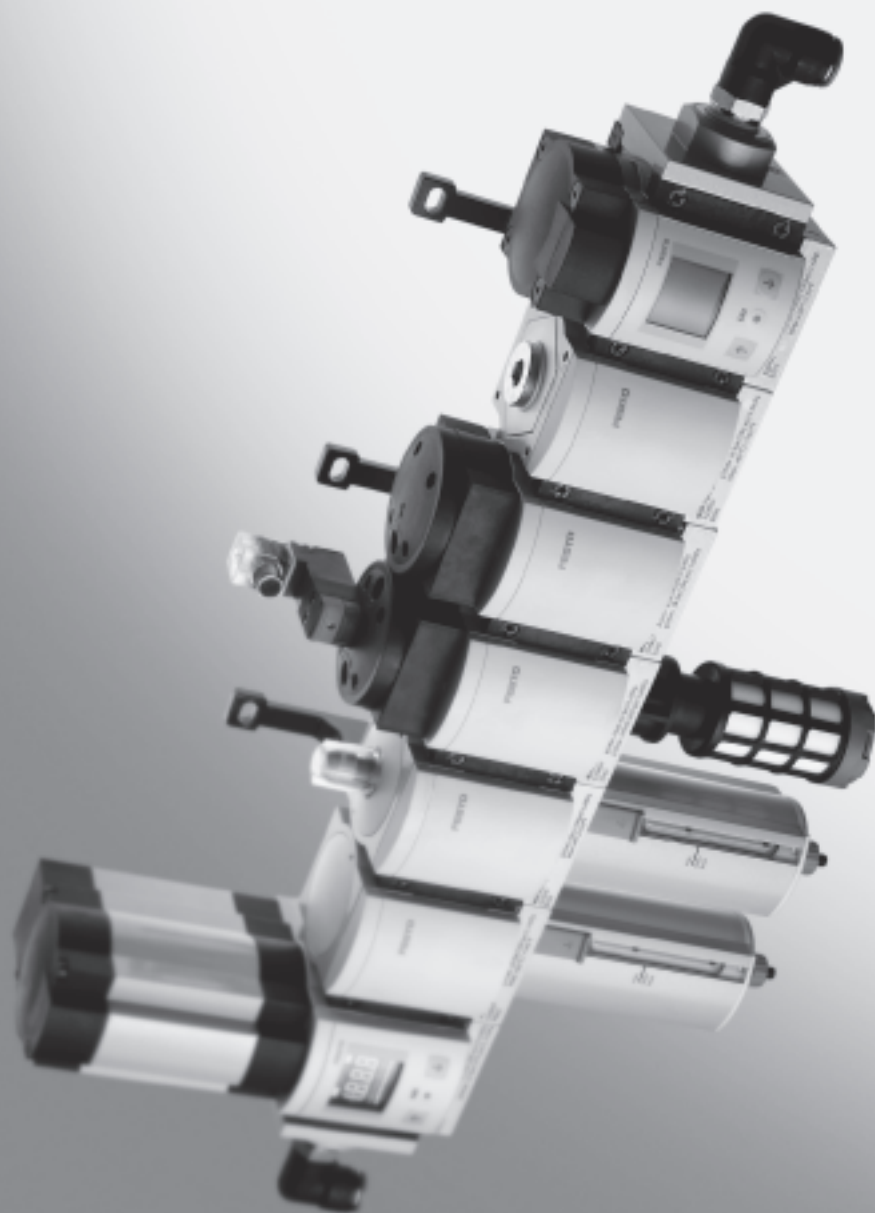


Wide range of configuration options

→ www.festo.com/en/engineering



- Three sizes:
MS4 – grid
dimension 40 mm
MS6 – grid
dimension 62 mm
MS12 – grid
dimension 124 mm
- Modular
- Easy to assemble
- Broad range of functions
- Compact with high flow rates
- Modern design
- Wide choice of variants
- Integrated safety functions

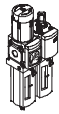
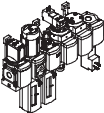
Specified types in accordance with
ATEX directive for potentially
explosive atmospheres

→ www.festo.com/en/ex

MS series service units

Product range overview

FESTO

Type	Size	Pneumatic connection in housing	Connecting plate	Pressure regulation range [bar]						Grade of filtration [µm]			
				0.05	0.05	0.1	0.3	0.1	0.5	0.01	1	5	40
				... 0.7	... 2.5	... 4	... 7	... 12	... 16				
Code			AG...	D2	D4	D5	D6	D7	D8	A	B	C	E
Service units													
MSB-FRC 	4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	■	■	–	–	–	■	■
	6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	■	■	–	–	–	■	■
	12	–											
Service unit combinations (further variants can be ordered using the configurator → www.festo.com/en/engineering)													
MSB 	4	G1/4	G1/8, G1/4, G3/8	–	–	–	■	■	–	–	–	■	■
	6	G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	■	■	–	–	–	■	■
	12	–											
Individual devices													
Filter regulators MS-LFR 	4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	■	■	■	–	–	–	■	■
	6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	■	■	■	■	–	–	■	■
	12	–	G1, G11/4, G11/2, G2	–	–	–	■	■	■	–	–	■	■
Filters MS-LF 	4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–	–	■	■
	6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–	–	■	■
	12	–	G1, G11/4, G11/2, G2	–	–	–	–	–	–	–	–	■	■
Fine and micro filters MS-LFM 	4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	■	■	–	–
	6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	■	■	–	–
	12	–	G1, G11/4, G11/2, G2	–	–	–	–	–	–	■	■	–	–
Activated carbon filters MS-LFX 	4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–	–	–	–
	6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–	–	–	–
	12	–	G1, G11/4, G11/2, G2	–	–	–	–	–	–	–	–	–	–
Pressure regulators MS-LR 	4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	■	■	■	–	–	–	–	–
	6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	■	■	■	■	–	–	–	–
	12	–	G1, G11/4, G11/2, G2	–	–	–	■	■	■	–	–	–	–
Pressure regulators MS-LRB 	4	G1/4	G1/8, G1/4, G3/8	–	–	■	■	■	–	–	–	–	–
	6	G1/2	G1/4, G3/8, G1/2, G3/4	–	–	■	■	■	■	–	–	–	–
	12	–											
Precision pressure regulators MS-LRP 	4	–											
	6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	■	■	■	–	■	–	–	–	–	–
	12	–											
Precision pressure regulators MS-LRPB 	4	–											
	6	G1/2	G1/4, G3/8, G1/2, G3/4	■	■	■	–	■	–	–	–	–	–
	12	–											

MS series service units

Product range overview

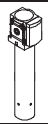
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Type	Size	Bowl guard		Condensate drains				Pressure indicator					Actuator lock		Options		→ Page
		Plastic bowl guard	Metal bowl	Manual rotary	Semi-automatic	Fully automatic	External, fully-automatic, electrical	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for EN pressure gauge G1/8	Adapter for EN pressure gauge G1/4	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Silencer	Flow direction from right to left	
Code		R	U	M	H	V	E...	VS	AG	A8	A4	AD...	AS	LD	S	Z	
Service units																	
MSB-FRC	4	■	–	■	–	■	–	–	■	–	–	–	■	–	–	■	2-2
	6	■	■	■	–	■	–	–	■	–	–	–	■	–	–	■	
	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Service unit combinations																	
MSB	4	■	■	■	–	■	–	–	■	–	–	–	■	–	–	■	2-2
	6	■	■	■	–	■	–	–	■	–	–	–	■	–	–	■	
	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Individual devices																	
Filter regulators MS-LFR	4	■	■	■	■	■	–	■	■	■	■	■	■	■	–	■	3-2
	6	■	■	■	■	■	■	■	■	–	■	■	■	■	–	■	
	12	–	■	■	–	■	■	■	■	–	■	–	■	■	–	■	3-18
Filters MS-LF	4	■	■	■	■	■	–	–	–	–	–	–	–	–	–	■	4-2, 4-4
	6	■	■	■	■	■	■	–	–	–	–	–	–	–	–	■	
	12	–	■	■	–	■	■	–	–	–	–	–	–	–	–	■	4-26, 4-28
Fine and micro filters MS-LFM	4	■	■	■	■	■	–	–	–	–	–	–	–	–	–	■	4-2, 4-12
	6	■	■	■	■	■	■	–	–	–	–	–	–	–	–	■	
	12	–	■	■	–	■	■	–	–	–	–	–	–	–	–	■	4-26, 4-33
Activated carbon filters MS-LFX	4	■	■	■	–	–	–	–	–	–	–	–	–	–	–	■	4-2, 4-20
	6	■	■	■	–	–	–	–	–	–	–	–	–	–	–	■	
	12	–	■	–	–	–	–	–	–	–	–	–	–	–	–	■	4-26, 4-40
Pressure regulators MS-LR	4	–	–	–	–	–	–	■	■	■	■	■	■	■	–	■	5-2, 5-7
	6	–	–	–	–	–	–	■	■	–	■	■	■	■	–	■	
	12	–	–	–	–	–	–	■	■	–	■	–	■	■	–	■	5-58
Pressure regulators MS-LRB	4	–	–	–	–	–	–	■	■	■	■	■	■	■	–	■	5-2, 5-16
	6	–	–	–	–	–	–	■	■	–	■	■	■	■	–	■	
	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Precision pressure regulators MS-LRP	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5-24, 5-29
	6	–	–	–	–	–	–	■	–	–	■	■	■	■	–	■	
	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Precision pressure regulators MS-LRPB	4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	5-24, 5-38
	6	–	–	–	–	–	–	■	–	–	■	■	■	■	–	■	
	12	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	

MS series service units

Product range overview

FESTO

Type	Size	Pneumatic connection in housing	Connecting plate	Pressure regulation range [bar]				Supply voltage			
				0.3 ... 4	0.3 ... 7	0.5 ... 12	0.5 ... 16	24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)
Code			AG...	D5	D6	D7	D8	V24	V24P	V110	V230
Individual devices											
Electrical pressure regulators MS-LRE		4	–					–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	■	■	■	■	–	–	–
		12	–								
Lubricators MS-LOE		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	–	–	–
On-off valves MS-EM(1)		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	–	–	–
On-off valves MS-EE		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	■	–	■
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	■	–	■
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	■	■	■
Soft-start valves MS-DL		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	–	–	–
Soft-start valves MS-DE		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	■	–	■
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	■	–	■
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	■	■	■
Membrane air dryers MS-LDM1		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–
		12	–								
Branching modules MS-FRM		4	G1/8, G1/4	G1/8, G1/4, G3/8	–	–	–	–	–	–	–
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	–	–	–	–	–	–	–
		12	–	G1, G1 1/4, G1 1/2, G2	–	–	–	–	–	–	–
Flow sensors MS-SFE		4	–								
		6	G1/2	G1/2	–	–	–	–	–	–	–
		12	–								

MS series service units

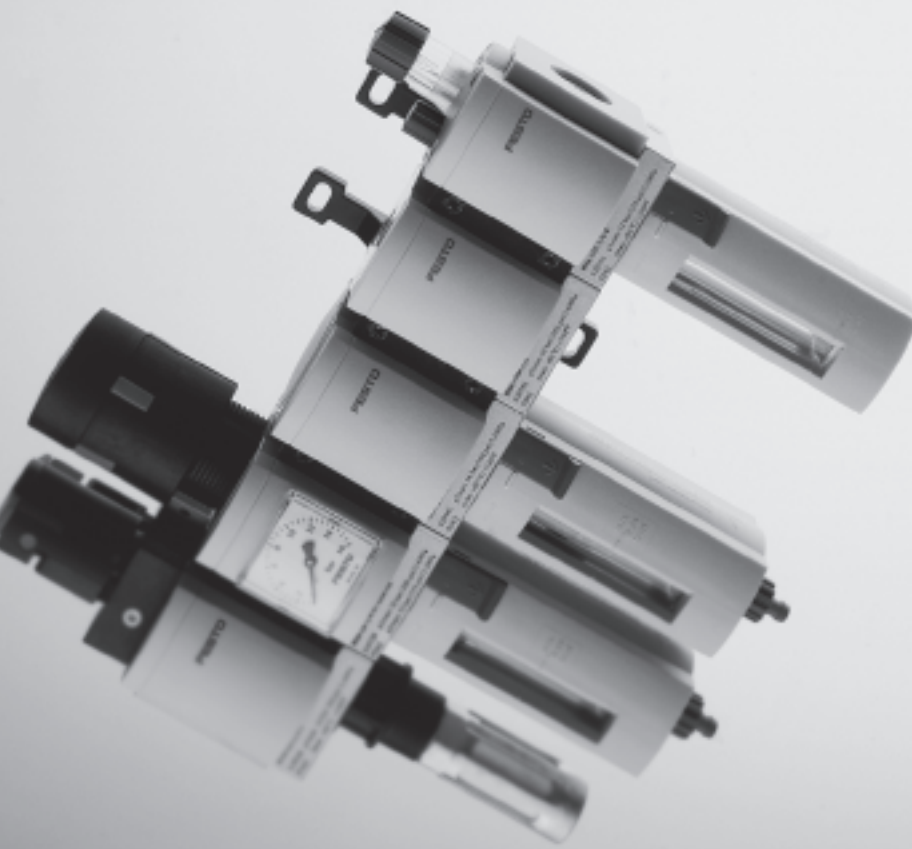
Product range overview

FESTO

Type	Size	Bowl guard		Pressure indicator					Switch output		Options		→ Page
		Plastic bowl guard	Metal bowl	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for EN pressure gauge G1/8	Adapter for EN pressure gauge G1/4	Pressure sensor with display	2x PNP	2x NPN	Silencer	Flow direction from right to left	
Individual devices													
Electrical pressure regulators MS-LRE	4	-											5-46
	6	-	-	■	■	-	■	-	-	-	-	■	
	12	-											
Lubricators MS-LOE	4	■	■	-	-	-	-	-	-	-	-	■	6-2
	6	■	■	-	-	-	-	-	-	-	-	■	
	12	-	■	-	-	-	-	-	-	-	-	-	■
On-off valves MS-EM(1)	4	-	-	■	■	■	■	■	-	-	■	■	7-2, 7-5
	6	-	-	■	■	-	■	■	-	-	■	■	
	12	-	-	■	■	-	■	-	-	-	■	■	7-30, 7-33
On-off valves MS-EE	4	-	-	■	■	■	■	■	-	-	■	■	7-2, 7-10
	6	-	-	■	■	-	■	■	-	-	■	■	
	12	-	-	■	■	-	■	-	-	-	■	■	7-30, 7-37
Soft-start valves MS-DL	4	-	-	■	■	■	■	■	-	-	-	■	7-2, 7-18
	6	-	-	■	■	-	■	■	-	-	-	■	
	12	-	-	■	■	-	■	-	-	-	-	■	7-30, 7-41
Soft-start valves MS-DE	4	-	-	■	■	■	■	■	-	-	-	■	7-2, 7-23
	6	-	-	■	■	-	■	■	-	-	-	■	
	12	-	-	■	■	-	■	-	-	-	-	■	7-30, 7-45
Membrane air dryers MS-LDM1	4	-	■	-	-	-	-	-	-	-	-	■	8-2
	6	-	■	-	-	-	-	-	-	-	-	■	
	12	-											
Branching modules MS-FRM	4	-	-	■	■	■	■	■	-	-	-	■	9-2
	6	-	-	■	■	-	■	■	-	-	-	■	
	12	-	-	■	-	-	-	-	-	-	-	-	9-14
Flow sensors MS-SFE	4	-											10-2
	6	-	-	-	-	-	-	-	■	■	-	■ ¹⁾	
	12	-											

1) To be ordered via configurator software only → www.festo.com/en/engineering

Wide range of configuration options
→ www.festo.com/en/engineering



- MS4 – grid
dimension 40 mm
MS6 – grid
dimension 62 mm
- Modular
- Easy to assemble
- Broad range of functions
- Compact with high flow rates
- Modern design
- Wide choice of variants
- Integrated safety functions

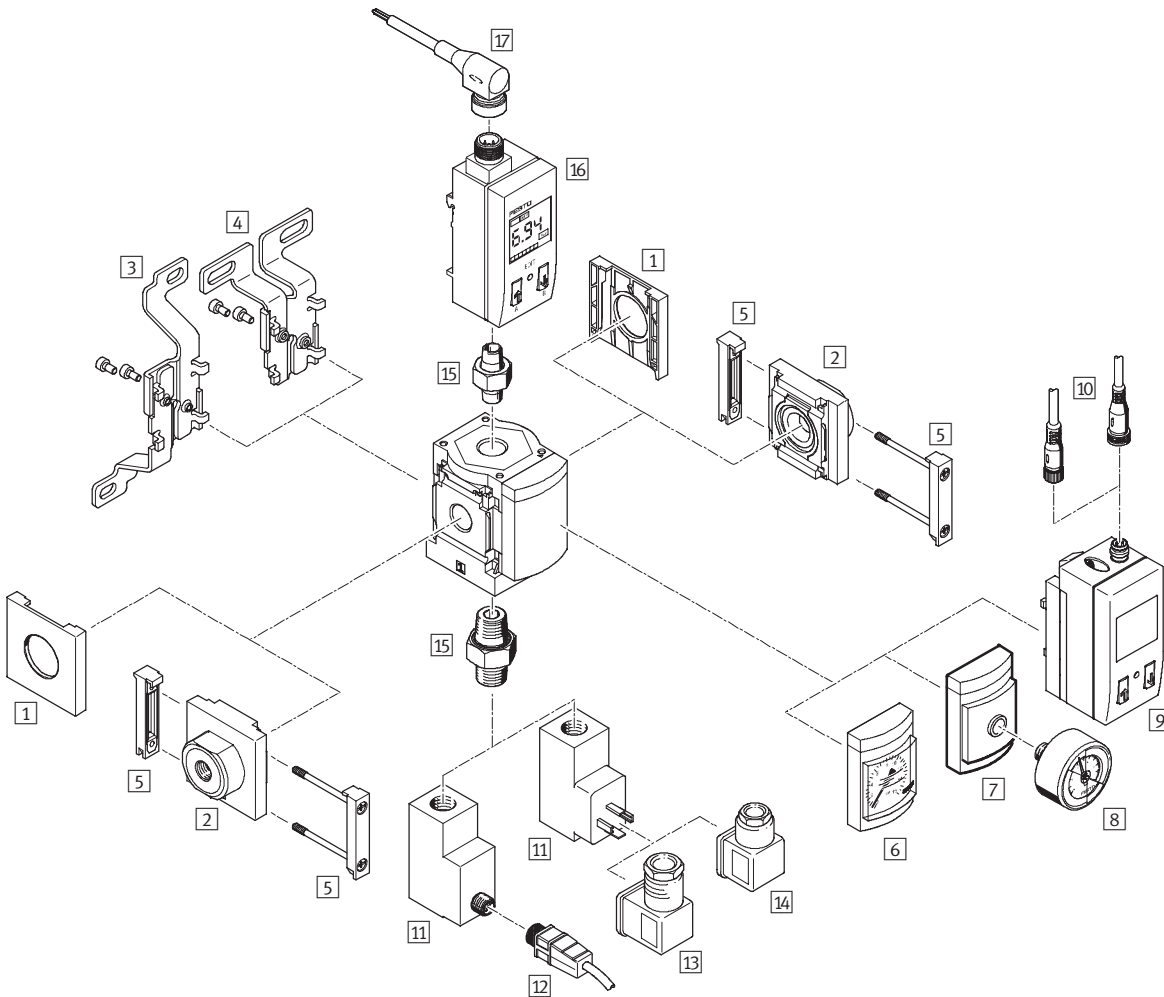
Specified types in accordance with
ATEX directive for potentially
explosive atmospheres
→ www.festo.com/en/ex



Branching modules MS4/MS6-FRM, MS series

Peripherals overview

FESTO



Branching modules MS4/MS6-FRM, MS series

Peripherals overview

FESTO

Mounting attachments and accessories						
		Individual unit		Combination → 3/2.11-0		→ Page
		without connect- ing plate	with connecting plate	without connect- ing plate	with connecting plate	
1	Cover cap MS4/6-END	■	–	■	–	11-3
2	Connecting plate MS4/6-AG...	–	■	–	■	11-2
3	Mounting bracket MS4/6-WB	■	■	–	–	11-4
4	Mounting bracket MS4-WBM	■	■	–	–	11-4
5	Module connector MS4/6-MV	–	■	■	■	11-8
6	MS pressure gauge AG	■	■	■	■	9-10
7	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	9-10
8	Pressure gauge MA	■	■	■	■	11-11
9	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	9-10
10	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	11-11
11	Pressure switch PEV X/Y/M12	■	■	■	■	9-10, 11-9
12	Plug socket with cable SIM-M12-4...	■	■	■	■	11-11
13	Angled socket PEV-1/4-WD-LED-...	■	■	■	■	11-10
14	Plug socket MSSD-C-4P	■	■	■	■	11-10
15	Double nipple ESK	■	■	■	■	11-12
16	Pressure sensor SDE1-...-H18/W18 AD5/AD6	■	■	■	■	9-10, 11-9
17	Plug socket with cable SIM-M8-3.../SIM-M12-5...	■	■	■	■	11-11
–	Mounting bracket MS4/6-WP/WPB/WPM	–	■	■	■	11-6, 11-7

Branching modules MS4/MS6-FRM, MS series

Type codes

FESTO

		MS	4	-	FRM	-	1/8	-	Y
Series									
MS	Standard service unit								
Size									
4	Grid dimension 40 mm								
6	Grid dimension 62 mm								
Service function									
FRM	Branching module								
Connection size									
1/8	Thread G1/8								
1/4	Thread G1/4								
3/8	Thread G3/8								
1/2	Thread G1/2								
Pressure switch									
	Without pressure switch								
Y	With pressure switch								

Further variants can be ordered using the modular system

Branching modules FRM → 9-10

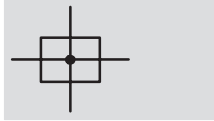
- Connecting plates
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Pressure switch
- Type of mounting
- Alternative flow direction

Branching modules MS4/MS6-FRM, MS series

Technical data

FESTO

Function



-  - Flow rate
1,300 ... 13,000 l/min
-  - Temperature range
-10 ... +60 °C
-  - Operating pressure
0 ... 20 bar



- Pneumatic manifold with 4 connections
- Can be used as an intermediate distributor for varying air qualities
- Attachment facility for auxiliary modules
- Outlet top and bottom
- Optional pressure sensor with display

General technical data					
Size	MS4		MS6		
Pneumatic connection 1, 2	G1/8	G1/4	G1/4	G3/8	G1/2
Pneumatic connection 3, 4	G1/4		G1/2		
Design	Branching module				
Type of mounting	Via accessories				
	In-line installation				
Assembly position	Any ¹⁾				
Pressure display	With pressure sensor for the output pressure display and with electric output				
	With pressure gauge for the output pressure display				

1) The branching module must be mounted vertically when combined with a pressure sensor as condensate must not collect in the pressure sensor.

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]					
Size	MS4		MS6		
Pneumatic connection	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
In main flow direction 1 $\rightarrow$ 2	1,300	3,500	3,300	8,350	13,000
Outlet at top	2,200	2,300	6,570	7,800	6,700
Outlet at bottom	2,300	2,500	6,800	8,750	8,000

1) Measured at $p_1 = 6$ bar and $p_2 = 5$ bar, $\Delta p = 1$ bar

Operating and environmental conditions						
Variant	Standard		Pressure switch X/Y/M12		Pressure sensor with display AD...	
Size	MS4	MS6	MS4	MS6	MS4	MS6
Operating pressure [bar]	0 ... 14	0 ... 20	0 ... 12	0 ... 12	0 ... 10	0 ... 10
Operating medium	Compressed air		Compressed air		Filtered compressed air, lubricated or unlubricated, grade of filtration 40 µm	
Ambient temperature [°C]	-10 ... +60		-10 ... +60		0 ... +50	
Temperature of medium [°C]	-10 ... +60		-10 ... +60		0 ... +50	
Storage temperature [°C]	-10 ... +60		-10 ... +60		-10 ... +60	
Corrosion resistance class CRC ¹⁾	2					

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.

Branching modules MS4/MS6-FRM, MS series

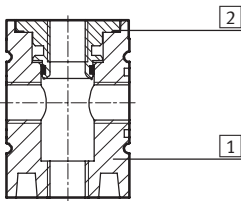
Technical data

FESTO

Weight [g]		
Size	MS4	MS6
Standard	160	500
With pressure switch	400	778
With pressure sensor	250	570

Materials

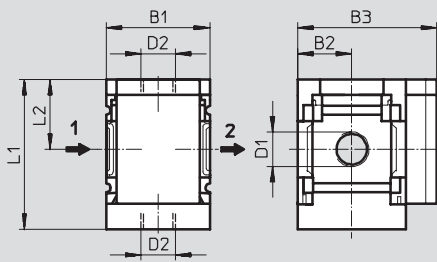
Sectional view



Branching module	
1	Housing Die-cast aluminium
2	Threaded insert Aluminium
-	Seals Nitrile rubber
Note on materials Free of copper and PTFE (not with variants AG or AD...)	

Dimensions – Standard

Download CAD data → www.festo.com/en/engineering



→ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2
MS4-FRM-1/8	40	21	54	G1/8	G1/4	58	27
MS4-FRM-1/4				G1/4			
MS6-FRM-1/4	62	31	76	G1/4	G1/2	84	39
MS6-FRM-3/8				G3/8			
MS6-FRM-1/2				G1/2			

Branching modules MS4/MS6-FRM, MS series

Technical data

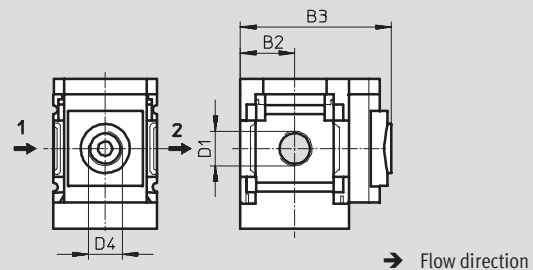
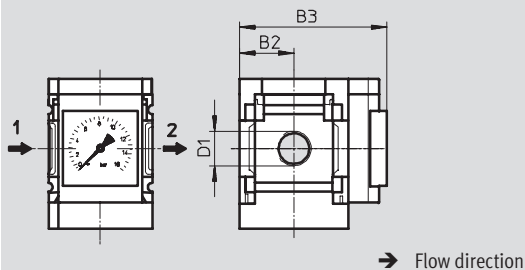
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Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com/en/engineering

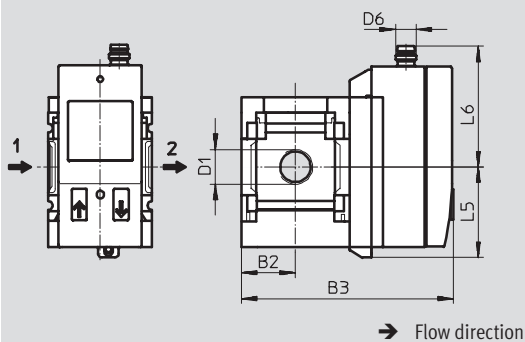
Integrated MS pressure gauge AG, display unit [bar]

Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



Pressure sensor with display AD1 ... AD4

Technical data SDE1 → www.festo.com



Variant AD1:
SDE1-D10-G2-MS-L-P1-M8 with
3-pin plug M8x1, 1 switch output
PNP

Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with
4-pin plug M12x1, 1 switch output
PNP and 4 ... 20 mA analogue

Variant AD2:
SDE1-D10-G2-MS-L-N1-M8 with
3-pin plug M8x1, 1 switch output
NPN

Variant AD4:
SDE1-D10-G2-MS-L-NI-M12 with
4-pin plug M12x1, 1 switch output
NPN and 4 ... 20 mA analogue

Type	B2	B3	D1	D4	D6	L5	L6
MS4-FRM-1/8-...-AG	21	57	G1/8	-	-	-	-
MS4-FRM-1/4-...-AG			G1/4				
MS4-FRM-1/8-...-A8	21	58.5	G1/8	G1/8	-	-	-
MS4-FRM-1/4-...-A8			G1/4				
MS4-FRM-1/8-...-A4	21	58.5	G1/8	G1/4	-	-	-
MS4-FRM-1/4-...-A4			G1/4				
MS4-FRM-1/8-...-AD1/AD2	21	82.6	G1/8	-	M8x1	35.1	46.7
MS4-FRM-1/4-...-AD1/AD2			G1/4				
MS4-FRM-1/8-...-AD3/AD4	21	82.6	G1/8	-	M12x1	35.1	55.8
MS4-FRM-1/4-...-AD3/AD4			G1/4				
MS6-FRM-1/4-...-AG	31	77	G1/4	-	-	-	-
MS6-FRM-3/8-...-AG			G3/8				
MS6-FRM-1/2-...-AG			G1/2				
MS6-FRM-1/4-...-A4	31	78.5	G1/4	G1/4	-	-	-
MS6-FRM-3/8-...-A4			G3/8				
MS6-FRM-1/2-...-A4			G1/2				
MS6-FRM-1/4-...-AD1/AD2	31	103	G1/4	-	M8x1	35.1	46.7
MS6-FRM-3/8-...-AD1/AD2			G3/8				
MS6-FRM-1/2-...-AD1/AD2			G1/2				
MS6-FRM-1/4-...-AD3/AD4	31	103	G1/4	-	M12x1	35.1	55.8
MS6-FRM-3/8-...-AD3/AD4			G3/8				
MS6-FRM-1/2-...-AD3/AD4			G1/2				

Branching modules MS4/MS6-FRM, MS series

Technical data

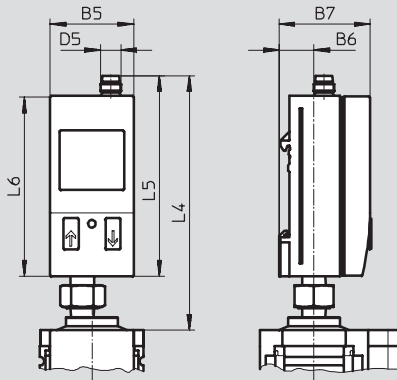
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Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com/en/engineering

Pressure sensor with display AD5/AD6

Technical data SDE1 → www.festo.com



Variant AD5:
SDE1-D10-G2-H18-C-P1-M8 with
3-pin plug M8x1, 1 switch output
PNP

Variant AD6:
SDE1-D10-G2-W18-L-2I-M12 with
5-pin plug M12x1, 2 switch outputs
PNP and 4 ... 20 mA analogue

Type	B5	B6	B7	D5	L4	L5	L6
MS4-FRM-...-AD5	32.3	13.5	35.2	M8	99	78	70
MS4-FRM-...-AD6				M12	108	87	
MS6-FRM-...-AD5	32.3	13.5	35.2	M8	94	78	70
MS6-FRM-...-AD6				M12	103	87	

Branching modules MS4/MS6-FRM, MS series

Technical data

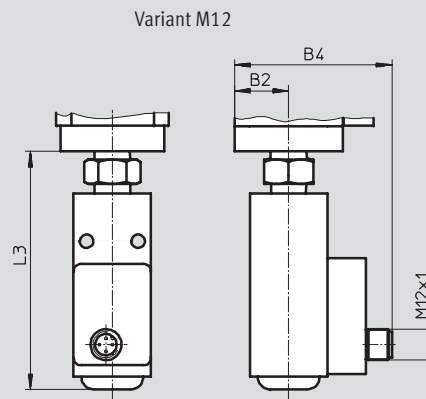
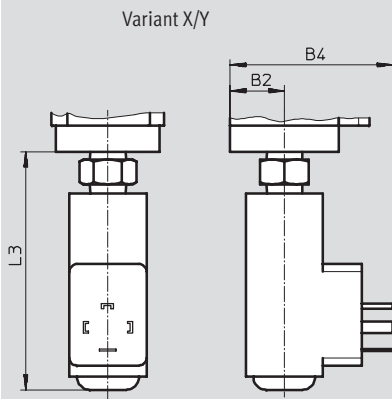
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Dimensions – Pressure switch

Download CAD data → www.festo.com/en/engineering

Pressure switch with adjustable pressure switching point X/Y/M12

Technical data PEV → www.festo.com



Variant X:
PEV-1/4-SC-0D with display, plug,
square design to DIN EN 175 301,
type A

Variant Y:
PEV-1/4-B-0D, plug, square design to
DIN EN 175 301, type A

Variant M12:
PEV-1/4-B-M12 with 4-pin plug
M12x1

Type	B2	B4	L3
MS4-FRM-...-X/Y	21	63	92.3
MS4-FRM-...-M12	21	61	92.3
MS6-FRM-...-X/Y	31	73	99.5
MS6-FRM-...-M12	31	71	99.5

Ordering data

Size	Connection	Without pressure switch		With pressure switch PEV-1/4-B-0D (variant Y)	
		Part No.	Type	Part No.	Type
MS4	G1/8	529 559	MS4-FRM-1/8 ¹⁾	529 560	MS4-FRM-1/8-Y ¹⁾
	G1/4	529 555	MS4-FRM-1/4 ¹⁾	529 556	MS4-FRM-1/4-Y ¹⁾
MS6	G1/4	529 857	MS6-FRM-1/4 ¹⁾	529 858	MS6-FRM-1/4-Y ¹⁾
	G3/8	529 861	MS6-FRM-3/8 ¹⁾	529 862	MS6-FRM-3/8-Y ¹⁾
	G1/2	529 853	MS6-FRM-1/2 ¹⁾	529 854	MS6-FRM-1/2-Y ¹⁾

1) Free of copper and PTFE

Branching modules MS4/MS6-FRM, MS series

Ordering data – Modular products

FESTO

Mandatory data				
Module No.	Series	Size	Function	Connection size
527 703	MS	4	FRM	1/8
527 676		6		1/4
				3/8
				1/2
				AGA
				AGB
				AGC
				AGD
				AGE
Ordering example				
527 676	MS	6	- FRM	- 3/8

Ordering table					
Grid dimension	[mm]	40	62	Condi- tions	Code
Module No.		527 703	527 676		Enter code
Series		Standard			MS
Size		4	6		...
Function		Branching module			-FRM
Connection size		Thread G1/8	–		-1/8
		Thread G1/4	Thread G1/4		-1/4
		–	Thread G3/8		-3/8
		–	Thread G1/2		-1/2
		Connecting plate G1/8	–		-AGA
		Connecting plate G1/4	Connecting plate G1/4		-AGB
		Connecting plate G3/8	Connecting plate G3/8		-AGC
		–	Connecting plate G1/2		-AGD
		–	Connecting plate G3/4		-AGE

Transfer order code

	MS		-	FRM	-	
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Branching modules MS4/MS6-FRM, MS series

Ordering data – Modular products

FESTO

→ 0 Options

Pressure gauge alternatives	Alternative pressure gauge scale	Pressure switch	Type of mounting	Alternative flow direction
AG A8 A4 AD1 AD2 AD3 AD4 AD5 AD6	PSI MPA	X Y M12	WP WPM WB WBM	Z
- AG	- PSI	- M12	- WB	- Z

Ordering table						
Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code
0 Pressure gauge alternatives	MS pressure gauge, bar (with adapter)	MS pressure gauge, bar			-AG	
	Adapter plate for EN pressure gauge 1/8, without pressure gauge	-			-A8	
	Adapter plate for EN pressure gauge 1/4, without pressure gauge				-A4	
	Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin			1	-AD1	
	Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin			1	-AD2	
	Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analogue output 4 ... 20 mA			1	-AD3	
	Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analogue output 4 ... 20 mA			1	-AD4	
	Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin			1	-AD5	
	Pressure sensor with display, plug M12, 2 switching outputs PNP, 5-pin, analogue output 4 ... 20 mA			1	-AD6	
Alternative pressure gauge scale	psi			2	-PSI	
	MPa			2	-MPA	
Pressure switch	Pressure switch PEV with display, socket, EN 175301, type A, cube			3	-X	
	Pressure switch PEV without display, socket, EN 175301, type A, cube			3	-Y	
	Pressure switch PEV without display, socket, round, M12, 4-pin			3	-M12	
Type of mounting	Mounting bracket			4	-WP	
	Mounting bracket			4	-WPM	
	Mounting bracket				-WB	
	Mounting bracket	-			-WBM	
Alternative flow direction	Flow direction from right to left				-Z	

- 1 **AD1 ... AD6** Measuring range max. 10 bar.
2 **PSI, MPA** Only with pressure gauge AG.

- 3 **X, Y, M12** Max. permissible input pressure P1 = 12 bar.
Not with pressure gauge alternatives AD5 or AD6.
4 **WP, WPM** Only with connecting plate AGA, AGB, AGC, AGD or AGE.

Transfer order code

- - - - -

MS12 series service units

FESTO

Wide range of configuration options

→ www.festo.com/en/engineering



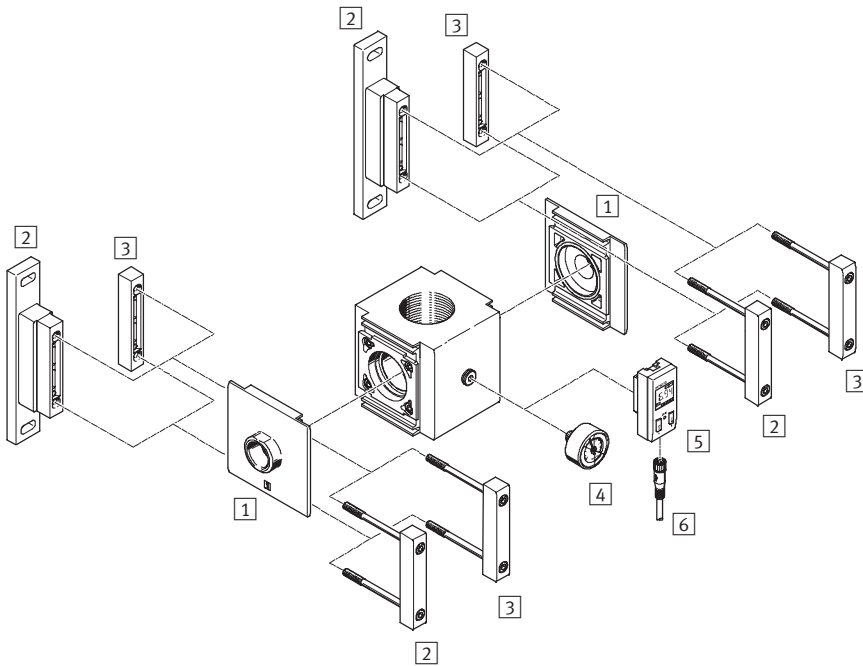
- Grid dimension 124 mm
- High flow rates
- Modern design



Branching modules MS12-FRM, MS series

Peripherals overview

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Mounting attachments and accessories	
	→ Page
1 Connecting plate MS12-AG...	11-2
2 Mounting bracket MS12-WP	11-8
3 Module connector MS12-MV	11-8
4 Pressure gauge MA	11-11
5 Pressure sensor SDE1-...-R14/R18	11-9
6 Plug socket with cable SIM-M8-3.../SIM-M8-4.../SIM-M12-3...	11-11

Branching modules MS12-FRM, MS series

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Type codes

		MS	12	-	FRM	-	G
Series							
MS	Standard service unit						
Size							
12	Grid dimension 124 mm						
Service function							
FRM	Branching module						
Connection size							
G	Module without connecting thread, without connecting plate Connecting plates → Accessories						

Further variants can be ordered using the modular system

Branching modules FRM → 9-18

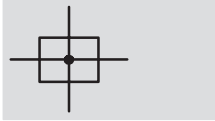
- Connecting plates
- Type of mounting

Branching modules MS12-FRM, MS series

Technical data

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Function



-  - Flow rate
25,000 ... 42,000 l/min
-  - Temperature range
-10 ... +60 °C
-  - Operating pressure
0 ... 21 bar



- Pneumatic manifold with 4 connections
- Attachment facility for auxiliary modules
- Outlet top and bottom
- Can be used as an intermediate distributor for varying air qualities

General technical data				
Pneumatic connection 1, 2 ¹⁾	G1	G1¼	G1½	G2
Pneumatic connection 3	G2			
Pneumatic connection 4	G1			
Design	Branching module			
Type of mounting	Via accessories			
	In-line installation			
Assembly position	Any			

1) Dependent on connecting plate selected, must be ordered separately as an accessory → 11-2

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]	
In main flow direction 1 → 2	25,000 ... 42,000

1) Dependent on connecting plate selected, must be ordered separately as an accessory → 11-2
Measured at $p_1 = 6$ bar and $p_2 = 5$ bar, $\Delta p = 1$ bar

Operating and environmental conditions		
Operating pressure	[bar]	0 ... 21
Operating medium		Compressed air
Ambient temperature	[°C]	-10 ... +60
Temperature of medium	[°C]	-10 ... +60
Storage temperature	[°C]	-10 ... +60
Corrosion resistance	CRC ¹⁾	2

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.

Branching modules MS12-FRM, MS series

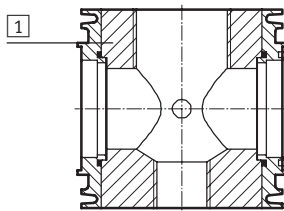
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Technical data

Weights [g]	
Branching module	3,000

Materials

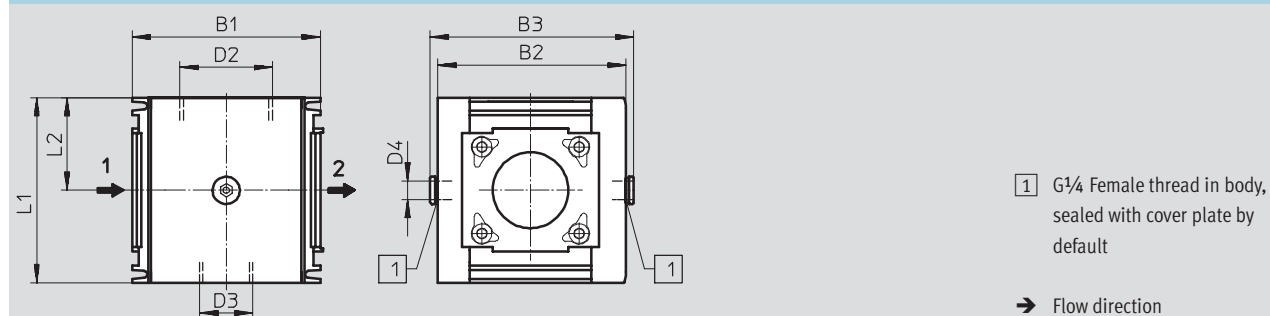
Sectional view



Branching module		
1	Body	Die-cast aluminium
-	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE

Dimensions – Standard

Download CAD data → www.festo.com/en/engineering



Type	B1	B2	B3	D2	D3	D4	L1	L2
MS12-FRM	124	124	134	G2	G1	G $\frac{1}{4}$	122	61

Ordering data

Size	Connection	Part No.	Type
MS12	G1 ... G2 ¹⁾	541 681	MS12-FRM-G ²⁾

1) Connecting plate must be ordered separately as an accessory → 11-2

2) Free of copper and PTFE

Branching modules MS12-FRM, MS series

Ordering data – Modular products

FESTO

M Mandatory data					O Options
Module No.	Series	Size	Function	Connection size	Type of mounting
535 035	MS	12	FRM	AGF AGG AGH AGI G	WP
Order example					
535 035	MS	12	FRM	AGF	WP

Ordering table							
Grid dimension		[mm]	124	Condi- tions	Code	Enter code	
[M]	Module No.	535 035					
	Series	Standard			MS		MS
	Size	12			12		12
	Function	Branching module			-FRM		-FRM
	Connection size	Connecting plate G1		-AGF			
		Connecting plate G1¼		-AGG			
		Connecting plate G1½		-AGH			
Connecting plate G2			-AGI				
Module without connecting thread, without connecting plate			-G				
[O]	Type of mounting	Mounting bracket		[1]	-WP		

1 WP Only with connecting plate AGF, AGG, AGH or AGI.

Transfer order code

535 035	MS	12	FRM		
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MS series service units

Accessories

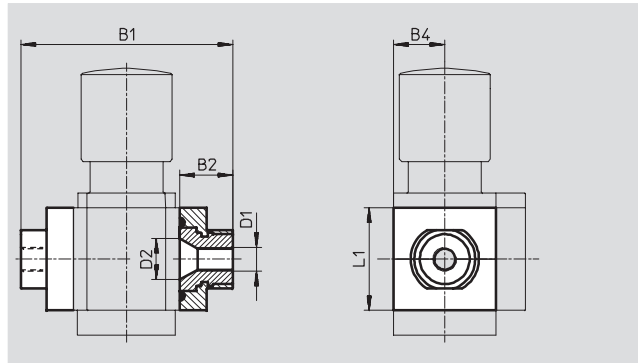
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Connecting plate MS4/6-AG...

(order code: AG...)

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G $\frac{3}{4}$

Material:
Aluminium



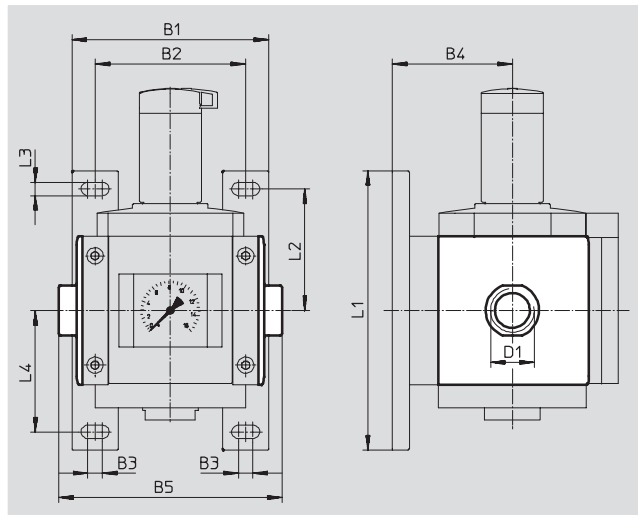
Dimensions and ordering data									
Size	B1	B2	B4	D1	D2	L1	Weight [g]	Part No.	Type
MS4	83.5	21.5	21	G $\frac{1}{8}$	16.8	42	128	526 068	MS4-AGA
				G $\frac{1}{4}$				526 069	MS4-AGB
				G $\frac{3}{8}$				526 070	MS4-AGC
MS6	115	26.5	31	G $\frac{1}{4}$	24	62	300	526 080	MS6-AGB
				G $\frac{3}{8}$				526 081	MS6-AGC
				G $\frac{1}{2}$				526 082	MS6-AGD
				G $\frac{3}{4}$				526 083	MS6-AGE

Connecting plate MS12-AG...

(order code: AG...)

- Adapter for pneumatic connection

Material:
Die-cast aluminium
Free of copper and PTFE



Dimensions and ordering data												
Size	B1	B2	B3	B4	B5	D1	L1	L2	L3	L4	Weight [g]	Part No. Type
MS12	162	124	12	99	184	G1	230	100	11	100	1,300	537 135 MS12-AGF
					184	G1 $\frac{1}{4}$						537 136 MS12-AGG
					184	G1 $\frac{1}{2}$						537 137 MS12-AGH
					196	G2						537 138 MS12-AGI

MS series service units

Accessories

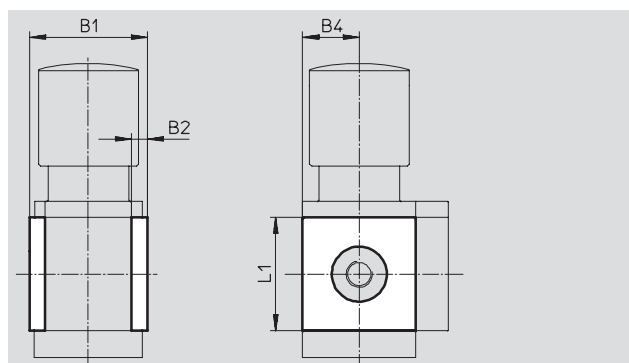
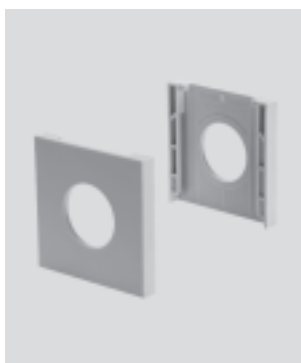
Cover cap MS4/6-END

- Can be used to cover the body sides of the first and last module if connecting plates are not used.

Material:

Reinforced polyamide

Free of copper and PTFE



Dimensions and ordering data						
Size	B1	B2	B4	L1	Part No.	Type
MS4	43.6	6	21	42	538 779	MS4-END
MS6	67	8	31	62	538 780	MS6-END

Mounting plate MS6-AEND

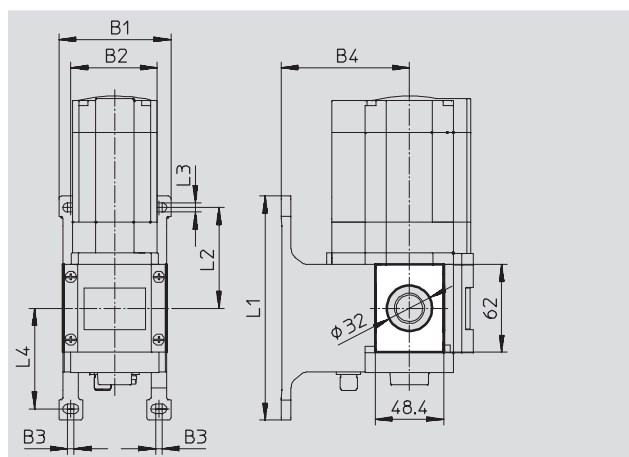
(order code: WBE; scope of delivery includes wall mounting plate MS6-WPB)

- In combination with wall mounting plate MS6-WP or MS6-WPB for mounting an individual unit on a wall with direct thread

Material:

Reinforced polyamide

Free of copper and PTFE



Dimensions and ordering data											
Size	B1	B2	B3	B4	L1	L2	L3	L4	CRC ¹⁾	Weight [g]	Part No. Type
MS6	79	62	4.5	90.5	158	71	6.6	71	2	17	535 408 MS6-AEND  New

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.

MS series service units

Accessories

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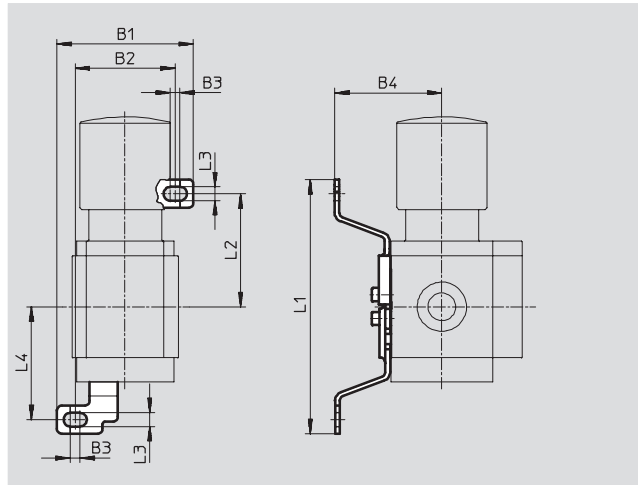
Mounting bracket MS4/6-WB

(order code: WB)

- For wall mounting

Material:

Steel



Dimensions and ordering data											
Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
MS4	56.2	41.2	4	44.2	104.6	46.6	5.6	46.5	46	532 185	MS4-WB
MS6	79.4	61.9	4.5	55	157.6	71	6.6	71	121	532 196	MS6-WB

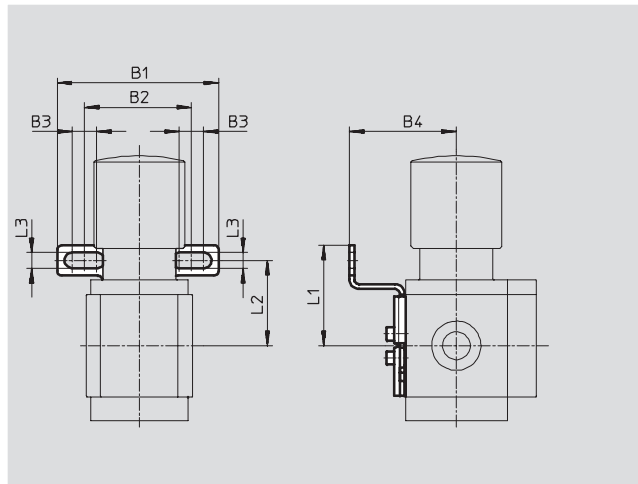
Mounting bracket MS4-WBM

(order code: WBM)

- For wall mounting

Material:

Steel



Dimensions and ordering data										
Size	B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
MS4	66.5	44	10	44	41.3	35	6.5	48	526 062	MS4-WBM

MS series service units

Accessories

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Mounting bracket MS4/6-WP...

Clearances for mounting service unit combinations

1 unit

MS4-...: 40 mm

MS6-...: 62 mm

2 units

MS4-...: 80 mm

MS6-...: 124 mm with WP, WPB

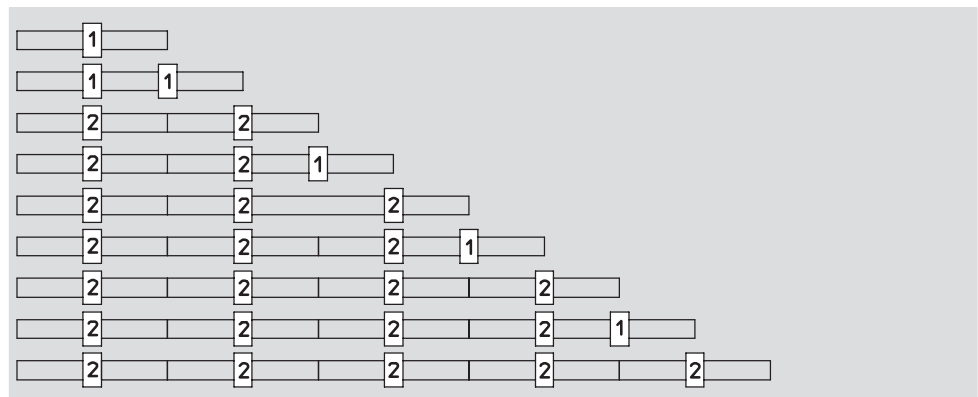
138 mm with WPM-2D

1 Mounting bracket WP, WPB or WPM-D

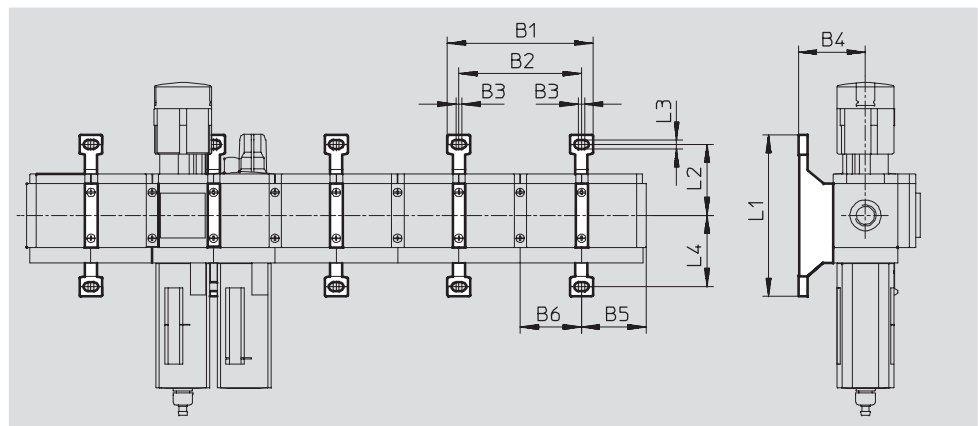
2 Mounting bracket WP, WPB or WPM-2D

Number of units

1 2 3 4 5 6 7 8 9 10



Mounting dimensions



Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	95.2	80	4	44	41.9	40	106	46.5	5.6	46.7
MS4-WPB				66						
MS4-WPM-...D				44			92.8	34.8		40
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D				54			98.6	41.3		41.3

MS series service units

Accessories

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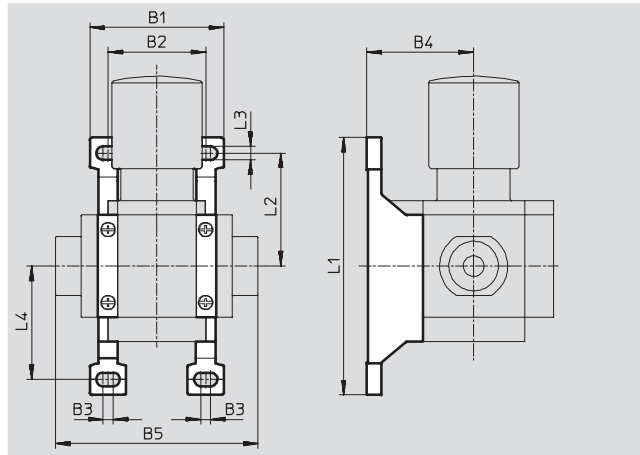
Mounting bracket MS4/6-WP

(order code: WP)

- For connecting the modules for wall mounting
- In combination with a connecting plate MS4/6-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS6-AEND or for mounting an individual unit with direct thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:

Die-cast aluminium



Dimensions and ordering data												
Size	B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
MS4	55.2	40.2	4	44	83.4	106	46.5	5.6	46.7	39	532 184	MS4-WP
MS6	79	62	4.5	54	115	158	71	6.6	71	76	532 195	MS6-WP

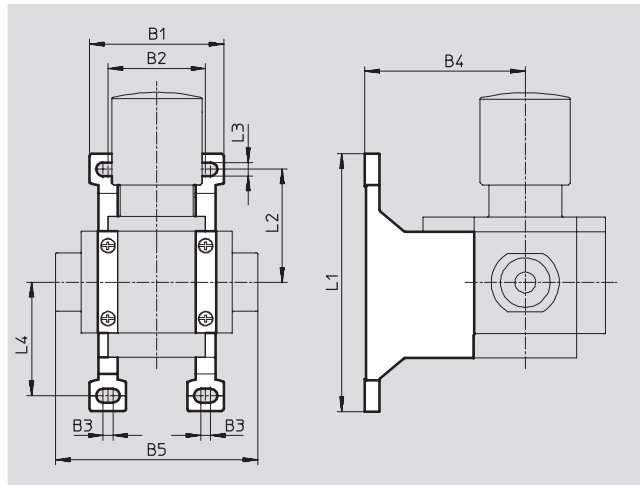
Mounting bracket MS4/6-WPB

(order code: WPB)

- For connecting the modules for wall mounting
- In combination with a connecting plate MS4/6-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS6-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:

Die-cast aluminium



Dimensions and ordering data												
Size	B1	B2	B3	B4	B5	L1	L2	L3	L4	Weight [g]	Part No.	Type
MS4	55.2	40.2	4	66	83.4	106	46.5	5.6	46.7	55	526 063	MS4-WPB
MS6	79	62	4.5	90.5	115	158	71	6.6	71	115	526 074	MS6-WPB

MS series service units

Accessories

FESTO

Mounting bracket MS4/6-WPM

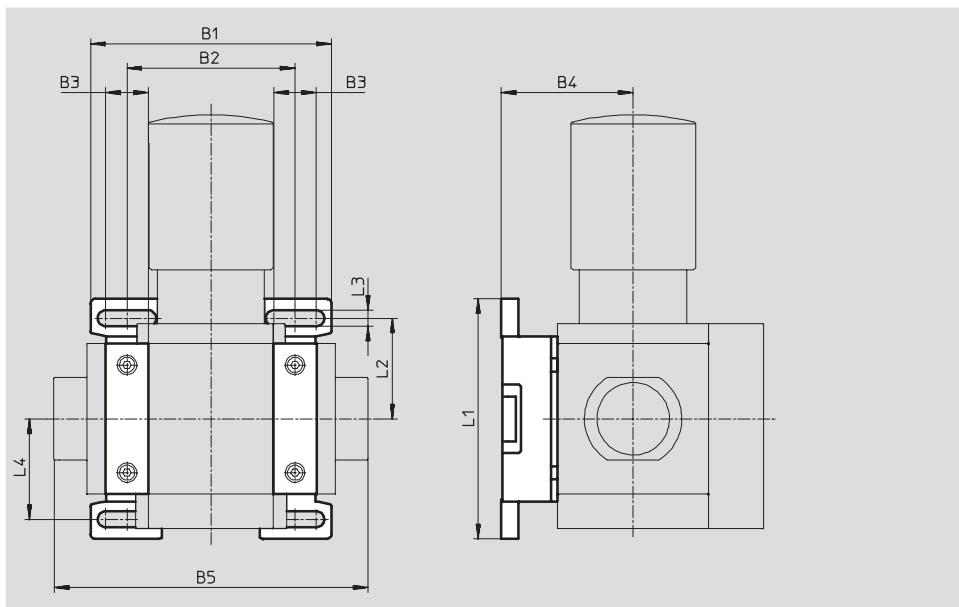
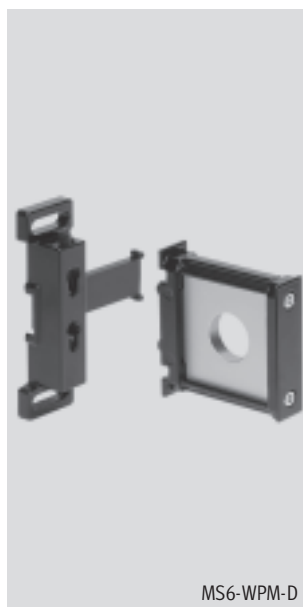
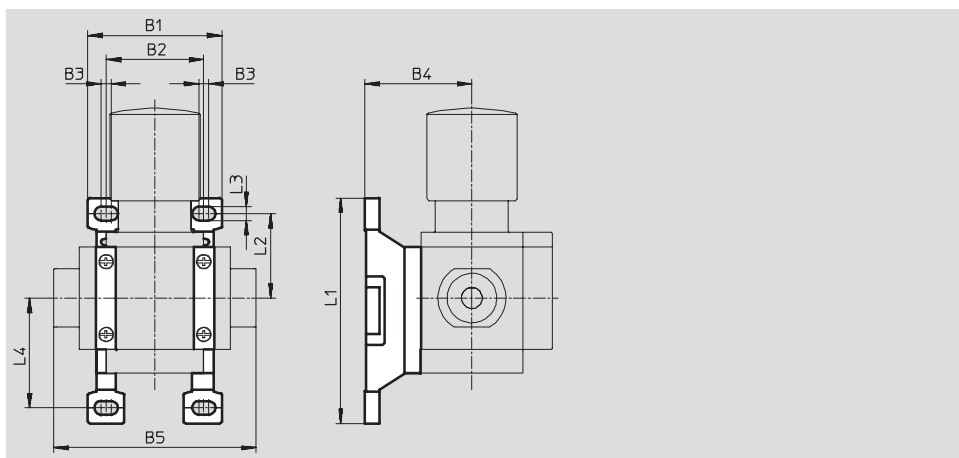
(order code: WPM)

- For connecting the modules for wall mounting
- In combination with a connecting plate MS4/6-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:

Die-cast aluminium



Dimensions and ordering data													
Size	B1	B2	B3	B4	B5	L1	L2	L3	L4	Clearance	Weight [g]	Part No.	Type
MS4	55.2	40	4	44	83.4	92.8	34.8	5.6	45.2	40	45	526 060	MS4-WPM-D
	95.2	80			123.4					80	55	526 061	MS4-WPM-2D
MS6	99	69	17.5	54	129	98.6	41.3	6.6	41.3	62	144	526 073	MS6-WPM-D
	168	138			198					124	154	532 186	MS6-WPM-2D

MS series service units

Accessories

FESTO

Wall mounting plate MS12-WP

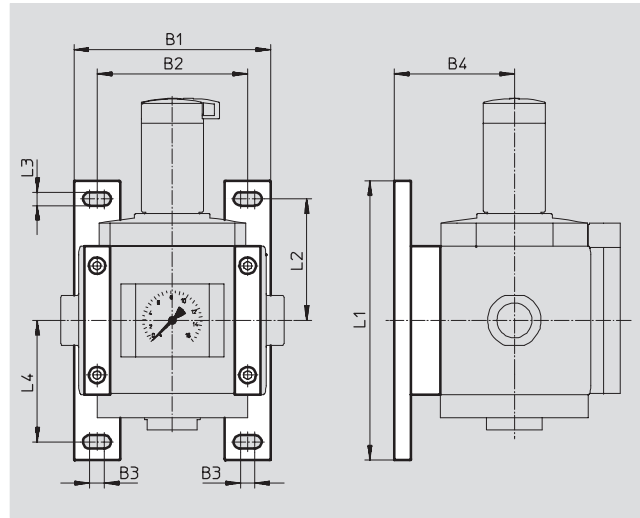
(order code: WP)

- For connecting the modules for wall mounting
- In combination with a connecting plate for mounting an individual unit on a wall

Material:

Die-cast aluminium

Free of copper and PTFE



Dimensions and ordering data

Size	B1	B2	B3	B4	L1	L2	L3	L4	Weight [g]	Part No.	Type
MS12	162	124	12	99	230	100	11	100	700	537 133	MS12-WP

Module connector MS...-MV

- For connecting modules

Material:

MS4/6: Stainless steel/polyacetate

MS12: Die-cast aluminium,

free of copper and PTFE



MS4/6



MS12

Ordering data

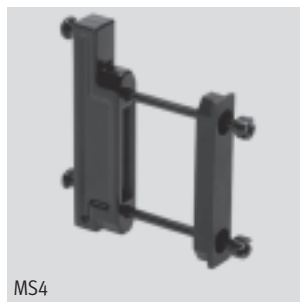
Size	Weight [g]	Part No.	Type
MS4	36	532 798	MS4-MV
MS6	54	532 799	MS6-MV
MS12	500	537 134	MS12-MV

Module connector MS4/6-MVM

- For installation of modules with regulating knob pointing downwards

Material:

Die-cast aluminium



MS4



MS6

Ordering data

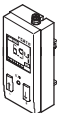
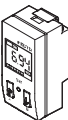
Size	Part No.	Type
MS4	532 800	MS4-MVM
MS6	532 801	MS6-MVM

MS series service units

Accessories

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Ordering data – Pressure switch PEV					Technical data → www.festo.com	
	Pneumatic connection	Pressure switching point	Electrical connection	Order code	Part No.	Type
	G1/4	Adjustable with visual scale	Plug, square design to DIN EN 175 301, type A	X	161 760	PEV-1/4-SC-0D
	G1/4	Adjustable	Plug, square design to DIN EN 175 301, type A	Y	175 250	PEV-1/4-B-0D
	G1/4	Adjustable	Plug M12x1, 4-pin	M12	192 488	PEV-1/4-B-M12

Ordering data – Pressure sensor SDE1						Technical data → www.festo.com	
	Pneumatic connection	Electrical output	Electrical connection	Display	Order code	Part No.	Type
Pressure sensor SDE1 for branching module MS-FRM, pressure measuring range 0 ... 10 bar, relative pressure measurement							
	Female thread G1/8	1 switch output PNP	M8x1, 3-pin	LCD	AD5	192 030	SDE1-D10-G2-H18-C-P1-M8
		2 switch outputs PNP and 4 ... 20 mA analogue	M12x1, 5-pin	Illuminated LCD	AD6	534 062	SDE1-D10-G2-W18-L-2I-M12
Pressure sensor SDE1 for direct mounting on the service unit with pressure gauge connection (adapter for pneumatic connection included in scope of delivery), pressure measuring range 0 ... 10 bar, relative pressure measurement							
	Male thread R1/8	1 switch output PNP	M8x1, 3-pin	LCD	–	192 026	SDE1-D10-G2-R18-C-P1-M8
			M8x1, 3-pin	Illuminated LCD	–	529 970	SDE1-D10-G2-R18-L-P1-M8
			M12x1, 3-pin	Illuminated LCD	–	534 064	SDE1-D10-G2-R18-L-P1-M12
		2 switch outputs PNP	M8x1, 4-pin	LCD	–	192 027	SDE1-D10-G2-R18-C-P2-M8
			M8x1, 4-pin	Illuminated LCD	–	529 971	SDE1-D10-G2-R18-L-P2-M8
		1 switch output PNP and 0 ... 10 V analogue	M8x1, 4-pin	LCD	–	529 958	SDE1-D10-G2-R18-C-PU-M8
			M8x1, 4-pin	Illuminated LCD	–	529 972	SDE1-D10-G2-R18-L-PU-M8
	Male thread R1/4	1 switch output PNP	M8x1, 3-pin	LCD	–	192 028	SDE1-D10-G2-R14-C-P1-M8
			M8x1, 3-pin	Illuminated LCD	–	529 967	SDE1-D10-G2-R14-L-P1-M8
			M12x1, 3-pin	Illuminated LCD	–	534 157	SDE1-D10-G2-R14-L-P1-M12
		2 switch outputs PNP	M8x1, 4-pin	LCD	–	192 029	SDE1-D10-G2-R14-C-P2-M8
			M8x1, 4-pin	Illuminated LCD	–	529 968	SDE1-D10-G2-R14-L-P2-M8
		1 switch output PNP and 0 ... 10 V analogue	M8x1, 4-pin	LCD	–	529 957	SDE1-D10-G2-R14-C-PU-M8
			M8x1, 4-pin	Illuminated LCD	–	529 969	SDE1-D10-G2-R14-L-PU-M8

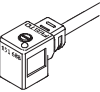
MS series service units

Accessories

FESTO

Ordering data – Angled socket PEV					Technical data → www.festo.com	
	Description	Operating voltage range	Electrical connection	Switching status display	Part No.	Type
	for PEV-1/4-...-OD	15 ... 30 V DC	4-pin	Yellow LED	164 274	PEV-1/4-WD-LED-24
		≤ 230 V AC	4-pin	Yellow LED	164 275	PEV-1/4-WD-LED-230
		≤ 180 V DC				

Ordering data – Plug socket MSSD					Technical data → www.festo.com	
	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for PEV-1/4-...-OD	≤ 250 V AC/DC	3-pin	Clamping screws	171 157	MSSD-C-4P
	for MS4/6-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	151 687	MSSD-EB
			4-pin	Insulation displacement technology	192 745	MSSD-EB-S-M14
	for MS12-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	34 583	MSSD-C
			4-pin	Insulation displacement technology	192 748	MSSD-C-S-M16

Ordering data – Plug socket with cable KMEB/KMC					Technical data → www.festo.com	
	Description	Operating voltage range	Switching status display	Cable length [m]	Part No.	Type
	for MS4/6-EE/DE	24 V DC	LED	2.5	151 688	KMEB-1-24-2,5-LED
		24 V DC	LED	5	151 689	KMEB-1-24-5-LED
		24 V DC	LED	10	193 457	KMEB-1-24-10-LED
		230 V AC	–	2.5	151 690	KMEB-1-230AC-2,5
		230 V AC	–	5	151 691	KMEB-1-230AC-5
	for MS12-EE/DE	24 V DC	LED	2.5	30 931	KMC-1-24DC-2,5-LED
		24 V DC	LED	5	30 933	KMC-1-24DC-5-LED
		24 V DC	LED	10	193 459	KMC-1-24-10-LED
		230 V AC	–	2.5	30 932	KMC-1-230AC-2,5
		230 V AC	–	5	30 934	KMC-1-230AC-5

Ordering data – Illuminating seal MEB-LD/MC-LD			Technical data → www.festo.com	
	Description	Operating voltage range	Part No.	Type
	for plug socket with cable KMEB and plug socket MSSD-EB	12 ... 24 V DC	151 717	MEB-LD-12-24DC
		230 V DC/AC ±10%	151 718	MEB-LD-230AC
	for plug socket with cable KMC and plug socket MSSD-C	12 ... 24 V DC	19 145	MC-LD-12-24DC
		230 V DC/AC ±10%	19 146	MC-LD-230AC

Ordering data – Locking clip CPV18-HV				Technical data → www.festo.com	
	Description		Part No.	Type	PU ¹⁾
	for MS4/6-EE/DE-...-V24	Cover for manual override, the clip prevents actuation	530 056	CPV18-HV	10

1) Packaging unit quantity

MS series service units

Accessories

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Ordering data – Plug socket with cable SIM-M8			Technical data → www.festo.com	
	Electrical connection	Cable length [m]	Part No.	Type
	M8x1, 3-pin	2.5	159 420	SIM-M8-3GD-2,5-PU
		5	159 421	SIM-M8-3GD-5-PU
		10	192 964	SIM-M8-3GD-10-PU
	M8x1, 4-pin	2.5	158 960	SIM-M8-4GD-2,5-PU
		5	158 961	SIM-M8-4GD-5-PU
		10	192 965	SIM-M8-4GD-10-PU
	M8x1, 3-pin	2.5	159 422	SIM-M8-3WD-2,5-PU
		5	159 423	SIM-M8-3WD-5-PU
		10	192 965	SIM-M8-3WD-10-PU
	M8x1, 4-pin	2.5	158 962	SIM-M8-4WD-2,5-PU
		5	158 963	SIM-M8-4WD-5-PU
		10	192 965	SIM-M8-4WD-10-PU

Ordering data – Plug socket with cable SIM-M12			Technical data → www.festo.com	
	Electrical connection	Cable length [m]	Part No.	Type
	M12x1, 3-pin	2.5	159 428	SIM-M12-3GD-2,5-PU
		5	159 429	SIM-M12-3GD-5-PU
		10	192 964	SIM-M12-3GD-10-PU
	M12x1, 4-pin	2.5	158 960	SIM-M12-4GD-2,5-PU
		5	158 961	SIM-M12-4GD-5-PU
		10	192 965	SIM-M12-4GD-10-PU
	M12x1, 3-pin	2.5	159 430	SIM-M12-3WD-2,5-PU
		5	159 431	SIM-M12-3WD-5-PU
		10	192 965	SIM-M12-3WD-10-PU
	M12x1, 4-pin	2.5	158 962	SIM-M12-4WD-2,5-PU
		5	158 963	SIM-M12-4WD-5-PU
		10	192 965	SIM-M12-4WD-10-PU

Ordering data – Pressure gauge MA					Technical data → www.festo.com	
	Nominal size	Pneumatic connection	Indicating range		Part No.	Type
			[bar]	[psi]		
	Pressure gauge MA, DIN EN 837-1					Technical data → www.festo.com
	40	G $\frac{1}{4}$	0 ... 16	0 ... 232	183 901	MA-40-16-G $\frac{1}{4}$ -EN
	Pressure gauge MA, DIN EN 837-1, with red-green range					Technical data → www.festo.com
	40	R $\frac{1}{8}$	0 ... 16	–	525 726	MA-40-16-R $\frac{1}{8}$ -E-RG
	50	R $\frac{1}{4}$	0 ... 16	–	525 729	MA-50-16-R $\frac{1}{4}$ -E-RG
	Precision pressure gauge MAP, DIN EN 837-1					Technical data → www.festo.com
	40	R $\frac{1}{8}$	0 ... 1	0 ... 15	161 126	MAP-40-1- $\frac{1}{8}$ -EN
			0 ... 4	0 ... 58	162 842	MAP-40-4- $\frac{1}{8}$ -EN
			0 ... 6	0 ... 87	161 127	MAP-40-6- $\frac{1}{8}$ -EN
			0 ... 16	0 ... 232	161 128	MAP-40-16- $\frac{1}{8}$ -EN

MS series service units

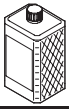
Accessories

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Ordering data – Silencer U			Technical data → www.festo.com	
	Description	Pneumatic connection	Part No.	Type
	for MS4-EM1/EE	G1/4	6 842	U-1/4-B
	for MS6-EM1/EE	G1/2	6 844	U-1/2-B
	for MS12-EM/EE	G1	151 990	U-1-B

Ordering data – Double nipple ESK				
	Description	Pneumatic connection		Part No. Type
	Adjustable for angular compensation • For retro-fitting pressure switch PEV or pressure sensor SDE1 to branching module MS-FRM	R1/8	R1/4	534 151 ESK-1/8-1/4
		R1/4	R1/4	151 521 ESK-1/4-1/4
			R1/2	534 153 ESK-1/4-1/2

Ordering data – Padlock LRV5-D				
	Description	Weight [g]	Part No.	Type
	for filter or pressure regulators	120	193 786	LRV5-D

Ordering data – Special oil OFSW				
	Description	Scope of delivery	Part No.	Type
	for lubricators	1 litre	152 811	OFSW-32