

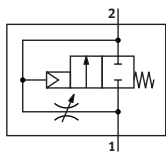
Soft-start valve MS6N-DL

FESTO



Characteristics

At a glance

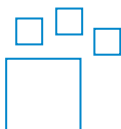


Pneumatically operated soft-start valve for slow pressurization and exhausting of pneumatic systems (for use with on/off valves EM1 and EE)

- The duration of the pressure build-up is set via the flow control attached to the valve cap. According to the set flow control position, the outlet pressure p2 increases slowly. When the cut-through pressure is reached, the main seat opens.
- The actuators move slowly and safely to the initial position
- Sudden and unpredictable movements are avoided
- Main seat opening at approx. 50% of the operating pressure
- Adjustable switch-through time delay
- Optional pressure sensor

Ordering data - modular system

Link [ms6n_dl](#)



Configurable product

This product and all its product options can be ordered online via the configurator.

Pneumatic connection

The installation of connection plates makes it easier to replace the module if necessary (e.g., when using piping).

Pressure gauge alternatives

- Features [AG]/[RG]: integrated pressure gauges
- Features [A4]/[A8]: Adapter for pressure gauge
- Features [AD7]/[AD8]/[AD9]/[AD10]: simple pressure sensors for monitoring the system
- Features [AD11]/[AD12]: functional pressure sensors for monitoring the system

Type of mounting

[WP]

Mounting bracket standard design



- For connecting the modules for wall mounting
- In conjunction with sub-base for wall mounting of a single device
- in conjunction with mounting plate MS-AEND for wall mounting of a single device
- Same wall distance for mixed combination with series MS4 and MS6

[WPM]

Mounting bracket for hooking in air preparation units



- For connecting the modules for wall mounting
- In conjunction with sub-base MS4-AG... for wall mounting of an individual device
- Fast hooking and unhooking

Characteristics

[WB]	Mounting centrally at rear (wall mounting top and bottom), sub-bases not required
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For wall mounting

Type code

001	Series	
MS	MS series	
002	Size	
6	Width dimension 62 mm	
003	Thread type	
N	NPT thread	
004	Function	
DL	Soft-start valve, pneumatic	
005	Pneumatic connection, inch	
1/4	Internal thread NPT 1/4	
3/8	Internal thread NPT 3/8	
1/2	Internal thread NPT 1/2	
AQN	Sub-base NPT 1/4	
AQP	Sub-base NPT 3/8	
AQR	Sub-base NPT 1/2	
AQS	Sub-base NPT 3/4	

006	Pressure gauge alternatives	
	Without	
A4	Adapter plate for EN pressure gauge 1/4, without pressure gauge	
A8	Adapter plate for EN pressure gauge 1/8, without pressure gauge	
AD7	Pressure sensor with switching display, M8 plug, threshold value comparator, PNP, N/O	
AD8	Pressure sensor with switching display, M8 plug, threshold value comparator, PNP, N/C	
AD9	Pressure sensor with switching display, M8 plug, window comparator, PNP, N/O	
AD10	Pressure sensor with operational status indicator, M8 plug, window comparator, PNP, N/C	
AD11	Pressure sensor with LCD display, M12 4-pin plug, IO-Link®, PNP, NPN, 0...10 V, 1...5 V, 4...20 mA	
AD12	Pressure sensor with LCD display, M8 4-pin plug, IO-Link®, PNP, NPN, 0...10 V, 1...5 V, 4...20 mA	
AG	MS pressure gauge	
RG	Integrated pressure gauge, red/green scale	

007	Alternative pressure gauge scale	
	MS pressure gauge	
BAR	Bar	
MPA	MPa	

008	Type of mounting	
	Without mounting bracket	
WB	Mounting centrally at rear (wall mounting top and bottom), sub-bases not required	
WP	Mounting bracket standard design	
WPM	Mounting bracket for hooking in air preparation units	

009	Flow direction	
	Flow direction from left to right	
Z	Flow direction from right to left	

Datasheet

General technical data

Pneumatic connection 1 ¹⁾	1/4 NPT	3/8 NPT	1/2 NPT
Pneumatic connection 2	1/4 NPT	3/8 NPT	1/2 NPT
Structural design	Piston seat		
Type of mounting	Alternatively: In-line installation With accessories		
Mounting position ²⁾	Any		
Valve function	2/2		
Exhaust air function	Adjustable		
Actuation type	Pneumatic		
Type of control	directly		
Flow direction	Non-reversible		

1) Via sub-base [AQ...]: 1/4 NPT, 3/8 NPT, 1/2 NPT or 3/4 NPT

2) The on/off valve must in a vertical mounting position when combined with a pressure sensor as condensate should not collect in the pressure sensor.

Flow characteristics

Pneumatic connection 1	1/4 NPT	3/8 NPT	1/2 NPT
Normal nominal flow rate (normalized to DIN 1343) ¹⁾	2,800 l/min	5,050 l/min	6,450 l/min
C value	11.22 l/sbar	21.05 l/sbar	28.97 l/sbar
b-value	0.54	0.48	0.39

1) Measured at p1 = 6 bar and p2 = 5 bar, Δp = 1 bar.

Operating and environmental conditions

Pneumatic connection 1	1/4 NPT	3/8 NPT	1/2 NPT
Operating pressure	4 ... 18 bar		
Operating medium	Compressed air as per ISO 8573-1:2010 [7:4:4], Inert gases		
Information on operating and pilot media	Operation with oil lubrication possible (required for further use)		
Ambient temperature	-10 ... 60°C		
Temperature of medium	-10 ... 60°C		
Corrosion resistance class (CRC) ¹⁾	2 - Moderate corrosion stress		
For use in the food industry ²⁾	See supplementary material information		

1) More information at www.festo.com/x/topic/kbk

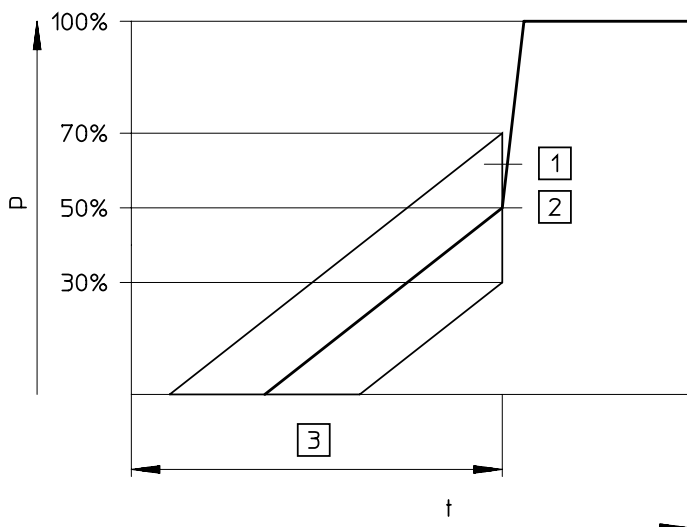
2) For more information, visit www.festo.com/certificates/M6n-dl

Materials

Housing material	Die-cast aluminum
Seals material	NBR
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364-B2-L

Datasheet

Switching point – pressure p as a function of time t



- [1] Tolerance range
- [2] Switching point
- [3] Filling time adjustable via flow control

Note:

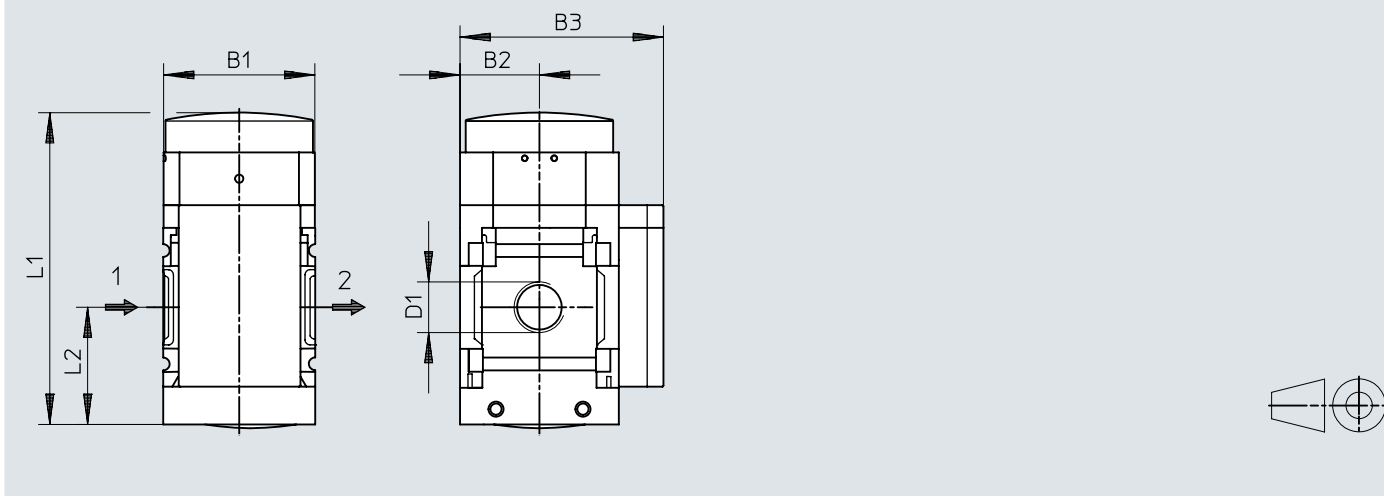
The tolerance specification +20%/-10% of the switch-on point refers to the operating pressure p_1 .

Example: At an operating pressure of 4 bar, a cut-through point of 1.6 bar to 2.8 bar is permissible.

Dimensions

Dimensions – Basic type with female thread, with cover plate

Download CAD data www.festo.com

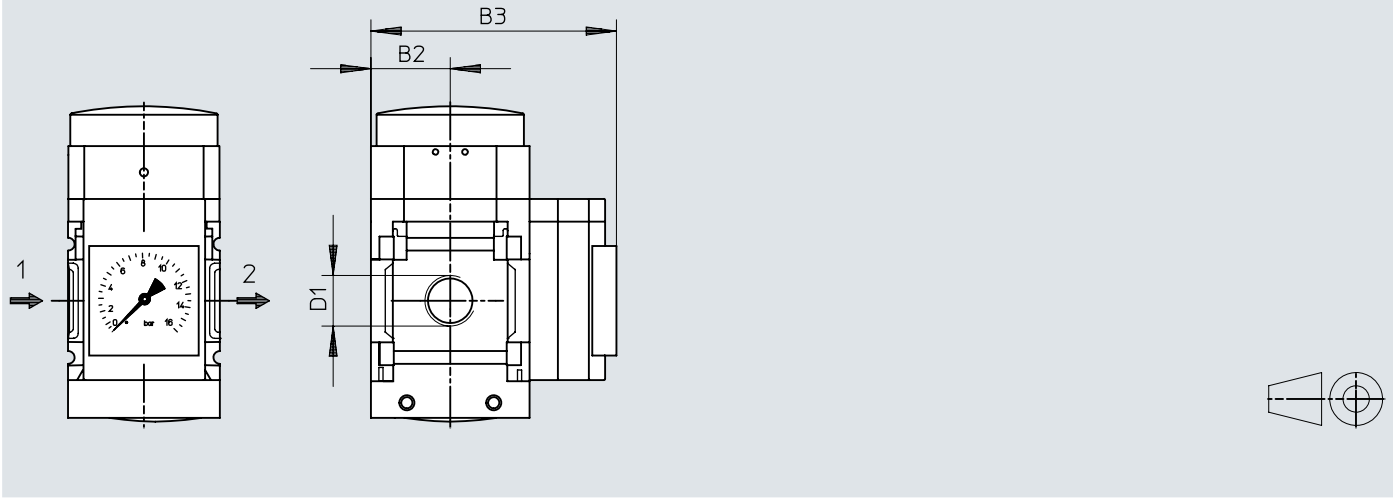


	B1 [inch]	B2 [inch]	B3 [inch]	D1	L1 [inch]	L2 [inch]
MS6N-DL-1/4	2,44	1,22	2,99	1/4 NPT	4,25	1,81
MS6N-DL-3/8				3/8 NPT		
MS6N-DL-1/2				1/2 NPT		

Dimensions

Dimensions – Integrated MS pressure gauge with standard scale/with red-green scale

Download CAD data www.festo.com

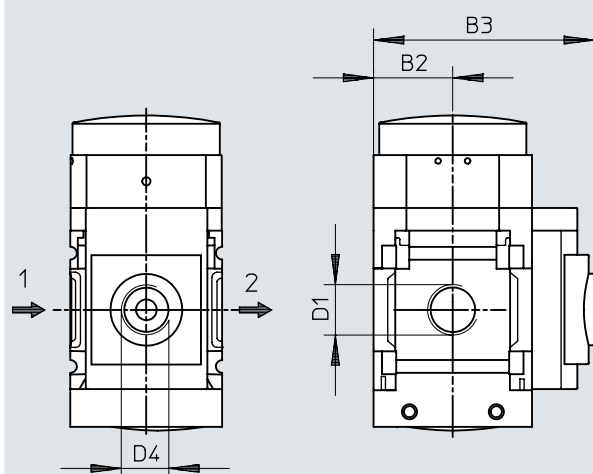


	B2 [inch]	B3 [inch]
MS6N-...-AG	1,22	3,03
MS6N-...-RG	1,22	3,09

Dimensions

Dimensions – Adapter for EN pressure gauge 1/8 without pressure gauge/
adapter for EN pressure gauge 1/4, without pressure gauge

Download CAD data www.festo.com

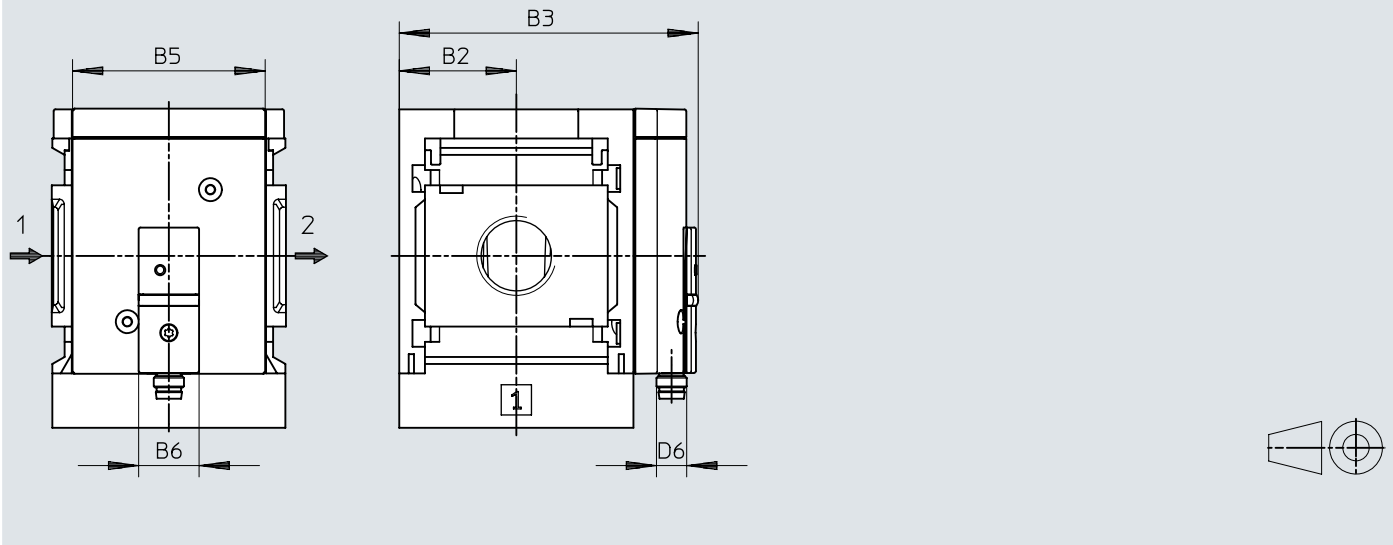


	B2 [inch]	B3 [inch]	D4
MS6N-...-A8	1,22	3,09	1/8 NPT
MS6N-...-A4			1/4 NPT

Dimensions

Dimensions – Pressure sensor with switching indication AD7, AD8, AD9, AD10

Download CAD data www.festo.com

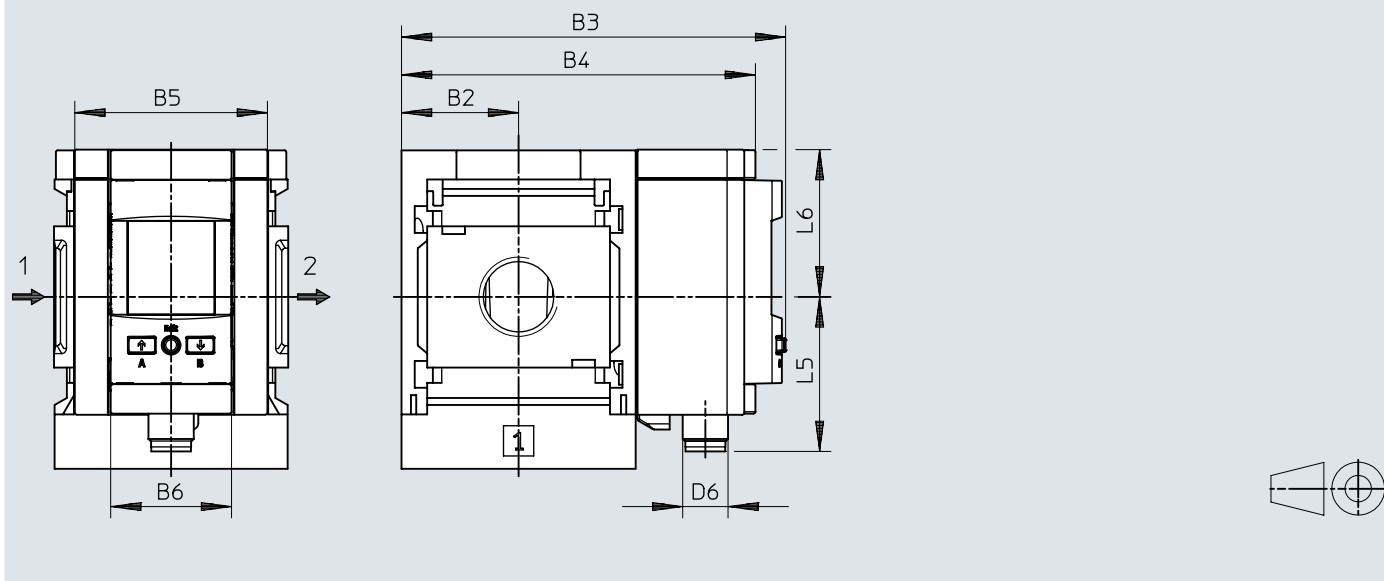


	B2 [inch]	B3 [inch]	B5 [inch]	B6 [inch]	D6
MS6N-...-AD7, AD8, AD9, AD10	1,22	3,11	~2,01	0,63	M8x1

Dimensions

Dimensions – Pressure sensor with LCD display AD11, AD12

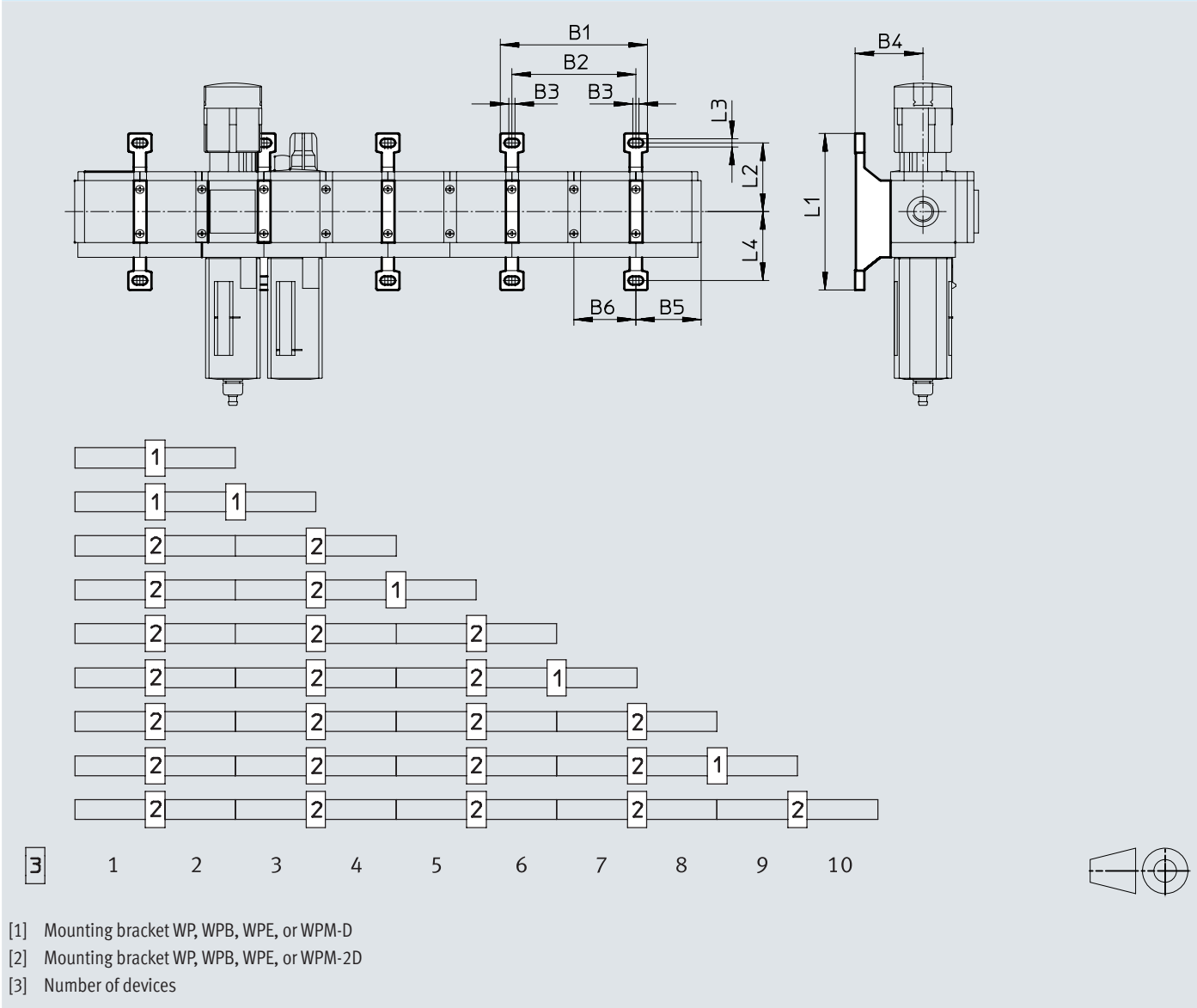
Download CAD data www.festo.com



	B2 [inch]	B3 [inch]	B4 [inch]	B5 [inch]	B6 [inch]	D6	L5 [inch]	L6 [inch]
MS6N-...-AD11	1,22	4,01	3,69	2,01	1,26	M12x1	1,62	1,54
MS6N-...-AD12						M8x1	1,49	

Dimensions

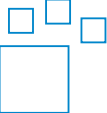
Dimensions – Download CAD data www.festo.com



	B1 ¹⁾ [inch]	B2 ¹⁾ [inch]	B3 [inch]	B4 [inch]	B5 ¹⁾²⁾ [inch]	B6 ¹⁾ [inch]	L1 [inch]	L2 [inch]	L3 [inch]	L4 [inch]
MS6-WP	5,55	4,88	0,18	2,13	2,54	2,44	6,22	2,80	0,26	2,80
MS6-WPB/WPE				3,56						
MS6-WPM-...D	6,61	5,43	0,69	2,13	2,68	2,72	3,88	1,63		1,63

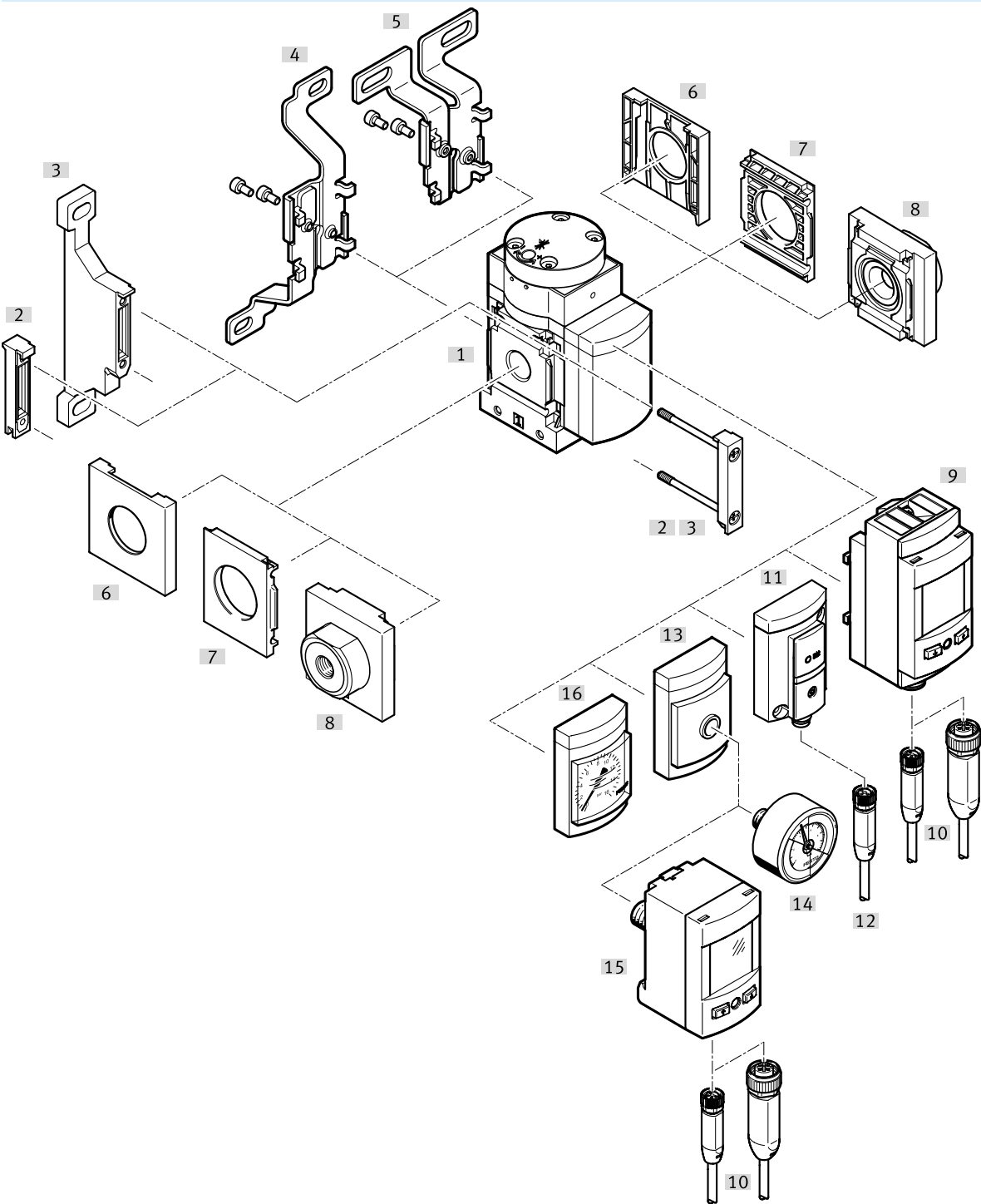
Ordering data

Ordering data					
	Pneumatic connection 1	Flow direction	Product weight	Part no.	Type
	3/8 NPT	From left to right	650 g	532025	MS6N-DL-3/8
	1/2 NPT			532024	MS6N-DL-1/2

Ordering information – modular product system			
	Type code	Part no.	Type
	MS6N-DL	527685	MS6N-DL

Peripherals overview

Peripherals overview



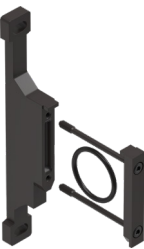
Accessories		→ Page/Internet
Type/order code	Description	
[1] On/off valve MS4-EE		ms6n-dl
[2] Module connector MS4-MV1		16
[3] Mounting bracket MS4-WP	Order code [WP]	16
[3] Mounting bracket MS4-WPM	Order code [WPM] (not shown)	16
[4] Mounting bracket MS4-WB	Order code [WB]	16
[5] Mounting bracket MS4-WBM	Not available for this size	-
[6] Cover cap MS4-END		17
[7] Mounting plate MS4-AEND	Module connector MS4-MV1 [2] or mounting bracket MS4-WP, WPB, WPE, WPM [3] is required for mounting.	17

Peripherals overview

Accessories		→ Page/Internet
Type/order code	Description	
[8] Sub-base-SET MS4-AQ...	Order code [AQ...]	17
[9]		ms6n-dl
[10] Connecting cable NEBU-M8...-LE3		18
[10] Connecting cable NEBU-M8...-LE3		18
[11] Pressure sensor with switching indication SDE5	Order code [AD7], [AD8], [AD9], [AD10]	ms6n-dl
[12] Connecting cable NEBU-M8...-LE3		18
[13] Adapter for EN pressure gauge 1/8, 1/4	Order code [A8], [A4]	ms6n-dl
[14] Pressure gauge MA		17
[15] Pressure sensor SPAU-...-T		17
[16] Pressure gauge MS	Order code [AG], [RG]	ms6n-dl

Accessories

Module connector MS4-MV1				
	Size	Product weight	Part no.	Type
	6	33 g	8119204	MS6-MV1

Mounting bracket MS4-WP...				
	Size	Product weight	Part no.	Type
	6	76 g	532195	MS6-WP

Mounting bracket MS4-WP...				
	Size	Product weight	Part no.	Type
	6	144 g	526073	MS6-WPM-D
		154 g	532186	MS6-WPM-2D

Mounting bracket MS4-WB				
	Size	Product weight	Part no.	Type
	6	121 g	532196	MS6-WB

Accessories

Cover cap MS4-END					
	Size	Housing material	Product weight	Part no.	Type
	6	PA-reinforced		538780	MS6-END

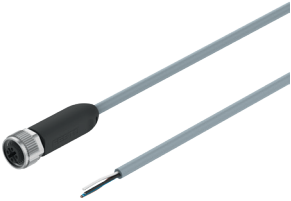
Mounting plate MS4-AEND					
	Size	Product weight	Part no.	Type	
	6	11.1 g	535408	MS6-AEND1	

Sub-base-SET MS4-AG...					
	Size	Pneumatic connection 1	Product weight	Part no.	Type
	6	1/4 NPT	300 g	526076	MS6N-AQN
		3/8 NPT		526077	MS6N-AQP
		1/2 NPT		526078	MS6N-AQR
		3/4 NPT		526079	MS6N-AQS

Pressure gauge MA						
	Pneumatic connection	Display range	Display range	Product weight	Part no.	Type
	R1/8		0 ... 16 bar	60 g	525726	MA-40-16-R1/8-E-RG
	R1/4			75 g	525729	MA-50-16-R1/4-E-RG
				0 ... 232 psi	70 g	187080

	Pneumatic connection	Switching output	Electrical connection 1, connection technology	Part no.	Type
	R1/8	2 x PNP or 2 x NPN switchable	M12x1 A-coded as per EN 61076-2-101	8001206	SPAU-P10R-T-R18M-L-PNLK-PNVBA-M12D
			M8x1 A-coded as per EN 61076-2-104	8001203	SPAU-P10R-T-R18M-L-PNLK-PNVBA-M8D
	R1/4		M12x1 A-coded as per EN 61076-2-101	8001208	SPAU-P10R-T-R14M-L-PNLK-PNVBA-M12D
			M8x1 A-coded as per EN 61076-2-104	8001209	SPAU-P10R-T-R14M-L-PNLK-PNVBA-M8D

Accessories

Connecting cable NEBA, straight						
	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/wires	Cable length	Part no.	Type
	M12x1 A-coded as per EN 61076-2-101	Open end	3	2.5 m	8078236	NEBA-M12G5-U-2.5-N-LE3
				5 m	8078237	NEBA-M12G5-U-5-N-LE3
			4	2.5 m	8078239	NEBA-M12G5-U-2.5-N-LE4
				5 m	8078240	NEBA-M12G5-U-5-N-LE4
	M8x1 A-coded as per EN 61076-2-104		3	2.5 m	8078223	NEBA-M8G3-U-2.5-N-LE3
				5 m	8078224	NEBA-M8G3-U-5-N-LE3
			4	2.5 m	8078227	NEBA-M8G4-U-2.5-N-LE4
				5 m	8078228	NEBA-M8G4-U-5-N-LE4

Connecting cable NEBA, angled						
	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/wires	Cable length	Part no.	Type
	M12x1 A-coded as per EN 61076-2-101	Open end	3	2.5 m	8078245	NEBA-M12W5-U-2.5-N-LE3
				5 m	8078246	NEBA-M12W5-U-5-N-LE3
			4	2.5 m	8078248	NEBA-M12W5-U-2.5-N-LE4
				5 m	8078249	NEBA-M12W5-U-5-N-LE4
	M8x1 A-coded as per EN 61076-2-104		3	2.5 m	8078230	NEBA-M8W3-U-2.5-N-LE3
				5 m	8078231	NEBA-M8W3-U-5-N-LE3
			4	2.5 m	8078233	NEBA-M8W4-U-2.5-N-LE4
				5 m	8078234	NEBA-M8W4-U-5-N-LE4