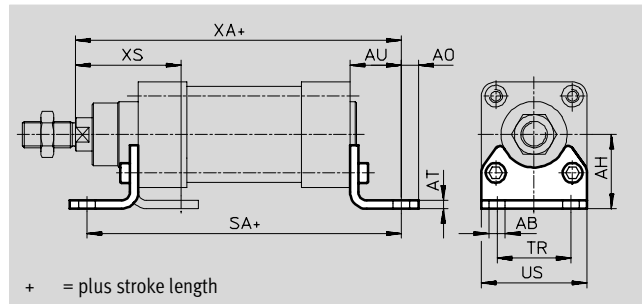
Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design



Accessories

Foot mounting CRHNC

Material:
High-alloy steel
Free of copper, PTFE and silicone

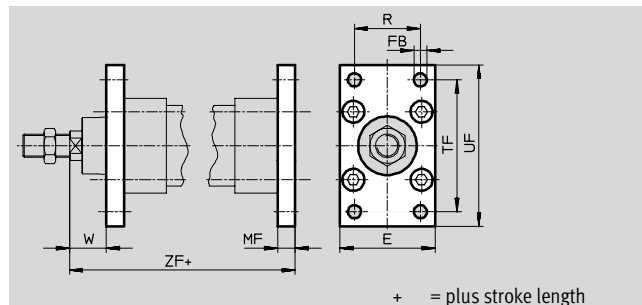
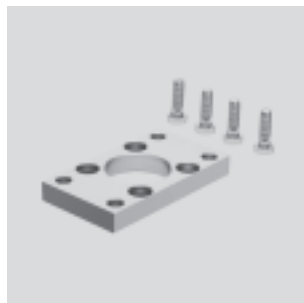


Dimensions and ordering data														
For \varnothing	AB	AH	AO	AT	AU	SA	TR	US	XA	XS	CRC ¹⁾	Weight	Part No.	Type
[mm]	\varnothing											[g]		
32	7	32	6.5	4	24	142	32	45	144.7	45.7	4	135	176 937	CRHNC-32
40	10	36	9	4	28	160.8	36	54	163.6	53.8	4	180	176 938	CRHNC-40
50	10	45	9.5	5	31	167.9	45	64	175	63.1	4	325	176 939	CRHNC-50
63	10	50	12.5	5	32	184.9	50	75	191.5	64.6	4	405	176 940	CRHNC-63
80	12	63	15	6	41	209.9	63	93	215.5	81.6	4	820	176 941	CRHNC-80
100	14.5	71	17.5	6	41	220.1	75	110	229.6	85.5	4	1,000	176 942	CRHNC-100

1) Corrosion resistance class 4 according to Festo standard 940 070
Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required.

Flange mounting CRFNG

Material:
High-alloy steel
Free of copper, PTFE and silicone



Dimensions and ordering data													
For \varnothing	E	FB	MF	R	TF	UF	W	ZF	CRC ¹⁾	Weight	Part No.	Type	
[mm]		\varnothing								[g]			
32	45	7	10	32	64	80	16	130	4	240	161 846	CRFNG-32	
40	54	9	10	36	72	90	20	145	4	300	161 847	CRFNG-40	
50	65	9	12	45	90	110	25	155	4	550	161 848	CRFNG-50	
63	75	9	12	50	100	120	25	170	4	710	161 849	CRFNG-63	
80	93	12	16	63	126	150	30	190	4	1,680	161 850	CRFNG-80	
100	110	14	16	75	150	175	35	205	4	2,450	161 851	CRFNG-100	

1) Corrosion resistance class 4 according to Festo standard 940 070
Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required.

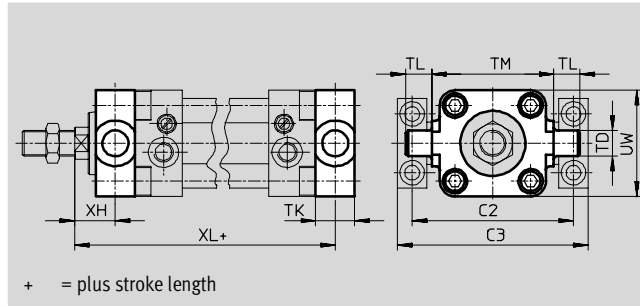
Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design



Accessories

Trunnion flange CRZNG

Material:
High-alloy steel
Free of copper, PTFE and silicone

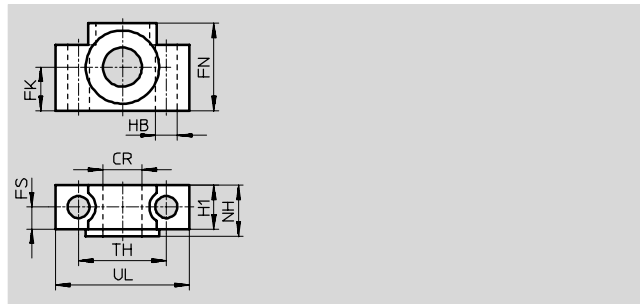
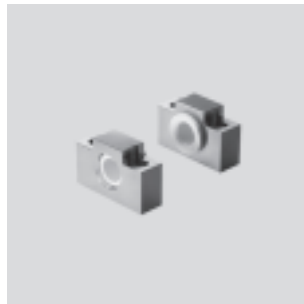


Dimensions and ordering data													
For \varnothing	C2	C3	TD \varnothing e9	TK	TL	TM	UW	XH	XL	CRC ¹⁾	Weight	Part No.	Type
[mm]											[g]		
32	71	86	12	16	12	50	50	18	128	4	150	161 852	CRZNG-32
40	87	105	16	20	16	63	55	20	145	4	260	161 853	CRZNG-40
50	99	117	16	24	16	75	65	25	155	4	430	161 854	CRZNG-50
63	116	136	20	24	20	90	75	25	170	4	640	161 855	CRZNG-63
80	136	156	20	28	20	110	100	32	188	4	1,300	161 856	CRZNG-80
100	164	189	25	38	25	132	120	32	208	4	2,400	161 857	CRZNG-100

1) Corrosion resistance class 4 according to Festo standard 940 070
Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required.

Trunnion support CRLNZG

Material:
High-alloy steel
Free of copper, PTFE and silicone



Dimensions and ordering data													
For \varnothing	CR	FK \varnothing	FN	FS	H1	HB \varnothing	NH	TH ± 0.2	UL	CRC ¹⁾	Weight	Part No.	Type
[mm]	D11	± 0.1				H13					[g]		
32	12	15	30	10.5	15	6.6	18	32	46	4	200	161 874	CRLNZG-32
40, 50	16	18	36	12	18	9	21	36	55	4	330	161 875	CRLNZG-40/50
63, 80	20	20	40	13	20	11	23	42	65	4	440	161 876	CRLNZG-63/80
100	25	25	50	16	24.5	14	28.5	50	75	4	740	161 877	CRLNZG-100

1) Corrosion resistance class 4 according to Festo standard 940 070
Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required.

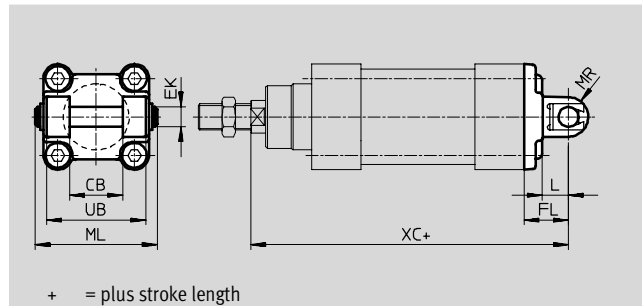
Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design



Accessories

Swivel flange SNCB- ... R3

Material:
Smooth anodised aluminium
Free of copper, PTFE and silicone

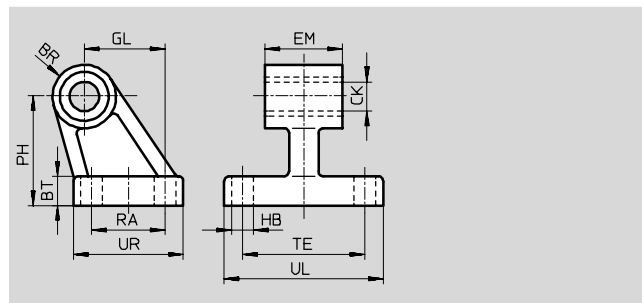


Dimensions and ordering data												
For \varnothing	CB	EK	FL	L	ML	MR	UB	XC	CRC ¹⁾	Weight	Part No.	Type
[mm]		\varnothing								[g]		
32	26	10	22	13	55	10	45	142	3	100	176 944	SNCB-32-R3
40	28	12	25	16	63	12	52	160	3	150	176 945	SNCB-40-R3
50	32	12	27	16	71	12	60	170	3	225	176 946	SNCB-50-R3
63	40	16	32	21	83	16	70	190	3	365	176 947	SNCB-63-R3
80	50	16	36	22	103	16	90	210	3	610	176 948	SNCB-80-R3
100	60	20	41	27	127	20	110	230	3	925	176 949	SNCB-100-R3

1) Corrosion resistance class 3 according to Festo standard 940 070
Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Clevis foot mounting CRLNG

Material:
High-alloy steel
Free of copper, PTFE and silicone



Dimensions and ordering data															
For \varnothing	BR	BT	CK	EM	GL	HB	PH	RA	TE	UL	UR	CRC ¹⁾	Weight	Part No.	Type
[mm]			\varnothing	-0.4		\varnothing							[g]		
32	10	8	10	25.8	21	6.6	32	18	38	51	31	4	120	161 840	CRLNG-32
40	11	10	12	27.8	24	6.6	36	22	41	54	35	4	160	161 841	CRLNG-40
50	12	12	12	31.8	33	9	45	30	50	65	45	4	280	161 842	CRLNG-50
63	15	12	16	39.8	37	9	50	35	52	67	50	4	375	161 843	CRLNG-63
80	15	14	16	49.8	47	11	63	40	66	86	60	4	580	161 844	CRLNG-80
100	19	15	20	59.8	55	11	71	50	76	96	70	4	935	161 845	CRLNG-100

1) Corrosion resistance class 4 according to Festo standard 940 070
Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required.

ISO standard cylinders
ISO 6431 and VDMA 24 562

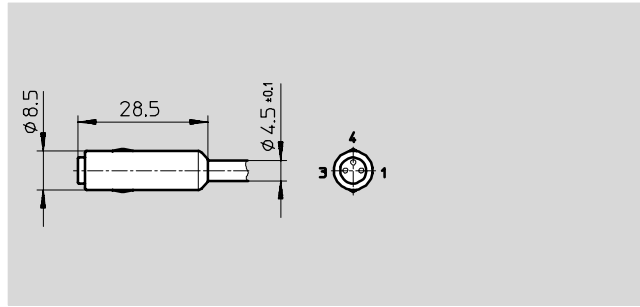
1.2

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design

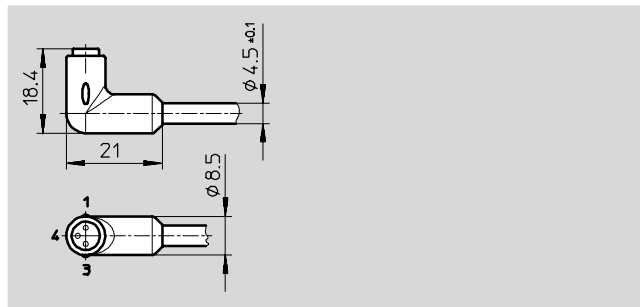


Accessories

Plug socket with cable
SIM-K-GD- ... -CDN
 Straight connection



Plug socket with cable
SIM-K-WD- ... -CDN
 Angled connection



ISO standard cylinders
 ISO 6431 and VDMA 24 562

1.2



General technical data				
Part No.	525 259	525 260	525 261	525 262
Type	SIM-K-GD-2,5-CDN	SIM-K-GD-5-CDN	SIM-K-WD-2,5-CDN	SIM-K-WD-5-CDN
Plug socket with cable	Straight connection		Angled connection	
Type of mounting	Fits into miniature plug connectors to EN 60 947-5-2			
Electrical connection	Cable, 3-wire			
Core cross-section [mm ²]	0.25			
Cable length [m]	2.5	5.0	2.5	2.5
Max. switching current [A]	2.8			
Max. operating voltage	[V AC] 45			
	[V DC] 70			
Protection class to EN 60 529	IP65 and IP67 to EN 60 529 and IP69K to DIN 40 050-9 when inserted and fitted			
Temperature range [°C]	Fixed cable installation: -40 ... +70			
	Flexible cable installation: -5 ... +70			
Materials	Housing: Polyurethane			
	Contacts: Gold-plated brass			
	Cable sheath: Polyurethane			
Corrosion resistance class CRC ¹⁾	4			


1) Corrosion resistance class 4 according to Festo standard 940 070
 Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required.

Standard cylinders CDN, ISO 6431 and VDMA 24 562, Clean Design




Accessories


Ordering data – Piston rod attachments				Technical data → 1 / 10.3-5			
	For Ø	Part No.	Type		For Ø	Part No.	Type
	32	195 582	CRSGS-M10x1,25		32	13 569	CRSG-M10x1,25
	40	195 583	CRSGS-M12x1,25		40	13 570	CRSG-M12x1,25
	50, 63	195 584	CRSGS-M16x1,5		50, 63	13 571	CRSG-M16x1,5
	80, 100	195 585	CRSGS-M20x1,5		80, 100	13 572	CRSG-M20x1,5

Ordering data – Push-in/threaded fitting						Technical data → Volume 3	
	Connection		Material	Weight [g]	Part No.	Type	PU ²⁾
	Thread	For push-in fitting					
	G1/8	QS-F, Quick Star	Nickel and chrome-plated brass	8	193 408	QS-F-G1/8-4 ¹⁾	10
	G1/8			12	193 409	QS-F-G1/8-6 ¹⁾	10
	G1/8			14	193 410	QS-F-G1/8-8 ¹⁾	10
	G1/4			16	193 411	QS-F-G1/4-6 ¹⁾	10
	G1/4			16	193 412	QS-F-G1/4-8 ¹⁾	10
	G1/4			22	193 413	QS-F-G1/4-10 ¹⁾	10
	G3/8			20	193 414	QS-F-G3/8-8 ¹⁾	10
	G3/8			30	193 415	QS-F-G3/8-10 ¹⁾	10
	G3/8			38	193 487	QS-F-G3/8-12 ¹⁾	10
	G1/2			42	193 416	QS-F-G1/2-10 ¹⁾	10
	G1/2			46	193 417	QS-F-G1/2-12 ¹⁾	10

- 1) With sealing ring
- 2) Packaging unit quantity

Ordering data – One-way flow control valves					Technical data → Volume 2	
	Connection		Material	Weight [g]	Part No.	Type
	Thread	For push-in fitting				
	G1/8	CRQS/CRQSL/CRQST, Quick Star	Electrolytically polished stainless steel casting	44	161 404	CRGRLA-1/8-B
	G1/4			83	161 405	CRGRLA-1/4-B
	G3/8			150	161 406	CRGRLA-3/8-B
	G1/2			315	161 407	CRGRLA-1/2-B

Ordering data – Hexagon head screws, corrosion resistant						
	For Ø	Material	Weight [g]	Part No.	Type	
	32	High-alloy steel	3	650 120	CR-M6x12-DIN6921-A2-70	
	40		6	650 121	CR-M8x16-DIN6921-A2-70	
	50			13	650 122	CR-M10x16-DIN6921-A2-70
	63					
	80					
	100					

Ordering data – Plastic tubing, standard O.D.			Technical data → Volume 3	
			Type	
	Good resistance to chemicals and hydrolysis		PLN	
	Pneumatic tubing with resistance to high temperatures and chemicals		PFAN	

ISO standard cylinders ISO 6431 and VDMA 24 562 1.2