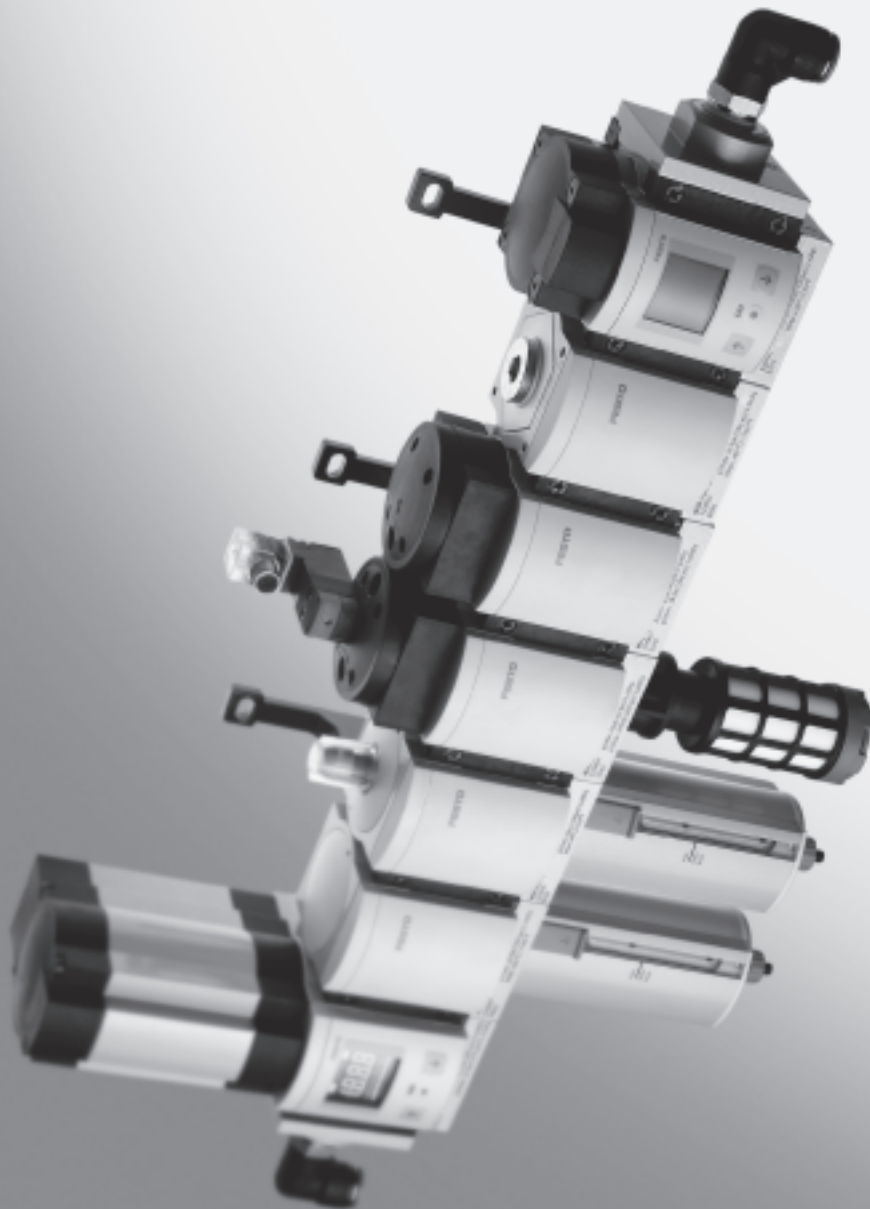


Wide range of configuration options  
→ [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



- 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](http://www.festo.com/en/ex)

# MS series service units

Product range overview



MS series service units

1

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			
Code			AG...	D2	D4	D5	D6	D7	D8	A	B	C	E			
<b>Service units</b>																
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 → <a href="http://www.festo.com/en/engineering">www.festo.com/en/engineering</a> )																
MSB		4	G1/4	G1/8, G1/4, G3/8	-	-	-	■	■	-	-	-	-	■	■	
		6	G1/2	G1/4, G3/8, G1/2, G3/4	-	-	-	■	■	-	-	-	-	-	■	■
		12	-													
<b>Individual devices</b>																
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, G1 1/4, G1 1/2, 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, G1 1/4, G1 1/2, 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, G1 1/4, G1 1/2, 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, G1 1/4, G1 1/2, 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, G1 1/4, G1 1/2, 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



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 G 1/8	Adapter for EN pressure gauge G 1/4	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	
<b>Service units</b>																	
MSB-FRC	4	■	-	■	-	■	-	-	■	-	-	-	■	-	-	■	2-2
	6	■	■	■	-	■	-	-	■	-	-	-	■	-	-	■	
	12	-															
<b>Service unit combinations</b>																	
MSB	4	■	■	■	-	■	-	-	■	-	-	-	■	-	-	■	2-2
	6	■	■	■	-	■	-	-	■	-	-	-	■	-	-	■	
	12	-															
<b>Individual devices</b>																	
Filter regulators MS-LFR	4	■	■	■	■	■	-	■	■	■	■	■	■	■	-	■	3-2
	6	■	■	■	■	■	■	■	■	-	■	■	■	■	-	■	
	12	-	■	■	-	■	■	■	■	-	■	-	■	■	-	■	3-18
Filters MS-LF	4	■	■	■	■	■	-	-	-	-	-	-	-	-	-	■	4-2, 4-4
	6	■	■	■	■	■	■	-	-	-	-	-	-	-	-	■	
	12	-	■	■	-	■	■	-	-	-	-	-	-	-	-	■	4-32, 4-34
Fine and micro filters MS-LFM	4	■	■	■	■	■	-	-	-	-	-	-	-	-	-	■	4-2, 4-12
	6	■	■	■	■	■	■	-	-	-	-	-	-	-	-	■	
	12	-	■	■	-	■	■	-	-	-	-	-	-	-	-	■	4-32, 4-39
Activated carbon filters MS-LFX	4	■	■	-	-	-	-	-	-	-	-	-	-	-	-	■	4-2, 4-24
	6	■	■	-	-	-	-	-	-	-	-	-	-	-	-	■	
	12	-	■	-	-	-	-	-	-	-	-	-	-	-	-	■	4-32, 4-46
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



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	
<b>Individual devices</b>												
Electrical pressure regulators <b>MS-LRE</b>		4	–									
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	■	■	■	■	–	–	–	–
		12	–									
Lubricators <b>MS-LOE</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	–	–	–	–
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	–	–	–	–
		12	–	G1, G $\frac{1}{4}$ , G $\frac{1}{2}$ , G2	–	–	–	–	–	–	–	–
On-off valves <b>MS-EM(1)</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	–	–	–	–
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	–	–	–	–
		12	–	G1, G $\frac{1}{4}$ , G $\frac{1}{2}$ , G2	–	–	–	–	–	–	–	–
On-off valves <b>MS-EE</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	■	–	■	■
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	■	–	■	■
		12	–	G1, G $\frac{1}{4}$ , G $\frac{1}{2}$ , G2	–	–	–	–	■	■	■	■
Soft-start valves <b>MS-DL</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	–	–	–	–
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	–	–	–	–
		12	–	G1, G $\frac{1}{4}$ , G $\frac{1}{2}$ , G2	–	–	–	–	–	–	–	–
Soft-start valves <b>MS-DE</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	■	–	■	■
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	■	–	■	■
		12	–	G1, G $\frac{1}{4}$ , G $\frac{1}{2}$ , G2	–	–	–	–	■	■	■	■
Membrane air dryers <b>MS-LDM1</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	–	–	–	–
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	–	–	–	–
		12	–									
Branching modules <b>MS-FRM</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	–	–	–	–
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	–	–	–	–
		12	–	G1, G $\frac{1}{4}$ , G $\frac{1}{2}$ , G2	–	–	–	–	–	–	–	–
Flow sensors <b>MS-SFE</b>		4	–									
		6	G $\frac{1}{2}$	G $\frac{1}{2}$	–	–	–	–	–	–	–	–
		12	–									

# MS series service units

Product range overview

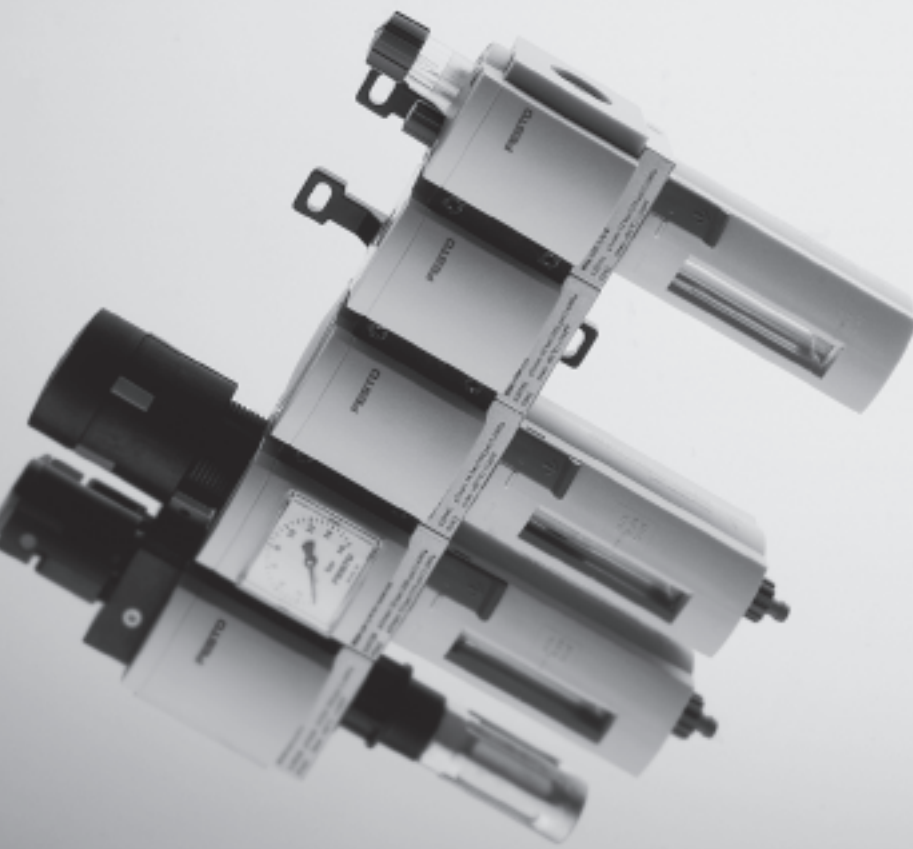


Type	Size	Bowl guard		Pressure indicator					Switch output		Options		→ Page	
		Plastic bowl guard	Metal bowl	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for EN pressure gauge G 1/8	Adapter for EN pressure gauge G 1/4	Pressure sensor with display	2x PNP	2x NPN	Silencer	Flow direction from right to left		
														R
<b>Individual devices</b>														
Electrical pressure regulators <b>MS-LRE</b>	4	-												5-46
	6	-	-	■	■	-	■	-	-	-	-	-	■	
	12	-												
Lubricators <b>MS-LOE</b>	4	■	■	-	-	-	-	-	-	-	-	-	■	6-2
	6	■	■	-	-	-	-	-	-	-	-	-	■	
	12	-	■	-	-	-	-	-	-	-	-	-	■	6-10
On-off valves <b>MS-EM(1)</b>	4	-	-	■	■	■	■	■	-	-	■	■	7-2, 7-5	
	6	-	-	■	■	-	■	■	-	-	■	■		
	12	-	-	■	■	-	■	-	-	-	■	■	7-32, 7-35	
On-off valves <b>MS-EE</b>	4	-	-	■	■	■	■	■	-	-	■	■	7-2, 7-10	
	6	-	-	■	■	-	■	■	-	-	■	■		
	12	-	-	■	■	-	■	-	-	-	■	■	7-32, 7-39	
Soft-start valves <b>MS-DL</b>	4	-	-	■	■	■	■	■	-	-	-	■	7-2, 7-18	
	6	-	-	■	■	-	■	■	-	-	-	■		
	12	-	-	■	■	-	■	-	-	-	-	■	7-32, 7-43	
Soft-start valves <b>MS-DE</b>	4	-	-	■	■	■	■	■	-	-	-	■	7-2, 7-23	
	6	-	-	■	■	-	■	■	-	-	-	■		
	12	-	-	■	■	-	■	-	-	-	-	■	7-32, 7-47	
Membrane air dryers <b>MS-LDM1</b>	4	-	■	-	-	-	-	-	-	-	-	■	8-2	
	6	-	■	-	-	-	-	-	-	-	-	■		
	12	-												
Branching modules <b>MS-FRM</b>	4	-	-	■	■	■	■	■	-	-	-	■	9-2	
	6	-	-	■	■	-	■	■	-	-	-	■		
	12	-	-	■	-	-	-	-	-	-	-	-	9-14	
Flow sensors <b>MS-SFE</b>	4	-											10-2	
	6	-	-	-	-	-	-	-	■	■	-	■ <sup>1)</sup>		
	12	-												

1) To be ordered via configurator software only → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



Wide range of configuration options  
→ [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

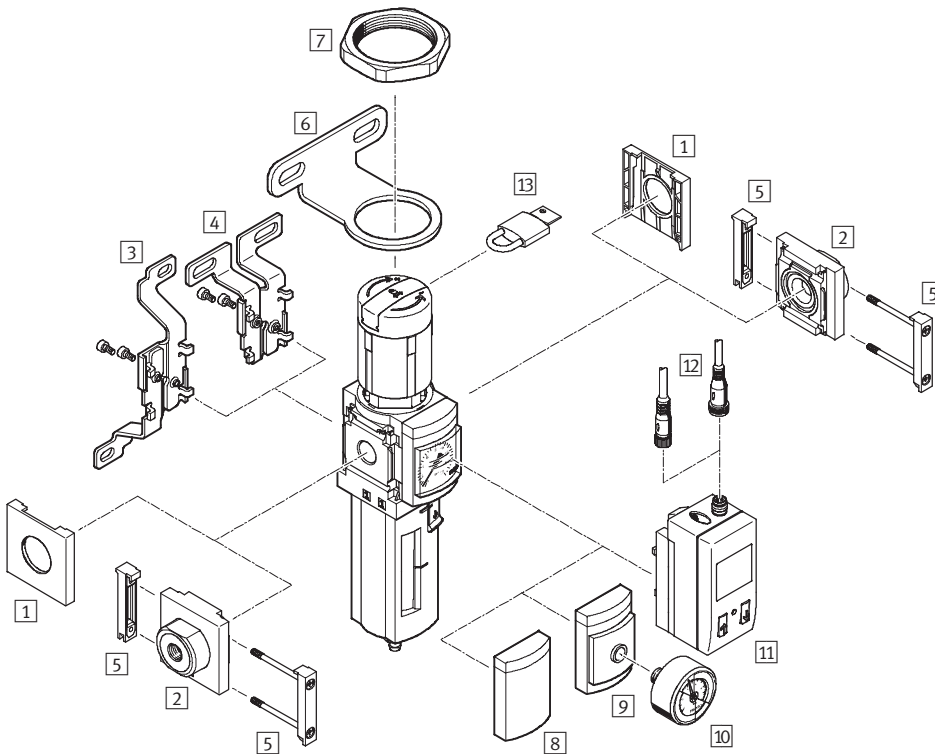


- MS4 – grid  
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Specified types in accordance with  
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## Filter regulators MS4/MS6-LFR, MS series

Peripherals overview



**Note**  
Additional accessories:  
– Module connector for combinations → 11-10  
– Adapter for mounting on profiles → 11-13

Mounting attachments and accessories		Individual unit		Combination → 3/2.11-0		→ Page
		without connecting plate	with connecting plate	without connecting 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	-	■	■	■	11-9
6	Regulator wall bracket MS4/6-WR	■	■	-	-	11-5
7	Hex nut MS4/6-WRS	■	■	■	■	11-5
8	Cover plate VS	■	■	■	■	3-14
9	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	3-14
10	Pressure gauge MA	■	■	■	■	11-20
11	Pressure sensor SDE1...-MS AD1 ... AD4	■	■	■	■	3-14
12	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	11-20
13	Padlock LRVS-D	■	■	■	■	11-21
-	Mounting bracket MS4/6-WP/WPB/WPM	-	■	■	■	11-7, 11-8



## Filter regulators MS4/MS6-LFR, MS series

Type codes

MS		6	-	LFR	-	1/2	-	D7	-	E	R	M	-	AS
<b>Series</b>														
MS	Standard service unit													
<b>Size</b>														
4	Grid dimension 40 mm													
6	Grid dimension 62 mm													
<b>Service function</b>														
LFR	Filter regulator													
<b>Pneumatic connection</b>														
1/8	Thread G1/8													
1/4	Thread G1/4													
3/8	Thread G3/8													
1/2	Thread G1/2													
<b>Pressure regulation range</b>														
D6	Pressure regulation range 0.3 ... 7 bar													
D7	Pressure regulation range 0.5 ... 12 bar													
<b>Grade of filtration</b>														
C	5 µm													
E	40 µm													
<b>Bowl guard</b>														
R	Plastic bowl guard													
U	Metal bowl													
<b>Condensate drain</b>														
M	Manual rotary													
V	Fully automatic													
<b>Actuator lock</b>														
AS	Lockable standard type rotary knob													

### Further variants can be ordered using the modular system

Filter regulators LFR

→ 3-14

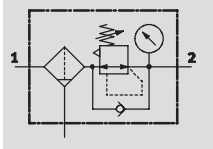
- Connecting plates
- Pressure regulation range
- Condensate drain
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Secondary venting
- Rotary knob
- Type of mounting
- Alternative flow direction

## Filter regulators MS4/MS6-LFR, MS series

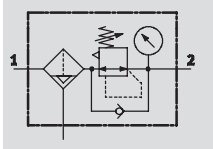
Technical data


**FESTO**

Function  
Condensate drain  
manual rotary  
with pressure gauge




Condensate drain  
semi or fully automatic  
with pressure gauge



 Flow rate  
850 ... 7,200 l/min

 Temperature range  
-10 ... +60 °C

 Input pressure  
0.8 ... 20 bar

 [www.festo.com/en/  
Spare\\_parts\\_service](http://www.festo.com/en/Spare_parts_service)

Wearing parts kits  
→ 3-12

With this device, the filter and pressure regulator are combined into a single unit. The sintered filter with water separator removes contamination, pipe sinter, rust and condensate from the compressed air.



- Good control characteristics with low hysteresis and primary pressure compensation
- Good particle and condensate separation
- High flow rates
- Directly actuated diaphragm regulator
- Four pressure regulation ranges: 0.3 ... 4 bar, 0.3 ... 7 bar, 0.5 ... 12 bar and 0.5 ... 16 bar
- Lockable rotary knob
- Two pressure gauge connections for different fitting options
- Return flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display
- Choice of filter cartridges: 5 µm or 40 µm
- Filter cartridges → 11-19

General technical data		MS4		MS6	
Size					
Pneumatic connection 1, 2		G <sup>1</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>3</sup> / <sub>8</sub> G <sup>1</sup> / <sub>2</sub>
Design		Filter regulator with/without pressure indicator			
Regulating function		With/without secondary venting			
		With return flow function			
		Output pressure constant			
Type of mounting		Via accessories			
		In-line installation			
		Front panel mounting			
Assembly position		Vertical ±5°			
Grade of filtration [µm]		5 (air purity class at the output 3.7.- to DIN ISO 8573-1)			
		40 (air purity class at the output 5.7.- to DIN ISO 8573-1)			
Bowl guard		Plastic bowl guard			
		Metal bowl			
Condensate drain		Manual rotary			
		Semi-automatic			
		Fully automatic			
		-		Fully automatic, electrical actuated	
Actuator lock		Rotary knob with detent			
		Lockable with accessories			
Pressure regulation range	D5 [bar]	0.3 ... 4			
	D6 [bar]	0.3 ... 7			
	D7 [bar]	0.5 ... 12 (0.5 ... 10 with variant pressure sensor AD... )			
	D8 [bar]	-		0.5 ... 16	
Max. hysteresis [bar]		0.25			
Pressure indicator		With pressure sensor for the output pressure display and with electric output			
		With pressure gauge for the output pressure display			
Max. condensate volume [cm <sup>3</sup> ]		19 (with plastic bowl guard) 25 (with metal bowl)		38	

 Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

## Filter regulators MS4/MS6-LFR, MS series

Technical data

**FESTO**

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 $\frac{1}{2}$	
D5 – Pressure regulation range 0.3 ... 4 bar						
Grade of filtration	5 $\mu$ m	900 <sup>2)</sup>	1,800 <sup>2)</sup>	2,000 <sup>2)</sup>	5,500 <sup>2)</sup>	6,900 <sup>2)</sup>
	40 $\mu$ m	1,100 <sup>2)</sup>	1,900 <sup>2)</sup>	2,200 <sup>2)</sup>	6,000 <sup>2)</sup>	7,200 <sup>2)</sup>
D6 – Pressure regulation range 0.3 ... 7 bar						
Grade of filtration	5 $\mu$ m	900	1,500	2,700	5,000	5,600
	40 $\mu$ m	1,000	1,700	2,800	5,700	6,200
D7 – Pressure regulation range 0.5 ... 12 bar						
Grade of filtration	5 $\mu$ m	850	1,200	2,200	3,500	4,000
	40 $\mu$ m	900	1,500	2,500	4,000	4,500
D8 – Pressure regulation range 0.5 ... 16 bar						
Grade of filtration	5 $\mu$ m	–	–	2,000	3,300	3,800
	40 $\mu$ m	–	–	2,300	3,500	4,000

1) Measured at  $p_1 = 10$  bar and  $p_2 = 6$  bar,  $\Delta p = 1$  bar

2) Measured at  $p_1 = 10$  bar and  $p_2 = 3$  bar,  $\Delta p = 1$  bar

Operating and environmental conditions							
Condensate drain	Manual rotary		Semi-automatic		Fully automatic		Fully automatic, electrical actuated
	M		H		V		E1 ... E4
Size	MS4	MS6	MS4	MS6	MS4	MS6	MS6
Supply pressure [bar]	0.8 ... 14	0.8 ... 20	1.5 ... 12	1.5 ... 12	2 ... 12	2 ... 12	0.8 ... 16
Operating medium without pressure sensor AD...	Compressed air						
Operating medium with pressure sensor AD...	Filtered compressed air, lubricated or unlubricated, grade of filtration 40 $\mu$ m						
Ambient temperature without pressure sensor AD... [°C]	–10 ... +60		+5 ... +60		+5 ... +60		+1 ... +60
Ambient temperature with pressure sensor AD... [°C]	0 ... +50		+5 ... +50		+5 ... +50		+1 ... +50
Medium temperature without pressure sensor AD... [°C]	–10 ... +60		+5 ... +60		+5 ... +60		+1 ... +60
Medium temperature with pressure sensor AD... [°C]	0 ... +50		+5 ... +50		+5 ... +50		+1 ... +50
Storage temperature [°C]	–10 ... +60		–10 ... +60		–10 ... +60		+1 ... +60
Corrosion resistance CRC <sup>1)</sup>	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.

Weights [g]	
Size	MS6
With plastic bowl guard	875
With metal bowl	1,087
With metal bowl and fully automatic, electrically actuated condensate drain	1,800

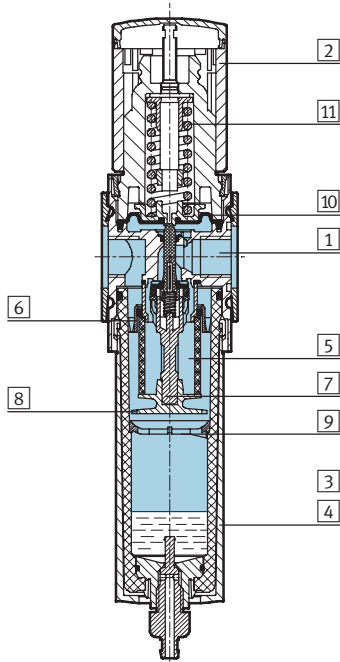
# Filter regulators MS4/MS6-LFR, MS series

Technical data



## Materials

Sectional view



Filter regulator		
1	Body	Die-cast aluminium
2	Regulating knob	Polyamide/polyacetate
3	Plastic bowl guard	Polycarbonate/polyamide
4	Metal bowl	Aluminium
	Viewing window	Polyamide
5	Filter element	Polyethylene
6	Spin disc	Polyacetate
7	Filter holder	Polyacetate
8	Separating plate	Polyacetate
9	Stabilising disc	Polyacetate
10	Diaphragm	Nitrile rubber
11	Spring	Steel
-	Seals	Nitrile rubber
Note on materials		Free of copper and PTFE only with cover plate VS

MS series service units  
Filter regulators

3

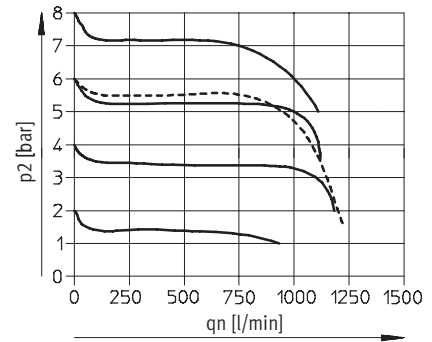
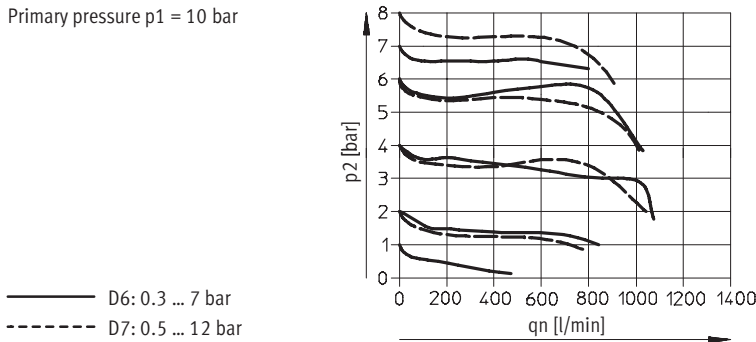
### Standard flow rate $q_n$ as a function of output pressure $p_2$

Pressure regulation range D6 or D7  
MS4-LFR-1/8

Grade of filtration 5  $\mu\text{m}$

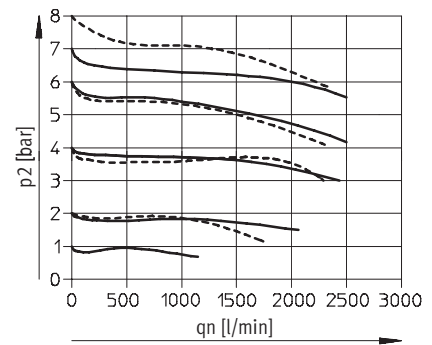
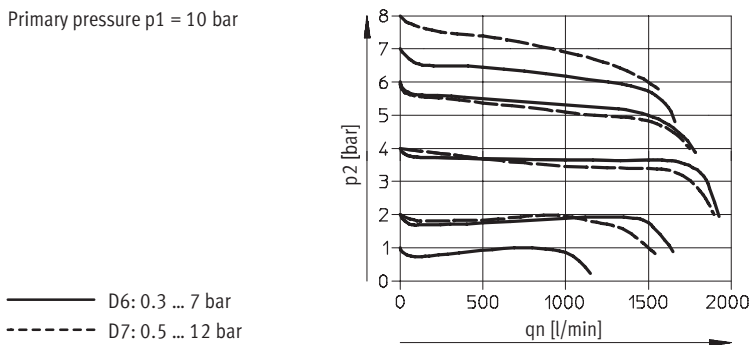
Grade of filtration 40  $\mu\text{m}$

Primary pressure  $p_1 = 10$  bar



MS4-LFR-1/4

Primary pressure  $p_1 = 10$  bar

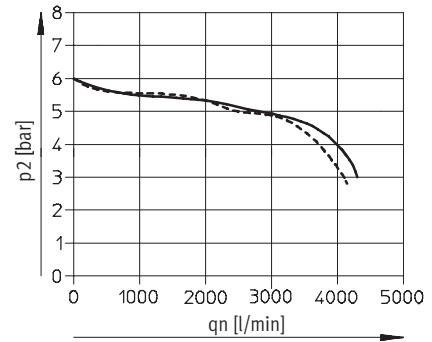
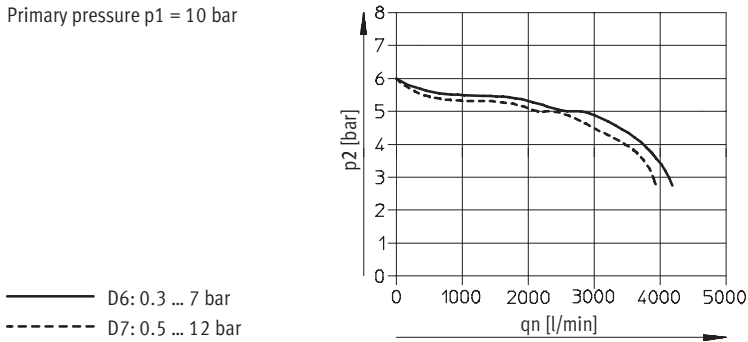


# Filter regulators MS4/MS6-LFR, MS series

Technical data

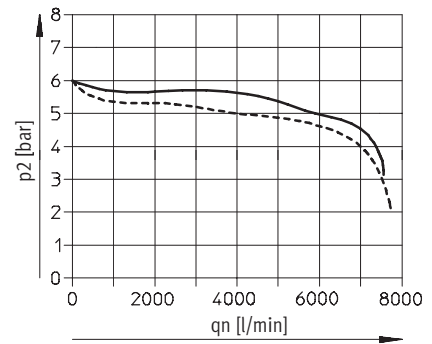
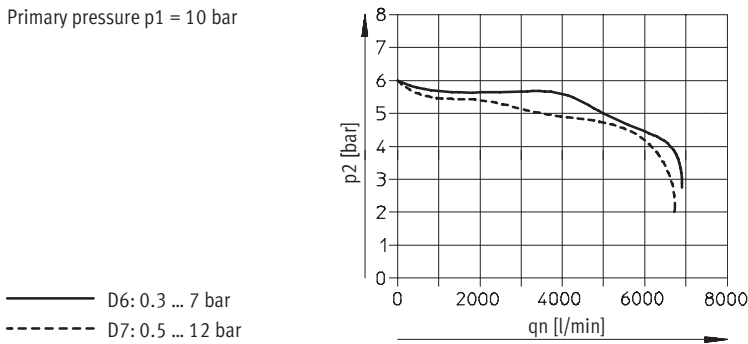
Standard flow rate $q_n$ as a function of output pressure $p_2$	Grade of filtration $5\ \mu\text{m}$	Grade of filtration $40\ \mu\text{m}$
Pressure regulation range D6 or D7		
MS6-LFR- $\frac{1}{4}$		

Primary pressure  $p_1 = 10\ \text{bar}$



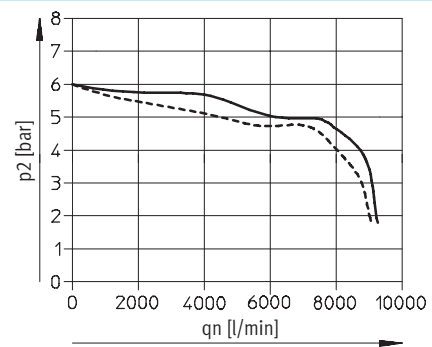
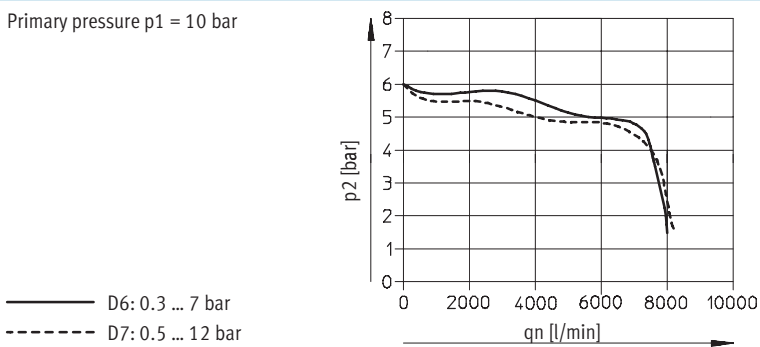
MS6-LFR- $\frac{3}{8}$

Primary pressure  $p_1 = 10\ \text{bar}$



MS6-LFR- $\frac{1}{2}$

Primary pressure  $p_1 = 10\ \text{bar}$



## Filter regulators MS4/MS6-LFR, MS series

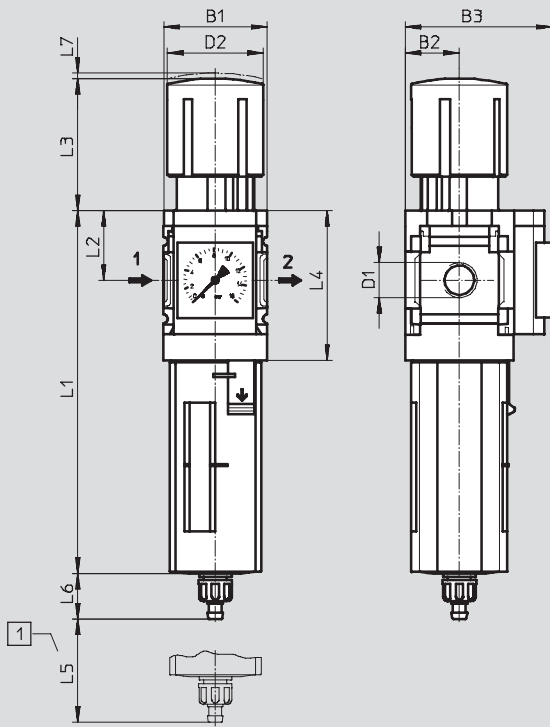
Technical data

**FESTO**

### Dimensions – Standard

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

With pressure gauge, display unit [bar], rotary knob as standard, manual rotary condensate drain



1 Installation dimensions

→ Flow direction

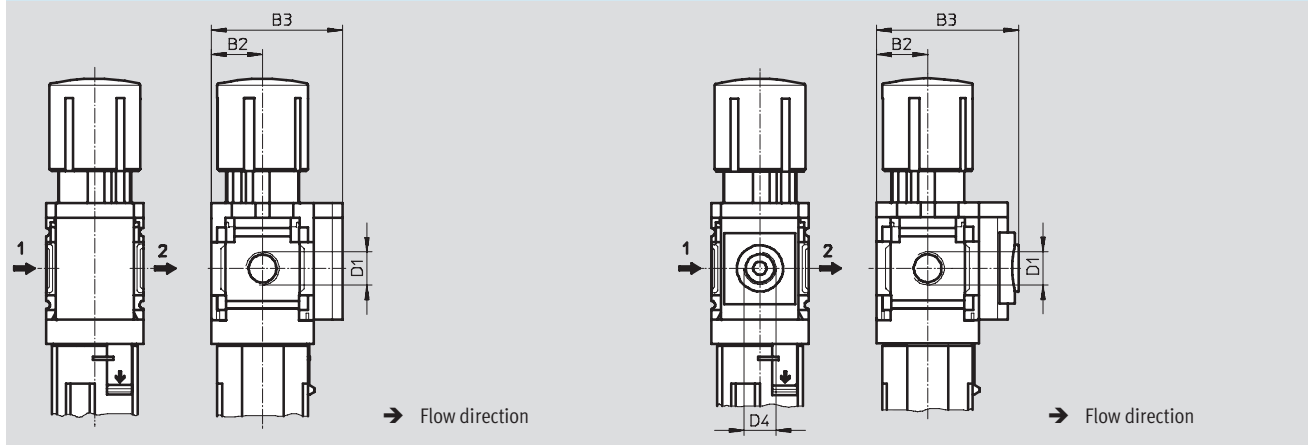
Type	B1	B2	B3	D1	D2	L1		L2	L3	L4	L5	L6		L7
						Bowl guard						Plastic	Metal	
						Plastic	Metal							
MS4-LFR-1/8	40	21	57	G1/8	37.2	140.6	158.2	27	51.1	58.5	25	17.7	17.7	2
MS4-LFR-1/4				G1/4										
MS6-LFR-1/4	62	31	77	G1/4	51	189	194.4	39	86	84	68	15.8	19	5
MS6-LFR-3/8				G3/8										
MS6-LFR-1/2				G1/2										

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

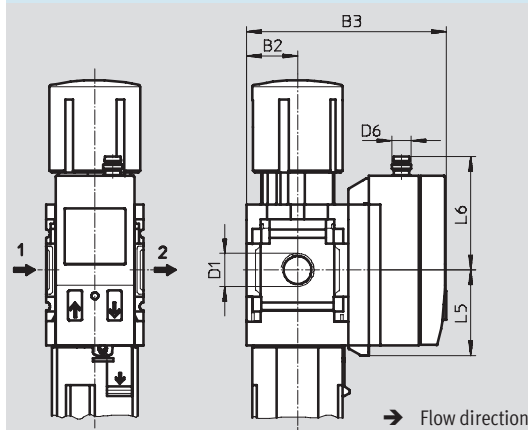
# Filter regulators MS4/MS6-LFR, MS series

Technical data

Dimensions – Pressure gauge alternatives Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)  
 Cover plate VS 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](http://www.festo.com)



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

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

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

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

Type	B2	B3	D1	D4	D6	L5	L6
MS4-LFR-1/8-...-VS	21	54	G1/8	-	-	-	-
MS4-LFR-1/4-...-VS			G1/4	-	-	-	-
MS4-LFR-1/8-...-A8	21	58.5	G1/8	G1/8	-	-	-
MS4-LFR-1/4-...-A8			G1/4				
MS4-LFR-1/8-...-A4	21	58.5	G1/8	G1/4	-	-	-
MS4-LFR-1/4-...-A4			G1/4				
MS4-LFR-1/8-...-AD1/AD2	21	82.6	G1/8	-	M8x1	35.1	46.7
MS4-LFR-1/4-...-AD1/AD2			G1/4				
MS4-LFR-1/8-...-AD3/AD4	21	82.6	G1/8	-	M12x1	35.1	55.8
MS4-LFR-1/4-...-AD3/AD4			G1/4				
MS6-LFR-1/4-...-VS	31	76	G1/4	-	-	-	-
MS6-LFR-3/8-...-VS			G3/8				
MS6-LFR-1/2-...-VS			G1/2				
MS6-LFR-1/4-...-A4	31	78.5	G1/4	G1/4	-	-	-
MS6-LFR-3/8-...-A4			G3/8				
MS6-LFR-1/2-...-A4			G1/2				
MS6-LFR-1/4-...-AD1/AD2	31	103	G1/4	-	M8x1	35.1	46.7
MS6-LFR-3/8-...-AD1/AD2			G3/8				
MS6-LFR-1/2-...-AD1/AD2			G1/2				
MS6-LFR-1/4-...-AD3/AD4	31	103	G1/4	-	M12x1	35.1	55.8
MS6-LFR-3/8-...-AD3/AD4			G3/8				
MS6-LFR-1/2-...-AD3/AD4			G1/2				

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

## Filter regulators MS4/MS6-LFR, MS series

Technical data

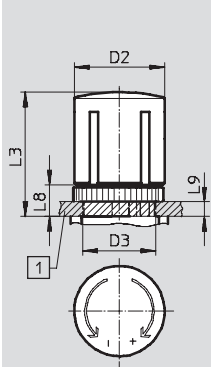
**FESTO**

### Dimensions – Rotary knob

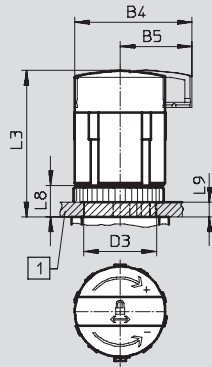
Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

For installation into control panel

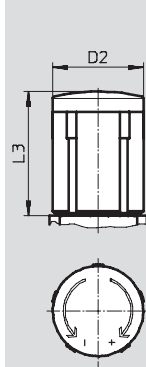
Standard



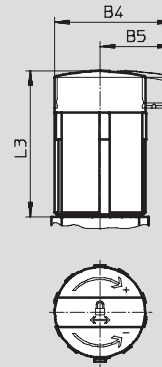
Standard, lockable AS



Long LD



Long, lockable LD-AS



1 Max. control panel thickness

Type	B4	B5	D2	D3 +1	L3	L8	L9
MS4-LFR-...	-	-	37.2	30	51.1	13	6
MS4-LFR-...-AS	48.3	29.7			60.2		
MS4-LFR-...-LD	-	-	37.2	-	51.1	-	-
MS4-LFR-...-LD-AS	48.3	29.7			60.2		
MS6-LFR-...	-	-	51	44	86	22	14
MS6-LFR-...-AS	67.7	42			95.5		
MS6-LFR-...-LD	-	-	51	-	86	-	-
MS6-LFR-...-LD-AS	67.7	42			95.5		



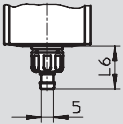
## Filter regulators MS4/MS6-LFR, MS series

Technical data

**FESTO**

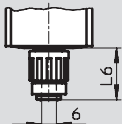
**Dimensions – Condensate drain** Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

**Manual rotary M**



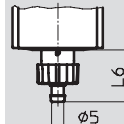
Barbed fitting for plastic tubing  
PCN-4

**Semi-automatic H**



QS fitting for plastic tubing  
PUN-6/PAN-6

**Fully automatic V**



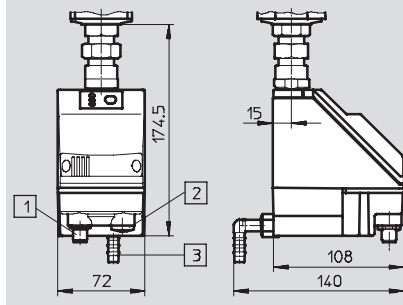
Barbed fitting for plastic tubing  
PCN-4

Type	L6
<b>Plastic bowl guard</b>	
MS4-LFR-...-M	17.7
MS6-LFR-...-M	15.8
<b>Metal bowl</b>	
MS4-LFR-...-M	17.7
MS6-LFR-...-M	19

Type	L6
<b>Plastic bowl guard</b>	
MS4-LFR-...-H	22.1
MS6-LFR-...-H	20.2
<b>Metal bowl</b>	
MS4-LFR-...-H	22.1
MS6-LFR-...-H	22.8

Type	L6
<b>Plastic bowl guard</b>	
MS4-LFR-...-V	20.4
MS6-LFR-...-V	18.5
<b>Metal bowl</b>	
MS4-LFR-...-V	20.4
MS6-LFR-...-V	22

**Fully automatic, electrically actuated E1 ... E4** Technical data PWEA → [www.festo.com](http://www.festo.com)



- 1 Variant E1  
PWEA-AP-... with M12x1 plug,  
5-pin for SIM-M12-5GD-...
- 2 Variant E2/E3/E4  
PWEA-AC-... with cable conduit  
fitting Pg9
- 3 Connection 360° rotatable for  
plastic tubing PUN-H-12x2-...

## Filter regulators MS4/MS6-LFR, MS series

Technical data

Ordering data						
Pressure regulation range 0.3 ... 7 bar						
Size	Condensate drain	Connection	Grade of filtration 5 µm		Grade of filtration 40 µm	
			Part No.	Type	Part No.	Type
Plastic bowl guard						
MS4	Manual rotary	G $\frac{1}{8}$	529 160	MS4-LFR- $\frac{1}{8}$ -D6-CRM-AS	529 164	MS4-LFR- $\frac{1}{8}$ -D6-ERM-AS
		G $\frac{1}{4}$	529 144	MS4-LFR- $\frac{1}{4}$ -D6-CRM-AS	529 148	MS4-LFR- $\frac{1}{4}$ -D6-ERM-AS
	Fully automatic	G $\frac{1}{8}$	529 162	MS4-LFR- $\frac{1}{8}$ -D6-CRV-AS	529 166	MS4-LFR- $\frac{1}{8}$ -D6-ERV-AS
		G $\frac{1}{4}$	529 146	MS4-LFR- $\frac{1}{4}$ -D6-CRV-AS	529 150	MS4-LFR- $\frac{1}{4}$ -D6-ERV-AS
MS6	manual rotary	G $\frac{1}{4}$	529 196	MS6-LFR- $\frac{1}{4}$ -D6-CRM-AS	529 200	MS6-LFR- $\frac{1}{4}$ -D6-ERM-AS
		G $\frac{3}{8}$	529 216	MS6-LFR- $\frac{3}{8}$ -D6-CRM-AS	529 220	MS6-LFR- $\frac{3}{8}$ -D6-ERM-AS
		G $\frac{1}{2}$	529 176	MS6-LFR- $\frac{1}{2}$ -D6-CRM-AS	529 180	MS6-LFR- $\frac{1}{2}$ -D6-ERM-AS
	fully automatic	G $\frac{1}{4}$	529 198	MS6-LFR- $\frac{1}{4}$ -D6-CRV-AS	529 202	MS6-LFR- $\frac{1}{4}$ -D6-ERV-AS
		G $\frac{3}{8}$	529 218	MS6-LFR- $\frac{3}{8}$ -D6-CRV-AS	529 222	MS6-LFR- $\frac{3}{8}$ -D6-ERV-AS
		G $\frac{1}{2}$	529 178	MS6-LFR- $\frac{1}{2}$ -D6-CRV-AS	529 182	MS6-LFR- $\frac{1}{2}$ -D6-ERV-AS

Ordering data						
Pressure regulation range 0.5 ... 12 bar						
Size	Condensate drain	Connection	Grade of filtration 5 µm		Grade of filtration 40 µm	
			Part No.	Type	Part No.	Type
Plastic bowl guard						
MS4	manual rotary	G $\frac{1}{8}$	529 168	MS4-LFR- $\frac{1}{8}$ -D7-CRM-AS	529 172	MS4-LFR- $\frac{1}{8}$ -D7-ERM-AS
		G $\frac{1}{4}$	529 152	MS4-LFR- $\frac{1}{4}$ -D7-CRM-AS	529 156	MS4-LFR- $\frac{1}{4}$ -D7-ERM-AS
	fully automatic	G $\frac{1}{8}$	529 170	MS4-LFR- $\frac{1}{8}$ -D7-CRV-AS	529 174	MS4-LFR- $\frac{1}{8}$ -D7-ERV-AS
		G $\frac{1}{4}$	529 154	MS4-LFR- $\frac{1}{4}$ -D7-CRV-AS	529 158	MS4-LFR- $\frac{1}{4}$ -D7-ERV-AS
MS6	manual rotary	G $\frac{1}{4}$	529 204	MS6-LFR- $\frac{1}{4}$ -D7-CRM-AS	529 208	MS6-LFR- $\frac{1}{4}$ -D7-ERM-AS
		G $\frac{3}{8}$	529 224	MS6-LFR- $\frac{3}{8}$ -D7-CRM-AS	529 228	MS6-LFR- $\frac{3}{8}$ -D7-ERM-AS
		G $\frac{1}{2}$	529 184	MS6-LFR- $\frac{1}{2}$ -D7-CRM-AS	529 188	MS6-LFR- $\frac{1}{2}$ -D7-ERM-AS
	fully automatic	G $\frac{1}{4}$	529 206	MS6-LFR- $\frac{1}{4}$ -D7-CRV-AS	529 210	MS6-LFR- $\frac{1}{4}$ -D7-ERV-AS
		G $\frac{3}{8}$	529 226	MS6-LFR- $\frac{3}{8}$ -D7-CRV-AS	529 230	MS6-LFR- $\frac{3}{8}$ -D7-ERV-AS
		G $\frac{1}{2}$	529 186	MS6-LFR- $\frac{1}{2}$ -D7-CRV-AS	529 190	MS6-LFR- $\frac{1}{2}$ -D7-ERV-AS

Metal bowl						
MS4	manual rotary	G $\frac{1}{8}$	535 702	MS4-LFR- $\frac{1}{8}$ -D7-CUM-AS	535 708	MS4-LFR- $\frac{1}{8}$ -D7-EUM-AS
		G $\frac{1}{4}$	535 718	MS4-LFR- $\frac{1}{4}$ -D7-CUM-AS	535 724	MS4-LFR- $\frac{1}{4}$ -D7-EUM-AS
	fully automatic	G $\frac{1}{8}$	535 704	MS4-LFR- $\frac{1}{8}$ -D7-CUV-AS	535 706	MS4-LFR- $\frac{1}{8}$ -D7-EUV-AS
		G $\frac{1}{4}$	535 720	MS4-LFR- $\frac{1}{4}$ -D7-CUV-AS	535 722	MS4-LFR- $\frac{1}{4}$ -D7-EUV-AS
MS6	manual rotary	G $\frac{1}{4}$	530 342	MS6-LFR- $\frac{1}{4}$ -D7-CUM-AS	529 212	MS6-LFR- $\frac{1}{4}$ -D7-EUM-AS
		G $\frac{3}{8}$	530 346	MS6-LFR- $\frac{3}{8}$ -D7-CUM-AS	529 232	MS6-LFR- $\frac{3}{8}$ -D7-EUM-AS
		G $\frac{1}{2}$	530 338	MS6-LFR- $\frac{1}{2}$ -D7-CUM-AS	529 192	MS6-LFR- $\frac{1}{2}$ -D7-EUM-AS
	fully automatic	G $\frac{1}{4}$	530 344	MS6-LFR- $\frac{1}{4}$ -D7-CUV-AS	529 214	MS6-LFR- $\frac{1}{4}$ -D7-EUV-AS
		G $\frac{3}{8}$	530 348	MS6-LFR- $\frac{3}{8}$ -D7-CUV-AS	529 234	MS6-LFR- $\frac{3}{8}$ -D7-EUV-AS
		G $\frac{1}{2}$	530 340	MS6-LFR- $\frac{1}{2}$ -D7-CUV-AS	529 194	MS6-LFR- $\frac{1}{2}$ -D7-EUV-AS

Ordering data – Wearing parts kits		
Size	Part No.	Type
MS4	673 647	MS4-LFR
MS6	673 648	MS6-LFR



## Filter regulators MS4/MS6-LFR, MS series

Ordering data – Modular products



**M** Mandatory data →

Module No.	Series	Size	Function	Connection size	Pressure regulation range	Grade of filtration	Bowl
526 489	MS	4	LFR	1/8, 1/4, 3/8, 1/2, AGA, AGB, AGC, AGD, AGE	D5 D6 D7 D8	E C	R U
526 490		6					
<b>Order example</b>							
526 489	MS	4	- LFR	- AGA	- D6	- C	- R

**Ordering table**

Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code
<b>M</b> Module No.		526 489	526 490			
Series		Standard			MS	MS
Size		4	6		...	
Function		Filter regulator			-LFR	-LFR
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	
Pressure regulation range	0.3 ... 4 bar				-D5	
	0.3 ... 7 bar				-D6	
	0.5 ... 12 bar				-D7	
	-	0.5 ... 16 bar			-D8	
Grade of filtration	40 µm				-E	
	5 µm				-C	
Bowl	Plastic bowl with plastic bowl guard				-R	
	Metal bowl				-U	

Transfer order code

	MS		-	LFR		-		-		-	
--	----	--	---	-----	--	---	--	---	--	---	--

# Filter regulators MS4/MS6-LFR, MS series

Ordering data – Modular products

M		Options					
Condensate drain	Pressure gauge alternatives	Alternative pressure gauge scale	Secondary venting	Rotary knob	Security	Type of mounting	Alternative flow direction
M H V E1 E2 E3 E4	VS A8 A4 AD1 AD2 AD3 AD4	PSI MPA	OS	LD	AS	WR WP WPM WB WBM	Z
- M	- A8	-	-	- LD	- AS	- WPM	- Z

Ordering table						
Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code
M	Condensate drain	Manual			-M	
		Semi-automatic (P1 max. 12 bar)		1	-H	
		Fully automatic (P1 max. 12 bar)		1	-V	
	External, fully- automatic, elec- trical	24 V DC, M12		2	-E1	
		110 V AC, terminals		2	-E2	
		230 V AC, terminals		2	-E3	
		24 V DC, terminals		2	-E4	
O	Pressure gauge alternatives	Cover plate			-VS	
		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, M8 plug, 1 switching output PNP, 3-pin		3	-AD1	
		Pressure sensor with display, M8 plug, 1 switching output NPN, 3-pin		3	-AD2	
		Pressure sensor with display, M12 plug, 1 switching output PNP, 4-pin, analogue output 4 ... 20 mA		3	-AD3	
		Pressure sensor with display, M12 plug, 1 switching output NPN, 4-pin, analogue output 4 ... 20 mA		3	-AD4	
Alternative pressure gauge scale	psi		4	-PSI		
	MPa		4	-MPA		
Secondary venting	Without secondary venting			-OS		
Rotary knob	Long rotary knob			-LD		
Security	Lockable rotary knob			-AS		
Type of mounting	Mounting bracket with knurled nut for regulator head		5	-WR		
	Mounting bracket		6	-WP		
	Mounting bracket		6	-WPM		
	Mounting bracket			-WB		
	Mounting bracket			-WBM		
Alternative flow direction	Flow direction from right to left			-Z		

- 1 **H, V** Not with pressure regulation range D8
- 2 **E1 ... E4** Only with metal bowl U
- 3 **AD1 ... AD4** Measuring range max. 10 bar.  
Not with pressure regulation range D8

- 4 **PSI, MPA** Not with pressure gauge alternatives VS, A8, A4, AD1, AD2, AD3, AD4
- 5 **WR** Not with long rotary knob LD
- 6 **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](http://www.festo.com/en/engineering)

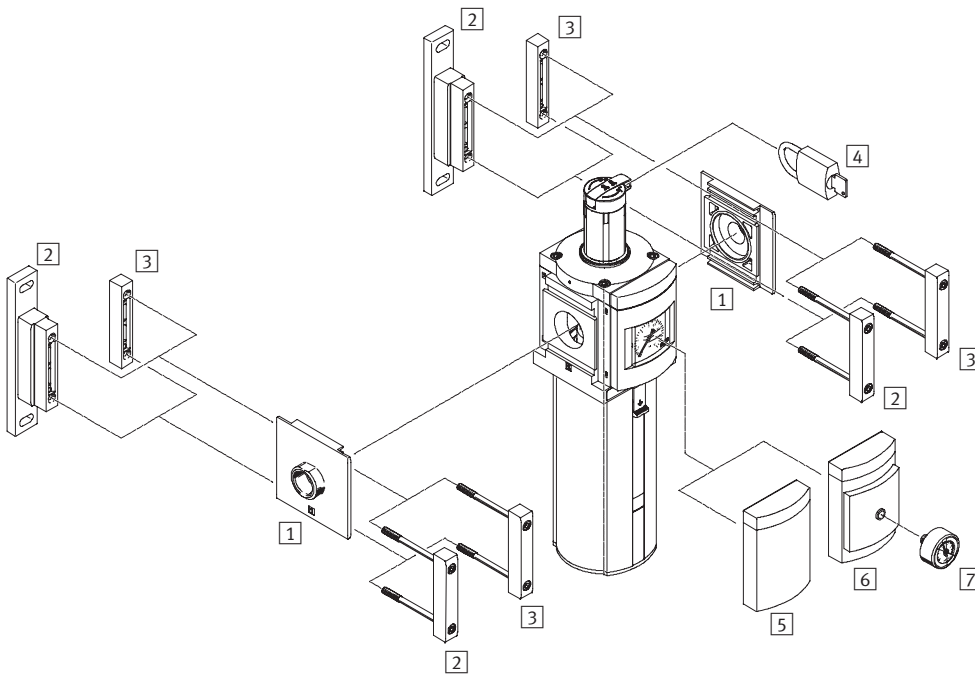


- Grid dimension 124 mm
- High flow rates
- Modern design



# Filter regulators MS12-LFR, MS series

Peripherals overview

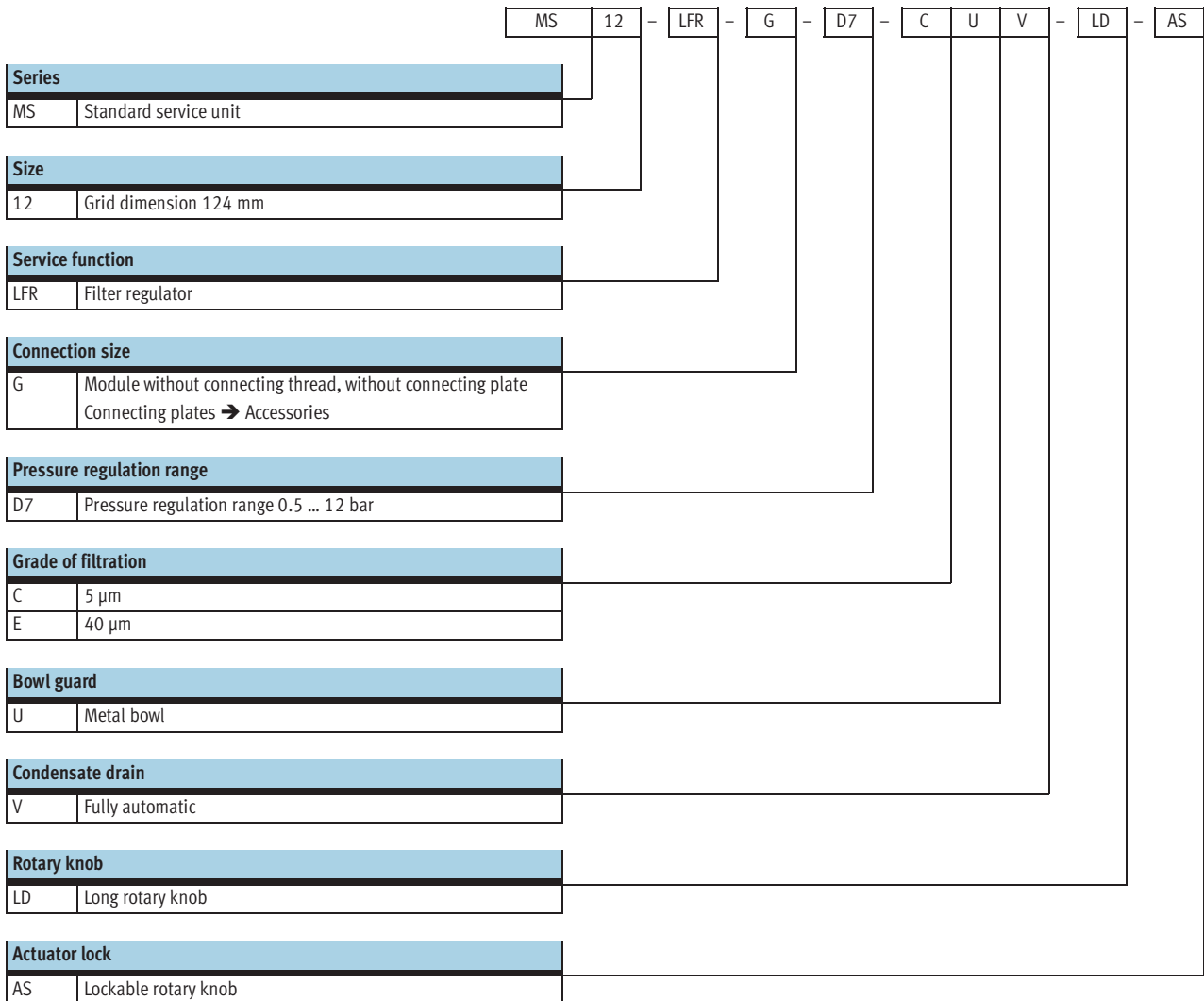


Mounting attachments and accessories		→ Page
1	Connecting plate MS12-AG...	11-2
2	Mounting bracket MS12-WP	11-9
3	Module connector MS12-MV	11-9
4	Padlock LRVS-D	11-21
5	Cover plate VS	3-26
6	Adapter for EN pressure gauge 1/4 A4	3-26
7	Pressure gauge MA	11-20



# Filter regulators MS12-LFR, MS series

Type codes



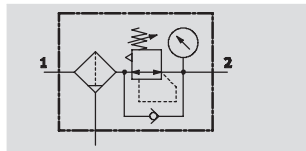
**Further variants can be ordered using the modular system**  
 Filter regulators LFR → 3-26

- Connecting plates
- Pressure regulation range
- Condensate drain
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Actuator lock
- Type of mounting
- Alternative flow direction

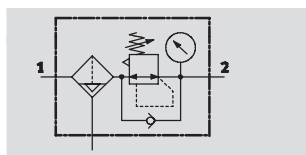
# Filter regulators MS12-LFR, MS series

Technical data

Function  
Condensate drain  
manual rotary  
with pressure gauge



Condensate drain  
fully automatic  
with pressure gauge



- - Flow rate  
11,000 ... 17,000 l/min

- - Temperature range  
-10 ... +60 °C

- - Input pressure  
0.8 ... 20 bar

- - [www.festo.com/en/Spare\\_parts\\_service](http://www.festo.com/en/Spare_parts_service)

Wearing parts kits  
→ 3-25

With this device, the filter and pressure regulator are combined into a single unit. The sintered filter with water separator removes contamination, pipe sinter, rust and condensate from the compressed air.



- Good control characteristics with low hysteresis and primary pressure compensation
- Good particle and condensate separation
- High flow rates
- Pilot actuated diaphragm regulator without intrinsic air consumption
- Three pressure regulation ranges: 0.3 ... 7 bar, 0.5 ... 12 bar and 0.5 ... 16 bar
- Pressure gauge connection for different fitting options
- Available with manual, fully automatic or fully automatic, electrically actuated condensate drain
- Setting values are secured by locking the rotary knob
- Rotary knob can be locked using accessories
- Choice of filter cartridges: 5 µm or 40 µm
- Filter cartridges → 11-19

## General technical data

Pneumatic connection 1, 2 <sup>1)</sup>		G1	G1¼	G1½	G2
Design		Filter regulator with/without pressure gauge			
		Sintered filter with centrifugal separation			
		Pilot actuated diaphragm regulator			
Regulating function		With primary pressure compensation			
		With secondary venting			
		Output pressure constant			
Type of mounting		Via accessories			
		In-line installation			
Assembly position		Vertical ±5°			
Grade of filtration [µm]		5 (air purity class at the output 3.7.- to DIN ISO 8573-1)			
		40 (air purity class at the output 5.7.- to DIN ISO 8573-1)			
Bowl guard		Metal bowl			
Condensate drain		Manual rotary			
		Fully automatic			
		Fully automatic, electrical actuated			
Actuator lock		Rotary knob with detent			
		Lockable with accessories			
Pressure regulation range	D6 [bar]	0.3 ... 7			
	D7 [bar]	0.5 ... 12			
	D8 [bar]	0.5 ... 16			
Max. hysteresis [bar]	0.4				
Pressure indicator	With pressure gauge				
Max. condensate volume [cm <sup>3</sup> ]	400				

1) Dependent on connecting plate selected, must be ordered separately as an accessory → 11-2  
 - - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Filter regulators MS12-LFR, MS series

Technical data

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]					
Pneumatic connection	G1	G1¼	G1½	G2	
Grade of filtration	5 µm	11,000	11,500	12,000	14,000
	40 µm	12,000	12,500	13,000	17,000

1) Dependent on connecting plate selected, must be ordered separately as an accessory → 11-2  
measured at  $p_1 = 10$  bar and  $p_2 = 6$  bar,  $\Delta p = 0.5$  bar

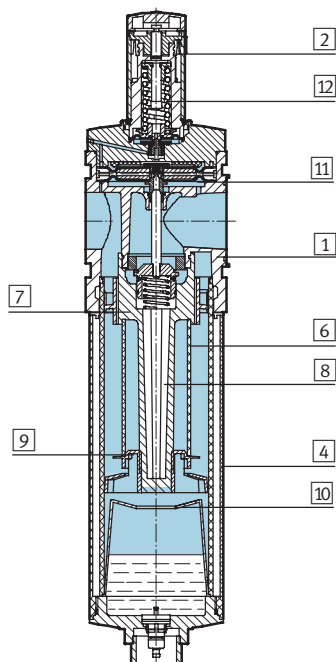
Operating and environmental conditions			
Condensate drain	Manual rotary M	Fully automatic V	Fully automatic, electrical actuated E1 ... E4
Input pressure [bar]	0.8 ... 20	2 ... 12	0.8 ... 16
Operating medium	Compressed air, air quality class 5.7.- to DIN ISO 8573-1		
Ambient temperature [°C]	-10 ... +60	+5 ... +60	+1 ... +60
Temperature of medium [°C]	-10 ... +60	+5 ... +60	+1 ... +60
Storage temperature [°C]	-10 ... +60	-10 ... +60	+1 ... +60
Corrosion resistance	CRC <sup>1)</sup>	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.

Weights [g]	
With metal bowl	7,000
With metal bowl and fully automatic, electrically actuated condensate drain	7,700

## Materials

Sectional view



Filter regulator		
1	Body	Die-cast aluminium
2	Regulating knob	Polyamide
4	Metal bowl	Wrought aluminium alloy
6	Filter element	Sintered bronze
7	Spin disc	Polyacetate
8	Filter holder	Polyacetate
9	Separating plate	Polyacetate
10	Stabilising disc	Polyacetate
11	Diaphragm	Nitrile rubber
12	Spring	Steel
-	Seals	Nitrile rubber

# Filter regulators MS12-LFR, MS series

Technical data



## Standard flow rate $q_n$ as a function of output pressure $p_2$

Grade of filtration 40  $\mu\text{m}$

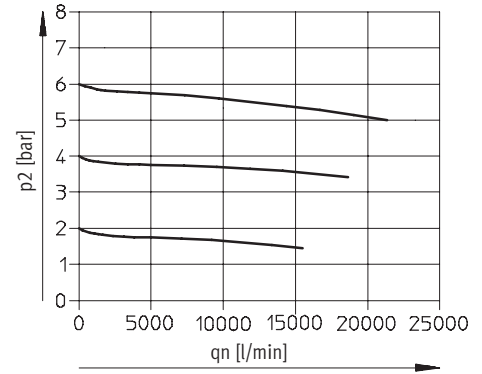
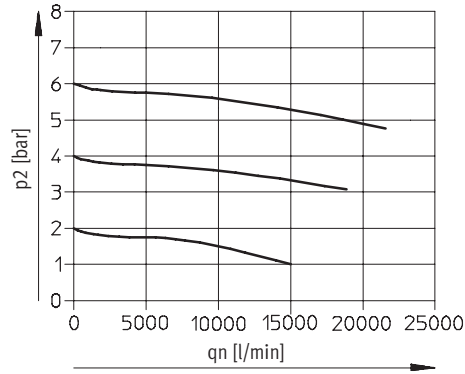
With connecting plate MS12-AGF

Pneumatic connection G1

With connecting plate MS12-AGG

Pneumatic connection G1 $\frac{1}{4}$

Primary pressure  $p_1 = 10$  bar



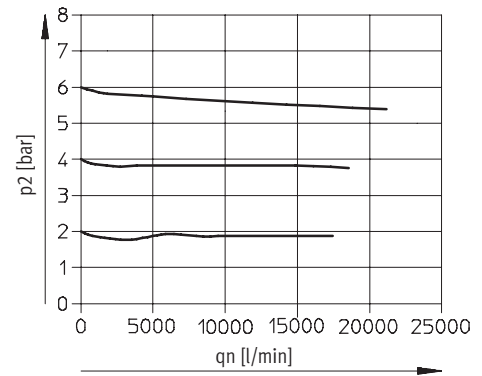
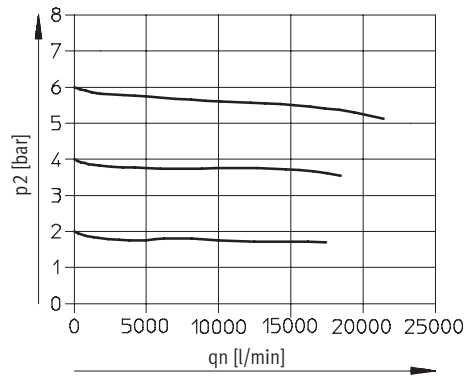
With connecting plate MS12-AGH

Pneumatic connection G1 $\frac{1}{2}$

With connecting plate MS12-AGI

Pneumatic connection G2

Primary pressure  $p_1 = 10$  bar



# Filter regulators MS12-LFR, MS series

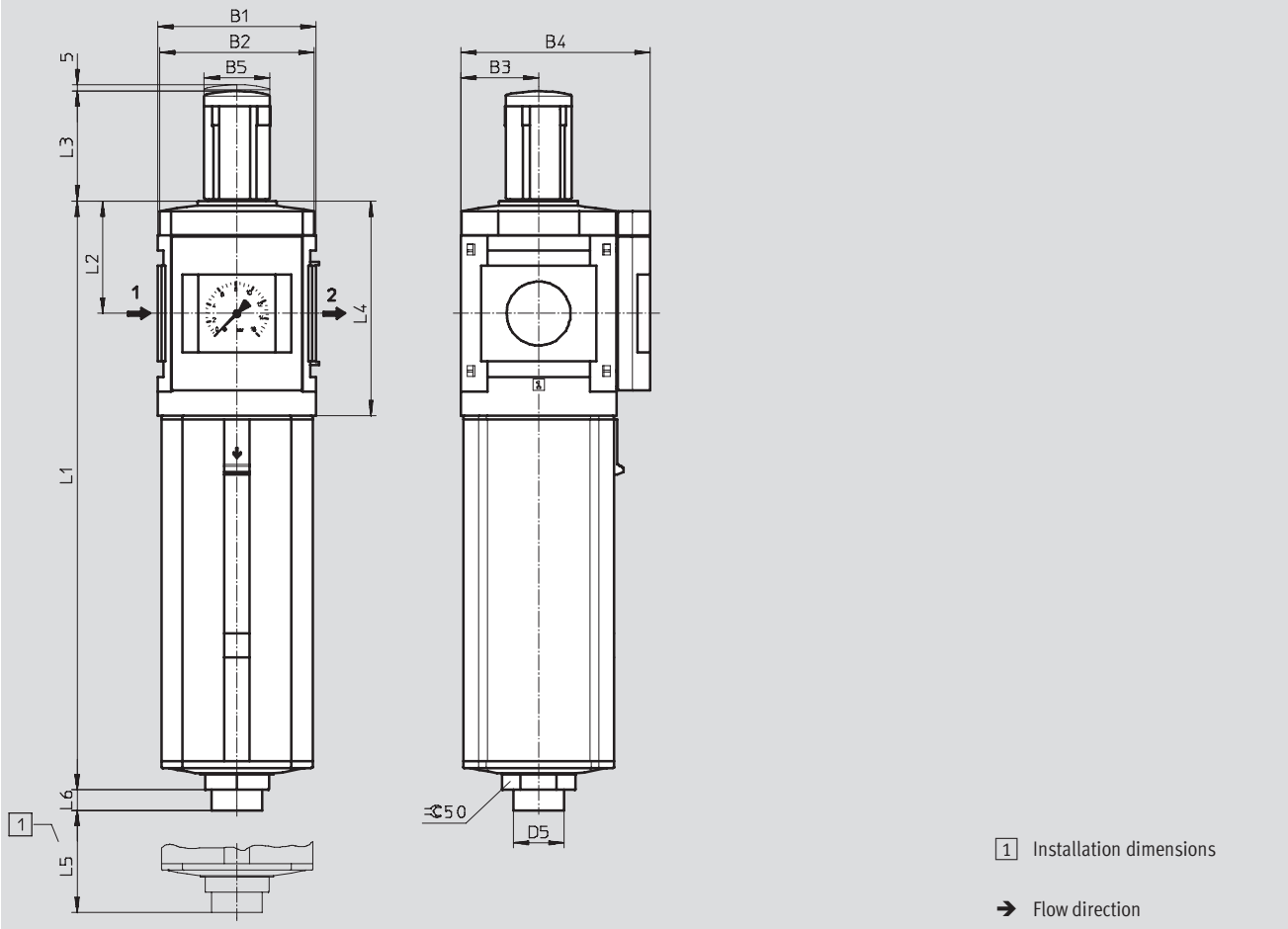
Technical data



## Dimensions – Standard

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

With pressure gauge, display unit [bar], long rotary knob



Type	B1	B2	B3	B4	B5	D5 ∅	L1	L2	L3	L4	L5	L6
MS12-LFR	124	122	61	148	51	40	460	88	86	168	250	16

# Filter regulators MS12-LFR, MS series

Technical data



MS series service units  
Filter regulators

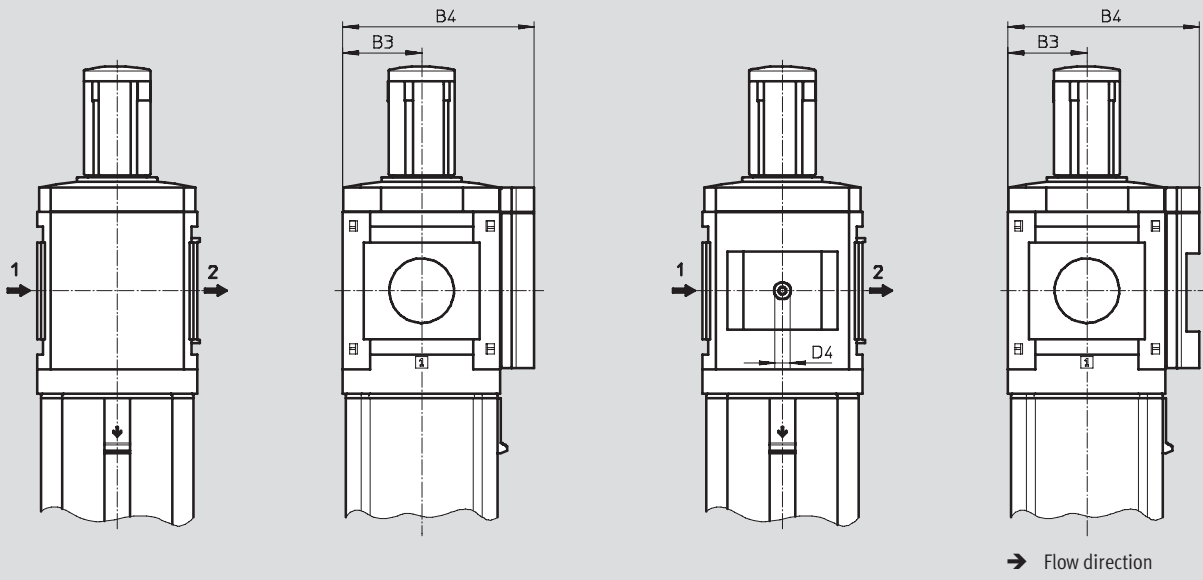
3

## Dimensions – Pressure gauge alternatives

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Cover plate VS

Adapter A4 for EN pressure gauge 1/4, without pressure gauge

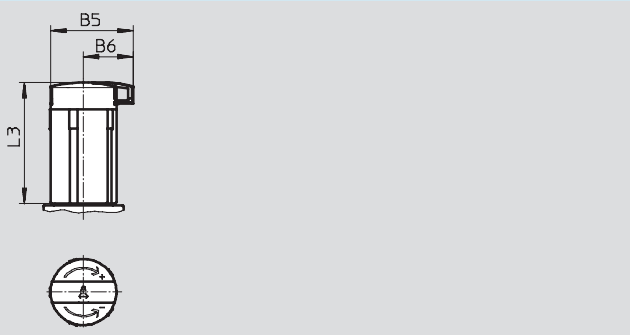


Type	B3	B4	D4
MS12-LFR-...-VS	61	148	-
MS12-LFR-...-A4	61	148	G1/4

Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

## Dimensions – Rotary knob

Long, lockable LD-AS



Type	B5	B6	L3
MS12-LFR-...-LD-AS	64.4	39	95.5

# Filter regulators MS12-LFR, MS series

Technical data



Dimensions – Condensate drain Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Manual rotary M

Barbed fitting for plastic tubing  
PCN-4

Fully automatic V

Barbed fitting for plastic tubing  
PCN-4

Type	L6
MS12-LFR-...-M	11

Type	L6
MS12-LFR-...-V	13

Fully automatic, electrically actuated E1 ... E4 Technical data PWEA → [www.festo.com](http://www.festo.com)

- 1 Variant E1  
PWEA-AP-... with M12x1 plug,  
5-pin for SIM-M12-5GD-...
- 2 Variant E2/E3/E4  
PWEA-AC-... with cable conduit  
fitting Pg9
- 3 Connection 360° rotatable for  
plastic tubing PUN-H-12x2-...

## Ordering data

Pressure regulation range 0.5 ... 12 bar, metal bowl, long rotary knob, can be locked using accessories

Size	Condensate drain	Connection	Grade of filtration 5 µm		Grade of filtration 40 µm	
			Part No.	Type	Part No.	Type
MS12	fully automatic	G1 ... G2 <sup>1)</sup>	537 150	MS12-LFR-G-D7-CUV-LD-AS	537 149	MS12-LFR-G-D7-EUV-LD-AS

1) Connecting plate must be ordered separately as an accessory → 11-2  
 Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

## Ordering data – Wearing parts kits

Size	Part No.	Type
MS12	673 586	MS12-LR/LFR

# Filter regulators MS12-LFR, MS series

Ordering data – Modular products



MS series service units  
Filter regulators

3

**M** Mandatory data →

Module No.	Series	Size	Function	Connection size	Pressure regulation range	Grade of filtration	Bowl
535 022	MS	12	LFR	AGF AGG AGH AGI G	D6 D7 D8	E C	U
<b>Order example</b>							
535 022	MS	12	- LFR	- AGF	- D6	- C	- U

**Ordering table**

Grid dimension	[mm]	124	Condi- tions	Code	Enter code
<b>M</b> Module No.	535 022				
Series	Standard			MS	MS
Size	12			12	12
Function	Filter regulator			-LFR	-LFR
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	
Pressure regulation range	0.3 ... 7 bar			-D6	
	0.5 ... 12 bar			-D7	
	0.5 ... 16 bar			-D8	
Grade of filtration	40 µm			-E	
	5 µm			-C	
<b>↓</b> Bowl	Metal bowl			-U	-U

Transfer order code

535 022	MS	12	- LFR	-	-	-	- U
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# Filter regulators MS12-LFR, MS series

Ordering data – Modular products



Options						
<b>Condensate drain</b>	<b>Pressure gauge alternatives</b>	<b>Alternative pressure gauge scale</b>	<b>Rotary knob</b>	<b>Security</b>	<b>Type of mounting</b>	<b>Alternative flow direction</b>
M V E1 E2 E3 E4	VS A4	PSI MPA	LD	AS	WP	Z
- <b>E1</b>	-	-	- <b>LD</b>	- <b>AS</b>	- <b>WP</b>	- <b>Z</b>

Ordering table						
Grid dimension	[mm]	124	Condi- tions	Code	Enter code	
↓ [M] Condensate drain	Manual			-M		
	Fully automatic (P1 max. 12 bar)		[1]	-V		
	External fully automatic condensate drain, electrical, 24 V DC, M12			-E1		
	External fully automatic condensate drain, electrical, 110 V AC, terminals			-E2		
	External fully automatic condensate drain, electrical, 230 V AC, terminals			-E3		
	External fully automatic condensate drain, electrical, 24 V DC, terminals			-E4		
[O] Pressure gauge alternatives	Cover plate			-VS		
	Adapter plate for EN pressure gauge 1/4, without pressure gauge			-A4		
Alternative pressure gauge scale	psi		[2]	-PSI		
	MPa		[2]	-MPA		
Rotary knob	Long rotary knob			-LD		-LD
Security	Lockable rotary knob			-AS		
Type of mounting	Mounting bracket		[3]	-WP		
Alternative flow direction	Flow direction from right to left			-Z		

- [1] **V** Not with pressure regulation range D8.
- [2] **PSI, MPA** Not with pressure gauge alternatives VS, A4.
- [3] **WP** Only with connecting plate AGF, AGG, AGH or AGI.

Transfer order code - [ ] - [ ] - [ ] - **LD** - [ ] - [ ] - [ ]





# MS series service units

Accessories

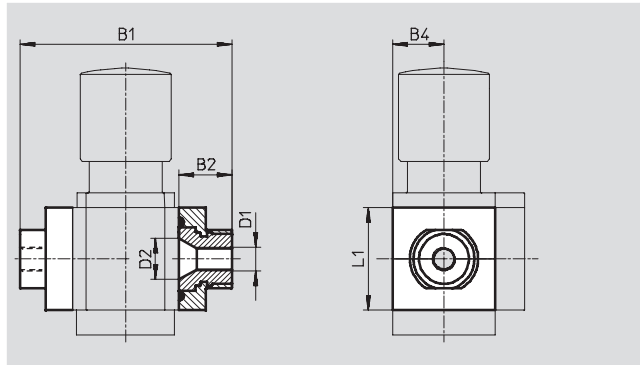


## Connecting plate MS4/6-AG...

(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

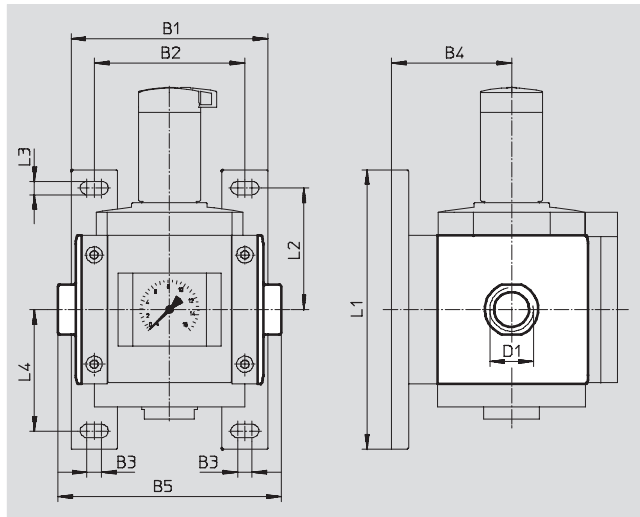
-||- Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

## 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	G $\frac{1}{4}$						537 136	MS12-AGG
					184	G $\frac{1}{2}$						537 137	MS12-AGH
					196	G2						537 138	MS12-AGI

-||- Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

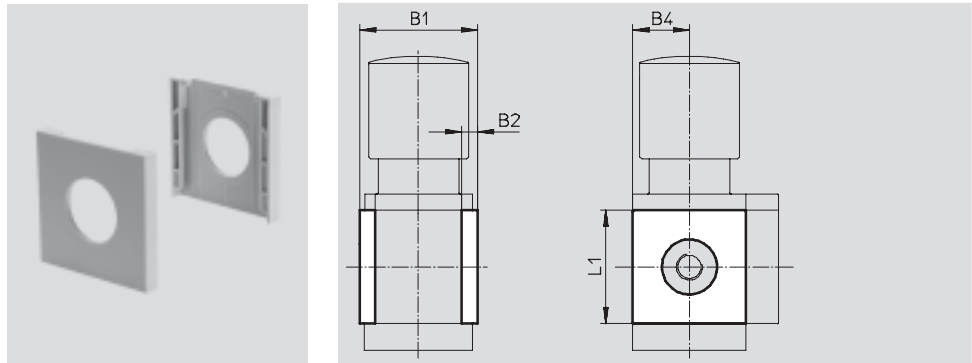
## MS series service units

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

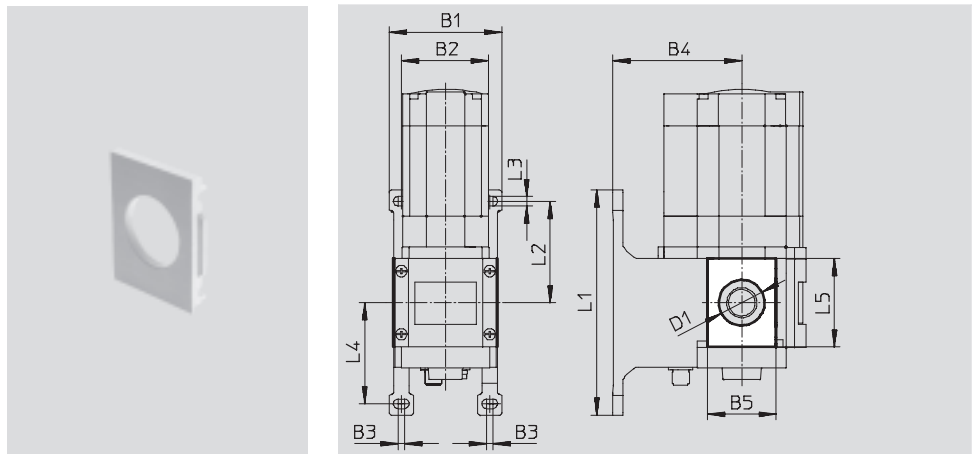
• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.


### Mounting plate MS4/6-AEND

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

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

Material:  
Reinforced polyamide  
Conforms to RoHS  
Free of copper and PTFE



Dimensions and ordering data														Weight [g]	Part No.	Type	
Size	B1	B2	B3	B4		B5	D1	L1	L2	L3	L4	L5	CRC <sup>1)</sup>				
				WP	WPB		∅										
MS4	55.2	40.2	4	44	66	30.4	20.3	106	46.5	5.6	46.7	42	2	4	542 966	MS4-AEND	 New
MS6	79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	535 408	MS6-AEND	

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



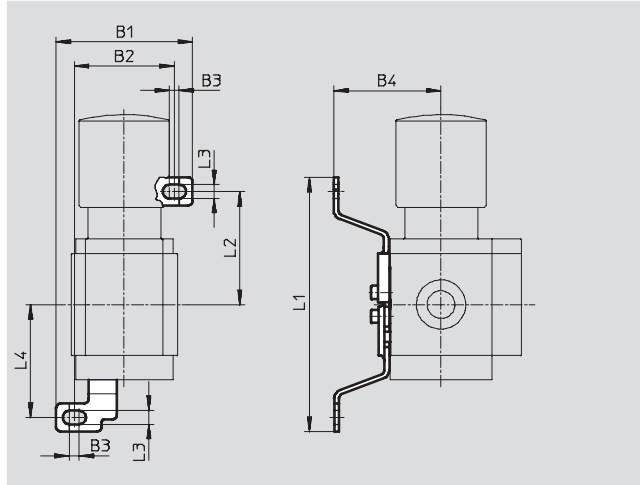
## Mounting bracket MS4/6-WB

(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

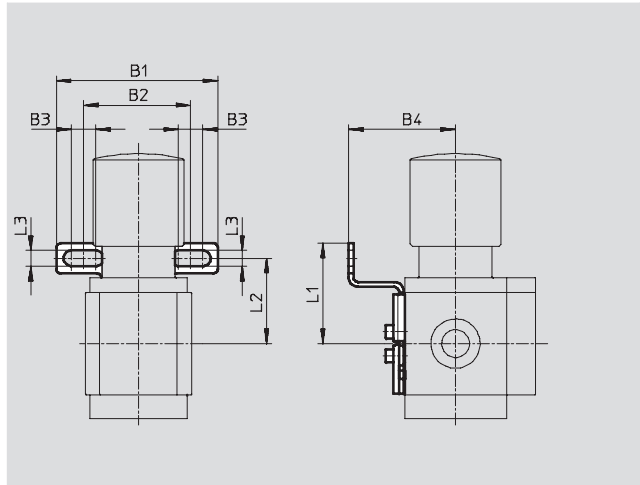
## Mounting bracket MS4-WBM

(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



## Mounting bracket MS4/6-WR

(order code: WR)

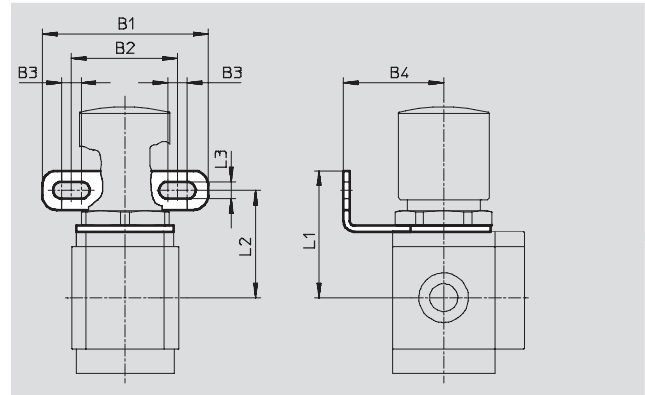
- For wall mounting
- For filter regulator, pressure regulator

Material:  
Steel



Note

The hex nut for attaching components to this bracket must be ordered separately.

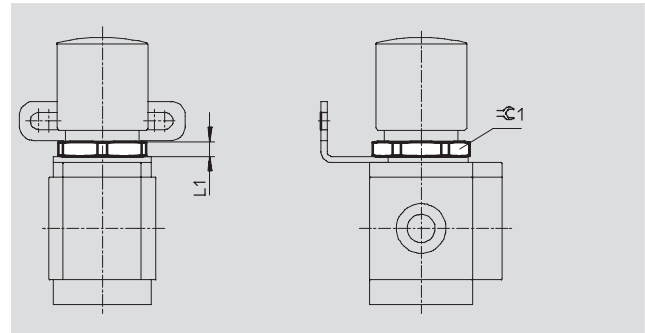


Dimensions and ordering data										
Size	B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
MS4	68	44	8	41	52	44	7	49	526 064	MS4-WR
MS6	70	42	8.2	40	67	57	7.1	90	526 075	MS6-WR

## Hex nut MS4/6-WRS

- For front panel mounting
- For attaching components to the mounting bracket MS...-WR

Material:  
Aluminium



Dimensions and ordering data					
Size	L1	Ø 1	Weight [g]	Part No.	Type
MS4	6	36	6.9	532 187	MS4-WRS
MS6	7	55	20.9	532 188	MS6-WRS

# MS series service units

Accessories



## Mounting bracket MS4/6-WP...

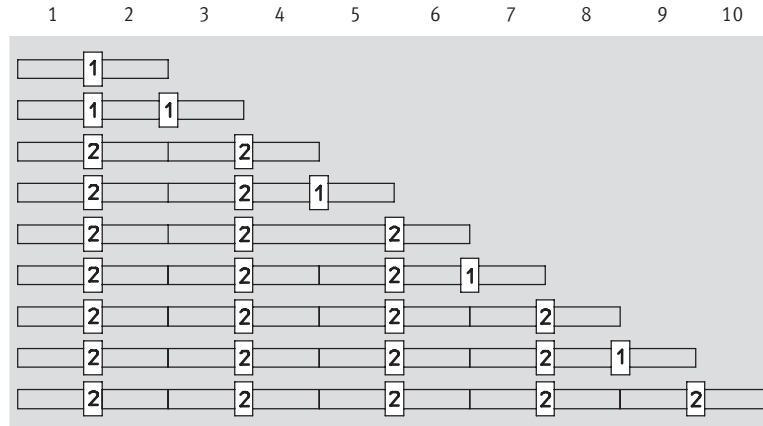
Clearances for mounting service unit combinations

1 unit  
MS4-...: 40 mm  
MS6-...: 62 mm

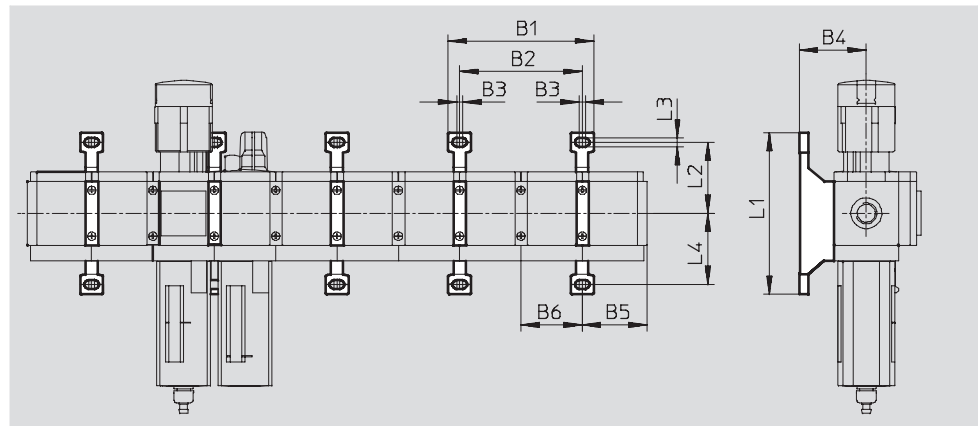
2 units  
MS4-...: 80 mm  
MS6-...: 124 mm with WP, WPB  
138 mm with WPM-2D

- 1 Mounting bracket WP, WPB or WPM-D
- 2 Mounting bracket WP, WPB or WPM-2D

Number of units



## 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						
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D				54						
MS6-WPM-...D	168	138	17.5	54	65.5	69	98.6	41.3		41.3



# MS series service units

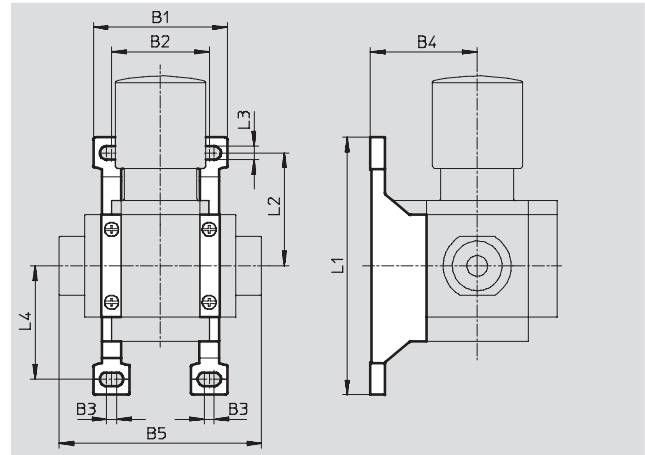
Accessories



## 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 MS-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:

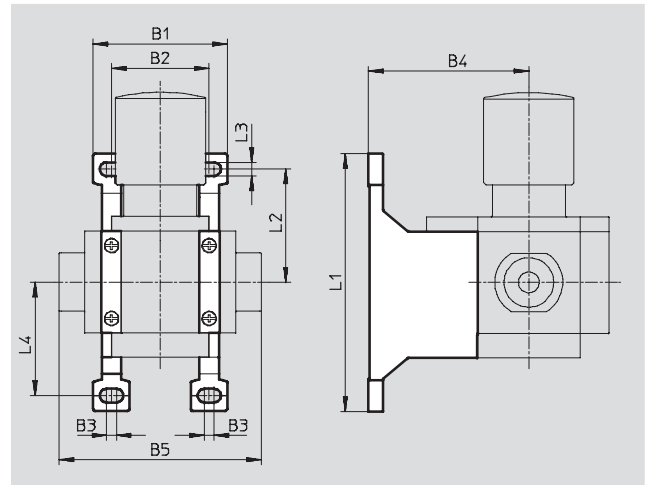
Die-cast aluminium

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 MS-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



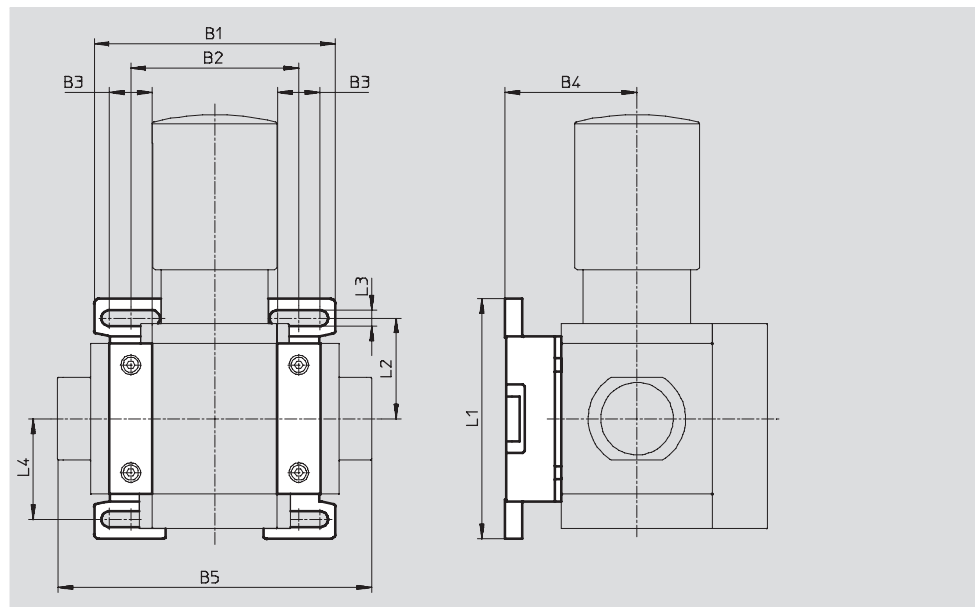
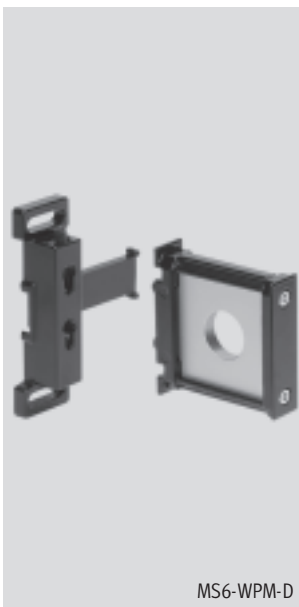
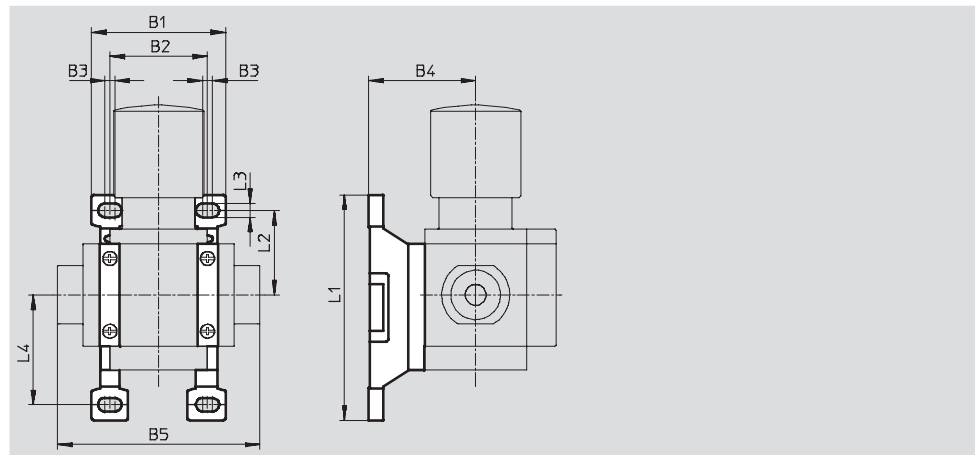
## Mounting bracket MS4/6-WPM

(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

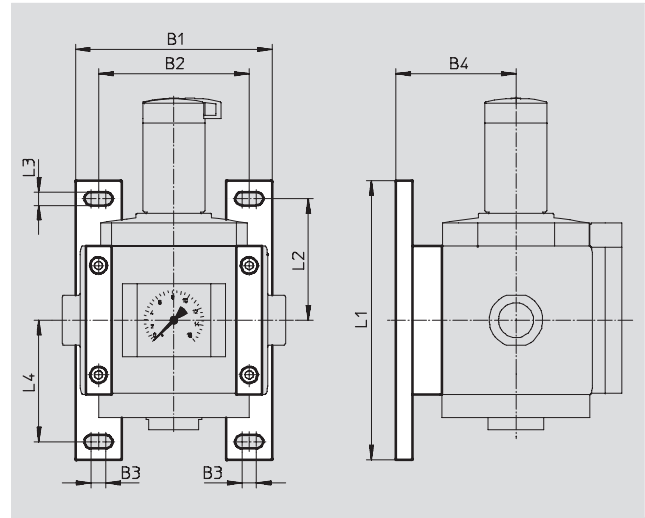


## Wall mounting plate MS12-WP

(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

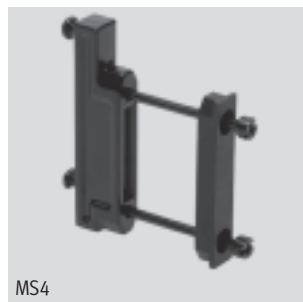


Ordering data			
Size	Weight [g]	Part No.	Type
MS4	36	532 798	MS4-MV
MS6	54	532 799	MS6-MV
MS12	500	537 134	MS12-MV

## Module connector MS4/6-MVM

- For installation of modules with regulating knob pointing downwards

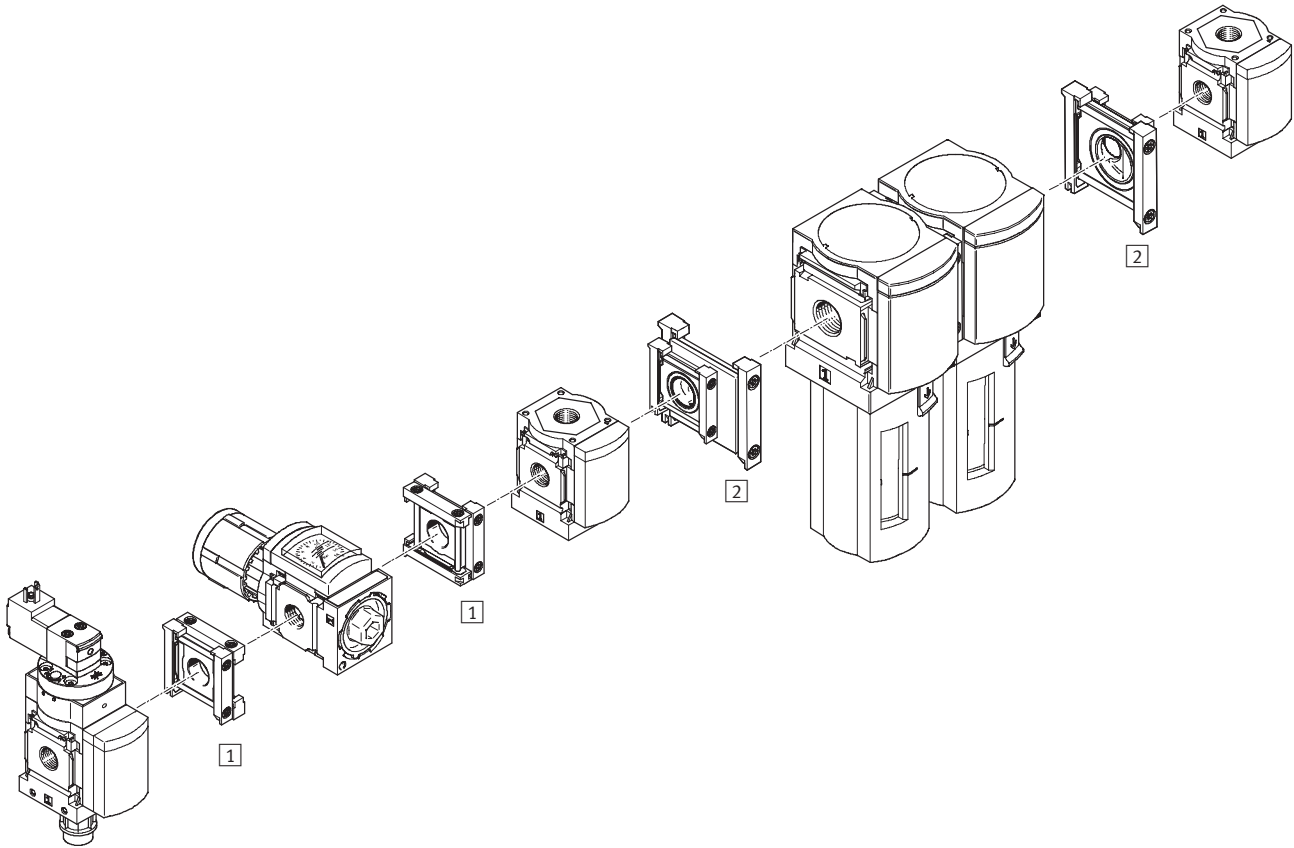
Material:  
Die-cast aluminium




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

# MS series service units

Accessories



Mounting attachments		→ Page
1	Module connector MS4/6-RMV	11-11
2	Module connector MS4-6-AMV	11-12

 Note  
Mounting attachments for wall mounting → 11-6

## MS series service units

Accessories

### Module connector MS4/6-RMV

- For connecting service units at right angles to the axis of connection

Material:

Connecting plate, module connector:

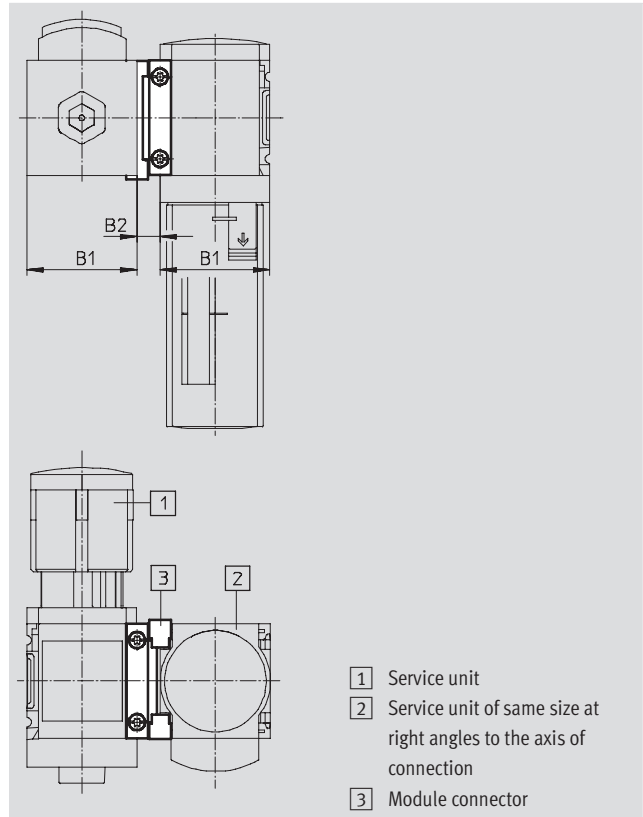
Die-cast aluminium

Sealing ring: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



Dimensions and ordering data						
Size	B1	B2	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
MS4	40.2	8.5	2	50	543 490	MS4-RMV
MS6	62	11	2	80	543 491	MS6-RMV

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. 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

### Module connector MS4-6-AMV

- For connecting MS4 and MS6 service units as one unit

Material:

Connecting plate, module connector:

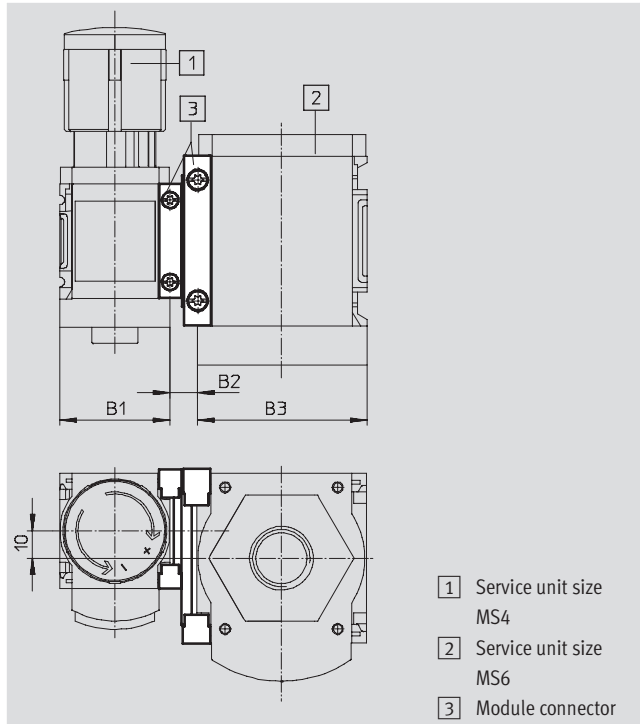
Die-cast aluminium

Sealing ring: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



- 1 Service unit size MS4
- 2 Service unit size MS6
- 3 Module connector

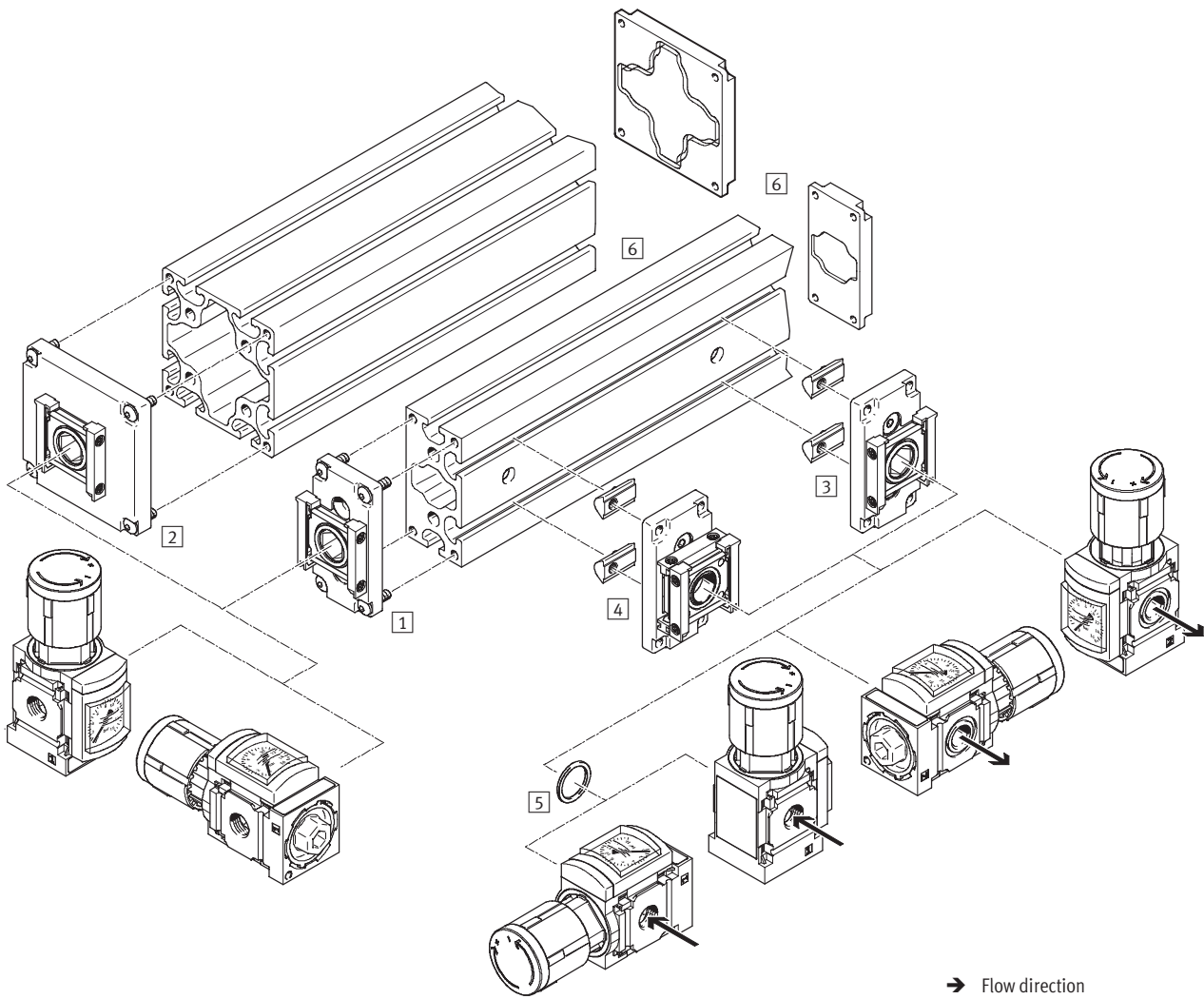
Dimensions and ordering data							
Size	B1	B2	B3	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
MS4/6	40.2	10	62	2	200	543 489	MS4-6-AMV

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. 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



→ Flow direction

Mounting attachments		→ Page
1	Pressure supply module MS4/6-E-IPM-40-80	11-14
2	Pressure supply module MS4/6-E-IPM-80-80	11-15
3	Branching module MS4/6-A-IPM-80	11-16
4	Branching module MS4/6-A-RMV-IPM-80	11-17
5	Sealing ring MS4/6-NNR	11-18
6	Profiles 40x80/80x80, cover plates, supply plates, drilling jigs	On request

**Note**  
Further mounting attachments are required for mounting a service unit combination → 11-6

## MS series service units

Accessories

### Pressure supply module

#### MS4/6-E-IPM-40-80

- For mounting a service unit on the end of a profile of size 40x80
- Module connector can be repositioned by 90° for horizontal mounting of the service unit

Material:

Connecting plate, hollow bolt, module connector: Die-cast aluminium

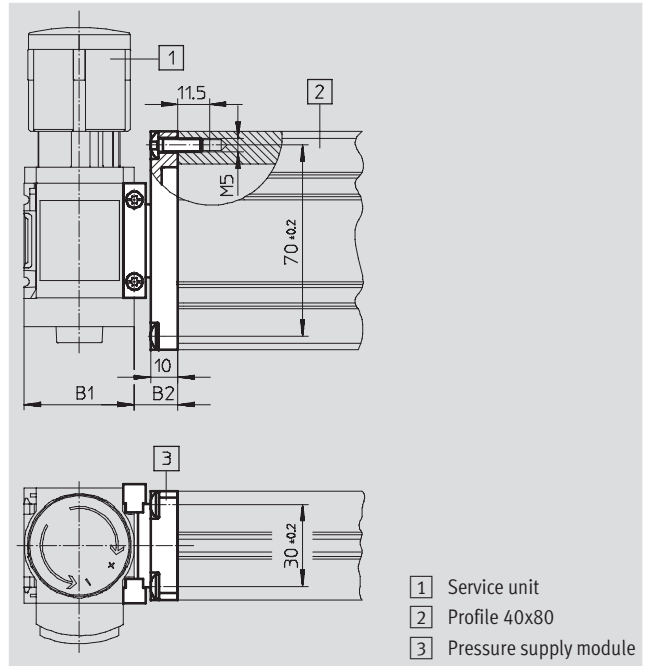
Screws: Steel

Seals: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



Dimensions and ordering data						
Size	B1	B2	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
MS4	40.2	16	2	90	543 494	MS4-E-IPM-40-80
MS6	62	16	2	210	543 496	MS6-E-IPM-40-80

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. 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

### Pressure supply module

#### MS4/6-E-IPM-80-80

- For mounting a service unit on the end of a profile of size 80x80
- Module connector can be repositioned by 90° for horizontal mounting of the service unit

Material:

Connecting plate, hollow bolt, module connector: Die-cast aluminium

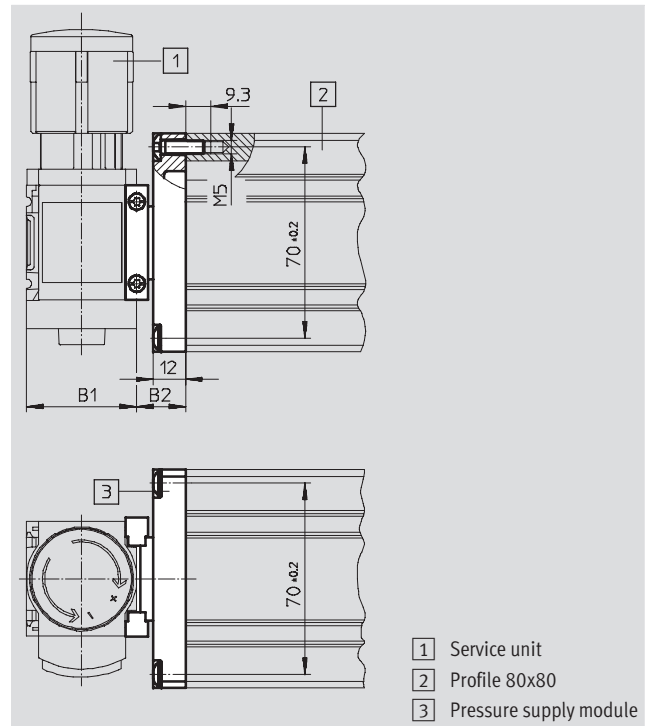
Screws: Steel

Seals: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



Dimensions and ordering data						
Size	B1	B2	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
MS4	40.2	18	2	100	543 495	MS4-E-IPM-80-80
MS6	62	18	2	240	543 497	MS6-E-IPM-80-80

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. 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

### Branching module MS4/6-A-IPM-80

- For mounting a service unit on the long side of a profile
- Module connector can be repositioned by 90° for horizontal mounting of the service unit

Material:

Connecting plate, hollow bolt, module

connector: Die-cast aluminium

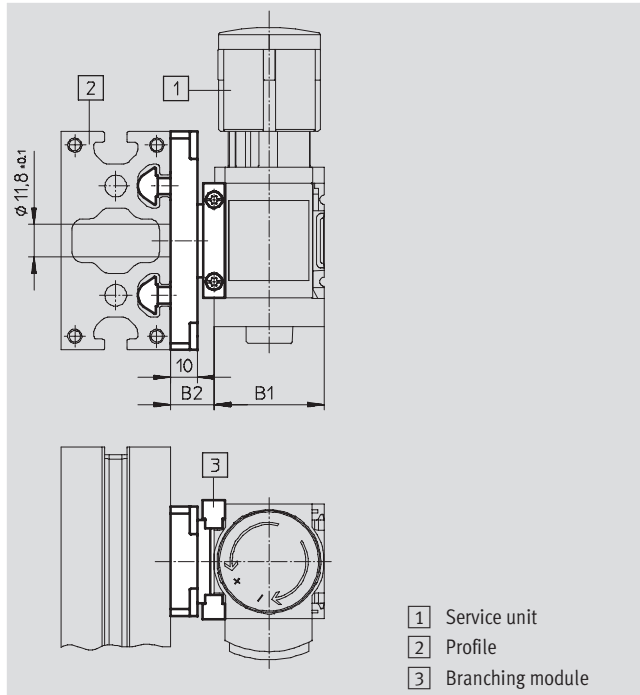
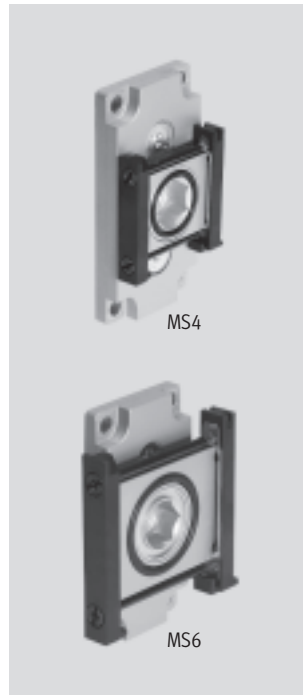
Screws: Steel

Seals: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



- 1 Service unit
- 2 Profile
- 3 Branching module

Dimensions and ordering data						
Size	B1	B2	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
MS4	40.2	16	2	90	543 498	MS4-A-IPM-80
MS6	62	16	2	200	543 499	MS6-A-IPM-80

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. 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

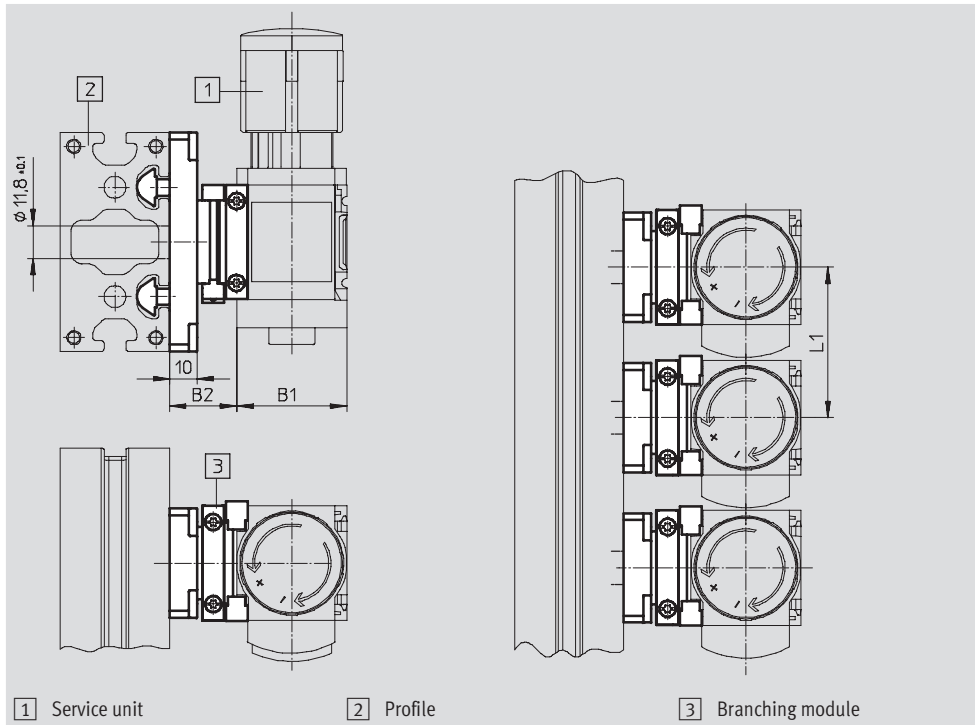
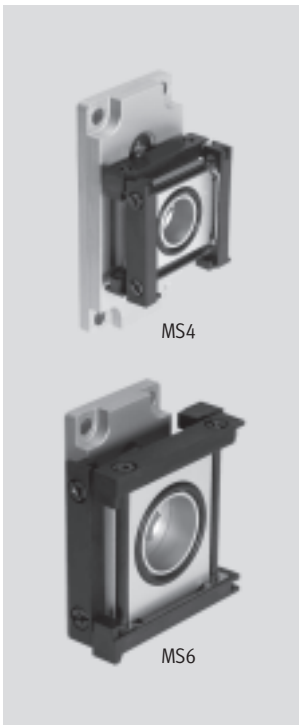
## Branching module

### MS4/6-A-RMV-IPM-80

- For mounting a service unit on the long side of a profile
- Suitable for manifold mounting (the fittings on the module connector can be accessed from above for fast replacement of an individual component)
- Module connector can be repositioned by 90° for horizontal mounting of the service unit

Material:  
 Connecting plate, hollow bolt,  
 module connector: Die-cast  
 aluminium  
 Screws: Steel  
 Seals: Nitrile rubber  
 Conforms to RoHS

Temperature of medium:  
 -10 ... +60 °C



Dimensions and ordering data						
Size	B1	B2	L1	CRC <sup>1)</sup>	Weight [g]	Part No. Type
MS4	40.2	24.5	55	2	150	543 500 MS4-A-RMV-IPM-80
MS6	62	27	77	2	220	543 501 MS6-A-RMV-IPM-80

1) Corrosion resistance class 2 to Festo standard 940 070  
 Components subject to moderate corrosion stress. 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.

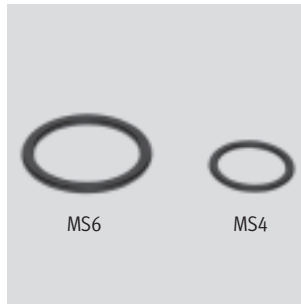
## MS series service units

Accessories

### Sealing ring MS4/6-NNR

- For sealing a branching module  
MS-A-IPM when used as a pressure supply module

Material:  
Nitrile rubber  
Conforms to RoHS



Temperature of medium:  
-10 ... +60 °C

Dimensions and ordering data				
Size	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
MS4	2	1	<b>543 492</b>	<b>MS4-NNR</b>
MS6	2	1	<b>543 493</b>	<b>MS6-NNR</b>

1) Corrosion resistance class 2 to Festo standard 940 070  
Components subject to moderate corrosion stress. 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

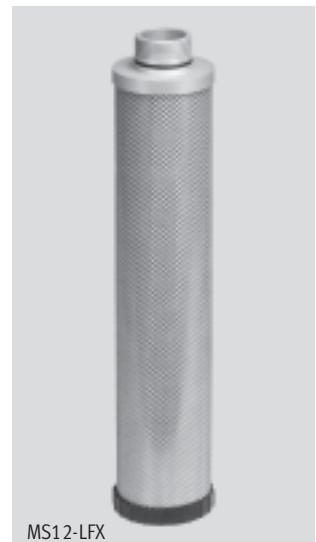
**FESTO**

### Filter cartridge MS4/6-LF...



Ordering data				
Size		Grade of filtration [µm]	Part No.	Type
MS4	Micro-filter cartridge	0.01	162 674	MS4/D-MINI-LFM-A
	Fine-filter cartridge	1	162 677	MS4/D-MINI-LFM-B
	Filter cartridge	5	534 501	MS4-LFP-C
	Filter cartridge	40	534 502	MS4-LFP-E
	Active carbon filter cartridge	–	532 912	MS4/D-MINI-LFX
MS6	Micro-filter cartridge	0.01	532 909	MS6-LFM-A
	Micro-filter cartridge (for variant HF, high flow rate)	0.01	552 093	MS6-LFM-A-HF 
	Fine-filter cartridge	1	532 910	MS6-LFM-B
	Fine-filter cartridge (for variant HF, high flow rate)	1	552 092	MS6-LFM-B-HF 
	Filter cartridge	5	534 499	MS6-LFP-C
	Filter cartridge	40	534 500	MS6-LFP-E
	Active carbon filter cartridge	–	532 911	MS6-LFX
	Active carbon filter cartridge (for variant HF, high flow rate)	–	552 094	MS6-LFX-HF 

### Filter cartridge MS12-LF...







Ordering data				
Size		Grade of filtration [µm]	Part No.	Type
MS12	Micro-filter cartridge	0.01	537 146	MS12-LFM-A
	Fine-filter cartridge	1	537 145	MS12-LFM-B
	Filter cartridge	5	537 143	MS12-LFP-C
	Filter cartridge	40	537 144	MS12-LFP-E
	Active carbon filter cartridge	–	537 147	MS12-LFX


# MS series service units

Accessories



Ordering data – Plug socket with cable SIM-M8			Technical data → <a href="http://www.festo.com">www.festo.com</a>	
	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
	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


Ordering data – Plug socket with cable SIM-M12			Technical data → <a href="http://www.festo.com">www.festo.com</a>	
	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
	M12x1, 4-pin	5	164 259	SIM-M12-4GD-5-PU
	M12x1, 5-pin	2.5	175 715	SIM-M12-5GD-2,5-PU
		5	175 716	SIM-M12-5GD-5-PU
	M12x1, 3-pin	2.5	159 430	SIM-M12-3WD-2,5-PU
		5	159 431	SIM-M12-3WD-5-PU
M12x1, 4-pin	5	164 258	SIM-M12-4WD-5-PU	


Ordering data – Pressure gauge MA							
	Nominal size	Pneumatic connection	Indicating range		Part No.	Type	
			[bar]	[psi]			
	Pressure gauge MA, DIN EN 837-1					Technical data → <a href="http://www.festo.com">www.festo.com</a>	
	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 → <a href="http://www.festo.com">www.festo.com</a>	
	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 → <a href="http://www.festo.com">www.festo.com</a>		
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 → <a href="http://www.festo.com">www.festo.com</a>	
	Description	Pneumatic connection	Part No.	Type
	for MS4-EM1/EE	G1/4	<b>6 842</b>	<b>U-1/4-B</b>
	for MS6-EM1/EE	G1/2	<b>6 844</b>	<b>U-1/2-B</b>
	for MS12-EM/EE	G1	<b>151 990</b>	<b>U-1-B</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	<b>534 151</b>	<b>ESK-1/8-1/4</b>
		R1/4	R1/4	<b>151 521</b>	<b>ESK-1/4-1/4</b>
			R1/2	<b>534 153</b>	<b>ESK-1/4-1/2</b>

Ordering data – Padlock LRVS-D				
	Description	Weight [g]	Part No.	Type
	for filter or pressure regulators	120	<b>193 786</b>	<b>LRVS-D</b>

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