



- Piston \varnothing 5/16" to 1"
- Strokes up to 19.6"
- Double-acting
- Meets the highest requirements for running characteristics, service life and load carrying ability
- Extensive range of accessories

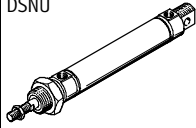
Product range overview								
Function	Type	Piston \varnothing [in]	Stroke [in]	Force [lbf]	Variants			
					P	PPV	A	S2
Double-acting	DSNU	5/16, 3/8, 1/2, 5/8, 3/4, 1	0.04 ... 19.6	5.2 ... 420.4	■	■	■	■

Variants

- | | | | |
|-----|--|----|-----------------------------|
| P | Flexible cushioning rings at both ends | A | Magnet for position sensing |
| | | S2 | Through piston rod |
| PPV | Adjustable air cushioning at both ends | | |

Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Product range overview

Function	Design	Cushioning		Magnet for position sensing	Through piston rod
		Fixed P	Adjustable as of \varnothing 5/8 PPV		
Double-acting	DSNU 	■	■	■	■

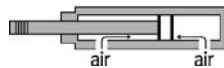
Design	Piston \varnothing [in]	Standard stroke [in]	Variable stroke ¹⁾ [in]
DSNU	5/16, 3/8	1/2, 1, 2, 3, 4	0.04 ... 4
	1/2, 5/8	1/2, 1, 2, 3, 4, 5, 6, 8	0.04 ... 8
	3/4	1/2, 1, 2, 3, 4, 5, 6, 8, 10, 12	0.04 ... 12.5
	1	1/2, 1, 2, 3, 4, 5, 6, 8, 10, 12	0.04 ... 19.6

1) Reliable position sensing requires a minimum stroke of 0.4 inch.

Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Technical data

Double-acting



Variants:

- Through piston rod (S2)

- ∅ - Diameter
5/16 ... 1 in
- | — - Stroke length
0.04 ... 19.6 in



General technical data						
Piston ∅	5/16	3/8	1/2	5/8	3/4	1
Pneumatic connection	10-32 UNF	10-32 UNF	10-32 UNF	10-32 UNF	1/8" NPT	1/8" NPT
Piston rod thread	6-32 UNC	6-32 UNC	10-32 UNF	10-32 UNF	5/16-24 UNF	3/8-24 UNF
Constructional design	Piston					
	Piston rod					
	Cylinder barrel					
Cushioning	Flexible cushioning rings at both ends (P)					
	-			Adjustable air cushioning at both ends (PPV)		
Cushioning length (PPV) [in]	-			0.47	0.59	0.67
Magnet for position sensing ¹⁾	Optional					

1) Position sensing via magnetic proximity sensor (ordered separately, see accessories).

Operating pressure [psi]						
Piston ∅	5/16	3/8	1/2	5/8	3/4	1
Operating medium	Filtered compressed air, lubricated or unlubricated					
Operating pressure	22.1 ... 147.0	14.7 ... 147.0				

Ambient conditions		
Ambient temperature ¹⁾ [°F]	-4 ... +176	
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 with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

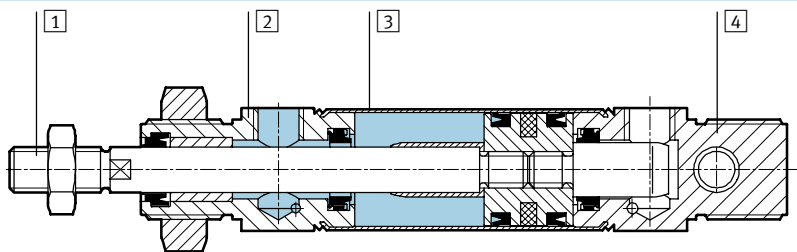
Technical data

Forces [lbf] and impact energy [ft-lbf]						
Piston Ø [in]	5/16	3/8	1/2	5/8	3/4	1
Theoretical force at 90 psi, extending	6.7	10.6	15.3	27.2	42.5	66.3
Theoretical force at 90 psi, retracting	5.2	9.0	11.5	23.4	35.5	55.5
Max. impact energy at the end positions	0.02	0.04	0.05	0.11	0.15	0.22

Weights [oz]						
Piston Ø [in]	5/16	3/8	1/2	5/8	3/4	1
Product weight with 0 inch stroke	1.22	1.32	2.65	3.17	6.59	8.40
Additional weight per 1 inch stroke	0.20	0.25	0.36	0.41	0.64	0.99

Materials

Sectional view

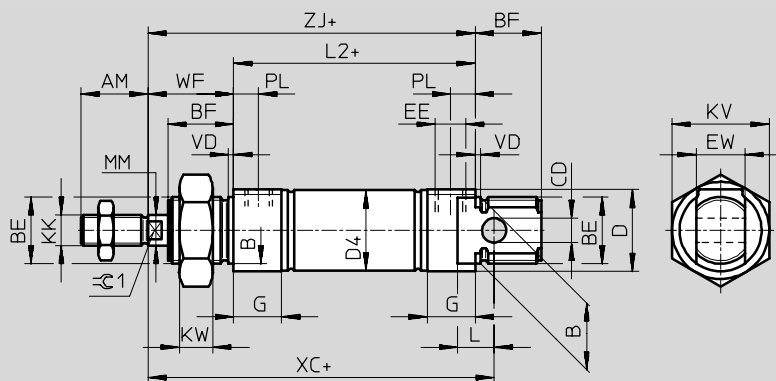


DSNU		
1	Piston rod	High-alloy stainless steel
2	Bearing cap	Wrought aluminum alloy
3	Cylinder barrel	High-alloy stainless steel
4	End cap	Wrought aluminum alloy
-	Seals	Polyurethane, nitrile rubber

Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Technical data

Dimensions – Basic version



+ = plus stroke length

∅	AM	B	BE	BF	CD	D	D4	EE	EW	G	KK	KV
[in]		∅			∅	∅	∅					
5/16	0.5	0.5	M12x1.25	0.5	0.2	0.6	0.37	10-32 UNF	0.3	0.4	6-32 UNC	0.7
3/8							0.44					
1/2	0.6	0.6	M16x1.5	0.7	0.2	0.8	0.52		0.5	10-32 UNF	0.9	
5/8							0.68					
3/4	0.8	0.9	M22x1.5	0.8	0.3	1.0	0.84	1/8" NPT	0.6	0.6	5/16-24 UNF	1.3
1				0.9			0.9				0.9	

∅	KW	L	L2	MM	PL	TO	VD	WF	XC	ZJ	≈C1
[in]				∅							[mm]
5/16	0.2	0.2	1.8	0.2	0.2	0.7	0.1	0.6	2.5	2.4	-
3/8											
1/2	0.3	0.4	2.0	0.2	0.9	0.9		0.9	3.0	2.8	5
5/8			2.2								
3/4	0.4	0.5	2.7	0.3	8.2	1.2	1.1	4.1	3.7	3.6	7
1			2.74								

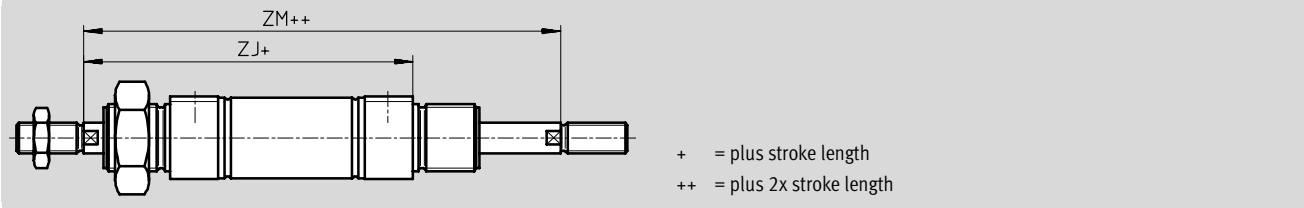
Dimensions are in inches, unless otherwise noted.

Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Technical data

Dimensions – Variants

S2 – Through piston rod



∅ [in]	ZJ	ZM
5/16	2.4	3.08
3/8		
1/2	2.8	3.7
5/8	3.0	3.9
3/4	3.6	4.6
1	3.84	4.94

Dimensions are in inches, unless otherwise noted.

Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Ordering data

Mandatory data				Options	
Function	Piston Ø	Stroke	Cushioning	Magnet for position sensing	Type of piston rod
DSNU	5/16 3/8 1/2 5/8 3/4 1	0.04 ... 19.6	P PPV	A	S2
DSNU	1	7.5	P	A	S2

Ordering table										
Size	5/16	3/8	1/2	5/8	3/4	1	Conditions	Code	Enter code	
Function	Standard cylinder, double-acting							DSNU	DSNU	
Piston Ø [in]	5/16	3/8	1/2	5/8	3/4	1		-...		
Stroke [in]	0.04 ... 4		0.04 ... 8		0.04 ... 12.5		0.04 ... 19.6		-...	
Cushioning	Flexible cushioning rings at both ends							-P		
	-	-	-	Adjustable air cushioning at both ends				-PPV		
Magnet for position sensing	For use with magnetic proximity sensor						1	-A		
Type of piston rod	Through piston rod							-S2		

1 Reliable position sensing requires a minimum stroke of 0.4 inch.

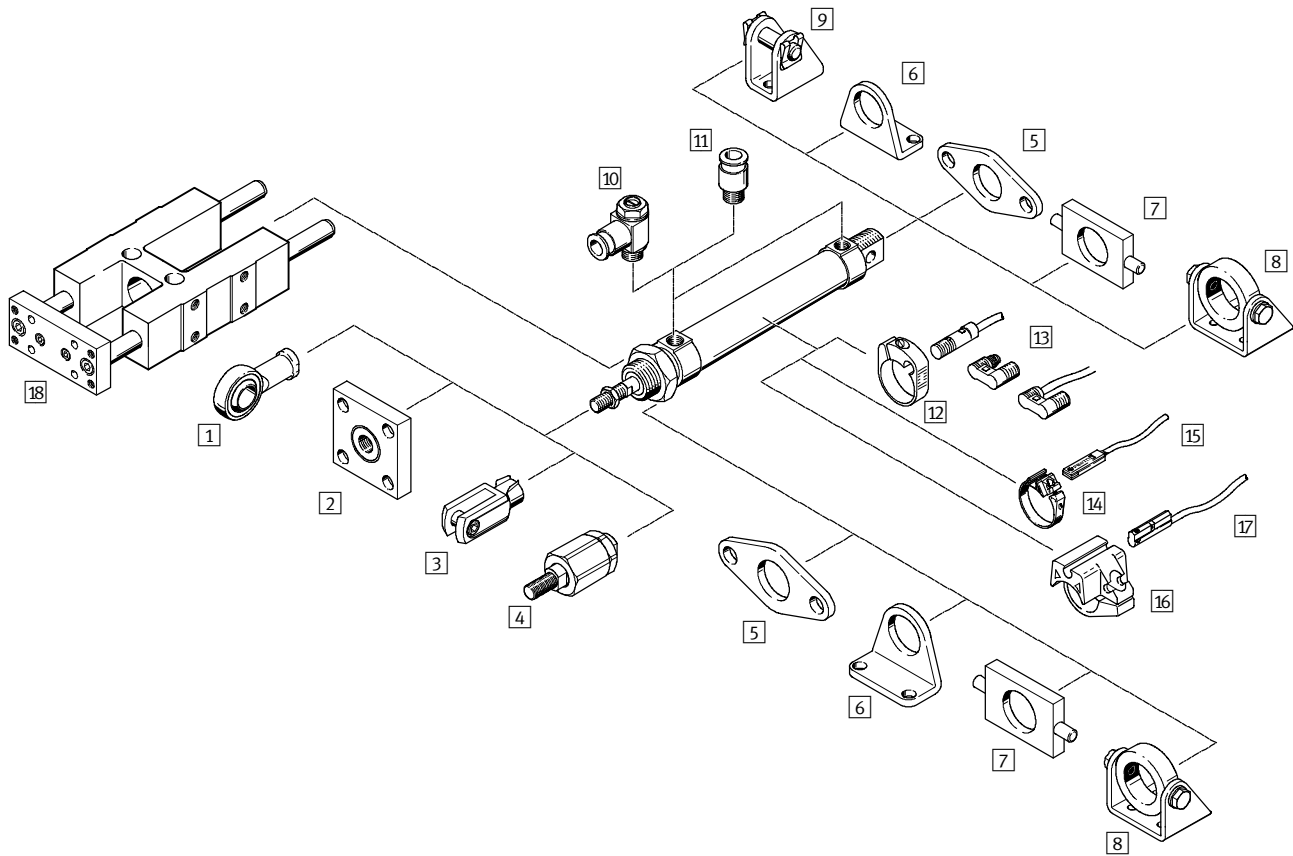
Transfer order code

- - - - -

Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Accessories overview

FESTO



Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Accessories overview

Mounting attachments and accessories		DSNU (5/16" to 1")
1	Rod eye SGS	■
2	Coupling piece KSZ	■
3	Rod clevis SG	■
4	Self-aligning rod coupler FK	■
5	Flange mounting FBN	■
6	Foot mounting HBN	■
7	Swivel mounting WBN	■
8	Swivel mounting SBN	■
9	Clevis foot LBN	■
10	One-way flow control valve GRLA/GRLZ	■
11	Push-in fitting QS	■
12	Sensor mounting kit SMBR	■
13	Proximity sensor SMEO/SMT0	■
14	Sensor mounting kit SMBR-8	■
15	Proximity sensor SME/SMT-8	■
16	Sensor mounting kit SMBR-10	■
17	Proximity sensor SME/SMT-10	■
18	Guide unit FEN	■

Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Accessories

Foot mounting HBN

Scope of delivery:

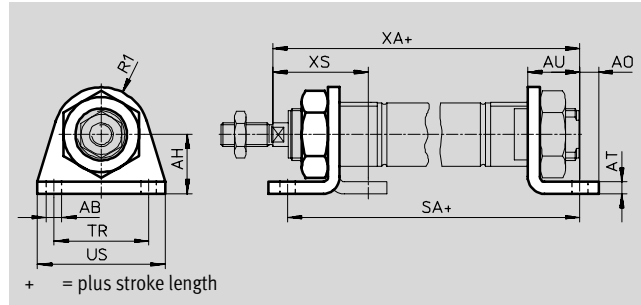
HBN-...x1: 1 foot

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

Material:

HBN: Galvanized steel

Free of copper, PTFE and silicone



Dimensions											
∅	AB ∅	AH	AO	AT	AU	R1	SA	TR	US	XA	XS
[in]											
5/16, 3/8	0.18	0.6	0.2	0.1	0.4	0.4	2.7	1.0	1.4	2.9	0.9
1/2	0.22	0.8	0.2	0.2	0.6	0.5	3.1	1.3	1.7	3.4	1.3
5/8	0.22	0.8	0.2	0.2	0.6	0.5	3.3	1.3	1.7	3.6	1.3
3/4	0.26	1.0	0.3	0.2	0.7	0.8	4.0	1.6	2.1	4.3	1.4
1	0.26	1.0	0.3	0.2	0.7	0.8	4.08	1.6	2.1	4.51	1.6

Ordering data				
∅ [in]	Basic version			
	CRC ¹⁾	Weight [oz]	Part No.	Type
5/16, 3/8	2	0.7	5123	HBN-8/10x1
	2	1.9	5124	HBN-8/10x2
1/2, 5/8	2	1.4	5125	HBN-12/16x1
	2	3.7	5126	HBN-12/16x2
3/4, 1	2	3.2	5127	HBN-20/25x1
	2	7.8	5128	HBN-20/25x2

1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

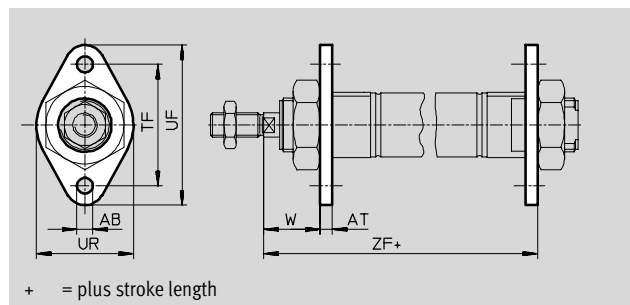
Dimensions are in inches, unless otherwise noted.

Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Accessories

Flange mounting FBN

Material:
FBN: Galvanized steel
Free of copper, PTFE and silicone



Dimensions							
∅	AB	AT	TF	UF	UR	W	ZF
[in]	∅						
5/16, 3/8	0.2	0.1	1.2	2.6	1.0	0.5	2.6
1/2	0.2	0.2	1.6	2.1	1.2	0.7	3.0
5/8	0.2	0.2	1.6	2.1	1.2	0.7	3.2
3/4	0.3	0.2	2.0	2.6	1.6	0.7	3.8
1	0.3	0.2	2.0	2.6	1.6	0.9	4.0

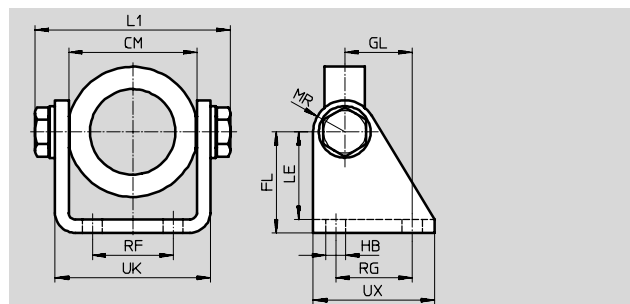
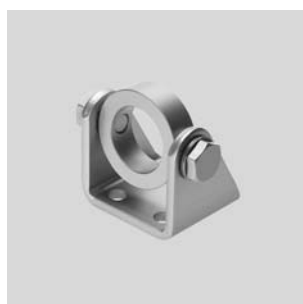
Ordering data				
∅	Basic version			
[in]	CRC ¹⁾	Weight [g]	Part No.	Type
5/16, 3/8	2	0.4	5129	FBN-8/10
1/2, 5/8	2	0.9	5130	FBN-12/16
3/4, 1	2	1.6	5131	FBN-20/25

1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Dimensions are in inches, unless otherwise noted.

Swivel mounting SBN

Material:
Mounting ring: Wrought aluminum alloy, anodized
Bearings: Bronze
Screws: Galvanized steel
Bracket: Steel



Dimensions and ordering data															
∅	CM	FL	GL	HB	L1	LE	MR	RF	RG	UK	UX	CRC ¹⁾	Weight	Part No.	Type
[in]					max.								[oz]		
3/4, 1	1.5	1.4	0.8	0.3	2.4	1.2	0.5	0.8	0.9	1.81	1.6	2	7.1	539927	SBN-20/25

1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Dimensions are in inches, unless otherwise noted.

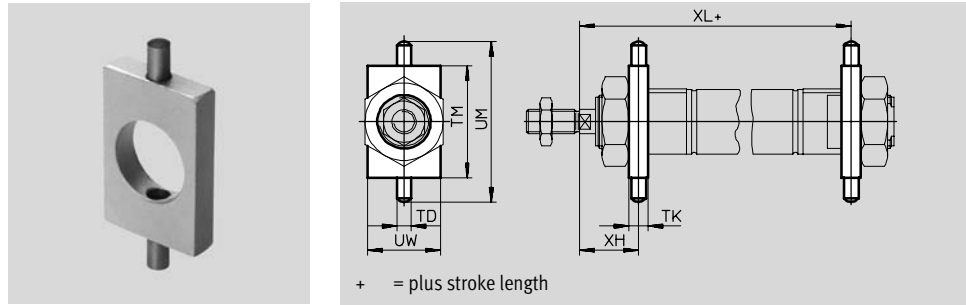
Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

FESTO

Accessories

Swivel mounting WBN

Material:
Galvanized steel
Free of copper, PTFE and silicone



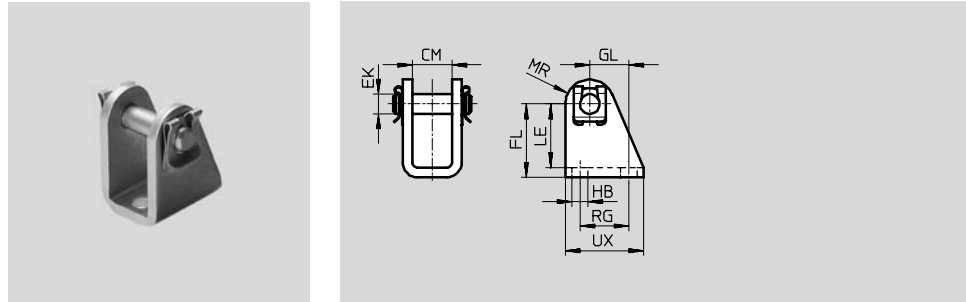
Dimensions and ordering data												
∅	TD	TK	TM	UM	UW	XH	XL	CRC ¹⁾	Weight	Part No.	Type	
[in]	∅								[oz]			
5/16, 3/8	0.2	0.2	1.0	1.5	0.8	0.5	2.6	2	0.7	8608	WBN-8/10	
1/2	0.2	0.3	1.5	2.3	1.0	0.7	3.0	2	1.8	8609	WBN-12/16	
5/8	0.2	0.3	1.5	2.3	1.0	0.7	3.2	2	1.8	8609	WBN-12/16	
3/4	0.2	0.3	1.8	2.6	1.2	0.8	3.8	2	2.5	8610	WBN-20/25	
1	0.2	0.3	1.8	2.6	1.2	0.9	4.0	2	2.5	8610	WBN-20/25	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Dimensions are in inches, unless otherwise noted.

Clevis foot LBN

Material:
LBN: Galvanized steel
Free of copper, PTFE and silicone



Dimensions										
For ∅	CM	EK	FL	GL	HB	LE	MR	RG	UX	
[in]		∅								
5/16, 3/8	0.32	0.2	0.9	0.54	0.17	0.85	0.2	0.49	0.8	
1/2, 5/8	0.48	0.2	1.1	0.5	0.22	0.9	0.3	0.6	1.0	
3/4, 1	0.63	0.3	1.2	0.6	0.26	1.0	0.4	0.8	1.3	




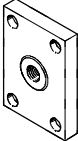
Ordering data				
∅	Basic version			
[in]	CRC ¹⁾	Weight [oz]	Part No.	Type
5/16, 3/8	2	0.8	6057	LBN-8/10
1/2, 5/8	2	1.4	6058	LBN-12/16
3/4, 1	2	2.9	6059	LBN-20/25

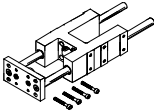
1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Dimensions are in inches, unless otherwise noted.

Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Accessories


Ordering data – Piston rod attachments				Ordering data – Piston rod attachments			
Designation	For Ø [in]	Part No.	Type	Designation	For Ø [in]	Part No.	Type
Rod eye SGS				Rod clevis SG			
	5/16	532693	SGS-6-32		5/16	11127	SG-6-32
	3/8				3/8		
	1/2	532694	SGS-10-32		1/2	546552	SG-10-32-B
	5/8				5/8		
	3/4	532695	SGS-5/16-24		3/4	546574	SG-5/16"-24-B
1	532696	SGS-3/8-24	1	546540	SG-3/8"-24-B		
Self-aligning rod coupler FK				Coupling piece KSZ			
	5/16	532702	FK-6-32		5/16, 3/8	-	-
	3/8				1/2, 5/8	-	-
	1/2	532703	FK-10-32		3/4	-	-
	5/8				1	36129	KSZ-3/8-24-UNF
	3/4	532704	FK-5/16-24				
1	532705	FK-3/8-24					


Ordering data – Guide units						
	For Ø [in]	Stroke [in]	With recirculating ball bearing guide		With plain bearing guide	
			Part No.	Type	Part No.	Type
	5/16, 3/8	up to 8	151730	FEN-5/16"-3/8"-...-KF	151720	FEN-5/16"-3/8"-...
	1/2, 5/8	up to 8	151731	FEN-1/2"-5/8"-...-KF	151721	FEN-1/2"-5/8"-...
	3/4	up to 10	151732	FEN-3/4"-...-KF	151722	FEN-3/4"-...
	1	up to 10	151733	FEN-1"-...-KF	151723	FEN-1"-...


Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Accessories

FESTO




Ordering data – Proximity sensors, u-shaped design, magneto-resistive								
	Mounting	Switch output	Electrical connection		Cable length [ft]	Connection direction	Part No.	Type
			Cable	M8 plug				
NO contact								
	Via mounting kit	PNP	3-wire	–	8.2	In-line	152836	SMT0-4U-PS-K-LED-24
			–	3-pin	–	In-line	152742	SMT0-4U-PS-S-LED-24
		NPN	3-wire	–	8.2	In-line	152837	SMT0-4U-NS-K-LED-24
			–	3-pin	–	In-line	152743	SMT0-4U-NS-S-LED-24




Ordering data – Proximity sensors, u-shaped design, magnetic reed								
	Mounting	Electrical connection		Cable length [ft]	Connection direction	Part No.	Type	
		Cable	M8 plug					
NO contact								
	Via mounting kit	3-wire	–	8.2	In-line	36198	SME0-4U-K-LED-24	
			–	16.4	In-line	175401	SME0-4U-K5-LED-24	
		–	3-pin	–	In-line	151526	SME0-4U-S-LED-24-B	


Ordering data – Mounting kit for proximity sensor SME0/SMT0/CRSME0			
Designation	For Ø [in]	Part No.	Type
Mounting kit SMBR			
	5/16	19272	SMBR-8
	3/8	19273	SMBR-10
	1/2	19274	SMBR-12
	5/8	19275	SMBR-16
	3/4	19276	SMBR-20
	1	19277	SMBR-25

Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Accessories

Ordering data – Proximity sensor for slot type 8, magneto-resistive								
	Mounting	Switch output	Electrical connection			Cable length [ft]	Part No.	Type
			Cable	M8 plug	M12 plug			
NO contact								
	Via mounting kit	PNP	3-wire	–	–	8.2	525898	SMT-8F-PS-24V-K2.5-OE
		NPN		–	–		525909	SMT-8F-NS-24V-K2.5-OE
		–	2-wire	–	–	8.2	525908	SMT-8F-ZS-24V-K2.5-OE
		PNP	–	3-pin	–	1.0	525899	SMT-8F-PS-24V-K0.3-M8D
		NPN	–	3-pin	–	1.0	525910	SMT-8F-NS-24V-K0.3-M8D
	Via mounting kit	PNP	3-wire	–	–	8.2	175436	SMT-8-PS-K-LED-24-B
		–	3-pin	–	–	1.0	175484	SMT-8-PS-S-LED-24-B
		–	3-pin	–	–	1.0	175484	SMT-8-PS-S-LED-24-B
NC contact								
	Via mounting kit	PNP	3-wire	–	–	24.6	525911	SMT-8F-PO-24V-K7.5-OE



Ordering data – Proximity sensor for slot type 8, magnetic reed							
	Mounting	Electrical connection		Cable length [ft]	Part No.	Type	
		Cable	M8 plug				
NO contact							
	Via mounting kit	3-wire		–	8.2	525895	SME-8F-DS-24V-K2.5-OE
		3-wire		–	16.4	525897	SME-8F-DS-24V-K5.0-OE
		2-wire		–	8.2	525907	SME-8F-ZS-24V-K2.5-OE
		–		3-pin	–	1.0	525896
	Via mounting kit	3-wire		–	8.2	150855	SME-8-K-LED-24
		–		3-pin	–	1.0	150857
NC contact							
	Via mounting kit	3-wire		–	24.6	525906	SME-8F-DO-24V-K7.5-OE



Ordering data – Mounting kit for proximity sensors SME/SMT-8			
Designation	For Ø [in]	Part No.	Type
Mounting kit SMBR-8			
	5/16	175091	SMBR-8-8
	3/8	175092	SMBR-8-10
	1/2	175093	SMBR-8-12
	5/8	175094	SMBR-8-16
	3/4	175095	SMBR-8-20
	1	175096	SMBR-8-25

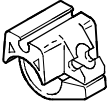
Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")





Accessories

FESTO

Ordering data – Proximity sensor for slot type 10, magneto-resistive								
	Mounting	Switch output	Electrical connection		Cable length [ft]	Connection direction	Part No.	Type
			Cable	M8 plug				
NO contact								
	Via mounting kit	PNP	3-wire	–	8.2	In-line	525915	SMT-10F-PS-24V-K2.5L-OE
			–	3-pin	1.0	In-line	525916	SMT-10F-PS-24V-K0.3L-M8D
						Lateral	526675	SMT-10F-PS-24V-K0.3Q-M8D
	Via mounting kit	PNP	–	3-pin	1.0	In-line	173220	SMT-10-PS-SL-LED-24
			3-wire	–	8.2		173218	SMT-10-PS-KL-LED-24



Ordering data – Proximity sensor for slot type 10, magnetic reed								
	Mounting	Electrical connection		Cable length [ft]	Connection direction	Part No.	Type	
		Cable	M8 plug					
NO contact								
	Via mounting kit	–	3-pin	1.0	In-line	525914	SME-10F-DS-24V-K0.3L-M8D	
		3-wire	–	8.2	In-line	525913	SME-10F-DS-24V-K2.5L-OE	
		2-wire				526672	SME-10F-ZS-24V-K2.5L-OE	
	Via mounting kit	3-wire	–	1.0	In-line	173212	SME-10-SL-LED-24	
		–	3-pin	8.2		173210	SME-10-KL-LED-24	

Ordering data – Mounting kit for proximity sensors SME/SMT-10			
Designation	For Ø [in]	Part No.	Type
Mounting kit SMBR-10			
	5/16	175101	SMBR-10-8
	3/8	173227	SMBR-10-10
	1/2	175102	SMBR-10-12
	5/8	173228	SMBR-10-16
	3/4	175103	SMBR-10-20
	1	175104	SMBR-10-25

Ordering data – Plug sockets							
	Mounting	Switch output		Connection	Cable length [ft]	Part No.	Type
		PNP	NPN				
Straight plug socket							
	Union nut M8	■	■	3-pin	8.2	159420	SIM-M8-3GD-2.5-PU
					16.4	159421	SIM-M8-3GD-5-PU
	Union nut M12	■	■	3-pin	8.2	159428	SIM-M12-3GD-2.5-PU
					16.4	159429	SIM-M12-3GD-5-PU
Angled plug socket							
	Union nut M8	■	■	3-pin	8.2	159422	SIM-M8-3WD-2.5-PU
					16.4	159423	SIM-M8-3WD-5-PU
	Union nut M12	■	■	3-pin	8.2	159430	SIM-M12-3WD-2.5-PU
					16.4	159431	SIM-M12-3WD-5-PU

Round Cylinders DSNU - Inch Series (Sizes 5/16" to 1")

Accessories

Ordering data – One-way flow control valves				
	Connection		Part No.	Type
	Thread	For tubing O.D.		
For exhaust air				
	10-32-UNF	5/32"	165008	GRLA-10-32-UNF-QS-5/32-U
		1/4"	192753	GRLA-10-32-UNF-QS-1/4-U
	1/8" NPT	5/32"	165009	GRLA-1/8-NPT-QS-5/32-U
		1/4"	165010	GRLA-1/8-NPT-QS-1/4-U
		3/16"	190941	GRLA-1/8-NPT-QS-3/16-U
	5/16"	165013	GRLA-1/8-NPT-QS-5/16-U	
For supply air				
	10-32 UNF	—	151576	GRLZ-10-UNF-B
			151579	GRLZ-10-UNF-RS-B
		3/16"	151577	GRLZ-10-UNF-3/16-B
		1/4"	151578	GRLZ-10-UNF-1/4-B
	1/8" NPT	—	151561	GRLZ-1/8-NPT-B
			151564	GRLZ-1/8-NPT-RS-B
		1/4"	151562	GRLZ-1/8-NPT-1/4-B
		3/8"	151563	GRLZ-1/8-NPT-3/8-B