Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

FESTO

Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Key features

At a glance

DSNU-8 ... 63

- Stainless steel piston rod
- Good running performance and long service
- Piston rod with external and internal thread

- An extensive range of accessories makes it possible to install the cylinder virtually anywhere

DSNU-8 ... 25

ISO 6432

- Corresponds to standard design in accordance with ISO 6432. Variants are based on these standards

Wide choice of variants

DSNU/ESNU-...

- Piston ∅ 8 ... 63
- Cylinder barrel made of stainless steel
- Bearing and end caps made of wrought aluminium alloy

DSNUP-...

- Piston ∅ 16 ... 25
- Cylinder barrel made of wrought aluminium alloy
- Bearing and end caps made of polyamide
- Cost optimised

DSNU/ESNU-...-MA

- Piston ∅ 8 ... 63
- Cylinder barrel made of stainless steel
- Bearing cap with flange thread
- Short end cap with axial supply port

DSNU-...-MQ

- Piston ∅ 8 ... 63
- Cylinder barrel made of stainless steel
- Bearing cap with flange thread
- Short end cap with lateral supply port

DSNU-...-MH

- Piston ∅ 8 ... 63
- Cylinder barrel made of stainless steel
- Direct mounting on bearing cap
- Short end cap with lateral supply port

DSNU-...-KP

- Piston ∅ 8 ... 63
- Cylinder barrel made of stainless steel
- With clamping unit

DSNU-...-Q

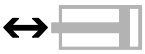
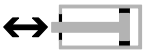
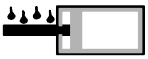
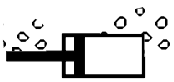
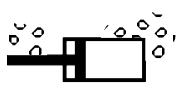
- Piston ∅ 12 ... 63
- Cylinder barrel made of stainless steel
- With square piston rod

DSN/ESN-...

- Piston ∅ 8 ... 25
- Cylinder barrel made of stainless steel
- Without position sensing

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

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 940070. The piston rod is made from corrosion and acid resistant steel
	R8 Dust protection (wiper seal) (32 ... 63 mm)	The cylinder is equipped with a hard-chrome plated piston rod and a rigid wiper seal, which protects against dry, dusty media
	A6 Metal wiper seal (32 ... 63 mm)	The cylinder is fitted with a hard-chrome plated piston rod and metal wiper seal which scrapes off hard particles (e.g. welding spatter) that stick to the piston rod. For use in welding systems, for example

Longer service life with bellows kit DADB

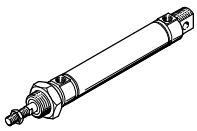
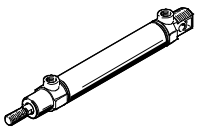
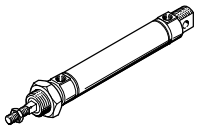
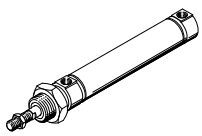
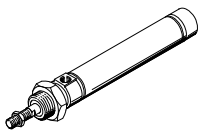
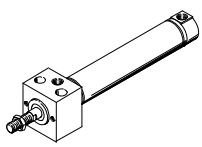
The bellows kit is a leak-free system. To prevent unwanted media from being drawn in, the supply and exhaust air of the kit must be ducted via a pressure compensation hole in the connection section 1.

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

- dust
- chippings
- oil
- grease
- fuel

Round cylinders DSNU/DSNUP

Product range overview

Version	Version	Piston ∅ [mm]	Stroke [mm]	Variable stroke[1] [mm]	Piston rod: Through S2	Piston rod: Extended K8	Piston rod: Male thread: Extended K2	Piston rod: Male thread: Shortened K6	Piston rod: Male thread: Special thread K5	Piston rod: Female thread K3
Double-acting	**DSNU-... – Cylinder barrel made of stainless steel**									
		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	■	■	■	■	■ above ∅ 25	■ above ∅ 20
		12, 16		1 ... 200						
		20		1 ... 320						
		25		1 ... 500						
		32, 40, 50, 63	25, 40, 50, 80, 100, 125, 160, 200, 250, 320	1 ... 500						
	DSNUP-... – Cylinder barrel made of aluminium									
		16	25, 50, 100	2)	–	–	–	–	–	–
		20								
		25								
	DSNU-Q... – Protected against rotation									
		12, 16	–	5 ... 160	■	■	■	■	■ above ∅ 25	■ above ∅ 20
		20	–	5 ... 200						
		25	–	5 ... 250						
		32	–	5 ... 300						
		40, 50	–	5 ... 400						
		63	–	5 ... 500						
	DSNU-MQ... – Lateral air connection									
		8, 10	–	1 ... 100	–	■	■	■	■	■
		12, 16	–	1 ... 200						
		20	–	1 ... 320						
		25	–	1 ... 500						
		32, 40, 50, 63	–	1 ... 500						
	DSNU-MA... – Axial air connection									
		8, 10	–	1 ... 100	–	■	■	■	■	■
		12, 16	–	1 ... 200						
		20	–	1 ... 320						
		25	–	1 ... 500						
		32, 40, 50 63	–	1 ... 500						
	DSNU-MH... – Direct mounting									
		8, 10	–	1 ... 100	■	■	■	■	■	■
		12, 16	–	1 ... 200						
		20	–	1 ... 320						
		25	–	1 ... 500						
		32, 40, 50 63	–	1 ... 500						

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

Round cylinders DSNU/DSNUP

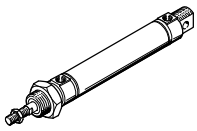
Product range overview

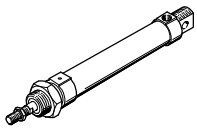
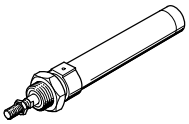
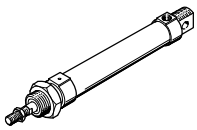
Piston rod	Cushioning			Position sensing	Clamping unit	Heat-resistant seal	Slow speed (constant motion operation)	Low friction	Corrosion protection	Dust protection (wiper seal)	Metal wiper seal	➔ Page/ Internet
	Fixed P	Adjustable PPV[3]	Self-adjusting PPS	A	KP	S6	S10	S11	R3	R8	A6	
DSNU-... – Cylinder barrel made of stainless steel												
8 ... 63	■	■ above ∅ 16	■ above ∅ 16	■	■	■	■ above ∅ 12	■ above ∅ 12	■ above ∅ 12	■ above ∅ 32	■ above ∅ 32	12
DSNUP-... –Cylinder barrel made of aluminium												
16 ... 25	■	–	–	■	–	–	–	–	–	–	–	46
DSNU-Q... – Protected against rotation												
12 ... 63	■ ∅ 12 and above ∅ 32	■ above ∅ 16	–	■	■	■ above ∅ 32	–	–	■ above ∅ 16	–	–	50
DSNU-MQ... – Lateral air connection												
8 ... 63	■	■ above ∅ 16	■ above ∅ 16	■	■	■	–	–	■	■ above ∅ 32	■ above ∅ 32	12
DSNU-MA... – Axial air connection												
8 ... 63	■ above ∅ 32	–	–	■	■	■	–	–	■	–	■	12
DSNU-MH... – Direct mounting												
8 ... 63	■	■ above ∅ 32	–	■	–	■	–	–	■	–	–	12

3) In the modular product system from ∅ 12 mm

Round cylinders DSN/ESNU/ESN

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	**DSN-... – without position sensing**									
		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	**ESNU-... – with position sensing**					
		8 ... 63	10, 25, 50	1 ... 50	■	■
	ESNU-MA-... – Axial air connection					
		8 ... 63	–	1 ... 50	■	■
	ESN-... – without position sensing					
		8 ... 25	10, 25, 50	1 ... 50	■	–

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

Round cylinders DSN/ESNU/ESN

Product range overview

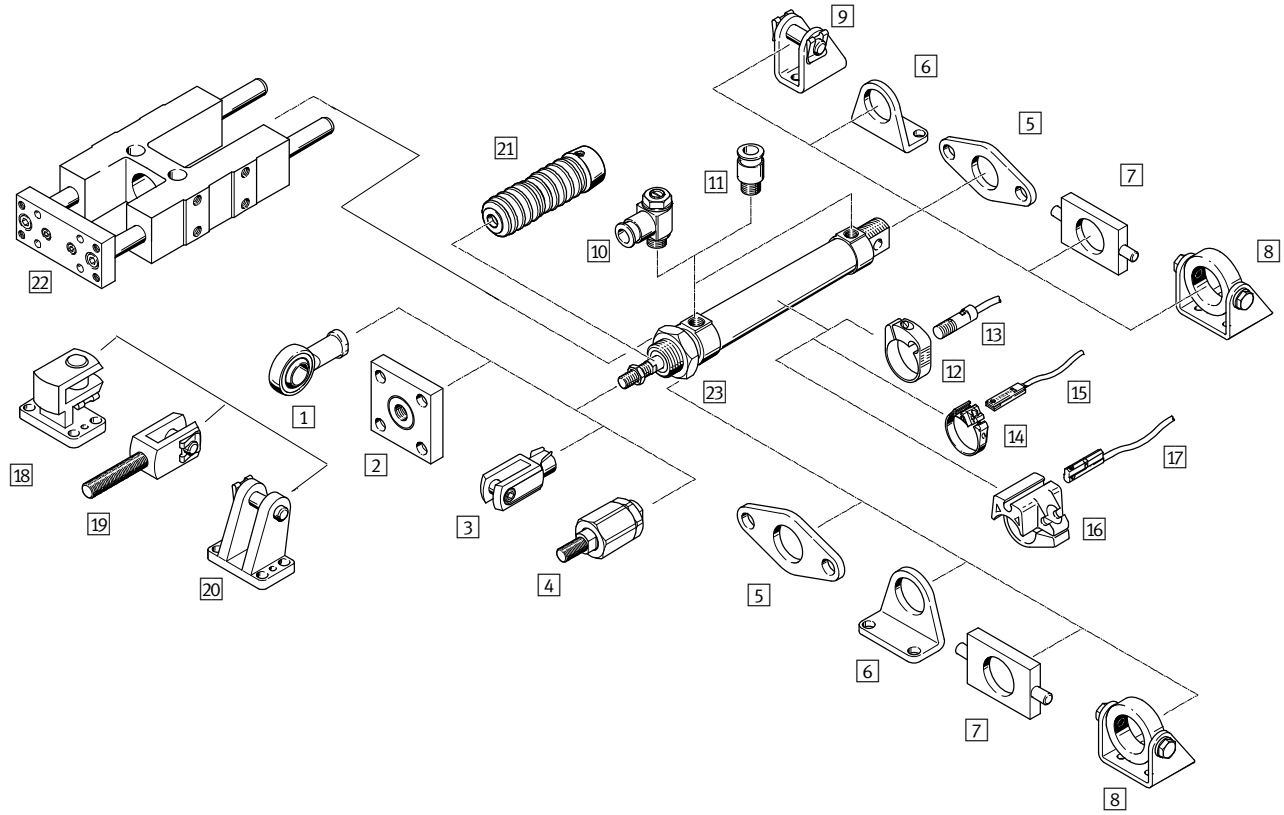
Piston ∅	Cushioning			Position sensing	Clamping unit	Heat-resistant seal	Slow speed (constant motion operation)	Low friction	Corrosion protection	Dust protection (wiper seal)	→ Page/ Internet
	Fixed P	Adjustable PPV[2)]	Self-adjusting PPS	A	KP	S6	S10	S11	R3	R8	
DSN-... – without position sensing											
8 ... 25	■	■ above ∅ 16	–	–	–	–	–	–	–	–	70

Piston ∅	Piston rod					→ Page/ Internet
	Extended	Male thread			Female thread	
		Extended	Shortened	Special thread		
	K8	K2	K6	K5	K3	
ESNU-... – with position sensing						
8 ... 63	■	■	■	■	■	58
ESNU-MA-... – Axial air connection						
8 ... 63	■	■	■	■	■	58
ESN-... – without position sensing						
8 ... 25	–	–	–	–	–	76

2) In the modular product system from ∅ 12 mm

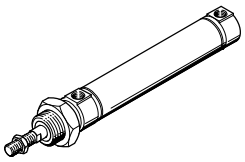
Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Peripherals overview

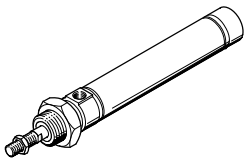


Variants

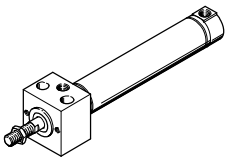
DSNU-MQ



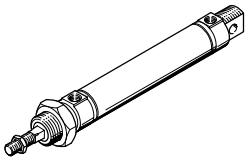
DSNU-MA



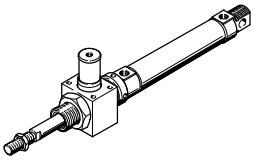
DSNU-MH



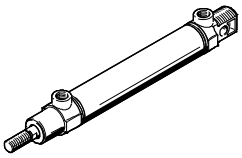
DSNU-Q



DSNU-KP

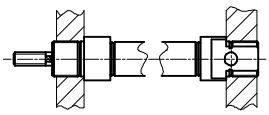


DSNUP

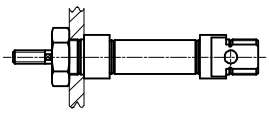


Mounting options

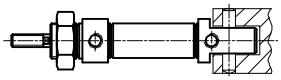
Mounting front and rear



Mounting with hex nut

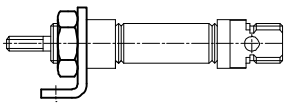


Swivel mounting

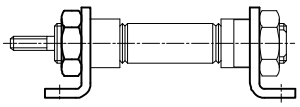


Installation variants with mounting attachments

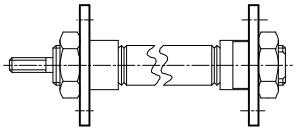
Foot mounting (for short strokes)



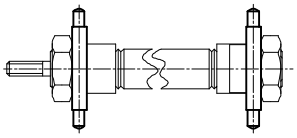
Foot mounting



Flange mounting



Swivel mounting



Mounting attachments and accessories	Piston ∅	DSNU/ ESNU	DSNUP	DSNU/ ESNU	DSNU			DSNU-Q	DSN/ESN	→ Page/ Internet
				MA	MQ	MH	KP			
1 Rod eye SGS/CRSGS	8 … 63	■	■	■	■	■	■	■	■	86, 87
2 Coupling piece KSG/KSZ	12 … 63	■	■	■	■	■	■	■	■	86
3 Rod clevis SG/CRSG	8 … 63	■	■	■	■	■	■	■	■	86, 87
4 Self-aligning rod coupler FK/CRFK	8 … 63	■	■	■	■	■	■	■	■	86, 87
5 Flange mounting FBN/CRFBN/CRFV	8 … 63	■	■	■	■	–	■	■	■	82, 83
6 Foot mounting HBN/CRHBN/CRH	8 … 63	■	■	■	■	–	■	■	■	80, 81
7 Swivel mounting[1] WBN	8 … 63	■	■	■	■	–	■	■	■	84
8 Swivel mounting[1] SBN	20 … 63	■	–	■	■	–	■	■	■	84
9 Clevis foot LBN/CRLBN	8 … 63	■	■	–	–	–	■	■	■	85
10 One-way flow control valve[2] GRLA/GRLZ/CRGRLA	8 … 63	■	■	■	■	■	■	■	■	97
11 Push-in fitting[2] QS	8 … 63	■	■	■	■	■	■	■	■	quick star
12 Mounting kit SMBR/CRSMBR	8 … 63	■	–	■	■	■	■	■	–	94
13 Proximity sensor SMEO/SMTO/CRSMEO-4	8 … 63	■	–	■	■	■	■	■	–	94
14 Mounting kit SMBR-8	12 … 63	■	■	■	■	■	■	■	–	95
15 Proximity sensor SME/SMT-8	8 … 63	■	■	■	■	■	■	■	–	95
16 Mounting kit SMBR-10	12 … 63	■	–	■	■	■	■	■	–	96
17 Proximity sensor SME/SMT-10	8 … 63	■	–	■	■	■	■	■	–	96
18 Right-angle clevis foot LQG	32 … 63	■	–	■	■	■	■	■	–	85
19 Rod clevis SGA	32 … 63	■	–	■	■	■	■	■	–	86
20 Clevis foot LBG	32 … 63	■	–	■	■	■	■	■	–	85
21 Bellows kit[3] DADB	12 … 63	■	–	■	■	–	–	–	–	88
22 Guide unit FEN	8 … 25	■	–	■	■	–	–	–	■	87
23 Hex nut MSK	16 … 25	■	–	■	■	■	■	■	■	86

- Note

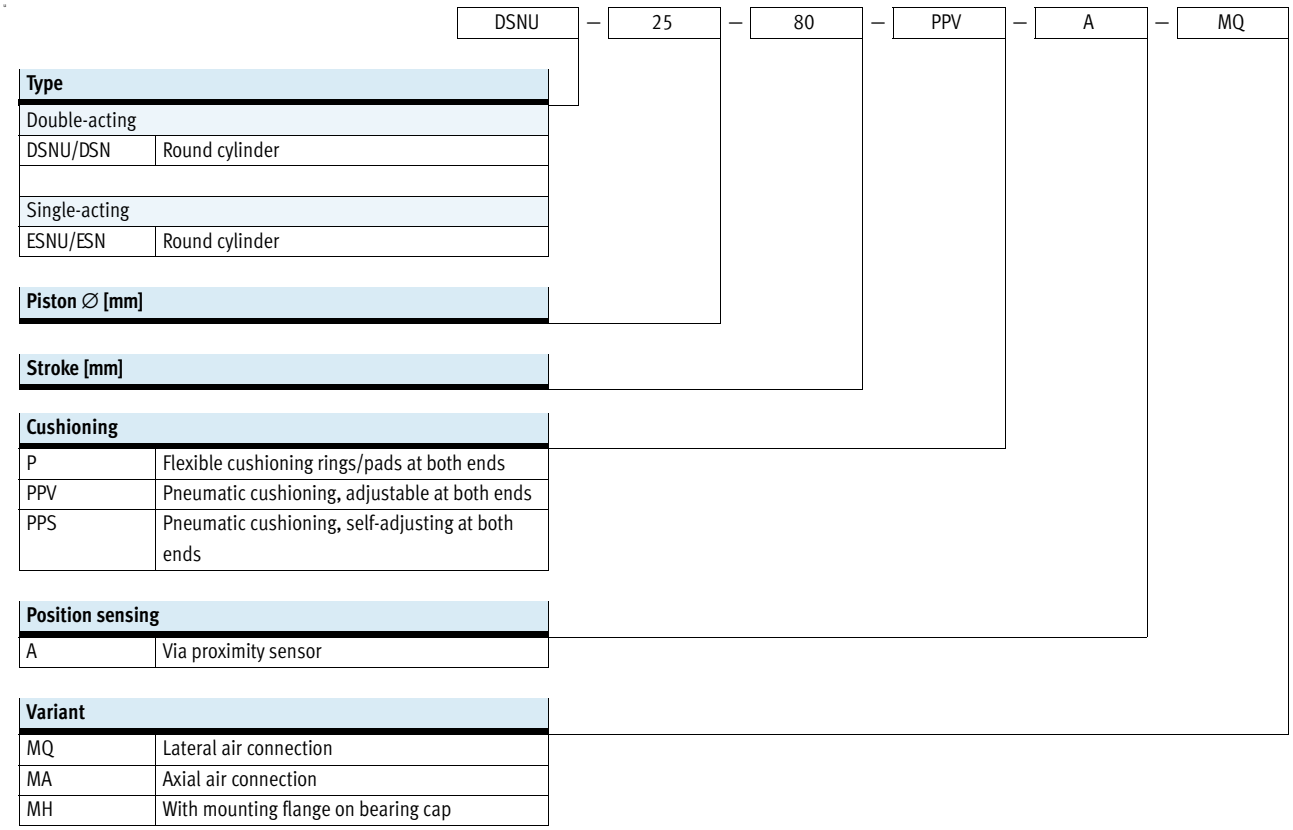
1) Cannot be used on the bearing cap in combination with bellows kit DADB.

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).

Round cylinders DSNU/DSNUP/DSN/ESNU/ESN

Type codes



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

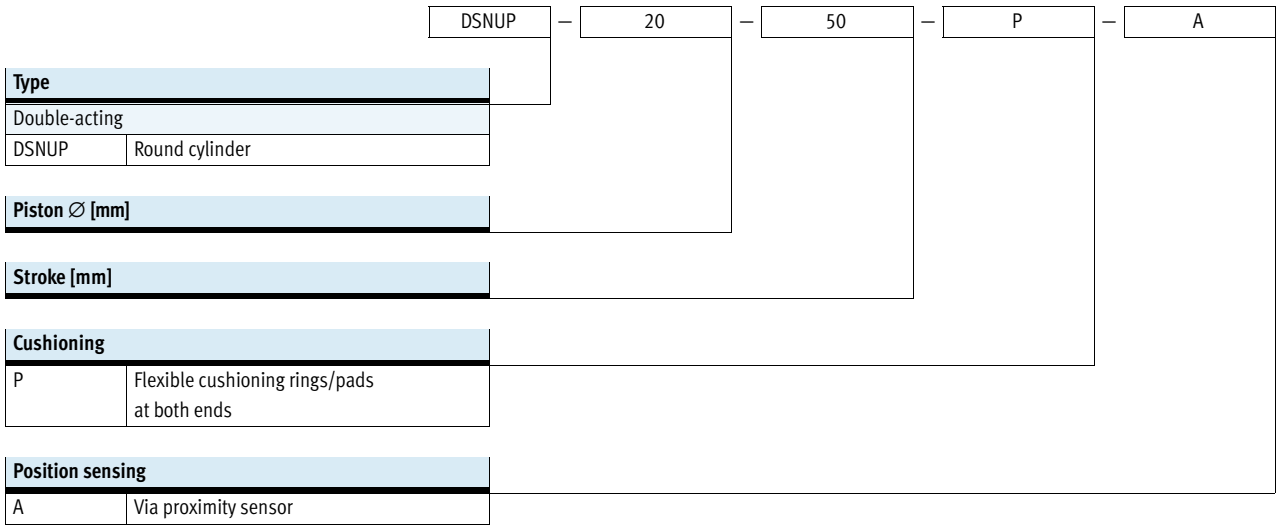
DSNU ➔ 28

ESNU ➔ 66

- Q – Square piston rod (protection against rotation)
- S2 – Through piston rod (piston rod type)
- K2 – Extended male piston rod thread
- K6 – Male piston rod thread, shortened at one end
- K3 – Female piston rod thread (female thread)
- K5 – Special piston rod thread (special thread)
- K8 – Extended piston rod at front
- KP – Clamping unit on the piston rod
- S6 – Heat-resistant seals for temperatures up to 120 °C (temperature resistance)
- S10 – Slow speed (constant motion at low piston rod speeds)
- S11 – Low friction
- EX4 – ATEX certification II 2GD
- R3 – All external cylinder surfaces conform to corrosion resistance class CRC 3 (corrosion protection)
- R8 – Dust protection (wiper seal) 32 ... 63 mm
- A6 – Metal wiper seal 32 ... 63 mm

Standard cylinders DSNU/DSNUP/DSN/ESNU/ESN

Type codes

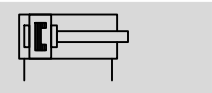


Round cylinders DSNU

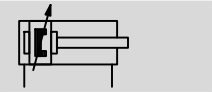
Technical data

Function

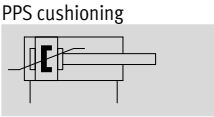
P cushioning



PPV cushioning



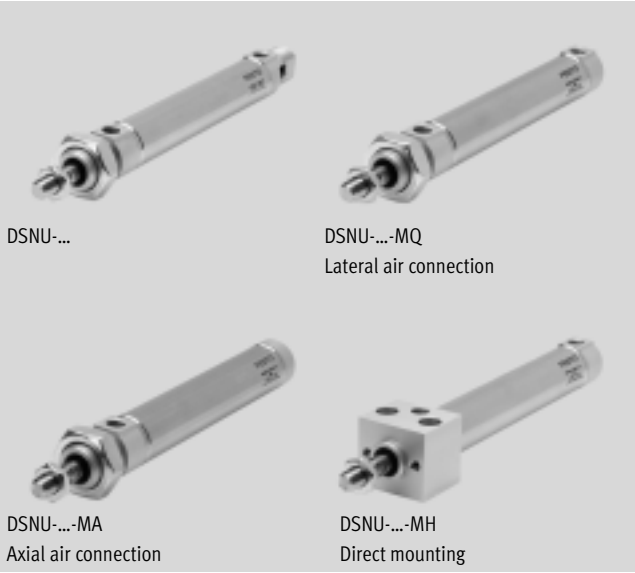
PPS cushioning



- Ø - Diameter
8 ... 25 mm
ISO 6432

- Ø - Diameter
32 ... 63 mm

- I - Stroke length
1 ... 500 mm



DSNU-...

DSNU-...-MQ
Lateral air connection

DSNU-...-MA
Axial air connection

DSNU-...-MH
Direct mounting

General technical data											
Piston ∅		8	10	12	16	20	25	32	40	50	63
Conforms		ISO 6432						–			
Pneumatic connection		M5	M5	M5	M5	G1⁄8	G1⁄8	G1⁄8	G1⁄4	G1⁄4	G3⁄8
Piston rod thread		M4	M4	M6	M6	M8	M10x1.25	M10x1,25	M12x1,25	M16x1,5	M16x1,5
Stroke[1)]	[mm]	1 ... 100		1 ... 200		1 ... 320	1 ... 500				
Constructional design		Piston / Piston rod / Cylinder barrel									
Cushioning											
DSNU-...-P		Flexible cushioning rings/pads at both ends									
DSNU-...-PPV		–		Adjustable cushioning at both ends							
DSNU-...-PPS		–			Self-adjusting cushioning at both ends						
Cushioning length											
DSNU-...-PPV	[mm]	–		9	12	15	17	14	18	20	21
DSNU-...-PPS	[mm]	–			12	15	17	14	18	20	21
Position sensing		Via proximity sensor									
Type of mounting		Direct mounting (MH variant only)									
		Via accessories									
Mounting position		Any									

1) Cylinders with position sensing require a minimum stroke of 10 mm to ensure reliable sensing
Longer strokes on request.

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

Operating and environmental conditions											
Piston ∅		8	10	12	16	20	25	32	40	50	63
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											
DSNU-...-	[bar]	1.5 ... 10[1]			1 ... 10						
DSNU-...-S10	[bar]	–		1.5 ... 10		1 ... 10		0.5 ... 10		0.4 ... 10	
DSNU-...-S11	[bar]	–		0.45 ... 10	0.3 ... 10			0.2 ... 10			
Ambient temperature[2]											
DSNU-...	[°C]	–20 ... +80									
DSNU-...-S6	[°C]	0 ... +120									
DSNU-...-S10	[°C]	+5 ... +80									
DSNU-...-S11	[°C]	+5 ... +80									
DSNU-...-R3	[°C]	–20 ... +80									
DSNU-...-A6	[°C]	–						–40 ... +150			

1) With DSNU-12- ... -PPV (pneumatic cushioning adjustable at both ends): 2 ... 10 bar
2) Note operating range of proximity sensors.

Operating and environmental conditions											
Piston ∅		8	10	12	16	20	25	32	40	50	63
Corrosion resistance class CRC[1]											
DSNU-...	[°C]	2									
DSNU-...-R3	[°C]	3									
Certification											
DSNU-...-P		Germanischer Lloyd						–			
DSNU-...-PPV		Germanischer Lloyd						–			

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 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.

Round cylinders DSNU

Technical data

Speed [mm/s]								
Piston ∅		16	20	25	32	40	50	63
Speed with stick-slip-free operation, horizontal, without load, at 6 bar	S10	10 ... 100			8 ... 100			5 ... 100
Minimum speed, advancing	S11	2.7	5.3	<1[1)]				
Minimum speed, retracting	S11	3.2	4.7	<1[1)]				

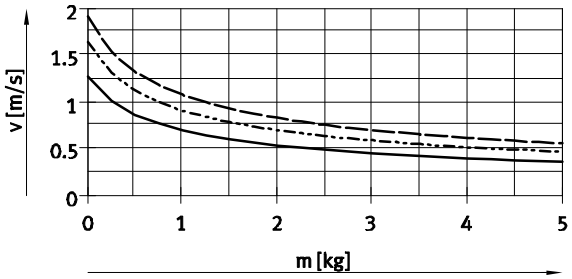
1) Measurements of less than 1 mm/s were not conducted

Force [N] and impact energy [J]										
Piston ∅	8	10	12	16	20	25	32	40	50	63
Theoretical force at 6 bar, advancing	30	47	68	121	189	295	483	753	1178	1870
Theoretical force at 6 bar, retracting	23	40	51	104	158	247	415	633	990	1682
Max. impact energy at the end positions for flexible cushioning elements[1)]	0.03	0.05	0.07	0.15	0.20	0.30	0.40	0.70	1.00	1.30

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

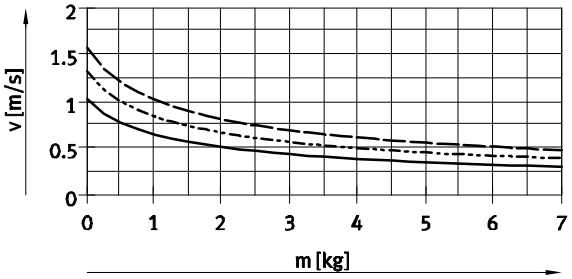
Average piston speed v as a function of payload m in combination with PPS cushionings

Piston ∅ 16



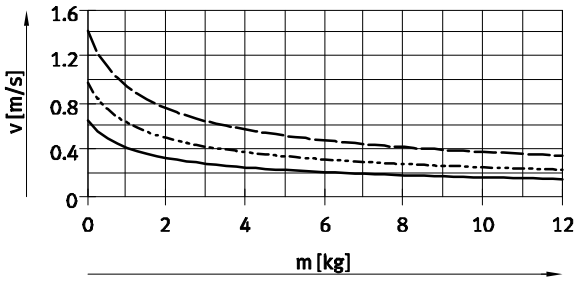
DSNU-16-50
DSNU-16-100
DSNU-16-200

Piston ∅ 20



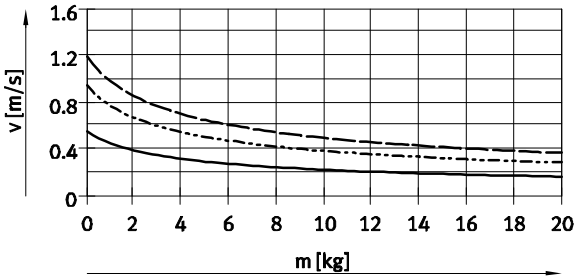
DSNU-20-50
DSNU-20-100
DSNU-20-200

Piston ∅ 25



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

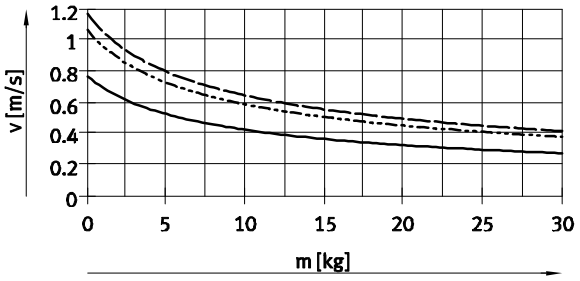
Piston ∅ 32



DSNU-32-50
DSNU-32-100
DSNU-32-200

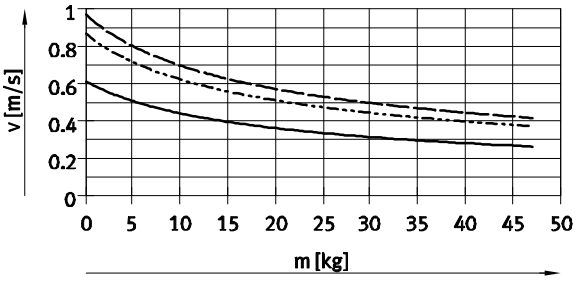
Average piston speed v as a function of payload m in combination with PPS cushionings

Piston ∅ 40



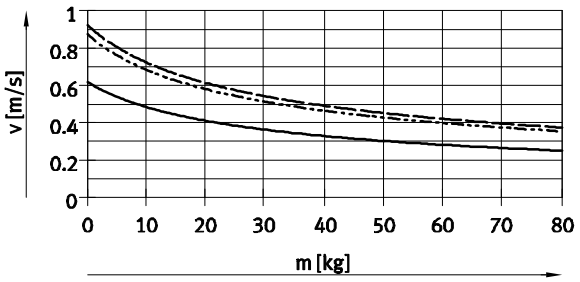
DSNU-40-50
DSNU-40-100
DSNU-40-200

Piston ∅ 50



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

Piston ∅ 63



DSNU-63-50
DSNU-63-100
DSNU-63-200

- - Note

Design software
for flexible cushioning elements
for PPV cushioning
➔ ProDrive

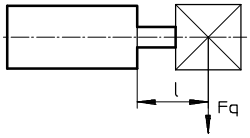
Additional graphs
for PPS cushioning
➔ www.festo.com

- - Note

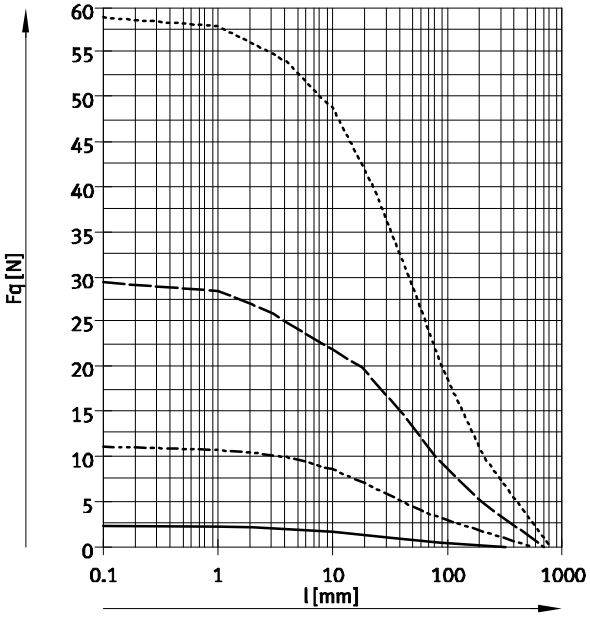
Average piston speed
= stroke/movement time

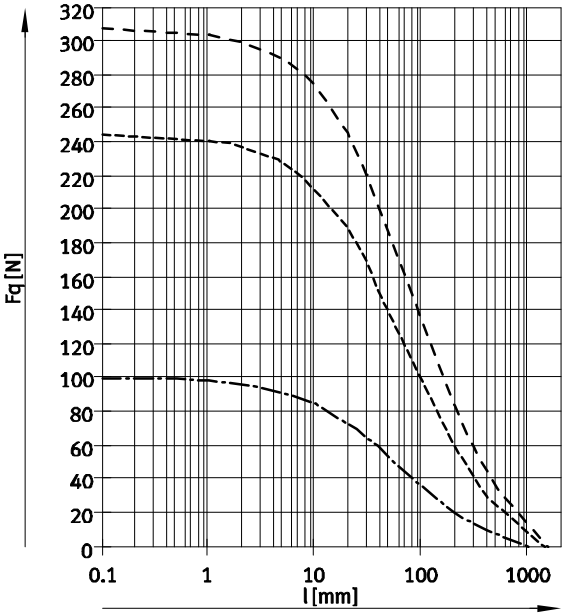
Weight [g]										
Piston ∅	8	10	12	16	20	25	32	40	50	63
Product weight with 0 mm stroke	34.6	37.3	75	89.9	186.8	238	370.5	661	1087	1445
Additional weight per 10 mm stroke	2.4	2.7	4	4.6	7.2	11	15.5	24	40	44
Moving load with 0 mm stroke	7.5	8.5	18.5	23	44	71	121	230	413	459
Moving load per 10 mm stroke	1	1	2	2	4	6	9	16	25	25

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



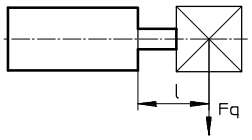
DSNU-...



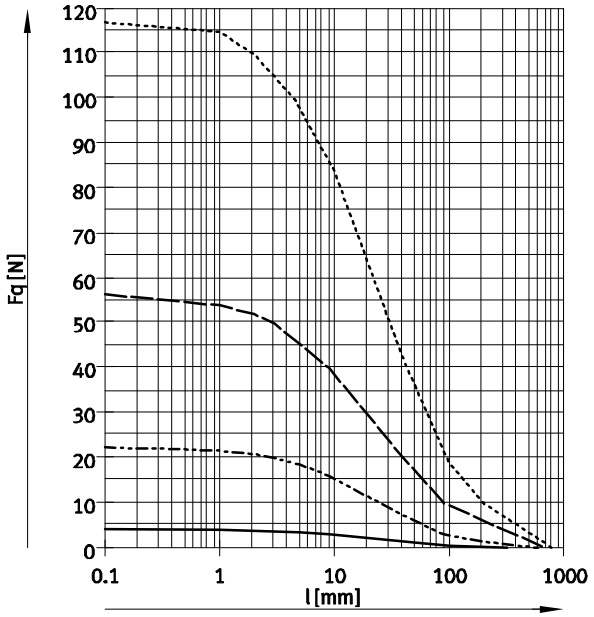


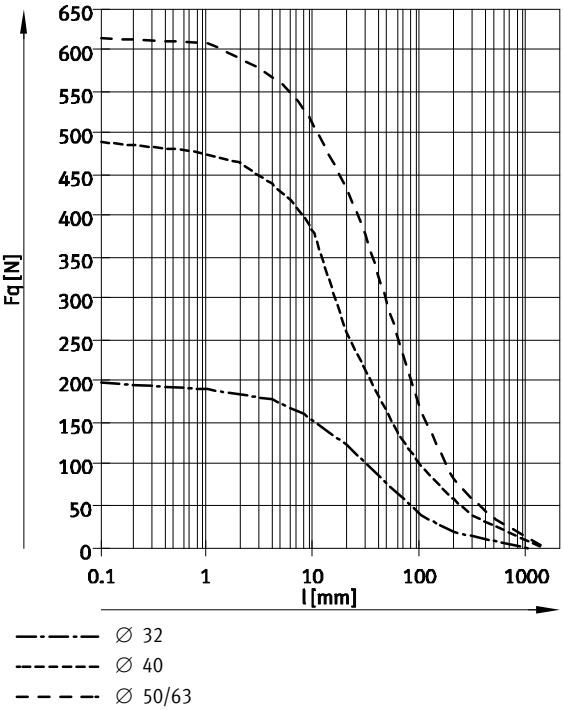
— ∅ 8/10
-·-·- ∅ 12/16
—·—·— ∅ 20
····· ∅ 25
—·—·— ∅ 32
- - - - ∅ 40
– – – – ∅ 50/63

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



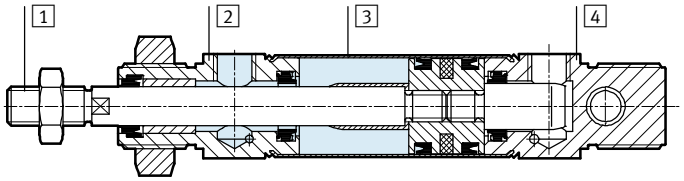
DSNU-...-S2 – Through piston rod





Materials

Sectional view



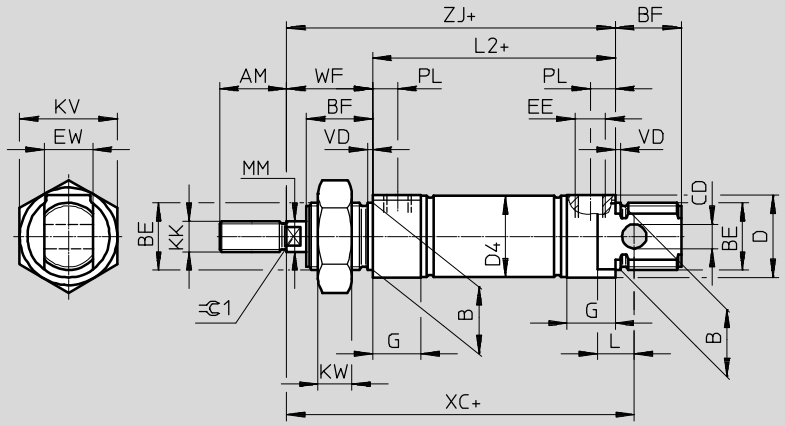
Round cylinder		8 ... 25	32 ... 63
1	Piston rod		
	DSNU-...	High-alloy steel	
	DSNU-...-R3	High-alloy stainless steel	
	DSNU-...-A6	–	Hard-chromium plated tempered steel
2	Bearing cap	Anodised aluminium	
3	Cylinder barrel	High-alloy stainless steel	
4	End cap	Anodised aluminium	
–	Seals		
	DSNU-...	TPE-U(PU), NBR	
	DSNU-...-S6	FPM	
	DSNU-...-S10	FPM	FPM, TPE-U(PU)
	DSNU-...-S11	FPM	FPM, TPE-U(PU)
	DSNU-...-R3	TPE-U(PU), NBR	
	Piston rod wiper seal		
	DSNU-...-A6	–	CuZn
	Note on materials		
	DSNU-...--	RoHS compliant	
	DSNU-...-S10/11	Contains PWIS (paint-wetting impairment substances)	

Round cylinders DSNU

Technical data

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

DSNU-8 ... 25



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	

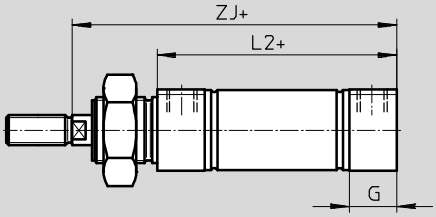
∅ [mm]	KW	L	L2	MM ∅	PL	VD	WF	XC ±1	ZJ	≂C1
8	6	6	46	4	6	2	16	64	62	–
10										
12	8	9	50	6			22	75	72	5
16			56					82	78	
20	11	12	68	8	8.2		24	95	92	7
25			69.5	10			28	104	97.5	9

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

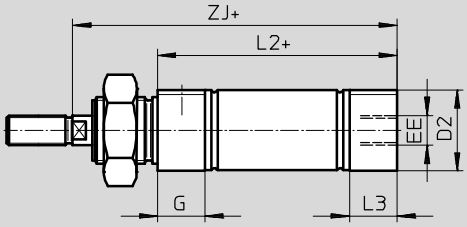
Dimensions Download CAD data ➔ **www.festo.com**

DSNU-8 ... 25

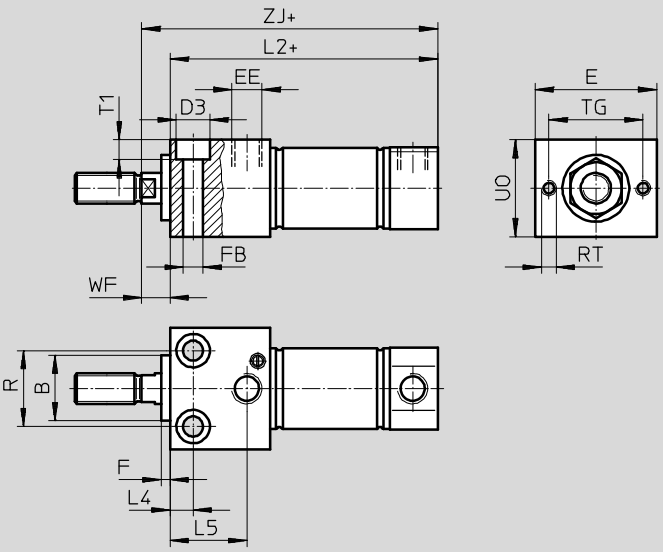
MQ – Lateral air connection



MA – Axial air connection



MH – With direct mounting



\+ = plus stroke length

∅ [mm]	B ∅ h9	D2 ∅	D3 ∅	E	EE	F	FB ∅	G	L2 DSNU-... -MQ	L2 DSNU-... -MA	L2 DSNU-... -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	G⅛		5.5	16	68	66.5	81.5
25		26.7	11				6.6		69.5	68.5	86.2

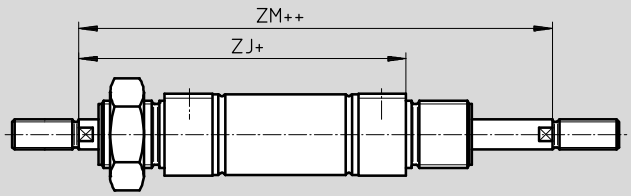
∅ [mm]	L3	L4	L5	R	RT	TG	T1	UO	WF	ZJ DSNU-... -MQ	ZJ DSNU-... -MA	ZJ DSNU-... -MH
8	7.6	5	14	12	M3	18	3.4	16	8	62	59.6	61.5
10	7.1										59.1	61.8
12	7.7	6	18.1	16	M4	23	4.5	22	10	72	69.7	72
16										78	75.7	77.8
20	14.5	7.5	22.4	22	M5	31	5.5	28		92	90.5	91.5
25	14		25.2	25			6.6	32	11	97.5	96.5	97.2

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

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

DSNU-8 ... 25

S2 – Through piston rod

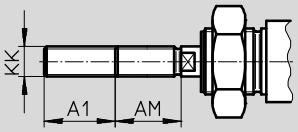


Note

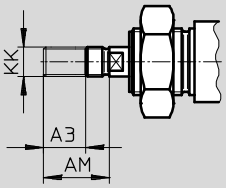
The thread types at both piston rod ends are identical. In combination with variant Q, the left-hand piston rod end is square, the right-hand piston rod end round.

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

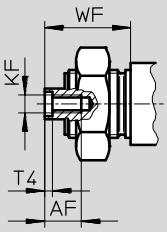
K2 – Extended male piston rod thread



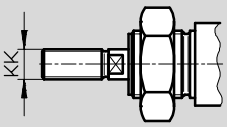
K6 – Shortened male piston rod thread



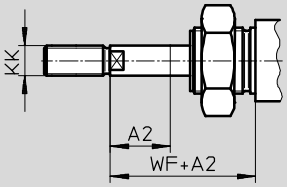
K3 – Female piston rod thread



K5 – Special thread on piston rod



K8 – Extended piston rod



Note

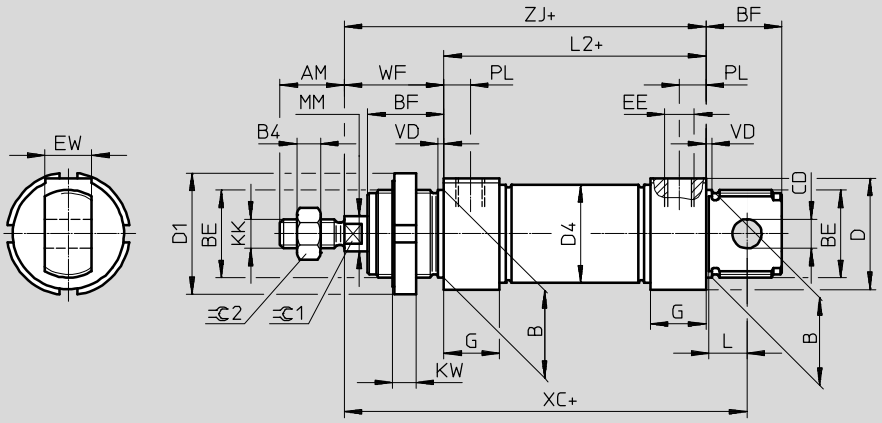
If variant K8 is required in combination with S2, the piston rod will only be extended on one side.

∅ [mm]	A1 max.	A2 max.	A3 max.	AM	AF	KF	KK		T4	WF	ZJ			ZM
							Basic thread	Special thread[1)]			DSNU-... -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.

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

DSNU-32 ... 63



\+ = plus stroke length

∅ [mm]	AM	B ∅ h9	B4	BE	BF	CD ∅ E10	D ∅	D1 ∅	D4 ∅	EE	EW	G
32	22	30	5	M30x1.5	26	10	38	42	33.6	G1⁄8	16	19
40	24	38	6	M38x1.5	30	12	46	50	41.6	G1⁄4	18	25
50	32	45	8	M45x1.5	33	16	57	60	52.4		21	
63							70		65.4	G3⁄8		28

∅ [mm]	KK	KW	L	L2	MM ∅	PL	VD	WF	XC ±1	ZJ	=C1	=C2
32	M10x1.25	8	13	695	12	9	2	34	117.5	103.5	10	16
40	M12x1.25	10	15	84.6	16	12	3	39	139.6	123.6	13	18
50	M16x1.5		16	86.2	20			44	147.2	130.2	17	24
63				94.2		13		45	156.2	139.2		

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

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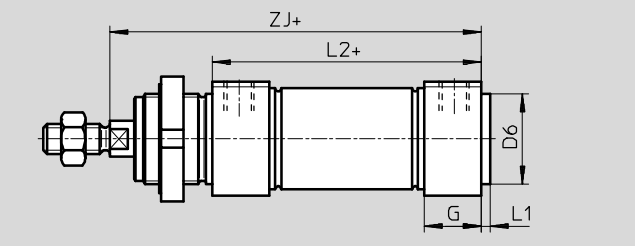
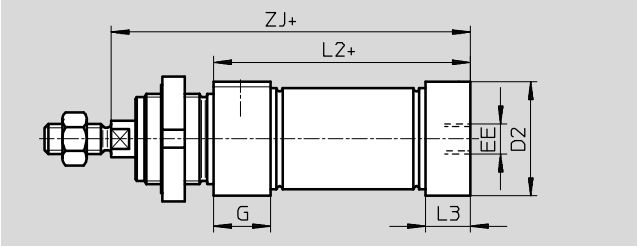
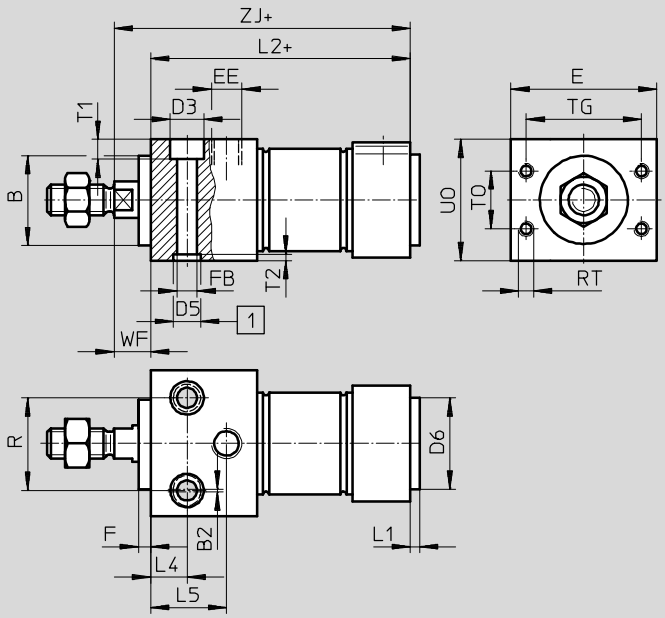
MQ – Lateral air connection



MA – Axial air connection



MH – Direct mounting



1 Centring holes
(2 centring sleeves included in scope of delivery)

\+ = plus stroke length

∅ [mm]	B ∅ h9	B2	E	EE	G	F	FB ∅	D2 ∅	D3	D5 ∅	D6 ∅	L1	L2 DSNU-... -MQ	L2 DSNU-... -MA	L2 DSNU-... -MH
32	30	1	48	G1⁄8	19	4	6.6	34	11	9	30	3	69.5	65.5	85.5
40	38		54	G1⁄4	25		9	42	14	12	38	4	84.6	77.6	104.6
50	45		64					53			45		86.2	86.2	109.2
63		2	72	G3⁄8	28		11	66	18	15			94.2	94.2	117.2

∅ [mm]	L3	L4	L5	R	RT	TO	T1	T2	TG	UO	WF	ZJ DSNU-... -MQ	ZJ DSNU-... -MA	ZJ DSNU-... -MH
32	15	12	25	30	M5	19	6.6	2.1	38	40	12	103.5	99.5	97.5
40	18	15	32	38		24	9	2.6	42	48		123.6	116.5	116.6
50	25		35	42	M6	32			50	58	15	130.2	130.2	124.2
63	28		36	44	M8	36	11	3.1	52	72		139.2	139.2	132.2

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

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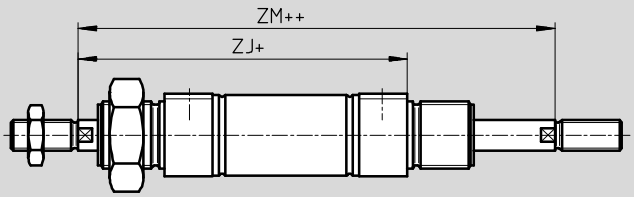
S2 – Through piston rod

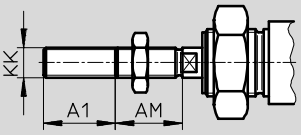


Note

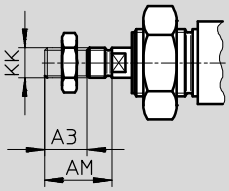
The thread types at both piston rod ends are identical. In combination with variant Q, the left-hand piston rod end is square, the right-hand piston rod end round.

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

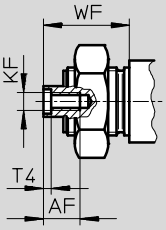
K2 – Extended male piston rod thread



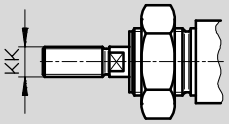
K6 – Shortened male piston rod thread



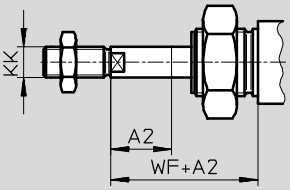
K3 – Female piston rod thread



K5 – Special piston rod thread



K8 – Extended piston rod



Note

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

∅ [mm]	A1 max.	A2 max.	A3 max.	AF	AM	KF	KK		T4	WF	ZJ			ZM
							Basic thread	Special thread[1)]			DSNU-... -MQ	-MA	-MH	
32	35	500	8	12	22	M6	M10x1.25	M10	2.6	34	103.5	99.5	97.5	137.5
40					24	M8	M12x1.25	M12	3.3	39	123.6	111.6	116.6	162.6
50	70		10	16	32	M10	M16x1.5	M16	4.7	44	130.2	130.2	124.2	174.2
63										45	139.2	139.2	132.2	184.2

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		PPS – Pneumatic cushioning, self-adjusting at both ends A – With position sensing	
[mm]	[mm]	Part No.	Type	Part No.	Type	Part No.	Type
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**	**1908274**	**DSNU-16-10-PPS-A**
	15	**1908259**	**DSNU-16-15-P-A**	**1908267**	**DSNU-16-15-PPV-A**	**1908275**	**DSNU-16-15-PPS-A**
	20	**1908260**	**DSNU-16-20-P-A**	**1908268**	**DSNU-16-20-PPV-A**	**1908276**	**DSNU-16-20-PPS-A**
	25	**19199**	**DSNU-16-25-P-A**	**33973**	**DSNU-16-25-PPV-A**	**559263**	**DSNU-16-25-PPS-A**
	30	**1908261**	**DSNU-16-30-P-A**	**1908269**	**DSNU-16-30-PPV-A**	**1908277**	**DSNU-16-30-PPS-A**
	35	**1908262**	**DSNU-16-35-P-A**	**1908270**	**DSNU-16-35-PPV-A**	**1908278**	**DSNU-16-35-PPS-A**
	40	**19200**	**DSNU-16-40-P-A**	**19229**	**DSNU-16-40-PPV-A**	**559264**	**DSNU-16-40-PPS-A**
	50	**19201**	**DSNU-16-50-P-A**	**19230**	**DSNU-16-50-PPV-A**	**559265**	**DSNU-16-50-PPS-A**
	60	**1908263**	**DSNU-16-60-P-A**	**1908271**	**DSNU-16-60-PPV-A**	**1908279**	**DSNU-16-60-PPS-A**
	70	**1908264**	**DSNU-16-70-P-A**	**1908272**	**DSNU-16-70-PPV-A**	**1908280**	**DSNU-16-70-PPS-A**
	80	**19202**	**DSNU-16-80-P-A**	**19231**	**DSNU-16-80-PPV-A**	**559266**	**DSNU-16-80-PPS-A**
	100	**19203**	**DSNU-16-100-P-A**	**19232**	**DSNU-16-100-PPV-A**	**559267**	**DSNU-16-100-PPS-A**
	125	**19204**	**DSNU-16-125-P-A**	**19233**	**DSNU-16-125-PPV-A**	**559268**	**DSNU-16-125-PPS-A**
	150	**1908265**	**DSNU-16-150-P-A**	**1908273**	**DSNU-16-150-PPV-A**	**1908281**	**DSNU-16-150-PPS-A**
	160	**19205**	**DSNU-16-160-P-A**	**19234**	**DSNU-16-160-PPV-A**	**559269**	**DSNU-16-160-PPS-A**
	200	**19206**	**DSNU-16-200-P-A**	**19235**	**DSNU-16-200-PPV-A**	**559270**	**DSNU-16-200-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		PPS – Pneumatic cushioning, self-adjusting at both ends A – With position sensing	
[mm]	[mm]	Part No.	Type	Part No.	Type	Part No	Type
20	10	**19207**	**DSNU-20-10-P-A**	**1908289**	**DSNU-20-10-PPV-A**	**1908297**	**DSNU-20-10-PPS-A**
	15	**1908282**	**DSNU-20-15-P-A**	**1908290**	**DSNU-20-15-PPV-A**	**1908298**	**DSNU-20-15-PPS-A**
	20	**1908283**	**DSNU-20-20-P-A**	**1908291**	**DSNU-20-20-PPV-A**	**1908299**	**DSNU-20-20-PPS-A**
	25	**19208**	**DSNU-20-25-P-A**	**33974**	**DSNU-20-25-PPV-A**	**559271**	**DSNU-20-25-PPS-A**
	30	**1908284**	**DSNU-20-30-P-A**	**1908292**	**DSNU-20-30-PPV-A**	**1908300**	**DSNU-20-30-PPS-A**
	35	**1908285**	**DSNU-20-35-P-A**	**1908293**	**DSNU-20-35-PPV-A**	**1908301**	**DSNU-20-35-PPS-A**
	40	**19209**	**DSNU-20-40-P-A**	**19236**	**DSNU-20-40-PPV-A**	**559272**	**DSNU-20-40-PPS-A**
	50	**19210**	**DSNU-20-50-P-A**	**19237**	**DSNU-20-50-PPV-A**	**559273**	**DSNU-20-50-PPS-A**
	60	**1908286**	**DSNU-20-60-P-A**	**1908294**	**DSNU-20-60-PPV-A**	**1908302**	**DSNU-20-60-PPS-A**
	70	**1908287**	**DSNU-20-70-P-A**	**1908295**	**DSNU-20-70-PPV-A**	**1908303**	**DSNU-20-70-PPS-A**
	80	**19211**	**DSNU-20-80-P-A**	**19238**	**DSNU-20-80-PPV-A**	**559274**	**DSNU-20-80-PPS-A**
	100	**19212**	**DSNU-20-100-P-A**	**19239**	**DSNU-20-100-PPV-A**	**559275**	**DSNU-20-100-PPS-A**
	125	**19213**	**DSNU-20-125-P-A**	**19240**	**DSNU-20-125-PPV-A**	**559276**	**DSNU-20-125-PPS-A**
	150	**1908288**	**DSNU-20-150-P-A**	**1908296**	**DSNU-20-150-PPV-A**	**1908304**	**DSNU-20-150-PPS-A**
	160	**19214**	**DSNU-20-160-P-A**	**19241**	**DSNU-20-160-PPV-A**	**559277**	**DSNU-20-160-PPS-A**
	200	**19215**	**DSNU-20-200-P-A**	**19242**	**DSNU-20-200-PPV-A**	**559278**	**DSNU-20-200-PPS-A**
	250	**19216**	**DSNU-20-250-P-A**	**19243**	**DSNU-20-250-PPV-A**	**559279**	**DSNU-20-250-PPS-A**
	300	**19217**	**DSNU-20-300-P-A**	**19244**	**DSNU-20-300-PPV-A**	**559280**	**DSNU-20-300-PPS-A**
	320	**34718**	**DSNU-20-320-P-A**	**34720**	**DSNU-20-320-PPV-A**	**559281**	**DSNU-20-320-PPS-A**
25	10	**19218**	**DSNU-25-10-P-A**	**1908312**	**DSNU-25-10-PPV-A**	**1908320**	**DSNU-25-10-PPS-A**
	15	**1908305**	**DSNU-25-15-P-A**	**1908313**	**DSNU-25-15-PPV-A**	**1908321**	**DSNU-25-15-PPS-A**
	20	**1908306**	**DSNU-25-20-P-A**	**1908314**	**DSNU-25-20-PPV-A**	**1908322**	**DSNU-25-20-PPS-A**
	25	**19219**	**DSNU-25-25-P-A**	**33975**	**DSNU-25-25-PPV-A**	**559282**	**DSNU-25-25-PPS-A**
	30	**1908307**	**DSNU-25-30-P-A**	**1908315**	**DSNU-25-30-PPV-A**	**1908323**	**DSNU-25-30-PPS-A**
	35	**1908308**	**DSNU-25-35-P-A**	**1908316**	**DSNU-25-35-PPV-A**	**1908324**	**DSNU-25-35-PPS-A**
	40	**19220**	**DSNU-25-40-P-A**	**19245**	**DSNU-25-40-PPV-A**	**559283**	**DSNU-25-40-PPS-A**
	50	**19221**	**DSNU-25-50-P-A**	**19246**	**DSNU-25-50-PPV-A**	**559284**	**DSNU-25-50-PPS-A**
	60	**1908309**	**DSNU-25-60-P-A**	**1908317**	**DSNU-25-60-PPV-A**	**1908325**	**DSNU-25-60-PPS-A**
	70	**1908310**	**DSNU-25-70-P-A**	**1908318**	**DSNU-25-70-PPV-A**	**1908326**	**DSNU-25-70-PPS-A**
	80	**19222**	**DSNU-25-80-P-A**	**19247**	**DSNU-25-80-PPV-A**	**559285**	**DSNU-25-80-PPS-A**
	100	**19223**	**DSNU-25-100-P-A**	**19248**	**DSNU-25-100-PPV-A**	**559286**	**DSNU-25-100-PPS-A**
	125	**19224**	**DSNU-25-125-P-A**	**19249**	**DSNU-25-125-PPV-A**	**559287**	**DSNU-25-125-PPS-A**
	150	**1908311**	**DSNU-25-150-P-A**	**1908319**	**DSNU-25-150-PPV-A**	**1908327**	**DSNU-25-150-PPS-A**
	160	**19225**	**DSNU-25-160-P-A**	**19250**	**DSNU-25-160-PPV-A**	**559288**	**DSNU-25-160-PPS-A**
	200	**19226**	**DSNU-25-200-P-A**	**19251**	**DSNU-25-200-PPV-A**	**559289**	**DSNU-25-200-PPS-A**
	250	**19227**	**DSNU-25-250-P-A**	**19252**	**DSNU-25-250-PPV-A**	**559290**	**DSNU-25-250-PPS-A**
	300	**19228**	**DSNU-25-300-P-A**	**19253**	**DSNU-25-300-PPV-A**	**559291**	**DSNU-25-300-PPS-A**
	320	**34719**	**DSNU-25-320-P-A**	**34721**	**DSNU-25-320-PPV-A**	**559292**	**DSNU-25-320-PPS-A**
	400	**35191**	**DSNU-25-400-P-A**	**35193**	**DSNU-25-400-PPV-A**	**559293**	**DSNU-25-400-PPS-A**
	500	**35192**	**DSNU-25-500-P-A**	**35194**	**DSNU-25-500-PPV-A**	**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		PPS – Pneumatic cushioning, self-adjusting at both ends A – With position sensing	
[mm]	[mm]	Part No.	Type	Part No.	Type	Part No.	Type
32	25	**195980**	**DSNU-32-25-P-A**	**196020**	**DSNU-32-25-PPV-A**	**559295**	**DSNU-32-25-PPS-A**
	40	**195981**	**DSNU-32-40-P-A**	**196021**	**DSNU-32-40-PPV-A**	**559296**	**DSNU-32-40-PPS-A**
	50	**195982**	**DSNU-32-50-P-A**	**196022**	**DSNU-32-50-PPV-A**	**559297**	**DSNU-32-50-PPS-A**
	80	**195983**	**DSNU-32-80-P-A**	**196023**	**DSNU-32-80-PPV-A**	**559298**	**DSNU-32-80-PPS-A**
	100	**195984**	**DSNU-32-100-P-A**	**196024**	**DSNU-32-100-PPV-A**	**559299**	**DSNU-32-100-PPS-A**
	125	**195985**	**DSNU-32-125-P-A**	**196025**	**DSNU-32-125-PPV-A**	**559300**	**DSNU-32-125-PPS-A**
	160	**195986**	**DSNU-32-160-P-A**	**196026**	**DSNU-32-160-PPV-A**	**559301**	**DSNU-32-160-PPS-A**
	200	**195987**	**DSNU-32-200-P-A**	**196027**	**DSNU-32-200-PPV-A**	**559302**	**DSNU-32-200-PPS-A**
	250	**195988**	**DSNU-32-250-P-A**	**196028**	**DSNU-32-250-PPV-A**	**559303**	**DSNU-32-250-PPS-A**
	320	**195989**	**DSNU-32-320-P-A**	**196029**	**DSNU-32-320-PPV-A**	**559304**	**DSNU-32-320-PPS-A**
40	25	**195990**	**DSNU-40-25-P-A**	**196030**	**DSNU-40-25-PPV-A**	**559305**	**DSNU-40-25-PPS-A**
	40	**195991**	**DSNU-40-40-P-A**	**196031**	**DSNU-40-40-PPV-A**	**559306**	**DSNU-40-40-PPS-A**
	50	**195992**	**DSNU-40-50-P-A**	**196032**	**DSNU-40-50-PPV-A**	**559307**	**DSNU-40-50-PPS-A**
	80	**195993**	**DSNU-40-80-P-A**	**196033**	**DSNU-40-80-PPV-A**	**559308**	**DSNU-40-80-PPS-A**
	100	**195994**	**DSNU-40-100-P-A**	**196034**	**DSNU-40-100-PPV-A**	**559309**	**DSNU-40-100-PPS-A**
	125	**195995**	**DSNU-40-125-P-A**	**196035**	**DSNU-40-125-PPV-A**	**559310**	**DSNU-40-125-PPS-A**
	160	**195996**	**DSNU-40-160-P-A**	**196036**	**DSNU-40-160-PPV-A**	**559311**	**DSNU-40-160-PPS-A**
	200	**195997**	**DSNU-40-200-P-A**	**196037**	**DSNU-40-200-PPV-A**	**559312**	**DSNU-40-200-PPS-A**
	250	**195998**	**DSNU-40-250-P-A**	**196038**	**DSNU-40-250-PPV-A**	**559313**	**DSNU-40-250-PPS-A**
	320	**195999**	**DSNU-40-320-P-A**	**196039**	**DSNU-40-320-PPV-A**	**559314**	**DSNU-40-320-PPS-A**
50	25	**196000**	**DSNU-50-25-P-A**	**196040**	**DSNU-50-25-PPV-A**	**559315**	**DSNU-50-25-PPS-A**
	40	**196001**	**DSNU-50-40-P-A**	**196041**	**DSNU-50-40-PPV-A**	**559316**	**DSNU-50-40-PPS-A**
	50	**196002**	**DSNU-50-50-P-A**	**196042**	**DSNU-50-50-PPV-A**	**559317**	**DSNU-50-50-PPS-A**
	80	**196003**	**DSNU-50-80-P-A**	**196043**	**DSNU-50-80-PPV-A**	**559318**	**DSNU-50-80-PPS-A**
	100	**196004**	**DSNU-50-100-P-A**	**196044**	**DSNU-50-100-PPV-A**	**559319**	**DSNU-50-100-PPS-A**
	125	**196005**	**DSNU-50-125-P-A**	**196045**	**DSNU-50-125-PPV-A**	**559320**	**DSNU-50-125-PPS-A**
	160	**196006**	**DSNU-50-160-P-A**	**196046**	**DSNU-50-160-PPV-A**	**559321**	**DSNU-50-160-PPS-A**
	200	**196007**	**DSNU-50-200-P-A**	**196047**	**DSNU-50-200-PPV-A**	**559322**	**DSNU-50-200-PPS-A**
	250	**196008**	**DSNU-50-250-P-A**	**196048**	**DSNU-50-250-PPV-A**	**559323**	**DSNU-50-250-PPS-A**
	320	**196009**	**DSNU-50-320-P-A**	**196049**	**DSNU-50-320-PPV-A**	**559324**	**DSNU-50-320-PPS-A**
63	25	**196010**	**DSNU-63-25-P-A**	**196050**	**DSNU-63-25-PPV-A**	**559325**	**DSNU-63-25-PPS-A**
	40	**196011**	**DSNU-63-40-P-A**	**196051**	**DSNU-63-40-PPV-A**	**559326**	**DSNU-63-40-PPS-A**
	50	**196012**	**DSNU-63-50-P-A**	**196052**	**DSNU-63-50-PPV-A**	**559327**	**DSNU-63-50-PPS-A**
	80	**196013**	**DSNU-63-80-P-A**	**196053**	**DSNU-63-80-PPV-A**	**559328**	**DSNU-63-80-PPS-A**
	100	**196014**	**DSNU-63-100-P-A**	**196054**	**DSNU-63-100-PPV-A**	**559329**	**DSNU-63-100-PPS-A**
	125	**196015**	**DSNU-63-125-P-A**	**196055**	**DSNU-63-125-PPV-A**	**559330**	**DSNU-63-125-PPS-A**
	160	**196016**	**DSNU-63-160-P-A**	**196056**	**DSNU-63-160-PPV-A**	**559331**	**DSNU-63-160-PPS-A**
	200	**196017**	**DSNU-63-200-P-A**	**196057**	**DSNU-63-200-PPV-A**	**559332**	**DSNU-63-200-PPS-A**
	250	**196018**	**DSNU-63-250-P-A**	**196058**	**DSNU-63-250-PPV-A**	**559333**	**DSNU-63-250-PPS-A**
	320	**196019**	**DSNU-63-320-P-A**	**196059**	**DSNU-63-320-PPV-A**	**559334**	**DSNU-63-320-PPS-A**

Ordering data			
Piston ∅	Stroke	PPS – Pneumatic cushioning, self-adjustable at both ends Without position sensing	
[mm]	[mm]	Part No.	Type
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**

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					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 ➔ 28.

Round cylinders DSNU

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	1	**-...**		
	Cushioning	Flexible cushioning rings/pads at both ends							**-P**		
		–	–	Pneumatic cushioning, adjustable at both ends				2	**-PPV**		
		–	–	–	Pneumatic cushioning, self-adjusting at both ends			3	**-PPS**		
O	Position sensing	Via proximity sensor						4	**-A**		
	Cylinder end cap	Lateral supply port, end cap						5	**-MQ**		
		Axial supply port, end cap						5	**-MA**		
		With mounting flange at front (direct mounting), bearing cap						6	**-MH**		
↓	Type of piston rod	Through piston rod						7	**-S2**		

1 **-...** Longer strokes on request

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

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

4 **A** Minimum stroke: 10 mm

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

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

7 **S2** Not with S10, S11

- 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.

M Mandatory data
O Options

Transfer order code

	DSNU	–		–		–		–		–		–	

Ordering table

	Size	8	10	12	16	20	25	Conditions	Code		Enter code
↓	Extended male thread	Extended male piston rod thread									
O	[mm]	1 … 15		1 … 20		1 … 25	1 … 35	8	**-...K2**		
	Shortened male thread	Shortened male piston rod thread									
	[mm]	1 … 4				1 … 8	1 … 10	9	**-...K6**		
	Female thread	Female piston rod thread									
		–	–	–	–	(M4)	(M6)	10	**-K3**		
	Special thread	Piston rod with special thread									
		–	–	–	–	–	M10		**-"..."K5**		
	Piston rod extended at one end	Extended piston rod at one end									
	[mm]	1 … 50		1 … 100		1 … 110	1 … 150		**...K8**		
	Temperature resistance	Heat-resistant seals for temperatures up to 120 °C						11	**-S6**		
	Slow speed (constant motion)	–	–	Slow speed (constant motion at low piston speeds)				12	**-S10**		
	Low friction	–	–	Low friction				13	**-S11**		
	Corrosion protection	–	–	High corrosion protection					**-R3**		
	EU certification	II 2GD						14	**-EX4**		

8 **K2** Not with K3, K6
9 **K6** Not with K3
10 **K3** Not with K5
11 **S6** Not with S10, S11
12 **S10** Not with S11, R3
13 **S11** Not with R3
14 **EX4** Not with S6

M Mandatory data
O Options

Transfer order code

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

Round cylinders DSNU

Ordering data – Modular products

Ordering table

	Size		32	40	50	63	Condi-tions	Code		Enter code
M	Module No.		**193992**	**193993**	**193994**	**193995**				
	Function		Double-acting round cylinder					**DSNU**		DSNU
	Piston ∅	[mm]	32	40	50	63		**-...**		
	Stroke	[mm]	1 ... 500				1	**-...**		
	Cushioning		Flexible cushioning rings/pads at both ends					**-P**		
			Pneumatic cushioning, adjustable at both ends				2	**-PPV**		
			Pneumatic cushioning, self-adjusting at both ends				3	**-PPS**		
O	Position sensing		Via proximity sensor				4	**-A**		
	Cylinder end cap		Lateral air connection, end cap				5	**-MQ**		
			Axial air connection, end cap				6	**-MA**		
			Mounting flange at front (direct mounting), bearing cap				7	**-MH**		
	Type of piston rod		Through piston rod				8	**-S2**		

1 **-...** Longer strokes on request

2 **PPV** Not with MA

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

4 **A** Minimum stroke: 10 mm

5 **MQ** Not with S2, S10, S11

6 **MA** Not with S2, S10, S11, R8

7 **MH** Not with combination S6-R3
Not with S10, S11, R8

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

- 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.

M Mandatory data
O Options

Transfer order code

	DSNU	–		–		–		–		–		–	

Ordering table

	Size	32	40	50	63	Condi-tions	Code		Enter code
↓	Extended male thread	Piston rod with extended male thread							
O	[mm]	1 … 35		1 … 70		9	**-...K2**		
	Shortened male thread	Piston rod with shortened male thread							
	[mm]	1 … 8		1 … 10		10	**-...K6**		
	Female thread	Piston rod with female thread							
		(M6)	(M8)	(M10)		11	**-K3**		
	Special thread	Piston rod with special thread							
		M10	M12	M16			**-"..."K5**		
	Piston rod extended at one end	Extended piston rod at one end							
	[mm]	1 … 500					**...K8**		
	Temperature resistance	Heat-resistant seals for temperatures up to 120 °C				12	**-S6**		
	Slow speed (constant motion)	Slow speed (constant motion at low piston speeds)				13	**-S10**		
	Running characteristics	Low friction				14	**-S11**		
	Corrosion protection	High corrosion protection				15	**-R3**		
	Wiper seal	Dust protection					**-R8**		
		Metal wiper seal				16	**-A6**		
	EU certification	II 2GD				17	**-EX4**		

9 **K2** Not with K3, K6
10 **K6** Not with K3
11 **K3** Not with K5
12 **S6** Not with S10, S11
13 **S10** Not with S11, R3, R8
14 **S11** Not with R3, R8
15 **R3** Not with R8
16 **A6** Not with S10, S11, MH, P, PPS, S6, R3, EX4
17 **EX4** Not with S6

M Mandatory data
O Options

Transfer order code

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

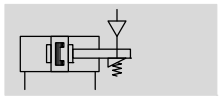
Round cylinders DSNU-KP, with clamping unit

Technical data

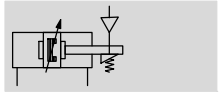
FESTO

Function

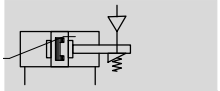
P cushioning



PPV cushioning



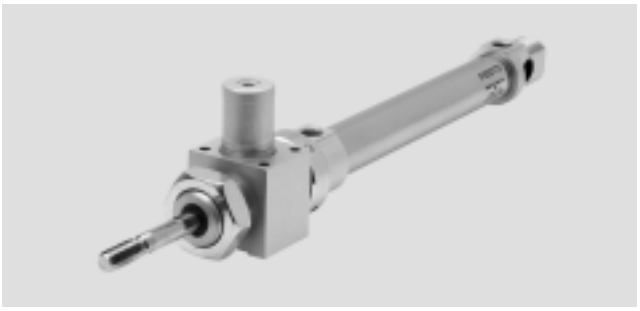
PPS cushioning



- Ø - Diameter
  8 ... 25 mm
  ISO 6432

- Ø - Diameter
  32 ... 63 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	32	40	50	63
Conforms		ISO 6432						–			
Pneumatic connection		M5	M5	M5	M5	G1⁄8	G1⁄8	G1⁄8	G1⁄4	G1⁄4	G3⁄8
Piston rod thread		M4	M4	M6	M6	M8	M10x1.25	M10x1.25	M12x1.25	M16x1.5	M16x1.5
Stroke[1]	[mm]	1 ... 100		1 ... 200		1 ... 320	1 ... 500				
Constructional design		Piston / Piston rod / Cylinder barrel									
Cushioning											
DSNU-...-P		Flexible cushioning rings/pads at both ends									
DSNU-...-PPV		–		Pneumatic cushioning, adjustable at both ends							
DSNU-...-PPS		–			Self-adjusting cushioning at both ends						
Cushioning length											
DSNU-...-PPV	[mm]	–		9	12	15	17	14	18	20	21
DSNU-...-PPS	[mm]	–			12	15	17	14	18	20	21
Position sensing		Via proximity sensor									
Type of mounting		Via through-holes									
		Via accessories									
Mounting position		Any									
Clamping unit holding force	[N]	80	80	180	180	350	350	600	1000	1400	2000
Axial play under load	[mm]	0.2		0.3			0.5			0.8	
Clamping unit pneumatic connection		M5							G1⁄8		

1) Cylinders with position sensing require a minimum stroke of 10 mm to ensure reliable sensing.
Longer strokes on request.

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

Round cylinders DSNU-KP, with clamping unit

Technical data

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	[bar]	3 ... 10
Ambient temperature[1]	[°C]	–10 ... +80
Corrosion resistance class CRC[2]		
DSNU-...-		2
DSNU-...-R3		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.

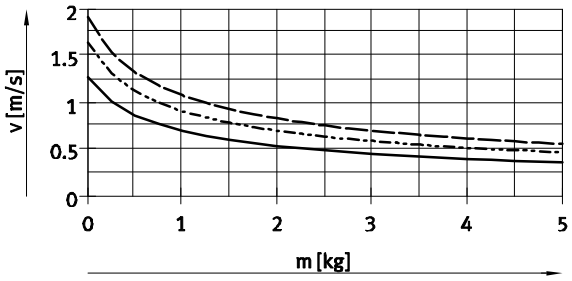
Force [N] and impact energy [J]										
Piston ∅	8	10	12	16	20	25	32	40	50	63
Theoretical force at 6 bar, advancing	30	47	68	121	189	295	483	753	1178	1870
Theoretical force at 6 bar, retracting	23	40	51	104	158	247	415	633	990	1682
Max. impact energy at the end positions for flexible cushioning elements[1]	0.03	0.05	0.07	0.15	0.20	0.30	0.40	0.70	1	1.30

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

Weight [g]										
Piston ∅	8	10	12	16	20	25	32	40	50	63
Product weight with 0 mm stroke	97.6	100.3	193	207.9	393.8	456	711.5	1287	2059	2556
Additional weight per 10 mm stroke	2.4	2.7	4	4.6	7.2	11	15.5	24	40	44
Moving load with 0 mm stroke	7.5	8.5	18.5	23	44	71	121	230	413	459
Moving load per 10 mm stroke	1	1	2	2	4	6	9	16	25	25

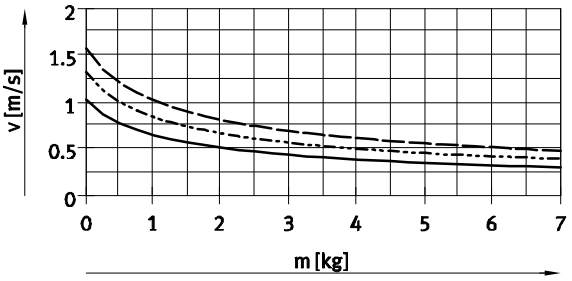
Average piston speed v as a function of payload m in combination with cushioning PPS

Piston ∅ 16



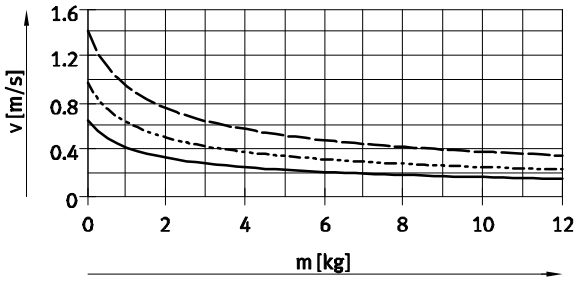
DSNU-16-50
DSNU-16-100
DSNU-16-200

Piston ∅ 20



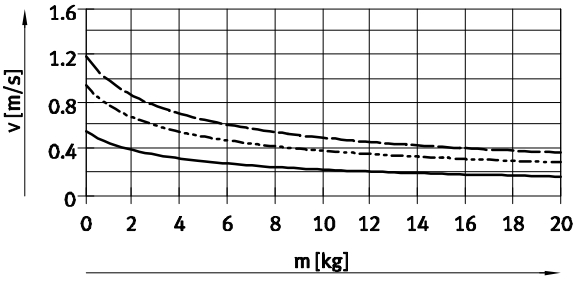
DSNU-20-50
DSNU-20-100
DSNU-20-200

Piston ∅ 25



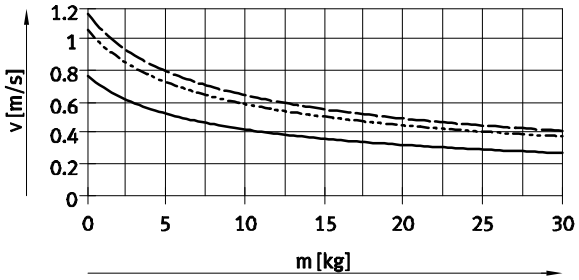
DSNU-25-50
DSNU-25-100
DSNU-25-200

Piston ∅ 32



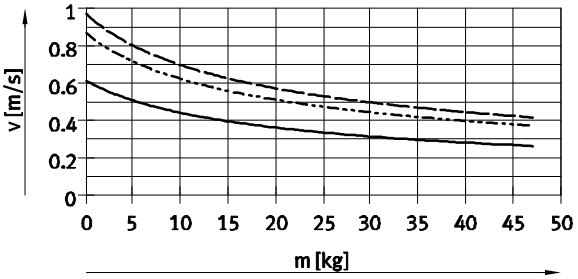
DSNU-32-50
DSNU-32-100
DSNU-32-200

Piston ∅ 40



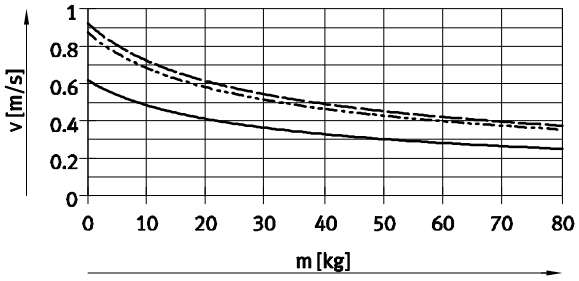
DSNU-40-50
DSNU-40-100
DSNU-40-200

Piston ∅ 50



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

Piston ∅ 63



DSNU-63-50
DSNU-63-100
DSNU-63-200

Note

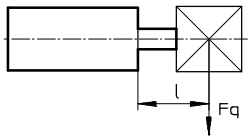
Design software
for flexible cushioning elements
PPV cushioning
➔ ProDrive

Additional graphs
for PPS cushioning
➔ www.festo.com

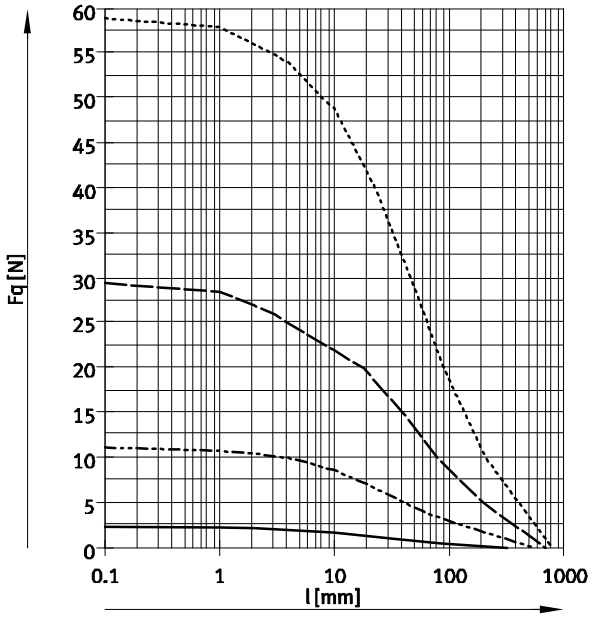
Note

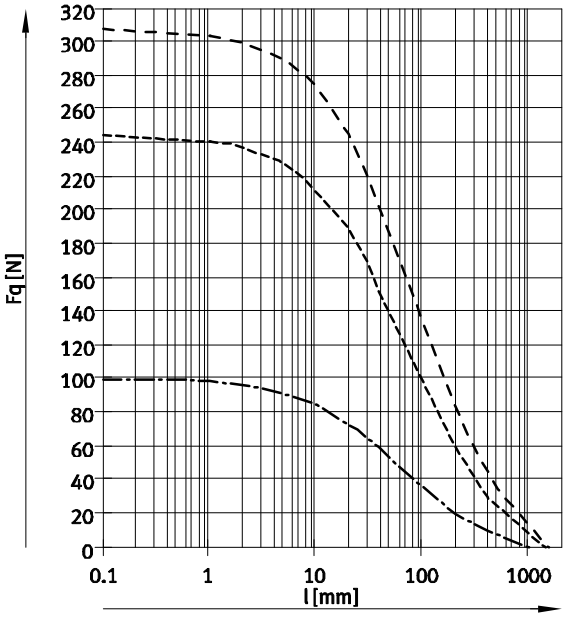
Average piston speed
= stroke/movement time

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



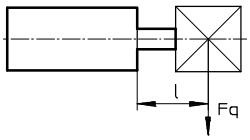
DSNU-...



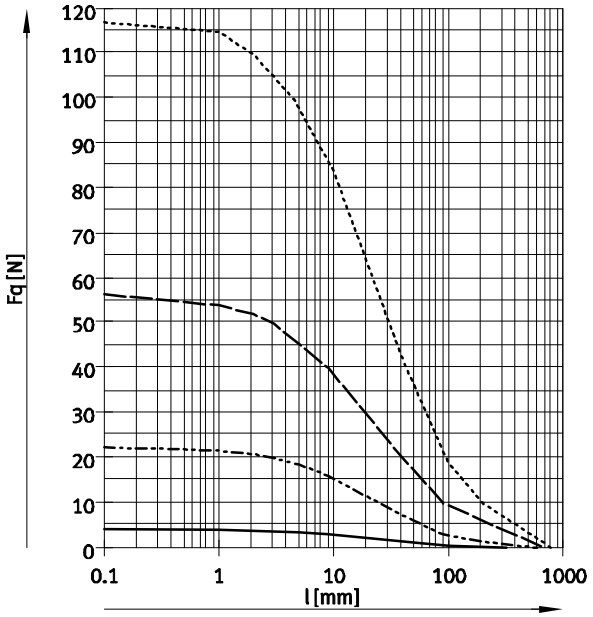


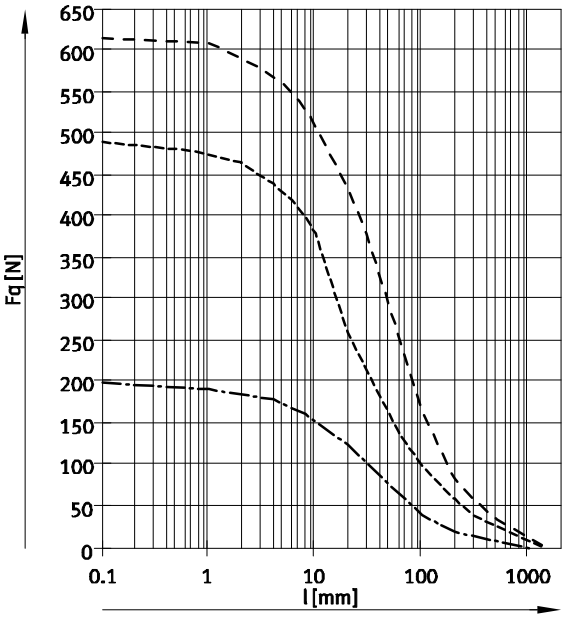
- ∅ 8/10
- ∅ 12/16
- ∅ 20
- ∅ 25
- ∅ 32
- ∅ 40
- ∅ 50/63

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



S2 – Through piston rod





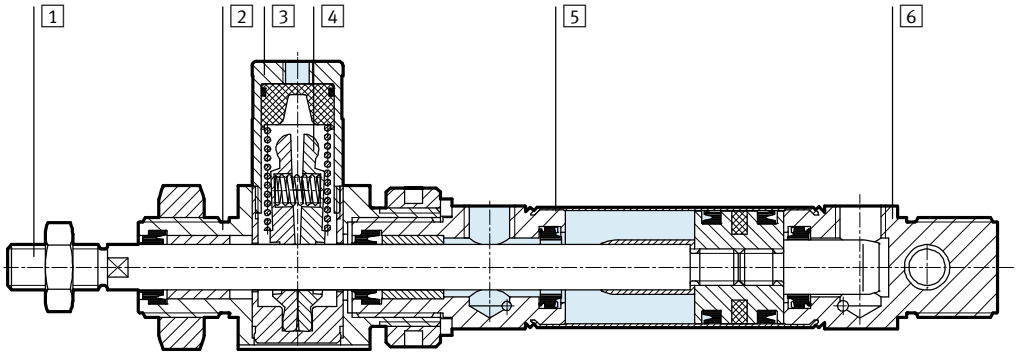
- ∅ 8/10
- ∅ 12/16
- ∅ 20
- ∅ 25
- ∅ 32
- ∅ 40
- ∅ 50/63

Round cylinders DSNU-KP, with clamping unit

Technical data

Materials

Sectional view



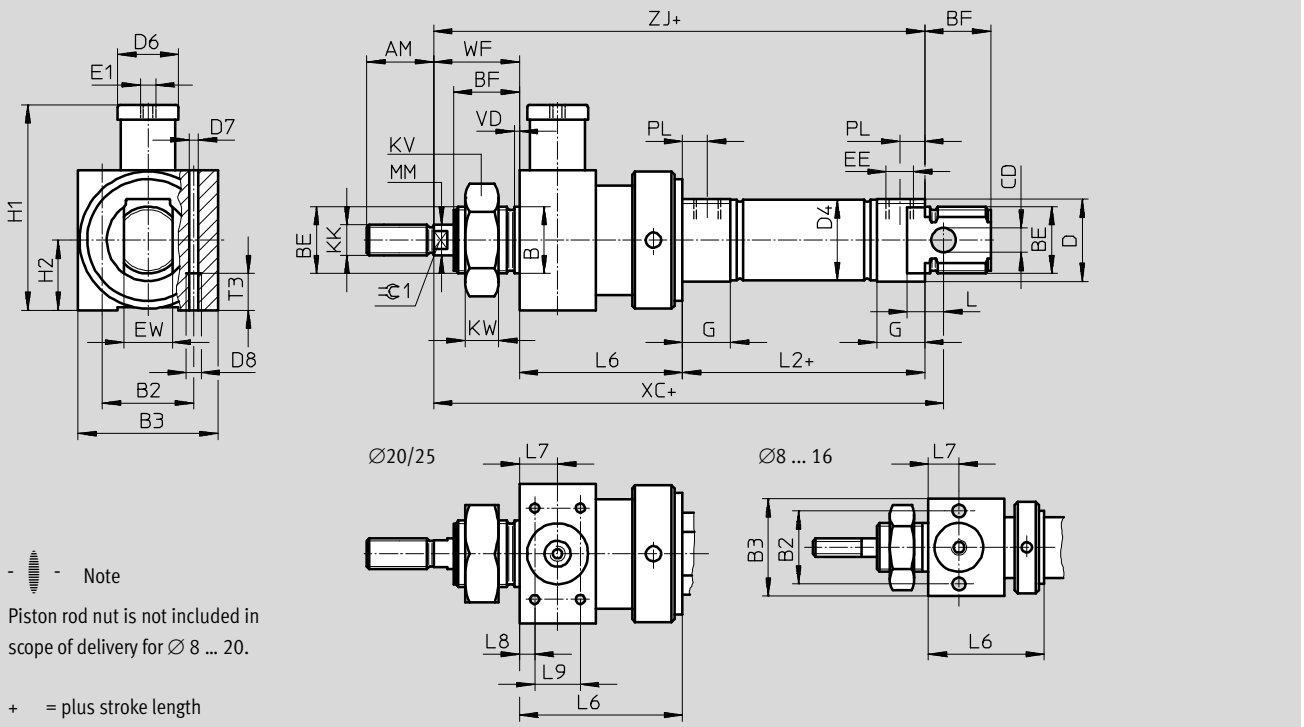
Round cylinder		
1	Piston rod	
	DSNU-...	High-alloy steel
	DSNU-...-R3	High-alloy stainless steel
2	Bearing cap	Anodised aluminium
3	Housing, clamping unit	Wrought aluminium alloy
4	Clamping jaws	Brass
5	Cylinder barrel	High-alloy stainless steel
6	End cap	Anodised aluminium
–	Piston, clamping unit	Polyacetate
–	Spring	Spring steel
–	Seals	TPE-U(PU), NBR
	Note on materials	RoHS compliant

Round cylinders DSNU-KP, with clamping unit

Technical data

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

DSNU-8 ... 25



- Note

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

\+ = plus stroke length

∅ [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	SW1
8	29 ±0.65	8	–	–	11	6	2	16	93	–
10			–	–						–
12	38 ±0.75	10	–	–				22	113	5
16			–	–					120	
20	47 ±0.75	13	4.5	20		8.2		24	142	7
25	48 ±0.75							28	152	9

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

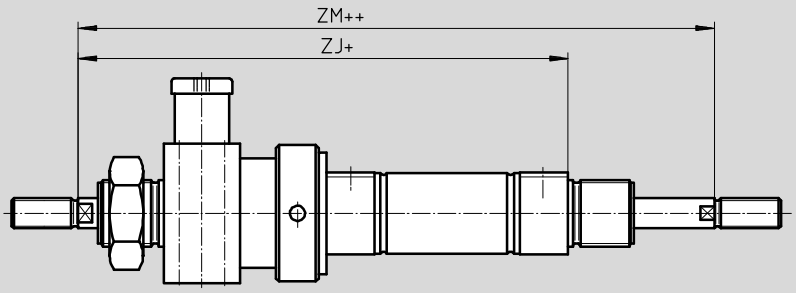
Round cylinders DSNU-KP, with clamping unit

Technical data

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

DSNU-8 ... 25

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 (➔ 54), 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

∅ [mm]	ZJ	ZM
8	91	107
10		
12	110	132
16	116	138
20	139	163
25	145.5	173.5

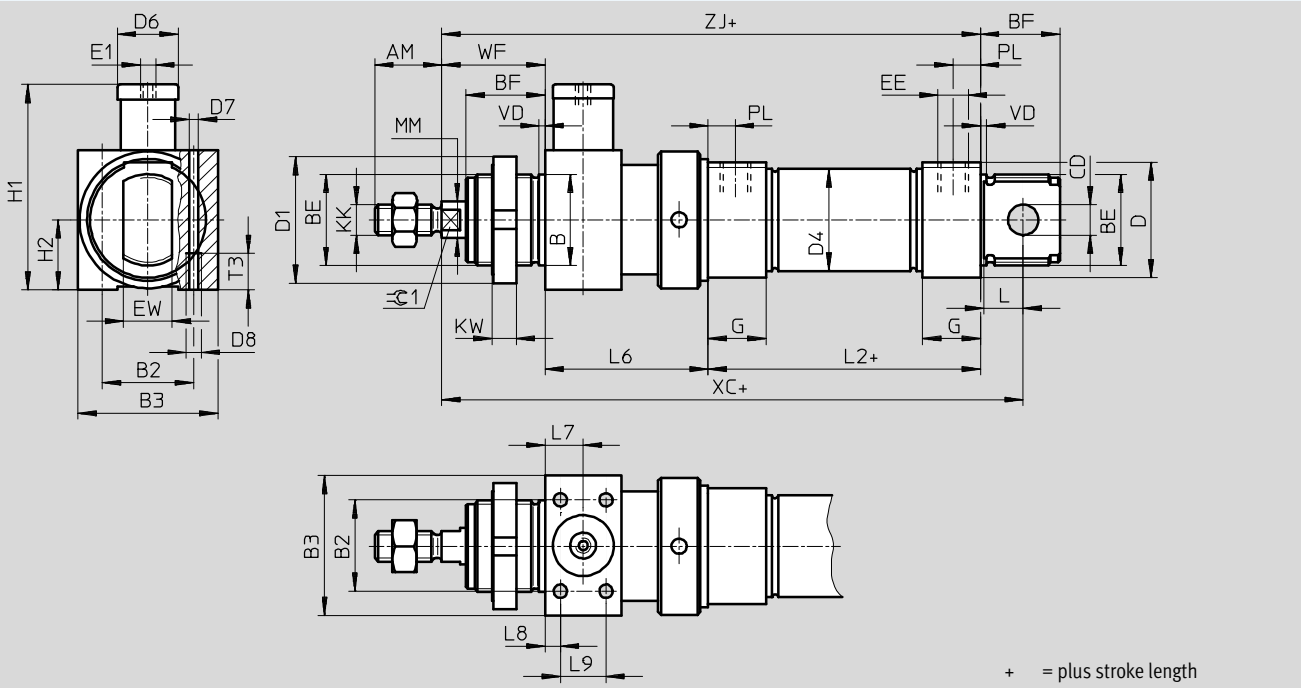
Note: This product conforms to ISO 1179-1 and to ISO 228-1

Round cylinders DSNU-KP, with clamping unit

Technical data

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

DSNU-32 ... 63



\+ = plus stroke length

∅ [mm]	AM	B ∅ h9	B2	B3	BE	BF	CD ∅ E10	D ∅	D1 ∅	D4 ∅	D6	D7
32	22	30	30	46	M30x1.5	26	10	38	42	33.6	20	4.4
40	24	38	36	56	M38x1.5	30	12	46	50	41.6	24	6.8
50	32	45	50	65	M45x1.5	33	16	57	60	52.4	30	8.5
63			54	72	M45x1.5			70		65.4	38	

∅ [mm]	D8	E1	EE	EW	G	H1	H2	KK	KW	MM ∅	L	L2
32	M5	M5	G1⁄8	16	19	67.5	23	M10x1.25	8	12	13	69.5
40	M8	G1⁄8	G1⁄4	18	25	89	28	M12x1.25	10	16	15	84.6
50	M10	G1⁄8		21		107.5	32.5	M16x1.5		20	16	86.2
63		G1⁄8	G3⁄8		28	121.5	36					94.2

∅ [mm]	L6 ±0.75	L7	L8	L9	T3	PL	VD	WF	XC ±1	⫧C1
32	55	12.5	5	15	12	9	2	34.5	173	10
40	69	17	7	20	18	12	3	40.5	210.1	13
50	78	20		26	20			45.5	226.7	17
63	86	24	8	32	21	13		46.5	243.7	

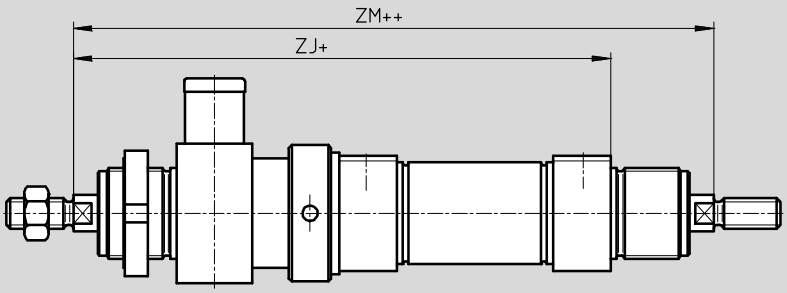
Round cylinders DSNU-KP, with clamping unit

Technical data

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

DSNU-32 ... 63

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 (➔ 54), 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

∅ [mm]	ZJ	ZM
32	159	191
40	194.1	230.1
50	209.7	250.7
63	226.7	268.7

Round cylinders DSNU-KP, with clamping unit

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	1	**-...**		
	Cushioning	Flexible cushioning rings/pads at both ends							**-P**		
		–	–	Pneumatic cushioning, adjustable at both ends				2	**-PPV**		
		–	–	–	Pneumatic cushioning, self-adjusting at both ends			3	**-PPS**		
O	Position sensing	Via proximity sensor						4	**-A**		
	Cylinder end cap	Lateral supply port, end cap						5	**-MQ**		
		Axial supply port, end cap						5	**-MA**		
↓	Type of piston rod	Through piston rod							**-S2**		

1 **-...** Longer strokes on request
2 **PPV** Not with MA.
3 **PPS** Not with MA, MH and not with combination MQ-R3
4 **A** Minimum stroke: 10 mm
5 **MQ, MA** Not with S2

M Mandatory data
O Options

Transfer order code

	DSNU	–		–		–		–		–		–	

Round cylinders DSNU-KP, with clamping unit

Ordering data – Modular products

FESTO

Ordering table

Size		8	10	12	16	20	25	Condi-tions	Code		Enter code
↓	Extended male thread	Extended male piston rod thread									
O	[mm]	1 … 15		1 … 20		1 … 25	1 … 35	6	**-...K2**		
	Shortened male thread	Shortened male piston rod thread									
	[mm]	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	Extended piston rod at one end									
	[mm]	1 … 50		1 … 100		1 … 110	1 … 150		**...K8**		
	Clamping unit	Attached							**-KP**		-KP

6 **K2** Not with K3, K6
7 **K6** Not with K3
8 **K3** Not with K5

M Mandatory data
O Options

Transfer order code

– [ ] – [ ] – [ ] – [ ] – [ ] – **KP**

Round cylinders DSNU-KP, with clamping unit

Ordering data – Modular products

Ordering table

	Size	32	40	50	63	Condi-tions	Code		Enter code
M	Module No.	**193992**	**193993**	**193994**	**193995**				
	Function	Double-acting round cylinder					**DSNU**		DSNU
	Piston ∅ [mm]	32	40	50	63		**-...**		
	Stroke [mm]	1 ... 500				1	**-...**		
	Cushioning	Flexible cushioning rings/pads at both ends					**-P**		
		Pneumatic cushioning, adjustable at both ends				2	**-PPV**		
		Pneumatic cushioning, self-adjusting at both ends				3	**-PPS**		
O	Position sensing	Via proximity sensor				4	**-A**		
	Cylinder end cap	Lateral air connection, end cap				5	**-MQ**		
		Axial air connection, end cap				5	**-MA**		
↓	Type of piston rod	Through piston rod					**-S2**		

1 **-...** Longer strokes on request
2 **PPV** Not with MA
3 **PPS** Not with MA, MH and not with combination MQ-R3
4 **A** Minimum stroke: 10 mm
5 **MQ, MA** Not with S2

M Mandatory data
O Options

Transfer order code

	DSNU	–		–		–		–		–		–	

Round cylinders DSNU-KP, with clamping unit

Ordering data – Modular products

Ordering table

Size	32	40	50	63	Condi-tions	Code		Enter code
↓ O Extended male thread [mm]	Piston rod with extended male thread 1 … 35		1 … 70		6	**-...K2**		
Shortened male thread [mm]	Piston rod with shortened male thread 1 … 8		1 … 10		7	**-...K6**		
Female thread	Piston rod with female thread (M6)	(M8)	(M10)		8	**-K3**		
Special thread	Piston rod with special thread M10	M12	M16			**-"..."K5**		
Piston rod extended at one end [mm]	Extended piston rod at one end 1 … 500					**...K8**		
Clamping unit	Attached					**-KP**		-KP

6 **K2** Not with K3, K6
7 **K6** Not with K3
8 **K3** Not with K5

M Mandatory data
O Options

Transfer order code

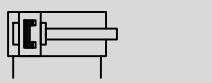
– [ ] – [ ] – [ ] – [ ] – [ ] – **KP**

Round cylinders DSNUP

Technical data

FESTO

Function
P cushioning



- Ø - Diameter
16 ... 25 mm
ISO 6432

- | - Stroke length
25 ... 100 mm

General technical data				
Piston ∅		16	20	25
Conforms		ISO 6432		
Pneumatic connection		M5	G1⁄8	G1⁄8
Constructional design		Piston / Piston rod / Cylinder barrel		
Stroke	[mm]	25 ... 100		
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.

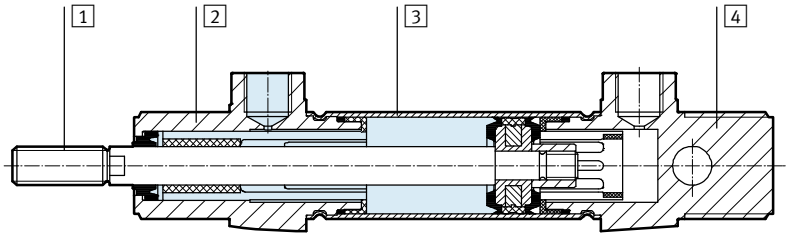
Force [N] and impact energy [J]			
Piston ∅	16	20	25
Theoretical force at 6 bar, advancing	121	189	295
Theoretical force at 6 bar, retracting	104	158	247
Impact energy at end positions	0.15	0.20	0.30

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

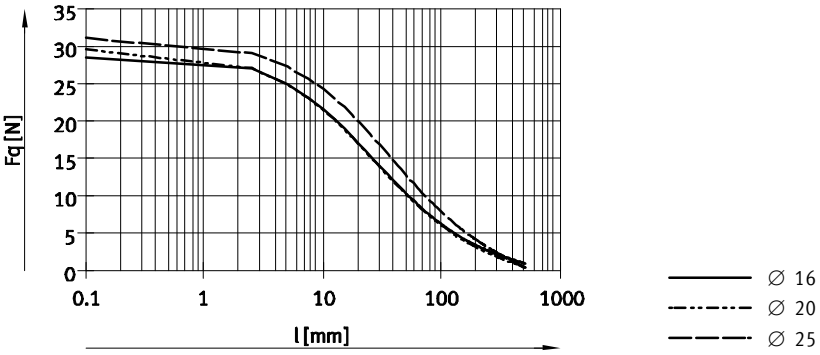
Materials

Sectional view

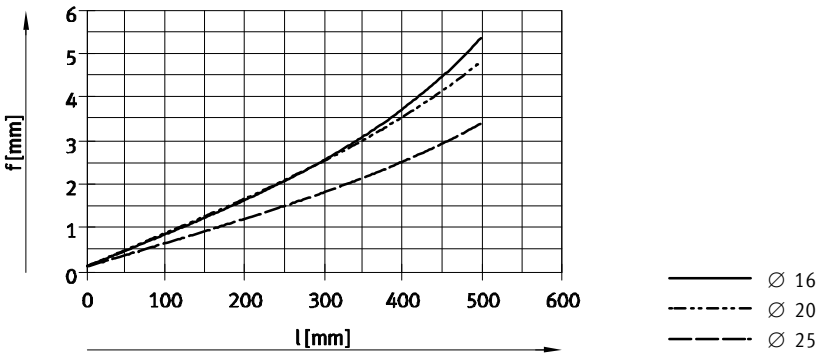


Round cylinder		
1	Piston rod	High-alloy stainless steel
2	Bearing cap	Polyamide
3	Cylinder barrel	Wrought aluminium alloy
4	End cap	Polyamide
–	Seals	TPE-U(PU), NBR
	Note on materials	RoHS compliant

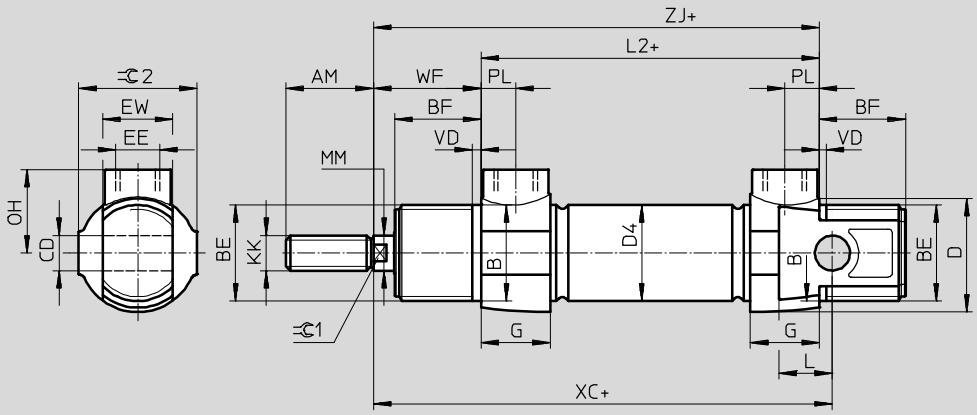
Permissible lateral force Fq as a function of stroke length l



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



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

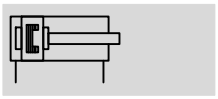
Piston ∅ [mm]	Stroke [mm]	Part No.	Type
16	25	**551668**	**DSNUP-16-25-P-A**
	50	**551669**	**DSNUP-16-50-P-A**
	100	**551670**	**DSNUP-16-100-P-A**
20	25	**551671**	**DSNUP-20-25-P-A**
	50	**551672**	**DSNUP-20-50-P-A**
	100	**551673**	**DSNUP-20-100-P-A**
25	25	**551674**	**DSNUP-25-25-P-A**
	50	**551675**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

Round cylinders DSNU-Q, protected against rotation

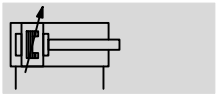
Technical data

Function

P cushioning



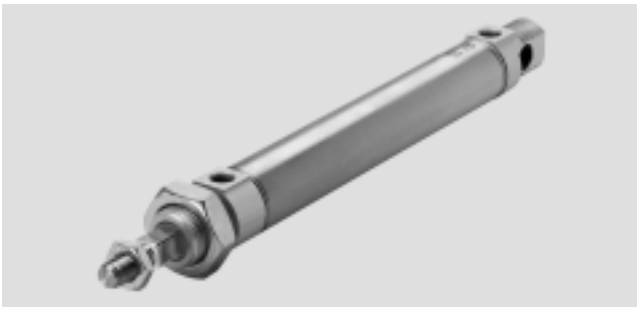
PPV cushioning



- Ø - Diameter
  12 ... 25 mm
  ISO 6432

- Ø - Diameter
  32 ... 63 mm

- | - Stroke length
  5 ... 500 mm



General technical data									
Piston∅		12	16	20	25	32	40	50	63
Conforms		ISO 6432				–			
Pneumatic connection		M5	M5	G1⁄8	G1⁄8	G1⁄8	G1⁄4	G1⁄4	G3⁄8
Piston rod thread		M6	M6	M8	M10x1.25	M10x1.25	M12x1.25	M16x1.5	M16x1.5
Stroke[1]	[mm]	5 ... 160		5 ... 200	5 ... 250	5 ... 300	5 ... 400		5 ... 500
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	0.8	1.1	0.45	0.45
Cushioning									
DSNU-...-P		Flexible cushioning rings/pads at both ends	–			Flexible cushioning rings/pads at both ends			
DSNU-...-PPV		–	Adjustable cushioning at both ends						
Cushioning length (PPV)	[mm]	–	12	15	17	14	18	20	21
Position sensing		Via proximity sensor							
Type of mounting		Via accessories							
Mounting position		Any							

1) Cylinders with position sensing require a minimum stroke of 10 mm to ensure reliable sensing.
Longer strokes on request.

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

Operating and environmental conditions									
Piston ∅		12	16	20	25	32	40	50	63
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						
Ambient temperature[2]									
DSNU-...	[°C]	–20 ... +80							
DSNU-Q-...-S6	[°C]	–				0 ... +120			
Corrosion resistance class CRC[3]									
DSNU-...		2							
DSNU-...-R3		3							
Certification		Germanischer Lloyd				–			

1) With DSNU-12- ... -Q- PPV (pneumatic cushioning adjustable at both ends): 2 ... 10 bar
2) Note operating range of proximity sensors.
3) 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.

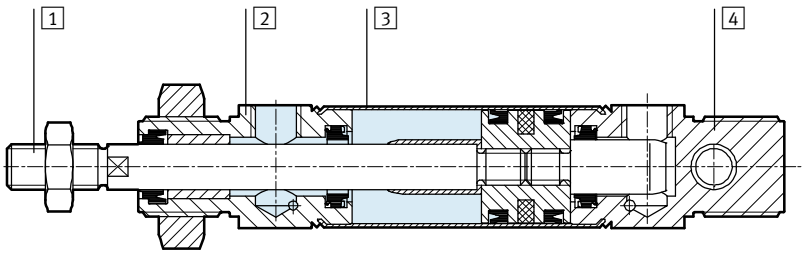
Forces [N] and impact energy [J]								
Piston ∅	12	16	20	25	32	40	50	63
Theoretical force at 6 bar, advancing	68	121	189	295	483	753	1178	1870
Theoretical force at 6 bar, retracting	51	104	158	247	415	633	990	1682
Max. impact energy at the end positions for flexible cushioning elements[1]	0.07	0.15	0.20	0.30	0.40	0.70	1	1.3

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

Weight [g]								
Piston ∅	12	16	20	25	32	40	50	63
Product weight with 0 mm stroke	80	110	215	275	370.5	661	1087	1445
Additional weight per 10 mm stroke	4.1	4.7	7.1	10.9	15.5	24	40	44
Moving load with 0 mm stroke	18.5	23	44	71	121	230	413	459
Moving load per 10 mm stroke	2	2	4	6	9	16	25	25

Materials

Sectional view



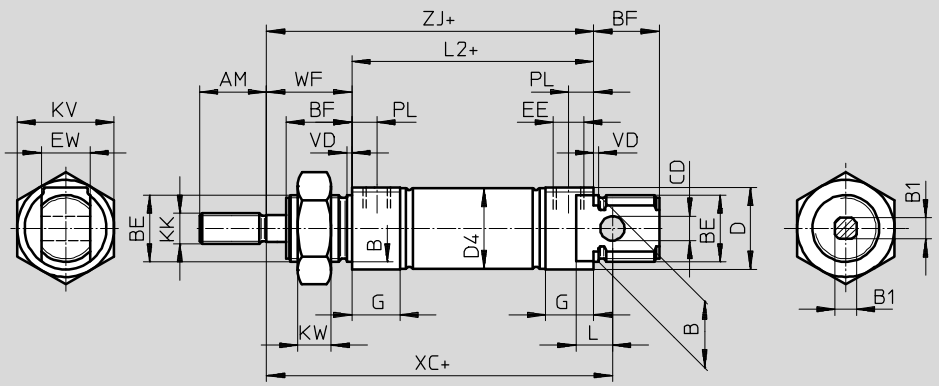
Round cylinder		
1	Piston rod	
	DSNU-...	High-alloy steel
	DSNU-...-R3	High-alloy stainless steel
2	Bearing cap	Anodised aluminium
3	Cylinder barrel	High-alloy stainless steel
4	End cap	Anodised aluminium
–	Seals	TPE-U(PU), NBR
	Note on materials	RoHS compliant

Round cylinders DSNU-Q, protected against rotation

Technical data

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

DSNU-12 ... 25



- - Note

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

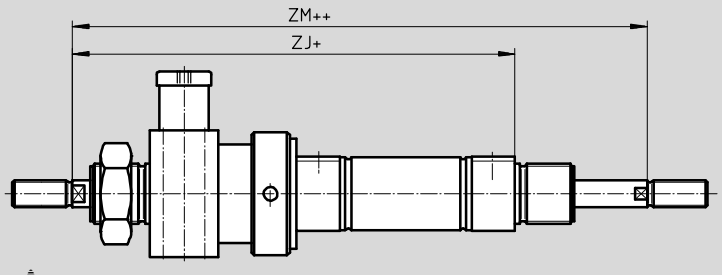
\+ = plus stroke length

∅ [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

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.

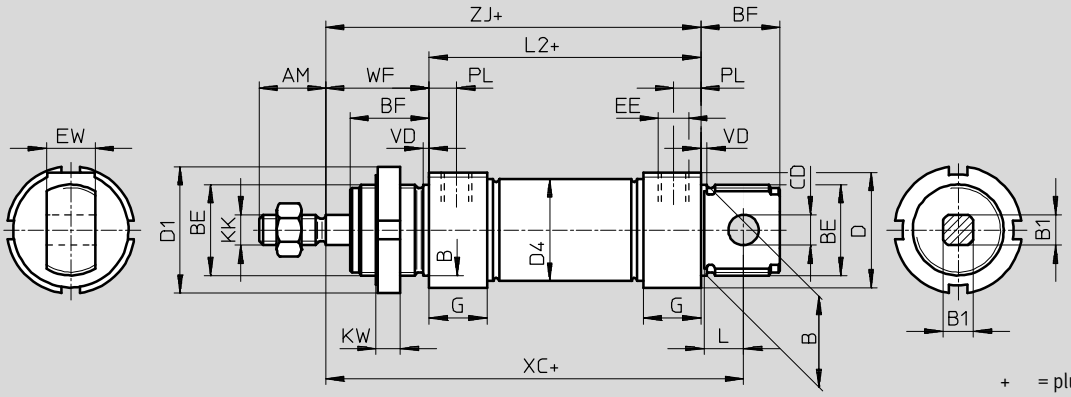
\+ = plus stroke length

++ = plus 2x stroke length

∅ [mm]	ZJ	ZM
12	110	132
16	116	138
20	139	163
25	145.5	173.5

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

DSNU-32 ... 63

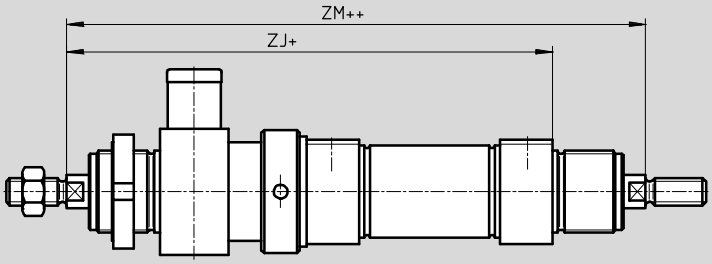


\+ = plus stroke length

∅ [mm]	AM	B ∅ h9	B1 □	BE	BF	CD ∅ E10	D ∅	D1 ∅	D4 ∅	EE	EW
32	22	30	10	M30x1.5	26	10	38	42	33.6	G⅛	16
40	24	38	12	M38x1.5	30	12	46	50	41.6	G¼	18
50	32	45	16	M45x1.5	33	16	57	60	52.4	G¼	21
63	32	45	16	M45x1.5	33	16	70	60	65.4	G⅜	21

∅ [mm]	G	KK	KW	L	L2	PL	VD	WF	XC ±1	ZJ
32	19	M10x1.25	8	13	69.5	9	2	34	117.5	103.5
40	25	M12x1.25	10	15	84.6	12	3	39	139.6	123.6
50	25	M16x1.5	10	16	86.2	12	3	44	147.2	130.2
63	28	M16x1.5	10	16	94.2	13	3	45	156.2	139.2

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

∅ [mm]	ZJ	ZM
32	159	191
40	194.1	230.1
50	209.7	250.7
63	226.7	268.7

Round 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	1	**-...**		
	Cushioning	Flexible cushioning rings/pads at both ends	–	–	–		**-P**		
		–	Pneumatic cushioning, adjustable at both ends			2	**-PPV**		
O	Position sensing	Via proximity sensor				3	**-A**		
	Cylinder end cap	Lateral supply port, end cap				4	**-MQ**		
		Axial supply port, end cap	–	–	–	4	**-MA**		
		–	With mounting flange at front (direct mounting), bearing cap			5	**-MH**		
	Protection against rotation	Square piston rod					**-Q**		-Q
↓	Type of piston rod	Through piston rod					**-S2**		

1 **-...** Longer strokes on request
2 **PPV** Not with MA
3 **A** Minimum stroke: 10 mm
4 **MQ, MA** Not with S2
5 **MH** Not with combination Q-R3

- Note

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

M Mandatory data
O Options

Transfer order code

	DSNU	–		–		–		–		–		–	**Q**	–				

Round cylinders DSNU-Q, protected against rotation

Ordering data – Modular products

FESTO

Ordering table

Size		12	16	20	25	Conditions	Code		Enter code
↓	Extended male thread	Extended male piston rod thread							
O	[mm]	1 … 20		1 … 25	1 … 35	6	**-...K2**		
	Shortened male thread	Shortened male piston rod thread							
	[mm]	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	Extended piston rod at one end							
	[mm]	1 … 100		1 … 110	1 … 150		**...K8**		
	Clamping unit	Attached				9	**-KP**		
	Corrosion protection	–	High corrosion protection				**-R3**		
	EU certification	II 2GD				10	**-EX4**		

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

M Mandatory data
O Options

Transfer order code

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

Round cylinders DSNU-Q, protected against rotation

Ordering data – Modular products

Ordering table

	Size	32	40	50	63	Condi-tions	Code		Enter code
M	Module No.	**193992**	**193993**	**193994**	**193995**				
	Function	Double-acting round cylinder					**DSNU**		DSNU
	Piston ∅ [mm]	32	40	50	63		**-...**		
	Stroke [mm]	5 ... 300	5 ... 400		5 ... 500	1	**-...**		
	Cushioning	Flexible cushioning rings/pads at both ends					**-P**		
		Pneumatic cushioning, adjustable at both ends				2	**-PPV**		
O	Position sensing	Via proximity sensor				3	**-A**		
	Cylinder end cap	Lateral air connection, end cap				4	**-MQ**		
		Axial air connection, end cap				4	**-MA**		
		Mounting flange at front (direct mounting), bearing cap				5	**-MH**		
	Protection against rotation	Square piston rod					**-Q**		-Q
↓	Type of piston rod	Through piston rod					**-S2**		

1 **-...** Longer strokes on request
2 **PPV** Not with MA
3 **A** Minimum stroke: 10 mm
4 **MQ, MA** Not with S2
5 **MH** Not with combinations: Q-R3, S6-R3
Not with KP

- Note

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

M Mandatory data
O Options

Transfer order code

	DSNU	–		–		–		–		–		–	**Q**	–				

Round cylinders DSNU-Q, protected against rotation

Ordering data – Modular products

Ordering table

Size	32	40	50	63	Condi-tions	Code		Enter code
↓ O Extended male thread [mm]	Piston rod with extended male thread 1 … 35		1 … 70		6	**-...K2**		
Shortened male thread [mm]	Piston rod with shortened male thread 1 … 8		1 … 10		7	**-...K6**		
Female thread	Piston rod with female thread (M6)	(M8)	(M10)		8	**-K3**		
Special thread	Piston rod with special thread M10	M12	M16			**-"..."K5**		
Piston rod extended at one end [mm]	Extended piston rod at one end 1 … 500					**...K8**		
Clamping unit	Attached				9	**-KP**		
Temperature resistance	Heat-resistant seals for temperatures up to 120 °C					**-S6**		
Corrosion protection	High corrosion protection					**-R3**		
EU certification	II 2GD				10	**-EX4**		

6 **K2** Not with K3, K6

7 **K6** Not with K3

8 **K3** Not with K5

9 **KP** Only with S2
Not with S6, R3

10 **EX4** Not with KP

M Mandatory data
O Options

Transfer order code

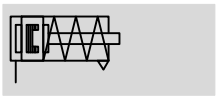
– [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ]

Round cylinders ESNU

Technical data

FESTO

Function
Flexible cushioning



- Ø - Diameter
  8 ... 25 mm
  IO 6432

- Ø - Diameter
  32 ... 63 mm

- | - Stroke length
  1 ... 50 mm

ESNU-...-

ESNU-...-MA
Axial air connection MA

General technical data											
Piston ∅	8	10	12	16	20	25	32	40	50	63
Conforms	ISO 6432						–			
Pneumatic connection	M5	M5	M5	M5	G1⁄8	G1⁄8	G1⁄8	G1⁄4	G1⁄4	G3⁄8
Piston rod thread	M4	M4	M6	M6	M8	M10x1.25	M10x1.25	M12x1.25	M16x1.5	M16x1.5
Stroke[1] [mm]	1 ... 50									
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									

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

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

Operating and environmental conditions										
Piston ∅	8	10	12	16	20	25	32	40	50	63
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 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.

Force [N] and impact energy [J]										
Piston ∅	8	10	12	16	20	25	32	40	50	63
Theoretical force at 6 bar, advancing	24	41	61	107	169	270	442	688	1071	1763
Spring return force										
10 mm stroke	4.9	4.9	6.3	13.2	18.3	22.9	36	60	95	95
25 mm stroke	4.1	4.1	5.4	11.9	16.5	21.2	30	50	82	82
50 mm stroke	2.8	4.8	3.9	9.8	13.6	18.5	20	30	60	60
Max. impact energy at the end positions[1)]	0.03	0.05	0.07	0.15	0.20	0.30	0.40	0.70	1	1.3

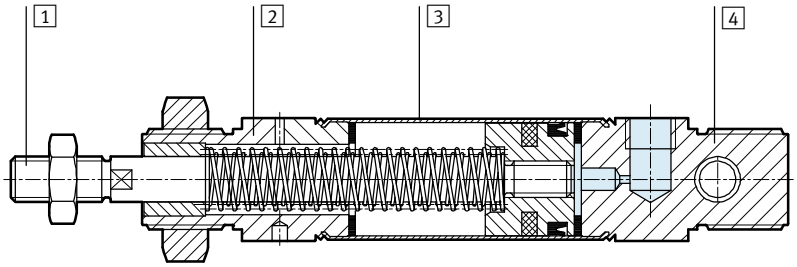
1) The values are reduced by approx. 50% at ambient temperatures of 80 °C

Weight ESNU-... [g]										
Piston ∅	8	10	12	16	20	25	32	40	50	63
Product weight with 0 mm stroke	35	37.3	75	89.9	186.8	238	370.5	661	1087	1445
Additional weight per 10 mm stroke	2.4	2.7	4	4.6	7.2	11	15.5	24	40	44

Weight ESNU-...-MA [g]										
Piston ∅	8	10	12	16	20	25	32	40	50	63
Product weight with 0 mm stroke	30	33	65	81	167	222	330	585	1013	1369
Additional weight per 10 mm stroke	2.4	2.7	4	4.6	7.2	11	15.5	24	40	44

Materials

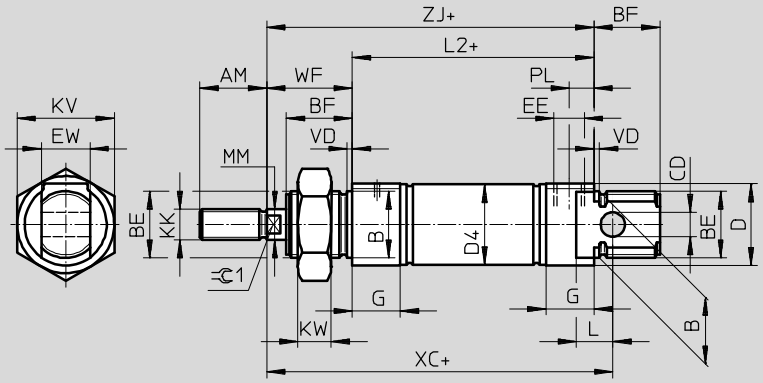
Sectional view



Round cylinder		
1	Piston rod	High-alloy steel
2	Bearing cap	Anodised aluminium
3	Cylinder barrel	High-alloy stainless steel
4	End cap	Anodised aluminium
–	Seals	TPE-U(PU), NBR
–	Spring	Spring steel
	Note on materials	RoHS compliant

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

ESNU-8 ... 25

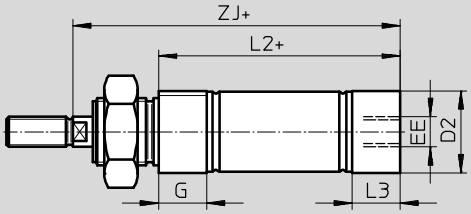


- - Note

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	

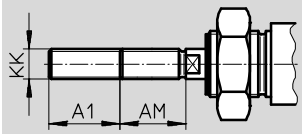
∅ [mm]	KW	L	L2 ESNU- ...	L2 ESNU- ... -MA	L3	MM ∅	PL	VD	WF	XC ±1	ZJ ESNU- ...	ZJ ESNU- ... -MA	C1
8	6	6	46	43.6	7.6	4	6	2	16	64	62	59.6	–
10				43.1	7.1							59.1	
12	8	9	50	47.7	7.7	6			22	75	72	69.7	5
16			56	53.7						82	78	75.7	
20	11	12	68	66.5	14.5	8	8.2		24	95	92	90.5	7
25			69.5	68.5	14	10			28	104	97.5	96.5	9

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

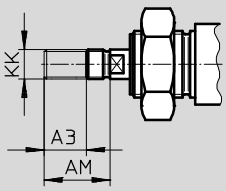
Dimensions Download CAD data ➔ **www.festo.com**

ESNU-8 ... 25

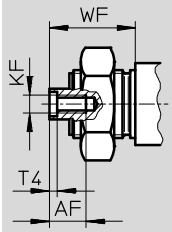
K2 – Extended male piston rod thread



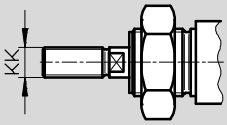
K6 – Shortened male piston rod thread



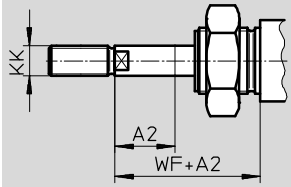
K3 – Female piston rod thread



K5 – Special piston rod thread



K8 – Extended piston rod

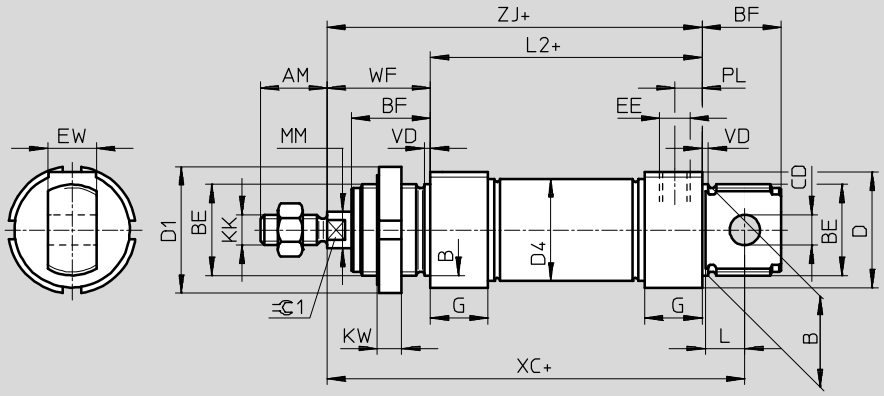


∅ [mm]	A1 max.	A2 max.	A3 max.	AF	AM	KF	KK		T4	WF
							Basic thread	Special thread[1)]		
8	15	50	4	–	12	–	M4	–	–	16
10				–		–		–	–	
12	20			–	16	–	M6	–	–	22
16				–		–		–	–	
20	25		8	12	20	M4	M8	–	2	24
25	35				22	M6	M10x1.25	M10	2.6	28

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.

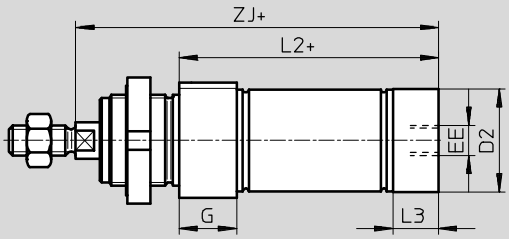
Dimensions Download CAD data ➔ **www.festo.com**

ESNU-32 ... 63



\+ = plus stroke length

MA – Axial air connection



\+ = plus stroke length

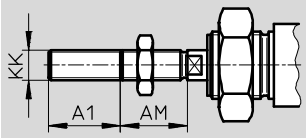
∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ E10	D ∅	D1 ∅	D2 ∅	D4 ∅	EE	EW	G	KK
32	22	30	M30x1.5	26	10	38	42	34	33.6	G1⁄8	16	19	M10x1.25
40	24	38	M38x1.5	30	12	46	50	42	41.6	G1⁄4	18	25	M12x1.25
50	32	45	M45x1.5	33	16	57	60	53	52.4		21		M16x1.5
63						70		66	65.4	G3⁄8		28	

∅ [mm]	KW	L	L2 ESNU- ...	L2 ESNU- ... -MA	L3	PL	MM ∅	VD	WF	XC ±1	ZJ ESNU- ...	ZJ ESNU- ... -MA	⫧1
32	8	13	69.5	65.5	15	9	12	2	34	117.5	103.5	99.5	10
40	10	15	84.6	77.6	18	12	16	3	39	139.6	123.6	116.6	13
50		16	86.2	86.2	25		20		44	147.2	130.2	130.2	17
63			94.2	94.2	28	13			45	156.2	139.2	139.2	

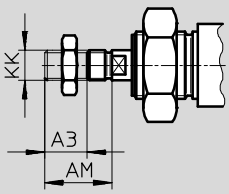
Dimensions Download CAD data ➔ **www.festo.com**

ESNU-32 … 63

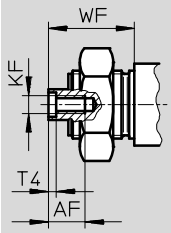
K2 – Extended male piston rod thread



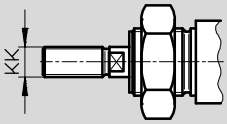
K6 – Shortened male piston rod thread



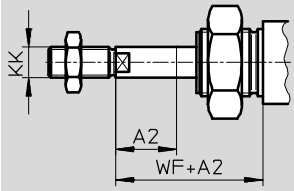
K3 – Female piston rod thread



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)]		
32	35	50	8	12	22	M6	M10x1.25	M10	2.6	34
40					24	M8	M12x1.25	M12	3.3	39
50			10	16	32	M10	M16x1.5	M16	4.7	44
63										45

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	Without position sensing			A – With position sensing	
[mm]	[mm]	Part No.	Type		Part No.	Type
8	10	–			**19254**	**ESNU-8-10-P-A**
	25				**19255**	**ESNU-8-25-P-A**
	50				**19256**	**ESNU-8-50-P-A**
10	10	–			**19257**	**ESNU-10-10-P-A**
	25				**19258**	**ESNU-10-25-P-A**
	50				**19259**	**ESNU-10-50-P-A**
12	10	–			**19260**	**ESNU-12-10-P-A**
	25				**19261**	**ESNU-12-25-P-A**
	50				**19262**	**ESNU-12-50-P-A**
16	10	–			**19263**	**ESNU-16-10-P-A**
	25				**19264**	**ESNU-16-25-P-A**
	50				**19265**	**ESNU-16-50-P-A**
20	10	–			**19266**	**ESNU-20-10-P-A**
	25				**19267**	**ESNU-20-25-P-A**
	50				**19268**	**ESNU-20-50-P-A**
25	10	–			**19269**	**ESNU-25-10-P-A**
	25				**19270**	**ESNU-25-25-P-A**
	50				**19271**	**ESNU-25-50-P-A**
32	10	**195870**	**ESNU-32-10-P**		**196376**	**ESNU-32-10-P-A**
	25	**195871**	**ESNU-32-25-P**		**196377**	**ESNU-32-25-P-A**
	50	**195872**	**ESNU-32-50-P**		**196378**	**ESNU-32-50-P-A**
40	10	**195873**	**ESNU-40-10-P**		**196379**	**ESNU-40-10-P-A**
	25	**195874**	**ESNU-40-25-P**		**196380**	**ESNU-40-25-P-A**
	50	**195875**	**ESNU-40-50-P**		**196381**	**ESNU-40-50-P-A**
50	10	**195876**	**ESNU-50-10-P**		**196382**	**ESNU-50-10-P-A**
	25	**195877**	**ESNU-50-25-P**		**196383**	**ESNU-50-25-P-A**
	50	**195878**	**ESNU-50-50-P**		**196384**	**ESNU-50-50-P-A**
63	10	**195879**	**ESNU-63-10-P**		**196385**	**ESNU-63-10-P-A**
	25	**195880**	**ESNU-63-25-P**		**196386**	**ESNU-63-25-P-A**
	50	**195881**	**ESNU-63-50-P**		**196387**	**ESNU-63-50-P-A**

Ordering data			
∅ [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**

Round cylinders ESNU

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

M Mandatory data
O Options

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									
O	[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

M Mandatory data

O Options

Transfer order code

– [ ] – [ ] – [ ] – [ ] – [ ]

Round cylinders ESNU

Ordering data – Modular products

FESTO

Ordering table									
Size			32	40	50	63	Condi-tions	Code	Enter code
M	Module No.		**194002**	**194003**	**194004**	**194005**			
	Function		Single-acting round cylinder					**ESNU**	ESNU
	Piston ∅	[mm]	32	40	50	63		**-...**	
	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

M Mandatory data
O Options

Transfer order code

	ESNU	–		–		–	**P**	–		–		–

Ordering table

	Size	32	40	50	63	Conditions	Code		Enter code
↓	Extended male thread	Piston rod with extended male thread							
O	[mm]	1 … 35				2	**-...K2**		
	Shortened male thread	Piston rod with shortened male thread							
	[mm]	1 … 8		1 … 10			**-...K6**		
	Female thread	Piston rod with female thread							
		(M6)	(M8)	(M10)		3	**-K3**		
	Special thread	Piston rod with special thread							
		M10	M12	M16			**-"..."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

M Mandatory data

O Options

Transfer order code

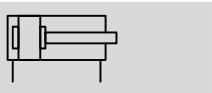
	–		–		–		–	

Round cylinders DSN

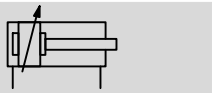
Technical data

Function

P cushioning



PPV cushioning



- Ø - Diameter
  8 ... 25 mm
  ISO 6432

- | - Stroke length
  1 ... 500 mm

General technical data							
Piston ∅		8	10	12	16	20	25
Conforms		ISO 6432					
Pneumatic connection		M5	M5	M5	M5	G1/8	G1/8
Piston rod thread		M4	M4	M6	M6	M8	M10x1.25
Stroke	[mm]	1 ... 100		1 ... 200		1 ... 320	1 ... 500
Constructional design		Piston / Piston rod / Cylinder barrel					
Cushioning							
DSN- ... -P		Flexible cushioning rings/pads at both ends					
DSN- ... -PPV		–			Pneumatic cushioning, adjustable at both ends		
Cushioning length (PPV)	[mm]	–			12	15	17
Type of mounting		Via accessories					
Mounting position		Any					

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

Operating and environmental 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 temperature	[°C]	–20 ... +80					
Corrosion resistance class CRC[1)]		2					

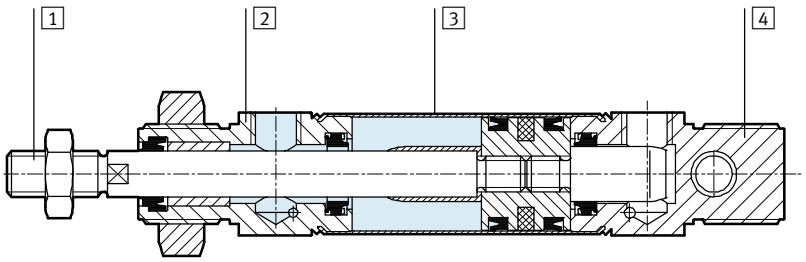
1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial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

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	34.6	37.3	75	89.8	186.8	238
Additional weight per 10 mm stroke	2.4	2.7	4	4.6	7.2	11
Moving load with 0 mm stroke	7.5	8.5	18.5	23	44	71
Moving load per 10 mm stroke	1	1	2	2	4	6

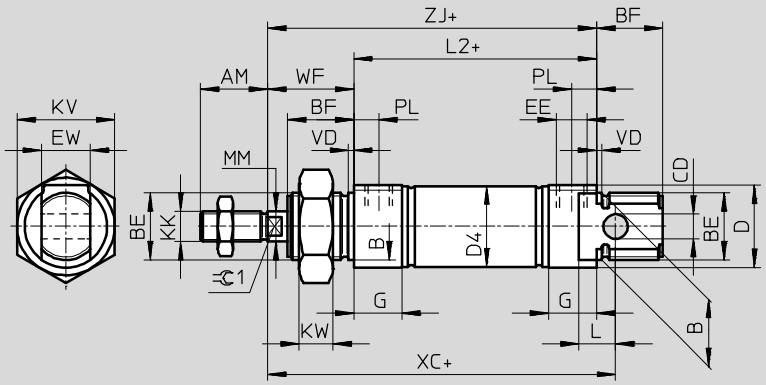
Materials

Sectional view



Round cylinder		
1	Piston rod	High-alloy steel
2	Bearing cap	Anodised aluminium
3	Cylinder barrel	High-alloy stainless steel
4	End cap	Anodised aluminium
–	Seals	TPE-U(PU), NBR
	Note on materials	RoHS compliant

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



- - 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			
Piston ∅ [mm]	Stroke [mm]	P – Flexible cushioning rings/pads at both ends	
		Part No.	Type
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**

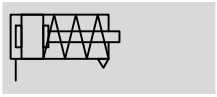
Ordering data						
Piston ∅	Stroke	P – Flexible cushioning rings/pads at both ends			PPV – Pneumatic cushioning, adjustable at both ends	
[mm]	[mm]	Part No.	Type		Part No.	Type
16	10	**5056**	**DSN-16-10-P**		–	
	25	**5057**	**DSN-16-25-P**			
	40	**5058**	**DSN-16-40-P**		**14534**	**DSN-16-40-PPV**
	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						
Piston ∅ [mm]	Stroke [mm]	P – Flexible cushioning rings/pads at both ends			PPV – Pneumatic cushioning, adjustable at both ends	
		Part No.	Type		Part No.	Type
Variable stroke lengths					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**			
16	1 … 200	–			**14533**	**DSN-16-…-PPV**
20	1 … 320				**8742**	**DSN-20-…-PPV**
25	1 … 500				**9665**	**DSN-25-…-PPV**

Round cylinders ESN

Technical data

Function
P cushioning



Diameter
8 ... 25 mm
ISO 6432

Stroke length
1 ... 50 mm

General technical data							
Piston ∅		8	10	12	16	20	25
Conforms		ISO 6432					
Pneumatic connection		M5	M5	M5	M5	G1⁄8	G1⁄8
Piston rod thread		M4	M4	M6	M6	M8	M10x1.25
Stroke	[mm]	1 ... 50					
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 and environmental 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 temperature	[°C]	–20 ... +80					
Corrosion resistance class CRC[1)]		2					

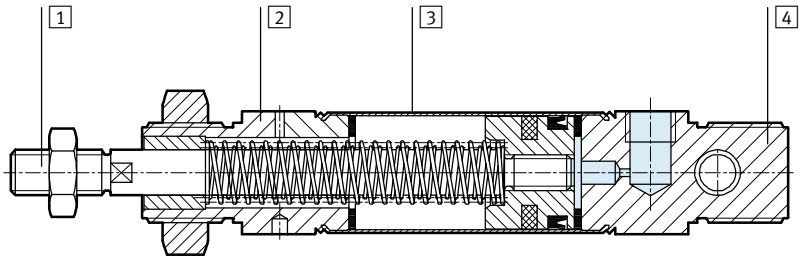
1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial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

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
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
Moving load with 0 mm stroke	34.6	37.3	75	89.9	186.8	238
Moving load per 10 mm stroke	2.4	2.7	4	4.6	7.2	11

Materials

Sectional view

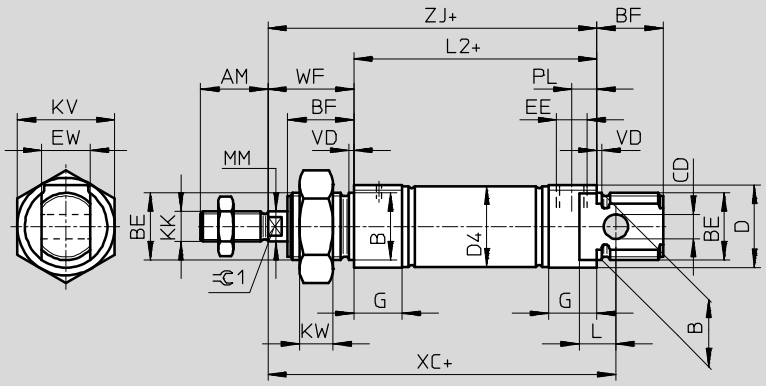


Standard cylinder		
1	Piston rod	High-alloy stainless steel
2	Bearing cap	Anodised aluminium
3	Cylinder barrel	High-alloy stainless steel
4	End cap	Anodised aluminium
–	Seals	TPE-U(PU), NBR
–	Spring	Spring steel
	Note on materials	RoHS compliant

Round cylinders ESN

Technical data

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



- 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

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

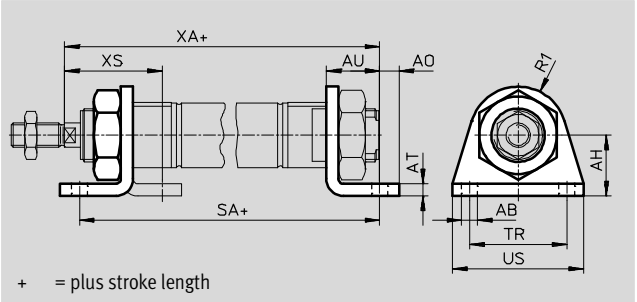
Ordering data			
∅ [mm]	Stroke [mm]	Part No.	Type
Variable stroke lengths			
8	1 … 50	**11651**	**ESN-8-…-P**
10	1 … 50	**11652**	**ESN-10-…-P**
12	1 … 50	**11653**	**ESN-12-…-P**
16	1 … 50	**11654**	**ESN-16-…-P**
20	1 … 50	**11655**	**ESN-20-…-P**
25	1 … 50	**11656**	**ESN-25-…-P**

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

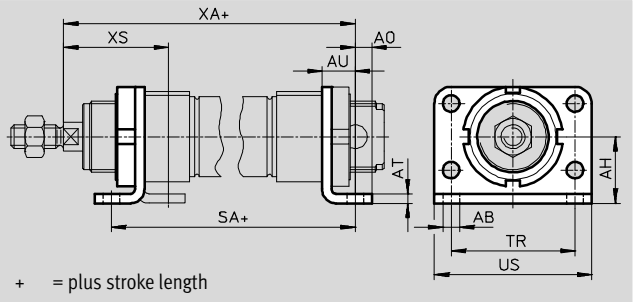
For ∅ [mm]	AB ∅	AH	AO	AT	AU	R1	SA	SA DSNU-KP	TR	US	XA	XA DSNU-KP	XS	XS DSNU-KP
8, 10	4.5	16	5	3	11	10	68	97	25	35	73	102	24	–
12	5.5	20	6	4	14	13	78	116	32	42	86	124	32	–
16	5.5	20	6	4	14	13	84	122	32	42	92	130	32	–
20	6.6	25	8	5	17	20	102	149	40	54	109	156	36	–
25	6.6	25	8	5	17	20	103.5	151.5	40	54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

For ∅ [mm]	Basic version				High corrosion protection			
	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.

Foot mounting HBN/CRH

Material:
HBN: Galvanised steel
CRH: High-alloy stainless steel
Free of copper and PTFE
RoHS-compliant



Dimensions and ordering data

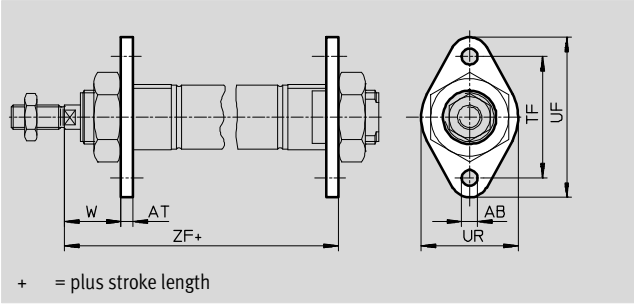
For ∅ [mm]	AB ∅	AH	AO	AT	AU	SA	SA DSNU-KP	TR	US	XA	XA DSNU-KP	XS	XS DSNU-KP
32	7	28	7	4	14	97.5	151	52	66	117.5	171	44	–
40	9	33	10	5	20	124.6	192.1	60	80	138.6	206.1	49	–
50	9	40	10	6	20	126.2	202.7	70	90	150.2	226.7	58	–
63	9	45	10	6	20	134.2	218.7	76	96	159.2	243.7	59	–

For ∅	Basic version				High corrosion protection			
[mm]	CRC[1)]	Weight [g]	Part No.	Type	CRC[1)]	Weight [g]	Part No.	Type
32	2	247	**195851**	**HBN-32x2**	4	237	**162951**	**CRH-32**
40	2	446	**195852**	**HBN-40x2**	4	341	**162952**	**CRH-40**
50	2	666	**195853**	**HBN-50x2**	4	559	**162953**	**CRH-50**
63	2	816	**195854**	**HBN-63x2**	4	680	**162954**	**CRH-63**

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



\+ = plus stroke length

Dimensions and ordering data

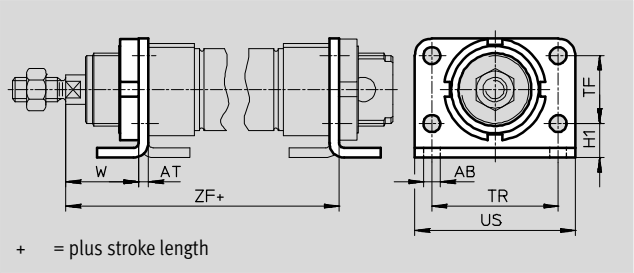
For ∅ [mm]	AB ∅	AT	TF	UF	UR	W	ZF	ZF DSNU-KP
8, 10	4.5	3	30	40	25	13	65	94
12	5.5	4	40	53	30	18	76	114
16	5.5	4	40	53	30	18	82	120
20	6.6	5	50	66	40	19	97	144
25	6.6	5	50	66	40	23	102.5	150.5

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.

Flange mounting FBN/CRFV

Material:
FBN: Galvanised steel
CRFV: High-alloy stainless steel
Free of copper and PTFE
RoHS-compliant



Dimensions and ordering data

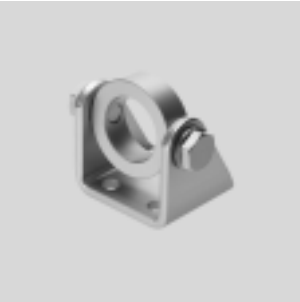
For ∅ [mm]	AB ∅	AT	H1	TF	TR	US	W	ZF	ZF -KP
32	7	4	14	28	52	66	30	107.5	161
40	9	5	18	30	60	80	29	123.6	191.1
50	9	6	20	40	70	90	38	136.2	212.6
63	9	6	20	50	76	96	39	145.2	229.7

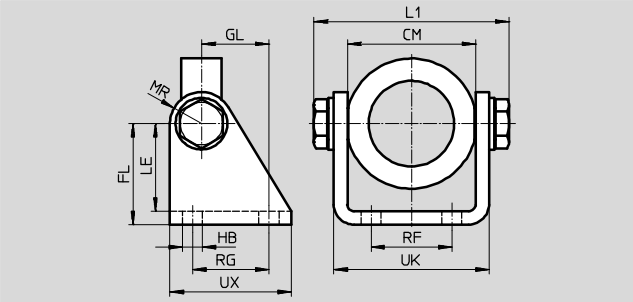
For ∅	Basic version				High corrosion protection			
[mm]	CRC[1)]	Weight [g]	Part No.	Type	CRC[1)]	Weight [g]	Part No.	Type
32	1	102	**195855**	**FBN-32**	4	102	**161858**	**CRFV-32**
40	1	190	**195856**	**FBN-40**	4	190	**161859**	**CRFV-40**
50	1	290	**195857**	**FBN-50**	4	290	**161860**	**CRFV-50**
63	1	365	**195858**	**FBN-63**	4	365	**161861**	**CRFV-63**

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.

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.





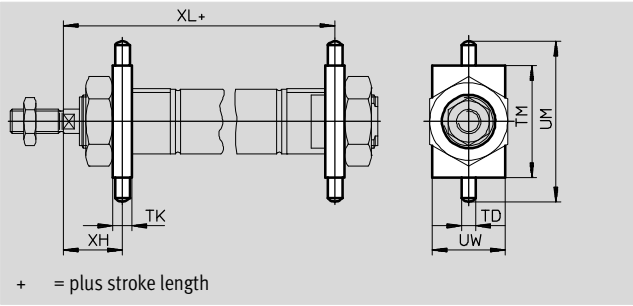
Dimensions and ordering data

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**
32	46.1+0.2	40	27	9	72.2	35	13	28	30	56.1	50	2	295	**539924**	**SBN-32**
40	57.1+0.2	45	30	9	88.2	39	14	36	34	69.1	54	2	465	**539925**	**SBN-40**
50/63	70.1+0.4	50	34	9	102.2	44	16	42	35	82.1	65	2	670	**539926**	**SBN-50/63**

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.



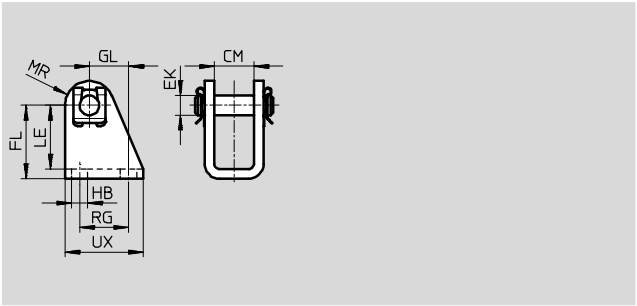
Dimensions and ordering data

For ∅ [mm]	TD ∅ f8	TK	TM	UM	UW	XH	XL	XL DSNU-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**
32	8	12	50	76	40	28	109.5	163	2	130	**195863**	**WBN-32**
40	10	15	60	92	50	31.5	126.1	193.6	2	240	**195864**	**WBN-40**
50	12	20	80	116	65	34	140.2	216.7	2	610	**195865**	**WBN-50/63**
63	12	20	80	116	65	35	149.2	233.7	2	610	**195865**	**WBN-50/63**

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



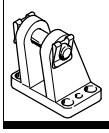
Dimensions and ordering data

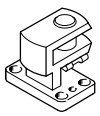
For ∅ [mm]	CM	EK ∅	FL	GL	HB	LE	MR	RG	UX
8, 10	8.1	4	24 +0.3/–0.2	13.8	4.5	21.5	5	12.5	20
12, 16	12.1	6	27 +0.3/–0.2	13	5.5	24	7	15	25
20, 25	16.1	8	30 +0.4/–0.2	16	6.6	26	10	20	32
32	16.1	10	35 +0.4/–0.2	18.5	6.6	31	11	24	35
40	18.1	12	40 +0.4/–0.2	24.5	9	35	13	30	45
50, 63	21.1	16	45 +0.5/–0.2	28	9	39	14	34	50

For ∅	Basic version				High corrosion protection			
[mm]	CRC[1)]	Weight [g]	Part No.	Type	CRC[1)]	Weight [g]	Part No.	Type
8, 10	1	20	**6057**	**LBN-8/10**	–	–	**–**	
12, 16	1	40	**6058**	**LBN-12/16**	4	39	**161862**	**CRLBN-12/16**
20, 25	1	84	**6059**	**LBN-20/25**	4	82	**161863**	**CRLBN-20/25**
32	1	110	**195860**	**LBN-32**	4	106	**195866**	**CRLBN-32**
40	1	191	**195861**	**LBN-40**	4	185	**195867**	**CRLBN-40**
50, 63	1	300	**195862**	**LBN-50/63**	4	293	**195868**	**CRLBN-50/63**

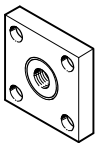
1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).
Corrosion 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.

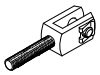
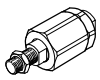
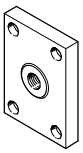
Ordering data – Mounting attachments Technical data ➔ Internet: clevis foot

Designation	For ∅	Part No.	Type
Clevis foot LBG			
	32	**31761**	**LBG-32**
	40	**31762**	**LBG-40**
	50	**31763**	**LBG-50**
	63	**31764**	**LBG-63**

Designation	For ∅	Part No.	Type
Right-angle clevis foot LQG			
	32	**31768**	**LQG-32**
	40	**31769**	**LQG-40**
	50	**31770**	**LQG-50**
	63	**31771**	**LQG-63**

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**
	32		
	40	**9262**	**SGS-M12x1.25**
	50	**9263**	**SGS-M16x1.5**
	63		
Rod clevis SG			
	8	**6532**	**SG-M4**
	10		
	12	**3110**	**SG-M6**
	16		
	20	**3111**	**SG-M8**
	25	**6144**	**SG-M10x1.25**
	32		
	40	**6145**	**SG-M12x1.25**
	50	**6146**	**SG-M16x1.5**
	63		
Coupling piece KSG			
	12	–	
	16		
	20		
	25	**32963**	**KSG-M10x1.25**
	32		
	40	**32964**	**KSG-M12x1.25**
	50	**32965**	**KSG-M16x1.5**
	63		
Hex nut MSK			
	16	**189007**	**MSK-M16X1.5**
	20	**189009**	**MSK-M22X1.5**
	25		

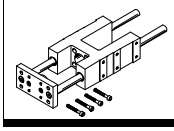
Designation	For ∅	Part No.	Type
Rod clevis SGA			
	8	–	
	10		
	12		
	16		
	20		
	25		
	32	**32654**	**SGA-M10x1.25**
	40	**10767**	**SGA-M12x1.25**
	50	**10768**	**SGA-M16x1.5**
	63		
Self-aligning rod coupler FK			
	8	**6528**	**FK-M4**
	10		
	12	**2061**	**FK-M6**
	16		
	20	**2062**	**FK-M8**
	25	**6140**	**FK-M10x1.25**
	32		
	40	**6141**	**FK-M12x1.25**
	50	**6142**	**FK-M16x1.5**
	63		
Coupling piece KSZ			
	12	**36123**	**KSZ-M6**
	16		
	20	**36124**	**KSZ-M8**
	25	**36125**	**KSZ-M10x1.25**
	32		
	40	**36126**	**KSZ-M12x1.25**
	50	**36127**	**KSZ-M16x1.5**
	63		
–			

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**
	32		
	40	**195583**	**CRSGS-M12x1.25**
	50	**195584**	**CRSGS-M16x1.5**
	63		
Self-aligning rod coupler CRFK			
	25	**2305778**	**CRFK-M10x1.25**
	32		
	40	**2305779**	**CRFK-M12x1.25**
	50	**2490673**	**CRFK-M16x1.5**
	63		

Designation	For ∅	Part No.	Type
Rod clevis CRSG			
	12	**13567**	**CRSG-M6**
	16		
	20	**13568**	**CRSG-M8**
	25	**13569**	**CRSG-M10x1.25**
	32		
	40	**13570**	**CRSG-M12x1.25**
	50	**13571**	**CRSG-M16x1.5**
	63		
–			

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 … 100	**35197**	**FEN-8/10-…-KF**	**35196**	**FEN-8/10-…-GF**
	12, 16	1 … 200	**33481**	**FEN-12/16-…-KF**	**19168**	**FEN-12/16-…-GF**
	20	2 … 250	**33482**	**FEN-20-…-KF**	**19169**	**FEN-20-…-GF**
	25	2 … 250	**33483**	**FEN-25-…-KF**	**19170**	**FEN-25-…-GF**

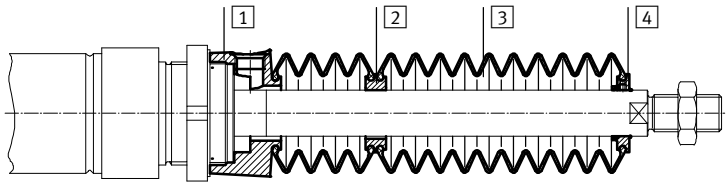
Bellows kit DADB

General technical data									
Type DADB-S1-		12	16	20	25	32	40	50	63
Max. stroke range of cylinder[1]									
DSNU	[mm]	10 ... 200		10 ... 320	10 ... 500				
ESNU[2]	[mm]	–		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	NBR
4	End piece	Polyamide
–	O-ring	NBR
	Note on materials	Free of copper and PTFE
		RoHS compliant

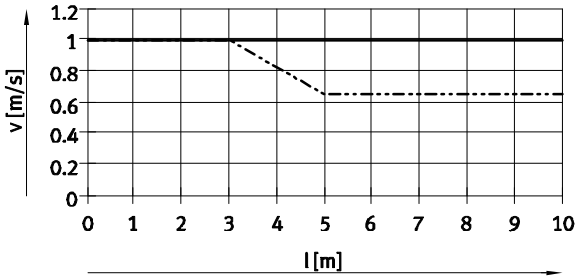
Weight [g]				
Type DADB-S1- Stroke [mm]	12	16	20	25
10 ... 50	7	7	20	19
51 ... 100	9	9	32	31
101 ... 150	13	13	45	44
151 ... 200	16	16	58	57
201 ... 250	–	–	73	72
251 ... 300	–	–	85	84
301 ... 350	–	–	100	98
351 ... 400	–	–	–	109
401 ... 450	–	–	–	124
451 ... 500	–	–	–	136

Weight [g]				
Type DADB-S1- Stroke [mm]	32	40	50	63
10 ... 50	29	34	55	55
51 ... 100	41	49	75	75
101 ... 150	51	60	89	89
151 ... 200	66	78	113	113
201 ... 250	79	93	131	131
251 ... 300	92	108	149	149
301 ... 350	92	108	151	151
351 ... 400	104	122	169	169
401 ... 450	117	137	187	187
451 ... 500	117	137	189	189

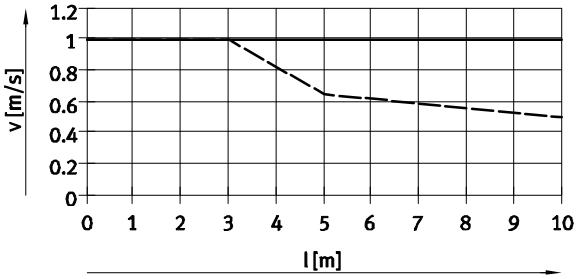
Speed of travel v as a function of tube length l

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

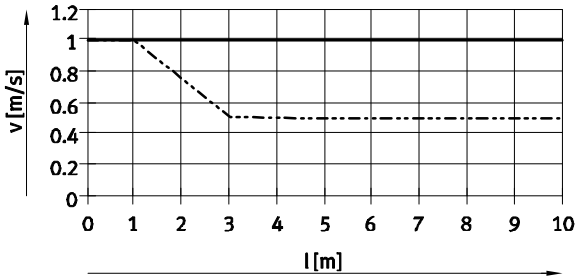


∅ 12/16
∅ 20/25

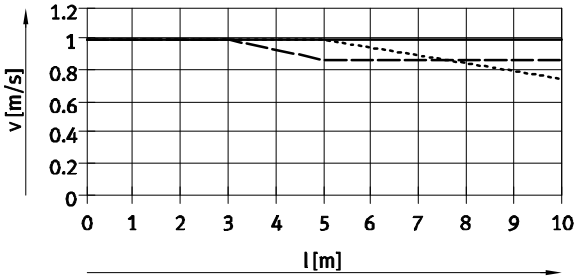


∅ 32/50/63
∅ 40

Retracting



∅ 12/16
∅ 20/25



∅ 32
∅ 40
∅ 50/63

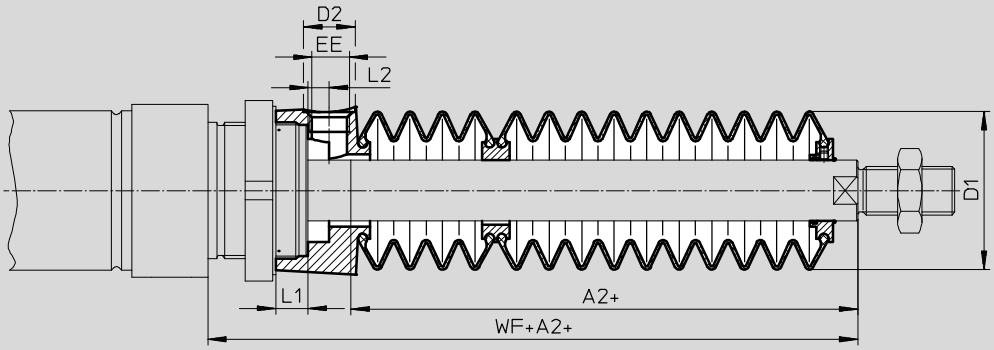
Note

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**
32, 40	8	**186109**	**QS-G⅛-8-I**
		578376	**NPQH-DK-G18-Q8-P10**
		578362	**NPQH-D-G18-S8-P10**
50, 63	12	**186350**	**QS-G¼-12**
		578344	**NPQH-D-G14-Q12-P10**
		578366	**NPQH-D-G14-S12-P10**

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



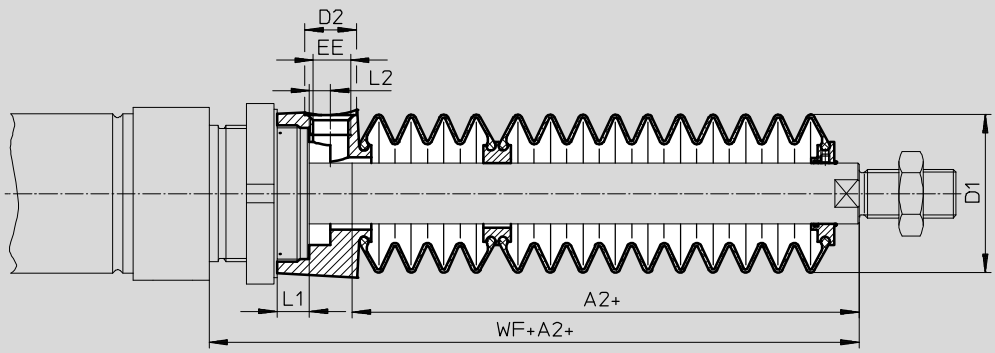
\+ = plus stroke length

∅	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

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



\+ = plus stroke length

∅	32							40						
Stroke [mm]	A2[1)]	D1 max.	D2	EE	L1	L2	WF+A2	A2[1)]	D1 max.	D2	EE	L1	L2	WF+A2
10 … 50	30	38	14	G⅛	12.9	5.4	64	29	46	14	G⅛	8.1	5.4	68
51 … 125	48						82	44						83
126 … 175	63						97	57						96
176 … 250	82						116	73						112
251 … 300	97						131	87						126
301 … 350	113						147	101						140
351 … 375	115						149	102						141
376 … 425	131						165	116						155
426 … 475	147						181	131						170
476 … 500	149						183	132						171

∅	50/63						
Stroke [mm]	A2[1)]	D1 max.	D2	EE	L1	L2	WF+A2
10 … 50	30	57	17	G¼	10.65	7	74/75
51 … 125	48						92/93
126 … 175	58						102/103
176 … 250	77						121/122
251 … 300	88						132/133
301 … 350	99						143/144
351 … 375	106						150/151
376 … 425	117						161/162
426 … 475	128						172/173
476 … 500	135						179/180

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**
32	10 ... 50	30	**553441**	**DADB-S1-32-S10-50**	40	10 ... 50	29	**553461**	**DADB-S1-40-S10-50**
	51 ... 125	48	**553443**	**DADB-S1-32-S51-125**		51 ... 125	44	**553463**	**DADB-S1-40-S51-125**
	126 ... 175	63	**553445**	**DADB-S1-32-S126-175**		126 ... 175	57	**553465**	**DADB-S1-40-S126-175**
	176 ... 250	82	**553447**	**DADB-S1-32-S176-250**		176 ... 250	73	**553467**	**DADB-S1-40-S176-250**
	251 ... 300	97	**553449**	**DADB-S1-32-S251-300**		251 ... 300	87	**553469**	**DADB-S1-40-S251-300**
	301 ... 350	113	**553451**	**DADB-S1-32-S301-350**		301 ... 350	101	**553471**	**DADB-S1-40-S301-350**
	351 ... 375	115	**553453**	**DADB-S1-32-S351-375**		351 ... 375	102	**553473**	**DADB-S1-40-S351-375**
	376 ... 425	131	**553455**	**DADB-S1-32-S376-425**		376 ... 425	116	**553475**	**DADB-S1-40-S376-425**
	426 ... 475	147	**553457**	**DADB-S1-32-S426-475**		426 ... 475	131	**553477**	**DADB-S1-40-S426-475**
	476 ... 500	149	**553459**	**DADB-S1-32-S476-500**		476 ... 500	132	**553479**	**DADB-S1-40-S476-500**
50	10 ... 50	30	**553481**	**DADB-S1-50-S10-50**	63	10 ... 50	30	**553501**	**DADB-S1-63-S10-50**
	51 ... 125	48	**553483**	**DADB-S1-50-S51-125**		51 ... 125	48	**553503**	**DADB-S1-63-S51-125**
	126 ... 175	58	**553485**	**DADB-S1-50-S126-175**		126 ... 175	58	**553505**	**DADB-S1-63-S126-175**
	176 ... 250	77	**553487**	**DADB-S1-50-S176-250**		176 ... 250	77	**553507**	**DADB-S1-63-S176-250**
	251 ... 300	88	**553489**	**DADB-S1-50-S251-300**		251 ... 300	88	**553509**	**DADB-S1-63-S251-300**
	301 ... 350	99	**553491**	**DADB-S1-50-S301-350**		301 ... 350	99	**553511**	**DADB-S1-63-S301-350**
	351 ... 375	106	**553493**	**DADB-S1-50-S351-375**		351 ... 375	106	**553513**	**DADB-S1-63-S351-375**
	376 ... 425	117	**553495**	**DADB-S1-50-S376-425**		376 ... 425	117	**553515**	**DADB-S1-63-S376-425**
	426 ... 475	128	**553497**	**DADB-S1-50-S426-475**		426 ... 475	128	**553517**	**DADB-S1-63-S426-475**
	476 ... 500	135	**553499**	**DADB-S1-50-S476-500**		476 ... 500	135	**553519**	**DADB-S1-63-S476-500**

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

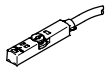
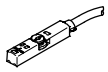
	Assembly	Electrical connection		Cable length [m]	Connection direction	Part No.	Type
		Cable	Plug M8				
N/O contact							
	Via accessories	3-wire	–	2.5	In-line	**161775**	**CRSMEO-4-K-LED-24**

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

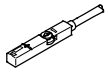
Designation	For ∅	Part No.	Type
Mounting kit SMBR			
	8	**19272**	**SMBR-8**
	10	**19273**	**SMBR-10**
	12	**19274**	**SMBR-12**
	16	**19275**	**SMBR-16**
	20	**19276**	**SMBR-20**
	25	**19277**	**SMBR-25**
	–		

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**
	32	**163888**	**CRSMBR-32**
	40	**163889**	**CRSMBR-40**
	50	**163890**	**CRSMBR-50**
	63	**163891**	**CRSMBR-63**

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**

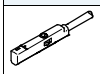
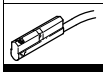
Ordering data – Mounting kits for proximity sensors SME/SMT-8 — Technical data ➔ Internet: smbr

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**
	32	**175097**	**SMBR-8-32**
	40	**175098**	**SMBR-8-40**
	50	**175099**	**SMBR-8-50**
	63	**175100**	**SMBR-8-63**

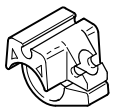
Ordering data – Proximity sensors for slot type 10 (C-slot), magneto-resistive — Technical data ➔ Internet: smt

	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**
	32	**175105**	**SMBR-10-32**
	40	**175106**	**SMBR-10-40**
	50	**175107**	**SMBR-10-50**
	63	**175108**	**SMBR-10-63**

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-4-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**
	G1/4	6		**193146**	**GRLA-1/4-QS-6-D**
		8		**193147**	**GRLA-1/4-QS-8-D**
		10		**193148**	**GRLA-1/4-QS-10-D**
	G3/8	6		**193149**	**GRLA-3/8-QS-6-D**
		8		**193150**	**GRLA-3/8-QS-8-D**
		10		**193151**	**GRLA-3/8-QS-10-D**
For supply air					
	G1/8	3	Metal design	**193153**	**GRLZ-M5-QS-3-D**
		4		**193154**	**GRLZ-M5-QS-4-D**
		6		**193155**	**GRLZ-M5-QS-6-D**
		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**
	G1/4			**161405**	**CRGRLA-1/4-B**
	G3/8			**161406**	**CRGRLA-3/8-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.