Round cylinders DSNU/ESNU

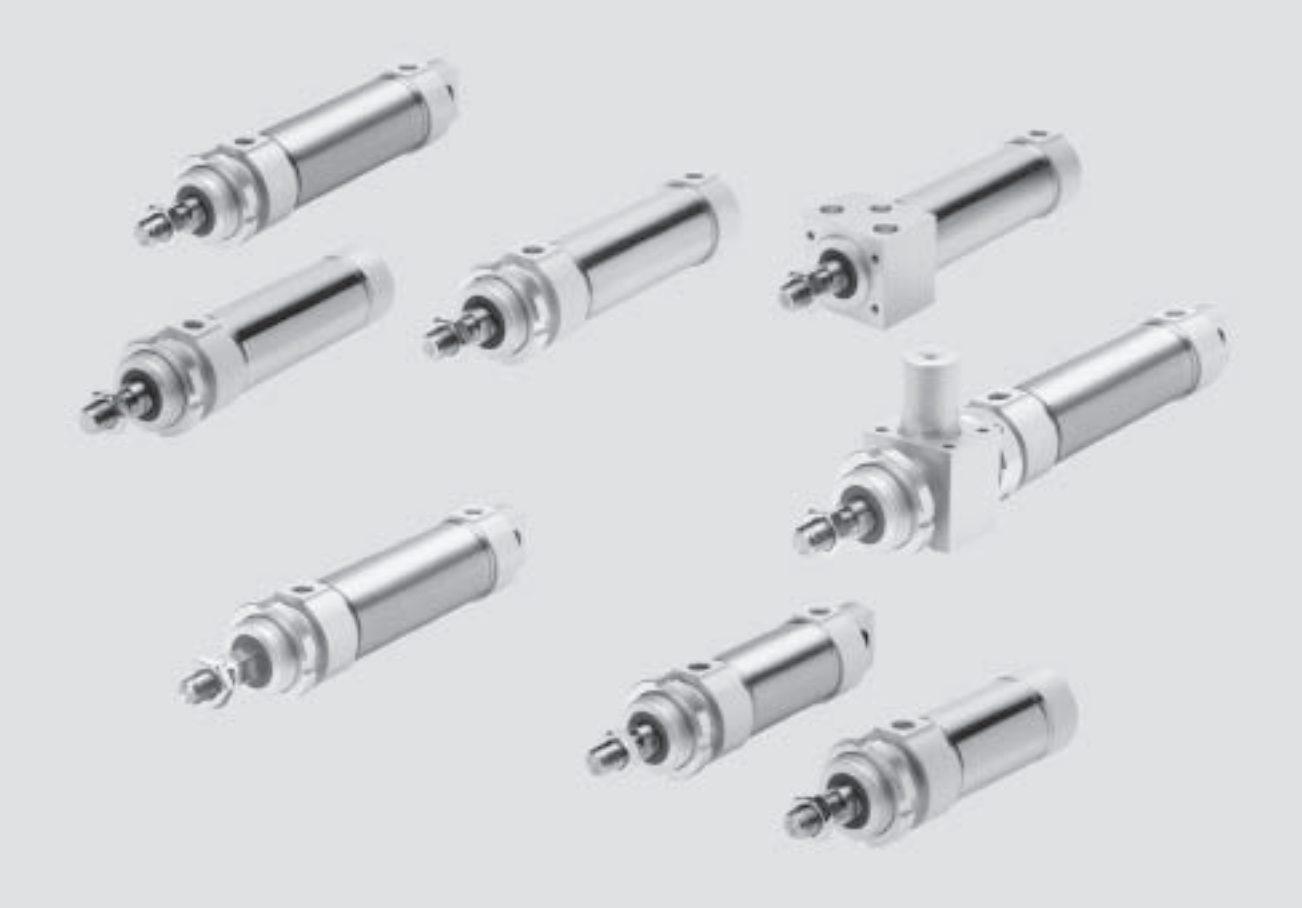
FESTO

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

Specified types in accordance with ATEX directive for potentially explosive atmospheres
➔ www.festo.com/en/ex

Round cylinders DSNU/ESNU

Key features



Optimal range

- Good running performance and long service life thanks to smooth, hard cylinder bore
- Piston rod and cylinder barrel made of stainless steel
- The cap is swaged onto the barrel.

Functional

- Three different end caps mean numerous functional and space-saving designs
- Piston diameter 32 to 63 mm. The series is not repairable.

Variants

- Non-rotating
- Through piston rod
- With or without position sensing
- Cushioning non-adjustable at either end or cushioning adjustable at both ends
- Further piston rod variants

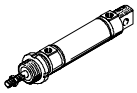
Round cylinders DSNU/ESNU

Key features

Standard range

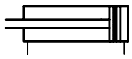
Double-acting

Basic version
DSNU



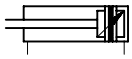
With position sensing
Cushioning non-adjustable at either end

DSNU-P-A



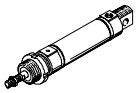
With position sensing
Adjustable cushioning at both ends

DSNU-PPV-A



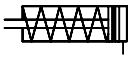
Single-acting

Basic version
ESNU



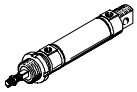
With position sensing
Cushioning non-adjustable at either end

ESNU-P-A



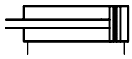
Double-acting
Non-rotating

Basic version
DSNU-Q



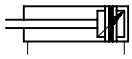
With position sensing
Cushioning non-adjustable at either end

DSNU-P-A-Q



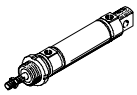
With position sensing Adjustable cushioning at both ends

DSNU-PPV-A-Q



Variants from the modular system

Basic version
DSNU/ESNU

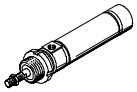


S2: Through piston rod

K8: Piston rod extended at front

Axial air connection

DSNU-MA/ESNU-MA

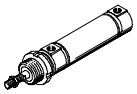


K2: Extended male piston rod thread

S6: Heat-resistant seal up to max. 150 °C

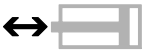
Lateral air connection

DSNU-MQ



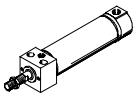
K6: Shortened male piston rod thread

S10: Slow speed (constant motion)



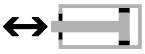
With direct mounting

DSNU-MH



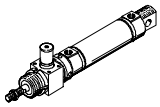
K3: Female piston rod thread

S11: Low friction



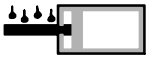
With clamping unit

DSNU-...-KP



K5: Special thread on piston rod

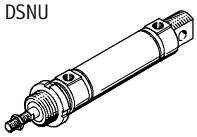
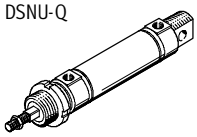
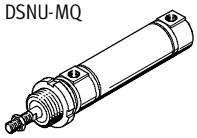
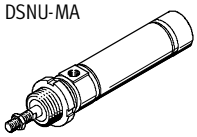
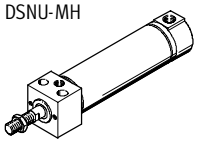
R3: High corrosion protection



Round cylinders DSNU

Product range overview

FESTO

Function	Design	Cushioning		Position sensing	Piston rod					
		Fixed	Adjustable		Through	Extended at front	Male thread			Female thread
							Extended	Shortened	Special thread	
		P	PPV	A	S2	K8	K2	K6	K5	K3
Double-acting	**Basic version with position sensing**									
	DSNU 	■	■	■	■	■	■	■	■	■
	Non-rotating									
	DSNU-Q 	■	■	■	■	■	■	■	■	■
	Lateral air connection									
	DSNU-MQ 	■	■	■	–	■	■	■	■	■
	Axial air connection									
	DSNU-MA 	■	–	■	–	■	■	■	■	■
	Direct mounting									
	DSNU-MH 	■	■	■	–	■	■	■	■	■

Round cylinders DSNU

Product range overview

FESTO

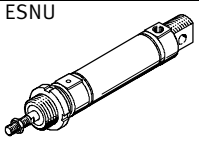
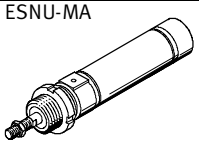
Design	Clamping unit KP	Heat-resistant seal S6	Slow speed (constant motion) S10	Low friction S11	Corrosion protection R3	Wiper seal R8	Piston ∅ [mm]	Stroke [mm]	Variable stroke 1) [mm]	➔Page
Basic version with position sensing										
DSNU	■	■	■	■	■	■	32, 40, 50, 63	25, 40, 50, 80, 100, 125, 160, 200, 250, 320	1 … 500	1 / 2.4-11
Non-rotating										
DSNU-Q	■	■	–	–	■	–	32, 40, 50, 63	–	5 … 500	1 / 2.4-17
Lateral air connection										
DSNU-MQ	■	■	–	–	■	■	32, 40, 50, 63	–	1 … 500	1 / 2.4-11
Axial air connection										
DSNU-MA	■	■	–	–	■	–	32, 40, 50, 63	–	1 … 500	1 / 2.4-11
Direct mounting										
DSNU-MH	■	■	–	–	■	–	32, 40, 50, 63	–	1 … 500	1 / 2.4-11

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

Round cylinders ESNU

Product range overview

FESTO

Function	Design	Cushioning	Position sensing	Piston rod				
				Extended at front	Male thread			Female thread
					Extended	Shortened	Special thread	
		P	A	K8	K2	K6	K5	K3
Single-acting	**Basic version with position sensing**							
	ESNU 	■	■	■	■	■	■	■
	Axial air connection							
	ESNU-MA 	■	■	■	■	■	■	■

Round cylinders ESNU

Product range overview

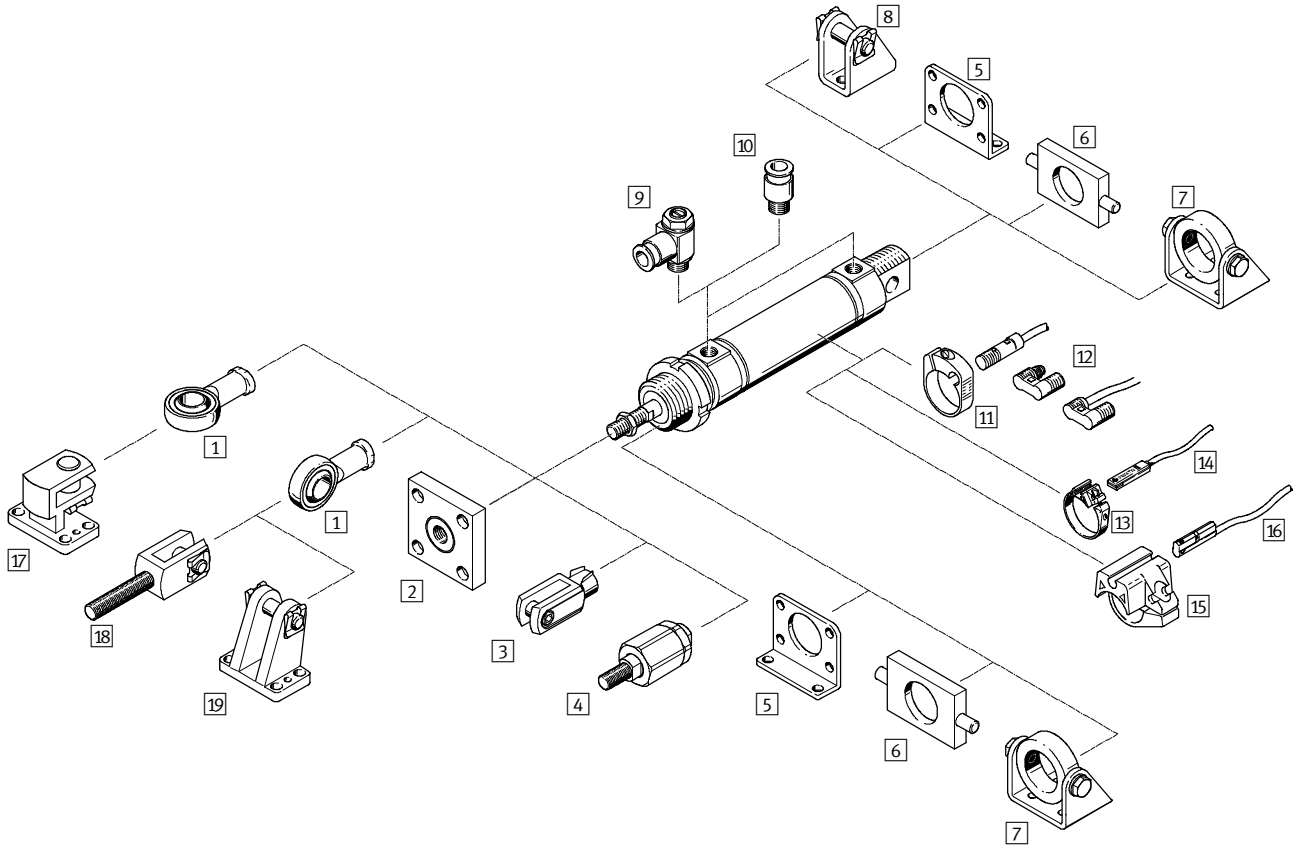
Design	Piston ∅ [mm]	Stroke[1] [mm]	Variable stroke	➔Page
Basic version with position sensing				
ESNU	32, 40, 50, 63	10, 25, 50	1 … 50	1 / 2.4-26
Axial air connection				
ESNU-MA	32, 40, 50, 63	–	1 … 50	1 / 2.4-26

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

Round cylinders DSNU/ESNU

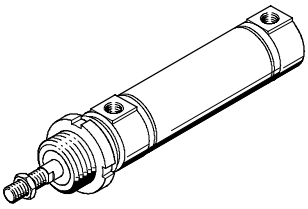
Peripherals overview

FESTO

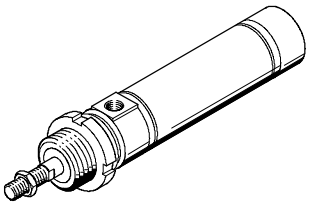


Variants

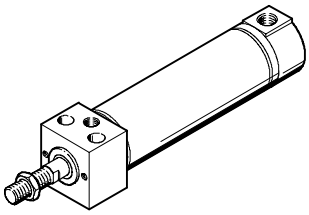
DSNU-MQ



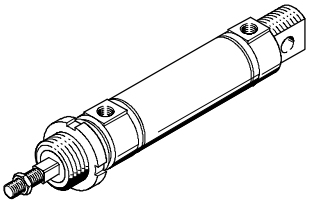
DSNU-MA



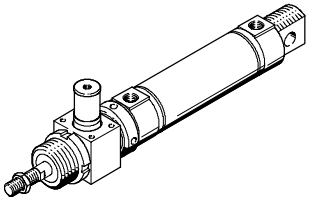
DSNU-MH



DSNU-Q



DSNU-KP



Round cylinders DSNU/ESNU

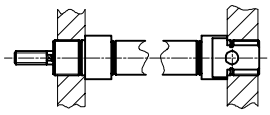
Peripherals overview

FESTO

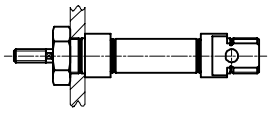
Mounting attachments and accessories	DSNU/ESNU	DSNU/ESNU MA	DSNU MQ	DSNU MH	DSNU KP	DSNU-Q	→Page
1 Rod eye SGS/CRSGS	■	■	■	■	■	■	1 / 2.4-36
2 Coupling piece KSG/KSZ	■	■	■	■	■	■	1 / 2.4-36
3 Rod clevis SG/CRSG	■	■	■	■	■	■	1 / 2.4-36
4 Self-aligning rod coupler FK	■	■	■	■	■	■	1 / 2.4-36
5 Foot mounting HBN/CRH	■	■	■	–	■	■	1 / 2.4-32
Flange mounting FBN/CRFV	■	■	■	–	■	■	1 / 2.4-33
6 Swivel mounting WBN	■	■	■	–	■	■	1 / 2.4-34
7 Swivel mounting SBN	■	■	■	–	■	■	1 / 2.4-34
8 Clevis foot LBN/CRLBN	■	–	–	–	■	■	1 / 2.4-35
9 One-way flow control valve GRLA/GRLZ/CRGRLA	■	■	■	■	■	■	1 / 2.4-36
10 Push-in fitting QS	■	■	■	■	■	■	Volume 3
11 Sensor mounting kit CRSMBR	■	■	■	■	■	■	1 / 2.4-37
12 Proximity sensor SMEO/SMTO/CRSMEO-4	■	■	■	■	■	■	1 / 2.4-37
13 Sensor mounting kit SMBR-8	■	■	■	■	■	■	1 / 2.4-38
14 Proximity sensor SME/SMT-8	■	■	■	■	■	■	1 / 2.4-38
15 Sensor mounting kit SMBR-10	■	■	■	■	■	■	1 / 2.4-39
16 Proximity sensor SME/SMT-10	■	■	■	■	■	■	1 / 2.4-39
17 Clevis foot, lateral LQG	■	■	■	■	■	■	1 / 2.4-35
18 Rod clevis SGA	■	■	■	■	■	■	1 / 2.4-36
19 Clevis foot LBG	■	■	■	■	■	■	1 / 2.4-35

Mounting options

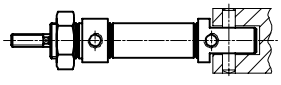
Mounting front and rear



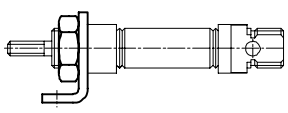
Mounting with hex nut



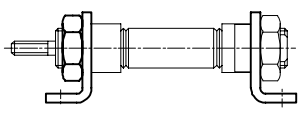
Swivel mounting



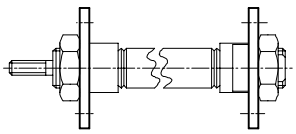
Foot mounting (for short strokes)



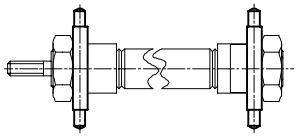
Foot mounting



Flange mounting

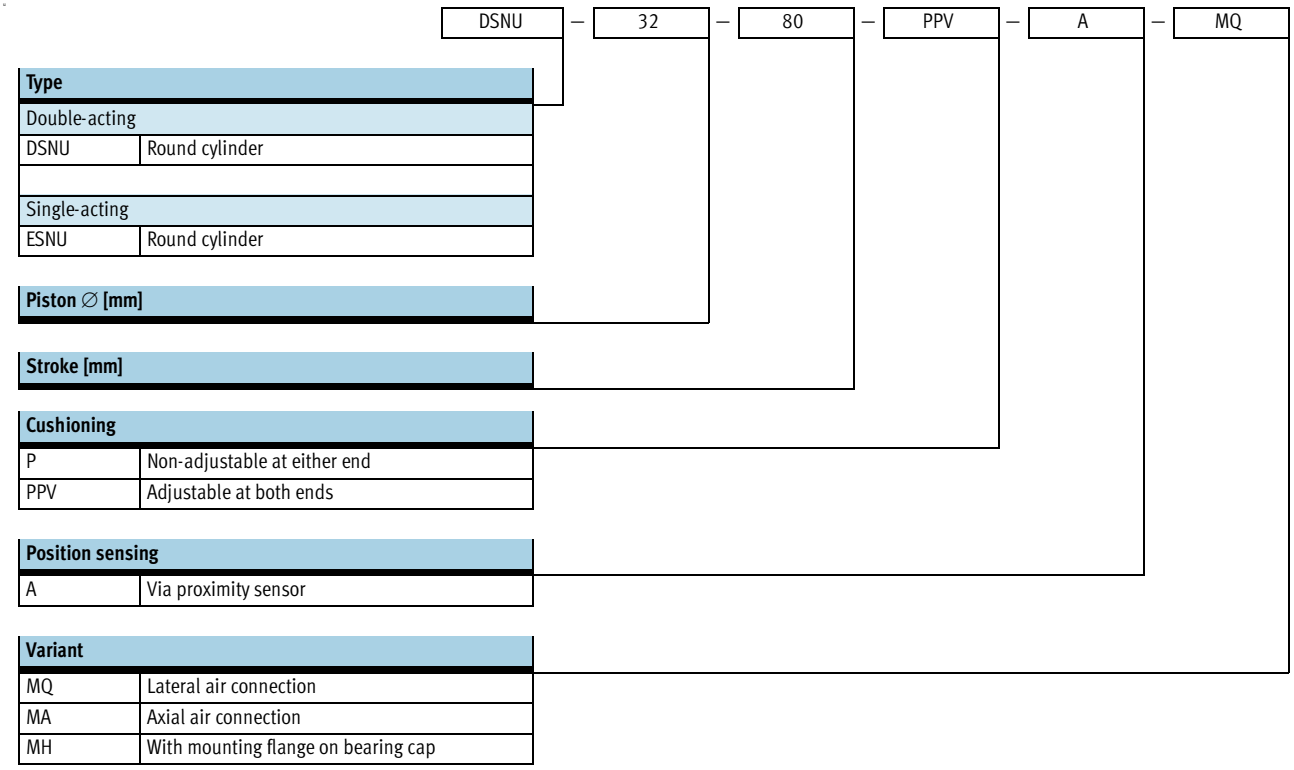


Swivel mounting



Round cylinders DSNU/ESNU

Type codes



Type	
Double-acting	
DSNU	Round cylinder
Single-acting	
ESNU	Round cylinder

Piston ∅ [mm]

Stroke [mm]

Cushioning	
P	Non-adjustable at either end
PPV	Adjustable 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 ➔ 1 / 2.4-24

ESNU ➔ 1 / 2.4-30

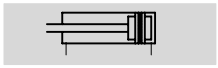
- Square piston rod (protection against rotation)
- Through piston rod (piston rod type)
- Extended male piston rod thread
- Male piston rod thread, shortened at one end
- Female piston rod thread (female thread)
- Special piston rod thread (special thread)
- Extended piston rod at front
- Clamping unit on piston rod (clamping unit)
- Heat-resistant seals for temperatures up to 150 °C (temperature resistance)
- Slow speed (constant motion at low piston rod speeds)
- Low friction
- All external cylinder surfaces conform to corrosion resistance class CRC 3 (corrosion protection)
- Dust protection (wiper seal)

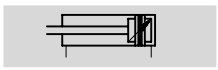
Round cylinders DSNU

Technical data

FESTO

Function





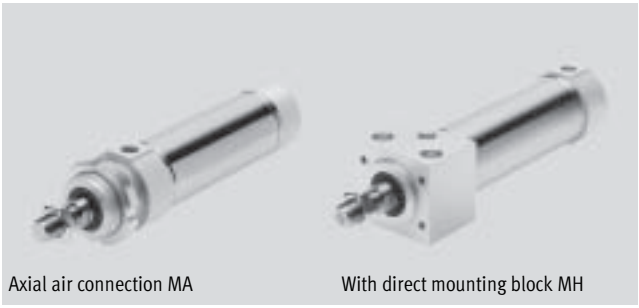
Variants

➔ 1 / 2.4-15

Diameter
32 ... 63 mm

Stroke length
1 ... 500 mm

Basic version | Lateral air connection MQ



Axial air connection MA | With direct mounting block MH

General technical data					
Piston ∅ [mm]		32	40	50	63
Pneumatic connection		G1⁄8	G1⁄4	G1⁄4	G3⁄8
Piston rod thread		M10x1.25	M12x1.25	M16x1.5	M16x1.5
Constructional design		Piston			
		Piston rod			
		Cylinder barrel			
Cushioning		Non-adjustable at either end			
		Adjustable at both ends			
Cushioning length (PPV)	[mm]	14	18	20	21
Position sensing		Via proximity sensor			
Type of mounting		Direct mounting (MH variant only)			
		Via accessories			
Assembly position		Any			

Operating pressure [bar]					
Piston ∅		32	40	50	63
Operating medium		Filtered compressed air, lubricated or unlubricated			
Operating pressure	Basic version	1 ... 10			
	S10	0.5 ... 10		0.4 ... 10	
	S11	0.5 ... 10		0.4 ... 10	

Ambient conditions						
Variant		Basic version	S6	S10	S11	R3
Ambient temperature[1]	[°C]	–20 ... +80	0 ... +150	+5 ... +80		–20 ... +80
Corrosion resistance class CRC[2]		2	2	2	2	3

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
Corrosion resistance class 3 according to Festo standard 940 070
Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Round cylinders DSNU

Technical data

FESTO

Forces [N] and impact energy [J]				
Piston ∅ [mm]	32	40	50	63
Theoretical force at 6 bar, advancing	483	753	1,178	1,870
Theoretical force at 6 bar, retracting	415	633	990	1,682
Max. impact energy at the end positions	0.40	0.70	1	1.3

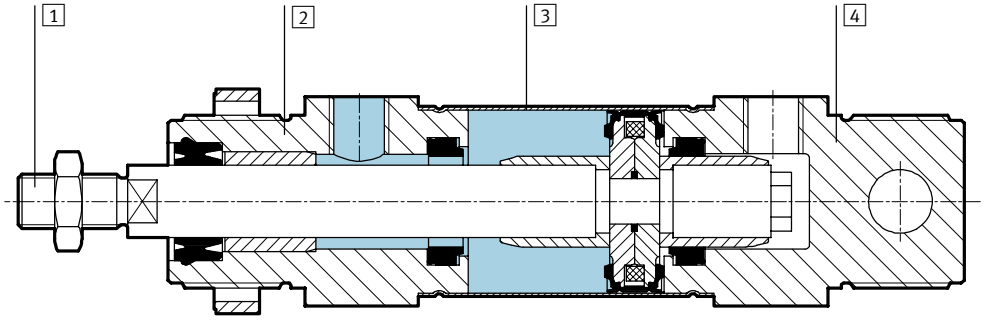
Speed [mm/s]				
Piston ∅ [mm]	32	40	50	63
Speed with judder-free running, S10 horizontal, without load, at 6 bar	8 ... 100			5 ... 100
Minimum speed, advancing S11	<1 1)			
Minimum speed, retracting S11	<1 1)			

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

Weights [g]				
Piston ∅ [mm]	32	40	50	63
Product weight with 0 mm stroke	370.5	661	1,087	1,445
Additional weight per 10 mm stroke	15.5	24	40	44

Materials

Sectional view

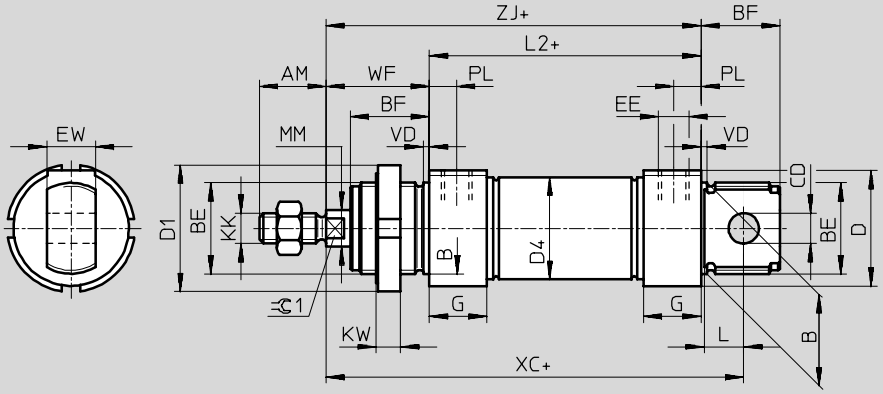


Variant		Basic version	S6	S10	S11	R3
1	Piston rod	High-alloy steel				High-alloy stainless steel
2	Bearing cap	Wrought aluminium alloy				
3	Cylinder barrel	High-alloy stainless steel				
4	End cap	Wrought aluminium alloy				
–	Seals	Polyurethane, nitrile rubber	Viton			Polyurethane, nitrile rubber
–	Guide tape	–	Polyamide			–

Round cylinders DSNU

Technical data

Dimensions – Basic version Download CAD data ➔ **www.festo.com/en/engineering**



\+ = plus stroke length

∅ [mm]	AM	B ∅ h9	BE	BF	CD ∅ E10	D ∅	D1 ∅	D4 ∅	EE	EW	G
32	22	30	M30x1.5	26	10	38	42	33.6	G1⁄8	16	19
40	24	38	M38x1.5	30	12	46	50	41.6	G1⁄4	18	25
50	32	45	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
32	M10x1.25	8	13	69.5	12	9	2	34	117.5	103.5	10
40	M12x1.25	10	15	84.6	16	12	3	39	139.6	123.6	13
50	M16x1.5		16	86.2	20			44	147.2	130.2	17
63				94.2		13		45	156.2	139.2	

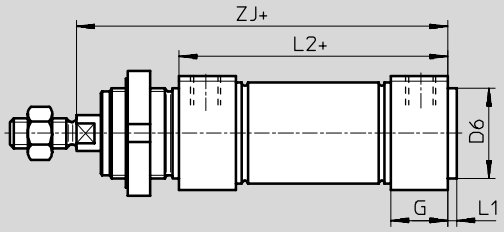
Round cylinders DSNU

Technical data

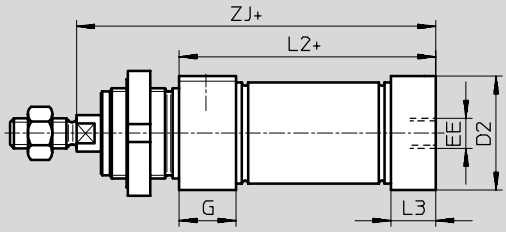
FESTO

Dimensions – Basic version Download CAD data ➔ **www.festo.com/en/engineering**

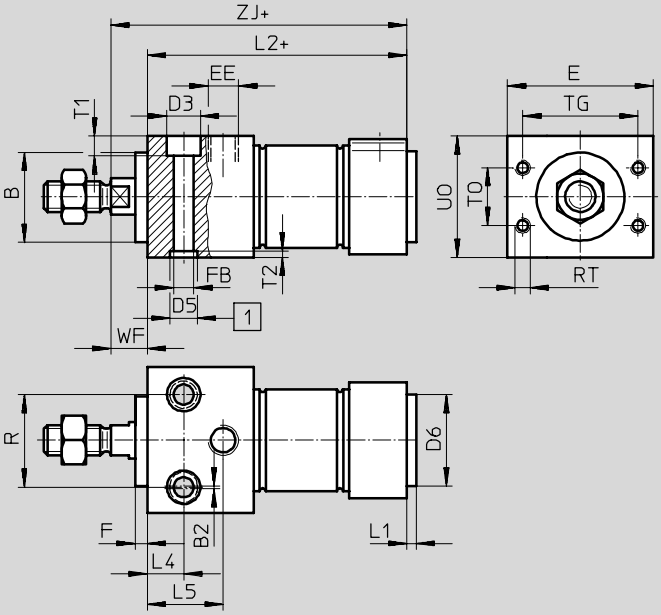
MQ – Lateral air connection



MA – Axial air connection



MH – With direct mounting block



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	-MA	-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	-MA	-MH
32	15	12	25	30	M5	16	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

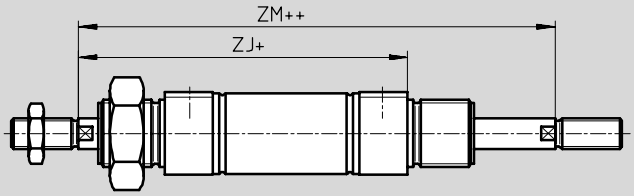
Round cylinders DSNU

Technical data

FESTO

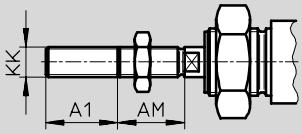
Dimensions – Variants Download CAD data ➔ **www.festo.com/en/engineering**

S2 – Through piston rod

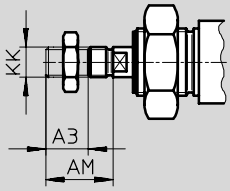


\+ = plus stroke length
++ = plus stroke length

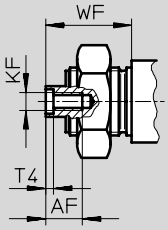
K2 – Extended male piston rod thread



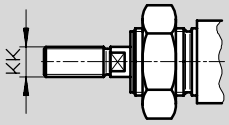
K6 – Shortened male piston rod thread



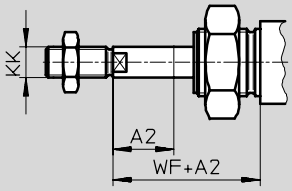
K3 – Female piston rod thread



K5 – Special piston rod thread



K8 – Extended piston rod



Note

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

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

Type	Piston ∅ [mm]	Stroke [mm]	Cushioning non-adjustable at either end Part No.	Type	Adjustable cushioning at both ends Part No.	Type
	32	25	**195 980**	**DSNU-32-25-P-A**	**196 020**	**DSNU-32-25-PPV-A**
		40	**195 981**	**DSNU-32-40-P-A**	**196 021**	**DSNU-32-40-PPV-A**
		50	**195 982**	**DSNU-32-50-P-A**	**196 022**	**DSNU-32-50-PPV-A**
		80	**195 983**	**DSNU-32-80-P-A**	**196 023**	**DSNU-32-80-PPV-A**
		100	**195 984**	**DSNU-32-100-P-A**	**196 024**	**DSNU-32-100-PPV-A**
		125	**195 985**	**DSNU-32-125-P-A**	**196 025**	**DSNU-32-125-PPV-A**
		160	**195 986**	**DSNU-32-160-P-A**	**196 026**	**DSNU-32-160-PPV-A**
		200	**195 987**	**DSNU-32-200-P-A**	**196 027**	**DSNU-32-200-PPV-A**
		250	**195 988**	**DSNU-32-250-P-A**	**196 028**	**DSNU-32-250-PPV-A**
		320	**195 989**	**DSNU-32-320-P-A**	**196 029**	**DSNU-32-320-PPV-A**
	40	25	**195 990**	**DSNU-40-25-P-A**	**196 030**	**DSNU-40-25-PPV-A**
		40	**195 991**	**DSNU-40-40-P-A**	**196 031**	**DSNU-40-40-PPV-A**
		50	**195 992**	**DSNU-40-50-P-A**	**196 032**	**DSNU-40-50-PPV-A**
		80	**195 993**	**DSNU-40-80-P-A**	**196 033**	**DSNU-40-80-PPV-A**
		100	**195 994**	**DSNU-40-100-P-A**	**196 034**	**DSNU-40-100-PPV-A**
		125	**195 995**	**DSNU-40-125-P-A**	**196 035**	**DSNU-40-125-PPV-A**
		160	**195 996**	**DSNU-40-160-P-A**	**196 036**	**DSNU-40-160-PPV-A**
		200	**195 997**	**DSNU-40-200-P-A**	**196 037**	**DSNU-40-200-PPV-A**
		250	**195 998**	**DSNU-40-250-P-A**	**196 038**	**DSNU-40-250-PPV-A**
		320	**195 999**	**DSNU-40-320-P-A**	**196 039**	**DSNU-40-320-PPV-A**
	50	25	**196 000**	**DSNU-50-25-P-A**	**196 040**	**DSNU-50-25-PPV-A**
		40	**196 001**	**DSNU-50-40-P-A**	**196 041**	**DSNU-50-40-PPV-A**
		50	**196 002**	**DSNU-50-50-P-A**	**196 042**	**DSNU-50-50-PPV-A**
		80	**196 003**	**DSNU-50-80-P-A**	**196 043**	**DSNU-50-80-PPV-A**
		100	**196 004**	**DSNU-50-100-P-A**	**196 044**	**DSNU-50-100-PPV-A**
		125	**196 005**	**DSNU-50-125-P-A**	**196 045**	**DSNU-50-125-PPV-A**
		160	**196 006**	**DSNU-50-160-P-A**	**196 046**	**DSNU-50-160-PPV-A**
		200	**196 007**	**DSNU-50-200-P-A**	**196 047**	**DSNU-50-200-PPV-A**
		250	**196 008**	**DSNU-50-250-P-A**	**196 048**	**DSNU-50-250-PPV-A**
		320	**196 009**	**DSNU-50-320-P-A**	**196 049**	**DSNU-50-320-PPV-A**
	63	25	**196 010**	**DSNU-63-25-P-A**	**196 050**	**DSNU-63-25-PPV-A**
		40	**196 011**	**DSNU-63-40-P-A**	**196 051**	**DSNU-63-40-PPV-A**
		50	**196 012**	**DSNU-63-50-P-A**	**196 052**	**DSNU-63-50-PPV-A**
		80	**196 013**	**DSNU-63-80-P-A**	**196 053**	**DSNU-63-80-PPV-A**
		100	**196 014**	**DSNU-63-100-P-A**	**196 054**	**DSNU-63-100-PPV-A**
		125	**196 015**	**DSNU-63-125-P-A**	**196 055**	**DSNU-63-125-PPV-A**
		160	**196 016**	**DSNU-63-160-P-A**	**196 056**	**DSNU-63-160-PPV-A**
		200	**196 017**	**DSNU-63-200-P-A**	**196 057**	**DSNU-63-200-PPV-A**
		250	**196 018**	**DSNU-63-250-P-A**	**196 058**	**DSNU-63-250-PPV-A**
		320	**196 019**	**DSNU-63-320-P-A**	**196 059**	**DSNU-63-320-PPV-A**

- Note

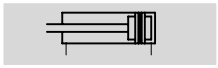
Further variants can be configured and ordered via the DSNU product modules➔ 1 / 2.4-24.

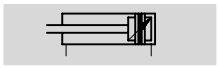
Round cylinders DSNU-Q, non-rotating

Technical data

FESTO

Function





- Ø - Diameter
  32 ... 63 mm

- l - Stroke length
  5 ... 500 mm

General technical data					
Piston ∅ [mm]		32	40	50	63
Pneumatic connection		G⅛	G¼	G¼	G⅜
Piston rod thread		M10x1.25	M12x1.25	M16x1.5	M16x1.5
Constructional design		Piston			
		Non-rotating with square piston rod			
Max. torque at the piston rod	[Nm]	0.8	1.1	1.5	1.5
Cushioning		Non-adjustable at either end			
		Adjustable at both ends			
Cushioning length (PPV)	[mm]	14	18	20	21
Position sensing		Via proximity sensor			
Type of mounting		Via accessories			
Assembly position		Any			

Operating pressure [bar]					
Piston ∅		32	40	50	63
Operating medium		Filtered compressed air, lubricated or unlubricated			
Operating pressure	[bar]	1 ... 10			

Ambient conditions			
Variant		Basic version	R3
Ambient temperature[1]	[°C]	–20 ... +80	
Corrosion resistance class CRC[2]		2	3

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
Corrosion resistance class 3 according to Festo standard 940 070
Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Round cylinders DSNU-Q, non-rotating

Technical data

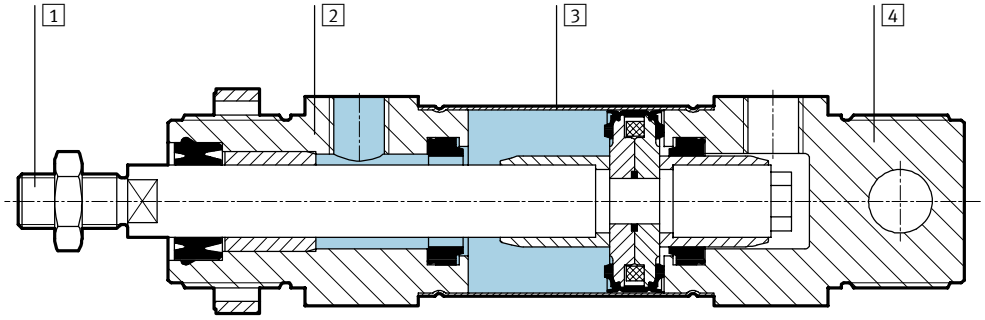
FESTO

Forces [N] and impact energy [J]				
Piston ∅ [mm]	32	40	50	63
Theoretical force at 6 bar, advancing	483	753	1,178	1,870
Theoretical force at 6 bar, retracting	415	633	990	1,682
Max. impact energy at end positions	0.40	0.70	1	1.3

Weights [g]				
Piston ∅ [mm]	32	40	50	63
Product weight with 0 mm stroke	370.5	661	1,087	1,445
Additional weight per 10 mm stroke	15.5	24	40	44

Materials

Sectional view

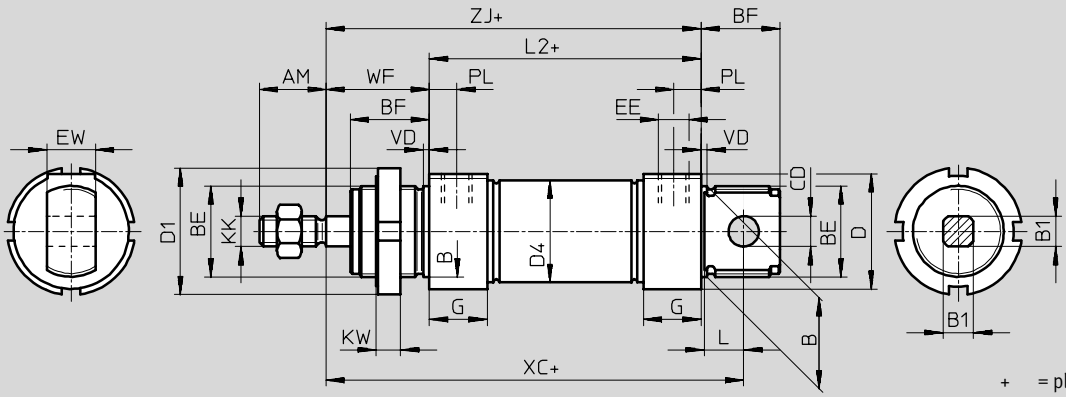


Variant		Basic version	R3
1	Piston rod	High-alloy steel	High-alloy stainless steel
2	Bearing cap	Wrought aluminium alloy	
3	Cylinder barrel	High-alloy stainless steel	
4	End cap	Wrought aluminium alloy	
–	Seals	Polyurethane, nitrile rubber	

Round cylinders DSNU-Q, non-rotating

Technical data

Dimensions Download CAD data ➔ **www.festo.com/en/engineering**



∅ [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	G1/8	16
40	24	38	12	M38x1.5	30	12	46	50	41.6	G1/4	18
50	32	45	16	M45x1.5	33	16	57	60	52.4	G1/4	21
63	32	45	16	M45x1.5	33	16	70	60	65.4	G3/8	21

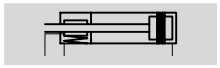
∅ [mm]	G	KK	KW	L	L2	PL	VD	WF	XC ±1	ZJ
32	19	M10x1.25	8	13	96.5	9	2	34	117.5	103.5
40	25	M12x1.25	10	15	84.6	12	3	39	139.6	123.6
50	25	M16x1.5	10	16	86.2	12	3	44	147.2	130.2
63	28	M16x1.5	10	16	94.2	13	3	45	156.2	139.2

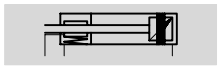
Round cylinders DSNU-...-KP, with clamping cartridge

Technical data

FESTO

Function





- Ø - Diameter
  32 ... 63 mm

- | - Stroke length
  1 ... 500 mm

General technical data					
Piston ∅ [mm]		32	40	50	63
Pneumatic connection		G⅛	G¼	G¼	G⅜
Piston rod thread		M10x1.25	M12x1.25	M16x1.5	M16x1.5
Constructional design		Piston			
		Piston rod			
		Cylinder barrel			
Cushioning		Non-adjustable at either end			
		Adjustable at both ends			
Cushioning length (PPV)	[mm]	14	18	20	21
Position sensing		Via proximity sensor			
Type of mounting		Via through-holes			
		Via accessories			
Assembly position		Any			
Clamping unit holding force	[N]	600	1,000	1,400	2,000
Max. axial backlash at the clamped piston rod	[mm]	0.25	0.25	0.3	0.3
Clamping unit pneumatic connection		M5	G⅛	G⅛	G⅛

Operating pressure [bar]					
Piston ∅		32	40	50	63
Operating medium		Filtered compressed air, lubricated or unlubricated			
Operating pressure	[bar]	3 ... 10			

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

1) Note operating range of proximity sensors

2) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
Corrosion resistance class 3 according to Festo standard 940 070
Components requiring higher corrosion resistance. External visible parts in direct contact with industrial atmospheres or media such as solvents and cleaning agents, with a predominantly functional requirement for the surface.

Round cylinders DSNU-...-KP, with clamping cartridge

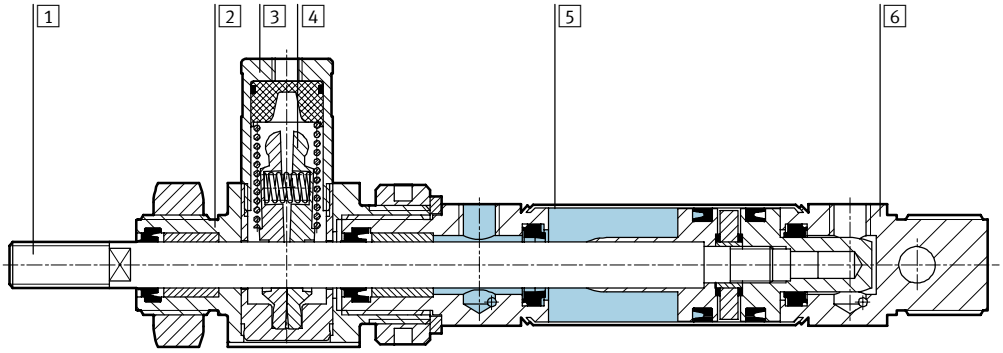
Technical data

Forces [N] and impact energy [J]				
Piston ∅ [mm]	32	40	50	63
Theoretical force at 6 bar, advancing	483	753	1,178	1,870
Theoretical force at 6 bar, retracting	415	633	990	1,682
Max. impact energy at the end positions[1)]	0.40	0.70	1	1.3

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

Materials

Sectional view

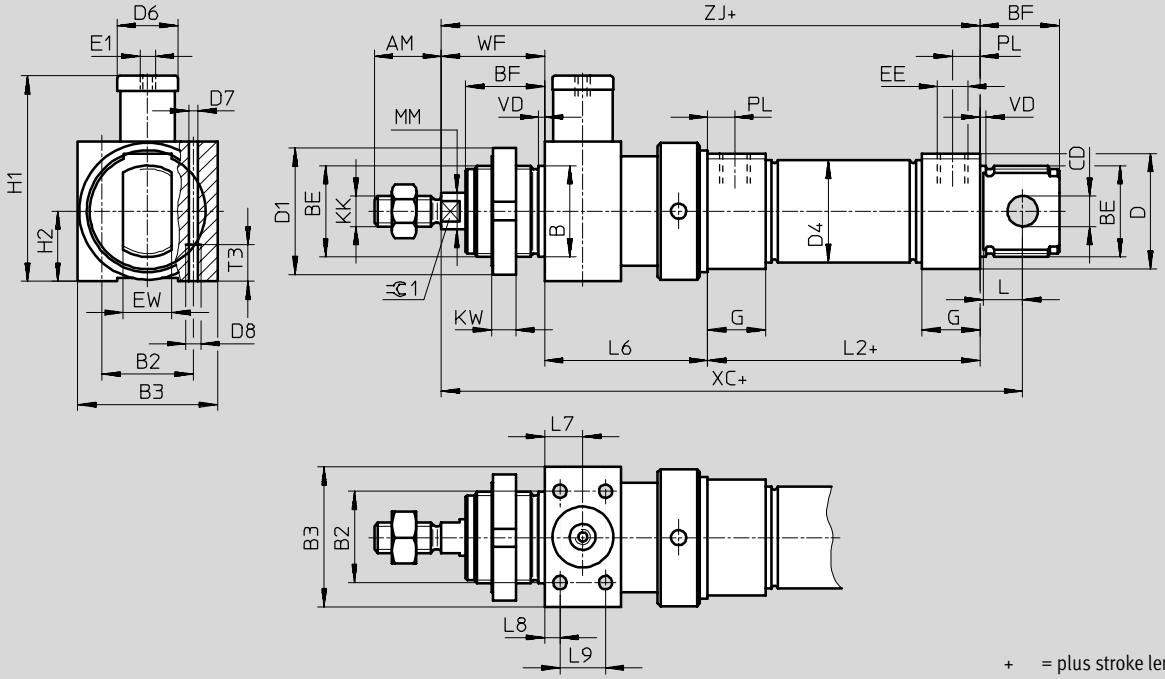


Variant		Basic version	R3
1	Piston rod	High-alloy steel	High-alloy stainless steel
2	Bearing cap	Wrought aluminium alloy	
3	Clamping unit housing	Wrought aluminium alloy	
4	Clamping jaws	Brass	
5	Cylinder barrel	High-alloy stainless steel	
6	End cap	Wrought aluminium alloy	
–	Clamping unit piston	Polyacetate	
–	Spring	Spring steel	
–	Seals	Polyurethane, nitrile rubber	

Round cylinders DSNU-...-KP, with clamping cartridge

Technical data

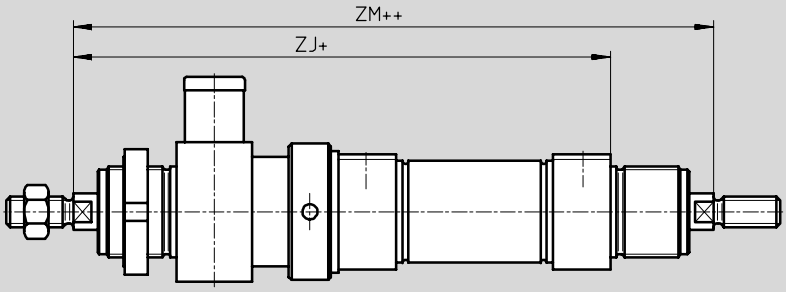
Dimensions – Basic version Download CAD data ➔ **www.festo.com/en/engineering**



\+ = plus stroke length

Dimensions – Variant Download CAD data ➔ **www.festo.com/en/engineering**

S2 – Through piston rod



\+ = plus stroke length
++ = plus stroke length

Round cylinders DSNU-...-KP, with clamping cartridge

Technical data

∅ [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	L7	L8	L9	T3	PL	VD	WF	XC ±1	ZJ	ZM	=⊂1
32	55	12.5	5	15	12	9	2	34	171	157	191	10
40	69	17	7	20	18	12	3	39	207.1	191.1	230.1	13
50	78	20		26	20			44	223.7	206.7	250.7	17
63	86	24	8	32	21	13		45	240.7	223.7	268.7	

Round cylinders DSNU

Ordering data – Modular products

FESTO

M Mandatory data					O Options				
Module No.	Function	Piston ∅	Stroke	Cushioning	Position sensing	Cylinder cap	Protection against torsion	Type of piston rod	Male thread extended
193 992	DSNU	32	1 … 500	P	A	MQ	Q	S2	…K2
193 993		40		PPV		MA			
193 994		50				MH			
193 995		63							
Ordering example									
193 994	**DSNU**	**50**	**400**	**PPV**	**A**	**MQ**	**Q**		

Ordering table

Size		32	40	50	63	Conditions	Code	Enter code
M	Module No.	**193 992**	**193 993**	**193 994**	**193 995**			
	Function	Double-acting round cylinder					**DSNU**	DSNU
	Piston ∅ [mm]	32	40	50	63		**-...**	
	Stroke [mm]	1 … 500					**-...**	
	Cushioning	Flexible cushioning rings/plates at both ends					**-P**	
		Pneumatic cushioning adjustable at both ends				1	**-PPV**	
O	Position sensing	Via proximity sensors				2	**-A**	
	Cylinder cap	Lateral air connection, end cap				3	**-MQ**	
		Axial air connection, end cap				3	**-MA**	
		Mounting flange at front (direct mounting), bearing cap					**-MH**	
	Protection against torsion	Square piston rod Restricted stroke [mm]					**-Q**	
		5 … 300	5 … 400		5 … 500			
	Type of piston rod	Through piston rod					**-S2**	
↓	Male thread extended	Piston rod with extended male thread						
	[mm]	1 … 35		1 … 70			**-...K2**	

1 **PPV** Not with cylinder end cap MA.
2 **A** Minimum stroke: 10 mm.
3 **MQ, MA** Not with piston rod type S2.

Transfer order code

	DSNU	–		–		–		–		–		–		–		–		–	

Round cylinders DSNU

Ordering data – Modular products

FESTO

0 **Options**

Male thread shortened	Female thread	Special thread	Piston rod extended at front	Clamping unit	Temperature-resistant	Constant motion (at low speed)	Running characteristics	Corrosion protection	Wiper seal
...K6	K3	"..."K5	...K8	KP	S6	S10	S11	R3	R8
– **8K6**	–	– **"M16"K5**	–	–	–	–	–	–	–

Ordering table

Size	32	40	50	63	Conditions	Code	Enter code
↓ Male thread shortened	Piston rod with shortened male thread						
0 [mm]	1 ... 8		1 ... 10			**-...K6**	
Female thread	Female piston rod thread						
	(M6)	(M8)	(M10)			**-K3**	
Special thread	Special piston rod thread						
	M10	M12	M16			**-"..."K5**	
Piston rod extended at front	Extended piston rod at front						
[mm]	1 ... 500					**...K8**	
Clamping unit	Clamping cartridge					**-KP**	
Temperature-resistant	Heat-resistant seals up to max. 150 °C	–	–	Heat-resistant seals up to max. 150 °C		**-S6**	
Constant motion (at low speed)	Slow speed (constant motion at low piston speeds)	–	–	Slow speed (constant motion at low piston speeds)	4	**-S10**	
Running characteristics	Low friction	–	–	Low friction	4	**-S11**	
Corrosion protection	High corrosion protection					**-R3**	
Wiper seal	Metal scraper					**-R8**	

4 **S10, S11** Not with cylinder cap MH, MA, MQ.

Transfer order code

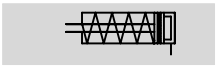
–		–		–		–		–		–		–		–		–		–		–	

Round cylinders ESNU

Technical data

FESTO

Function



Additional variants

➔ 1 / 2.4-29

- Ø - Diameter
  32 ... 63 mm

- I - Stroke length
  1 ... 50 mm

Basic version

Axial air connection MA

General technical data				
Piston ∅ [mm]	32	40	50	63
Pneumatic connection	G1⁄8	G1⁄4	G1⁄4	G3⁄8
Piston rod thread	M10x1.25	M12x1.25	M16x1.5	M16x1.5
Constructional design	Piston			
	Piston rod			
	Cylinder barrel			
Cushioning	Non-adjustable at either end			
Position sensing	Via proximity sensor			
Type of mounting	Via accessories			
Assembly position	Any			

Operating pressure [bar]				
Piston ∅	32	40	50	63
Operating medium	Filtered compressed air, lubricated or unlubricated			
Operating pressure [bar]	1.2 ... 10			

Ambient conditions	
Variant	Basic version
Ambient temperature[1] [°C]	–20 ... +80
Corrosion resistance class CRC[2]	2

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

Round cylinders ESNU

Technical data

Forces [N] and impact energy [J]				
Piston ∅ [mm]	32	40	50	63
Theoretical force at 6 bar, advancing	442	688	1,071	1,763
Max. spring return force 10 mm stroke	36	60	95	95
Max. spring return force 25 mm stroke	30	50	82	82
Max. spring return force 50 mm stroke	20	30	60	60
Max. impact energy at the end positions[1)]	0.40	0.70	1	1.3

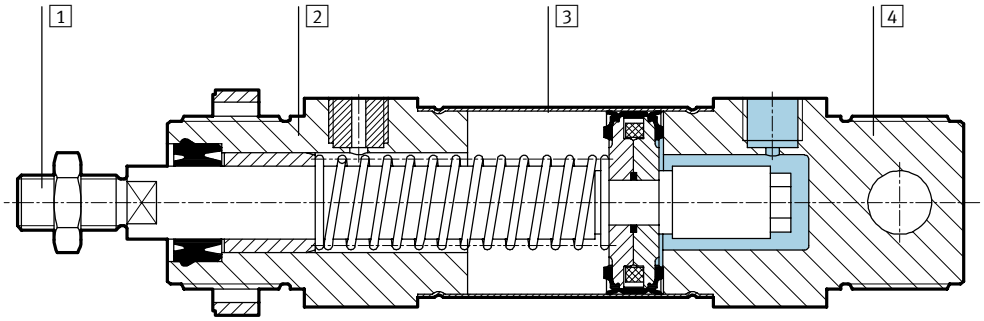
1) The values are reduced by approx. 50% at 80 °C

Weights ESNU-... [g]				
Piston ∅ [mm]	32	40	50	63
Product weight with 0 mm stroke	370.5	661	1,087	1,445
Additional weight per 10 mm stroke	15.5	24	40	44

Weights ESNU-...-MA [g]				
Piston ∅ [mm]	32	40	50	63
Product weight with 0 mm stroke	330	585	1,013	1,369
Additional weight per 10 mm stroke	15.5	24	40	44

Materials

Sectional view

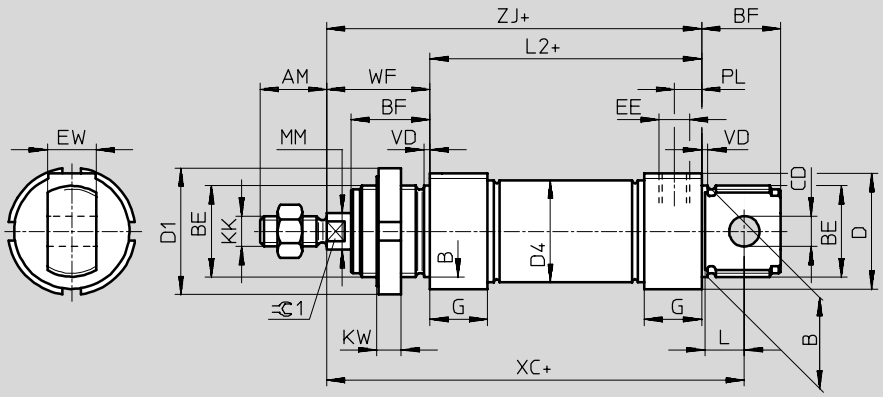


Variant	Basic version
1 Piston rod	High-alloy steel
2 Bearing cap	Wrought aluminium alloy
3 Cylinder barrel	High-alloy stainless steel
4 End cap	Wrought aluminium alloy
– Seals	Polyurethane, nitrile rubber
– Spring	Spring steel

Round cylinders ESNU

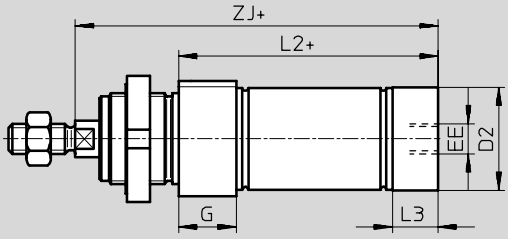
Technical data

Dimensions – Basic version Download CAD data ➔ **www.festo.com/en/engineering**



\+ = 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	

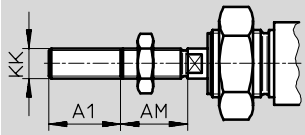
∅ [mm]	KW	L	L2	L2 -MA	L3	PL	MM ∅	VD	WF	XC ±1	ZJ	ZJ -MA	⌗C1
32	8	13	69.5	65.5	15	9	12	2	34	117.5	103.5	99.5	10
40	10	15	84.6	77.6	18	12	16	3	39	139.6	123.6	116.6	13
50		16	86.2	86.2	25		20		44	147.2	130.2	130.2	17
63			94.2	94.2	28	13			45	156.2	139.2	139.2	

Round cylinders ESNU

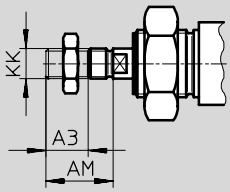
Technical data

Dimensions – Variants Download CAD data ➔ **www.festo.com/en/engineering**

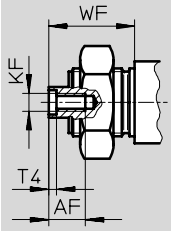
K2 – Extended male piston rod thread



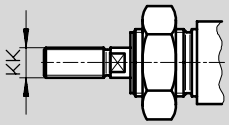
K6 – Shortened male piston rod thread



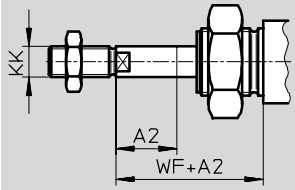
K3 – Female piston rod thread



K5 – Special piston rod thread



K8 – Extended piston rod



∅ [mm]	A1 max.	A2 max.	A3 max.	AF	AM	KF	KK		T4	WF
							Basic thread	Special thread[1)]		
32	35	50	8	M6	22	12	M10x1.25	M10	2.6	34
40				M8	24		M12x1.25	M12	3.3	39
50			10	M10	32	16	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

Type	Piston ∅ [mm]	Stroke [mm]	Without position sensing Part No.	Type	With position sensing Part No.	Type
	32	10	**195 870**	**ESNU-32-10-P**	**196 376**	**ESNU-32-10-P-A**
		25	**195 871**	**ESNU-32-25-P**	**196 377**	**ESNU-32-25-P-A**
		50	**195 872**	**ESNU-32-50-P**	**196 378**	**ESNU-32-50-P-A**
	40	10	**195 873**	**ESNU-40-10-P**	**196 379**	**ESNU-40-10-P-A**
		25	**195 874**	**ESNU-40-25-P**	**196 380**	**ESNU-40-25-P-A**
		50	**195 875**	**ESNU-40-50-P**	**196 381**	**ESNU-40-50-P-A**
	50	10	**195 876**	**ESNU-50-10-P**	**196 382**	**ESNU-50-10-P-A**
		25	**195 877**	**ESNU-50-25-P**	**196 383**	**ESNU-50-25-P-A**
		50	**195 878**	**ESNU-50-50-P**	**196 384**	**ESNU-50-50-P-A**
	63	10	**195 879**	**ESNU-63-10-P**	**196 385**	**ESNU-63-10-P-A**
		25	**195 880**	**ESNU-63-25-P**	**196 386**	**ESNU-63-25-P-A**
		50	**195 881**	**ESNU-63-50-P**	**196 387**	**ESNU-63-50-P-A**

Round cylinders ESNU

Ordering data – Modular products

FESTO

M Mandatory data					O Options →	
Module No.	**Function**	**Piston ∅**	**Stroke**	**Cushioning**	**Position sensing**	**End cap**
194 002 194 003 194 004 194 005	ESNU	32 40 50 63	1 ... 50	P	A	MA
Ordering example						
194 002	**ESNU** –	**32** –	**45** –	**P** –	**A** –	**MA** –

Ordering table

Size		32	40	50	63	Condi-tions	Code		Enter code
M	Module No.	**194 002**	**194 003**	**194 004**	**194 005**				
	Function	Single-acting round cylinder					**ESNU**		ESNU
	Piston ∅ [mm]	32	40	50	63		**-...**		
	Stroke [mm]	1 ... 50					**-...**		
	Cushioning	Flexible cushioning rings/plates at both ends					**-P**		-P
O	Position sensing	Via proximity sensors				1	**-A**		
↓	End cap	Axial air connection					**-MA**		

1 **A** Minimum stroke: 10 mm.

Transfer order code

	ESNU	–		–		–	**P**	–		–		–

Round cylinders ESNU

Ordering data – Modular products

[0] Options

Male thread extended	Male thread shortened	Female thread	Special thread	Piston rod extended
...K2	...K6	K3	"..."K5	...K8
50K2	–	–	**"M10"K5**	– **30K8**

Ordering table

Size	32	40	50	63	Conditions	Code	Enter code
[0] Male thread extended [mm]	Piston rod with extended male thread 1 ... 35				[2]	**-...K2**	
Male thread shortened [mm]	Piston rod with shortened male thread 1 ... 8		1 ... 10			**-...K6**	
Female thread	Female piston rod thread (M6)	(M8)	(M10)		[3]	**-K3**	
Special thread	Special piston rod thread M10	M12	M16			**-"..."K5**	
Piston rod extended [mm]	Piston rod extended 1 ... 50					**...K8**	

[2] **K2** Not with female thread K3, shortened male thread K6.

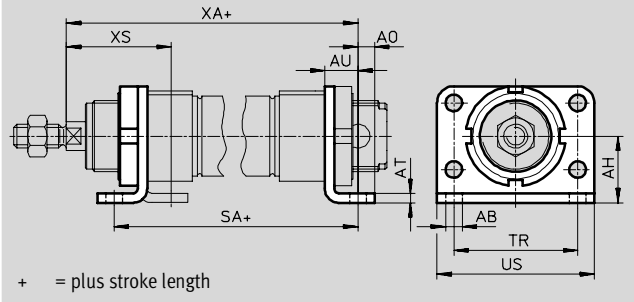
[3] **K3** Not with special thread K5, shortened male thread K6.

Transfer order code

	–	–	–	–

Foot mounting HBN/CRH

Material:
HBN: Galvanised steel
CRH: High-alloy stainless steel
Free of copper, PTFE and silicone



Dimensions and ordering data

∅ [mm]	AB ∅	AH	AO	AT	AU	SA	SA -KP	TR	US	XA	XA -KP	XS	XS -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	–

∅	Basic version				High corrosion protection			
[mm]	CRC[1)]	Weight [g]	Part No.	Type	CRC[1)]	Weight [g]	Part No.	Type
32	2	247	**195 851**	**HBN-32x2**	4	237	**162 951**	**CRH-32**
40	2	446	**195 852**	**HBN-40x2**	4	341	**162 952**	**CRH-40**
50	2	666	**195 853**	**HBN-50x2**	4	559	**162 953**	**CRH-50**
63	2	816	**195 854**	**HBN-63x2**	4	680	**162 954**	**CRH-63**

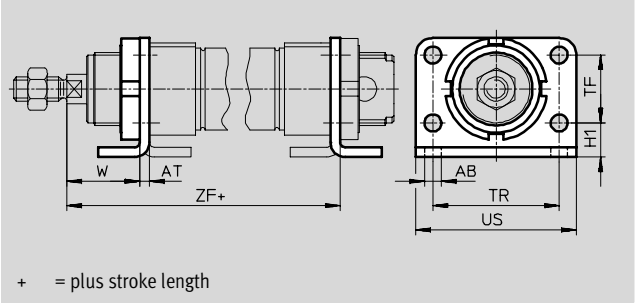
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
Corrosion resistance class 4 according to Festo standard 940 070
Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required.

Round cylinders DSNU/ESNU

Accessories

Flange mounting FBN/CRFV

Material:
FBN: Galvanised steel
CRFV: High-alloy stainless steel
Free of copper, PTFE and silicone



\+ = plus stroke length

Dimensions and ordering data

∅ [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

∅	Basic version				High corrosion protection			
[mm]	CRC[1)]	Weight [g]	Part No.	Type	CRC[1)]	Weight [g]	Part No.	Type
32	2	102	**195 855**	**FBN-32**	4	102	**161 858**	**CRFV-32**
40	2	190	**195 856**	**FBN-40**	4	190	**161 859**	**CRFV-40**
50	2	290	**195 857**	**FBN-50**	4	290	**161 860**	**CRFV-50**
63	2	365	**195 858**	**FBN-63**	4	365	**161 861**	**CRFV-63**

1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
Corrosion resistance class 4 according to Festo standard 940 070
Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required.

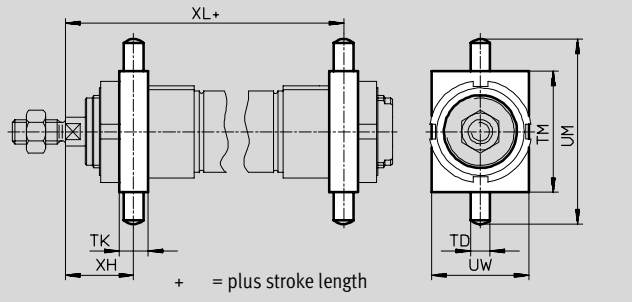
Round cylinders DSNU/ESNU

Accessories

FESTO

Swivel mounting WBN

Material:
Galvanised steel
Free of copper, PTFE and silicone



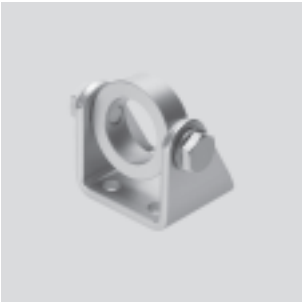
Dimensions and ordering data

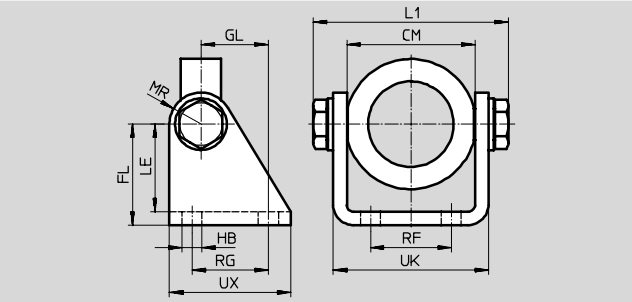
∅ [mm]	TD ∅ f8	TK	TM	UM	UW	XH	XL	XL -KP	CRC[1]	Weight [g]	Part No.	Type
32	8	12	50	76	40	28	109.5	163	2	130	**195 863**	**WBN-32**
40	10	15	60	92	50	26.5	126.1	193.6	2	240	**195 864**	**WBN-40**
50	12	20	80	116	65	34	140.2	216.7	2	610	**195 865**	**WBN-50/63**
63	12	20	80	116	65	35	149.2	233.7	2	610	**195 865**	**WBN-50/63**

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

Swivel mounting SBN

Material:
Mounting ring: Wrought aluminium alloy, anodised
Bearings: Bronze
Screws: Galvanised steel
Bracket: Steel





Dimensions and ordering data

∅ [mm]	CM	FL	GL	HB	L1 max.	LE	MR	RF	RG	UK	UX	CRC[1]	Weight [g]	Part No.	Type
32	46.1+0.2	40	27	9	72.2	35	13	28	30	56.1	50	2	295	**539 924**	**SBN-32**
40	57.1+0.2	45	30	9	88.2	39	14	36	34	69.1	54	2	465	**539 925**	**SBN-40**
50/63	70.1+0.4	50	34	9	102.2	44	16	42	35	82.1	65	2	670	**539 926**	**SBN-50/63**

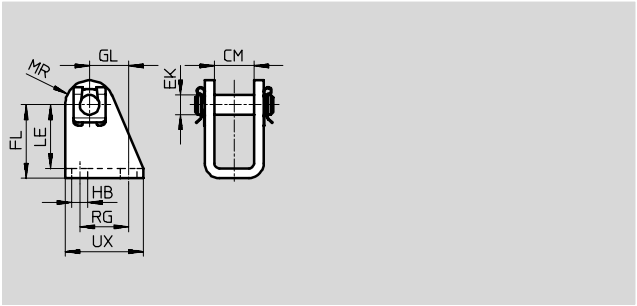
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating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

Round cylinders DSNU/ESNU

Accessories

Clevis foot LBN/CRLBN

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



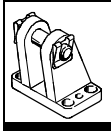
Dimensions and ordering data

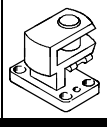
For ∅ [mm]	CM	EK ∅	FL	GL	HB	LE	MR	RG	UX
32	16.1	10	35 +0.4/–0.2	18.5	6.6	31	11	24	35
40	18.1	12	40 +0.4/–0.2	24.5	9	35	13	30	45
50, 63	21.1	16	45 +0.5/–0.2	28	9	39	14	34	50

∅	Basic version				High corrosion protection			
[mm]	CRC[1]	Weight [g]	Part No.	Type	CRC[1]	Weight [g]	Part No.	Type
32	2	109	**195 860**	**LBN-32**	4	107	**195 866**	**CRLBN-32**
40	2	192	**195 861**	**LBN-40**	4	184	**195 867**	**CRLBN-40**
50, 63	2	302	**195 862**	**LBN-50/63**	4	289	**195 868**	**CRLBN-50/63**

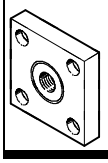
1) Corrosion resistance class 2 according to Festo standard 940 070
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
Corrosion resistance class 4 according to Festo standard 940 070
Components requiring higher corrosion resistance. Parts used with aggressive media, e.g. food or chemical industry. These applications should be supported with special tests with the media if required.

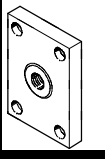
Ordering data – Mounting attachments Technical data ➔ 1 / 10.1-2

Designation	For ∅	Part No.	Type
Clevis foot mounting LBG			
	32	**31 761**	**LBG-32**
	40	**31 762**	**LBG-40**
	50	**31 763**	**LBG-50**
	63	**31 764**	**LBG-63**

Designation	For ∅	Part No.	Type
Clevis foot, right-angled LQG			
	32	**31 768**	**LQG-32**
	40	**31 769**	**LQG-40**
	50	**31 770**	**LQG-50**
	63	**31 771**	**LQG-63**

Ordering data – Piston rod attachments — Technical data ➔ 1 / 10.3-2

Designation	For ∅	Part No.	Type
Rod eye SGS			
	32	**9 261**	**SGS-M10x1,25**
	40	**9 262**	**SGS-M12x1,25**
	50	**9 263**	**SGS-M16x1,5**
	63		
Rod clevis SG			
	32	**6 144**	**SG-M10x1,25**
	40	**6 145**	**SG-M12x1,25**
	50	**6 146**	**SG-M16x1,5**
	63		
Coupling piece KSG			
	32	**32 963**	**KSG-M10x1,25**
	40	**32 964**	**KSG-M12x1,25**
	50	**32 965**	**KSG-M16x1,5**
	63		

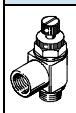
Designation	For ∅	Part No.	Type
Rod clevis SGA			
	32	**32 954**	**SGA-M10x1.25**
	40	**10 767**	**SGA-M12x1,25**
	50	**10 768**	**SGA-M16x1,5**
	63		
Self-aligning rod coupler FK			
	32	**6 140**	**FK-M10x1,25**
	40	**6 141**	**FK-M12x1,25**
	50	**6 142**	**FK-M16x1,5**
	63		
Coupling piece KSZ			
	32	**36 125**	**KSZ-M10x1,25**
	40	**36 126**	**KSZ-M12x1,25**
	50	**36 127**	**KSZ-M16x1,5**
	63		

Ordering data – Corrosion resistant piston rod attachments — Technical data ➔ 1 / 10.3-2

Designation	For ∅	Part No.	Type
Rod eye CRSGS			
	32	**195 582**	**CRSGS-M10x1,25**
	40	**195 583**	**CRSGS-M12x1,25**
	50	**195 584**	**CRSGS-M16x1,5**
	63		

Designation	For ∅	Part No.	Type
Rod clevis CRSG			
	32	**13 569**	**CRSG-M10x1,25**
	40	**13 570**	**CRSG-M12x1,25**
	50	**13 571**	**CRSG-M16x1,5**
	63		

Ordering data – One-way flow control valves — Technical data ➔ Volume 2

	Connection		Material	Part No.	Type
	Thread	For tubing O.D.			
For exhaust air					
	G1⁄8	3	Metal design	**193 142**	**GRLA-1⁄8-QS-3-D**
		4		**193 143**	**GRLA-1⁄8-QS-4-D**
		6		**193 144**	**GRLA-1⁄8-QS-6-D**
		8		**193 145**	**GRLA-1⁄8-QS-8-D**
	G1⁄4	6		**193 146**	**GRLA-1⁄4-QS-6-D**
		8		**193 147**	**GRLA-1⁄4-QS-8-D**
		10		**193 148**	**GRLA-1⁄4-QS-10-D**
	G3⁄8	6		**193 149**	**GRLA-3⁄8-QS-6-D**
		8		**193 150**	**GRLA-3⁄8-QS-8-D**
		10		**193 151**	**GRLA-3⁄8-QS-10-D**
For supply air					
	G1⁄8	3	Metal design	**193 156**	**GRLZ-1⁄8-QS-3-D**
		4		**193 157**	**GRLZ-1⁄8-QS-4-D**
		6		**193 158**	**GRLZ-1⁄8-QS-6-D**
		8		**193 159**	**GRLZ-1⁄8-QS-8-D**

Core Range

Ordering data – Corrosion resistant one-way flow control valves — Technical data ➔ Volume 2

	Connection		Material	Part No.	Type
	Thread	For push-in fitting			
For exhaust air					
	G1/8	CRQS/CRQSL/CRQST	Electrolytically polished stainless steel casting	**161 404**	**CRGRLA-1/8-B**
	G1/4			**161 405**	**CRGRLA-1/4-B**
	G3/8			**161 406**	**CRGRLA-3/8-B**

Ordering data – Proximity sensors, u-shaped design, magneto-resistive — Technical data ➔ 1 / 10.2-63

	Mounting	Switch output	Electrical connection		Cable length	Connection direction	Part No.	Type
			Cable	M8 plug	[m]			
NO contact								
	Via accessories	PNP	3-wire	–	2.5	In-line	**152 836**	**SMTO-4U-PS-K-LED-24**
			–	3-pin	–	In-line	**152 742**	**SMTO-4U-PS-S-LED-24**
		NPN	3-wire	–	2.5	In-line	**152 837**	**SMTO-4U-NS-K-LED-24**
			–	3-pin	–	In-line	**152 743**	**SMTO-4U-NS-S-LED-24**

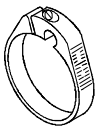
Ordering data – Proximity sensors, u-shaped design, magnetic reed — Technical data ➔ 1 / 10.2-65

	Mounting	Electrical connection		Cable length	Connection direction	Part No.	Type
		Cable	M8 plug	[m]			
NO contact							
	Via accessories	3-wire	–	2.5	In-line	**36 198**	**SMEO-4U-K-LED-24**
				5	In-line	**175 401**	**SMEO-4U-K5-LED-24**
		–	3-pin	–	In-line	**151 526**	**SMEO-4U-S-LED-24-B**

Ordering data – Proximity sensors, round design, magnetic reed, corrosion resistant — Technical data ➔ 1 / 10.2-68

	Mounting	Electrical connection		Cable length	Connection direction	Part No.	Type
		Cable	M8 plug	[m]			
NO contact							
	Via accessories	3-wire	–	2.5	In-line	**161 775**	**CRSMEO-4-K-LED-24**

Ordering data – Mounting kit for proximity sensor SMEO/SMTO/CRSMEO — Technical data ➔ 1 / 10.2-70

Designation	For ∅	Part No.	Type
Mounting kit CRSMBR, corrosion resistant			
	32	**163 888**	**CRSMBR-32**
	40	**163 889**	**CRSMBR-40**
	50	**163 890**	**CRSMBR-50**
	63	**163 891**	**CRSMBR-63**

Ordering data – Proximity sensor for slot type 8, magneto-resistive — Technical data → 1 / 10.2-13

	Mounting	Switch output	Electrical connection			Cable length [m]	Part No.	Type
			Cable	M8 plug	M12 plug			
NO contact								
	Via accessories	PNP	3-wire	–	–	2.5	**525 898**	**SMT-8F-PS-24V-K2,5-OE**
		NPN					**525 909**	**SMT-8F-NS-24V-K2,5-OE**
		–	2-wire	–	–	2.5	**525 908**	**SMT-8F-ZS-24V-K2,5-OE**
		PNP	–	3-pin	–	0.3	**525 899**	**SMT-8F-PS-24V-K0,3-M8D**
		NPN					**525 910**	**SMT-8F-NS-24V-K0,3-M8D**
		PNP	–	–	3-pin	0.3	**525 900**	**SMT-8F-PS-24V-K0,3-M12**
	Via accessories	PNP	3-wire	–	–	2.5	**175 436**	**SMT-8-PS-K-LED-24-B**
			–	3-pin	–	0.3	**175 484**	**SMT-8-PS-S-LED-24-B**
NC contact								
	Via accessories	PNP	3-wire	–	–	7.5	**525 911**	**SMT-8F-PO-24V-K7,5-OE**

Ordering data – Proximity sensor for slot type 8, magnetic reed — Technical data → 1 / 10.2-16

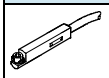
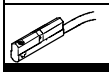
	Mounting	Electrical connection		Cable length [m]	Part No.	Type
		Cable	M8 plug			
NO contact						
	Via accessories	3-wire	–	2.5	**525 895**	**SME-8F-DS-24V-K2,5-OE**
				5.0	**525 897**	**SME-8F-DS-24V-K5,0-OE**
		2-wire	–	2.5	**525 907**	**SME-8F-ZS-24V-K2,5-OE**
		–	3-pin	0.3	**525 896**	**SME-8F-DS-24V-K0,3-M8D**
	Via accessories	3-wire	–	2.5	**150 855**	**SME-8-K-LED-24**
		–	3-pin	0.3	**150 857**	**SME-8-S-LED-24**
NC contact						
	Via accessories	3-wire	–	7.5	**525 906**	**SME-8F-DO-24V-K7,5-OE**

Ordering data – Mounting kit for proximity sensors SME/SMT-8 — Technical data → 1 / 10.2-40

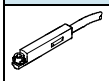
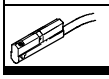
Designation	For ∅	Part No.	Type
Mounting kit SMBR-8			
	32	**175 097**	**SMBR-8-32**
	40	**175 098**	**SMBR-8-40**
	50	**175 099**	**SMBR-8-50**
	63	**175 100**	**SMBR-8-63**

Core Range

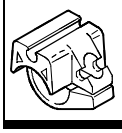
Ordering data – Proximity sensor for slot type 10, magneto-resistive — Technical data ➔ 1 / 10.2-47

	Mounting	Switch output	Electrical connection		Cable length [m]	Connection direction	Part No.	Type
			Cable	M8 plug				
NO contact								
	Via accessories	PNP	3-wire	–	2.5	In-line	**525 915**	**SMT-10F-PS-24V-K2,5L-OE**
			–	3-pin	0.3	In-line	**525 916**	**SMT-10F-PS-24V-K0,3L-M8D**
						Lateral	**526 675**	**SMT-10F-PS-24V-K0,3Q-M8D**
	Via accessories	PNP	–	3-pin	0.3	In-line	**173 220**	**SMT-10-PS-SL-LED-24**
			3-wire	–	2.5		**173 218**	**SMT-10-PS-KL-LED-24**

Ordering data – Proximity sensor for slot type 10, magnetic reed — Technical data ➔ 1 / 10.2-50

	Mounting	Electrical connection		Cable length [m]	Connection direction	Part No.	Type
		Cable	M8 plug				
NO contact							
	Via accessories	–	3-pin	0.3	In-line	**525 914**	**SME-10F-DS-24V-K0,3L-M8D**
		3-wire	–	2.5	In-line	**525 913**	**SME-10F-DS-24V-K2,5L-OE**
		2-wire				**526 672**	**SME-10F-ZS-24V-K2,5L-OE**
	Via accessories	3-wire	–	0.3	In-line	**173 212**	**SME-10-SL-LED-24**
		–	3-pin	2.5		**173 210**	**SME-10-KL-LED-24**

Ordering data – Mounting kit for proximity sensors SME/SMT-10 — Technical data ➔ 1 / 10.2-57

Designation	For ∅	Part No.	Type
Mounting kit SMBR-10			
	32	**175 105**	**SMBR-10-32**
	40	**175 106**	**SMBR-10-40**
	50	**175 107**	**SMBR-10-50**
	63	**175 108**	**SMBR-10-63**

Ordering data – Plug sockets — Technical data ➔ 1 / 10.2-100

	Mounting	Switch output		Connection	Cable length [m]	Part No.	Type
		PNP	NPN				
Straight plug socket							
	Union nut M8	■	■	3-pin	2.5	**159 420**	**SIM-M8-3GD-2,5-PU**
					5	**159 421**	**SIM-M8-3GD-5-PU**
	Union nut M12	■	■	3-pin	2.5	**159 428**	**SIM-M12-3GD-2,5-PU**
					5	**159 429**	**SIM-M12-3GD-5-PU**
Angled plug socket							
	Union nut M8	■	■	3-pin	2.5	**159 422**	**SIM-M8-3WD-2,5-PU**
					5	**159 423**	**SIM-M8-3WD-5-PU**
	Union nut M12	■	■	3-pin	2.5	**159 430**	**SIM-M12-3WD-2,5-PU**
					5	**159 431**	**SIM-M12-3WD-5-PU**

Core Range