



- Standard cylinders to DIN ISO 6432
- Quick reacting thanks to minimal break-away force
- Meet the highest requirements for running characteristics, service life and load carrying ability
- Comprehensive range of accessories

Specified types in accordance with ATEX directive for potentially explosive atmospheres  
➔ [www.festo.com/en/ex](http://www.festo.com/en/ex)

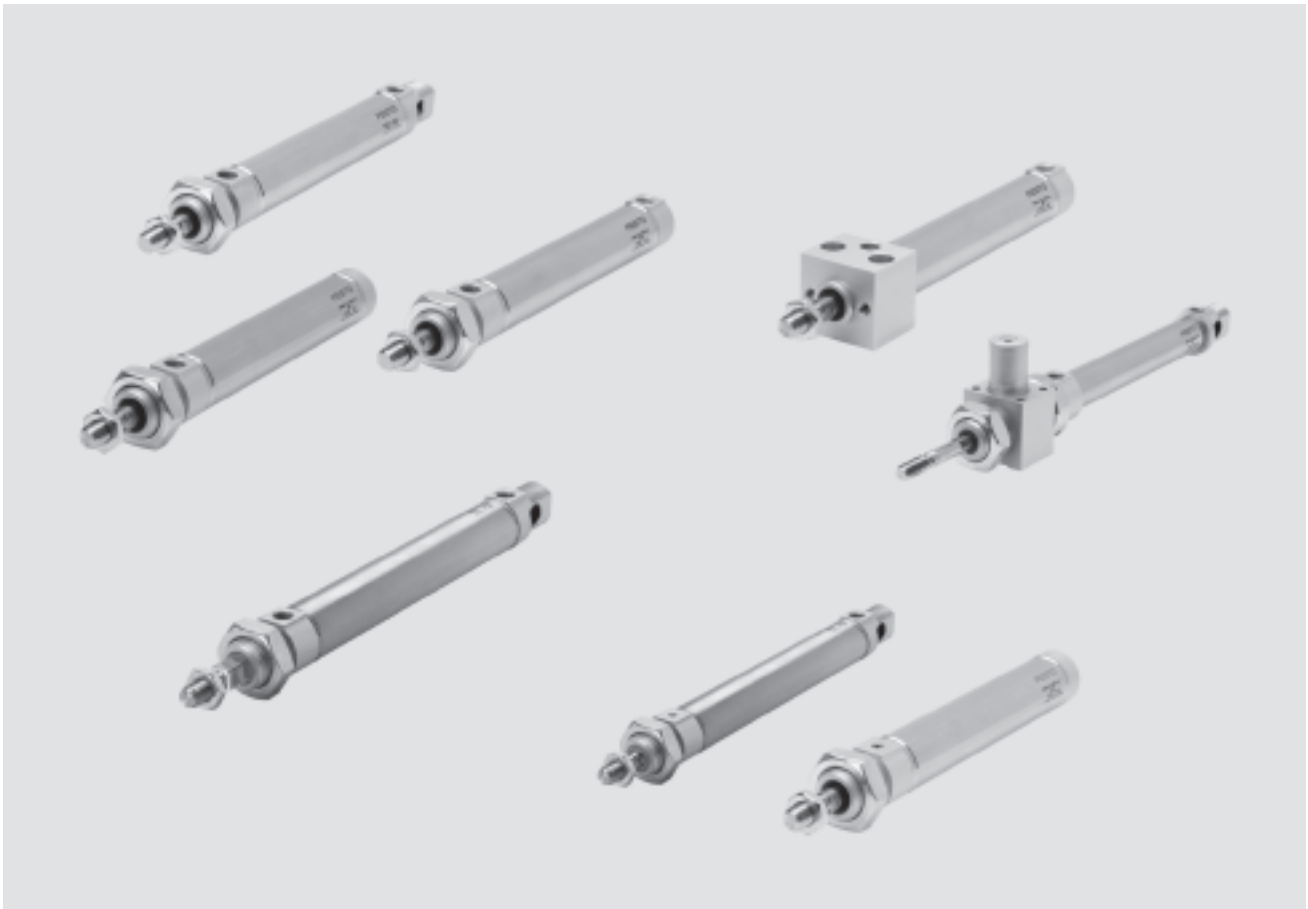
# Standard cylinders DSNU/DSN/ESNU/ESN, ISO 6432

FESTO

Key features

ISO standard cylinders  
ISO 6432

1.1



## Optimal range

- Good running performance and long service life thanks to smooth, hard cylinder bore
- Piston rod and cylinder barrel made of stainless steel

## More than the standard



ISO 6432  
DIN ISO 6432



- Round cylinders with piston diameters from 8 to 25 mm conform to ISO 6432, DIN ISO 6432. Variants are based on these standards. The series is not repairable
- The cap is swaged onto the barrel

## Functional

- Three different end caps mean numerous functional and space-saving designs

## Variants

- Non-rotating
- Through piston rod
- With or without position sensing
- Flexible cushioning rings/plates at both ends or pneumatic cushioning adjustable at both ends
- Further piston rod variants

# Standard cylinders DSNU/DSN/ESNU/ESN, ISO 6432

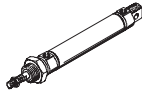
Key features

FESTO

## Standard range

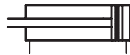
### Double-acting

Basic version  
DSNU/DSN



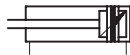
With position sensing  
Flexible cushioning rings/plates at both ends

DSNU-P-A



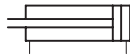
With position sensing  
Pneumatic cushioning adjustable at both ends

DSNU-PPV-A



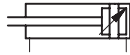
Without position sensing  
Flexible cushioning rings/plates at both ends

DSN-P



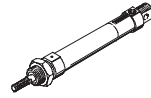
Without position sensing  
Pneumatic cushioning adjustable at both ends

DSN-PPV



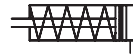
### Single-acting

Basic version  
ESNU/ESN



With position sensing  
Flexible cushioning rings/plates at both ends

ESNU-P-A



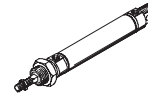
Without position sensing  
Flexible cushioning rings/plates at both ends

ESN-P



### Double-acting Non-rotating

Basic version  
DSNU-Q



With position sensing  
Flexible cushioning rings/plates at both ends

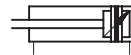
DSNU-P-A-Q



only  $\varnothing 12$

With position sensing  
Pneumatic cushioning adjustable at both ends

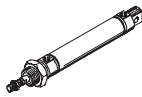
DSNU-PPV-A-Q



only  $\varnothing 16 \dots 25$

## Variants from the modular system

Basic version  
DSNU/ESNU



S2: Through piston rod

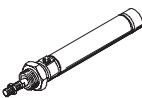


K8: Extended piston rod



### Axial air connection

DSNU-MA/ESNU-MA



K2: Extended male piston rod thread

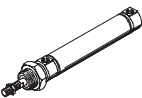


S6: Heat-resistant seal up to max. 120 °C



### Lateral air connection

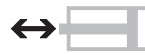
DSNU-MQ



K6: Shortened male piston rod thread

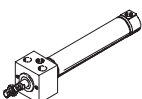


S10: Slow speed (constant motion)



### With direct mounting

DSNU-MH



K3: Female piston rod thread

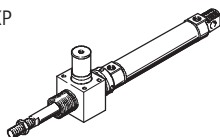


S11: Low friction



### With clamping unit

DSNU-...-KP



K5: Special thread on piston rod



R3: High corrosion protection

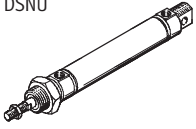
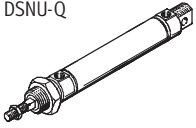
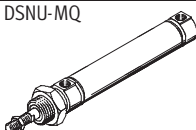
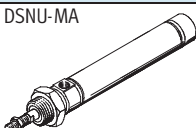
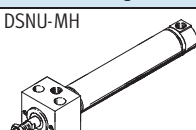
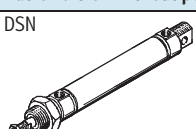


# Standard cylinders DSNU/DSN, ISO 6432

Product range overview



ISO standard cylinders  
ISO 6432  
1.1

Function	Design	Piston Ø [mm]	Stroke [mm]	Variable stroke <sup>1)</sup> [mm]	Piston rod						
					Through S2	Extended K8	Male thread			Female thread K3	
							Extended K2	Shortened K6	Special thread K5		
Double-acting	<b>Basic version with position sensing</b>										
		DSNU	8, 10	10, 25, 40, 50,	1 ... 100	■	■	■	■	■	■
			12, 16	80, 100, 125,	1 ... 200						
			20	160, 200, 250,	1 ... 320						
			25	300, 320, 400, 500	1 ... 500						
	<b>Non-rotating</b>										
		DSNU-Q	12, 16	–	5 ... 160	■	■	■	■	■	■
			20	–	5 ... 200						
			25	–	5 ... 250						
	<b>Lateral air connection</b>										
		DSNU-MQ	8, 10	–	1 ... 100	–	■	■	■	■	■
			12, 16	–	1 ... 200						
			20	–	1 ... 320						
			25	–	1 ... 500						
	<b>Axial air connection</b>										
		DSNU-MA	8, 10	–	1 ... 100	–	■	■	■	■	■
		12, 16	–	1 ... 200							
		20	–	1 ... 320							
		25	–	1 ... 500							
<b>Direct mounting</b>											
	DSNU-MH	8, 10	–	1 ... 100	–	■	■	■	■	■	
		12, 16	–	1 ... 200							
		20	–	1 ... 320							
		25	–	1 ... 500							
<b>Basic version without position sensing</b>											
	DSN	8, 10	10, 25, 40, 50,	1 ... 100	■	–	–	–	–	–	
		12, 16	80, 100, 125,	1 ... 200							
		20	160, 200, 250,	1 ... 320							
		25	300, 320, 400, 500	1 ... 500							

1) Cylinders with position sensing require a minimum stroke of 10 mm to ensure reliable sensing

# Standard cylinders DSNU/DSN, ISO 6432

Product range overview



Design	Cushioning		Position sensing	Clamping unit	Heat-resistant seal	Slow speed (constant motion)	Low Friction	Corrosion protection	→ Page
	Fixed	Adjustable as of $\varnothing 16$							
	P	ppv <sup>2)</sup>	A	KP	S6	S10	S11	R3	
<b>Basic version with position sensing</b>									
DSNU	■	■	■	■	■	■	■	■	1 / 1.1-11
<b>Non-rotating</b>									
DSNU-Q	■ $\varnothing 12$	■ $\varnothing 16 \dots 25$	■	■	-	-	-	■ $\varnothing 12 \dots 25$	1 / 1.1-19
<b>Lateral air connection</b>									
DSNU-MQ	■	■	■	■	■	-	-	■	1 / 1.1-11
<b>Axial air connection</b>									
DSNU-MA	■	-	■	■	■	-	-	■	1 / 1.1-11
<b>Direct mounting</b>									
DSNU-MH	■	■	■	-	■	-	-	■	1 / 1.1-11
<b>Basic version without position sensing</b>									
DSN	■	■	-	-	-	-	-	-	1 / 1.1-38

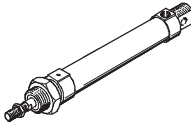
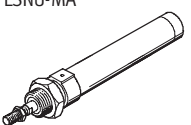
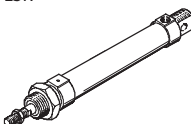
2) For product modules as of  $\varnothing 12$  mm

# Standard cylinders ESNU/ESN, ISO 6432



Product range overview

ISO standard cylinders  
ISO 6432  
1.1

Function	Design	Piston Ø [mm]	Stroke [mm]	Variable stroke <sup>1)</sup> [mm]	Cushioning Fixed P	Position sensing A
Single-acting	<b>Basic version with position sensing</b>					
	ESNU 	8, 10, 12, 16, 20, 25	10, 25, 50	1 ... 50	■	■
	<b>Axial air connection</b>					
	ESNU-MA 	8, 10, 12, 16, 20, 25	–	1 ... 50	■	■
<b>Basic version without position sensing</b>						
ESN 	8, 10, 12, 16, 20, 25	10, 25, 50	1 ... 50	■	–	

1) Cylinders with position sensing require a minimum stroke of 10 mm to ensure reliable sensing

# Standard cylinders ESNU/ESN, ISO 6432

Product range overview



Design	Piston rod					→ Page
	Extended K8	Male thread			Female thread K3	
		Extended K2	Shortened K6	Special thread K5		
<b>Basic version with position sensing</b>						
ESNU	■	■	■	■	■	1 / 1.1-30
<b>Axial air connection</b>						
ESNU-MA	■	■	■	■	■	1 / 1.1-30
<b>Basic version without position sensing</b>						
ESN	-	-	-	-	-	1 / 1.1-44

ISO standard cylinders  
ISO 6432

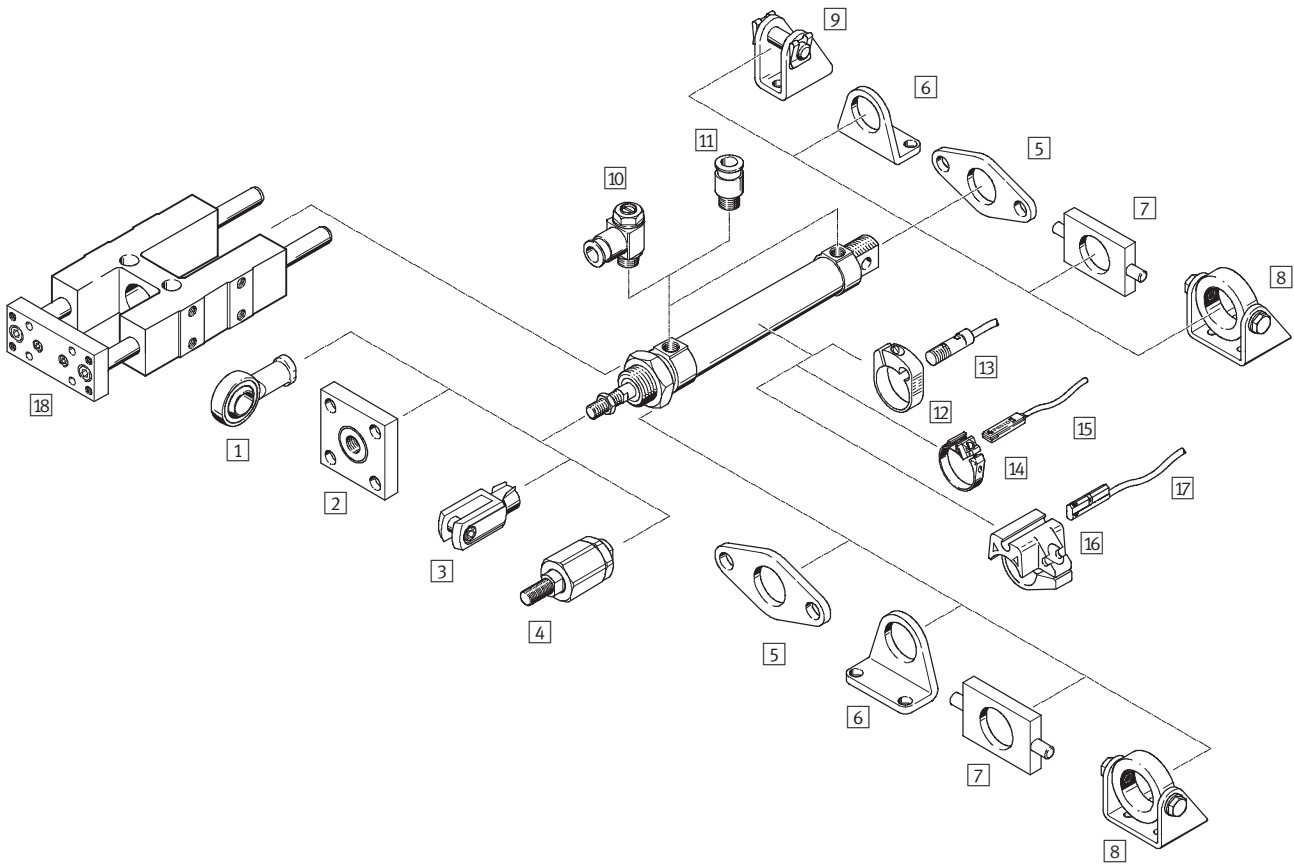
1.1

# Standard cylinders DSNU/DSN/ESNU/ESN, ISO 6432

Peripherals overview



ISO standard cylinders  
ISO 6432  
1.1

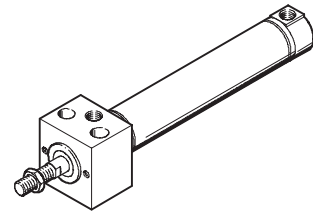
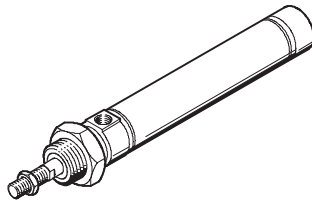
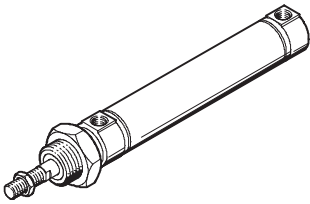


## Variants

DSNU-MQ

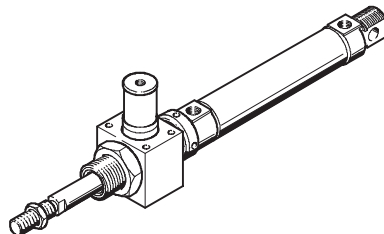
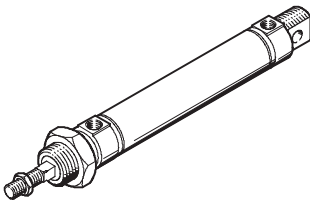
DSNU-MA

DSNU-MH



DSNU-Q

DSNU-KP





# Standard cylinders DSNU/DSN/ESNU/ESN, ISO 6432

Peripherals overview



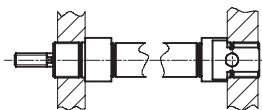
ISO standard cylinders  
ISO 6432

1.1

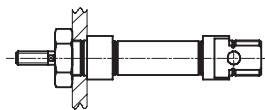
Mounting attachments and accessories									
		DSNU/ ESNU	DSNU/ ESNU MA	DSNU			DSNU-Q	DSN/ESN	→Page
				MQ	MH	KP			
1	Rod eye SGS/CRSGS	■	■	■	■	■	■	■	1 / 1.1-51
2	Coupling piece KSG/KSZ	■	■	■	■	■	■	■	1 / 1.1-51
3	Rod clevis SG/CRSG	■	■	■	■	■	■	■	1 / 1.1-51
4	Self-aligning rod coupler FK	■	■	■	■	■	■	■	1 / 1.1-51
5	Flange mounting FBN/CRFBN	■	■	■	-	■	■	■	1 / 1.1-49
6	Foot mounting HBN/CRHBN	■	■	■	-	■	■	■	1 / 1.1-48
7	Swivel mounting WBN	■	■	■	-	■	■	■	1 / 1.1-50
8	Swivel mounting SBN	■	■	■	-	■	■	■	1 / 1.1-49
9	Clevis foot LBN/CRLBN	■	-	-	-	■	■	■	1 / 1.1-50
10	One-way flow control valve GRLA/GRLZ/CRGRLA	■	■	■	■	■	■	■	1 / 1.1-55
11	Push-in fitting QS	■	■	■	■	■	■	■	Volume 3
12	Sensor mounting kit SMBR/CRSMBR	■	■	■	■	■	■	-	1 / 1.1-52
13	Proximity sensor SMEO/SMT0/CRSMEO-4	■	■	■	■	■	■	-	1 / 1.1-52
14	Sensor mounting kit SMBR-8	■	■	■	■	■	■	-	1 / 1.1-53
15	Proximity sensor SME/SMT-8	■	■	■	■	■	■	-	1 / 1.1-53
16	Sensor mounting kit SMBR-10	■	■	■	■	■	■	-	1 / 1.1-54
17	Proximity sensor SME/SMT-10	■	■	■	■	■	■	-	1 / 1.1-54
18	Guide unit FEN	■	■	■	-	-	-	■	1 / 1.1-51

## Mounting options

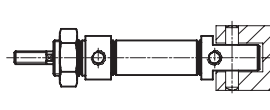
Mounting front and rear



Mounting with hex nut

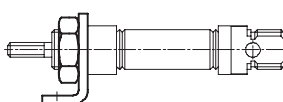


Swivel mounting

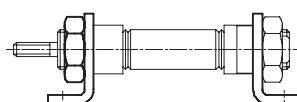


## Installation options with mounting attachments

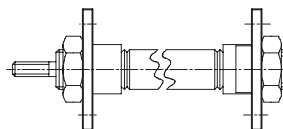
Foot mounting (for short strokes)



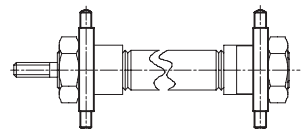
Foot mounting



Flange mounting



Swivel mounting



# Standard cylinders DSNU/DSN/ESNU/ESN, ISO 6432

Type codes



ISO standard cylinders  
ISO 6432  
1.1



## Modular product system

Individually configurable

DSNU → 1 / 1.1-26

ESNU → 1 / 1.1-36

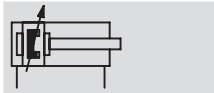
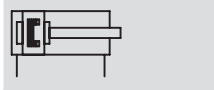
- Square piston rod (protection against rotation)
- Through piston rod (piston rod type)
- Extended male piston rod thread
- Male piston rod thread, shortened at one end
- Female piston rod thread (female thread)
- Special piston rod thread (special thread)
- Extended piston rod
- Clamping unit on piston rod
- Heat-resistant seals for temperatures up to 120 °C (temperature resistance)
- Slow speed (constant motion at low piston rod speeds)
- Low friction
- All external cylinder surfaces conform to corrosion resistance class CRC 3 (corrosion protection)

# Standard cylinders DSNU, ISO 6432



Technical data

## Function



⌀ - Diameter  
8 ... 25 mm

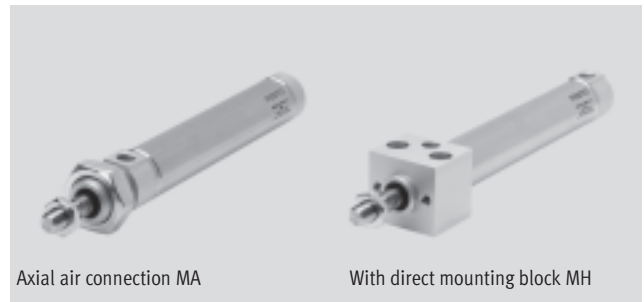
— - Stroke length  
1 ... 500 mm

## Variant

CT-free

## Additional variants

→ 1 / 1.1-15



ISO standard cylinders  
ISO 6432

1.1

General technical data						
Piston Ø	8	10	12	16	20	25
Pneumatic connection	M5	M5	M5	M5	G $\frac{1}{8}$	G $\frac{1}{8}$
Piston rod thread	M4	M4	M6	M6	M8	M10x1.25
Constructional design	Piston					
	Piston rod					
	Cylinder barrel					
Cushioning	Flexible cushioning rings/plates at both ends					
	-			Pneumatic cushioning adjustable at both ends		
Cushioning length (PPV) [mm]	-		9	12	15	17
Position sensing	For proximity sensing					
Type of mounting	Direct mounting (MH variant only)					
	Via accessories					
Assembly position	Any					

- | - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Operating conditions						
Piston Ø	8	10	12	16	20	25
Operating medium	Filtered compressed air, lubricated or unlubricated					
Operating pressure [bar]	Basic version			1 ... 10		
	S10	-	-	1.5 ... 10		1 ... 10
	S11	-	-	0.45 ... 10	0.3 ... 10	

1) DSNU-12 ...-PPV (cushioning adjustable at either end): 2 ... 10 bar

# Standard cylinders DSNU, ISO 6432

Technical data



ISO standard cylinders  
ISO 6432  
1.1

Ambient conditions						
Standard cylinder	Basic version	CT	S6	S10	S11	R3
Ambient temperature <sup>1)</sup> [°C]	-20 ... +80		0 ... +120	+5 ... +80		-20 ... +80
Corrosion resistance class CRC <sup>2)</sup>	2	2	2	2	2	3

- 1) Note operating range of proximity sensors  
 2) Corrosion resistance class 2 according to Festo standard 940 070  
 Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.  
 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] and impact energy [J]						
Piston Ø	8	10	12	16	20	25
Theoretical force at 6 bar, advancing	30	47	68	121	189	295
Theoretical force at 6 bar, retracting	23	40	51	104	158	247
Impact energy at the end positions	0.03	0.05	0.07	0.15	0.20	0.30

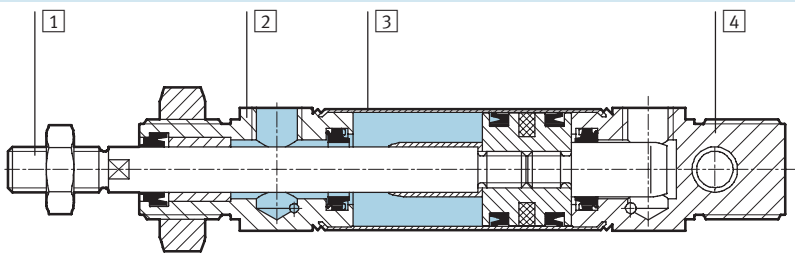
Speed [mm/s]						
Piston Ø	16		20		25	
Speed with judder-free running, S10 horizontal, without load, at 6 bar	10 ... 100					
Minimum speed, advancing S11	2.7		5.3		<1 <sup>1)</sup>	
Minimum speed, retracting S11	3.2		4.7		<1 <sup>1)</sup>	

- 1) Measurements of less than 1 mm/s were not conducted

Weights [g]						
Piston Ø	8	10	12	16	20	25
Product weight with 0 mm stroke	34.6	37.3	75	89.9	186.8	238
Additional weight per 10 mm stroke	2.4	2.7	4	4.6	7.2	11

## Materials

Sectional view



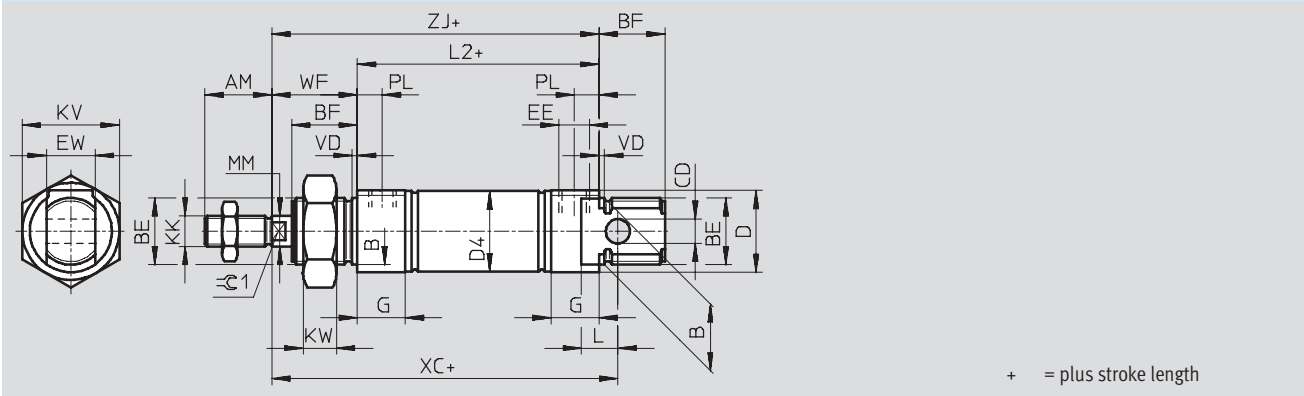
Standard cylinder	Basic version	R3	CT	S6	S10	S11
1) Piston rod	High-alloy stainless steel					
2) Bearing cap	Wrought aluminium alloy					
3) Cylinder barrel	High-alloy stainless steel					
4) End cap	Wrought aluminium alloy					
- Seals	Polyurethane, nitrile rubber				Fluoro rubber	

# Standard cylinders DSNU, ISO 6432

Technical data



**Dimensions** Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)  
 Basic version



∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ E10	D ∅	D4 ∅	EE	EW	G	KK	KV
8	12	12	M12x1.25	12	4	15	9.3	M5	8	10	M4	19
10							11.3					
12	16	16	M16x1.5	17	6	20	13.3		12	16	M6	24
16							17.3					
20	20	22	M22x1.5	20	8	27	21.3	G $\frac{1}{8}$	16	16	M8	32
25	22			22			22					

∅ [mm]	KW	L	L2	MM ∅	PL	T0	VD	WF	XC ±1	ZJ	∅1
8	6	6	46	4	6	18	2	16	64	62	-
10			50								
12	8	9	56	8		23		22	75	72	5
16			68		8.2				31	24	
20	11	12	69.5	10		24		95			92
25			28	104	97.5	9					

• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

ISO standard cylinders  
ISO 6432  
**1.1**

# Standard cylinders DSNU, ISO 6432

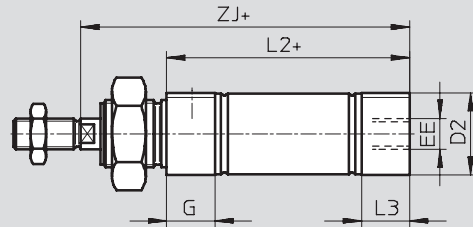
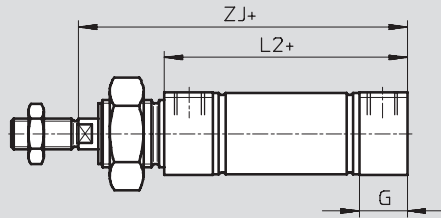
Technical data



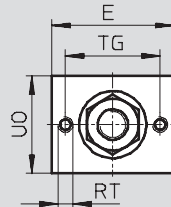
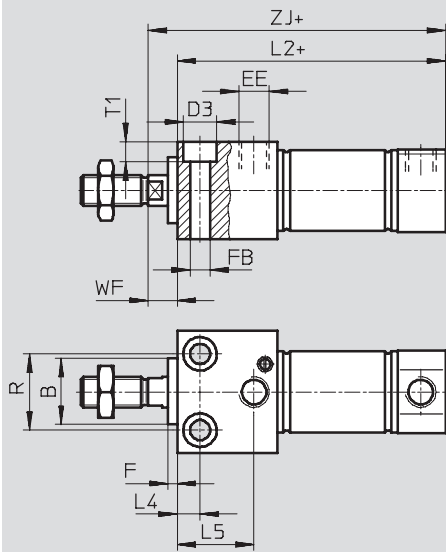
ISO standard cylinders  
ISO 6432  
1.1

**Dimensions** Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

MQ – Lateral air connection MA – Axial air connection



MH – With direct mounting block



+ = plus stroke length

∅ [mm]	B ∅ h9	D2 ∅	D3 ∅	E	EE	F	FB ∅	G	L2		
									-MQ	-MA	-MH
8	12	10.5	6	24	M5	3	3.4	10	46	43.6	53.5
10		12.5								43.1	53.8
12	16	14.5	8	30			4.5	16	68	47.7	62
16		17.5								53.7	67.5
20	22	21.7	10	40	G1/8	5.5	16	69.5	66.5	81.5	
25		26.7							11	6.6	68.5

∅ [mm]	L3	L4	L5	R	RT	TG	T1	UO	WF	ZJ		
										-MQ	-MA	-MH
8	7.6	5	14	12	M3	18	3.4	16	8	62	59.6	61.5
10	7.1										59.1	61.8
12	7.7	6	18.1	16	M4	23	4.5	22	10	72	69.7	72
16											78	75.7
20	14.5	7.5	22.4	22	M5	31	5.5	28	10	92	90.5	91.5
25	14		25.2								25	6.6

– Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

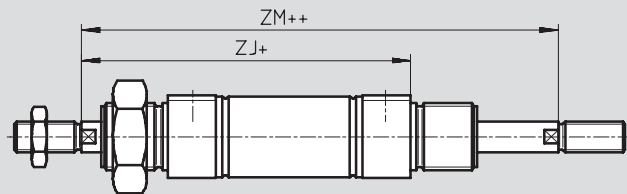
# Standard cylinders DSNU, ISO 6432

Technical data



**Dimensions** Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

## S2 – Through piston rod

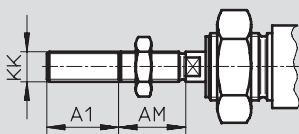


Note

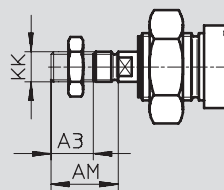
The thread designs on both piston rod ends are identical. In combination with variant Q, the left-hand piston rod end is square, the right-hand piston rod end round.

+ = plus stroke length  
++ = plus stroke length

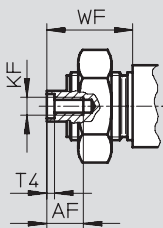
## K2 – Extended male piston rod thread



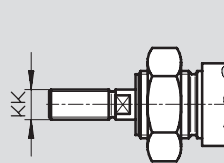
## K6 – Shortened male piston rod thread



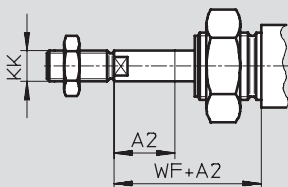
## K3 – Female piston rod thread



## K5 – Special piston rod thread



## K8 – Extended piston rod



Note

If variant K8 is required in combination with S2, the piston rod will only be extended on one side.

∅ [mm]	A1 max.	A2 max.	A3 max.	AM	AF	KF	KK		T4	WF	ZJ			ZM
							Basic thread	Special thread <sup>1)</sup>			-MQ	-MA	-MH	
8	15	50	4	12	-	-	M4	-	-	16	62	59.6	61.5	78.4
10					-	-		-	-			59.1	61.8	
12	20	100		16	-	-	M6	-	-	22	72	69.7	72	94
16					-	-		-	-			78	75.7	
20	25	100	8	20	12	M4	M8	-	2	24	92	90.5	91.5	116
25	35			M6		M10x1.25	M10	2.6	28	97.5	96.5	97.2	125.5	


1) The special threads are only available as male threads. The scope of delivery does not include a hex nut for the piston rod thread

# Standard cylinders DSNU, ISO 6432



Technical data

ISO standard cylinders  
ISO 6432  
1.1


Ordering data						
Type	Piston Ø [mm]	Stroke [mm]	Flexible cushioning rings/plates at both ends		Pneumatic cushioning adjustable at both ends	
			Part No.	Type	Part No.	Type
<b>Basic version</b>						
	8	10	19 177	DSNU-8-10-P-A	-	
		25	19 178	DSNU-8-25-P-A		
		40	19 179	DSNU-8-40-P-A		
		50	19 180	DSNU-8-50-P-A		
		80	19 181	DSNU-8-80-P-A		
		100	19 182	DSNU-8-100-P-A		
	10	10	19 183	DSNU-10-10-P-A	-	
		25	19 184	DSNU-10-25-P-A		
		40	19 185	DSNU-10-40-P-A		
		50	19 186	DSNU-10-50-P-A		
		80	19 187	DSNU-10-80-P-A		
		100	19 188	DSNU-10-100-P-A		
	12	10	19 189	DSNU-12-10-P-A	-	
		25	19 190	DSNU-12-25-P-A		
		40	19 191	DSNU-12-40-P-A		
		50	19 192	DSNU-12-50-P-A		
		80	19 193	DSNU-12-80-P-A		
		100	19 194	DSNU-12-100-P-A		
		125	19 195	DSNU-12-125-P-A		
		200	19 196	DSNU-12-160-P-A		
	16	10	19 198	DSNU-16-10-P-A	-	
		25	19 199	DSNU-16-25-P-A	33 973	DSNU-16-25-PPV-A
		40	19 200	DSNU-16-40-P-A	19 229	DSNU-16-40-PPV-A
		50	19 201	DSNU-16-50-P-A	19 230	DSNU-16-50-PPV-A
		80	19 202	DSNU-16-80-P-A	19 231	DSNU-16-80-PPV-A
		100	19 203	DSNU-16-100-P-A	19 232	DSNU-16-100-PPV-A
		125	19 204	DSNU-16-125-P-A	19 233	DSNU-16-125-PPV-A
		160	19 205	DSNU-16-160-P-A	19 234	DSNU-16-160-PPV-A
200		19 206	DSNU-16-200-P-A	19 235	DSNU-16-200-PPV-A	
20		10	19 207	DSNU-20-10-P-A	-	
	25	19 208	DSNU-20-25-P-A	33 974	DSNU-20-25-PPV-A	
	40	19 209	DSNU-20-40-P-A	19 236	DSNU-20-40-PPV-A	
	50	19 210	DSNU-20-50-P-A	19 237	DSNU-20-50-PPV-A	
	80	19 211	DSNU-20-80-P-A	19 238	DSNU-20-80-PPV-A	
	100	19 212	DSNU-20-100-P-A	19 239	DSNU-20-100-PPV-A	
	125	19 213	DSNU-20-125-P-A	19 240	DSNU-20-125-PPV-A	
	160	19 214	DSNU-20-160-P-A	19 241	DSNU-20-160-PPV-A	
	200	19 215	DSNU-20-200-P-A	19 242	DSNU-20-200-PPV-A	
	250	19 216	DSNU-20-250-P-A	19 243	DSNU-20-250-PPV-A	
	300	19 217	DSNU-20-300-P-A	19 244	DSNU-20-300-PPV-A	
	320	34 718	DSNU-20-320-P-A	34 720	DSNU-20-320-PPV-A	



# Standard cylinders DSNU, ISO 6432



Technical data

Ordering data						
Type	Piston Ø [mm]	Stroke [mm]	Flexible cushioning rings/plates at both ends		Pneumatic cushioning adjustable at both ends	
			Part No.	Type	Part No.	Type
Basic version						
	25	10	19 218	DSNU-25-10-P-A	-	
		25	19 219	DSNU-25-25-P-A	33 975	DSNU-25-25-PPV-A
		40	19 220	DSNU-25-40-P-A	19 245	DSNU-25-40-PPV-A
		50	19 221	DSNU-25-50-P-A	19 246	DSNU-25-50-PPV-A
		80	19 222	DSNU-25-80-P-A	19 247	DSNU-25-80-PPV-A
		100	19 223	DSNU-25-100-P-A	19 248	DSNU-25-100-PPV-A
		125	19 224	DSNU-25-125-P-A	19 249	DSNU-25-125-PPV-A
		160	19 225	DSNU-25-160-P-A	19 250	DSNU-25-160-PPV-A
		200	19 226	DSNU-25-200-P-A	19 251	DSNU-25-200-PPV-A
		250	19 227	DSNU-25-250-P-A	19 252	DSNU-25-250-PPV-A
		300	19 228	DSNU-25-300-P-A	19 253	DSNU-25-300-PPV-A
		320	34 719	DSNU-25-320-P-A	34 721	DSNU-25-320-PPV-A
		400	35 191	DSNU-25-400-P-A	35 193	DSNU-25-400-PPV-A
		500	35 192	DSNU-25-500-P-A	35 194	DSNU-25-500-PPV-A

ISO standard cylinders  
ISO 6432

1.1

# Standard cylinders DSNU, ISO 6432



Technical data

ISO standard cylinders  
ISO 6432  
1.1

Ordering data						
Type	Piston Ø [mm]	Stroke [mm]	Flexible cushioning rings/plates at both ends		Pneumatic cushioning adjustable at both ends	
			Part No.	Type	Part No.	Type
<b>Variable stroke</b>						
	8	10 ... 100	<b>14 326</b>	<b>DSNU-8-...-P-A</b>	-	
	10	10 ... 100	<b>14 325</b>	<b>DSNU-10-...-P-A</b>		
	12	10 ... 200	<b>14 324</b>	<b>DSNU-12-...-P-A</b>		
	16	10 ... 200	<b>14 323</b>	<b>DSNU-16-...-P-A</b>	<b>14 320</b>	<b>DSNU-16-...-PPV-A</b>
	20	10 ... 320	<b>14 328</b>	<b>DSNU-20-...-P-A</b>	<b>14 321</b>	<b>DSNU-20-...-PPV-A</b>
	25	10 ... 500	<b>14 327</b>	<b>DSNU-25-...-P-A</b>	<b>14 322</b>	<b>DSNU-25-...-PPV-A</b>
<b>Variable stroke, Free of copper, PTFE and silicone</b>						
	8	10 ... 100	<b>170 121</b>	<b>DSNU-8-...-P-A-CT</b>	-	
	10	10 ... 100	<b>170 122</b>	<b>DSNU-10-...-P-A-CT</b>		
	12	10 ... 200	<b>170 123</b>	<b>DSNU-12-...-P-A-CT</b>		
	16	10 ... 200	<b>170 124</b>	<b>DSNU-16-...-P-A-CT</b>	<b>170 127</b>	<b>DSNU-16-...-PPV-A-CT</b>
	20	10 ... 320	<b>170 125</b>	<b>DSNU-20-...-P-A-CT</b>	<b>170 128</b>	<b>DSNU-20-...-PPV-A-CT</b>
	25	10 ... 500	<b>170 126</b>	<b>DSNU-25-...-P-A-CT</b>	<b>170 129</b>	<b>DSNU-25-...-PPV-A-CT</b>

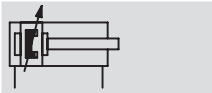
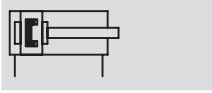
- Note  
Further variants can be configured and ordered via the DSNU product modules → 1 / 1.1-26.

# Standard cylinders DSNU-Q, non-rotating

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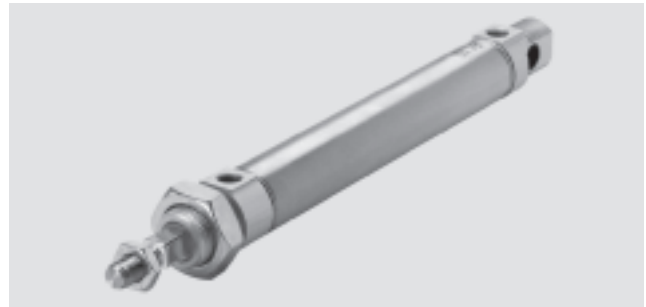
Technical data

Function



⌀ - Diameter  
12 ... 25 mm

▬ - Stroke length  
1 ... 250 mm



General technical data				
Piston Ø	12	16	20	25
Pneumatic connection	M5	M5	G1/8	G1/8
Piston rod thread	M6	M6	M8	M10x1.25
Constructional design	Piston			
	Non-rotating with square piston rod			
Max. torque at the piston rod [Nm]	0.10	0.10	0.20	0.45
Cushioning	Flexible cushioning rings/ plates at both ends		-	
	Pneumatic cushioning adjustable at both ends			
Cushioning length (PPV) [mm]	-	12	15	17
Position sensing	For proximity sensing			
Type of mounting	Via accessories			
Assembly position	Any			

⌋ - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Operating conditions				
Piston Ø	12	16	20	25
Operating medium	Filtered compressed air, lubricated or unlubricated			
Operating pressure [bar]	1.5 ... 10 <sup>1)</sup>		1 ... 10	

1) DSNU-12-...-Q-PPV (cushioning adjustable at either end): 2 ... 10 bar

Ambient conditions		
Standard cylinder	Basic version	R3
Ambient temperature <sup>1)</sup> [°C]	-20 ... +80	
Corrosion resistance class CRC <sup>2)</sup>	2	3

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

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

# Standard cylinders DSNU-Q, non-rotating

Technical data

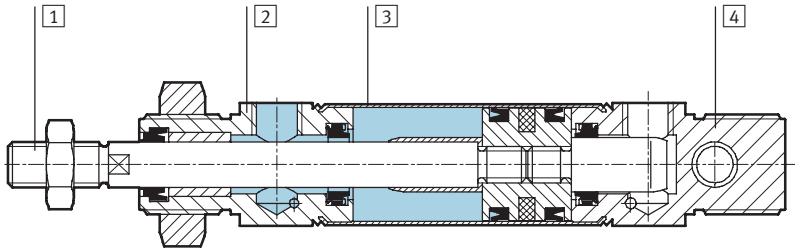
FESTO

Forces [N] and impact energy [J]				
Piston Ø	12	16	20	25
Theoretical force at 6 bar, advancing	68	121	189	295
Theoretical force at 6 bar, retracting	51	104	158	247
Impact energy at end positions	0.07	0.15	0.20	0.30

Weights [g]				
Piston Ø	12	16	20	25
Product weight with 0 mm stroke	80	110	215	275
Additional weight per 10 mm stroke	4.1	4.7	7.1	10.9

## Materials

Sectional view



Standard cylinder	
1	Piston rod High-alloy stainless steel
2	Bearing cap Wrought aluminium alloy
3	Cylinder barrel High-alloy stainless steel
4	End cap Wrought aluminium alloy
-	Seals Polyurethane, nitrile rubber

ISO standard cylinders  
ISO 6432

1.1

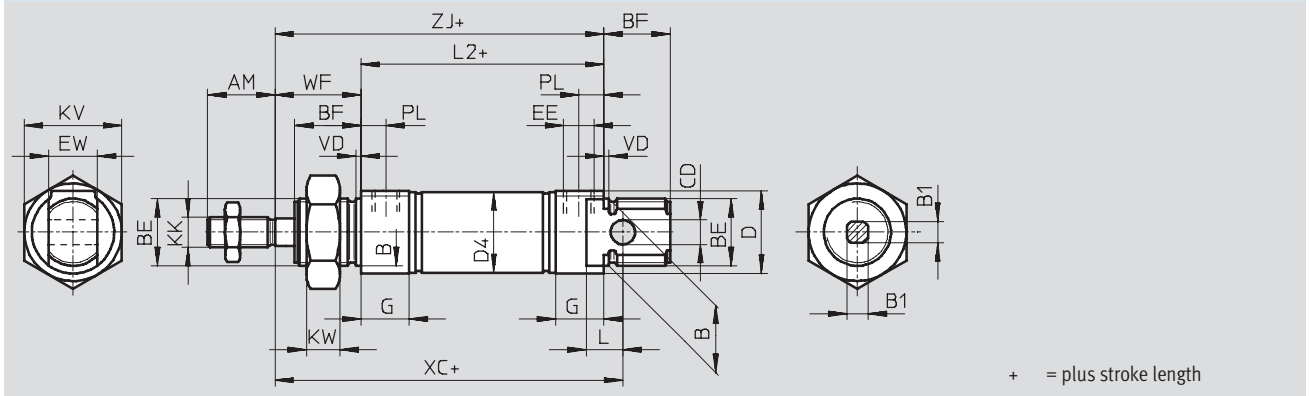
# Standard cylinders DSNU-Q, non-rotating

Technical data



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

Basic version



∅ [mm]	AM	B ∅ h9	B1 □	BE	BF	CD ∅ E10	D ∅	D4 ∅	EE	EW
12	16	16	5.5	M16x1.5	17	6	20	13.3	M5	12
16								17.3		
20	20	22	7	M22x1.5	20	8	27	21.3	G1/8	16
25	22		9		22			26.5		

∅ [mm]	G	KK	KV	KW	L	L2	PL	VD	WF	XC ±1	ZJ
12	10	M6	24	8	9	50	6	2	22	75	72
16						56				82	78
20	16	M8	32	11	12	68	24		95	92	
25		M10x1.25				69.5	28		104	97.5	

• † - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

ISO standard cylinders  
ISO 6432

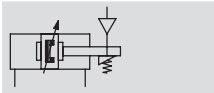
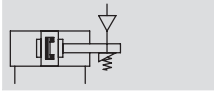
1.1

# Standard cylinders DSNU-KP, with clamping cartridge

FESTO

Technical data

Function



⌀ - Diameter  
8 ... 25 mm

— - Stroke length  
1 ... 500 mm



⚠ - Note

Additional measures are required for use in safety-related control systems; in Europe, for example, the standards listed under the EC Machinery Directive must be observed. Without

additional measures in accordance with statutory minimum requirements, the product is not suitable for use in safety-related sections of control systems.

General technical data						
Piston ⌀	8	10	12	16	20	25
Pneumatic connection	M5	M5	M5	M5	G1/8	G1/8
Piston rod thread	M4	M4	M6	M6	M8	M10x1.25
Constructional design	Piston					
	Piston rod					
	Cylinder barrel					
Cushioning	Flexible cushioning rings/plates at both ends					
	-			Pneumatic cushioning adjustable at both ends		
Cushioning length (PPV) [mm]	-	-	9	12	15	17
Position sensing	For proximity sensing					
Type of mounting	Via through-holes					
	Via accessories					
Assembly position	Any					
Clamping unit holding force [N]	80	80	180	180	350	350
Max. axial backlash with clamped piston rod without load [mm]	0.2		0.3			0.5
Clamping unit pneumatic connection	M5	M5	M5	M5	M5	M5

⚠ - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Operating conditions						
Piston ⌀	8	10	12	16	20	25
Operating medium	Filtered compressed air, lubricated or unlubricated					
Operating pressure [bar]	3 ... 10					

ISO standard cylinders  
ISO 6432

1.1

# Standard cylinders DSNU-KP, with clamping cartridge

Technical data

Ambient conditions		
Standard cylinder	Basic version	R3
Ambient temperature <sup>1)</sup> [°C]	-10 ... +80	
Corrosion resistance class CRC <sup>2)</sup>	2	3

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

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

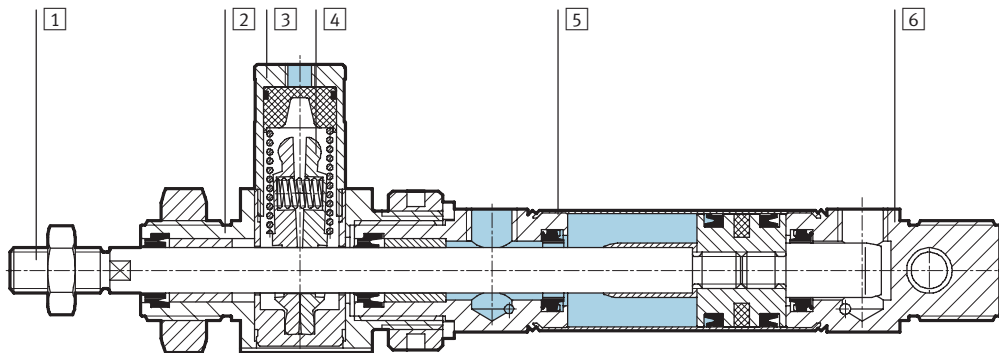
Forces [N] and impact energy [J]						
Piston Ø	8	10	12	16	20	25
Theoretical force at 6 bar, advancing	30	47	68	121	189	295
Theoretical force at 6 bar, retracting	23	40	51	104	158	247
Impact energy at the end positions <sup>1)</sup>	0.03	0.05	0.07	0.15	0.20	0.30

1) The values are reduced by approx. 50% at 80 °C

Weights [g]						
Piston Ø	8	10	12	16	20	25
Product weight with 0 mm stroke	97.6	100.3	193	207.9	393.8	456
Additional weight per 10 mm stroke	2.4	2.7	4	4.6	7.2	11

## Materials

Sectional view



Standard cylinder		
1	Piston rod	High-alloy stainless steel
2	Bearing cap	Wrought aluminium alloy
3	Housing, clamping unit	Wrought aluminium alloy
4	Clamping jaws	Brass
5	Cylinder barrel	High-alloy stainless steel
6	End cap	Wrought aluminium alloy
-	Clamping unit piston	Polyacetate
-	Spring	Spring steel
-	Seals	Polyurethane, nitrile rubber

# Standard cylinders DSNU-KP, with clamping cartridge

Technical data



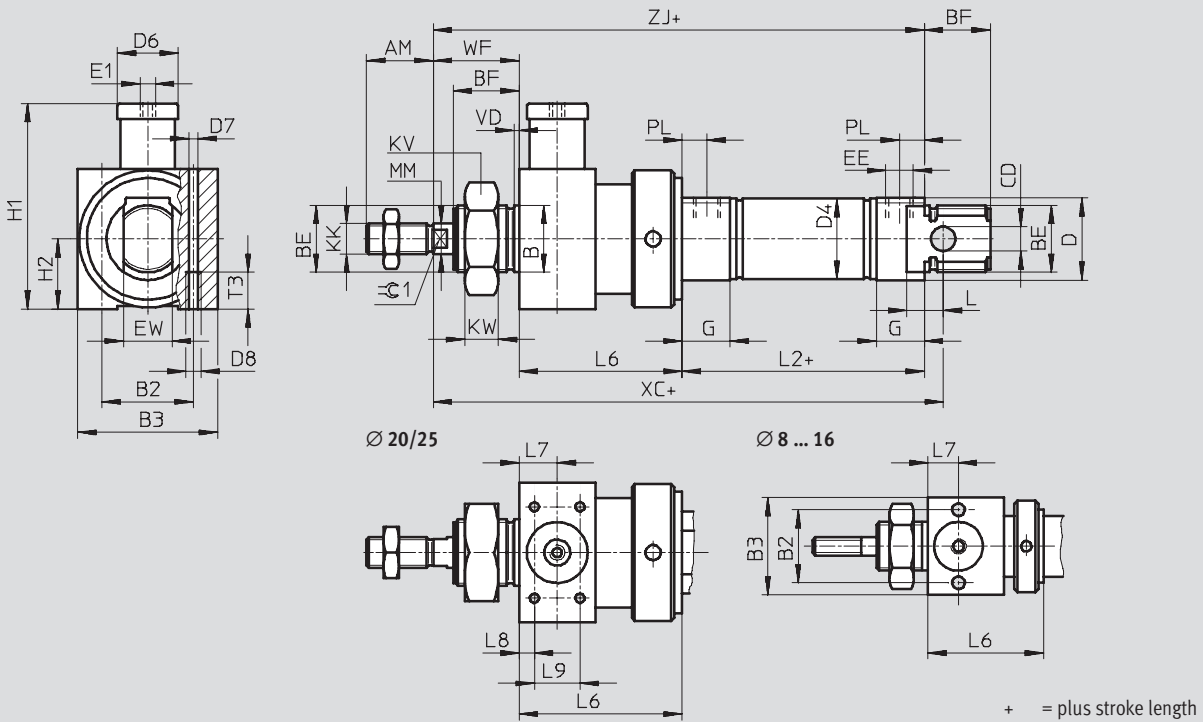
ISO standard cylinders  
ISO 6432

1.1

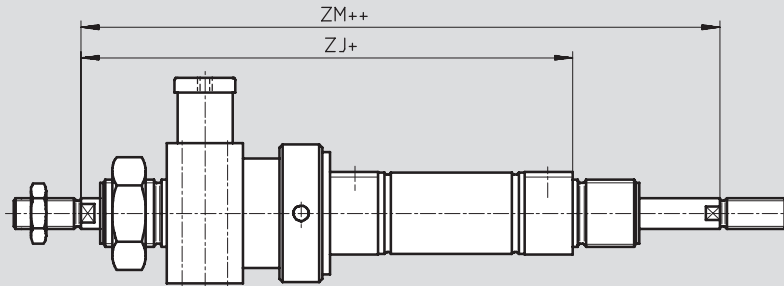
## Dimensions

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

Basic version



## S2 – Through piston rod



Note

The thread designs on both piston rod ends are identical. The clamping cartridge is mounted on only one side.

In combination with variant Q, the front piston rod is square, the rear piston rod round. The clamping

cartridge is mounted on the rear, round piston rod.

+ = plus stroke length  
++ = plus stroke length



# Standard cylinders DSNU-KP, with clamping cartridge

FESTO

Technical data

∅ [mm]	AM	B ∅ h9	B2	B3	BE	BF	CD ∅ E10	D ∅	D4 ∅	D6 ∅	D7 ∅	D8
8	12	12	19.5	27	M12x1.25	12	4	15	9.3	12	4.2	M5
10									11.3			
12	16	16	24	32	M16x1.5	17	6	20	13.3			
16									17.3			
20	20	22	27	36	M22x1.5	20	8	27	21.3			
25	22					22			26.5			

∅ [mm]	E1	EE	EW	G	H1	H2	KK	KV	KW	MM ∅	L	L2	
8	M5	M5	8	10	34.5	13.5	M4	19	6	4	6	46	
10			12				41						M6
12			16	G $\frac{1}{8}$	16	16	62.5	18	M8	32	11	8	12
16		20	M10x1.25						10			69.5	
20		25											

∅ [mm]	L6	L7	L8	L9	T3	PL	VD	WF	XC ±1	ZJ	ZM	≈ $\pm$ 1		
8	29 ±0.65	8	-	-	11	6	2	16	93	91	107	-		
10			-	-								-		
12	38 ±0.75	10	-	-				8.2	24	142	139	163	173.5	5
16			-	-										7
20	47 ±0.75	13	4.5	20	28	152	145.5	173.5	173.5	173.5	173.5	9		
25	48 ±0.75													

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

ISO standard cylinders  
ISO 6432

1.1

# Standard cylinders DSNU, ISO 6432

Ordering data – Modular products



ISO standard cylinders  
ISO 6432

1.1

M Mandatory data				O Options			
Module No.	Function	Piston Ø	Stroke	Cushioning	Position sensing	Cylinder cap	Type of piston rod
193 986	DSNU	8	1 ... 500	P PPV	A	MQ MA MH	S2
193 987							
193 988							
193 989							
193 990							
193 991							
<b>Ordering example</b>							
<b>193 991</b>	<b>DSNU</b>	<b>- 25</b>	<b>- 350</b>	<b>- PPV</b>	<b>- A</b>	<b>- MH</b>	<b>- S2</b>

Ordering table										
Size	8	10	12	16	20	25	Condi- tions	Code	Enter code	
M Module No.	193 986	193 987	193 988	193 989	193 990	193 991				
Function	Standard cylinder, double-acting, based on ISO 6432							DSNU	DSNU	
Piston Ø [mm]	8	10	12	16	20	25	-...			
Stroke [mm]	1 ... 100		1 ... 200		1 ... 320		1 ... 500		-...	
Cushioning	Flexible cushioning rings/plates at both ends							-P		
	-		-		Pneumatic cushioning adjustable at both ends			[1]	-PPV	
O Position sensing	For proximity sensing							[2]	-A	
Cylinder cap	Lateral air connection, end cap							[3]	-MQ	
	Axial air connection, end cap							[3]	-MA	
	Mounting flange at front (direct mounting), bearing cap							[4]	-MH	
↓ Type of piston rod	Through piston rod							[5]	-S2	

- [1] **PPV** Not with cylinder end cap MA  
In combination with S6, S10, S11 not with piston Ø 12 mm
- [2] **A** Minimum stroke: 10 mm
- [3] **MQ, MA** Not with piston rod type S2, S10, S11

- [4] **MH** Not with combination S6-R3  
Not with KP, S10, S11
- [5] **S2** Not with S10, S11

Transfer order code

	DSNU	-		-		-		-		-	
--	------	---	--	---	--	---	--	---	--	---	--

# Standard cylinders DSNU, ISO 6432

Ordering data – Modular products



ISO standard cylinders  
ISO 6432

1.1

## Options

Male thread extended	Male thread shortened	Female thread	Special thread	Piston rod extended	Clamping unit	Temperature-resistant	Constant motion	Low friction	Corrosion protection
...K2	...K6	K3	"..."K5	...K8	KP	S6	S10	S11	R3
-	- <b>7K6</b>	-	- <b>"M10"K5</b>	-	-	-	-	-	- <b>R3</b>

## Ordering table

Size	8	10	12	16	20	25	Condi- tions	Code	Enter code
Male thread extended [mm]	Piston rod with extended male thread 1 ... 15   1 ... 20		1 ... 25		1 ... 35		6	-...K2	
Male thread shortened [mm]	Piston rod with shortened male thread 1 ... 4		1 ... 8		1 ... 10		7	-...K6	
Female thread	Female piston rod thread		(M4)		(M6)		8	-K3	
Special thread	Special piston rod thread		M10					-"...K5	
Piston rod extended [mm]	Extended piston rod at front 1 ... 50   1 ... 100							...K8	
Clamping unit	Attached						9	-KP	
Temperature-resistant	Heat-resistant seals up to max. 120 °C						10	-S6	
Constant motion	Slow speed (constant motion at low piston speeds)						11	-S10	
Low friction	Low friction						12	-S11	
Corrosion protection	High corrosion protection							-R3	

- 6 K2 Not with K3, K6
- 7 K6 Not with K3
- 8 K3 Not with K2
- 9 KP Not with S6, S10, S11, R3

- 10 S6 Not with S10, S11
- 11 S10 Not with S11, R3
- 12 S11 Not with R3

### Transfer order code

- [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

# Standard cylinders DSNU-Q, non-rotating

Ordering data – Modular products



ISO standard cylinders  
ISO 6432

1.1

M Mandatory data					O Options →			
Module No.	Function	Piston Ø	Stroke	Cushioning	Position sensing	Cylinder cap	Protection against torsion	Type of piston rod
193 988	DSNU	12	1 ... 500	P	A	MQ	Q	S2
193 989		16		PPV		MA		
193 990		20				MH		
193 991		25						
<b>Ordering example</b>								
193 990	DSNU	- 20	- 150	- PPV	- A	- MQ	- Q	-

Ordering table								
Size	12	16	20	25	Condi- tions	Code	Enter code	
M Module No.	193 988	193 989	193 990	193 991				
Function	Standard cylinder, double-acting, based on ISO 6432						DSNU	DSNU
Piston Ø [mm]	12	16	20	25		-...		
Stroke [mm]	5 ... 160		5 ... 200		5 ... 250		-...	
Cushioning	Flexible cushioning rings/plates at both ends		-	-	-		-P	
	-		Pneumatic cushioning adjustable at both ends				-PPV	
O Position sensing	For proximity sensing					1	-A	
Cylinder cap	Lateral air connection, end cap					2	-MQ	
	Axial air connection, end cap		-	-	-	2	-MA	
	-		Mounting flange at front (direct mounting), bearing cap			3	-MH	
Protection against torsion	Square piston rod						-Q	-Q
Type of piston rod	Through piston rod						-S2	

- 1 A Minimum stroke: 10 mm
- 2 MQ, MA Not with S2

- 3 MH Not with combination Q-R3

Transfer order code

# Standard cylinders DSNU-Q, non-rotating

Ordering data – Modular products



→ 0 Options

<b>Male thread extended</b>	<b>Male thread shortened</b>	<b>Female thread</b>	<b>Special thread</b>	<b>Piston rod extended</b>	<b>Clamping unit</b>	<b>Corrosion protection</b>
...K2	...K6	K3	"..."K5	...K8	KP	R3
- 20K2	-	-	-	- 60K8	- KP	-

**Ordering table**

Size	12	16	20	25	Condi- tions	Code	Enter code
↓ Male thread extended 0 [mm]	Piston rod with extended male thread						
	1 ... 20		1 ... 25	1 ... 35	4	-...K2	
Male thread shortened [mm]	Piston rod with shortened male thread						
	1 ... 4		1 ... 8	1 ... 10	5	-...K6	
Female thread	Female piston rod thread						
	-	-	(M4)	(M6)	6	-K3	
Special thread	Special piston rod thread						
	-	-	-	M10		"..."K5	
Piston rod extended [mm]	Extended piston rod						
	1 ... 100					...K8	
Clamping unit	Attached				7	-KP	
Corrosion protection	- High corrosion protection					-R3	

- 4 K2 Not with K3, K6
- 5 K6 Not with K3
- 6 K3 Not with K5

- 7 KP Only with S2  
Not with R3

Transfer order code

- [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

# Standard cylinders ESNU, ISO 6432

Technical data



## Function



Ø - Diameter  
8 ... 25 mm

- | - Stroke length  
1 ... 50 mm

## Variante

CT-free

## Additional variants

➔ 1 / 1.1-33



Basic version



Axial air connection MA

General technical data						
Piston Ø	8	10	12	16	20	25
Pneumatic connection	M5	M5	M5	M5	G1/8	G1/8
Piston rod thread	M4	M4	M6	M6	M8	M10x1.25
Constructional design	Piston					
	Piston rod					
	Cylinder barrel					
Cushioning	Flexible cushioning rings/plates at both ends					
Position sensing	For proximity sensing					
Type of mounting	Via accessories					
Assembly position	Any					

⚠ Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Operating conditions						
Piston Ø	8	10	12	16	20	25
Operating medium	Filtered compressed air, lubricated or unlubricated					
Operating pressure [bar]	1.5 ... 10			1.2 ... 10		

Ambient conditions		
Standard cylinder		
Ambient temperature <sup>1)</sup> [°C]	-20 ... +80	
Corrosion resistance class CRC <sup>2)</sup>	2	

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

# Standard cylinders ESNU, ISO 6432

Technical data

Forces [N] and impact energy [J]						
Piston Ø	8	10	12	16	20	25
Theoretical force at 6 bar, advancing	24	41	61	107	169	270
Spring return force 10 mm stroke	4.9	4.9	6.3	13.2	18.3	22.9
Spring return force 25 mm stroke	4.1	4.1	5.4	11.9	16.5	21.2
Spring return force 50 mm stroke	2.8	4.8	3.9	9.8	13.6	18.5
Impact energy at the end positions <sup>1)</sup>	0.03	0.05	0.07	0.15	0.20	0.30

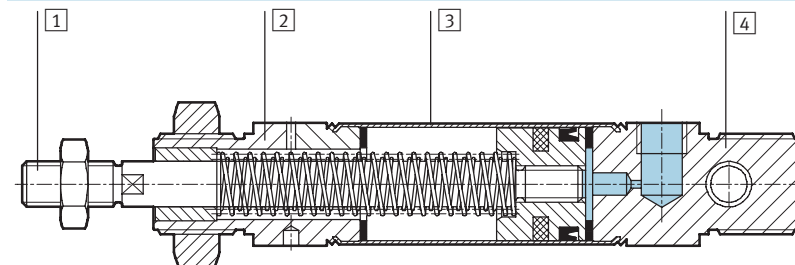
1) The values are reduced by approx. 50% at 80 °C

Weights ESNU-... [g]						
Piston Ø	8	10	12	16	20	25
Product weight with 0 mm stroke	35	37.3	75	89.9	186.8	238
Additional weight per 10 mm stroke	2.4	2.7	4	4.6	7.2	11

Weights ESNU-...-MA [g]						
Piston Ø	8	10	12	16	20	25
Product weight with 0 mm stroke	30	33	65	81	167	222
Additional weight per 10 mm stroke	2.4	2.7	4	4.6	7.2	11

## Materials

Sectional view



Standard cylinder	
1	Piston rod High-alloy stainless steel
2	Bearing cap Wrought aluminium alloy
3	Cylinder barrel High-alloy stainless steel
4	End cap Wrought aluminium alloy
-	Seals Polyurethane, nitrile rubber
-	Spring Spring steel

# Standard cylinders ESNU, ISO 6432

Technical data

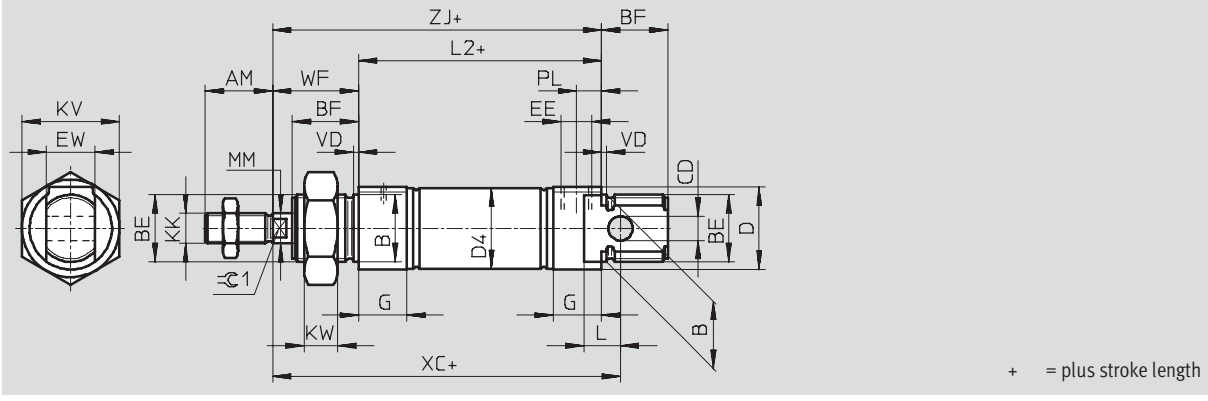


ISO standard cylinders  
ISO 6432

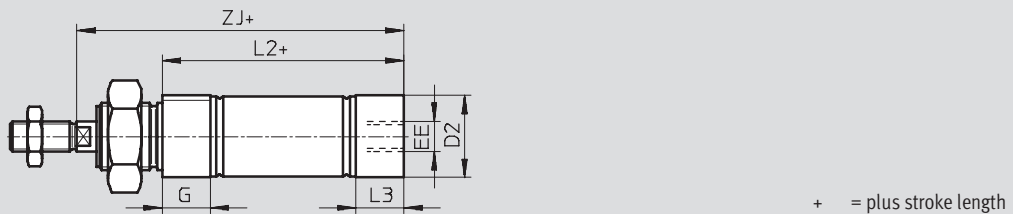
1.1

## Dimensions Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Basic version



### MA – Axial air connection



∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ E10	D ∅	D2 ∅	D4 ∅	EE	EW	G	KK	KV
8	12	12	M12x1.25	12	4	15	10.5	9.3	M5	8	10	M4	19
10							12.5	11.3					
12	16	16	M16x1.5	17	6	20	14.5	13.3		12	M6	24	
16							17.5	17.3					
20	20	22	M22x1.5	20	8	27	21.7	21.3	G1/8	16	16	M8	32
25	22			22			22	26.7					

∅ [mm]	KW	L	L2		L3	MM ∅	PL	VD	WF	XC ±1	ZJ		∅C1
			-MA								-MA		
8	6	6	46	43.6	7.6	4	6	2	16	64	62	59.6	-
10				43.1								7.1	
12	8	9	50	47.7	7.7	6			22	75	72	69.7	5
16			56	53.7			82	78		75.7			
20	11	12	68	66.5	14.5	8	8.2	24	95	92	90.5	7	
25			69.5	68.5	14			10	28	104	97.5	96.5	9

– Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.



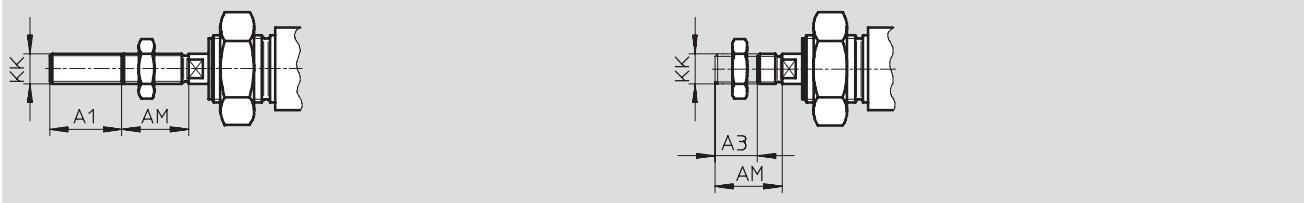
# Standard cylinders ESNU, ISO 6432

Technical data

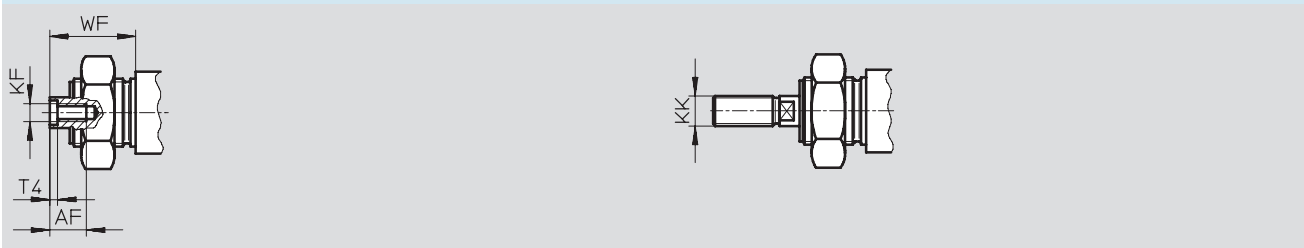


**Dimensions** Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

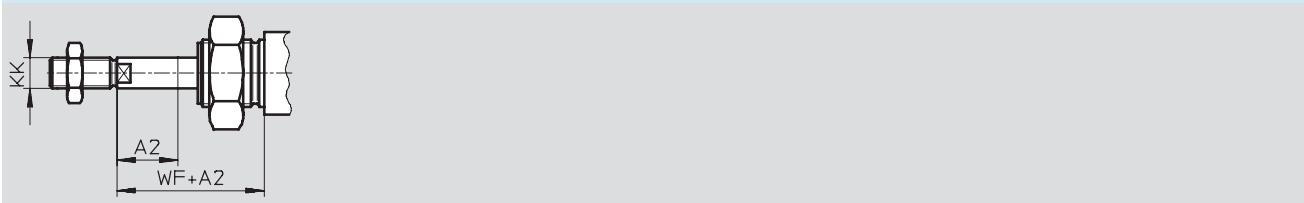
**K2 – Extended male piston rod thread** **K6 – Shortened male piston rod thread**



**K3 – Female piston rod thread** **K5 – Special piston rod thread**



**K8 – Extended piston rod**



∅ [mm]	A1 max.	A2 max.	A3 max.	AF	AM	KF	KK		T4	WF
							Basic thread	Special thread <sup>1)</sup>		
8	15	50	4	–	12	–	M4	–	–	16
10				–		–		–		
12				–		–		–		
16	20		8	12	–	20	–	M6	–	22
20					–		–		–	
25	35		–	–	–	22	M6	M10x1.25	M10	2.6

1) The special threads are only available as male threads. The scope of delivery does not include a hex nut for the piston rod thread

ISO standard cylinders  
ISO 6432  
**1.1**


# Standard cylinders ESNU, ISO 6432



Technical data

ISO standard cylinders  
ISO 6432



1.1

Ordering data			
Type	Stroke [mm]	Part No.	Type
Basic version			
	Ø 8 mm		
	10	19 254	ESNU-8-10-P-A
	25	19 255	ESNU-8-25-P-A
	50	19 256	ESNU-8-50-P-A
	Ø 10 mm		
	10	19 257	ESNU-10-10-P-A
	25	19 258	ESNU-10-25-P-A
	50	19 259	ESNU-10-50-P-A
	Ø 12 mm		
	10	19 260	ESNU-12-10-P-A
	25	19 261	ESNU-12-25-P-A
	50	19 262	ESNU-12-50-P-A
	Ø 16 mm		
	10	19 263	ESNU-16-10-P-A
	25	19 264	ESNU-16-25-P-A
	50	19 265	ESNU-16-50-P-A
	Ø 20 mm		
	10	19 266	ESNU-20-10-P-A
	25	19 267	ESNU-20-25-P-A
	50	19 268	ESNU-20-50-P-A
	Ø 25 mm		
	10	19 269	ESNU-25-10-P-A
	25	19 270	ESNU-25-25-P-A
	50	19 271	ESNU-25-50-P-A

# Standard cylinders ESNU, ISO 6432



Technical data

Ordering data				
Type	Piston Ø [mm]	Stroke [mm]	Part No.	Type
Variable stroke				
	8	1 ... 50	14 119	ESNU-8-...-P-A
	10	1 ... 50	14 118	ESNU-10-...-P-A
	12	1 ... 50	14 317	ESNU-12-...-P-A
	16	1 ... 50	14 316	ESNU-16-...-P-A
	20	1 ... 50	14 319	ESNU-20-...-P-A
	25	1 ... 50	14 318	ESNU-25-...-P-A
Free of copper, PTFE and silicone				
	8	1 ... 50	170 130	ESNU-8-...-P-A-CT
	10	1 ... 50	170 131	ESNU-10-...-P-A-CT
	12	1 ... 50	170 132	ESNU-12-...-P-A-CT
	16	1 ... 50	170 133	ESNU-16-...-P-A-CT
	20	1 ... 50	170 134	ESNU-20-...-P-A-CT
	25	1 ... 50	170 135	ESNU-25-...-P-A-CT

ISO standard cylinders  
ISO 6432

1.1

# Standard cylinders ESNU, ISO 6432



Ordering data – Modular products

ISO standard cylinders  
ISO 6432

1.1

Mandatory data					Options →	
Module No.	Function	Piston Ø	Stroke	Cushioning	Position sensing	End cap
193 996	ESNU	8	1 ... 50	P	A	MA
193 997		10				
193 998		12				
193 999		16				
194 000		20				
194 001		25				
<b>Ordering example</b>						
194 002	ESNU	- 25	- 45	- P	- A	- MA

Ordering table									
Size	8	10	12	16	20	25	Condi- tions	Code	Enter code
M Module No.	193 996	193 997	193 998	193 999	194 000	194 001			
Function	Standard cylinder, single-acting pushing, based on ISO 6432							ESNU	ESNU
Piston Ø [mm]	8	10	12	16	20	25		-...	
Stroke [mm]	1 ... 50							-...	
Cushioning	Flexible cushioning rings/plates at both ends							-P	-P
O Position sensing	For proximity sensing						1	-A	
↓ End cap	Axial air connection							-MA	

1 A Minimum stroke: 10 mm

Transfer order code

	ESNU	-		-		-	P	-		-	
--	------	---	--	---	--	---	---	---	--	---	--

# Standard cylinders ESNU, ISO 6432

Ordering data – Modular products



ISO standard cylinders  
ISO 6432

1.1

0 Options				
Male thread extended	Male thread shortened	Female thread	Special thread	Piston rod extended
...K2	...K6	K3	"..."K5	...K8
- 30K2	-	-	- "M10"K5	- 30K8

Ordering table										
Size	8	10	12	16	20	25	Condi- tions	Code	Enter code	
↓ 0 Male thread extended [mm]	Piston rod with extended male thread									
	1 ... 15	1 ... 20	1 ... 25	1 ... 35			2	-...K2		
Male thread shortened [mm]	Piston rod with shortened male thread									
	1 ... 4	1 ... 8						-...K6		
Female thread	Female piston rod thread									
	-	-	-	-	(M4)	(M6)	3	-K3		
Special thread	Special piston rod thread									
	-	-	-	-	-	M10		-"...K5		
Piston rod extended [mm]	Piston rod extended									
	1 ... 50							...K8		

- 2 K2 Not with female thread K3, shortened male thread K6
- 3 K3 Not with special thread K5, shortened male thread K6

Transfer order code

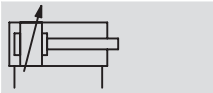
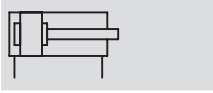
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# Standard cylinders DSN, ISO 6432

Technical data

FESTO

Function



⌀ - Diameter  
8 ... 25 mm

— - Stroke length  
1 ... 500 mm

Variant



S2



General technical data						
Piston ⌀	8	10	12	16	20	25
Pneumatic connection	M5	M5	M5	M5	G $\frac{1}{8}$	G $\frac{1}{8}$
Piston rod thread	M4	M4	M6	M6	M8	M10x1.25
Constructional design	Piston					
	Piston rod					
	Cylinder barrel					
Cushioning	Flexible cushioning rings/plates at both ends					
	-			Pneumatic cushioning adjustable at both ends		
Cushioning length (PPV) [mm]	-			14	17	
Type of mounting	Via accessories					
Assembly position	Any					

⌀ - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Operating conditions						
Piston ⌀	8	10	12	16	20	25
Operating medium	Filtered compressed air, lubricated or unlubricated					
Operating pressure [bar]	1.5 ... 10			1 ... 10		

Ambient conditions	
Standard cylinder	
Ambient temperature [°C]	-20 ... +80
Corrosion resistance class CRC <sup>1)</sup>	2

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

# Standard cylinders DSN, ISO 6432

Technical data

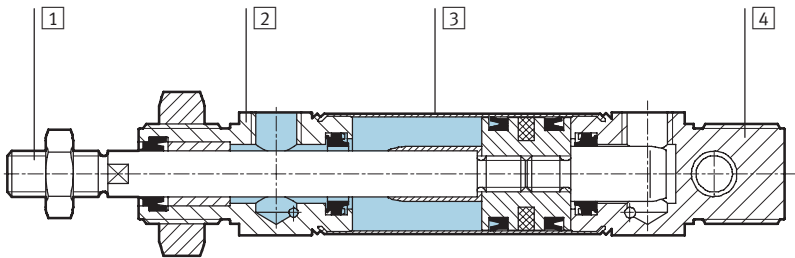
Forces [N]						
Piston Ø	8	10	12	16	20	25
Theoretical force at 6 bar, advancing <sup>1)</sup>	30	47	68	121	189	295
Theoretical force at 6 bar, retracting <sup>1)</sup>	23	40	51	104	158	247

1) The force in the advance stroke is the same as the force in the return stroke with the variant S2

Weights [g]						
Piston Ø	8	10	12	16	20	25
Product weight with 0 mm stroke	40	43	80	96	200	260
Additional weight per 10 mm stroke	2.3	2.5	4.1	4.7	7.1	10.9

## Materials

Sectional view



Standard cylinder		
1	Piston rod	High-alloy stainless steel
2	Bearing cap	Wrought aluminium alloy
3	Cylinder barrel	High-alloy stainless steel
4	End cap	Wrought aluminium alloy
-	Seals	Polyurethane, nitrile rubber

ISO standard cylinders  
ISO 6432

1.1

# Standard cylinders DSN, ISO 6432

Technical data



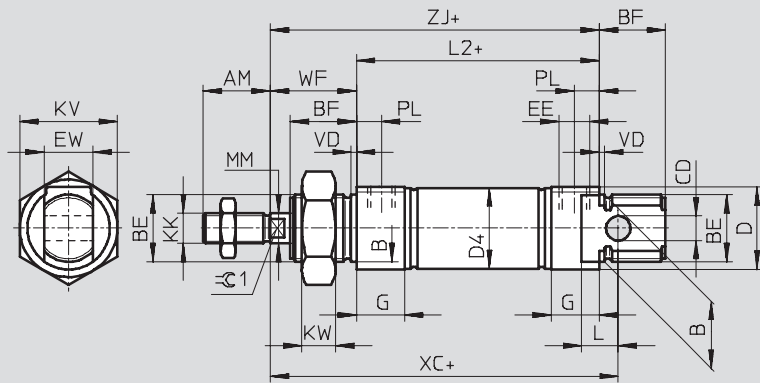
ISO standard cylinders  
ISO 6432

1.1

## Dimensions

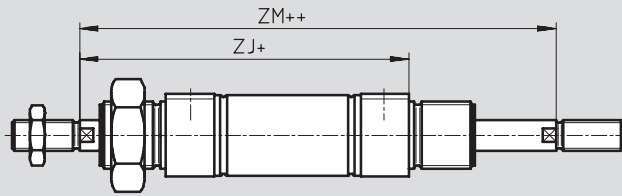
Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

### Basic version



+ = plus stroke length

### S2 – Through piston rod



+ = plus stroke length  
++ = plus 2 stroke lengths

∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ E10	D ∅	D4 ∅	EE	EW	G	KK
8	12	12	M12x1.25	12	4	15	9.3	M5	8	10	M4
10							11.3				
12	16	16	M16x1.5	17	6	20	13.3		12	M6	
16							17.3				
20	20	22	M22x1.5	20	8	27	21.3	G1/8	16	16	M8
25				22			22				26.5

∅ [mm]	KV	KW	L	L2	MM ∅	PL	VD	WF	XC ±1	ZJ	ZM	⊖C1
8	19	6	6	46	4	6	2	16	64	62	78.4	-
10				50								
12	24	8	9	56	6	8.2	22	75	72	94	5	
16				68				8	82	78		100
20	32	11	12	69.5	10	8.2	28	95	92	116	7	
25				104	97.5			125.5	9			


– | – Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.



# Standard cylinders DSN, ISO 6432



Technical data

Ordering data				
Type	Piston Ø [mm]	Stroke [mm]	Flexible cushioning rings/plates at both ends	
			Part No.	Type
Basic version				
	8	10	5 033	DSN-8-10-P
		25	5 034	DSN-8-25-P
		40	5 035	DSN-8-40-P
		50	5 036	DSN-8-50-P
		80	5 037	DSN-8-80-P
		100	5 038	DSN-8-100-P
	10	10	5 040	DSN-10-10-P
		25	5 041	DSN-10-25-P
		40	5 042	DSN-10-40-P
		50	5 043	DSN-10-50-P
		80	5 044	DSN-10-80-P
		100	5 045	DSN-10-100-P
	12	10	5 047	DSN-12-10-P
		25	5 048	DSN-12-25-P
		40	5 049	DSN-12-40-P
		50	5 050	DSN-12-50-P
		80	5 051	DSN-12-80-P
		100	5 052	DSN-12-100-P
		125	8 519	DSN-12-125-P
		160	5 053	DSN-12-160-P
	200	5 054	DSN-12-200-P	

ISO standard cylinders  
ISO 6432


1.1

# Standard cylinders DSN, ISO 6432



Technical data

ISO standard cylinders  
ISO 6432  
1.1

Ordering data						
Type	Piston Ø [mm]	Stroke [mm]	Flexible cushioning rings/plates at both ends		Pneumatic cushioning adjustable at both ends	
			Part No.	Type	Part No.	Type
<b>Basic version</b>						
	16	10	5 056	DSN-16-10-P	-	
		25	5 057	DSN-16-25-P	-	
		40	5 058	DSN-16-40-P	14 534	DSN-16-40-PPV
		50	5 059	DSN-16-50-P	14 535	DSN-16-50-PPV
		80	5 060	DSN-16-80-P	14 536	DSN-16-80-PPV
		100	5 061	DSN-16-100-P	14 537	DSN-16-100-PPV
		125	8 520	DSN-16-125-P	14 538	DSN-16-125-PPV
		160	5 062	DSN-16-160-P	14 539	DSN-16-160-PPV
		200	5 063	DSN-16-200-P	14 540	DSN-16-200-PPV
	20	10	5 065	DSN-20-10-P	-	
		25	5 066	DSN-20-25-P	-	
		40	5 067	DSN-20-40-P	8 743	DSN-20-40-PPV
		50	5 068	DSN-20-50-P	8 744	DSN-20-50-PPV
		80	5 069	DSN-20-80-P	8 745	DSN-20-80-PPV
		100	5 070	DSN-20-100-P	8 746	DSN-20-100-PPV
		125	8 521	DSN-20-125-P	8 747	DSN-20-125-PPV
		160	5 071	DSN-20-160-P	8 748	DSN-20-160-PPV
		200	5 072	DSN-20-200-P	8 749	DSN-20-200-PPV
		250	8 522	DSN-20-250-P	8 750	DSN-20-250-PPV
		300	5 073	DSN-20-300-P	8 751	DSN-20-300-PPV
		320	34 710	DSN-20-320-P	34 712	DSN-20-320-PPV
		25	10	5 075	DSN-25-10-P	-
	25		5 076	DSN-25-25-P	-	
	40		5 077	DSN-25-40-P	9 666	DSN-25-40-PPV
	50		5 078	DSN-25-50-P	9 667	DSN-25-50-PPV
	80		5 079	DSN-25-80-P	9 668	DSN-25-80-PPV
	100		5 080	DSN-25-100-P	9 669	DSN-25-100-PPV
	125		8 523	DSN-25-125-P	8 531	DSN-25-125-PPV
160	5 081		DSN-25-160-P	9 670	DSN-25-160-PPV	
200	5 082		DSN-25-200-P	9 671	DSN-25-200-PPV	
250	8 524		DSN-25-250-P	8 532	DSN-25-250-PPV	
300	5 083		DSN-25-300-P	9 672	DSN-25-300-PPV	
320	34 711		DSN-25-320-P	34 713	DSN-25-320-PPV	
400	32 298		DSN-25-400-P	32 300	DSN-25-400-PPV	
500	32 299		DSN-25-500-P	32 301	DSN-25-500-PPV	

# Standard cylinders DSN, ISO 6432

Technical data

Ordering data						
Type	Piston Ø [mm]	Stroke [mm]	Flexible cushioning rings/plates at both ends		Pneumatic cushioning adjustable at both ends	
			Part No.	Type	Part No.	Type
Variable stroke						
	8	1 ... 100	5 032	DSN-8-...-P	-	
	10	1 ... 100	5 039	DSN-10-...-P		
	12	1 ... 200	5 046	DSN-12-...-P		
	16	1 ... 200	5 055	DSN-16-...-P		
	20	1 ... 320	5 064	DSN-20-...-P		
	25	1 ... 500	5 074	DSN-25-...-P		
Variable stroke						
	16	1 ... 200	-		14 533	DSN-16-...-PPV
	20	1 ... 320			8 742	DSN-20-...-PPV
	25	1 ... 500			9 665	DSN-25-...-PPV
Variable stroke, through piston rod						
	20	10 ... 320	-		11 893	DSN-20-...-PPV-S2
	25	10 ... 500			11 894	DSN-25-...-PPV-S2

# Standard cylinders ESN, ISO 6432

Technical data



Function



⊘ - Diameter  
8 ... 25 mm

— - Stroke length  
1 ... 500 mm



General technical data						
Piston ∅	8	10	12	16	20	25
Pneumatic connection	M5	M5	M5	M5	G $\frac{1}{8}$	G $\frac{1}{8}$
Piston rod thread	M4	M4	M6	M6	M8	M10x1.25
Constructional design	Piston					
	Piston rod					
	Cylinder barrel					
Cushioning	Flexible cushioning rings/plates at both ends					
Type of mounting	Via accessories					
Assembly position	Any					

⊘ - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Operating conditions						
Piston ∅	8	10	12	16	20	25
Operating medium	Filtered compressed air, lubricated or unlubricated					
Operating pressure [bar]	1.5 ... 10			1.2 ... 10		

Ambient conditions	
Standard cylinder	
Ambient temperature [°C]	-20 ... +80
Corrosion resistance class CRC <sup>1)</sup>	2

1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

# Standard cylinders ESN, ISO 6432

Technical data

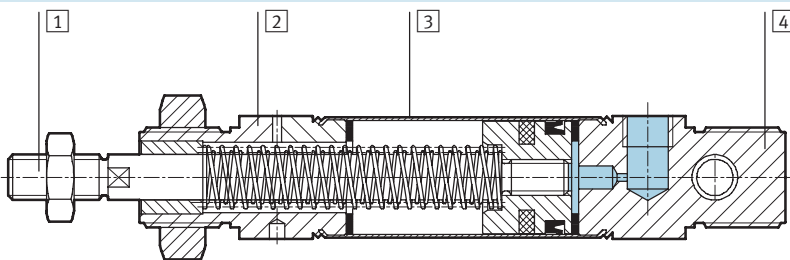
FESTO

Forces [N] and impact energy [J]						
Piston $\varnothing$	8	10	12	16	20	25
Theoretical force at 6 bar, advancing	24	41	61	107	169	270
Spring return force 10 mm stroke	4.9	4.9	6.3	13.2	18.3	22.9
Spring return force 25 mm stroke	4.1	4.1	5.4	11.9	16.5	21.2
Spring return force 50 mm stroke	2.8	4.8	3.9	9.8	13.6	18.5
Impact energy at the end positions	0.03	0.05	0.07	0.15	0.20	0.30

Weights [g]						
Piston $\varnothing$	8	10	12	16	20	25
Product weight with 0 mm stroke	40	43	80	96	200	260
Additional weight per 10 mm stroke	2.3	2.5	4.1	4.7	7.1	10.9

## Materials

Sectional view



Standard cylinder	
1	Piston rod High-alloy stainless steel
2	Bearing cap Wrought aluminium alloy
3	Cylinder barrel High-alloy stainless steel
4	End cap Wrought aluminium alloy
-	Seals Polyurethane, nitrile rubber
-	Spring Spring steel

ISO standard cylinders  
ISO 6432

1.1

# Standard cylinders ESN, ISO 6432

Technical data

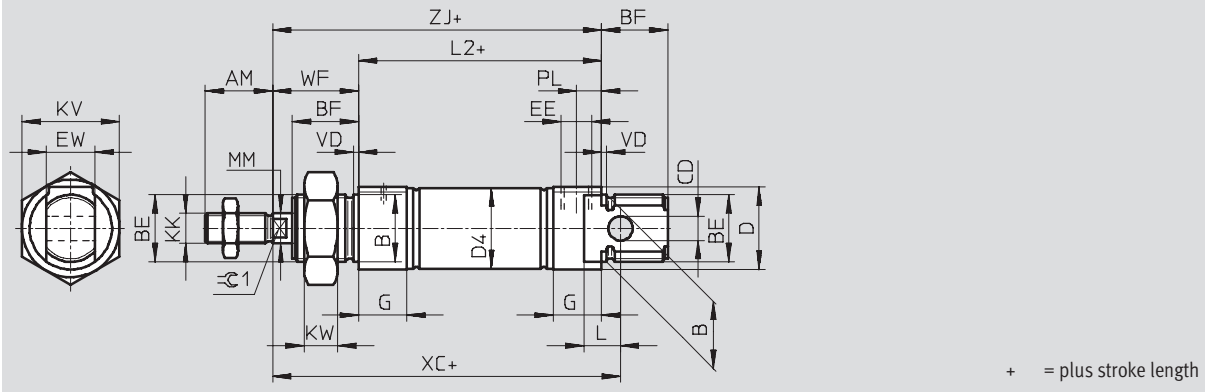


ISO standard cylinders  
ISO 6432

1.1

**Dimensions** Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Basic version



∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ E10	D ∅	D4 ∅	EE	EW	G	KK
8	12	12	M12x1.25	12	4	15	9.3	M5	8	10	M4
10							11.3				
12	16	16	M16x1.5	17	6	20	13.3		12	16	M6
16							17.3				
20	20	22	M22x1.5	20	8	27	21.3	G1/8	16	16	M8
25				22			22				26.5


∅ [mm]	KV	KW	L	L2	MM ∅	PL	VD	WF	XC ±1	ZJ	∅C1
8	19	6	6	46	4	6	2	16	64	62	-
10				50							
12	24	8	9	56	6			22	75	72	5
16				68		8.2			82	78	
20	32	11	12	68	8	8.2		24	95	92	7
25				69.5			10		28	104	97.5


- Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Standard cylinders ESN, ISO 6432

FESTO

Technical data

Ordering data			
Type	Stroke [mm]	Part No.	Type
Basic version			
	Ø 8 mm		
	10	5 086	ESN-8-10-P
	25	5 087	ESN-8-25-P
	50	5 088	ESN-8-50-P
	Ø 10 mm		
	10	5 089	ESN-10-10-P
	25	5 090	ESN-10-25-P
	50	5 091	ESN-10-50-P
	Ø 12 mm		
	10	5 092	ESN-12-10-P
	25	5 093	ESN-12-25-P
	50	5 094	ESN-12-50-P
	Ø 16 mm		
	10	5 095	ESN-16-10-P
	25	5 096	ESN-16-25-P
	50	5 097	ESN-16-50-P
	Ø 20 mm		
	10	5 098	ESN-20-10-P
	25	5 099	ESN-20-25-P
	50	5 100	ESN-20-50-P
	Ø 25 mm		
	10	5 101	ESN-25-10-P
	25	5 102	ESN-25-25-P
	50	5 103	ESN-25-50-P

Ordering data			
Type	Piston Ø [mm]	Stroke [mm]	Part No. Type
Variable stroke			
	8	1 ... 50	11 651 ESN-8-...-P
	10	1 ... 50	11 652 ESN-10-...-P
	12	1 ... 50	11 653 ESN-12-...-P
	16	1 ... 50	11 654 ESN-16-...-P
	20	1 ... 50	11 655 ESN-20-...-P
	25	1 ... 50	11 656 ESN-25-...-P

ISO standard cylinders  
ISO 6432

1.1

# Standard cylinders DSNU/DSN/ESNU/ESN, ISO 6432



Accessories

## Foot mounting HBN/CRHBN

Scope of delivery:

HBN/CRHBN-...x1: 1 foot

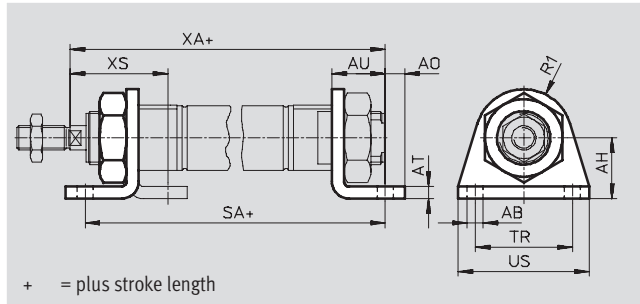
HBN/CRHBN-...x2: 2 feet and 1 nut

Material:

HBN: Galvanised steel

CRHBN: High-alloy stainless steel

Free of copper, PTFE and silicone



Dimensions and ordering data														
For Ø [mm]	AB Ø	AH	AO	AT	AU	R1	SA		TR	US	XA		XS	
								-KP				-KP		
8, 10	4.5	16	5	3	11	10	68	97	25	35	73	102	24	-
12	5.5	20	6	4	14	13	78	116	32	42	86	124	32	-
16	5.5	20	6	4	14	13	84	122	32	42	92	130	32	-
20	6.6	25	8	5	17	20	102	149	40	54	109	156	36	-
25	6.6	25	8	5	17	20	103.5	151.5	40	54	114.5	162.5	40	-

For Ø [mm]	Basic version				High corrosion protection			
	CRC <sup>1)</sup>	Weight [g]	Part No.	Type	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
8, 10	2	20	5 123	HBN-8/10x1	-	-	-	-
	2	55	5 124	HBN-8/10x2	-	-	-	-
12, 16	2	40	5 125	HBN-12/16x1	4	40	161 866	CRHBN-12/16x1
	2	105	5 126	HBN-12/16x2	4	97	162 999	CRHBN-12/16x2
20, 25	2	90	5 127	HBN-20/25x1	4	55	161 867	CRHBN-20/25x1
	2	220	5 128	HBN-20/25x2	4	100	162 998	CRHBN-20/25x2

- 1) Corrosion resistance class 2 according to Festo standard 940 070  
 Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents  
 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 6432

1.1



# Standard cylinders DSNU/DSN/ESNU/ESN, ISO 6432



Accessories

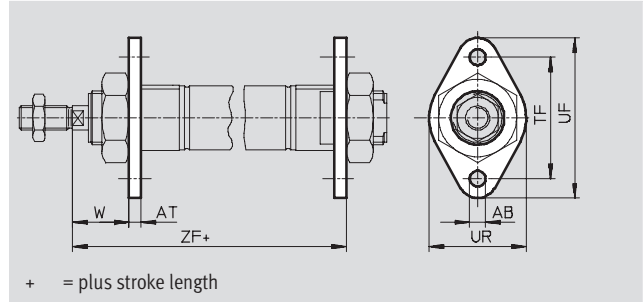
## Flange mounting FBN/CRFBN

Material:

FBN: Galvanised steel

CRFBN: High-alloy stainless steel

Free of copper, PTFE and silicone



Dimensions and ordering data								
For Ø	AB	AT	TF	UF	UR	W	ZF	
[mm]	Ø							-KP
8, 10	4.5	3	30	40	25	13	65	94
12	5.5	4	40	53	30	18	76	114
16	5.5	4	40	53	30	18	82	120
20	6.6	5	50	66	40	19	97	144
25	6.6	5	50	66	40	23	102.5	150.5

For Ø [mm]	Basic version				High corrosion protection			
	CRC <sup>1)</sup>	Weight [g]	Part No.	Type	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
8, 10	2	12	5 129	FBN-8/10	–	–	–	–
12, 16	2	25	5 130	FBN-12/16	4	25	161 864	CRFBN-12/16
20, 25	2	45	5 131	FBN-20/25	4	45	161 865	CRFBN-20/25

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

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

## Swivel mounting SBN

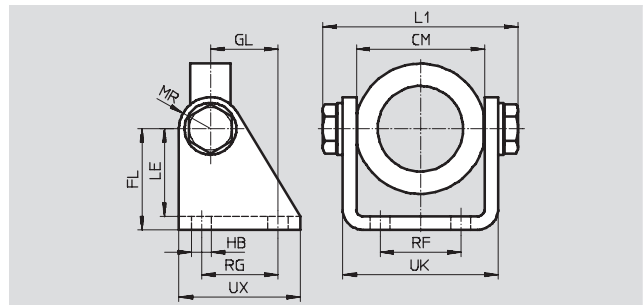
Material:

Mounting ring: Wrought aluminium alloy, anodised

Bearings: Bronze

Screws: Galvanised steel

Bracket: Steel



Dimensions and ordering data															
For Ø	CM	FL	GL	HB	L1	LE	MR	RF	RG	UK	UX	CRC <sup>1)</sup>	Weight	Part No.	Type
[mm]					max.								[g]		
20/25	38.1+0.4	35	20	7	60.2	31	12	20	24	46.1	40	2	200	539 927	SBN-20/25

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

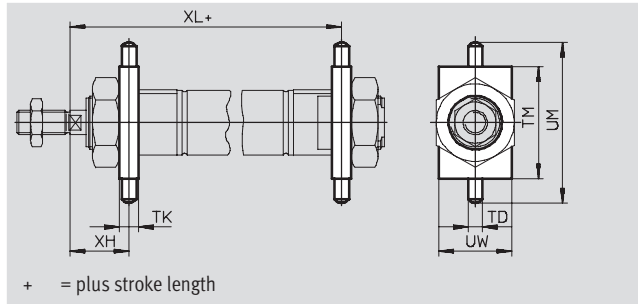
# Standard cylinders DSNU/DSN/ESNU/ESN, ISO 6432



Accessories

## Swivel mounting WBN

Material:  
Galvanised steel  
Free of copper, PTFE and silicone

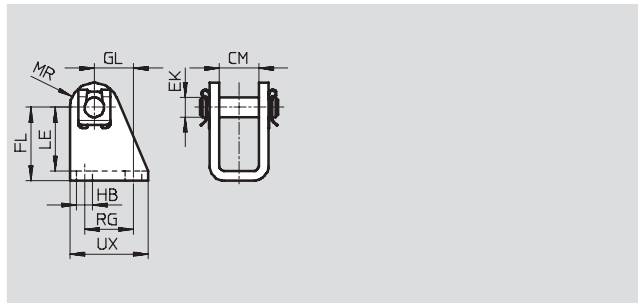
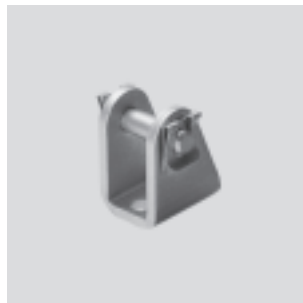


Dimensions and ordering data												
For Ø [mm]	TD Ø f8	TK	TM	UM	UW	XH	XL		CRC <sup>1)</sup>	Weight [g]	Part No.	Type
								-KP				
8, 10	4	6	26	38	20	13	65	94	2	20	<b>8 608</b>	<b>WBN-8/10</b>
12	6	8	38	58	25	18	76	114	2	50	<b>8 609</b>	<b>WBN-12/16</b>
16	6	8	38	58	25	18	82	120	2	50	<b>8 609</b>	<b>WBN-12/16</b>
20	6	8	46	66	30	20	96	143	2	70	<b>8 610</b>	<b>WBN-20/25</b>
25	6	8	46	66	30	24	101.5	149.5	2	70	<b>8 610</b>	<b>WBN-20/25</b>

1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

## Clevis foot LBN/CRLBN

Material:  
LBN: Galvanised steel  
CRLBN: High-alloy stainless steel  
Free of copper, PTFE and silicone



Dimensions and ordering data										
For Ø [mm]	CM	EK Ø	FL	GL	HB	LE	MR	RG	UX	
8, 10	8.1	4	24 +0.3/-0.2	13.8	4.5	21.5	5	12.5	20	
12, 16	12.1	6	27 +0.3/-0.2	13	5.5	24	7	15	25	
20, 25	16.1	8	30 +0.4/-0.2	16	6.6	26	10	20	32	

For Ø [mm]	Basic version				High corrosion protection			
	CRC <sup>1)</sup>	Weight [g]	Part No.	Type	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
8, 10	2	22	<b>6 057</b>	<b>LBN-8/10</b>	-	-	-	-
12, 16	2	40	<b>6 058</b>	<b>LBN-12/16</b>	4	55	<b>161 862</b>	<b>CRLBN-12/16</b>
20, 25	2	81	<b>6 059</b>	<b>LBN-20/25</b>	4	62	<b>161 863</b>	<b>CRLBN-20/25</b>

1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents  
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



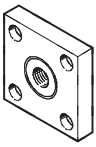
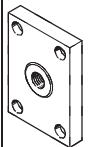

# Standard cylinders DSNU/DSN/ESNU/ESN, ISO 6432



Accessories

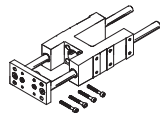
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ISO standard cylinders  
ISO 6432

1.1

Ordering data – Piston rod attachments				Technical data → 1 / 10.3-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
<b>Rod eye SGS</b>				<b>Rod clevis SG</b>			
	8	9 253	SGS-M4		8	6 532	SG-M4
	10				10		
	12	9 254	SGS-M6		12	3 110	SG-M6
	16				16		
	20	9 255	SGS-M8		20	3 111	SG-M8
	25	9 261	SGS-M10x1,25		25	6 144	SG-M10x1,25
<b>Coupling piece KSG</b>				<b>Coupling piece KSZ</b>			
	8	–			12	36 123	KSZ-M6
	10				16		
	12				20	36 124	KSZ-M8
	16				25	36 125	KSZ-M10x1,25
	20						
	25	32 963	KSG-M10x1,25				
<b>Self-aligning rod coupler FK</b>							
	8	6 528	FK-M4				
	10						
	12	2 061	FK-M6				
	16						
	20	2 062	FK-M8				
	25	6 140	FK-M10x1,25				

Ordering data – Corrosion resistant piston rod attachments				Technical data → 1 / 10.3-2			
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
<b>Rod eye CRSGS</b>				<b>Rod clevis CRSG</b>			
	12	195 580	CRSGS-M6		12	13 567	CRSG-M6
	16				16		
	20	195 581	CRSGS-M8		20	13 568	CRSG-M8
	25	195 582	CRSGS-M10x1,25		25	13 569	CRSG-M10x1,25

Ordering data – Guide units				Technical data → 1 / 10.4-2			
	For Ø	Stroke [mm]	with recirculating ball bearing guide		with plain bearing guide		
			Part No.	Type	Part No.	Type	
	8, 10	1 ... 200	35 197	FEN-8/10-...-KF	35 196	FEN-8/10-...	
	12, 16	1 ... 200	33 481	FEN-12/16-...-KF	19 168	FEN-12/16-...	
	20	2 ... 250	33 482	FEN-20-...-KF	19 169	FEN-20-...	
	25	2 ... 250	33 483	FEN-25-...-KF	19 170	FEN-25-...	

# Standard cylinders DSNU/DSN/ESNU/ESN, ISO 6432



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ISO standard cylinders  
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Ordering data – Proximity sensors, u-shaped design, magneto-resistive						Technical data → <a href="http://www.festo.com/catalogue/sm">www.festo.com/catalogue/sm</a>		
	Mounting	Switch output	Electrical connection		Cable length [m]	Connection direction	Part No.	Type
			Cable	M8 plug				
NO contact								
	Via accessories	PNP	3-wire	–	2.5	In-line	<b>152 836</b>	<b>SMT0-4U-PS-K-LED-24</b>
			–	3-pin	–	In-line	<b>152 742</b>	<b>SMT0-4U-PS-S-LED-24</b>
		NPN	3-wire	–	2.5	In-line	<b>152 837</b>	<b>SMT0-4U-NS-K-LED-24</b>
			–	3-pin	–	In-line	<b>152 743</b>	<b>SMT0-4U-NS-S-LED-24</b>

Ordering data – Proximity sensors, u-shaped design, magnetic reed						Technical data → <a href="http://www.festo.com/catalogue/sm">www.festo.com/catalogue/sm</a>		
	Mounting	Electrical connection		Cable length [m]	Connection direction	Part No.	Type	
		Cable	M8 plug					
NO contact								
	Via accessories	3-wire	–	2.5	In-line	<b>36 198</b>	<b>SME0-4U-K-LED-24</b>	
		–	–	5	In-line	<b>175 401</b>	<b>SME0-4U-K5-LED-24</b>	
		–	3-pin	–	In-line	<b>151 526</b>	<b>SME0-4U-S-LED-24-B</b>	

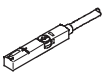

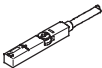
Ordering data – Proximity sensors, round design, magnetic reed, corrosion resistant						Technical data → <a href="http://www.festo.com/catalogue/crsmeo">www.festo.com/catalogue/crsmeo</a>		
	Mounting	Electrical connection		Cable length [m]	Connection direction	Part No.	Type	
		Cable	M8 plug					
NO contact								
	Via accessories	3-wire	–	2.5	In-line	<b>161 775</b>	<b>CRSMEO-4-K-LED-24</b>	

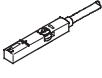
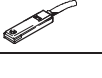

Ordering data – Mounting kit for proximity sensor SME0/SMT0/CRSMEO						Technical data → <a href="http://www.festo.com/catalogue/snbr">www.festo.com/catalogue/snbr</a>	
Designation	For Ø	Part No.	Type	Designation	For Ø	Part No.	Type
Mounting kit SMBR				Mounting kit CRSMBR, corrosion resistant			
	8	<b>19 272</b>	<b>SMBR-8</b>		8	–	–
	10	<b>19 273</b>	<b>SMBR-10</b>		10	–	–
	12	<b>19 274</b>	<b>SMBR-12</b>		12	<b>164 581</b>	<b>CRSMBR-12</b>
	16	<b>19 275</b>	<b>SMBR-16</b>		16	<b>164 582</b>	<b>CRSMBR-16</b>
	20	<b>19 276</b>	<b>SMBR-20</b>		20	<b>164 583</b>	<b>CRSMBR-20</b>
	25	<b>19 277</b>	<b>SMBR-25</b>		25	<b>164 584</b>	<b>CRSMBR-25</b>


# Standard cylinders DSNU/DSN/ESNU/ESN, ISO 6432

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Ordering data – Proximity switches for T-slot, magneto-resistive					Technical data → <a href="http://www.festo.com/catalogue/sm">www.festo.com/catalogue/sm</a>	
	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type
<b>N/O contact</b>						
	Insertable in the slot from above, flush with cylinder profile	PNP	Cable, 3-wire	2,5	543 867	SMT-8M-PS-24V-K-2,5-OE
			Plug M8x1, 3-pin	0,3	543 866	SMT-8M-PS-24V-K-0,3-M8D
			Plug M12x1, 3-pin	0,3	543 869	SMT-8M-PS-24V-K-0,3-M12
		NPN	Cable, 3-wire	2,5	543 870	SMT-8M-NS-24V-K-2,5-OE
Plug M8x1, 3-pin	0,3		543 871	SMT-8M-NS-24V-K-0,3-M8D		
	Insertable in the slot lengthwise, flush with the cylinder profile	PNP	Cable, 3-wire	2,5	175 436	SMT-8-PS-K-LED-24-B
			Plug M8x1, 3-pin	0,3	175 484	SMT-8-PS-S-LED-24-B
<b>N/C contact</b>						
	Insertable in the slot from above, flush with cylinder profile	PNP	Cable, 3-wire	7,5	543 873	SMT-8M-PO-24V-K7,5-OE

Ordering data – Proximity switches for T-slot, magnetic reed					Technical data → <a href="http://www.festo.com/catalogue/sm">www.festo.com/catalogue/sm</a>		
	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type	
<b>N/O contact</b>							
	Insertable in the slot from above, flush with cylinder profile	Contacting	Cable, 3-wire	2,5	543 862	SME-8M-DS-24V-K-2,5-OE	
				5,0	543 863	SME-8M-DS-24V-K-5,0-OE	
			Plug M8x1, 3-pin	Cable, 3-wire	2,5	543 872	SME-8M-ZS-24V-K-2,5-OE
				0,3	543 861	SME-8M-DS-24V-K-0,3-M8D	
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	2,5	150 855	SME-8-K-LED-24	
			Plug M8x1, 3-pin	0,3	150 857	SME-8-S-LED-24	
<b>N/C contact</b>							
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	7,5	160 251	SME-8-O-K-LED-24	

Ordering data – Mounting kit for proximity sensors SME/SMT-8			Technical data → <a href="http://www.festo.com/catalogue/smb">www.festo.com/catalogue/smb</a>	
Designation	For Ø		Part No.	Type
<b>Mounting kit SMBR-8</b>				
	8		175 091	SMBR-8-8
	10		175 092	SMBR-8-10
	12		175 093	SMBR-8-12
	16		175 094	SMBR-8-16
	20		175 095	SMBR-8-20
	25		175 096	SMBR-8-25

ISO standard cylinders  
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

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

# Standard cylinders DSNU/DSN/ESNU/ESN, ISO 6432

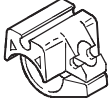
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Ordering data – Proximity switches for C-slot, magneto-resistive					Technical data → <a href="http://www.festo.com/catalogue/sm">www.festo.com/catalogue/sm</a>	
	Type of mounting	Switch output	Electrical connection, connection direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with cylinder profile	PNP	Cable, 3-wire, in-line	2,5	525 915	SMT-10F-PS-24V-K2,5L-OE
			Plug M8x1, 3-pin, in-line	0,3	525 916	SMT-10F-PS-24V-K0,3L-M8D
			Plug M8x1, 3-pin, lateral	0,3	526 675	SMT-10F-PS-24V-K0,3Q-M8D
	Insertable in the slot lengthwise	PNP	Plug M8x1, 3-pin, in-line	0,3	173 220	SMT-10-PS-SL-LED-24
			Cable, 3-wire, in-line	2,5	173 218	SMT-10-PS-KL-LED-24

Ordering data – Proximity switches for C-slot, magnetic reed					Technical data → <a href="http://www.festo.com/catalogue/sm">www.festo.com/catalogue/sm</a>	
	Type of mounting	Switch output	Electrical connection, connection direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with cylinder profile	Contacting	Plug M8x1, 3-pin, in-line	0,3	525 914	SME-10F-DS-24V-K0,3L-M8D
			Cable, 3-wire, in-line	2,5	525 913	SME-10F-DS-24V-K2,5L-OE
			Cable, 2-wire, in-line	2,5	526 672	SME-10F-ZS-24V-K2,5L-OE
	Insertable in the slot lengthwise	Contacting	Plug M8x1, 3-pin, in-line	0,3	173 212	SME-10-SL-LED-24
			Cable, 3-wire, in-line	2,5	173 210	SME-10-KL-LED-24



Ordering data – Mounting kit for proximity sensors SME/SMT-10			Technical data → <a href="http://www.festo.com/catalogue/smbr">www.festo.com/catalogue/smbr</a>	
Designation	For Ø		Part No.	Type
Mounting kit SMBR-10				
	8		175 101	SMBR-10-8
	10		173 227	SMBR-10-10
	12		175 102	SMBR-10-12
	16		173 228	SMBR-10-16
	20		175 103	SMBR-10-20
	25		175 104	SMBR-10-25


Ordering data – Connecting cable				Technical data → <a href="http://www.festo.com/catalogue/nebu">www.festo.com/catalogue/nebu</a>	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2,5	541 333	NEBU-M8G3-K-2.5-LE3
			5	541 334	NEBU-M8G3-K-5-LE3
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2,5	541 363	NEBU-M12G5-K-2.5-LE3
			5	541 364	NEBU-M12G5-K-5-LE3
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2,5	541 338	NEBU-M8W3-K-2.5-LE3
			5	541 341	NEBU-M8W3-K-5-LE3
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2,5	541 367	NEBU-M12W5-K-2.5-LE3
			5	541 370	NEBU-M12W5-K-5-LE3

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Ordering data – One-way flow control valves				Technical data → Volume 2	
	Connection		Material	Part No.	Type
	Thread	For tubing O.D.			
<b>For exhaust air</b>					
	M5	3	Metal design	193 137	GRLA-M5-QS-3-D
		4		193 138	GRLA-M5-QS-4-D
		6		193 139	GRLA-M5-QS-6-D
	G1/8	3		193 142	GRLA-1/8-QS-3-D
		4		193 143	GRLA-1/8-QS-4-D
		6		193 144	GRLA-1/8-QS-6-D
		8		193 145	GRLA-1/8-QS-8-D
		<b>For supply air</b>			
	M5	3	Metal design	193 153	GRLZ-M5-QS-3-D
		4		193 154	GRLZ-M5-QS-4-D
		6		193 155	GRLZ-M5-QS-6-D
	G1/8	3		193 156	GRLZ-1/8-QS-3-D
		4		193 157	GRLZ-1/8-QS-4-D
		6		193 158	GRLZ-1/8-QS-6-D
		8		193 159	GRLZ-1/8-QS-8-D

Ordering data – Corrosion resistant one-way flow control valves				Technical data → Volume 2	
	Connection		Material	Part No.	Type
	Thread	For push-in fitting			
<b>For exhaust air</b>					
	M5	CRQS/CRQSL/CRQST	Electrolytically polished	161 403	CRGRLA-M5-B
	G1/8		stainless steel casting	161 404	CRGRLA-1/8-B

ISO standard cylinders  
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