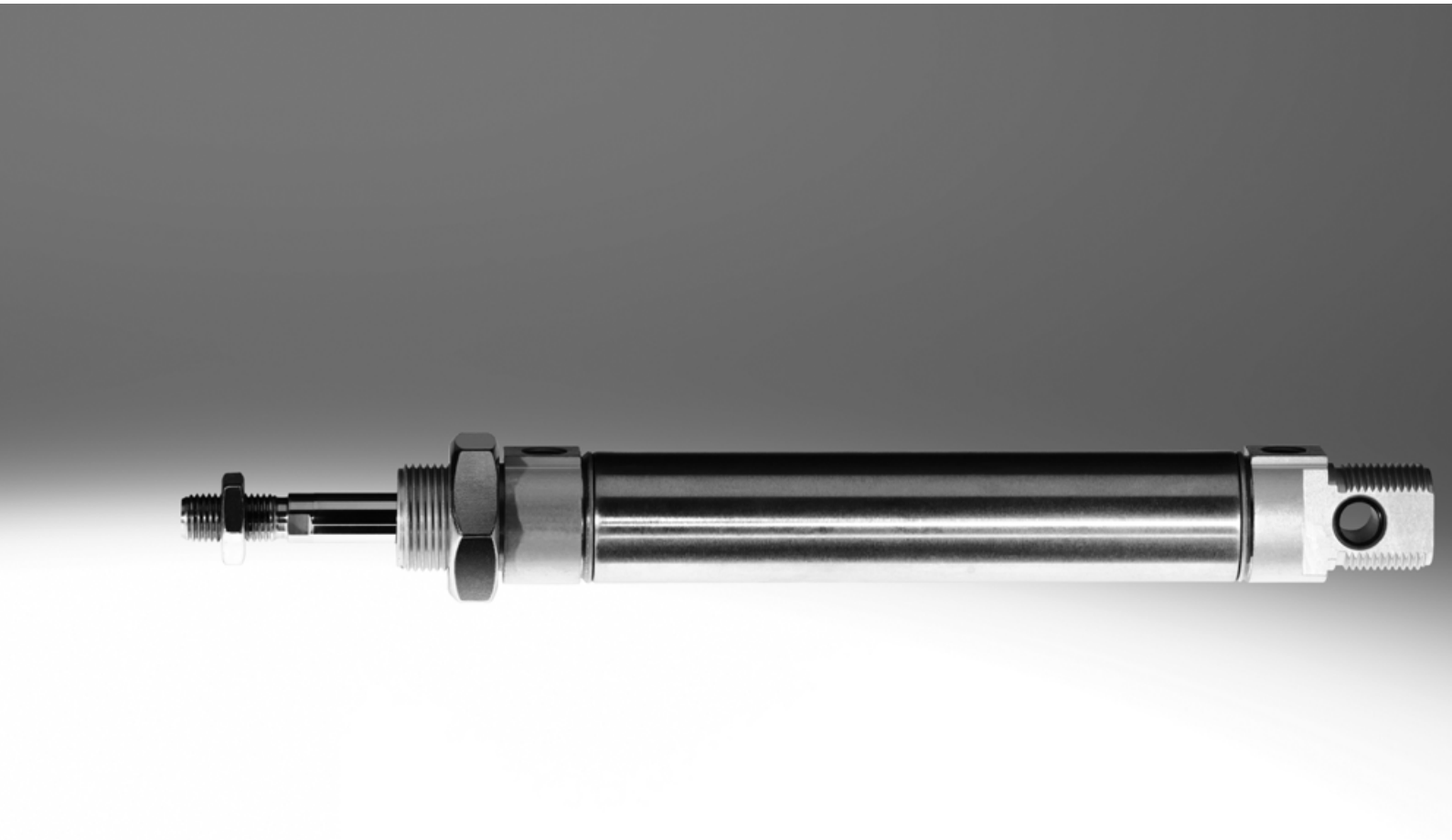
Standard cylinders DSNU/DSNUP/DSN/ESNU/ESN, ISO 6432

FESTO



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

Key features

At a glance

ISO 6432
DIN ISO 6432

DIN

- 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
- Stainless steel piston rod
- The cap is roller burnished onto the barrel

Wide choice of variants

DSNU-...

- Cylinder barrel made of stainless steel
- Bearing and end caps made of wrought aluminium alloy

DSNUP-...

- Cylinder barrel made of wrought aluminium alloy
- Bearing and end caps made of polyamide
- Cost optimised

DSNU/ESNU-...MA

- Threaded bearing cap
- Short end cap with axial supply port

DSNU-...MQ

- Threaded bearing cap
- Short end cap with lateral supply port

DSNU-...MH

- Direct mounting on bearing cap
- Short end cap with lateral supply port

DSNU-...KP

- With clamping unit

DSNU-...-Q

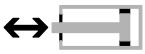
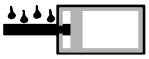
- With square piston rod

Cushioning types

	Cushioning P	Cushioning PPS	Cushioning PPV
Mode of operation	• The drive is fitted with flexible polymer end position cushioning	• The drive is fitted with self-adjusting end position cushioning	• The drive is fitted with adjustable end position cushioning
Application	• Small loads • Low speeds • Low impact energy	• Small to medium loads • Low to medium speeds • Medium impact energy	• Medium to large loads • High speeds • High impact energy
Advantages	• No adjustment required • Time-saving	• No adjustment required • Time-saving • Powerful	• Very powerful

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

Key features

Additional variants		
Symbol	Key features	Description
	S2 Through piston rod	For working at both ends with the same force in the advance and return stroke, for attaching external stops
	S6 Heat resistant seals	Temperature resistance up to max. 120 °C
	S10 Constant (slow speed) operation at low piston speeds	Suitable for slow stroke movements at a constant, stick-slip-free speed over the full stroke of the cylinder. Seal contains silicone grease (not free of paint-wetting impairment substances)
	S11 Low friction	The special seals considerably reduce system wear. This corresponds to a considerably lower response pressure. Seal contains silicone grease (not free of paint-wetting impairment substances)
	K2 Extended male piston rod thread	–
	K3 Female piston rod thread	–
	K5 Special thread on piston rod	Metric standard thread to ISO
	K6 Shortened male piston rod thread	–
	K8 Extended piston rod	–
	R3 High corrosion protection	All external cylinder surfaces comply with corrosion resistance class 3 to Festo standard 940 070. The piston rod is made from corrosion and acid resistant steel

Longer service life with bellows kit DADB

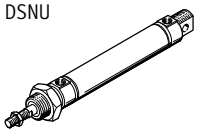
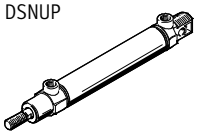
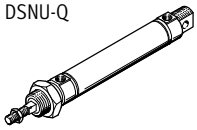
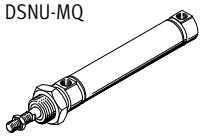
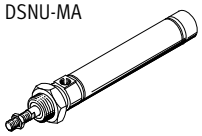
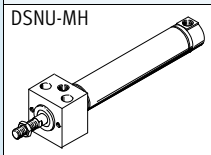
The bellows kit is a leak-free system. To prevent unwanted media from being drawn in, the supply and exhaust air of the kit must be ducted via a pressure compensation hole in the connection section 1.

The kit protects the piston rod, seal and bearing against a wide variety of media, for example:

- dust
- chippings
- oil
- grease
- fuel

Standard cylinders DSNU/DSNUP/DSN, ISO 6432

Product range overview

Function	Version	Piston ∅ [mm]	Stroke [mm]	Variable stroke[1] [mm]	Piston rod					
					Through S2	Extended K8	Male thread			Female thread K3
							Extended K2	Shortened K6	Special thread K5	
Double-acting	**Basic version with position sensing (cylinder barrel made of stainless steel)**									
	DSNU 	8, 10	10, 15, 20, 25, 30, 35, 40, 50, 60, 70, 80, 100, 125, 150, 160, 200, 250, 300, 320, 400, 500	1 … 100	■	■	■	■	■	■
		12, 16		1 … 200						
		20		1 … 320						
		25		1 … 500						
	DSNU – Round cylinder with piston ∅ 32 … 63									
	Basic version with or without position sensing (cylinder barrel made of aluminium)									
	DSNUP 	16	25, 50, 100	2)	–	–	–	–	–	–
		20								
		25								
	Protected against rotation									
	DSNU-Q 	12, 16	–	5 … 160	■	■	■	■	■	■
		20	–	5 … 200						
		25	–	5 … 250						
	DSNU-Q – Round cylinder with piston ∅ 32 … 63									
	Lateral air connection									
	DSNU-MQ 	8, 10	–	1 … 100	–	■	■	■	■	■
		12, 16	–	1 … 200						
		20	–	1 … 320						
		25	–	1 … 500						
	DSNU-MQ – Round cylinder with piston ∅ 32 … 63									
	Axial air connection									
	DSNU-MA 	8, 10	–	1 … 100	–	■	■	■	■	■
		12, 16	–	1 … 200						
		20	–	1 … 320						
		25	–	1 … 500						
	DSNU-MA – Round cylinder with piston ∅ 32 … 63									
	Direct mounting									
	DSNU-MH 	8, 10	–	1 … 100	–	■	■	■	■	■
		12, 16	–	1 … 200						
		20	–	1 … 320						
		25	–	1 … 500						
	DSNU-MH – Round cylinder with piston ∅ 32 … 63									

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

Standard cylinders DSNU/DSNUP/DSN, ISO 6432

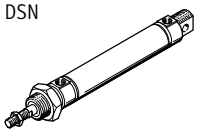
Product range overview

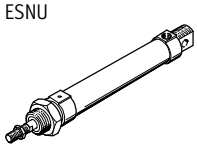
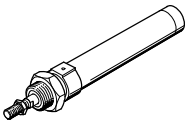
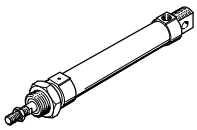
Version	Cushioning			Position sensing	Clamping unit	Heat-resistant seal	Slow speed (constant motion operation)	Low friction	Corrosion protection	➔ Page/ Internet
	Fixed P	Adjustable ∅ 16 and above PPV[3]	Self-adjusting ∅ 16 and above PPS	A	KP	S6	S10	S11	R3	
Basic version with position sensing (cylinder barrel made of stainless steel)										
DSNU	■	■	■	■	■	■	■	■	■	12
DSNU – Round cylinder with piston ∅ 32 … 63										dsnu
Basic version with or without position sensing (cylinder barrel made of aluminium)										
DSNUP	■	–	–	■	–	–	–	–	–	24
Protected against rotation										
DSNU-Q	■ ∅ 12	■ ∅ 16 … 25	–	■	■	–	–	–	■ ∅ 12 … 25	27
DSNU-Q – Round cylinder with piston ∅ 32 … 63										dsnu
Lateral air connection										
DSNU-MQ	■	■	■	■	■	■	–	–	■	12
DSNU-MQ – Round cylinder with piston ∅ 32 … 63										dsnu
Axial air connection										
DSNU-MA	■	–	–	■	■	■	–	–	■	12
DSNU-MA – Round cylinder with piston ∅ 32 … 63										dsnu
Direct mounting										
DSNU-MH	■	■	–	■	–	■	–	–	■	12
DSNU-MH – Round cylinder with piston ∅ 32 … 63										dsnu

3) In the modular product system from ∅ 12 mm

Standard cylinders ESNU/ESN, ISO 6432

Product range overview

Function	Version	Piston ∅ [mm]	Stroke [mm]	Variable stroke[1] [mm]	Piston rod					
					Through S2	Extended K8	Male thread			Female thread K3
							Extended K2	Shortened K6	Special thread K5	
Double-acting	**Basic version without position sensing**									
	DSN 	8, 10	10, 25, 40, 50, 80, 100, 125, 160, 200, 250, 300, 320, 400, 500	1 … 100	–	–	–	–	–	–
		12, 16		1 … 200						
		20		1 … 320						
		25		1 … 500						

Function	Version	Piston∅ [mm]	Stroke [mm]	Variable stroke[1] [mm]	Cushioning Fixed P	Position sensing A
Single-acting	**Basic version with position sensing**					
	ESNU 	8, 10, 12, 16, 20, 25	10, 25, 50	1 … 50	■	■
	ESNU – Round cylinder with piston ∅ 32 … 63					
	Axial air connection					
	ESNU-MA 	8, 10, 12, 16, 20, 25	–	1 … 50	■	■
	ESNU-MA – Round cylinder with piston ∅ 32 … 63					
	Basic version without position sensing					
	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

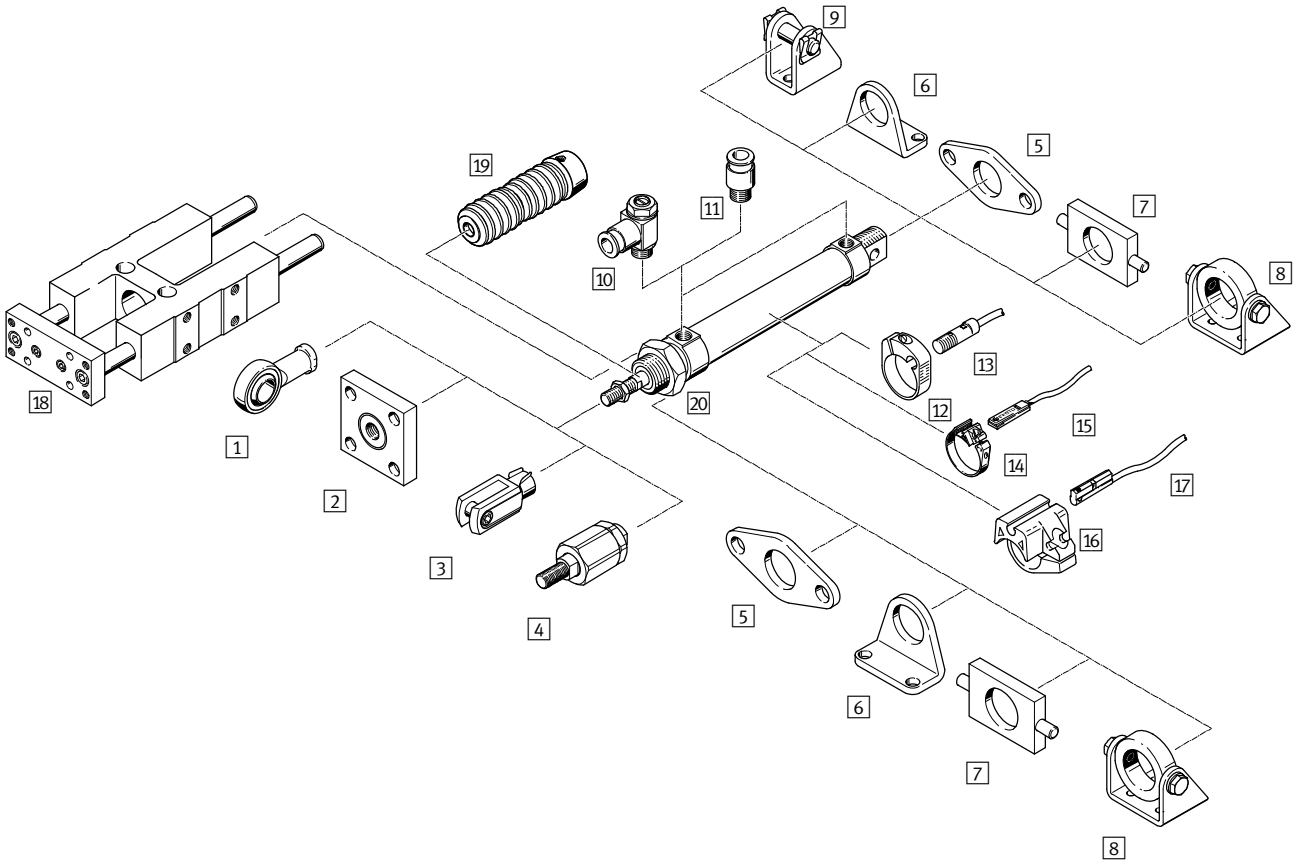
Version	Cushioning			Position sensing	Clamping unit	Heat-resistant seal	Slow speed (constant motion operation)	Low friction	Corrosion protection	➔ Page/ Internet
	Fixed P	Adjustable ∅ 16 and above PPV[2)]	Self-adjusting ∅ 16 and above PPS	A	KP	S6	S10	S11	R3	
Basic version without position sensing										
DSN	■	■	–	–	–	–	–	–	–	48

Version	Piston rod					➔ Page/Internet
	Extended	Male thread			Female thread	
		Extended	Shortened	Special thread		
	K8	K2	K6	K5	K3	
Basic version with position sensing						
ESNU	■	■	■	■	■	40
ESNU – Round cylinder with piston ∅ 32 … 63						esnu
Axial air connection						
ESNU-MA	■	■	■	■	■	40
ESNU-MA – Round cylinder with piston ∅ 32 … 63						esnu
Basic version without position sensing						
ESN	–	–	–	–	–	54

2) In the modular product system from ∅ 12 mm

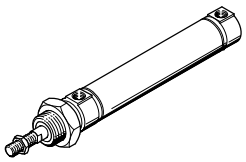
Standard cylinders DSNU/DSNUP/DSN/ESNU/ESN, ISO 6432

Peripherals overview

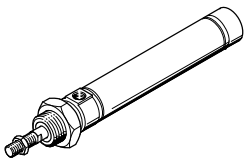


Variants

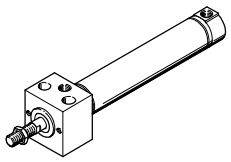
DSNU-MQ



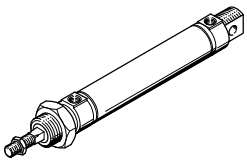
DSNU-MA



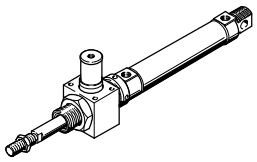
DSNU-MH



DSNU-Q

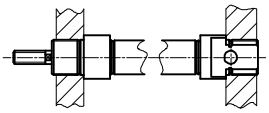


DSNU-KP

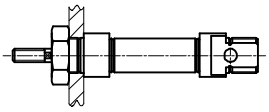


Mounting options

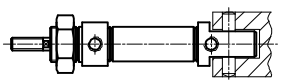
Mounting front and rear



Mounting with hex nut

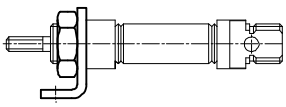


Swivel mounting

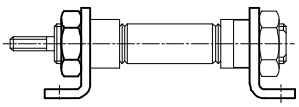


Installation variants with mounting attachments

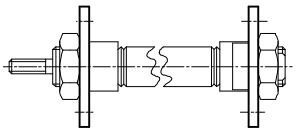
Foot mounting (for short strokes)



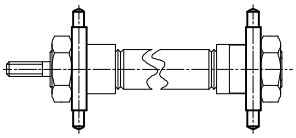
Foot mounting



Flange mounting



Swivel mounting



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

Peripherals overview

Mounting attachments and accessories	DSNU/ ESNU	DSNUP	DSNU/ ESNU	DSNU			DSNU-Q	DSN/ESN	→ Page/Internet
			MA	MQ	MH	KP			
1 Rod eye SGS/CRSGS	■	■	■	■	■	■	■	■	61
2 Coupling piece KSG/KSZ	■	■	■	■	■	■	■	■	61
3 Rod clevis SG/CRSG	■	■	■	■	■	■	■	■	61
4 Self-aligning rod coupler FK/CRFK	■	■	■	■	■	■	■	■	61
5 Flange mounting FBN/CRFBN	■	■	■	■	–	■	■	■	59
6 Foot mounting HBN/CRHBN	■	■	■	■	–	■	■	■	58
7 Swivel mounting[1] WBN	■	■	■	■	–	■	■	■	60
8 Swivel mounting[1] SBN	■	–	■	■	–	■	■	■	59
9 Clevis foot LBN/CRLBN	■	■	–	–	–	■	■	■	60
10 One-way flow control valve[2] GRLA/GRLZ/CRGRLA	■	■	■	■	■	■	■	■	69
11 Push-in fitting[2] QS	■	■	■	■	■	■	■	■	quick star
12 Mounting kit SMBR/CRSMBR	■	–	■	■	■	■	■	–	66
13 Proximity sensor SMEO/SMTO/CRSMEO-4	■	–	■	■	■	■	■	–	66
14 Mounting kit SMBR-8	■	■	■	■	■	■	■	–	67
15 Proximity sensor SME/SMT-8	■	■	■	■	■	■	■	–	67
16 Mounting kit SMBR-10	■	–	■	■	■	■	■	–	68
17 Proximity sensor SME/SMT-10	■	–	■	■	■	■	■	–	68
18 Guide unit FEN	■	–	■	■	–	–	–	■	61
19 Bellows kit[3] DADB	■	–	■	■	–	–	–	–	62
20 Hex nut MSK	■	–	■	■	■	■	■	■	61

- Note

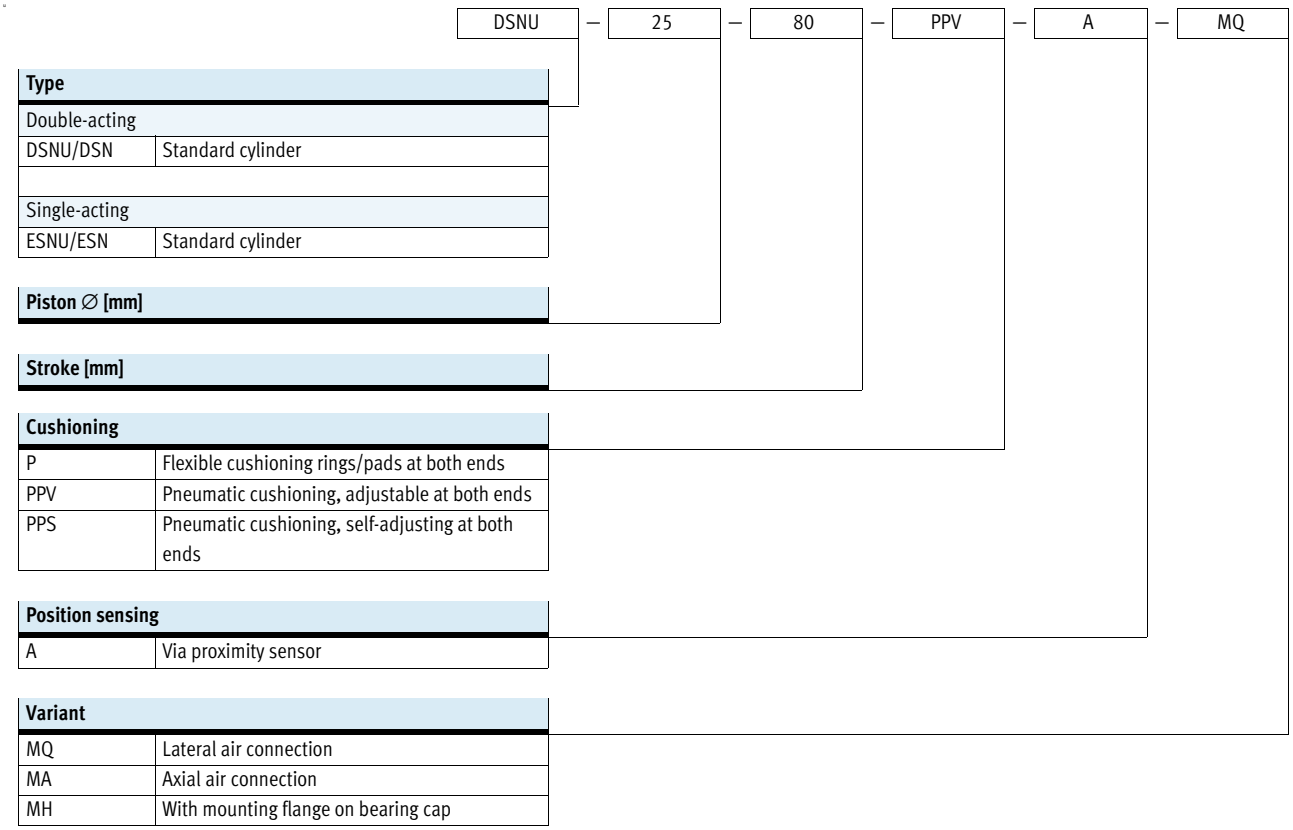
1) Cannot be used on the bearing cap in combination with bellows kit DADB.

2) Only push-in fittings or one-way flow control valves with cylindrical connecting thread (M or G thread) may be used for the compressed air ports in conjunction with the DSNUP.

3) The bellows kit protects the cylinder (piston rod, seal and bearings) against a wide range of media and thus prevents premature wear. It can only be used in combination with an extended piston rod (K8).

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

Type codes



Type	
Double-acting	
DSNU/DSN	Standard cylinder
Single-acting	
ESNU/ESN	Standard cylinder

Piston ∅ [mm]

Stroke [mm]

Cushioning	
P	Flexible cushioning rings/pads at both ends
PPV	Pneumatic cushioning, adjustable at both ends
PPS	Pneumatic cushioning, self-adjusting at both ends

Position sensing	
A	Via proximity sensor

Variant	
MQ	Lateral air connection
MA	Axial air connection
MH	With mounting flange on bearing cap

Modular product system

Individually configurable

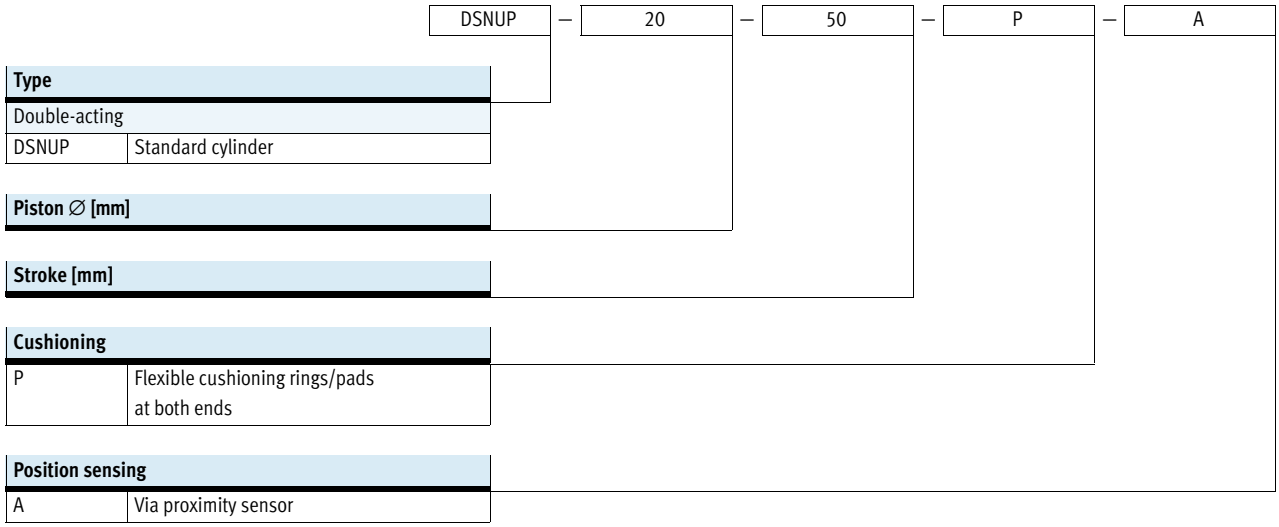
DSNU ➔ 36

ESNU ➔ 46

- 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 at front
- Clamping unit on the piston rod
- Heat-resistant seals for temperatures up to 120 °C (temperature resistance)
- Slow speed (constant motion at low piston rod speeds)
- Low friction
- ATEX certification II 2GD
- All external cylinder surfaces conform to corrosion resistance class CRC 3 (corrosion protection)

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

Type codes

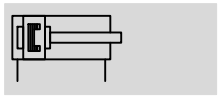


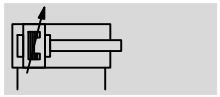
Standard cylinders DSNU, ISO 6432

Technical data

FESTO

Function



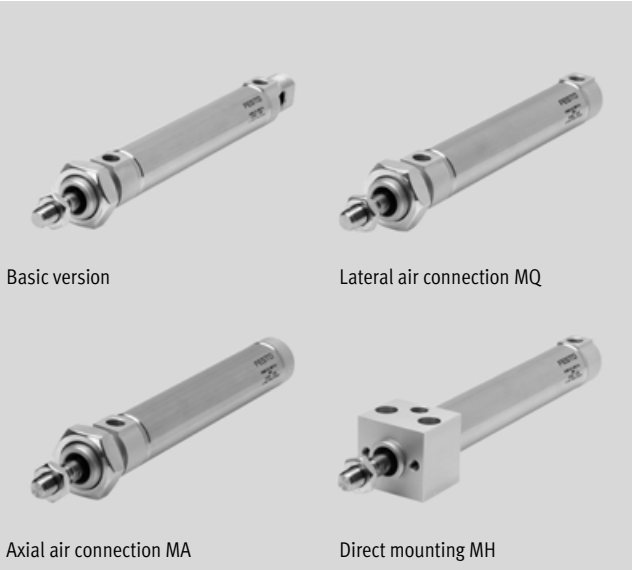


- Ø - Diameter
  8 ... 25 mm

- | - Stroke length
  1 ... 500 mm

Variants

➔ 18



Basic version | Lateral air connection MQ

Axial air connection MA | Direct mounting MH

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	P		Flexible cushioning rings/pads at both ends					
	PPV		–		Adjustable cushioning at both ends			
	PPS		–			Self-adjusting cushioning at both ends		
Cushioning length	PPV	[mm]	–		9	12	15	17
	PPS	[mm]	–			12	15	17
Position sensing			Via proximity sensor					
Type of mounting			Direct mounting (MH variant only)					
			Via accessories					
Mounting position			Any					

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Operating conditions								
Piston Ø			8	10	12	16	20	25
Operating medium			Compressed air in accordance with ISO 8573-1:2010 [7:4:4]					
Note on operating/pilot medium			Operation with lubricated medium possible (in which case lubricated operation will always be required)					
Operating pressure	Basic version	[bar]	1.5 ... 10[1)]			1 ... 10		
	S10		–		1.5 ... 10		1 ... 10	
	S11		–		0.45 ... 10	0.3 ... 10		

1) With DSNU-12- ... -PPV (pneumatic cushioning adjustable at both ends): 2 ... 10 bar

Standard cylinders DSNU, ISO 6432

Technical data

Ambient conditions						
Standard cylinder	Basic version	S6	S10	S11	R3	
Ambient temperature[1] [°C]	–20 … +80	0 … +120	+5 … +80		–20 … +80	
Corrosion resistance class CRC[2]	2	2	2	2	3	

1) Note operating range of proximity sensors.
Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

ATEX[1]	
ATEX category for gas	II 2G
Explosion ignition protection type for gas	c T4
ATEX category for dust	II 2D
Explosion ignition protection type for dust	c 120°C
Explosion-proof temperature rating	–20°C <= Ta <= +60°C
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)

1) Make sure that the accessories are suited for ATEX application.

Speed [mm/s]				
Piston ∅	16	20	25	
Speed with stick-slip-free operation, horizontal, without load, at 6 bar S10	10 … 100			
Minimum speed, advancing S11	2.7	5.3	<1[1]	
Minimum speed, retracting S11	3.2	4.7	<1[1]	

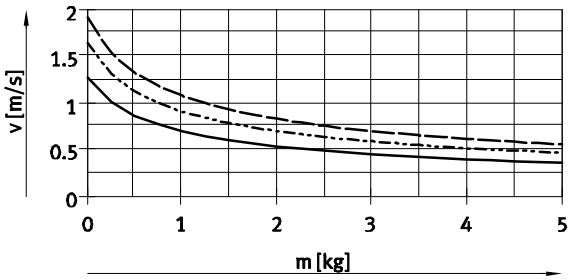
1) Measurements of less than 1 mm/s were not conducted

Force [N] and impact energy [J]						
Piston ∅	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
Max. impact energy at the end positions for flexible cushioning elements[1]	0.03	0.05	0.07	0.15	0.20	0.30

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

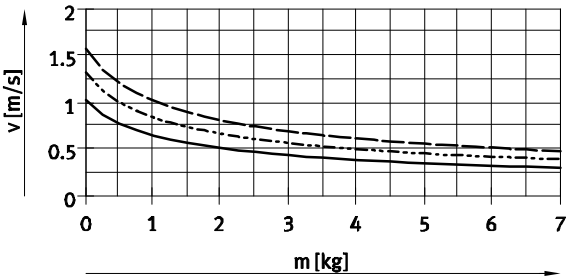
Average piston speed v as a function of applied load m in combination with PPS cushionings

Piston ∅ 16



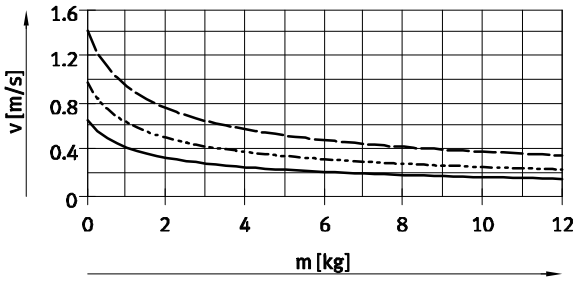
DSNU-16-50
DSNU-16-100
DSNU-16-200

Piston ∅ 20



DSNU-20-50
DSNU-20-100
DSNU-20-200

Piston ∅ 25



DSNU-25-50
DSNU-25-100
DSNU-25-200

Note

Average piston speed
= stroke/movement time

Note

Design software
for flexible cushioning elements
➔ ProDrive

Additional graphs
for PPS cushioning
➔ www.festo.com

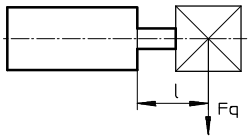
Design software
for PPV cushioning
➔ ProDrive

Standard cylinders DSNU, ISO 6432

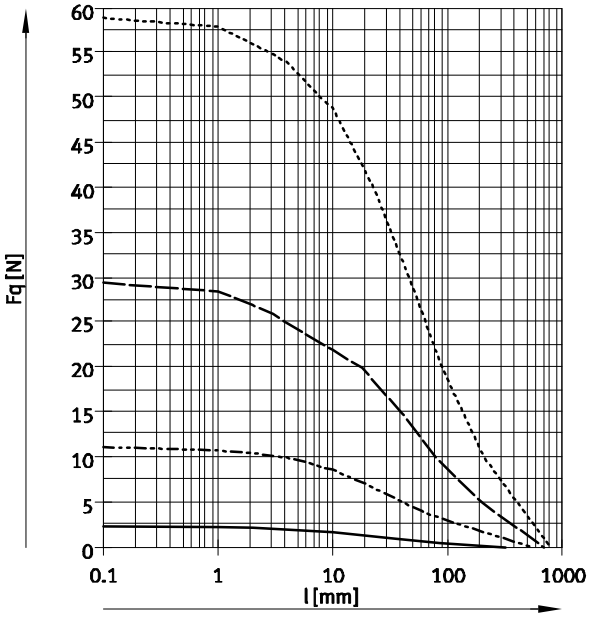
Technical data

Weight [g]						
Piston ∅	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

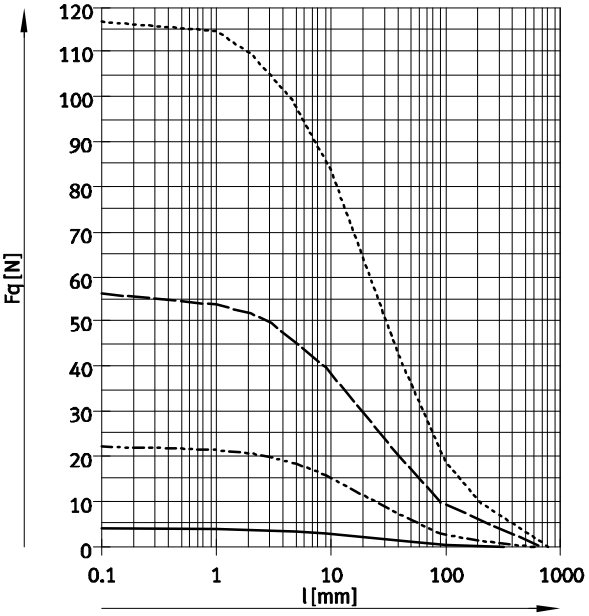
Max. lateral force Fq as a function of stroke length l



Basic version



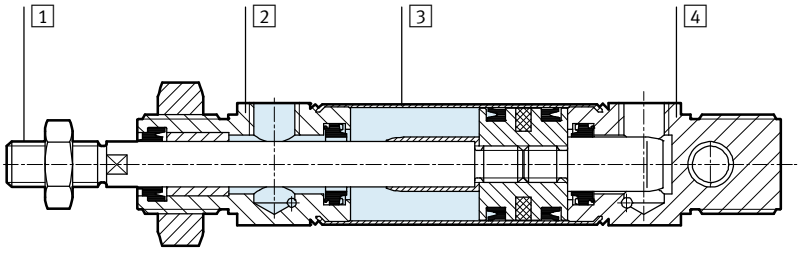
S2 – Through piston rod



— ∅ 8/10
-·-·- ∅ 12/16
– – – ∅ 20
---------- ∅ 25

Materials

Sectional view



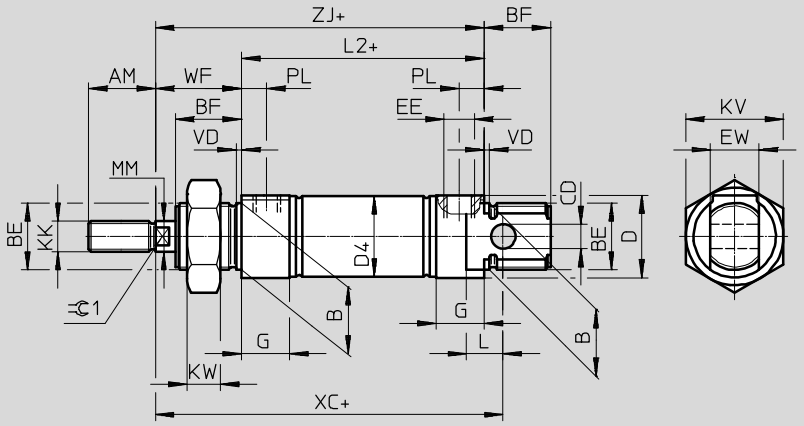
Standard cylinder		Basic version	R3	S6	S10	S11
1	Piston rod	High-alloy stainless steel				
2	Bearing cap	Anodised aluminium				
3	Cylinder barrel	High-alloy stainless steel				
4	End cap	Anodised aluminium				
–	Seals	Polyurethane, nitrile rubber		Fluoro elastomer		
	Note on materials	RoHS compliant				

Standard cylinders DSNU, ISO 6432

Technical data

Dimensions Download CAD data ➔ **www.festo.com**

Basic version



- Note

Piston rod nut is not included in scope of delivery for ∅ 8 ... 20.

\+ = plus stroke length

∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ H9	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		M6	24
16							17.3					
20	20	22	M22x1.5	20	8	27	21.3	G⅛	16	16	M8	32
25	22			22			26.5				M10x1.25	

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

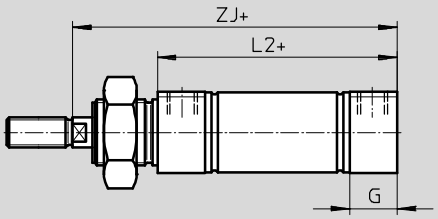
Note: This product conforms to ISO 1179-1 and to ISO 228-1

Standard cylinders DSNU, ISO 6432

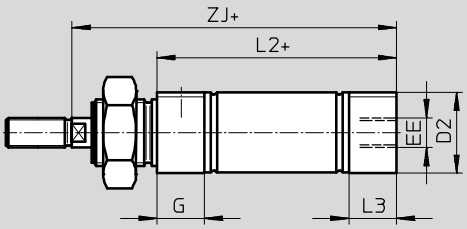
Technical data

Dimensions Download CAD data ➔ **www.festo.com**

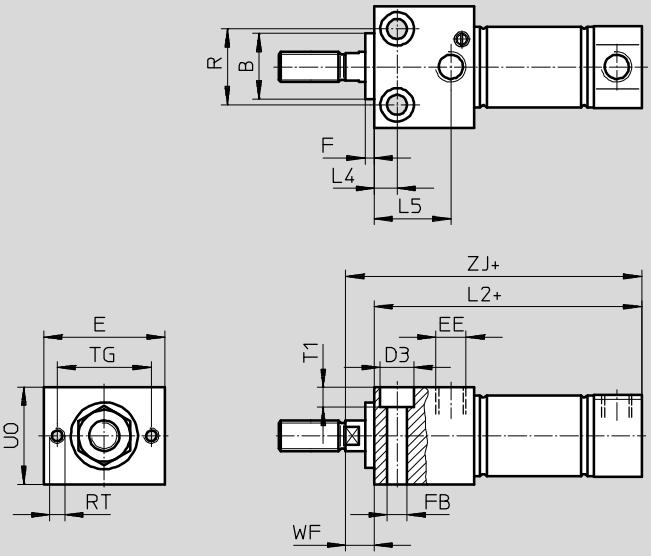
MQ – Lateral air connection



MA – Axial air connection



MH – With direct mounting



\+ = plus stroke length

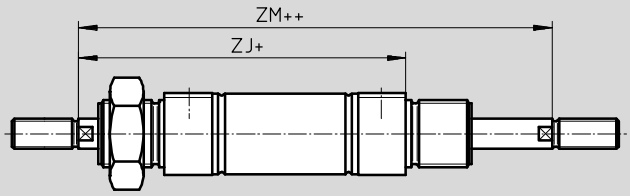
∅ [mm]	B ∅ h9	D2 ∅	D3 ∅	E	EE	F	FB ∅	G	L2 -MQ	L2 -MA	L2 -MH
8	12	10.5	6	24	M5	3	3.4	10	46	43.6	53.5
10		12.5								43.1	53.8
12	16	14.5	8	30			4.5		50	47.7	62
16		17.5							56	53.7	67.5
20	22	21.7	10	40	G1⁄8		5.5	16	68	66.5	81.5
25		26.7	11				6.6		69.5	68.5	86.2

∅ [mm]	L3	L4	L5	R	RT	TG	T1	UO	WF	ZJ -MQ	ZJ -MA	ZJ -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	77.8
20	14.5	7.5	22.4	22	M5	31	5.5	28		92	90.5	91.5
25	14		25.2	25			6.6	32	11	97.5	96.5	97.2

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Dimensions Download CAD data ➔ **www.festo.com**

S2 – Through piston rod

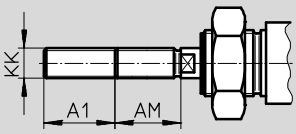


Note

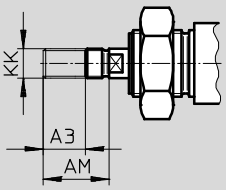
The thread types at both piston rod ends are identical. In combination with variant Q, the left-hand piston rod end is square, the right-hand piston rod end round.

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

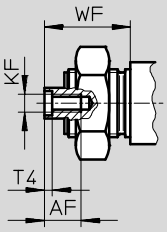
K2 – Extended male piston rod thread



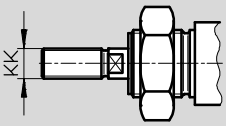
K6 – Shortened male piston rod thread



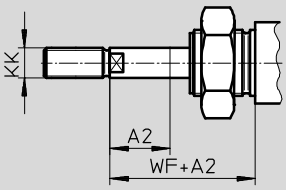
K3 – Female piston rod thread



K5 – Special thread on piston rod



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[1)]			-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	77.8	100
20	25	110	8	20	12	M4	M8	–	2	24	92	90.5	91.5	116
25	35	150		22		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.

Ordering data						
Piston ∅	Stroke	P – Flexible cushioning rings/pads at both ends A – With position sensing			PPV – Pneumatic cushioning, adjustable at both ends A – With position sensing	
[mm]	[mm]	Part No.	Type		Part No.	Type
Basic version						
8	10	**19177**	**DSNU-8-10-P-A**		–	
	15	**1908247**	**DSNU-8-15-P-A**			
	20	**1908248**	**DSNU-8-20-P-A**			
	25	**19178**	**DSNU-8-25-P-A**			
	30	**1908249**	**DSNU-8-30-P-A**			
	40	**19179**	**DSNU-8-40-P-A**			
	50	**19180**	**DSNU-8-50-P-A**			
	60	**1908250**	**DSNU-8-60-P-A**			
	80	**19181**	**DSNU-8-80-P-A**			
	100	**19182**	**DSNU-8-100-P-A**			
10	10	**19183**	**DSNU-10-10-P-A**		–	
	15	**1908251**	**DSNU-10-15-P-A**			
	20	**1908252**	**DSNU-10-20-P-A**			
	25	**19184**	**DSNU-10-25-P-A**			
	30	**1908253**	**DSNU-10-30-P-A**			
	40	**19185**	**DSNU-10-40-P-A**			
	50	**19186**	**DSNU-10-50-P-A**			
	60	**1908254**	**DSNU-10-60-P-A**			
	80	**19187**	**DSNU-10-80-P-A**			
	100	**19188**	**DSNU-10-100-P-A**			
12	10	**19189**	**DSNU-12-10-P-A**		–	
	15	**1908255**	**DSNU-12-15-P-A**			
	20	**1908256**	**DSNU-12-20-P-A**			
	25	**19190**	**DSNU-12-25-P-A**			
	30	**1908257**	**DSNU-12-30-P-A**			
	40	**19191**	**DSNU-12-40-P-A**			
	50	**19192**	**DSNU-12-50-P-A**			
	60	**1908258**	**DSNU-12-60-P-A**			
	80	**19193**	**DSNU-12-80-P-A**			
	100	**19194**	**DSNU-12-100-P-A**			
	125	**19195**	**DSNU-12-125-P-A**			
	160	**19196**	**DSNU-12-160-P-A**			
	200	**19197**	**DSNU-12-200-P-A**			
16	10	**19198**	**DSNU-16-10-P-A**		**1908266**	**DSNU-16-10-PPV-A**
	15	**1908259**	**DSNU-16-15-P-A**		**1908267**	**DSNU-16-15-PPV-A**
	20	**1908260**	**DSNU-16-20-P-A**		**1908268**	**DSNU-16-20-PPV-A**
	25	**19199**	**DSNU-16-25-P-A**		**33973**	**DSNU-16-25-PPV-A**
	30	**1908261**	**DSNU-16-30-P-A**		**1908269**	**DSNU-16-30-PPV-A**
	35	**1908262**	**DSNU-16-35-P-A**		**1908270**	**DSNU-16-35-PPV-A**
	40	**19200**	**DSNU-16-40-P-A**		**19229**	**DSNU-16-40-PPV-A**
	50	**19201**	**DSNU-16-50-P-A**		**19230**	**DSNU-16-50-PPV-A**
	60	**1908263**	**DSNU-16-60-P-A**		**1908271**	**DSNU-16-60-PPV-A**
	70	**1908264**	**DSNU-16-70-P-A**		**1908272**	**DSNU-16-70-PPV-A**
	80	**19202**	**DSNU-16-80-P-A**		**19231**	**DSNU-16-80-PPV-A**
	100	**19203**	**DSNU-16-100-P-A**		**19232**	**DSNU-16-100-PPV-A**
	125	**19204**	**DSNU-16-125-P-A**		**19233**	**DSNU-16-125-PPV-A**
	150	**1908265**	**DSNU-16-150-P-A**		**1908273**	**DSNU-16-150-PPV-A**
	160	**19205**	**DSNU-16-160-P-A**		**19234**	**DSNU-16-160-PPV-A**
	200	**19206**	**DSNU-16-200-P-A**		**19235**	**DSNU-16-200-PPV-A**

Standard cylinders DSNU, ISO 6432

Technical data

Ordering data						
Piston ∅	Stroke	P – Flexible cushioning rings/pads at both ends A – With position sensing			PPV – Pneumatic cushioning, adjustable at both ends A – With position sensing	
[mm]	[mm]	Part No.	Type		Part No.	Type
Basic version						
20	10	**19207**	**DSNU-20-10-P-A**		**1908289**	**DSNU-20-10-PPV-A**
	15	**1908282**	**DSNU-20-15-P-A**		**1908290**	**DSNU-20-15-PPV-A**
	20	**1908283**	**DSNU-20-20-P-A**		**1908291**	**DSNU-20-20-PPV-A**
	25	**19208**	**DSNU-20-25-P-A**		**33974**	**DSNU-20-25-PPV-A**
	30	**1908284**	**DSNU-20-30-P-A**		**1908292**	**DSNU-20-30-PPV-A**
	35	**1908285**	**DSNU-20-35-P-A**		**1908293**	**DSNU-20-35-PPV-A**
	40	**19209**	**DSNU-20-40-P-A**		**19236**	**DSNU-20-40-PPV-A**
	50	**19210**	**DSNU-20-50-P-A**		**19237**	**DSNU-20-50-PPV-A**
	60	**1908286**	**DSNU-20-60-P-A**		**1908294**	**DSNU-20-60-PPV-A**
	70	**1908287**	**DSNU-20-70-P-A**		**1908295**	**DSNU-20-70-PPV-A**
	80	**19211**	**DSNU-20-80-P-A**		**19238**	**DSNU-20-80-PPV-A**
	100	**19212**	**DSNU-20-100-P-A**		**19239**	**DSNU-20-100-PPV-A**
	125	**19213**	**DSNU-20-125-P-A**		**19240**	**DSNU-20-125-PPV-A**
	150	**1908288**	**DSNU-20-150-P-A**		**1908296**	**DSNU-20-150-PPV-A**
	160	**19214**	**DSNU-20-160-P-A**		**19241**	**DSNU-20-160-PPV-A**
	200	**19215**	**DSNU-20-200-P-A**		**19242**	**DSNU-20-200-PPV-A**
	250	**19216**	**DSNU-20-250-P-A**		**19243**	**DSNU-20-250-PPV-A**
	300	**19217**	**DSNU-20-300-P-A**		**19244**	**DSNU-20-300-PPV-A**
	320	**34718**	**DSNU-20-320-P-A**		**34720**	**DSNU-20-320-PPV-A**
25	10	**19218**	**DSNU-25-10-P-A**		**1908312**	**DSNU-25-10-PPV-A**
	15	**1908305**	**DSNU-25-15-P-A**		**1908313**	**DSNU-25-15-PPV-A**
	20	**1908306**	**DSNU-25-20-P-A**		**1908314**	**DSNU-25-20-PPV-A**
	25	**19219**	**DSNU-25-25-P-A**		**33975**	**DSNU-25-25-PPV-A**
	30	**1908307**	**DSNU-25-30-P-A**		**1908315**	**DSNU-25-30-PPV-A**
	35	**1908308**	**DSNU-25-35-P-A**		**1908316**	**DSNU-25-35-PPV-A**
	40	**19220**	**DSNU-25-40-P-A**		**19245**	**DSNU-25-40-PPV-A**
	50	**19221**	**DSNU-25-50-P-A**		**19246**	**DSNU-25-50-PPV-A**
	60	**1908309**	**DSNU-25-60-P-A**		**1908317**	**DSNU-25-60-PPV-A**
	70	**1908310**	**DSNU-25-70-P-A**		**1908318**	**DSNU-25-70-PPV-A**
	80	**19222**	**DSNU-25-80-P-A**		**19247**	**DSNU-25-80-PPV-A**
	100	**19223**	**DSNU-25-100-P-A**		**19248**	**DSNU-25-100-PPV-A**
	125	**19224**	**DSNU-25-125-P-A**		**19249**	**DSNU-25-125-PPV-A**
	150	**1908311**	**DSNU-25-150-P-A**		**1908319**	**DSNU-25-150-PPV-A**
	160	**19225**	**DSNU-25-160-P-A**		**19250**	**DSNU-25-160-PPV-A**
	200	**19226**	**DSNU-25-200-P-A**		**19251**	**DSNU-25-200-PPV-A**
	250	**19227**	**DSNU-25-250-P-A**		**19252**	**DSNU-25-250-PPV-A**
	300	**19228**	**DSNU-25-300-P-A**		**19253**	**DSNU-25-300-PPV-A**
	320	**34719**	**DSNU-25-320-P-A**		**34721**	**DSNU-25-320-PPV-A**
	400	**35191**	**DSNU-25-400-P-A**		**35193**	**DSNU-25-400-PPV-A**
	500	**35192**	**DSNU-25-500-P-A**		**35194**	**DSNU-25-500-PPV-A**

Ordering data			
Piston ∅	Stroke	PPS – Pneumatic cushioning, self-adjustable at both ends Without position sensing	
[mm]	[mm]	Part No.	Type
Basic version			
16	40	**559234**	**DSNU-16-40-PPS**
	50	**559235**	**DSNU-16-50-PPS**
	80	**559236**	**DSNU-16-80-PPS**
	100	**559237**	**DSNU-16-100-PPS**
	125	**559238**	**DSNU-16-125-PPS**
	160	**559239**	**DSNU-16-160-PPS**
	200	**559240**	**DSNU-16-200-PPS**
20	40	**559241**	**DSNU-20-40-PPS**
	50	**559242**	**DSNU-20-50-PPS**
	80	**559243**	**DSNU-20-80-PPS**
	100	**559244**	**DSNU-20-100-PPS**
	125	**559245**	**DSNU-20-125-PPS**
	160	**559246**	**DSNU-20-160-PPS**
	200	**559247**	**DSNU-20-200-PPS**
	250	**559248**	**DSNU-20-250-PPS**
	300	**559249**	**DSNU-20-300-PPS**
	320	**559250**	**DSNU-20-320-PPS**
25	40	**559251**	**DSNU-25-40-PPS**
	50	**559252**	**DSNU-25-50-PPS**
	80	**559253**	**DSNU-25-80-PPS**
	100	**559254**	**DSNU-25-100-PPS**
	125	**559255**	**DSNU-25-125-PPS**
	160	**559256**	**DSNU-25-160-PPS**
	200	**559257**	**DSNU-25-200-PPS**
	250	**559258**	**DSNU-25-250-PPS**
	300	**559259**	**DSNU-25-300-PPS**
	320	**559260**	**DSNU-25-320-PPS**
	400	**559261**	**DSNU-25-400-PPS**
	500	**559262**	**DSNU-25-500-PPS**

Standard cylinders DSNU, ISO 6432

Technical data

Ordering data			
Piston ∅	Stroke	PPS – Pneumatic cushioning, self-adjustable at both ends A – With position sensing	
[mm]	[mm]	Part No.	Type
Basic version			
16	10	**1908274**	**DSNU-16-10-PPS-A**
	15	**1908275**	**DSNU-16-15-PPS-A**
	20	**1908276**	**DSNU-16-20-PPS-A**
	25	**559263**	**DSNU-16-25-PPS-A**
	30	**1908277**	**DSNU-16-30-PPS-A**
	35	**1908278**	**DSNU-16-35-PPS-A**
	40	**559264**	**DSNU-16-40-PPS-A**
	50	**559265**	**DSNU-16-50-PPS-A**
	60	**1908279**	**DSNU-16-60-PPS-A**
	70	**1908280**	**DSNU-16-70-PPS-A**
	80	**559266**	**DSNU-16-80-PPS-A**
	100	**559267**	**DSNU-16-100-PPS-A**
	125	**559268**	**DSNU-16-125-PPS-A**
	150	**1908281**	**DSNU-16-150-PPS-A**
	160	**559269**	**DSNU-16-160-PPS-A**
	200	**559270**	**DSNU-16-200-PPS-A**
20	10	**1908297**	**DSNU-20-10-PPS-A**
	15	**1908298**	**DSNU-20-15-PPS-A**
	20	**1908299**	**DSNU-20-20-PPS-A**
	25	**559271**	**DSNU-20-25-PPS-A**
	30	**1908300**	**DSNU-20-30-PPS-A**
	35	**1908301**	**DSNU-20-35-PPS-A**
	40	**559272**	**DSNU-20-40-PPS-A**
	50	**559273**	**DSNU-20-50-PPS-A**
	60	**1908302**	**DSNU-20-60-PPS-A**
	70	**1908303**	**DSNU-20-70-PPS-A**
	80	**559274**	**DSNU-20-80-PPS-A**
	100	**559275**	**DSNU-20-100-PPS-A**
	125	**559276**	**DSNU-20-125-PPS-A**
	150	**1908304**	**DSNU-20-150-PPS-A**
	160	**559277**	**DSNU-20-160-PPS-A**
	200	**559278**	**DSNU-20-200-PPS-A**
	250	**559279**	**DSNU-20-250-PPS-A**
	300	**559280**	**DSNU-20-300-PPS-A**
	320	**559281**	**DSNU-20-320-PPS-A**

Ordering data			
Piston ∅	Stroke	PPS – Pneumatic cushioning, self-adjustable at both ends A – With position sensing	
[mm]	[mm]	Part No.	Type
Basic version			
25	10	**1908320**	**DSNU-25-10-PPS-A**
	15	**1908321**	**DSNU-25-15-PPS-A**
	20	**1908322**	**DSNU-25-20-PPS-A**
	25	**559282**	**DSNU-25-25-PPS-A**
	30	**1908323**	**DSNU-25-30-PPS-A**
	35	**1908324**	**DSNU-25-35-PPS-A**
	40	**559283**	**DSNU-25-40-PPS-A**
	50	**559284**	**DSNU-25-50-PPS-A**
	60	**1908325**	**DSNU-25-60-PPS-A**
	70	**1908326**	**DSNU-25-70-PPS-A**
	80	**559285**	**DSNU-25-80-PPS-A**
	100	**559286**	**DSNU-25-100-PPS-A**
	125	**559287**	**DSNU-25-125-PPS-A**
	150	**1908327**	**DSNU-25-150-PPS-A**
	160	**559288**	**DSNU-25-160-PPS-A**
	200	**559289**	**DSNU-25-200-PPS-A**
	250	**559290**	**DSNU-25-250-PPS-A**
	300	**559291**	**DSNU-25-300-PPS-A**
	320	**559292**	**DSNU-25-320-PPS-A**
	400	**559293**	**DSNU-25-400-PPS-A**
	500	**559294**	**DSNU-25-500-PPS-A**

Ordering data						
Piston ∅	Stroke	P – Flexible cushioning rings/pads at both ends A – With position sensing			PPV – Pneumatic cushioning, adjustable at both ends A – With position sensing	
[mm]	[mm]	Part No.	Type		Part No.	Type
Variable stroke lengths						
8	10 ... 100	**14326**	**DSNU-8-...-P-A**		–	
10	10 ... 100	**14325**	**DSNU-10-...-P-A**			
12	10 ... 200	**14324**	**DSNU-12-...-P-A**			
16	10 ... 200	**14323**	**DSNU-16-...-P-A**		**14320**	**DSNU-16-...-PPV-A**
20	10 ... 320	**14328**	**DSNU-20-...-P-A**		**14321**	**DSNU-20-...-PPV-A**
25	10 ... 500	**14327**	**DSNU-25-...-P-A**		**14322**	**DSNU-25-...-PPV-A**

Note

Additional variants can be configured and ordered via the DSNU product modules ➔ 36.

Standard cylinders DSNUP, ISO 6432

Technical data

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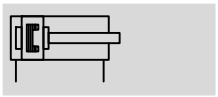
Function



- Ø - Diameter
  16 ... 25 mm

- I - Stroke length
  25 ... 100 mm

General technical data				
Piston ∅		16	20	25
Pneumatic connection		M5	G1⁄8	G1⁄8
Constructional design		Piston		
		Piston rod		
		Cylinder barrel		
Mode of operation		Double-acting		
Cushioning		Flexible cushioning rings/pads at both ends		
Position sensing		Via proximity sensor		
Type of mounting		Via accessories		
Mounting position		Any		

Operating and environmental conditions		
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)
Operating pressure[1]	[bar]	1 ... 8
Ambient temperature	[°C]	–10 ... +60
Corrosion resistance class CRC[2]		2

1) Note operating range of proximity sensors
2) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

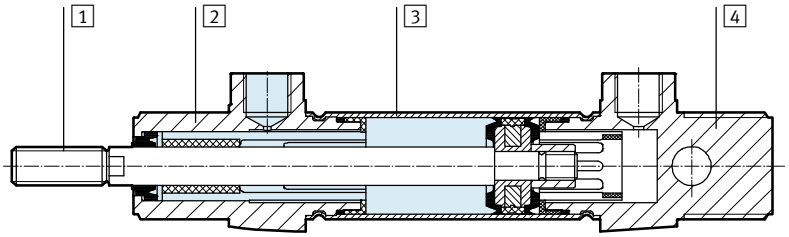
Force [N] and impact energy [J]			
Piston ∅	16	20	25
Theoretical force at 6 bar, advancing	121	189	295
Theoretical force at 6 bar, retracting	104	158	247
Impact energy at end positions	0.15	0.20	0.30

Weight [g]			
Piston ∅	16	20	25
Product weight with 0 mm stroke	47	83	111
Additional weight per 10 mm stroke	4	6	8
Moving load at 0 mm stroke	23	44	71
Additional load per 10 mm stroke	2	4	6

Speed without applied load [m/s]			
Piston ∅	16	20	25
Advancing			
Minimum	0.015	0.02	0.015
Maximum	2.3	2.3	2.3
Retracting			
Minimum	0.015	0.02	0.015
Maximum	1.9	1.7	2.0

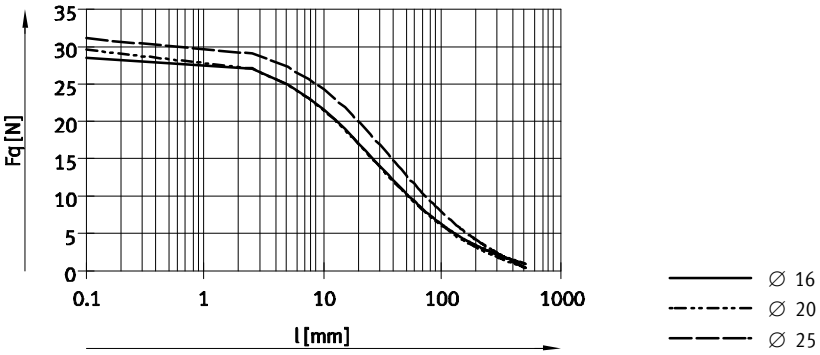
Materials

Sectional view

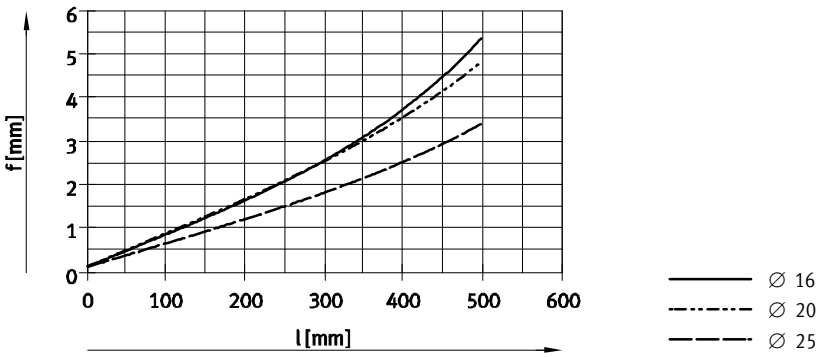


Standard cylinder		
1	Piston rod	High-alloy stainless steel
2	Bearing cap	Polyamide
3	Cylinder barrel	Wrought aluminium alloy
4	End cap	Polyamide
–	Seals	Polyurethane, nitrile rubber
	Note on materials	RoHS compliant

Permissible lateral force Fq as a function of stroke length l



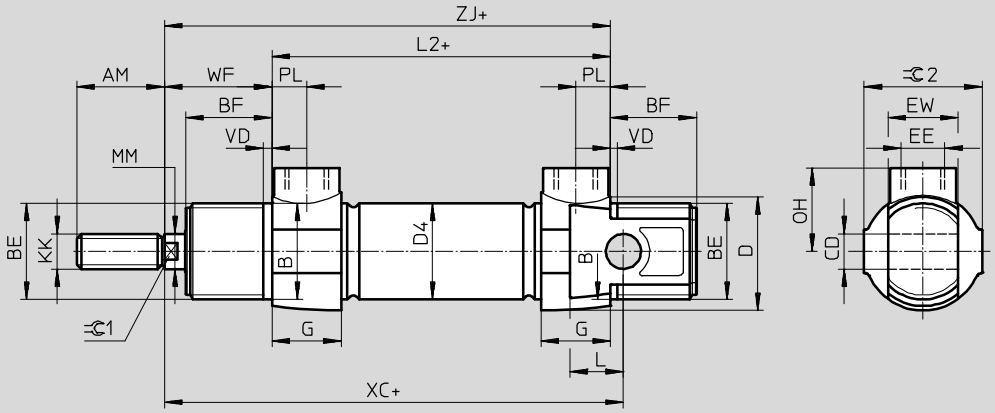
Permissible piston rod displacement f as a function of stroke length l



Standard cylinders DSNUP, ISO 6432

Technical data

Dimensions Download CAD data ➔ **www.festo.com**



Note

For the compressed air ports only push-in fittings or one-way flow control valves with cylindrical connecting thread (M or G thread) may be used. Piston rod nut is not included in scope of delivery for ∅ 16/20.

\+ = plus stroke length

∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ H9	D ∅	D4 ∅	EE
16	16	16	M16x1.5	17	6	20	18	M5
20	20	22	M22x1.5	20	8	27	22	G⅛
25	22	22	M22x1.5	22	8	27	27	G⅛

∅ [mm]	EW	G	KK	L	L2	MM ∅	OH	PL	VD
16	12	10	M6	8	56	6	14	4.9	2
20	16	16	M8	12	68	8	19	7.9	2
25	16	16	M10x1.25	12	70	10	19	7.9	2

∅ [mm]	WF	XC ±1	ZJ	⫧1	⫧2	Max. tightening torque of thread [Nm]	
						BE[1]	EE
16	22	82	78	5	19	12/8	1.3
20	24	95	92	7	27	22/15	6
25	28	104	98	9	27	22/15	6

1) Bearing cap/end cap

Note

Variable strokes on request.

Ordering data

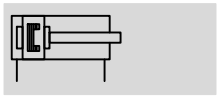
Piston ∅ [mm]	Stroke [mm]	Part No.	Type
16	25	**551668**	**DSNUP-16-25-P-A**
	50	**551669**	**DSNUP-16-50-P-A**
	100	**551670**	**DSNUP-16-100-P-A**
20	25	**551671**	**DSNUP-20-25-P-A**
	50	**551672**	**DSNUP-20-50-P-A**
	100	**551673**	**DSNUP-20-100-P-A**
25	25	**551674**	**DSNUP-25-25-P-A**
	50	**551675**	**DSNUP-25-50-P-A**
	100	**551676**	**DSNUP-25-100-P-A**

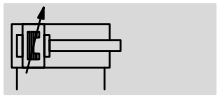
Standard cylinders DSNU-Q, protected against rotation

Technical data

FESTO

Function





- Ø - Diameter
  12 … 25 mm

- | - Stroke length
  1 … 250 mm

General technical data					
Piston∅		12	16	20	25
Pneumatic connection		M5	M5	G⅛	G⅛
Piston rod thread		M6	M6	M8	M10x1.25
Constructional design		Piston			
		Protected against rotation with square piston rod			
Max. torque at the piston rod	[Nm]	0.10	0.10	0.20	0.45
Cushioning		Flexible cushioning rings/ pads at both ends	–		
		Adjustable cushioning at both ends			
Cushioning length (PPV)	[mm]	–	12	15	17
Position sensing		Via proximity sensor			
Type of mounting		Via accessories			
Mounting position		Any			

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Operating conditions					
Piston ∅		12	16	20	25
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]			
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)			
Operating pressure	[bar]	1.5 … 10[1)]	1 … 10		

1) With DSNU-12- … -Q- PPV (pneumatic cushioning adjustable at both ends): 2 … 10 bar

Ambient conditions			
Standard cylinder		Basic version	R3
Ambient temperature[1)]	[°C]	–20 … +80	
Corrosion resistance class CRC[2)]		2	3

1) Note operating range of proximity sensors.

2) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

ATEX[1]	
ATEX category for gas	II 2G
Explosion ignition protection type for gas	c T4
ATEX category for dust	II 2D
Explosion ignition protection type for dust	c 120°C
Explosion-proof temperature rating	–20°C <= Ta <= +60°C
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)

1) Make sure that the accessories are suited for ATEX application.

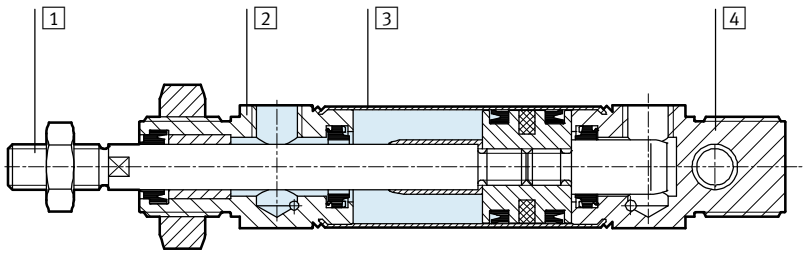
Forces [N] and impact energy [J]				
Piston ∅	12	16	20	25
Theoretical force at 6 bar, advancing	68	121	189	295
Theoretical force at 6 bar, retracting	51	104	158	247
Max. impact energy at the end positions for flexible cushioning elements[1]	0.07	0.15	0.20	0.30

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

Weight [g]				
Piston ∅	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

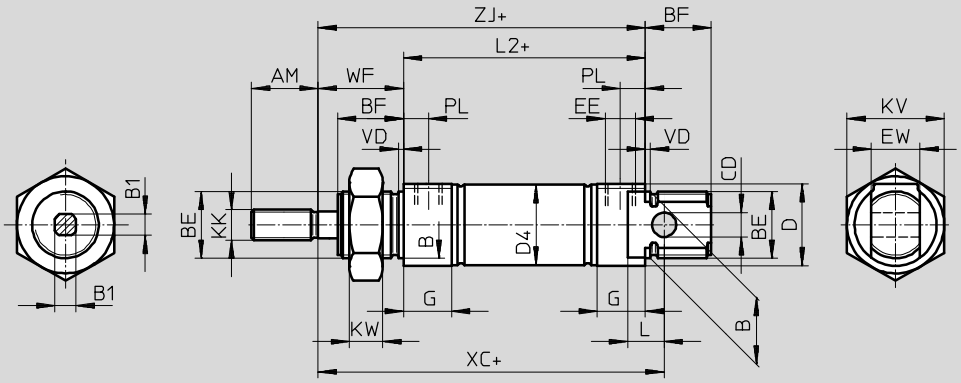
Sectional view



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

Dimensions Download CAD data ➔ **www.festo.com**

Basic version



- Note

Piston rod nut is not included in scope of delivery for ∅ 12 ... 20.

\+ = plus stroke length

∅ [mm]	AM	B ∅ h9	B1 □	BE	BF	CD ∅ H9	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	G⅛	16
25	22		9		22			26.5		

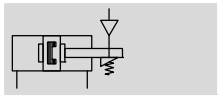
∅ [mm]	G	KK	KV	KW	L	L2	PL	VD	WF	XC ±1	ZJ
12	10	M6	24	8	9	50	6	2	22	75	72
16						56				82	78
20	16	M8	32	11	12	68	8.2		24	95	92
25		M10x1.25				69.5			28	104	97.5

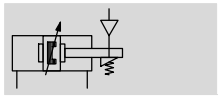
Note: This product conforms to ISO 1179-1 and to ISO 228-1

Standard cylinders DSNU-KP, with clamping unit

Technical data

Function





- Diameter
  8 ... 25 mm

- Stroke length
  1 ... 500 mm

Note

Additional measures are required for use in safety-related applications; 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	P		Flexible cushioning rings/pads at both ends					
	PPV		–		Pneumatic cushioning, adjustable at both ends			
	PPS		–			Self-adjusting cushioning at both ends		
Cushioning length	PPV	[mm]	–		9	12	15	17
	PPS	[mm]	–			12	15	17
Position sensing			Via proximity sensor					
Type of mounting			Via through-holes					
			Via accessories					
Mounting position			Any					
Holding force of the clamping unit		[N]	80	80	180	180	350	350
Axial play under load		[mm]	0.2		0.3			0.5
Pneumatic connection of the clamping unit			M5					

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Operating conditions								
Piston ∅			8	10	12	16	20	25
Operating medium			Compressed air in accordance with ISO 8573-1:2010 [7:4:4]					
Note on operating/pilot medium			Operation with lubricated medium possible (in which case lubricated operation will always be required)					
Operating pressure		[bar]	3 ... 10					

Ambient conditions				
Standard cylinder		Basic version		R3
Ambient temperature[1]	[°C]	–10 ... +80		
Corrosion resistance class CRC[2]		2		3

1) Note operating range of proximity sensors.

2) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

Standard cylinders DSNU-KP, with clamping unit

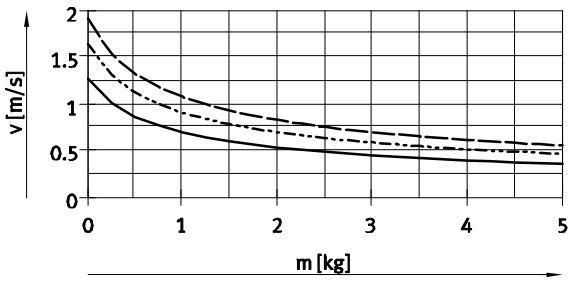
Technical data

Force [N] and impact energy [J]						
Piston ∅	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
Max. impact energy at the end positions for flexible cushioning elements[1)]	0.03	0.05	0.07	0.15	0.20	0.30

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

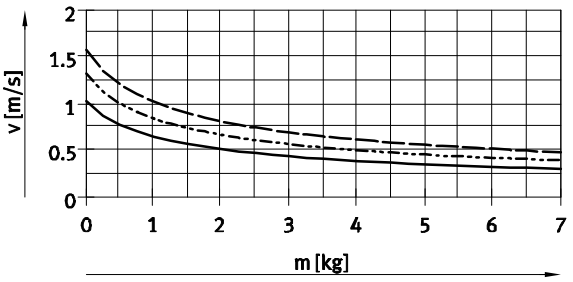
Average piston speed v as a function of applied load m in combination with cushioning PPS

Piston ∅ 16



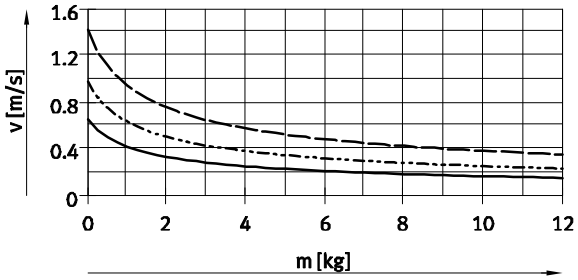
DSNU-16-50
DSNU-16-100
DSNU-16-200

Piston ∅ 20



DSNU-20-50
DSNU-20-100
DSNU-20-200

Piston ∅ 25



DSNU-25-50
DSNU-25-100
DSNU-25-200

Note

Average piston speed
= stroke/movement time

Note

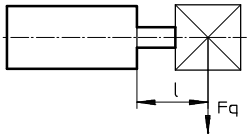
Design software
for flexible cushioning elements
➔ ProDrive

Additional graphs
for PPS cushioning
➔ www.festo.com

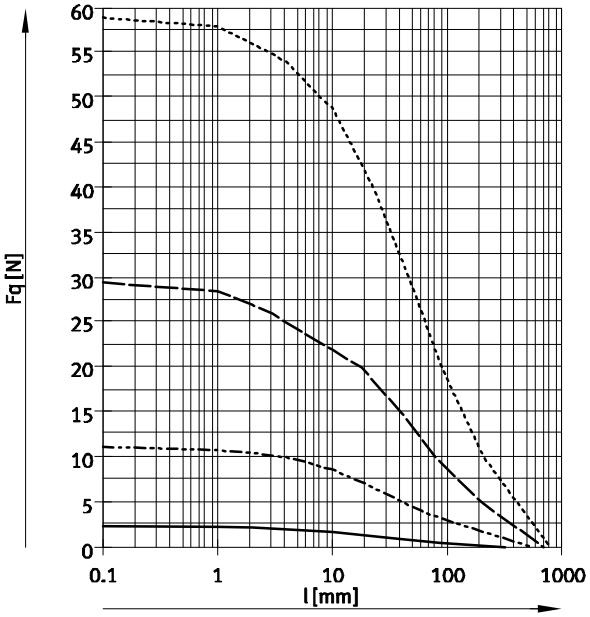
Design software
for PPV cushioning
➔ ProDrive

Weight [g]						
Piston ∅	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

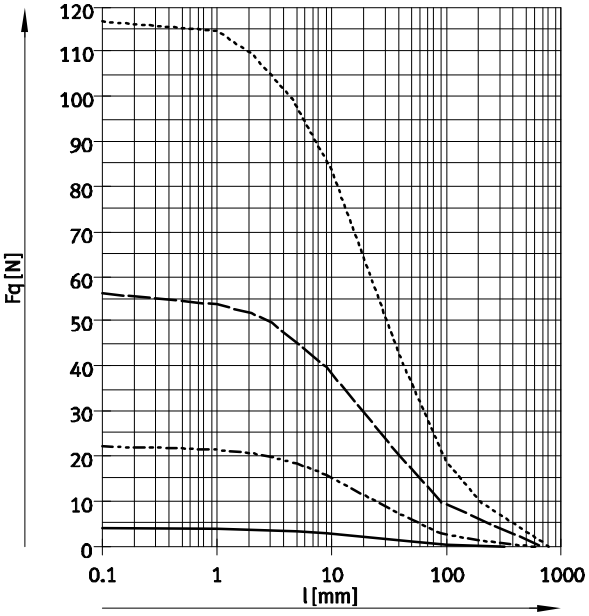
Max. lateral force Fq as a function of the projection l



Basic version



S2 – Through piston rod



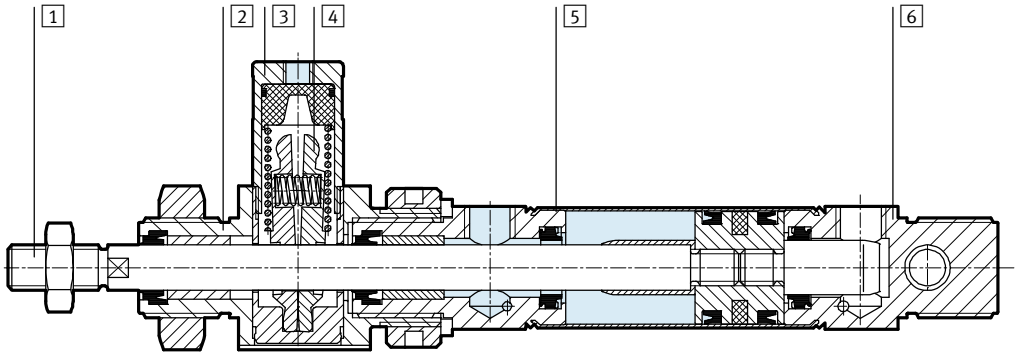
- ∅ 8/10
- ∅ 12/16
- ∅ 20
- ∅ 25

Standard cylinders DSNU-KP, with clamping unit

Technical data

Materials

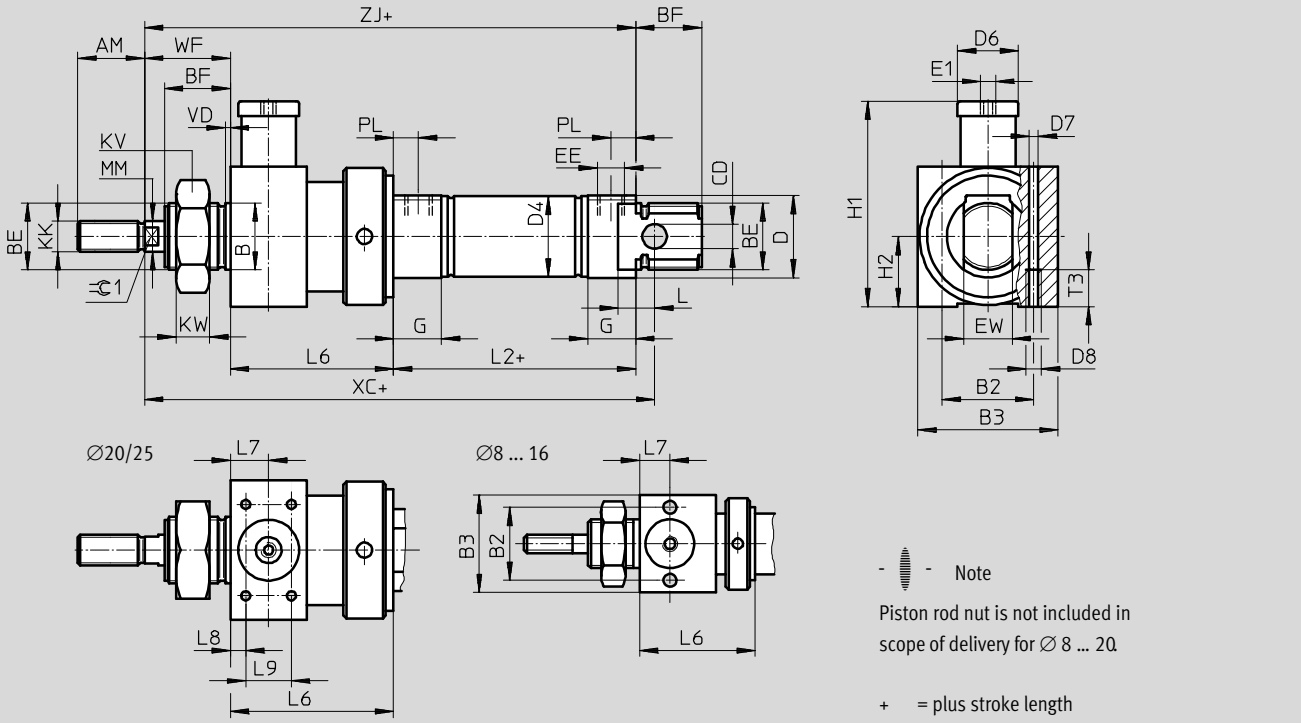
Sectional view



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

Dimensions Download CAD data ➔ **www.festo.com**

Basic version

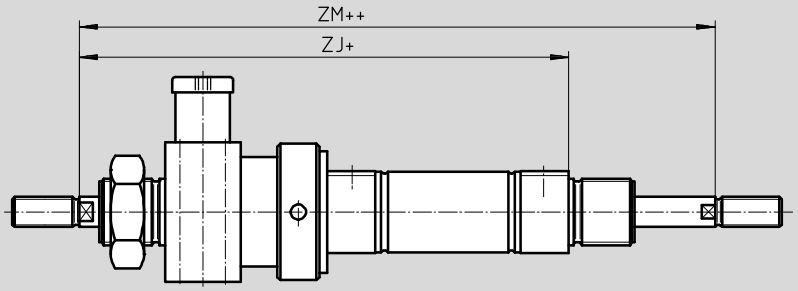


- Note

Piston rod nut is not included in scope of delivery for ∅ 8 ... 20.

\+ = plus stroke length

S2 – Through piston rod



- Note

The thread types at both piston rod ends are identical. The clamping unit is mounted on only one side. In combination with variant Q, the right-hand piston rod is square, the left-hand piston rod round. The clamping unit is mounted on the left-hand, round piston rod.

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

Standard cylinders DSNU-KP, with clamping unit

Technical data

∅ [mm]	AM	B ∅ h9	B2	B3	BE	BF	CD ∅ H9	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		
16									17.3			
20	20	22	27	36	M22x1.5	20	8	27	21.3	20		
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			12		41	16	M6	24	8	6	9	50
16												56
20		G⅛	16	16	62.5	18	M8	32	11	8	12	68
25							M10x1.25			10		69.5

∅ [mm]	L6	L7	L8	L9	T3	PL	VD	WF	XC ±1	ZJ	ZM	⌀1
8	29 ±0.65	8	–	–	11	6	2	16	93	91	107	–
10			–	–								–
12	38 ±0.75	10	–	–				22	113	110	132	5
16			–	–					120	116	138	
20	47 ±0.75	13	4.5	20		8.2		24	142	139	163	7
25	48 ±0.75							28	152	145.5	173.5	9

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Standard cylinders DSNU, ISO 6432

Ordering data – Modular products

Ordering table

Size		8	10	12	16	20	25	Condi-tions	Code		Enter code
M	Module No.	**193986**	**193987**	**193988**	**193989**	**193990**	**193991**				
	Function	Standard cylinder, double-acting, based on ISO 6432							**DSNU**		DSNU
	Piston ∅ [mm]	8	10	12	16	20	25		**-...**		
	Stroke [mm]	1 ... 100		1 ... 200		1 ... 320	1 ... 500		**-...**		
	Cushioning	Flexible cushioning rings/pads at both ends							**-P**		
		–	–	Pneumatic cushioning, adjustable at both ends				1	**-PPV**		
		–	–	–	Pneumatic cushioning, self-adjusting at both ends			13	**-PPS**		
O	Position sensing	Via proximity sensor						2	**-A**		
	Cylinder end cap	Lateral supply port, end cap						3	**-MQ**		
		Axial supply port, end cap						3	**-MA**		
		With mounting flange at front (direct mounting), bearing cap						4	**-MH**		
↓	Type of piston rod	Through piston rod						5	**-S2**		

1 **PPV** Not with MA.
In combination with S6, S10, S11 not with piston ∅ 12 mm

2 **A** Minimum stroke: 10 mm

3 **MQ, MA** Not with S2, S10, S11

4 **MH** Not with combination S6-R3.
Not with KP, S10, S11

5 **S2** Not with S10, S11

13 **PPS** Not with MA, MH, S6, S10, S11
and not with combination MQ-R3

- Note

The bellows kit DADB must not be used in combination with the variant MH.
The running characteristics change slightly when the bellows kit DADB is combined with the variant S10 or S11.

Transfer order code

	DSNU	–		–		–		–		–		–	

Standard cylinders DSNU, ISO 6432

Ordering data – Modular products

Ordering table

Size	8	10	12	16	20	25	Conditions	Code		Enter code
↓ Extended male thread	Extended male piston rod thread									
0 [mm]	1 … 15		1 … 20		1 … 25	1 … 35	6	**-...K2**		
Shortened male thread [mm]	Shortened male piston rod thread 1 … 4				1 … 8	1 … 10	7	**-...K6**		
Female thread	Female piston rod thread –	–	–	–	(M4)	(M6)	8	**-K3**		
Special thread	Piston rod with special thread –	–	–	–	–	M10		**-"..."K5**		
Piston rod extended at one end [mm]	Extended piston rod at one end 1 … 50		1 … 100		1 … 110	1 … 150		**...K8**		
Clamping unit	Attached						9	**-KP**		
Temperature resistance	Heat-resistant seals for temperatures up to 120 °C						10	**-S6**		
Slow speed (constant motion)	–	–	Slow speed (constant motion at low piston speeds)				11	**-S10**		
Low friction	–	–	Low friction				12	**-S11**		
Corrosion protection	–	–	High corrosion protection					**-R3**		
EU certification	II 2GD						13	**-EX4**		

6 **K2** Not with K3, K6
7 **K6** Not with K3
8 **K3** Not with K5
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
13 **EX4** Not with KP and S6

Transfer order code

– [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ]

Standard cylinders DSNU-Q, protected against rotation

Ordering data – Modular products

Ordering table

Size		12	16	20	25	Condi-tions	Code		Enter code
M	Module No.	**193988**	**193989**	**193990**	**193991**				
	Function	Standard cylinder, double-acting, based on ISO 6432					**DSNU**		DSNU
	Piston ∅ [mm]	12	16	20	25		**-...**		
	Stroke [mm]	5 ... 160		5 ... 200	5 ... 250		**-...**		
	Cushioning	Flexible cushioning rings/pads at both ends	–	–	–		**-P**		
		–	Pneumatic cushioning, adjustable at both ends				**-PPV**		
O	Position sensing	Via proximity sensor				1	**-A**		
	Cylinder end cap	Lateral supply port, end cap				2	**-MQ**		
		Axial supply port, end cap	–	–	–	2	**-MA**		
		–	With mounting flange at front (direct mounting), bearing cap			3	**-MH**		
	Protection against rotation	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

- Note

The bellows kit DADB must not be used in combination with the variant Q.

Transfer order code

	DSNU	–		–		–		–		–		–	**Q**	–		

Standard cylinders DSNU-Q, protected against rotation

Ordering data – Modular products

Ordering table

Size	12	16	20	25	Condi-tions	Code		Enter code
↓ Extended male thread	Extended male piston rod thread							
0 [mm]	1 … 20		1 … 25	1 … 35	4	**-...K2**		
Shortened male thread	Shortened male piston rod thread							
[mm]	1 … 4		1 … 8	1 … 10	5	**-...K6**		
Female thread	Female piston rod thread							
	–	–	(M4)	(M6)	6	**-K3**		
Special thread	Piston rod with special thread							
	–	–	–	M10		**-"..."K5**		
Piston rod extended at one end	Extended piston rod at one end							
[mm]	1 … 100		1 … 110	1 … 150		**...K8**		
Clamping unit	Attached				7	**-KP**		
Corrosion protection	–	High corrosion protection				**-R3**		
EU certification	II 2GD				8	**-EX4**		

4 **K2** Not with K3, K6
5 **K6** Not with K3
6 **K3** Not with K5
7 **KP** Only with S2.
Not with R3
8 **EX4** Not with KP

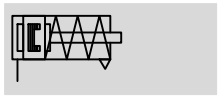
Transfer order code

– [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ]

Standard cylinders ESNU, ISO 6432

Technical data

Function



Diameter
8 ... 25 mm

Stroke length
1 ... 50 mm

Variants
➔43

Basic version

Axial air connection MA

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/pads at both ends					
Position sensing	Via proximity sensor					
Type of mounting	Via accessories					
Mounting position	Any					

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Operating conditions							
Piston ∅		8	10	12	16	20	25
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]					
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)					
Operating pressure	[bar]	1.5 ... 10			1.2 ... 10		

Ambient conditions		
Standard cylinder		
Ambient temperature[1]	[°C]	–20 ... +80
Corrosion resistance class CRC[2]		2

1) Note operating range of proximity sensors.
2) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Standard cylinders ESNU, ISO 6432

Technical data

Force [N] and impact energy [J]						
Piston ∅	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
25 mm stroke	4.1	4.1	5.4	11.9	16.5	21.2
50 mm stroke	2.8	4.8	3.9	9.8	13.6	18.5
Max. impact energy at the end positions[1)]	0.03	0.05	0.07	0.15	0.20	0.30

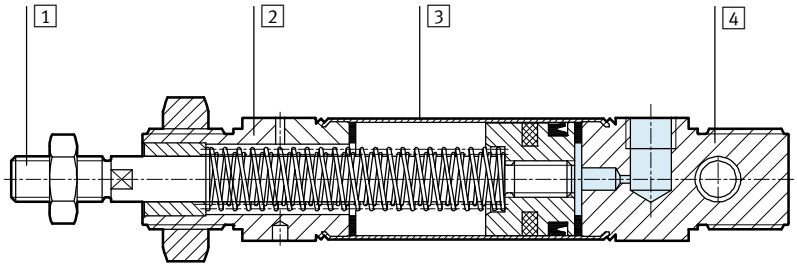
1) The values are reduced by approx. 50% at ambient temperatures of 80 °C

Weight ESNU-... [g]						
Piston ∅	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

Weight ESNU-...-MA [g]						
Piston ∅	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



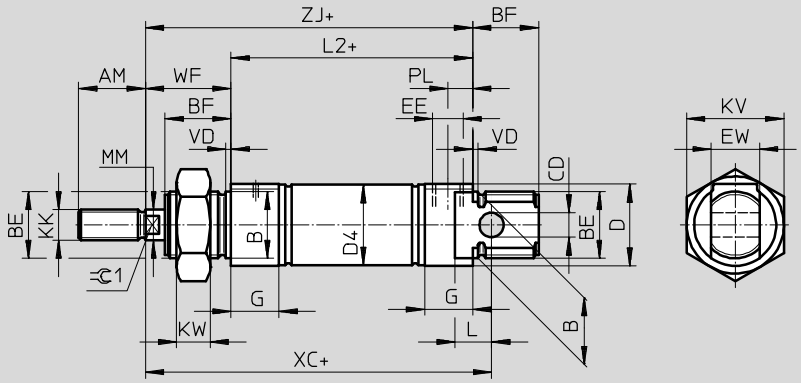
Standard cylinder		
1	Piston rod	High-alloy stainless steel
2	Bearing cap	Anodised aluminium
3	Cylinder barrel	High-alloy stainless steel
4	End cap	Anodised aluminium
–	Seals	Polyurethane, nitrile rubber
–	Spring	Spring steel

Standard cylinders ESNU, ISO 6432

Technical data

Dimensions Download CAD data ➔ **www.festo.com**

Basic version

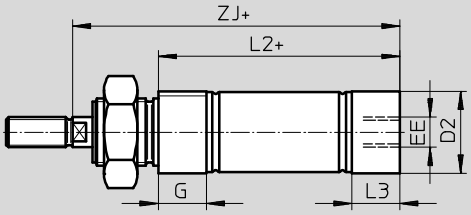


- Note

Piston rod nut is not included in scope of delivery for ∅ 8 ... 20.

\+ = plus stroke length

MA – Axial air connection



\+ = plus stroke length

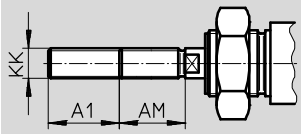
∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ H9	D ∅	D2 ∅	D4 ∅	EE	EW	G	KK	KV
8	12	12	M12x1.25	12	4	15	10.5	9.3	M5	8	10	M4	19
10							12.5	11.3					
12	16	16	M16x1.5	17	6	20	14.5	13.3		12		M6	24
16							17.5	17.3					
20	20	22	M22x1.5	20	8	27	21.7	21.3	G⅛	16	16	M8	32
25	22			22			26.7	26.5				M10x1.25	

∅ [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							59.1	
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

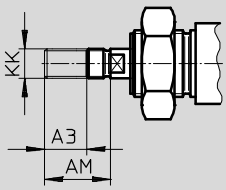
Note: This product conforms to ISO 1179-1 and to ISO 228-1

Dimensions Download CAD data ➔ **www.festo.com**

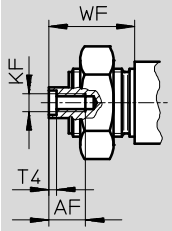
K2 – Extended male piston rod thread



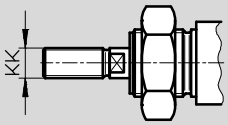
K6 – Shortened male piston rod thread



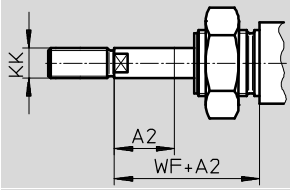
K3 – Female piston rod thread



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[1)]		
8	15	50	4	–	12	–	M4	–	–	16
10				–		–		–	–	
12	20			–	16	–	M6	–	–	22
16				–		–		–	–	
20	25		8	12	20	M4	M8	–	2	24
25	35				22	M6	M10x1.25	M10	2.6	28

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.

Ordering data			
Type	Stroke [mm]	Part No.	Type
Basic version			
	∅ 8 mm		
	10	**19254**	**ESNU-8-10-P-A**
	25	**19255**	**ESNU-8-25-P-A**
	50	**19256**	**ESNU-8-50-P-A**
	∅ 10 mm		
	10	**19257**	**ESNU-10-10-P-A**
	25	**19258**	**ESNU-10-25-P-A**
	50	**19259**	**ESNU-10-50-P-A**
	∅ 12 mm		
	10	**19260**	**ESNU-12-10-P-A**
	25	**19261**	**ESNU-12-25-P-A**
	50	**19262**	**ESNU-12-50-P-A**
	∅ 16 mm		
	10	**19263**	**ESNU-16-10-P-A**
	25	**19264**	**ESNU-16-25-P-A**
	50	**19265**	**ESNU-16-50-P-A**
	∅ 20 mm		
	10	**19266**	**ESNU-20-10-P-A**
	25	**19267**	**ESNU-20-25-P-A**
	50	**19268**	**ESNU-20-50-P-A**
	∅ 25 mm		
	10	**19269**	**ESNU-25-10-P-A**
	25	**19270**	**ESNU-25-25-P-A**
	50	**19271**	**ESNU-25-50-P-A**

Standard cylinders ESNU, ISO 6432

Technical data

Ordering data				
Type	∅ [mm]	Stroke [mm]	Part No.	Type
Variable stroke lengths				
	8	1 … 50	**14119**	**ESNU-8-…-P-A**
	10	1 … 50	**14118**	**ESNU-10-…-P-A**
	12	1 … 50	**14317**	**ESNU-12-…-P-A**
	16	1 … 50	**14316**	**ESNU-16-…-P-A**
	20	1 … 50	**14319**	**ESNU-20-…-P-A**
	25	1 … 50	**14318**	**ESNU-25-…-P-A**

Standard cylinders ESNU, ISO 6432

Ordering data – Modular products

FESTO

Ordering table

Size		8	10	12	16	20	25	Condi-tions	Code		Enter code
M	Module No.	**193996**	**193997**	**193998**	**193999**	**194000**	**194001**				
	Function	Standard cylinder, single-acting pushing, based on ISO 6432							**ESNU**		ESNU
	Piston ∅ [mm]	8	10	12	16	20	25		**-...**		
	Stroke [mm]	1 ... 50							**-...**		
	Cushioning	Flexible cushioning rings/pads at both ends							**-P**		-P
O	Position sensing	Via proximity sensor						1	**-A**		
	End cap	Axial air connection							**-MA**		

1 **A** Minimum stroke: 10 mm

Transfer order code

	ESNU	–		–		–	**P**	–		–		

Ordering table

	Size	8	10	12	16	20	25	Condi-tions	Code		Enter code
↓	Extended male thread	Extended male piston rod thread									
0	[mm]	1 … 15		1 … 20		1 … 25	1 … 35	2	**-...K2**		
	Shortened male thread	Shortened male piston rod thread									
	[mm]	1 … 4				1 … 8			**-...K6**		
	Female thread	Female piston rod thread									
		–	–	–	–	(M4)	(M6)	3	**-K3**		
	Special thread	Piston rod with special thread									
		–	–	–	–	–	M10		**-"..."K5**		
	Extended piston rod	Extended piston rod									
	[mm]	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

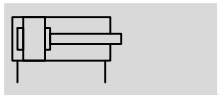
Transfer order code

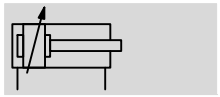
– | | – | | – | | – | | – | |

Standard cylinders DSN, ISO 6432

Technical data

Function





- Ø - 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	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/pads at both ends					
		–			Pneumatic cushioning, adjustable at both ends		
Cushioning length (PPV)	[mm]	–			14	17	
Type of mounting		Via accessories					
Mounting position		Any					

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Operating conditions							
Piston ∅		8	10	12	16	20	25
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]					
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)					
Operating pressure	[bar]	1.5 ... 10			1 ... 10		

Ambient conditions		
Standard cylinder		
Ambient temperature	[°C]	–20 ... +80
Corrosion resistance class CRC[1)]		2

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Standard cylinders DSN, ISO 6432

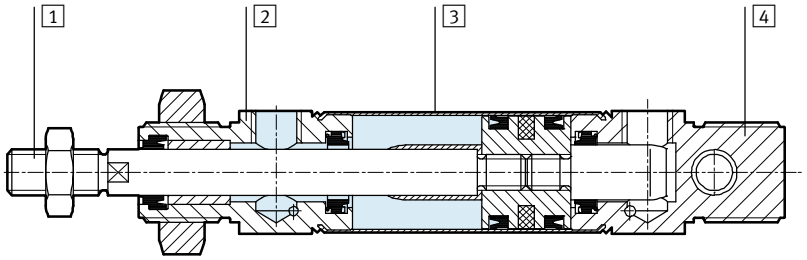
Technical data

Forces [N]						
Piston ∅	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

Weights [g]						
Piston ∅	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

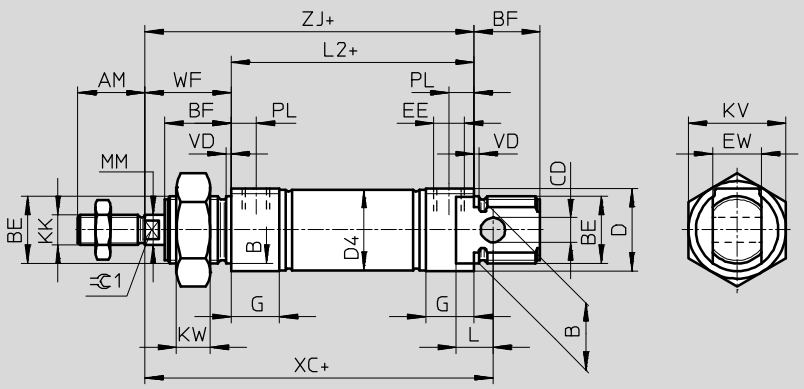
Sectional view



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

Dimensions Download CAD data ➔ **www.festo.com**

Basic version



- Note

Piston rod nut is not included in scope of delivery for ∅ 8 ... 20.

\+ = plus stroke length

∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ H9	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	G⅛	16	16	M8
25	22			22			26.5				M10x1.25

∅ [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											
12	24	8	9	50	6			22	75	72	5
16				56					82	78	
20	32	11	12	68	8	8.2		24	95	92	7
25				69.5	10			28	104	97.5	9

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Ordering data				
Type	Piston ∅ [mm]	Stroke [mm]	Flexible cushioning rings/pads at both ends	
			Part No.	Type
Basic version				
	8	10	**5033**	**DSN-8-10-P**
		25	**5034**	**DSN-8-25-P**
		40	**5035**	**DSN-8-40-P**
		50	**5036**	**DSN-8-50-P**
		80	**5037**	**DSN-8-80-P**
		100	**5038**	**DSN-8-100-P**
	10	10	**5040**	**DSN-10-10-P**
		25	**5041**	**DSN-10-25-P**
		40	**5042**	**DSN-10-40-P**
		50	**5043**	**DSN-10-50-P**
		80	**5044**	**DSN-10-80-P**
		100	**5045**	**DSN-10-100-P**
	12	10	**5047**	**DSN-12-10-P**
		25	**5048**	**DSN-12-25-P**
		40	**5049**	**DSN-12-40-P**
		50	**5050**	**DSN-12-50-P**
		80	**5051**	**DSN-12-80-P**
		100	**5052**	**DSN-12-100-P**
		125	**8519**	**DSN-12-125-P**
		160	**5053**	**DSN-12-160-P**
		200	**5054**	**DSN-12-200-P**

Ordering data							
Type	Piston ∅ [mm]	Stroke [mm]	Flexible cushioning rings/pads at both ends			Pneumatic cushioning, adjustable at both ends	
			Part No.	Type		Part No.	Type
Basic version							
	16	10	**5056**	**DSN-16-10-P**		–	
		25	**5057**	**DSN-16-25-P**			
		40	**5058**	**DSN-16-40-P**		**14534**	**DSN-16-40-PPV**
		50	**5059**	**DSN-16-50-P**		**14535**	**DSN-16-50-PPV**
		80	**5060**	**DSN-16-80-P**		**14536**	**DSN-16-80-PPV**
		100	**5061**	**DSN-16-100-P**		**14537**	**DSN-16-100-PPV**
		125	**8520**	**DSN-16-125-P**		**14538**	**DSN-16-125-PPV**
		160	**5062**	**DSN-16-160-P**		**14539**	**DSN-16-160-PPV**
		200	**5063**	**DSN-16-200-P**		**14540**	**DSN-16-200-PPV**
	20	10	**5065**	**DSN-20-10-P**		–	
		25	**5066**	**DSN-20-25-P**			
		40	**5067**	**DSN-20-40-P**		**8743**	**DSN-20-40-PPV**
		50	**5068**	**DSN-20-50-P**		**8744**	**DSN-20-50-PPV**
		80	**5069**	**DSN-20-80-P**		**8745**	**DSN-20-80-PPV**
		100	**5070**	**DSN-20-100-P**		**8746**	**DSN-20-100-PPV**
		125	**8521**	**DSN-20-125-P**		**8747**	**DSN-20-125-PPV**
		160	**5071**	**DSN-20-160-P**		**8748**	**DSN-20-160-PPV**
		200	**5072**	**DSN-20-200-P**		**8749**	**DSN-20-200-PPV**
		250	**8522**	**DSN-20-250-P**		**8750**	**DSN-20-250-PPV**
		300	**5073**	**DSN-20-300-P**		**8751**	**DSN-20-300-PPV**
		320	**34710**	**DSN-20-320-P**		**34712**	**DSN-20-320-PPV**
	25	10	**5075**	**DSN-25-10-P**		–	
		25	**5076**	**DSN-25-25-P**			
		40	**5077**	**DSN-25-40-P**		**9666**	**DSN-25-40-PPV**
		50	**5078**	**DSN-25-50-P**		**9667**	**DSN-25-50-PPV**
		80	**5079**	**DSN-25-80-P**		**9668**	**DSN-25-80-PPV**
		100	**5080**	**DSN-25-100-P**		**9669**	**DSN-25-100-PPV**
		125	**8523**	**DSN-25-125-P**		**8531**	**DSN-25-125-PPV**
		160	**5081**	**DSN-25-160-P**		**9670**	**DSN-25-160-PPV**
		200	**5082**	**DSN-25-200-P**		**9671**	**DSN-25-200-PPV**
		250	**8524**	**DSN-25-250-P**		**8532**	**DSN-25-250-PPV**
		300	**5083**	**DSN-25-300-P**		**9672**	**DSN-25-300-PPV**
		320	**34711**	**DSN-25-320-P**		**34713**	**DSN-25-320-PPV**
		400	**32298**	**DSN-25-400-P**		**32300**	**DSN-25-40-PPV**
		500	**32299**	**DSN-25-500-P**		**32301**	**DSN-25-500-PPV**

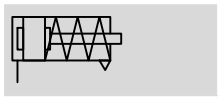
Ordering data							
Type	Piston ∅ [mm]	Stroke [mm]	Flexible cushioning rings/pads at both ends			Pneumatic cushioning, adjustable at both ends	
			Part No.	Type		Part No.	Type
Variable stroke lengths							
	8	1 … 100	**5032**	**DSN-8-…-P**		–	
	10	1 … 100	**5039**	**DSN-10-…-P**			
	12	1 … 200	**5046**	**DSN-12-…-P**			
	16	1 … 200	**5055**	**DSN-16-…-P**			
	20	1 … 320	**5064**	**DSN-20-…-P**			
	25	1 … 500	**5074**	**DSN-25-…-P**			
Variable stroke lengths							
	16	1 … 200	–			**14533**	**DSN-16-…-PPV**
	20	1 … 320				**8742**	**DSN-20-…-PPV**
	25	1 … 500				**9665**	**DSN-25-…-PPV**

Standard cylinders ESN, ISO 6432

Technical data

FESTO

Function



- Ø - Diameter
  8 ... 25 mm

- | - Stroke length
  1 ... 50 mm

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/pads at both ends					
Type of mounting	Via accessories					
Mounting position	Any					

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Operating conditions							
Piston ∅		8	10	12	16	20	25
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]					
Note on operating/pilot medium		Operation with lubricated medium possible (in which case lubricated operation will always be required)					
Operating pressure	[bar]	1.5 ... 10			1.2 ... 10		

Ambient conditions		
Standard cylinder		
Ambient temperature	[°C]	–20 ... +80
Corrosion resistance class CRC[1)]		2

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Standard cylinders ESN, ISO 6432

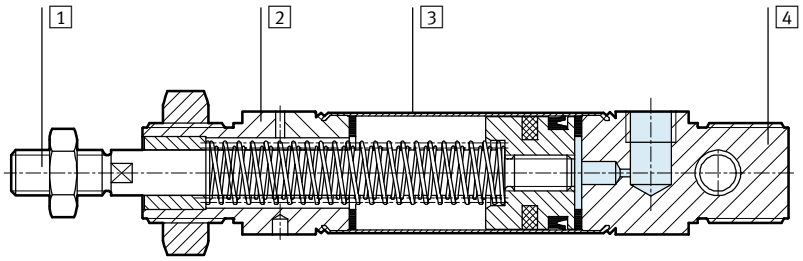
Technical data

Force [N] and impact energy [J]						
Piston ∅	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 end positions	0.03	0.05	0.07	0.15	0.20	0.30

Weight [g]						
Piston ∅	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

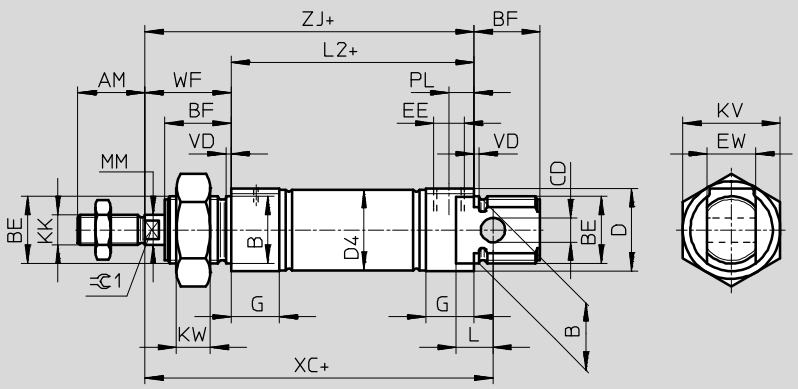
Sectional view



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

Dimensions Download CAD data ➔ **www.festo.com**

Basic version



- Note

Piston rod nut is not included in scope of delivery for ∅ 8 ... 20.

\+ = plus stroke length

∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ H9	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	G⅛	16	16	M8
25	22			22			26.5				M10x1.25

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

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Standard cylinders ESN, ISO 6432

Technical data

Ordering data			
Type	Stroke [mm]	Part No.	Type
Basic version			
	∅ 8 mm		
	10	**5086**	**ESN-8-10-P**
	25	**5087**	**ESN-8-25-P**
	50	**5088**	**ESN-8-50-P**
	∅ 10 mm		
	10	**5089**	**ESN-10-10-P**
	25	**5090**	**ESN-10-25-P**
	50	**5091**	**ESN-10-50-P**
	∅ 12 mm		
	10	**5092**	**ESN-12-10-P**
	25	**5093**	**ESN-12-25-P**
	50	**5094**	**ESN-12-50-P**
	∅ 16 mm		
	10	**5095**	**ESN-16-10-P**
	25	**5096**	**ESN-16-25-P**
	50	**5097**	**ESN-16-50-P**
	∅ 20 mm		
	10	**5098**	**ESN-20-10-P**
	25	**5099**	**ESN-20-25-P**
	50	**5100**	**ESN-20-50-P**
	∅ 25 mm		
	10	**5101**	**ESN-25-10-P**
	25	**5102**	**ESN-25-25-P**
	50	**5103**	**ESN-25-50-P**

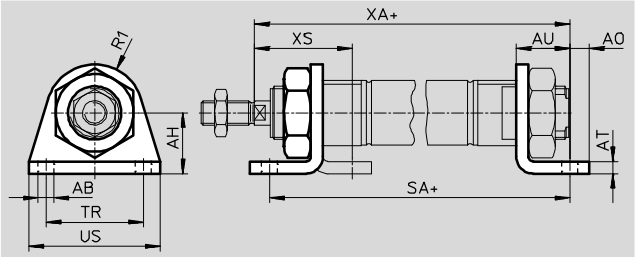
Ordering data				
Type	∅ [mm]	Stroke [mm]	Part No.	Type
Variable stroke lengths				
	8	1 … 50	**11651**	**ESN-8-…-P**
	10	1 … 50	**11652**	**ESN-10-…-P**
	12	1 … 50	**11653**	**ESN-12-…-P**
	16	1 … 50	**11654**	**ESN-16-…-P**
	20	1 … 50	**11655**	**ESN-20-…-P**
	25	1 … 50	**11656**	**ESN-25-…-P**

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 and PTFE
RoHS-compliant

HBN/CRHBN-...x2



\+ = plus stroke length

Dimensions and ordering data

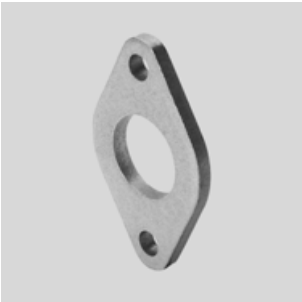
For ∅ [mm]	AB ∅	AH	AO	AT	AU	R1	SA	SA -KP	TR	US	XA	XA -KP	XS	XS -KP
8, 10	4.5	16	5	3	11	10	68	97	25	35	73	102	24	–
12	5.5	20	6	4	14	13	78	116	32	42	86	124	32	–
16	5.5	20	6	4	14	13	84	122	32	42	92	130	32	–
20	6.6	25	8	5	17	20	102	149	40	54	109	156	36	–
25	6.6	25	8	5	17	20	103.5	151.5	40	54	114.5	162.5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

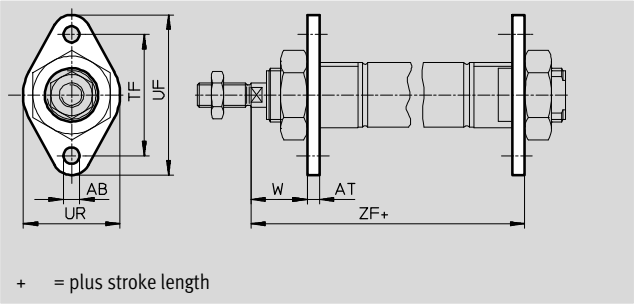
For ∅	Basic version				High corrosion protection			
[mm]	CRC[1]	Weight [g]	Part No.	Type	CRC[1]	Weight [g]	Part No.	Type
8, 10	2	20	**5123**	**HBN-8/10x1**	–	–	**–**	
	2	55	**5124**	**HBN-8/10x2**	–	–	**–**	
12, 16	2	40	**5125**	**HBN-12/16x1**	4	40	**161866**	**CRHBN-12/16x1**
	2	105	**5126**	**HBN-12/16x2**	4	97	**162999**	**CRHBN-12/16x2**
20, 25	2	90	**5127**	**HBN-20/25x1**	4	55	**161867**	**CRHBN-20/25x1**
	2	220	**5128**	**HBN-20/25x2**	4	100	**162998**	**CRHBN-20/25x2**

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (→ also FN 940082) using appropriate media.

Flange mounting FBN/CRFBN

Material:
FBN: Galvanised steel
CRFBN: High-alloy stainless steel
Free of copper and PTFE





Dimensions and ordering data

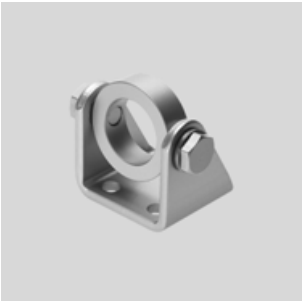
For ∅ [mm]	AB ∅	AT	TF	UF	UR	W	ZF	
								-KP
8, 10	4.5	3	30	40	25	13	65	94
12	5.5	4	40	53	30	18	76	114
16	5.5	4	40	53	30	18	82	120
20	6.6	5	50	66	40	19	97	144
25	6.6	5	50	66	40	23	102.5	150.5

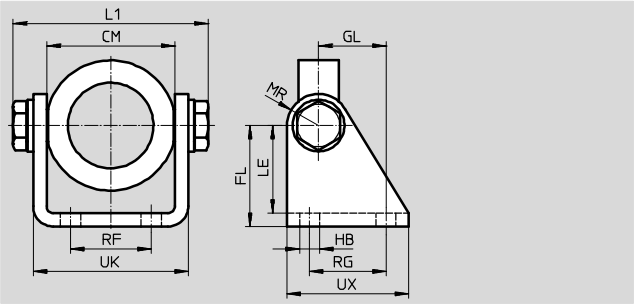
For ∅	Basic version				High corrosion protection			
[mm]	CRC[1)]	Weight [g]	Part No.	Type	CRC[1)]	Weight [g]	Part No.	Type
8, 10	2	12	**5129**	**FBN-8/10**	–	–	**–**	**–**
12, 16	2	26	**5130**	**FBN-12/16**	4	26	**161864**	**CRFBN-12/16**
20, 25	2	52	**5131**	**FBN-20/25**	4	52	**161865**	**CRFBN-20/25**

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (➔ also FN 940082) using appropriate media.

Swivel mounting SBN

Material:
Mounting ring: Wrought aluminium alloy, anodised
Bearing: Bronze
Screws: Galvanised steel
Bracket: Steel
Cannot be used on the bearing cap in combination with bellows kit DADB.





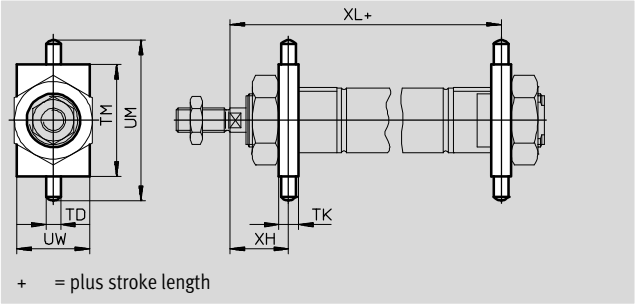
Dimensions and ordering data

For ∅ [mm]	CM	FL	GL	HB	L1 max.	LE	MR	RF	RG	UK	UX	CRC[1)]	Weight [g]	Part No.	Type
20/25	38.1$^{+0.4}$	35	20	7	60.2	31	12	20	24	46.1	40	2	200	**539927**	**SBN-20/25**

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Swivel mounting WBN

Material:
Galvanised steel
Free of copper and PTFE
RoHS-compliant
Cannot be used on the bearing cap in combination with bellows kit DADB.



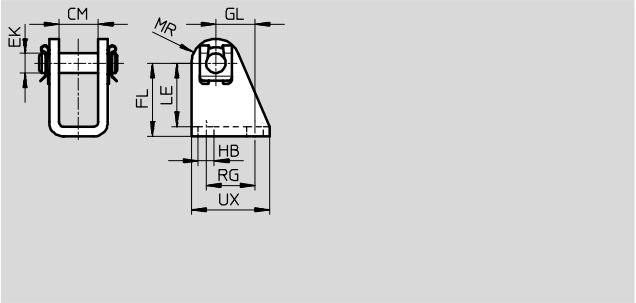
Dimensions and ordering data

For ∅ [mm]	TD ∅ f8	TK	TM	UM	UW	XH	XL	XL -KP	CRC[1]	Weight [g]	Part No.	Type
8, 10	4	6	26	38	20	13	65	94	2	20	**8608**	**WBN-8/10**
12	6	8	38	58	25	18	76	114	2	50	**8609**	**WBN-12/16**
16	6	8	38	58	25	18	82	120	2	50	**8609**	**WBN-12/16**
20	6	8	46	66	30	20	96	143	2	70	**8610**	**WBN-20/25**
25	6	8	46	66	30	24	101.5	149.5	2	70	**8610**	**WBN-20/25**

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Clevis foot LBN/CRLBN

Material:
LBN: Galvanised steel
CRLBN: High-alloy stainless steel
Free of copper and PTFE
RoHS-compliant



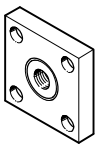
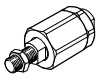
Dimensions and ordering data

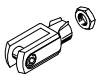
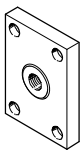
For ∅ [mm]	CM	EK ∅	FL	GL	HB	LE	MR	RG	UX
8, 10	8.1	4	24 +0.3/–0.2	13.8	4.5	21.5	5	12.5	20
12, 16	12.1	6	27 +0.3/–0.2	13	5.5	24	7	15	25
20, 25	16.1	8	30 +0.4/–0.2	16	6.6	26	10	20	32

For ∅ [mm]	Basic version				High corrosion protection			
	CRC[1]	Weight [g]	Part No.	Type	CRC[1]	Weight [g]	Part No.	Type
8, 10	1	22	**6057**	**LBN-8/10**	–	–	**–**	
12, 16	1	40	**6058**	**LBN-12/16**	4	55	**161862**	**CRLBN-12/16**
20, 25	1	81	**6059**	**LBN-20/25**	4	62	**161863**	**CRLBN-20/25**

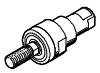
1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).
Corrosion resistance class CRC 4 to Festo standard FN 940070
Particularly high corrosion stress. Outdoor exposure under extreme corrosive conditions. Parts exposed to aggressive media, for instance in the chemical or food industries. These applications may need to be supported by special tests (➔ also FN 940082) using appropriate media.

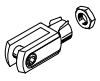
Ordering data – Piston rod attachments — Technical data ➔ Internet: piston rod attachments

Designation	For ∅	Part No.	Type
Rod eye SGS			
	8	**9253**	**SGS-M4**
	10		
	12	**9254**	**SGS-M6**
	16		
	20	**9255**	**SGS-M8**
	25	**9261**	**SGS-M10x1,25**
Coupling piece KSG			
	8	–	
	10		
	12		
	16		
	20		
	25	**32963**	**KSG-M10x1,25**
Self-aligning rod coupler FK			
	8	**6528**	**FK-M4**
	10		
	12	**2061**	**FK-M6**
	16		
	20	**2062**	**FK-M8**
	25	**6140**	**FK-M10x1,25**

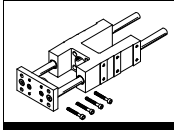
Designation	For ∅	Part No.	Type
Rod clevis SG			
	8	**6532**	**SG-M4**
	10		
	12	**3110**	**SG-M6**
	16		
	20	**3111**	**SG-M8**
	25	**6144**	**SG-M10x1,25**
Coupling piece KSZ			
	12	**36123**	**KSZ-M6**
	16		
	20	**36124**	**KSZ-M8**
	25	**36125**	**KSZ-M10x1,25**
Hex nut MSK			
	16	**189007**	**MSK-M16X1,5**
	20, 25	**189009**	**MSK-M22X1,5**

Ordering data – Piston rod attachments, corrosion resistant — Technical data ➔ Internet: crsg

Designation	For ∅	Part No.	Type
Rod eye CRSGS			
	12	**195580**	**CRSGS-M6**
	16		
	20	**195581**	**CRSGS-M8**
	25	**195582**	**CRSGS-M10x1,25**
Self-aligning rod coupler CRFK			
	25	**2305778**	**CRFK-M10x1,25**

Designation	For ∅	Part No.	Type
Rod clevis CRSG			
	12	**13567**	**CRSG-M6**
	16		
	20	**13568**	**CRSG-M8**
	25	**13569**	**CRSG-M10x1,25**

Ordering data – Guide units — Technical data ➔ Internet: feng

	For ∅	Stroke [mm]	With recirculating ball bearing guide Part No.	Type	With plain-bearing guide Part No.	Type
	8, 10	1 … 200	**35197**	**FEN-8/10-…-KF**	**35196**	**FEN-8/10-…**
	12, 16	1 … 200	**33481**	**FEN-12/16-…-KF**	**19168**	**FEN-12/16-…**
	20	2 … 250	**33482**	**FEN-20-…-KF**	**19169**	**FEN-20-…**
	25	2 … 250	**33483**	**FEN-25-…-KF**	**19170**	**FEN-25-…**

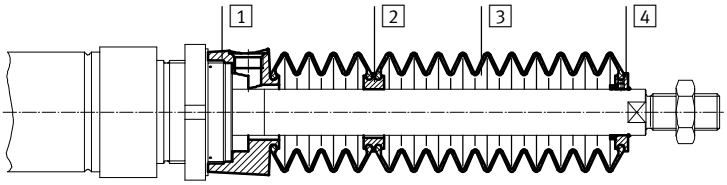
Bellows kit DADB

General technical data						
Type DADB-S1-			12	16	20	25
Max. stroke range of cylinder[1]	DSNU	[mm]	10 … 200	10 … 200	10 … 320	10 … 500
	ESNU[2]	[mm]	–		10 … 50	10 … 50
Type of mounting			With threaded pin			
Mounting position			Any			
Resistance to media			Dust, chippings, oil, grease, fuel (➔ Internet: Resistance to media)			
Ambient temperature[3]		[°C]	–10 … +80			
Corrosion resistance class CRC[4]			3			

1) In combination with the bellows kit DADB
2) Slight change in spring return force
3) Note operating range of proximity sensors and cylinder
4) Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. External visible parts with primarily functional requirements for the surface and which are in direct contact with a normal industrial environment.

Materials

Sectional view



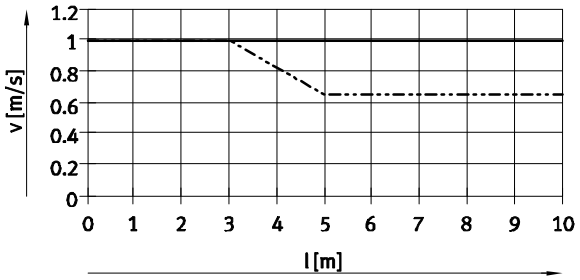
Bellows		
1	Connection	Polyamide
2	Intermediate piece	Polyamide
3	Bellows	Nitrile rubber
4	End piece	Polyamide
–	O-ring	Nitrile rubber
	Note on materials	Free of copper and PTFE
		RoHS compliant

Weight [g]				
Type DADB-S1- Stroke [mm]	12	16	20	25
10 … 50	7	7	20	19
51 … 100	9	9	32	31
101 … 150	13	13	45	44
151 … 200	16	16	58	57
201 … 250	–	–	73	72
251 … 300	–	–	85	84
301 … 350	–	–	100	98
351 … 400	–	–	–	109
401 … 450	–	–	–	124
451 … 500	–	–	–	136

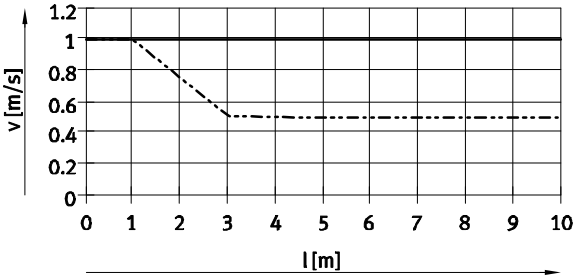
Speed of travel v as a function of tube length l

The bellows kit is a leak-free system. To prevent unwanted media from being drawn in, the supply and exhaust air must be ducted via a pressure compensation hole in the connection part 1.
The pressure generated in the bellows kit by the positioning motion is primarily defined by speed of travel and tubing length. The recommended tubing length based on the travel speed of the drive can be read from the graph.

Advancing



Retracting



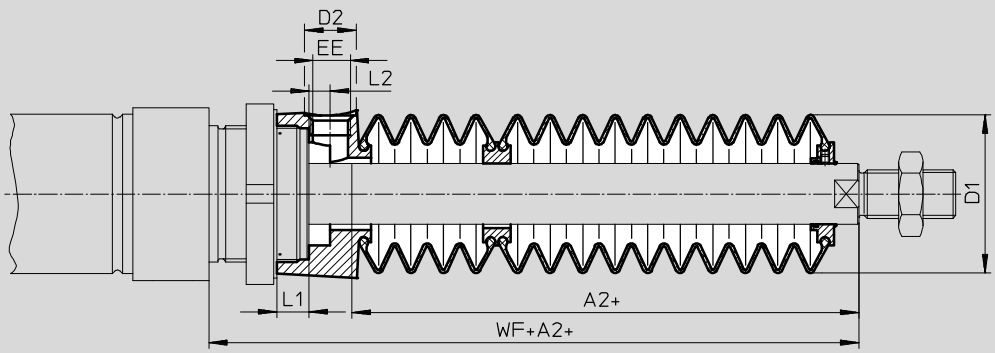
- Note

The push-in fittings opposite must be used for the pressure compensation hole.
Silencers can be used as an alternative. This reduces the travel speed slightly.

Tubing length and push-in fitting for pressure compensation hole

∅ [mm]	Tubing O.D. [mm]	Push-in fitting Part No.	Type
12, 16, 20, 25	6	**153317**	**QSM-M5-6-I**
		578371	**NPQH-DK-M5-Q6-P10**
		578335	**NPQH-D-M5-Q6-P10**
		578359	**NPQH-D-M5-S6-P10**

Dimensions Download CAD data ➔ **www.festo.com**



\+ = plus stroke length

∅	12/16							20						
Stroke [mm]	A2[1]	D1 max.	D2	EE	L1	L2	WF+A2	A2[1]	D1 max.	D2	EE	L1	L2	WF+A2
10 … 50	23	22	8.5	M5	5	3.2	45	22	29	8.5	M5	4.2	2.7	46
51 … 100	34						56	34						58
101 … 150	48						70	47						71
151 … 200	59						81	60						84
201 … 250	–						–	75						99
251 … 300	–						–	86						110
301 … 350	–						–	101						125
351 … 400	–						–	–						–
401 … 450	–						–	–						–
451 … 500	–						–	–						–

∅	25						
Stroke [mm]	A2[1]	D1 max.	D2	EE	L1	L2	WF+A2
10 … 50	22	29	8.5	M5	4.2	2.7	50
51 … 100	34						62
101 … 150	47						75
151 … 200	60						88
201 … 250	75						103
251 … 300	86						114
301 … 350	101						129
351 … 400	112						140
401 … 450	127						155
451 … 500	138						166

1) The dimension corresponds to the K8 value (extended piston rod) of the drive

Ordering data – Bellows kit

An extended piston rod (order code K8) is required when using a bellows kit
➔ Ordering data – Modular products.

The necessary dimensions for K8 as a function of piston diameter and cylinder stroke as well as the corresponding bellows kit are indicated in the table below:

Order example:
Selected standard cylinder:
DSNU-25-320-PPV-A-MQ-...
The dimension for the corresponding K8 value (see table):
101 mm
Complete type code for standard cylinder:
DSNU-25-320-PPV-A-MQ-...-101K8
The corresponding bellows kit:
DADB-S1-25-S301-350

Cylinder data			Bellows kit		Cylinder data			Bellows kit	
∅ [mm]	Stroke [mm]	Dimension for K8 [mm]	Part No.	Type	∅ [mm]	Stroke [mm]	Dimension for K8 [mm]	Part No.	Type
12	10 ... 50	23	**553391**	**DADB-S1-12-S10-50**	16	10 ... 50	23	**553399**	**DADB-S1-16-S10-50**
	51 ... 100	34	**553393**	**DADB-S1-12-S51-100**		51 ... 100	34	**553401**	**DADB-S1-16-S51-100**
	101 ... 150	48	**553395**	**DADB-S1-12-S101-150**		101 ... 150	48	**553403**	**DADB-S1-16-S101-150**
	151 ... 200	59	**553397**	**DADB-S1-12-S151-200**		151 ... 200	59	**553405**	**DADB-S1-16-S151-200**
20	10 ... 50	22	**553407**	**DADB-S1-20-S10-50**	25	10 ... 50	22	**553421**	**DADB-S1-25-S10-50**
	51 ... 100	34	**553409**	**DADB-S1-20-S51-100**		51 ... 100	34	**553423**	**DADB-S1-25-S51-100**
	101 ... 150	47	**553411**	**DADB-S1-20-S101-150**		101 ... 150	47	**553425**	**DADB-S1-25-S101-150**
	151 ... 200	60	**553413**	**DADB-S1-20-S151-200**		151 ... 200	60	**553427**	**DADB-S1-25-S151-200**
	201 ... 250	75	**553415**	**DADB-S1-20-S201-250**		201 ... 250	75	**553429**	**DADB-S1-25-S201-250**
	251 ... 300	86	**553417**	**DADB-S1-20-S251-300**		251 ... 300	86	**553431**	**DADB-S1-25-S251-300**
	301 ... 320	101	**553419**	**DADB-S1-20-S301-350**		301 ... 350	101	**553433**	**DADB-S1-25-S301-350**
						351 ... 400	112	**553435**	**DADB-S1-25-S351-400**
						401 ... 450	127	**553437**	**DADB-S1-25-S401-450**
						451 ... 500	138	**553439**	**DADB-S1-25-S451-500**

Note

Can only be used with piston ∅ 20 and 25 of the single-acting standard cylinder ESNU.

Ordering data – Proximity sensors, round design, magneto-resistive — Technical data ➔ Internet: smto

	Assembly	Switching output	Electrical connection		Cable length [m]	Connection direction	Part No.	Type
			Cable	Plug M8				
N/O contact								
	Via accessories	PNP	3-wire	–	2.5	In-line	**152836**	**SMTO-4U-PS-K-LED-24**
			–	3-pin	–	In-line	**152742**	**SMTO-4U-PS-S-LED-24**
		NPN	3-wire	–	2.5	In-line	**152837**	**SMTO-4U-NS-K-LED-24**
			–	3-pin	–	In-line	**152743**	**SMTO-4U-NS-S-LED-24**

Ordering data – Proximity sensors, round design, magnetic reed — Technical data ➔ Internet: smeo

	Assembly	Electrical connection		Cable length [m]	Connection direction	Part No.	Type
		Cable	Plug M8				
N/O contact							
	Via accessories	3-wire	–	2.5	In-line	**36198**	**SMEO-4U-K-LED-24**
				5	In-line	**175401**	**SMEO-4U-K5-LED-24**
		–	3-pin	–	In-line	**151526**	**SMEO-4U-S-LED-24-B**

Ordering data – Proximity sensors, round design, magnetic reed, corrosion resistant — Technical data ➔ Internet: crsmeo

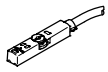
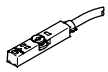
	Assembly	Electrical connection		Cable length [m]	Connection direction	Part No.	Type
		Cable	Plug M8				
N/O contact							
	Via accessories	3-wire	–	2.5	In-line	**161775**	**CRSMEO-4-K-LED-24**

Ordering data – Mounting kits for proximity sensors SMEO/SMTO/CRSMEO — Technical data ➔ Internet: smbr

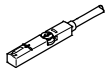
Designation	For ∅	Part No.	Type
Mounting kit SMBR			
	8	**19272**	**SMBR-8**
	10	**19273**	**SMBR-10**
	12	**19274**	**SMBR-12**
	16	**19275**	**SMBR-16**
	20	**19276**	**SMBR-20**
	25	**19277**	**SMBR-25**

Designation	For ∅	Part No.	Type
Mounting kit CRSMBR, corrosion resistant			
	8	–	–
	10	–	–
	12	**164581**	**CRSMBR-12**
	16	**164582**	**CRSMBR-16**
	20	**164583**	**CRSMBR-20**
	25	**164584**	**CRSMBR-25**

Ordering data – Proximity sensors for T-slot, magneto-resistive — Technical data ➔ Internet: smt

	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with cylinder profile, short design	PNP	Cable, 3-wire	2.5	**574335**	**SMT-8M-A-PS-24V-E-2,5-OE**
			Plug M8x1, 3-pin	0.3	**574334**	**SMT-8M-A-PS-24V-E-0,3-M8D**
			Plug M12x1, 3-pin	0.3	**574337**	**SMT-8M-A-PS-24V-E-0,3-M12**
		NPN	Cable, 3-wire	2.5	**574338**	**SMT-8M-A-NS-24V-E-2,5-OE**
			Plug M8x1, 3-pin	0.3	**574339**	**SMT-8M-A-NS-24V-E-0,3-M8D**
N/C contact						
	Insertable in the slot from above, flush with cylinder profile, short design	PNP	Cable, 3-wire	7.5	**574340**	**SMT-8M-A-PO-24V-E-7,5-OE**

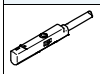
Ordering data – Proximity sensors for T-slot, magnetic reed — Technical data ➔ Internet: sme

	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	**543862**	**SME-8M-DS-24V-K-2,5-OE**
				5.0	**543863**	**SME-8M-DS-24V-K-5,0-OE**
			Cable, 2-wire	2.5	**543872**	**SME-8M-ZS-24V-K-2,5-OE**
			Plug M8x1, 3-pin	0.3	**543861**	**SME-8M-DS-24V-K-0,3-M8D**
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	**150855**	**SME-8-K-LED-24**
			Plug M8x1, 3-pin	0.3	**150857**	**SME-8-S-LED-24**
N/C contact						
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	7.5	**160251**	**SME-8-O-K-LED-24**

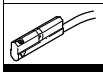
Ordering data – Mounting kits for proximity sensors SME/SMT-8 — Technical data ➔ Internet: smbr

Designation	For ∅	Part No.	Type
Mounting kit SMBR-8			
	8	**175091**	**SMBR-8-8**
	10	**175092**	**SMBR-8-10**
	12	**175093**	**SMBR-8-12**
	16	**175094**	**SMBR-8-16**
	20	**175095**	**SMBR-8-20**
	25	**175096**	**SMBR-8-25**

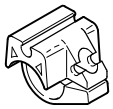
Ordering data – Proximity sensors for slot type 10 (C-slot), magneto-resistive — Technical data ➔ Internet: smt

	Type of mounting	Switching output	Electrical connection, connection direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above	PNP	Cable, 3-wire, in-line	2.5	**551373**	**SMT-10M-PS-24V-E-2,5-L-OE**
			Plug M8x1, 3-pin, in-line	0.3	**551375**	**SMT-10M-PS-24V-E-0,3-L-M8D**
			Plug M8x1, 3-pin, angled	0.3	**551376**	**SMT-10M-PS-24V-E-0,3-Q-M8D**

Ordering data – Proximity sensors for C-slot, magnetic reed — Technical data ➔ Internet: sme

	Type of mounting	Switching output	Electrical connection, connection direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above	Contacting	Plug M8x1, 3-pin, in-line	0.3	**551367**	**SME-10M-DS-24V-E-0,3-L-M8D**
			Cable, 3-wire, in-line	2.5	**551365**	**SME-10M-DS-24V-E-2,5-L-OE**
			Cable, 2-wire, in-line	2.5	**551369**	**SME-10M-ZS-24V-E-2,5-L-OE**
	Insertable in slot lengthwise	Contacting	Plug M8x1, 3-pin, in-line	0.3	**173212**	**SME-10-SL-LED-24**
			Cable, 3-wire, in-line	2.5	**173210**	**SME-10-KL-LED-24**

Ordering data – Mounting kits for proximity sensors SME/SMT-10 — Technical data ➔ Internet: smbr

Designation	For ∅	Part No.	Type
Mounting kit SMBR-10			
	8	**175101**	**SMBR-10-8**
	10	**173227**	**SMBR-10-10**
	12	**175102**	**SMBR-10-12**
	16	**173228**	**SMBR-10-16**
	20	**175103**	**SMBR-10-20**
	25	**175104**	**SMBR-10-25**

Ordering data – Connecting cables — Technical data ➔ Internet: nebu

	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	**541333**	**NEBU-M8G3-K-2.5-LE3**
			5	**541334**	**NEBU-M8G3-K-5-LE3**
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	**541363**	**NEBU-M12G5-K-2.5-LE3**
			5	**541364**	**NEBU-M12G5-K-5-LE3**
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	**541338**	**NEBU-M8W3-K-2.5-LE3**
			5	**541341**	**NEBU-M8W3-K-5-LE3**
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	**541367**	**NEBU-M12W5-K-2.5-LE3**
			5	**541370**	**NEBU-M12W5-K-5-LE3**

Ordering data – One-way flow control valves — Technical data ➔ Internet: grl

	Port		Material	Part No.	Type
	Thread	For tubing O.D.			
For exhaust air					
	M5	3	Metal design	**193137**	**GRLA-M5-QS-3-D**
		4		**193138**	**GRLA-M5-QS-4-D**
		6		**193139**	**GRLA-M5-QS-6-D**
	G1⁄8	3		**193142**	**GRLA-1⁄8-QS-3-D**
		4		**193143**	**GRLA-1⁄8-QS-4-D**
		6		**193144**	**GRLA-1⁄8-QS-6-D**
		8		**193145**	**GRLA-1⁄8-QS-8-D**
For supply air					
	M5	3	Metal design	**193153**	**GRLZ-M5-QS-3-D**
		4		**193154**	**GRLZ-M5-QS-4-D**
		6		**193155**	**GRLZ-M5-QS-6-D**
	G1⁄8	3		**193156**	**GRLZ-1⁄8-QS-3-D**
		4		**193157**	**GRLZ-1⁄8-QS-4-D**
		6		**193158**	**GRLZ-1⁄8-QS-6-D**
		8		**193159**	**GRLZ-1⁄8-QS-8-D**

Ordering data – One-way flow control valves, corrosion resistant — Technical data ➔ Internet: crgrla

	Port		Material	Part No.	Type
	Thread	For push-in fitting			
For exhaust air					
	M5	CRQS/CRQSL/CRQST	Electrolytically polished stainless steel casting	**161403**	**CRGRLA-M5-B**
	G1⁄8			**161404**	**CRGRLA-1⁄8-B**

Note

Only push-in fittings or one-way flow control valves with cylindrical connecting thread (M or G thread) may be used for the compressed air ports in conjunction with the DSNUP.

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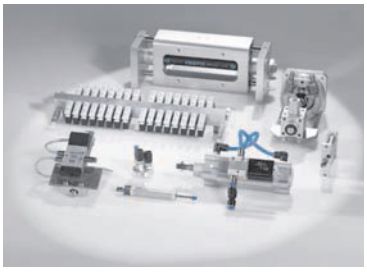

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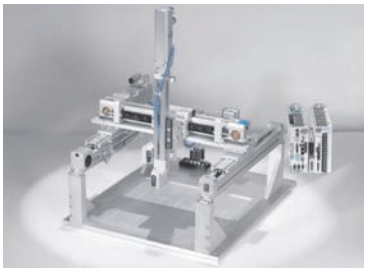

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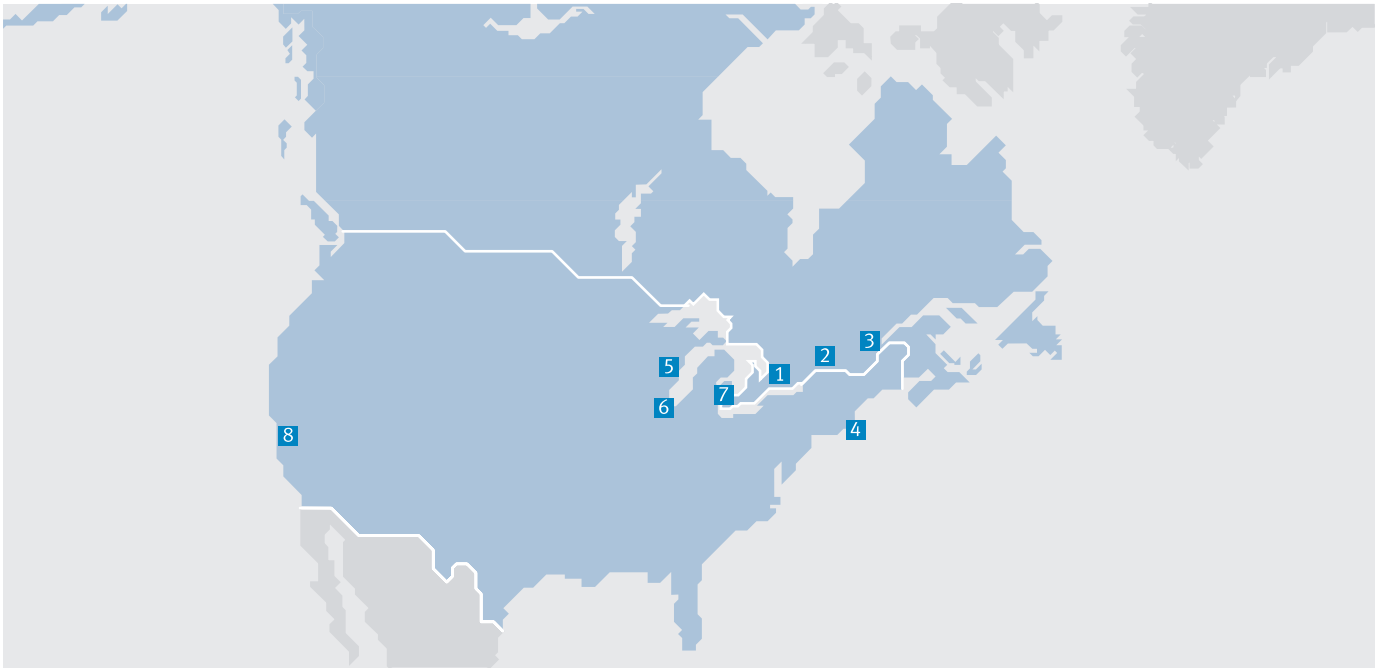

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