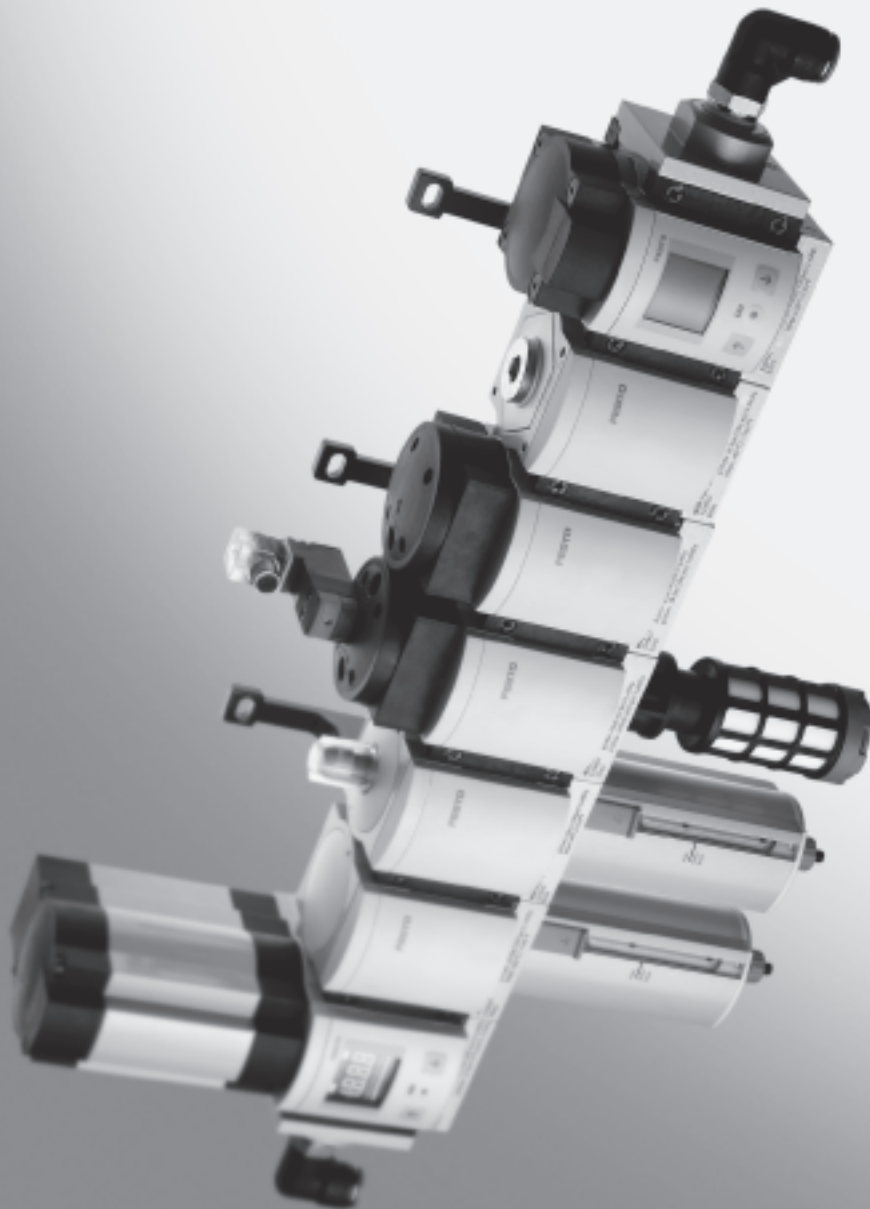


Wide range of configuration options

→ [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)

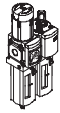
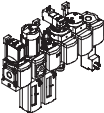








# MS series service units

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>													
<b>MSB-FRC</b> 	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	-											
<b>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>)</b>													
<b>MSB</b> 	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 <b>MS-LFR</b> 	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 <b>MS-LF</b> 	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 <b>MS-LFM</b> 	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 <b>MS-LFX</b> 	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 <b>MS-LR</b> 	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 <b>MS-LRB</b> 	4	G1/4	G1/8, G1/4, G3/8	-	-	■	■	■	-	-	-	-	-
	6	G1/2	G1/4, G3/8, G1/2, G3/4	-	-	■	■	■	■	-	-	-	-
	12	-											
Precision pressure regulators <b>MS-LRP</b> 	4	-											
	6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	■	■	■	-	■	-	-	-	-	-
	12	-											
Precision pressure regulators <b>MS-LRPB</b> 	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, G1 $\frac{1}{4}$ , G1 $\frac{1}{2}$ , 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, G1 $\frac{1}{4}$ , G1 $\frac{1}{2}$ , 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, G1 $\frac{1}{4}$ , G1 $\frac{1}{2}$ , 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, G1 $\frac{1}{4}$ , G1 $\frac{1}{2}$ , 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, G1 $\frac{1}{4}$ , G1 $\frac{1}{2}$ , 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, G1 $\frac{1}{4}$ , G1 $\frac{1}{2}$ , 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	-												

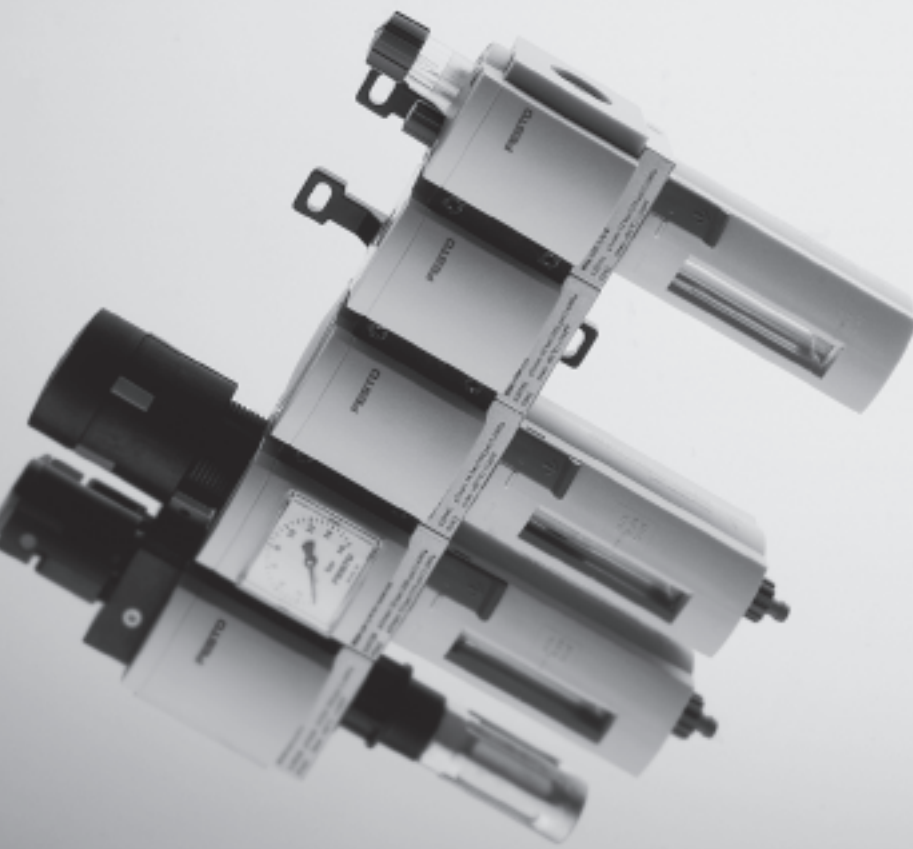
1) To be ordered via configurator software only → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



## MS4/MS6 series service units

FESTO

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

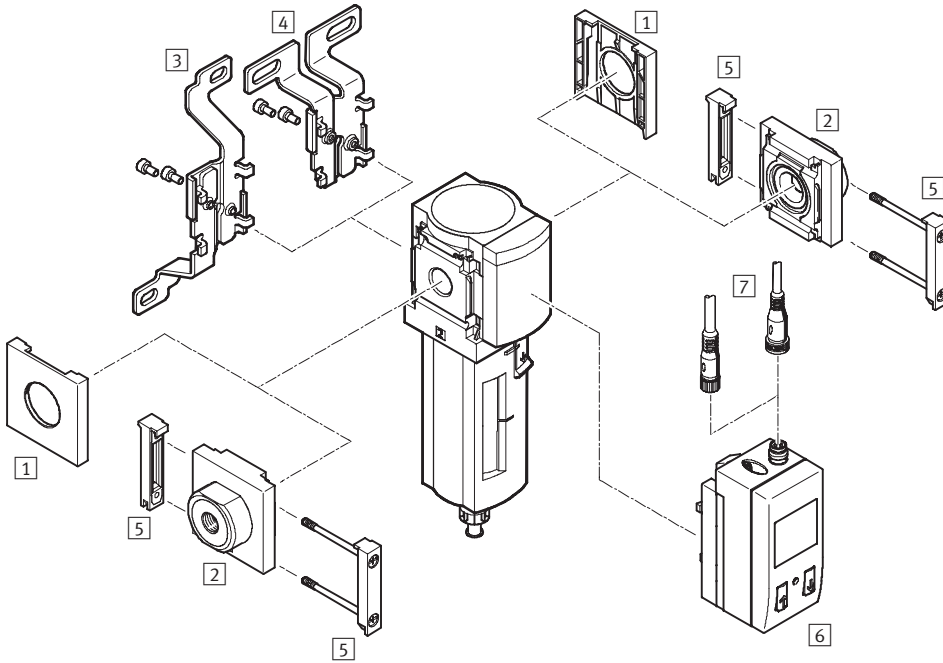


- MS4 – grid  
dimension 40 mm  
MS6 – grid  
dimension 62 mm
- Modular
- Easy to assemble
- Broad range of functions
- Compact with high flow rates
- Modern design
- Wide choice of variants
- Integrated safety functions

Specified types in accordance with  
ATEX directive for potentially  
explosive atmospheres  
→ [www.festo.com/en/ex](http://www.festo.com/en/ex)

**Filters MS4/MS6-LF/LFM/LFX, MS series**

Peripherals overview



**Note**  
Additional accessories:  
- Module connector for combinations → 11-9  
- Adapter for mounting on profiles → 11-12

MS series service units  
Filters

4

Mounting attachments and accessories						
	Individual device		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	-	■	■	■	11-8
6	Filter pollution indicator DP/DN/DPI/DNI	■ for LFM	■ for LFM	■ for LFM	■ for LFM	4-22
7	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■ for LFM	■ for LFM	■ for LFM	■ for LFM	11-19
-	Mounting bracket MS4/6-WP/WPB/WPM	-	■	■	■	11-6, 11-7



## Filters MS4/MS6-LF/LFM/LFX, MS series

**FESTO**

Type codes

		MS	6	-	LFM	-	1/4	-	A	R	M	-		-	DA
<b>Series</b>															
MS	Standard service unit														
<b>Size</b>															
4	Grid dimension 40 mm														
6	Grid dimension 62 mm														
<b>Service function</b>															
LF	Filter														
LFM	Fine and micro filter														
LFX	Activated carbon filter														
<b>Pneumatic connection</b>															
1/8	G1/8 thread														
1/4	G1/4 thread														
3/8	G3/8 thread														
1/2	G1/2 thread														
<b>Grade of filtration (for LF and LFM only)</b>															
A	0.01 µm														
B	1 µm														
C	5 µm														
E	40 µm														
<b>Bowl guard</b>															
R	Plastic bowl guard														
U	Metal bowl														
<b>Condensate drain (for LF and LFM only)</b>															
M	Manual rotary														
V	Fully automatic														
<b>Flow rate (for LFM and LFX only)</b>															
	Standard														
HF	High flow rate														
<b>Filter change sensor (for LFM only)</b>															
	Without differential pressure indicator														
DA	Differential pressure indicator														

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

Filters LF	→ 4-10
Fine and micro filters LFM	→ 4-22
Activated carbon filters LFX	→ 4-29

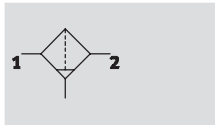
- Connecting plates
- Condensate drain
- Filter pollution indicator (for LFM only)
- Type of mounting
- Alternative flow direction

# Filters MS4/MS6-LF, MS series

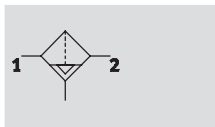
Technical data



Function  
Condensate drain  
manual rotary



semi or fully automatic



- - Flow rate  
1,000 ... 4,100 l/min

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

- - Input pressure  
0 ... 20 bar

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

Wearing parts kits  
→ 4-9

The sintered filter with centrifugal separation removes contamination, rust and condensate from the compressed air. The filter cartridges are replaceable.



- Good particle and condensate separation
- High flow rate with minimal pressure drop
- Available with manual, semi-automatic, fully automatic or fully automatic, electrically actuated condensate drain
- Choice of filter cartridges: 5 µm or 40 µm
- Filter cartridges → 11-18

General technical data					
Size	MS4		MS6		
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	Sintered filter with centrifugal separation				
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	Plastic bowl guard				
	Metal bowl				
Condensate drain	Manual rotary				
	Semi-automatic				
	Fully automatic				
	-		Fully automatic, electrical		
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.

Standard nominal flow rate q <sub>n</sub> <sup>1)</sup> [l/min]					
Size	MS4		MS6		
Pneumatic connection	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>
Grade of filtration	5 µm	1,000	1,300	2,000	3,000
	40 µm	1,100	1,700	2,500	3,200
				3,800	4,100

1) Measured at p<sub>1</sub> = 6 bar and Δp = 1 bar

# Filters MS4/MS6-LF, MS series

Technical data



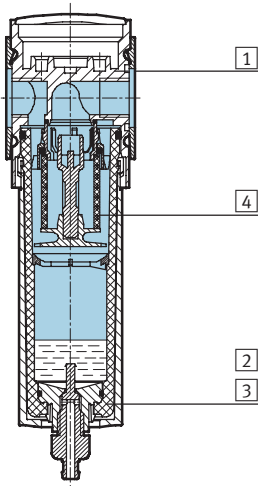
Operating and environmental conditions							
Condensate drain	Manual rotary M		Semi-automatic H		Fully automatic V		Fully automatic, electrical E1 ... E4
Size	MS4	MS6	MS4	MS6	MS4	MS6	MS6
Input pressure [bar]	0 ... 14	0 ... 20	1.5 ... 12	1.5 ... 12	2 ... 12	2 ... 12	0.8 ... 16
Operating medium	Compressed air						
Ambient temperature [°C]	-10 ... +60		+5 ... +60		+5 ... +60		+1 ... +60
Temperature of medium [°C]	-10 ... +60		+5 ... +60		+5 ... +60		+1 ... +60
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	MS4	MS6
With plastic bowl guard	190	600
With metal bowl	350	820
With metal bowl and fully automatic, electrically actuated condensate drain	-	1,800

## Materials

Sectional view



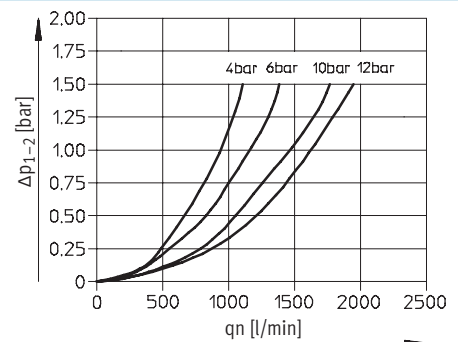
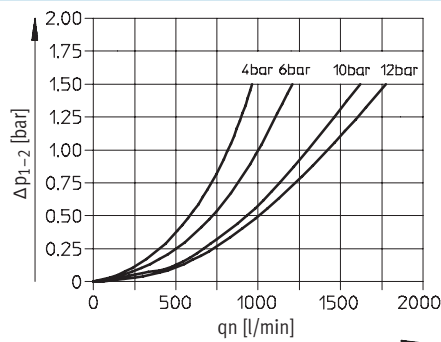
Filters		
1	Body	Die-cast aluminium
2	Plastic bowl guard	Polycarbonate/polyamide
3	Metal bowl	Aluminium
	Viewing window	Polyamide
4	Filter element	Polyethylene
-	Seals	Nitrile rubber
Note on materials		Free of copper and PTFE

## Standard flow rate $q_n$ as a function of the differential pressure $\Delta p_{1-2}$

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

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

MS4-LF-1/8



# Filters MS4/MS6-LF, MS series

Technical data

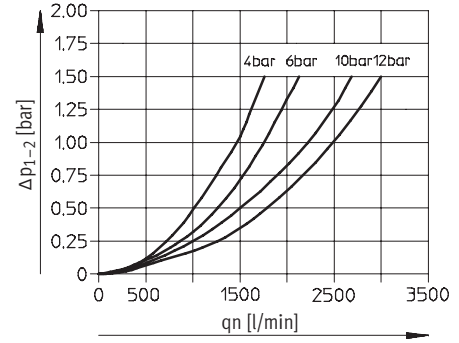
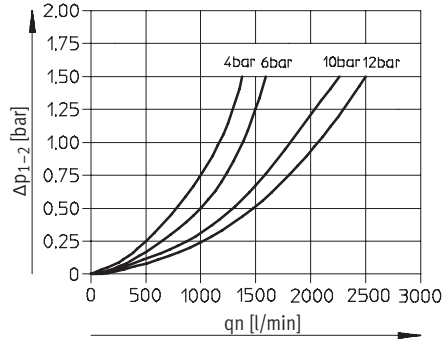


## Standard flow rate $q_n$ as a function of the differential pressure $\Delta p_{1-2}$

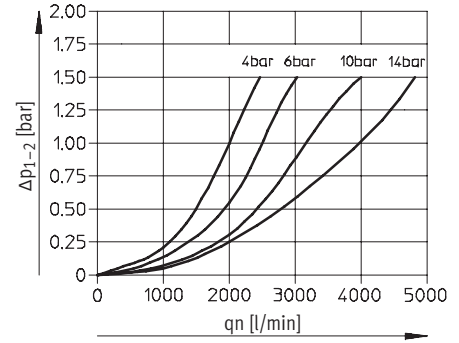
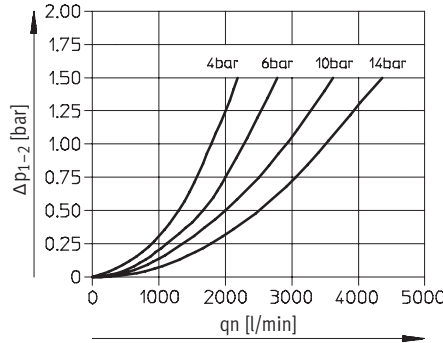
Grade of filtration 5  $\mu\text{m}$

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

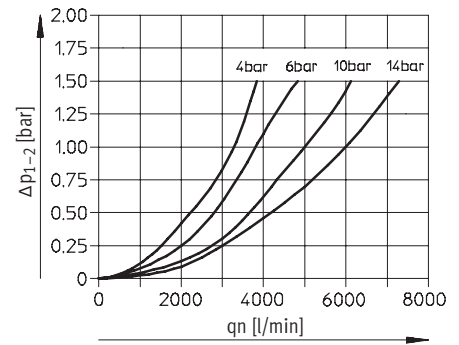
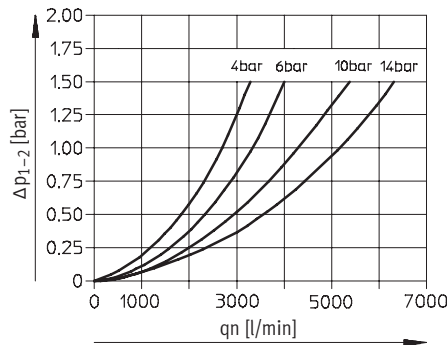
MS4-LF-1/4



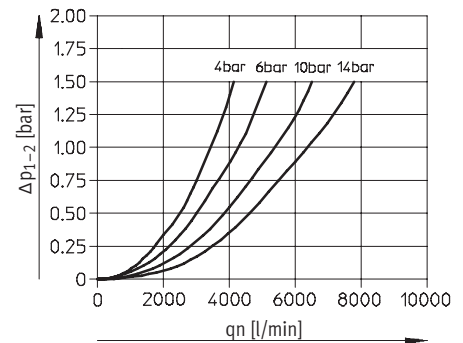
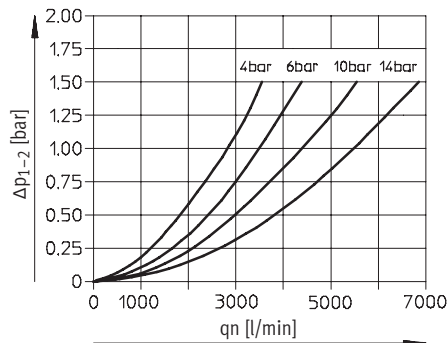
MS6-LF-1/4



MS6-LF-3/8



MS6-LF-1/2



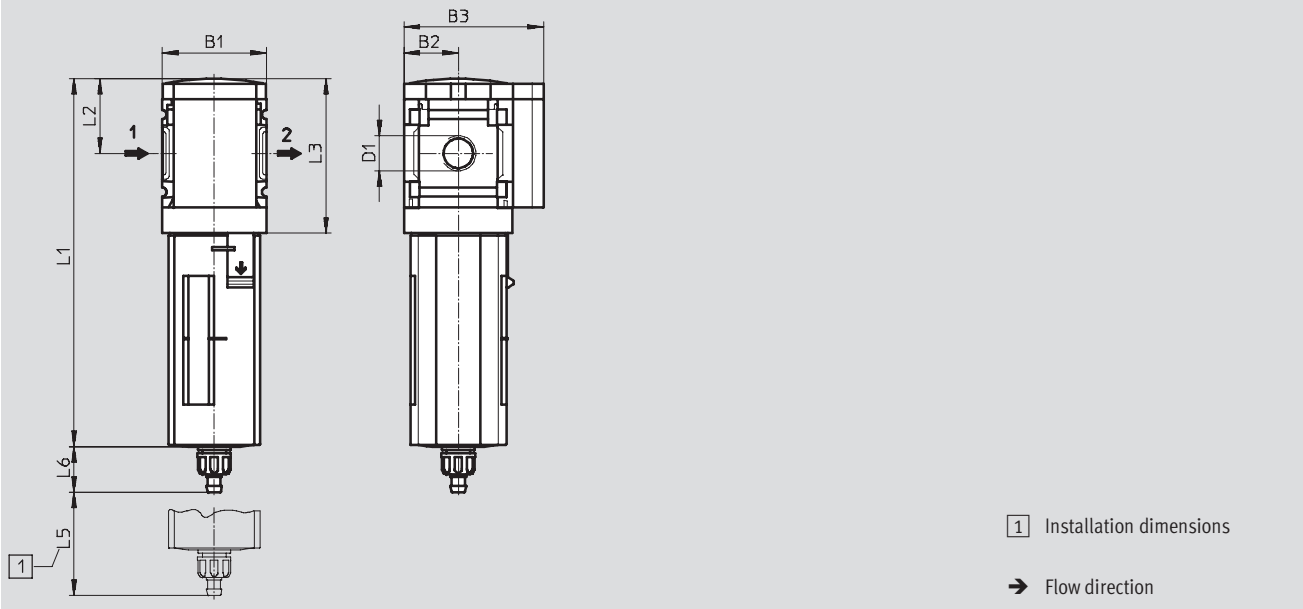
# Filters MS4/MS6-LF, MS series

Technical data



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

Manual rotary condensate drain



Type	B1	B2	B3	D1	L1		L2	L3	L5	L6	
					Bowl guard					Plastic	Metal
					Plastic	Metal					
MS4-LF-1/8	40	21	54	G1/8	142.8	159.4	29	60.5	25	17.7	17.7
MS4-LF-1/4				G1/4							
MS6-LF-1/4	62	31	76	G1/4	192	198	42	87	68	15.8	19
MS6-LF-3/8				G3/8							
MS6-LF-1/2				G1/2							

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

# Filters MS4/MS6-LF, 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

**Semi-automatic H**

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

**Fully automatic V**

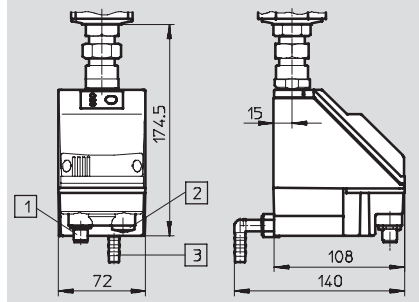
Barbed fitting for plastic tubing  
PCN-4

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

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

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

MS series service units  
Filters  
4

# Filters MS4/MS6-LF, MS series

Technical data

FESTO

Ordering data						
Size	Condensate drain	Connection	Grade of filtration 5 µm		Grade of filtration 40 µm	
			Part No.	Type	Part No.	Type
<b>Plastic bowl guard</b>						
MS4	manual rotary	G $\frac{1}{8}$	529 403	MS4-LF- $\frac{1}{8}$ -CRM	529 407	MS4-LF- $\frac{1}{8}$ -ERM
		G $\frac{1}{4}$	529 395	MS4-LF- $\frac{1}{4}$ -CRM	529 399	MS4-LF- $\frac{1}{4}$ -ERM
	fully automatic	G $\frac{1}{8}$	529 405	MS4-LF- $\frac{1}{8}$ -CRV	529 409	MS4-LF- $\frac{1}{8}$ -ERV
		G $\frac{1}{4}$	529 397	MS4-LF- $\frac{1}{4}$ -CRV	529 401	MS4-LF- $\frac{1}{4}$ -ERV
MS6	manual rotary	G $\frac{1}{4}$	529 623	MS6-LF- $\frac{1}{4}$ -CRM	529 631	MS6-LF- $\frac{1}{4}$ -ERM
		G $\frac{3}{8}$	529 639	MS6-LF- $\frac{3}{8}$ -CRM	529 647	MS6-LF- $\frac{3}{8}$ -ERM
		G $\frac{1}{2}$	529 607	MS6-LF- $\frac{1}{2}$ -CRM	529 615	MS6-LF- $\frac{1}{2}$ -ERM
	fully automatic	G $\frac{1}{4}$	529 625	MS6-LF- $\frac{1}{4}$ -CRV	529 633	MS6-LF- $\frac{1}{4}$ -ERV
		G $\frac{3}{8}$	529 641	MS6-LF- $\frac{3}{8}$ -CRV	529 649	MS6-LF- $\frac{3}{8}$ -ERV
		G $\frac{1}{2}$	529 609	MS6-LF- $\frac{1}{2}$ -CRV	529 617	MS6-LF- $\frac{1}{2}$ -ERV
<b>Metal bowl</b>						
MS4	manual rotary	G $\frac{1}{8}$	535 638	MS4-LF- $\frac{1}{8}$ -CUM	535 644	MS4-LF- $\frac{1}{8}$ -EUM
		G $\frac{1}{4}$	535 654	MS4-LF- $\frac{1}{4}$ -CUM	535 660	MS4-LF- $\frac{1}{4}$ -EUM
	fully automatic	G $\frac{1}{8}$	535 640	MS4-LF- $\frac{1}{8}$ -CUV	535 642	MS4-LF- $\frac{1}{8}$ -EUV
		G $\frac{1}{4}$	535 656	MS4-LF- $\frac{1}{4}$ -CUV	535 658	MS4-LF- $\frac{1}{4}$ -EUV
MS6	manual rotary	G $\frac{1}{4}$	529 627	MS6-LF- $\frac{1}{4}$ -CUM	529 635	MS6-LF- $\frac{1}{4}$ -EUM
		G $\frac{3}{8}$	529 643	MS6-LF- $\frac{3}{8}$ -CUM	529 651	MS6-LF- $\frac{3}{8}$ -EUM
		G $\frac{1}{2}$	529 611	MS6-LF- $\frac{1}{2}$ -CUM	529 619	MS6-LF- $\frac{1}{2}$ -EUM
	fully automatic	G $\frac{1}{4}$	529 629	MS6-LF- $\frac{1}{4}$ -CUV	529 637	MS6-LF- $\frac{1}{4}$ -EUV
		G $\frac{3}{8}$	529 645	MS6-LF- $\frac{3}{8}$ -CUV	529 653	MS6-LF- $\frac{3}{8}$ -EUV
		G $\frac{1}{2}$	529 613	MS6-LF- $\frac{1}{2}$ -CUV	529 621	MS6-LF- $\frac{1}{2}$ -EUV

Ordering data – Wearing parts kits		
Size	Part No.	Type
MS4	673 639	MS4-LF
MS6	673 640	MS6-LF

# Filters MS4/MS6-LF, MS series

Ordering data – Modular products



**M** Mandatory data →

Module No.	Series	Size	Function	Connection size	Grade of filtration	Bowl
527 695	MS	4	LF	1/8, 1/4, 3/8, 1/2, AGA, AGB, AGC, AGD, AGE	E C	R
527 668		6				U
<b>Order example</b>						
527 695	MS	4	- LF	- AGB	- E	- R

**Ordering table**

Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code
<b>M</b> Module No.		527 695	527 668			
Series		Standard			<b>MS</b>	MS
Size		4	6		...	
Function		Filters			<b>-LF</b>	-LF
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	-			<b>-AGA</b>	
	Connecting plate G1/4	Connecting plate G1/4			<b>-AGB</b>	
	Connecting plate G3/8	Connecting plate G3/8			<b>-AGC</b>	
	-	Connecting plate G1/2			<b>-AGD</b>	
Grade of filtration	40 µm				<b>-E</b>	
	5 µm				<b>-C</b>	
Bowl	Plastic bowl with plastic bowl guard				<b>-R</b>	
	Metal bowl				<b>-U</b>	

MS series service units  
Filters

4

Transfer order code

	MS		-	LF		-		-	
--	----	--	---	----	--	---	--	---	--



# Filters MS4/MS6-LF, MS series

Ordering data – Modular products



→ M Mandatory data	O Options	
<b>Condensate drain</b>  M H V E1 E2 E3 E4	<b>Type of mounting</b>  WP WPM WB WBM	<b>Alternative flow direction</b>  Z
- <b>M</b>	- <b>WP</b>	- <b>Z</b>

Ordering table						
Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code
↓ M	Condensate drain	Manual			-M	
		Semi-automatic (P1 max. 12 bar)			-H	
		Fully automatic (P1 max. 12 bar)			-V	
		-	External fully automatic condensate drain, electrical, 24 V DC, M12	1	-E1	
		-	External fully automatic condensate drain, electrical, 110 V AC, terminals	1	-E2	
		-	External fully automatic condensate drain, electrical, 230 V AC, terminals	1	-E3	
-	External fully automatic condensate drain, electrical, 24 V DC, terminals	1	-E4			
O	Type of mounting	Mounting bracket		2	-WP	
		Mounting bracket		2	-WPM	
		Mounting bracket			-WB	
		Mounting bracket			-WBM	
Alternative flow direction		Flow direction from right to left			-Z	

**1** E1, E2, E3, E4  
Only with metal bowl U.

**2** WP, WPM Only with connecting plate AGA, AGB, AGC, AGD or AGE.

Transfer order code

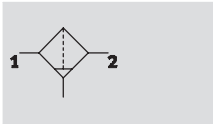
-  -  -

**Fine and micro filters MS4/MS6-LFM, MS series**

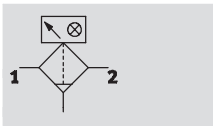
Technical data



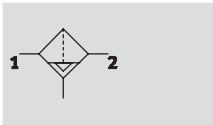
Function  
Condensate drain  
manual rotary  
without differential pressure indicator



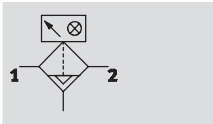
with differential pressure indicator or  
filter pollution indicator




Condensate drain  
semi or fully automatic  
without differential pressure indicator




with differential pressure indicator or  
filter pollution indicator



 Flow rate  
120 ... 1,470 l/min

 Temperature range  
-10 ... +60 °C

 Supply pressure  
0 ... 20 bar

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

Wearing parts kits  
→ 4-21



- High-performance filter for exceptionally clean compressed air
- Air quality to DIN ISO 8573-1
- Available with manual, semi-automatic, fully automatic or fully automatic, electrically actuated condensate drain
- Available with differential pressure indicator for display of filter pollution
- Available with electronic filter pollution indicator
- Choice of filter cartridges: 0.01 µm or 1 µm
- Filter cartridges → 11-18

LFM-A:  
ISO class 1 for particles:  
Max. particle density 0.1 mg/m<sup>3</sup>  
ISO class 2 for oil aerosols:  
Max. oil concentration 0.1 mg/m<sup>3</sup>  
Filter efficiency 99.9999%

LFM-B:  
ISO class 2 for particles:  
Max. particle density 1 mg/m<sup>3</sup>  
ISO class 3 for oil aerosols:  
Max. oil concentration 1 mg/m<sup>3</sup>  
Filter efficiency 99.99%

General technical data					
Size	MS4		MS6		
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>
Constructional design	Fibre filter				
Type of mounting	Via accessories In-line installation				
Mounting position	Vertical ±5°				
Grade of filtration [µm]	0.01 (micro filter LFM-A, air purity class at the output 1.7.2 to DIN ISO 8573-1) 1 (fine filter LFM-B, air purity class at the output 2.7.3 to DIN ISO 8573-1)				
Bowl guard	Plastic bowl guard Metal bowl				
Condensate drain	Manual rotary Semi-automatic Fully automatic - Fully automatic, electrically actuated				
Differential pressure indication	Visual display With filter pollution indicator based on differential pressure				
Residual oil content [mg/m <sup>3</sup> ]	≤0.01 (micro filter LFM-A) ≤0.5 (fine filter LFM-B)				
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.

## Fine and micro filters MS4/MS6-LFM, MS series

**FESTO**

Technical data

Standard nominal flow rate $q_{nN}^{1)}$ and standard flow rate $q_n$ [l/min]								
Size	MS4			MS6				
Pneumatic connection	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{3}{8}$	G $\frac{1}{2}$	G $\frac{1}{2}$
Variant	Standard	Standard	Standard	High flow rate HF	Standard	High flow rate HF	Standard	High flow rate HF
<b>Micro filter LFM-A</b>								
$q_{nN} 1 \rightarrow 2$	120	120	380	670	430	960	480	1,080
$q_n$ min	54	54	135	150	135	150	135	150
$q_n$ max	360	360	900	2,500	900	2,500	900	2,500
<b>Fine filter LFM-B</b>								
$q_{nN} 1 \rightarrow 2$	180	180	550	830	700	1,090	850	1,470
$q_n$ min	54	54	140	188	140	188	140	188
$q_n$ max	360	360	950	3,000	950	3,000	950	3,000

1) Measured at  $p_1 = 6$  bar and  $\Delta p = 70$  mbar

Technical data – Filter pollution indicator				
Variant	DP	DN	DPI	DNI
Pressure measuring range [bar]	0 ... +1			
Measured variable	Differential pressure; percentage value for filter pollution			
Switch output	PNP	NPN	PNP	NPN
Analogue output [mA]	–		4 ... 20	
Operating voltage range [V DC]	15 ... 30			
Max. output current [mA]	150			
Protection class	IP65			
CE mark (see declaration of conformity)	In accordance with EU EMC directive			
	In accordance with EU Low Voltage Directive			

Operating and environmental conditions										
Variant	Condensate drain								Filter pollution indicator	
	Manual rotary		Semi-automatic		Fully automatic		Fully automatic, electrically actuated			
	M	MS6	H	MS6	V	MS6	E1 ... E4	MS6	DP/DN/DPI/DNI	
Size	MS4	MS6	MS4	MS6	MS4	MS6	MS6	MS4	MS6	
Supply pressure [bar]	0 ... 14	0 ... 20	1.5 ... 12	1.5 ... 12	2 ... 12	2 ... 12	0.8 ... 16	max. 10		
Operating medium for micro filter LFM-A	Filtered compressed air, unlubricated, grade of filtration 1 $\mu$ m									
Operating medium for fine filter LFM-B	Filtered compressed air, unlubricated, grade of filtration 5 $\mu$ m									
Ambient temperature [°C]	–10 ... +60		+5 ... +60		+5 ... +60		+1 ... +60		0 ... +50	
Temperature of medium [°C]	–10 ... +60		+5 ... +60		+5 ... +60		+1 ... +60		0 ... +50	
Storage temperature [°C]	–10 ... +60		–10 ... +60		–10 ... +60		+1 ... +60		0 ... +50	
Corrosion resistance class CRC <sup>1)</sup>	2									

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.

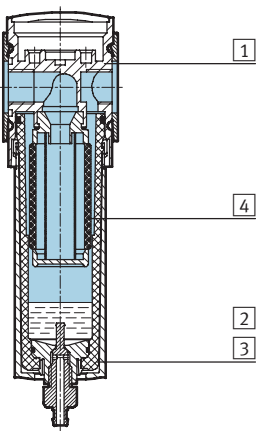
**Fine and micro filters MS4/MS6-LFM, MS series**

Technical data



Weight [g]			
Size	MS4	MS6	
Variant	Standard	Standard	High flow rate HF
With plastic bowl guard	190	600	1,280
With metal bowl	350	820	1,500
With metal bowl and fully automatic, electrically actuated condensate drain	-	1,800	2,180
Filter pollution indicator	80	100	100

**Materials**  
Sectional view



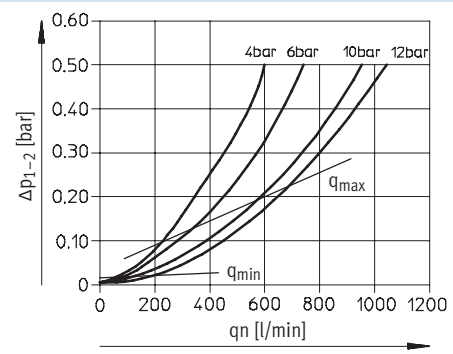
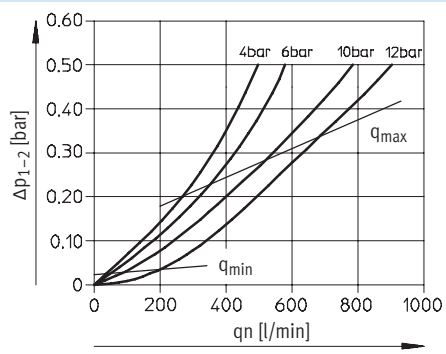
Fine and micro filters	
1	Housing Die-cast aluminium
2	Plastic bowl guard Polycarbonate/polyamide
3	Metal bowl Aluminium Inspection window Polyamide
4	Filter Borosilicate fibre
-	Seals Nitrile rubber
Note on materials Free of copper and PTFE	

Filter pollution indicator	
Housing	Reinforced polyamide/polyacetate
Adapter	Reinforced polyamide
Display	Polycarbonate
Seals	Nitrile rubber
Note on materials Free of copper and PTFE	

MS series service units  
Filters

4

**Standard flow rate  $q_n$  as a function of the differential pressure  $\Delta p_{1-2}$**   
Grade of filtration 0.01  $\mu m$  Grade of filtration 1  $\mu m$



## Fine and micro filters MS4/MS6-LFM, MS series

Technical data

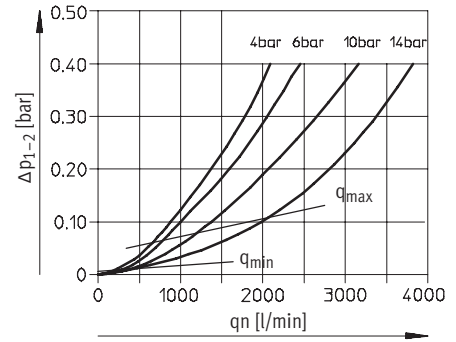
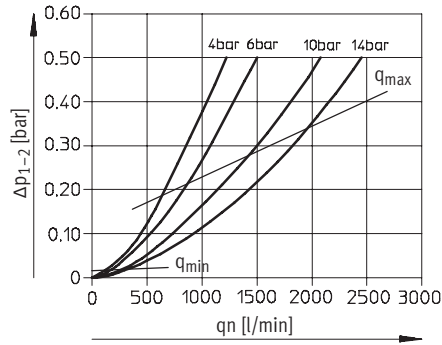
**FESTO**

### Standard flow rate $q_n$ as a function of the differential pressure $\Delta p_{1-2}$

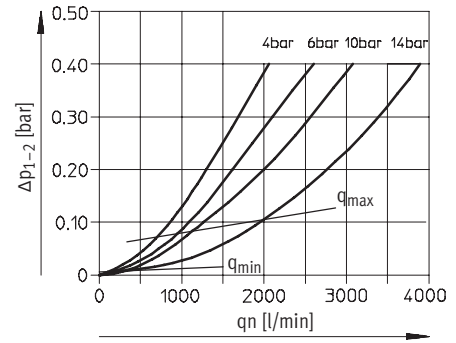
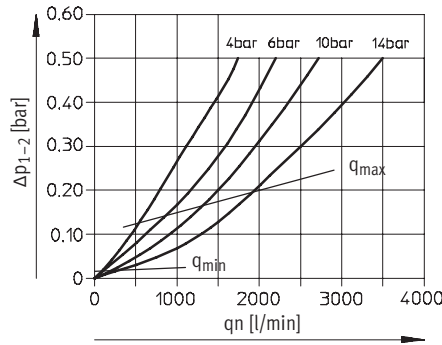
Grade of filtration 0.01  $\mu\text{m}$

Grade of filtration 1  $\mu\text{m}$

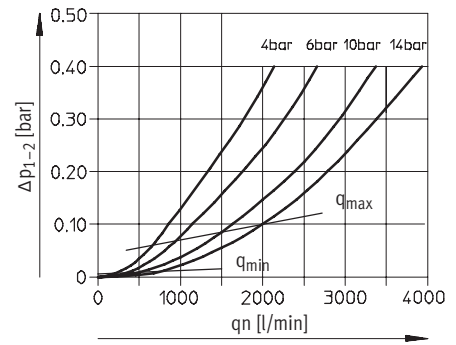
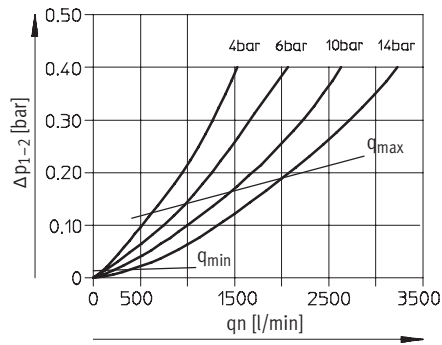
MS6-LFM-1/4



MS6-LFM-3/8



MS6-LFM-1/2

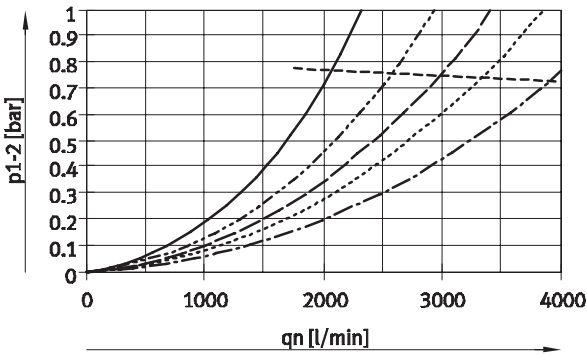


Fine and micro filters MS4/MS6-LFM, MS series

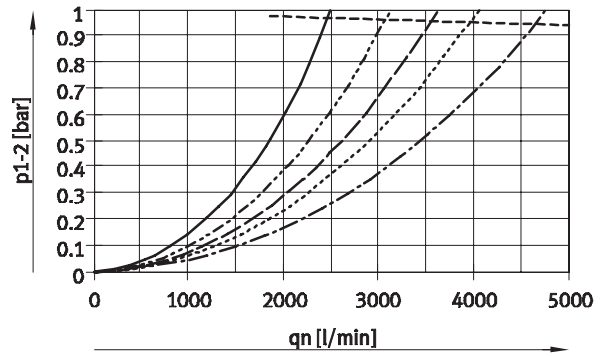
Technical data

Standard flow rate  $q_n$  as a function of the differential pressure  $p_{1-2}$

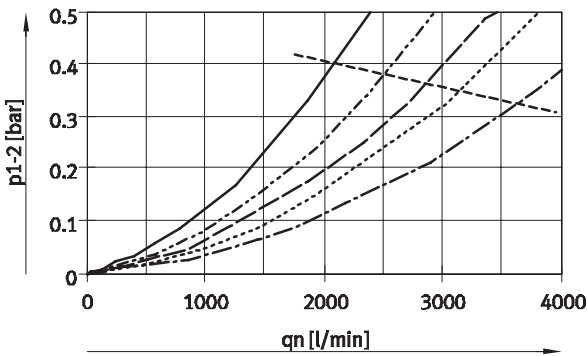
MS6-LFM-1/4-...-HF, Grade of filtration 0.01  $\mu\text{m}$



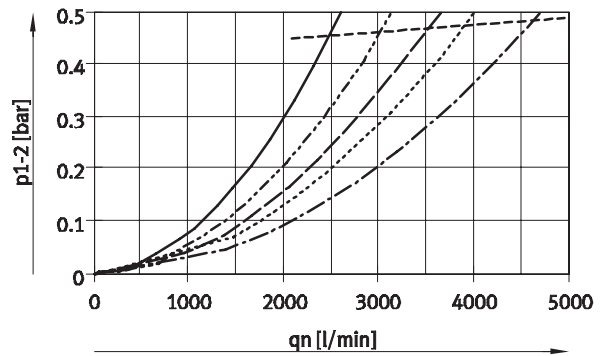
MS6-LFM-1/4-...-HF, Grade of filtration 1  $\mu\text{m}$



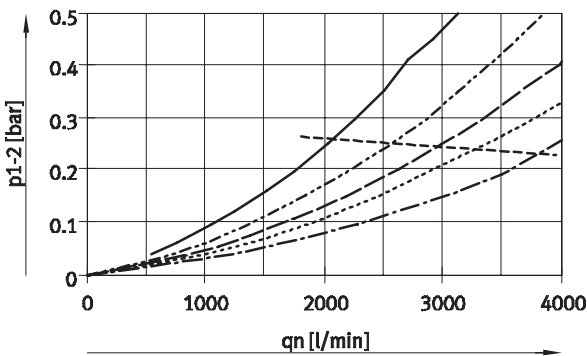
MS6-LFM-3/8-...-HF, Grade of filtration 0.01  $\mu\text{m}$



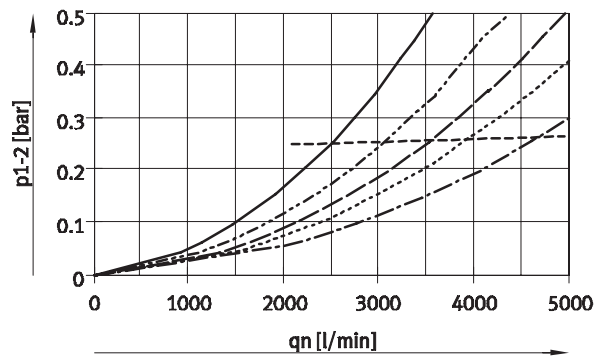
MS6-LFM-3/8-...-HF, Grade of filtration 1  $\mu\text{m}$



MS6-LFM-1/2-...-HF, Grade of filtration 0.01  $\mu\text{m}$



MS6-LFM-1/2-...-HF, Grade of filtration 1  $\mu\text{m}$



- p1: 4 bar
- - - p1: 6 bar
- · - p1: 8 bar
- · · p1: 10 bar
- · - · p1: 14 bar
- - - -  $q_{\text{max}}$

## Fine and micro filters MS4/MS6-LFM, MS series

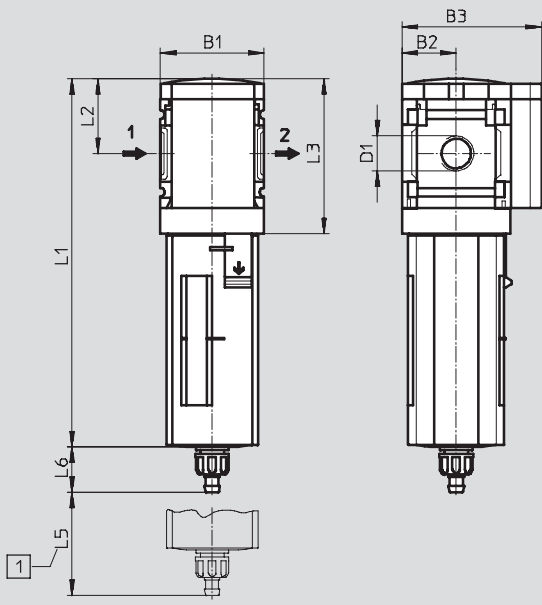
Technical data

**FESTO**

### Dimensions – Standard/High flow rate HF

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

Manual rotary condensate drain



1 Installation dimensions

→ Flow direction

Type	B1	B2	B3	D1	L1		L2	L3	L5	L6	
					Bowl guard					Plastic	Metal
					Plastic	Metal					
MS4-LFM-1/8	40	21	54	G1/8	142	160	29	60	25	17.7	17.7
MS4-LFM-1/4				G1/4							
MS6-LFM-1/4	62	31	76	G1/4	192	198	42	87	75	15.8	19
MS6-LFM-1/4-...-HF					312	318					
MS6-LFM-3/8	62	31	76	G3/8	192	198	42	87	75	15.8	19
MS6-LFM-3/8-...-HF					312	318					
MS6-LFM-1/2	62	31	76	G1/2	192	198	42	87	75	15.8	19
MS6-LFM-1/2-...-HF					312	318					

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

 **New**

**Variants HF, DP, DN, DPI, DNI**

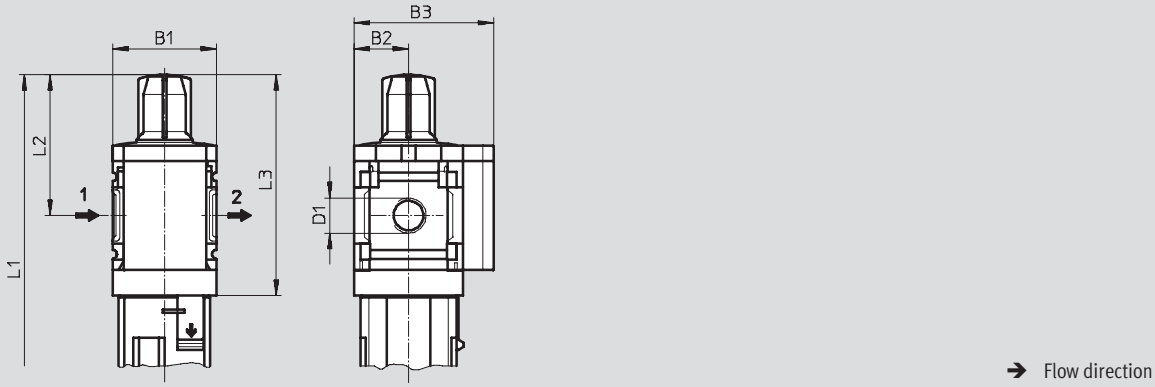
**Fine and micro filters MS4/MS6-LFM, MS series**

Technical data

**FESTO**

**Dimensions – Differential pressure indicator DA**

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



Type	B1	B2	B3	D1	L1		L2	L3
					Plastic	Metal		
MS4-LFM-1/8-...-DA	40	21	54	G1/8	168	186	55	86
MS4-LFM-1/4-...-DA				G1/4				
MS6-LFM-1/4-...-DA	62	31	76	G1/4	218	224	68	113
MS6-LFM-1/4-...-HF-DA					338	344		
MS6-LFM-3/8-...-DA	62	31	76	G3/8	218	224	68	113
MS6-LFM-3/8-...-HF-DA					338	344		
MS6-LFM-1/2-...-DA	62	31	76	G1/2	218	224	68	113
MS6-LFM-1/2-...-HF-DA					338	344		

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

MS series service units  
Filters

4



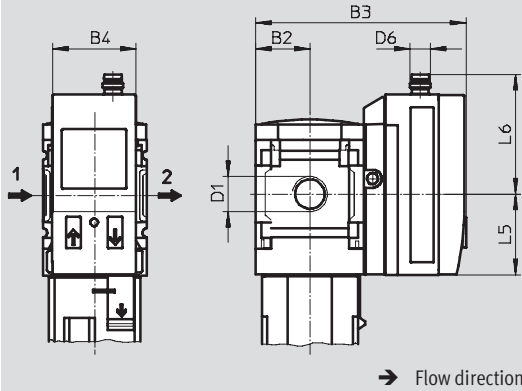
## Fine and micro filters MS4/MS6-LFM, MS series

Technical data

**FESTO**

### Dimensions – Filter pollution indicator DP/DN/DPI/DNI

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



Variant DP:  
Filter pollution indicator with 3-pin  
M8x1 plug, 1 switch output PNP

Variant DN:  
Filter pollution indicator with 3-pin  
M8x1 plug, 1 switch output NPN

Variant DPI:  
Filter pollution indicator with 4-pin  
M12x1 plug, 1 switch output PNP  
and 4 ... 20 mA analogue

Variant DNI:  
Filter pollution indicator with 4-pin  
M12x1 plug, 1 switch output NPN  
and 4 ... 20 mA analogue

Type	B2	B3	B4	D1	D6	L5	L6
MS4-LFM-1/8-...-DP/DN	21	81.8	32.3	G1/8	M8x1	32	47
MS4-LFM-1/4-...-DP/DN				G1/4			
MS4-LFM-1/8-...-DPI/DNI	21	81.8	32.3	G1/8	M12x1	32	56
MS4-LFM-1/4-...-DPI/DNI				G1/4			
MS6-LFM-1/4-...-DP/DN	31	102	32.3	G1/4	M8x1	32	47
MS6-LFM-3/8-...-DP/DN				G3/8			
MS6-LFM-1/2-...-DP/DN				G1/2			
MS6-LFM-1/4-...-DPI/DNI	31	102	32.3	G1/4	M12x1	32	56
MS6-LFM-3/8-...-DPI/DNI				G3/8			
MS6-LFM-1/2-...-DPI/DNI				G1/2			

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

**Fine and micro filters MS4/MS6-LFM, MS series**

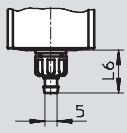
Technical data



**Dimensions – Condensate drain**

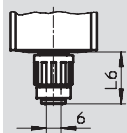
Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

**Manual rotary M**



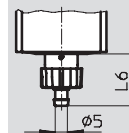
Barbed fitting for plastic tubing  
PCN-4

**Semi-automatic H**



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

**Fully automatic V**



Barbed fitting for plastic tubing  
PCN-4

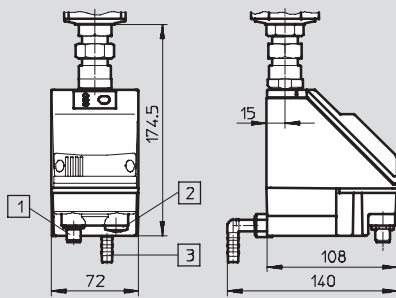
Type	L6
<b>Plastic bowl guard</b>	
MS4-LFM-...-M	17.7
MS6-LFM-...-M	15.8
<b>Metal bowl</b>	
MS4-LFM-...-M	17.7
MS6-LFM-...-M	19

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

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

## Fine and micro filters MS4/MS6-LFM, MS series

Technical data

**FESTO**

Ordering data						
Without differential pressure indicator						
Size	Condensate drain	Connection	Micro filter		Fine filter	
			Grade of filtration 0.01 µm		Grade of filtration 1 µm	
			Part No.	Type	Part No.	Type
Plastic bowl guard						
MS4	Manual rotary	G $\frac{1}{8}$	529 463	MS4-LFM- $\frac{1}{8}$ -ARM	529 465	MS4-LFM- $\frac{1}{8}$ -BRM
		G $\frac{1}{4}$	529 459	MS4-LFM- $\frac{1}{4}$ -ARM	529 461	MS4-LFM- $\frac{1}{4}$ -BRM
MS6	Manual rotary	G $\frac{1}{4}$	529 663	MS6-LFM- $\frac{1}{4}$ -ARM	529 667	MS6-LFM- $\frac{1}{4}$ -BRM
		G $\frac{3}{8}$	529 671	MS6-LFM- $\frac{3}{8}$ -ARM	529 675	MS6-LFM- $\frac{3}{8}$ -BRM
		G $\frac{1}{2}$	529 655	MS6-LFM- $\frac{1}{2}$ -ARM	529 659	MS6-LFM- $\frac{1}{2}$ -BRM
	Fully automatic	G $\frac{1}{4}$	530 510	MS6-LFM- $\frac{1}{4}$ -ARV	530 514	MS6-LFM- $\frac{1}{4}$ -BRV
		G $\frac{3}{8}$	530 518	MS6-LFM- $\frac{3}{8}$ -ARV	530 522	MS6-LFM- $\frac{3}{8}$ -BRV
		G $\frac{1}{2}$	530 502	MS6-LFM- $\frac{1}{2}$ -ARV	530 506	MS6-LFM- $\frac{1}{2}$ -BRV
Metal bowl						
MS4	Fully automatic	G $\frac{1}{8}$	539 208	MS4-LFM- $\frac{1}{8}$ -AUV	539 204	MS4-LFM- $\frac{1}{8}$ -BUV
		G $\frac{1}{4}$	535 768	MS4-LFM- $\frac{1}{4}$ -AUV	535 766	MS4-LFM- $\frac{1}{4}$ -BUV
MS6	Fully automatic	G $\frac{1}{4}$	529 665	MS6-LFM- $\frac{1}{4}$ -AUV	529 669	MS6-LFM- $\frac{1}{4}$ -BUV
		G $\frac{3}{8}$	529 673	MS6-LFM- $\frac{3}{8}$ -AUV	529 677	MS6-LFM- $\frac{3}{8}$ -BUV
		G $\frac{1}{2}$	529 657	MS6-LFM- $\frac{1}{2}$ -AUV	529 661	MS6-LFM- $\frac{1}{2}$ -BUV

Ordering data						
With differential pressure indicator						
Size	Condensate drain	Connection	Micro filter		Fine filter	
			Grade of filtration 0.01 µm		Grade of filtration 1 µm	
			Part No.	Type	Part No.	Type
Plastic bowl guard						
MS4	Manual rotary	G $\frac{1}{8}$	536 821	MS4-LFM- $\frac{1}{8}$ -ARM-DA	536 817	MS4-LFM- $\frac{1}{8}$ -BRM-DA
		G $\frac{1}{4}$	536 822	MS4-LFM- $\frac{1}{4}$ -ARM-DA	536 818	MS4-LFM- $\frac{1}{4}$ -BRM-DA
MS6	Manual rotary	G $\frac{1}{4}$	536 869	MS6-LFM- $\frac{1}{4}$ -ARM-DA	536 833	MS6-LFM- $\frac{1}{4}$ -BRM-DA
		G $\frac{3}{8}$	536 870	MS6-LFM- $\frac{3}{8}$ -ARM-DA	536 834	MS6-LFM- $\frac{3}{8}$ -BRM-DA
		G $\frac{1}{2}$	536 871	MS6-LFM- $\frac{1}{2}$ -ARM-DA	536 835	MS6-LFM- $\frac{1}{2}$ -BRM-DA
	Fully automatic	G $\frac{1}{4}$	536 875	MS6-LFM- $\frac{1}{4}$ -ARV-DA	536 839	MS6-LFM- $\frac{1}{4}$ -BRV-DA
		G $\frac{3}{8}$	536 876	MS6-LFM- $\frac{3}{8}$ -ARV-DA	536 840	MS6-LFM- $\frac{3}{8}$ -BRV-DA
		G $\frac{1}{2}$	536 877	MS6-LFM- $\frac{1}{2}$ -ARV-DA	536 841	MS6-LFM- $\frac{1}{2}$ -BRV-DA
Metal bowl						
MS4	Fully automatic	G $\frac{1}{8}$	537 213	MS4-LFM- $\frac{1}{8}$ -AUV-DA	537 209	MS4-LFM- $\frac{1}{8}$ -BUV-DA
		G $\frac{1}{4}$	537 214	MS4-LFM- $\frac{1}{4}$ -AUV-DA	537 210	MS4-LFM- $\frac{1}{4}$ -BUV-DA
MS6	Fully automatic	G $\frac{1}{4}$	536 881	MS6-LFM- $\frac{1}{4}$ -AUV-DA	536 845	MS6-LFM- $\frac{1}{4}$ -BUV-DA
		G $\frac{3}{8}$	536 882	MS6-LFM- $\frac{3}{8}$ -AUV-DA	536 846	MS6-LFM- $\frac{3}{8}$ -BUV-DA
		G $\frac{1}{2}$	536 883	MS6-LFM- $\frac{1}{2}$ -AUV-DA	536 847	MS6-LFM- $\frac{1}{2}$ -BUV-DA
Metal bowl and high flow rate						
MS6	Fully automatic	G $\frac{1}{2}$	552 926	MS6-LFM- $\frac{1}{2}$ -AUV-HF-DA 	552 925	MS6-LFM- $\frac{1}{2}$ -BUV-HF-DA 

Ordering data – Wearing parts kits		
Size	Part No.	Type
MS4	673 641	MS4-LFM
MS6	673 642	MS6-LFM

**Fine and micro filters MS4/MS6-LFM, MS series**

Ordering data – Modular products



**Mandatory data** →

Module No.	Series	Size	Function	Connection size	Grade of filtration	Bowl
527 697	MS	4	LFM	1/8, 1/4, 3/8, 1/2, AGA, AGB, AGC, AGD, AGE	B A	R
527 670		6				U
<b>Order example</b>						
527 697	MS	4	- LFM	- AGB	- B	- R

**Ordering table**

Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code
<b>M</b> Module No.		<b>527 697</b>	<b>527 670</b>			
Series		Standard			<b>MS</b>	MS
Size		4	6		...	
Function		Fine and micro filters			<b>-LFM</b>	-LFM
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	-		<b>-AGA</b>	
		Connecting plate G1/4	Connecting plate G1/4		<b>-AGB</b>	
		Connecting plate G3/8	Connecting plate G3/8		<b>-AGC</b>	
		-	Connecting plate G1/2		<b>-AGD</b>	
Grade of filtration		1 µm			<b>-B</b>	
		0.01 µm			<b>-A</b>	
Bowl		Plastic bowl with plastic bowl guard			<b>-R</b>	
		Metal bowl			<b>-U</b>	

MS series service units  
Filters

4

Transfer order code

	MS		-	LFM		-		-	
--	----	--	---	-----	--	---	--	---	--

## Fine and micro filters MS4/MS6-LFM, MS series

Ordering data – Modular products

**FESTO**

Mandatory data		Options		
Condensate drain	Flow rate	Filter change sensor	Type of mounting	Alternative flow direction
M H V E1 E2 E3 E4	HF	DA DP DN DPI DNI	WP WPM WB WBM	Z
- M	-	-	- WP	- Z

Ordering table						
Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code
Condensate drain M	Manual				-M	
	Semi-automatic (P1 max. 12 bar)				-H	
	Fully automatic (P1 max. 12 bar)			1	-V	
	-	External fully automatic condensate drain, electrical, 24 V DC, M12		2	-E1	
	-	External fully automatic condensate drain, electrical, 110 V AC, terminals		2	-E2	
	-	External fully automatic condensate drain, electrical, 230 V AC, terminals		2	-E3	
	-	External fully automatic condensate drain, electrical, 24 V DC, terminals		2	-E4	
Flow rate	-	High flow rate			-HF	
Filter change sensor	Differential pressure indicator, optical				-DA	
	Filter pollution indicator, M8 plug, PNP, 3-pin		3		-DP	
	Filter pollution indicator, M8 plug, NPN, 3-pin		3		-DN	
	Filter pollution indicator, plug M12, PNP, 4-pin, analogue output 4 ... 20 mA		3		-DPI	
	Filter pollution indicator, plug M12, PNP, 4-pin, analogue output 4 ... 20 mA		3		-DNI	
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 V Size 4: Only with metal bowl U

2 E1, E2, E3, E4  
Only with metal bowl U

3 DP, DN, DPI, DNI  
Measuring range max. 10 bar

4 WP, WPM Only with connecting plate AGA, AGB, AGC, AGD or AGE.

Transfer order code

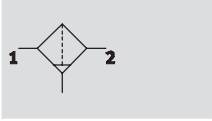
-  -  -  -  -




## Active carbon filters MS4/MS6-LFX, MS series

Technical data

**FESTO**

Function



-  - Flow rate  
250 ... 1,300 l/min
-  - Temperature range  
-10 ... +60 °C
-  - Input pressure  
0 ... 20 bar



- Removal of liquid and gaseous oil particles from compressed air using active carbon
- Eliminates odours and vapours
- Prefiltration with micro filter MS-LFM-A, grade of filtration 0.01 µm, recommended
- Filter cartridges → 11-18

General technical data					
Size	MS4		MS6		
Pneumatic connection 1, 2	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
Design	Active carbon filter				
Type of mounting	Via accessories				
	In-line installation				
Assembly position	Vertical $\pm 5^\circ$				
Air purity class at the output <sup>1)</sup>	1.7.1 to DIN ISO 8573-1				
Bowl guard	Plastic bowl guard				
	Metal bowl				
Residual oil content	[mg/m <sup>3</sup> ]	$\leq 0.003$			

1) It is recommended to replace filter cartridges after 1,000 operating hours.  
- Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Standard nominal flow rate $q_{nN}^{1)}$ and standard flow rate $q_n$ [l/min]								
Size	MS4		MS6					
	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$		G $\frac{3}{8}$		G $\frac{1}{2}$	
Variant	Standard	Standard	Standard	High flow rate HF	Standard	High flow rate HF	Standard	High flow rate HF
$q_{nN} 1 \rightarrow 2$	250	250	700	770	1,000	1,100	1,200	1,300
$q_n$ max	360	360	900	2,500	900	2,500	900	2,500

1) Measured at  $p_1 = 6$  bar and  $\Delta p = 70$  mbar

## Active carbon filters MS4/MS6-LFX, MS series

Technical data

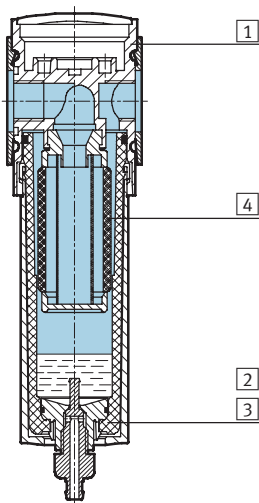
Operating and environmental conditions		
Size	MS4	MS6
Input pressure [bar]	0 ... 14	0 ... 20
Operating medium	Compressed air, filtered, unlubricated, grade of filtration 0.01 µm	
Ambient temperature [°C]	-10 ... +60	
Temperature of medium [°C]	+5 ... +30	
Storage temperature [°C]	-10 ... +60	
Corrosion 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	MS4		MS6
Variant	Standard	Standard	High flow rate HF
With plastic bowl guard	190	600	1,280
With metal bowl	350	820	1,500

### Materials

Sectional view



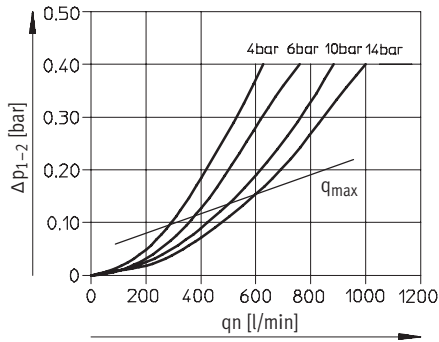
Active carbon filter	
1	Body Die-cast aluminium
2	Plastic bowl guard Polycarbonate/polyamide
3	Metal bowl Viewing window Aluminium Polyamide
4	Filters Active carbon
-	Seals Nitrile rubber
Note on materials Free of copper and PTFE	

## Active carbon filters MS4/MS6-LFX, MS series

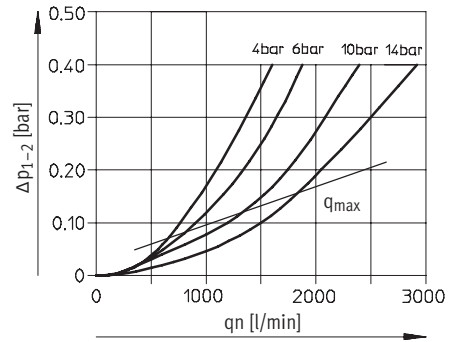
Technical data

### Standard flow rate $q_n$ as a function of the differential pressure $\Delta p_{1-2}$

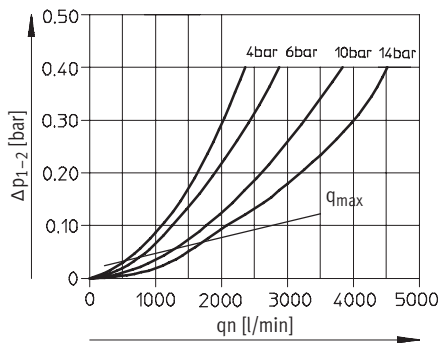
MS4-LFX- $\frac{1}{8}$  and MS4-LFX- $\frac{1}{4}$



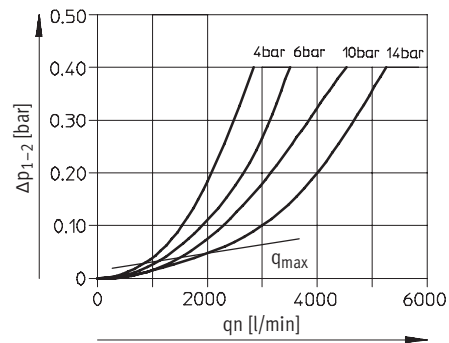
MS6-LFX- $\frac{1}{4}$



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



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



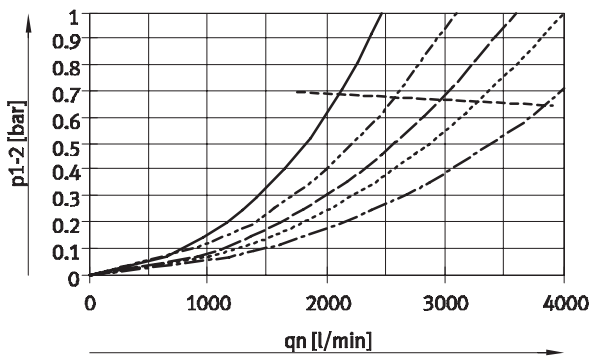


# Active carbon filters MS4/MS6-LFX, MS series

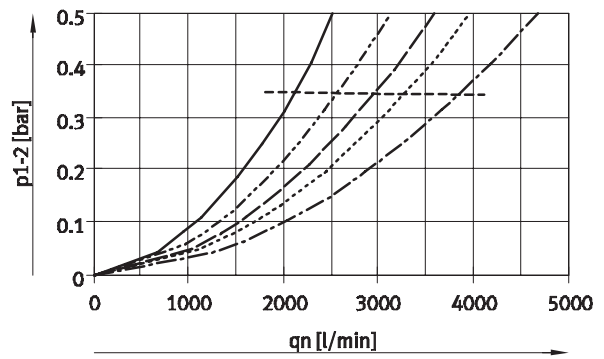
Technical data

## Standard flow rate $q_n$ as a function of the differential pressure $p_{1-2}$

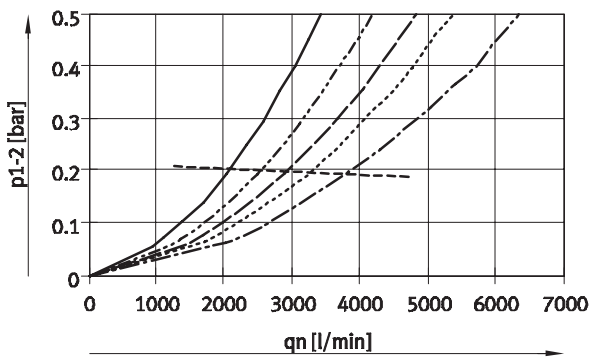
MS6-LFX-1/4-...-HF



MS6-LFX-3/8-...-HF



MS6-LFX-1/2-...-HF



- p1: 4 bar
- - - p1: 6 bar
- · - p1: 8 bar
- · · p1: 10 bar
- · — p1: 14 bar
- - - -  $q_{max}$

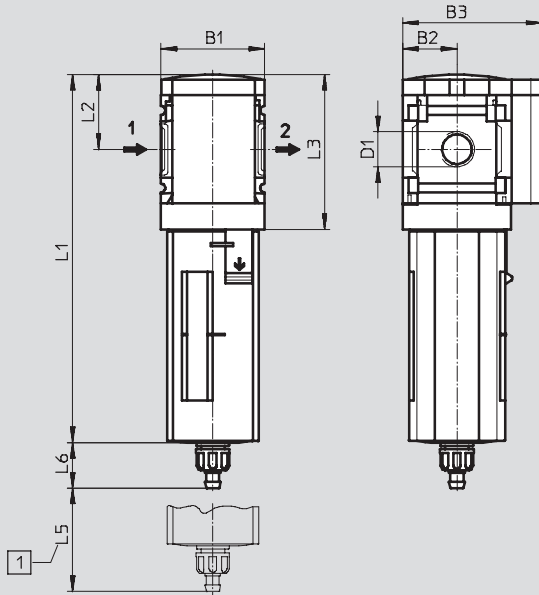
## Active carbon filters MS4/MS6-LFX, MS series

Technical data

**FESTO**

### Dimensions – Standard/High flow rate HF

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




1 Installation dimensions

→ Flow direction

Type	B1	B2	B3	D1	L1		L2	L3	L5	L6	
					Bowl guard					Plastic	Metal
					Plastic	Metal					
MS4-LFX-1/8	40.2	21	54	G1/8	142.8	160.4	29	60	75	17.7	18
MS4-LFX-1/4				G1/4							
MS6-LFX-1/4	62	31	76	G1/4	192	198	42	87	100	15.8	19
MS6-LFX-1/4-...-HF					312	318					
MS6-LFX-3/8	62	31	76	G3/8	192	198	42	87	100	15.8	19
MS6-LFX-3/8-...-HF					312	318					
MS6-LFX-1/2	62	31	76	G1/2	192	198	42	87	100	15.8	19
MS6-LFX-1/2-...-HF					312	318					

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

Ordering data						
Size	Connection	Plastic bowl guard		Metal bowl		
		Part No.	Type	Part No.	Type	
MS4	G1/8	536 707	MS4-LFX-1/8-R	536 709	MS4-LFX-1/8-U	
	G1/4	529 467	MS4-LFX-1/4-R	535 782	MS4-LFX-1/4-U	
MS6	G1/4	529 683	MS6-LFX-1/4-R	529 685	MS6-LFX-1/4-U	
	G3/8	529 687	MS6-LFX-3/8-R	529 689	MS6-LFX-3/8-U	
	G1/2	529 679	MS6-LFX-1/2-R	529 681	MS6-LFX-1/2-U	
High flow rate						
MS6	G1/2	-	-	552 927	MS6-LFX-1/2-U-HF	

## Active carbon filters MS4/MS6-LFX, MS series

Ordering data – Modular products

M Mandatory data						O Options		
Module No.	Series	Size	Function	Connection size	Bowl	Flow rate	Type of mounting	Alternative flow direction
527 699 527 672	MS	4 6	LFX	1/8, 1/4, 3/8, 1/2, AGA, AGB, AGC, AGD, AGE	R U	HF	WP WPM WB WBM	Z
<b>Order example</b>								
527 699	MS	4	- LFX	- AGB	- R	-	- WP	- Z

Ordering table							
Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code	
M	Module No.	527 699	527 672				
	Series	Standard			MS	MS	
	Size	4	6		...		
	Function	Activated carbon filter			-LFX	-LFX	
	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		
	Bowl	Plastic bowl with plastic bowl guard			-R		
		Metal bowl			-U		
O	Flow rate	-	High flow rate		-HF		
	Type of mounting	Mounting bracket		1	-WP		
		Mounting bracket		1	-WPM		
		Mounting bracket				-WB	
		Mounting bracket	-			-WBM	
	Alternative flow direction	Flow direction from right to left			-Z		

1 WP, WPM Only with connecting plate AGA, AGB, AGC, AGD or AGE.

Transfer order code

	MS		-	LFX	-		-		-		-	
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## MS12 series service units

FESTO

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

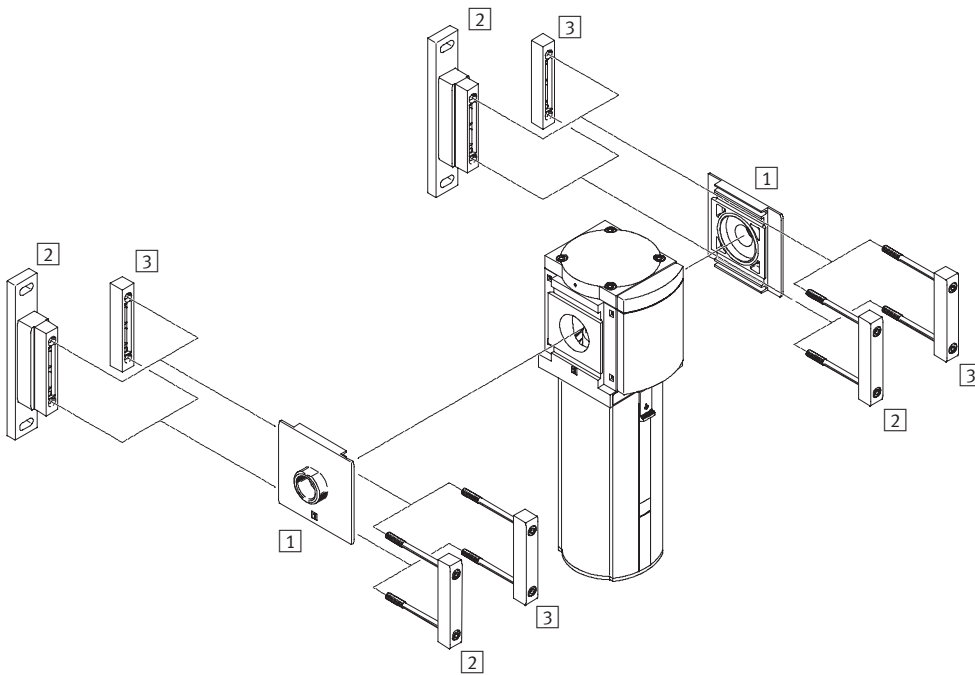


- Grid dimension 124 mm
- High flow rates
- Modern design



# Filters MS12-LF/LFM/LFX, MS series

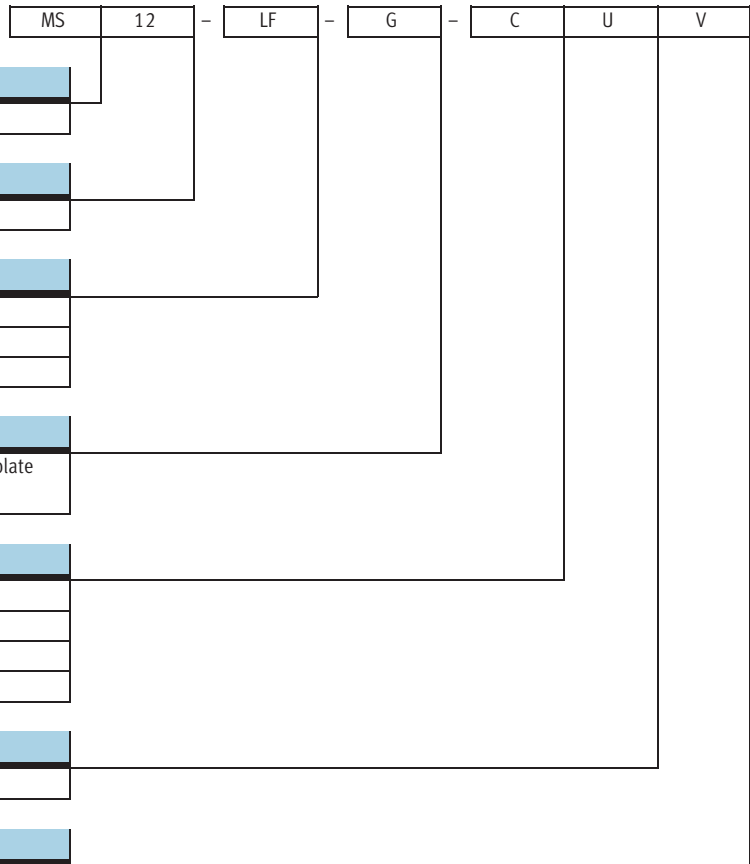
Peripherals overview



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

# Filters MS12-LF/LFM/LFX, MS series

Type codes



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

Filters LF	→ 4-38
Fine and micro filters LFM	→ 4-45
Active carbon filters LFX	→ 4-49

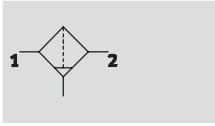
- Connecting plates
- Condensate drain (LF/LFM only)
- Filter change sensor (for LFM only)
- Type of mounting
- Alternative flow direction

# Filters MS12-LF, MS series

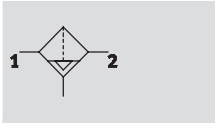
Technical data



Function  
Condensate drain  
manual rotary



fully automatic



- - Flow rate  
11,500 ... 16,000 l/min

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

- - Input pressure  
0.8 ... 20 bar



The sintered filter with centrifugal separation removes contamination, rust and condensate from the compressed air. The filter cartridges are replaceable.

- Good particle and condensate separation
- High flow rate with minimal pressure drop

- Available with manual, fully automatic or fully automatic, electrically actuated condensate drain
- Choice of filter cartridges: 5 µm or 40 µm
- Filter cartridges → 11-18

General technical data				
Pneumatic connection 1, 2 <sup>1)</sup>	G1	G1¼	G1½	G2
Design	Sintered filter with centrifugal separation			
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			
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.

Standard nominal flow rate qnN <sup>1)</sup> [l/min]					
Pneumatic connection		G1	G1¼	G1½	G2
Grade of filtration	5 µm	11,500	12,500	13,500	14,000
	40 µm	12,500	13,000	14,000	16,000

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

Measured at p<sub>1</sub> = 6 bar and Δp = 0.5 bar



# Filters MS12-LF, MS series

Technical data

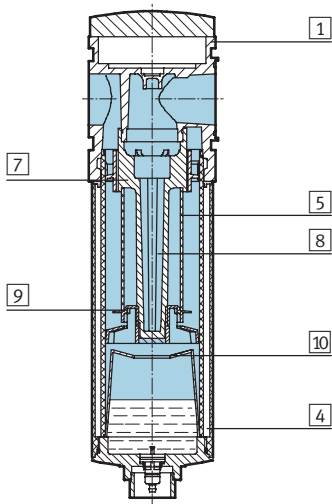
Operating and environmental conditions			
Condensate drain	Manual rotary M	Fully automatic V	Fully automatic, electrical actuated E1 ... E4
Input pressure [bar]	0.8 ... 20	2 ... 12	0.8 ... 16
Operating medium	Compressed air, air quality class 5.7.- to DIN ISO 8573-1		
Ambient temperature [°C]	-10 ... +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	6,500
With metal bowl and fully automatic, electrically actuated condensate drain	7,200

## Materials

Sectional view



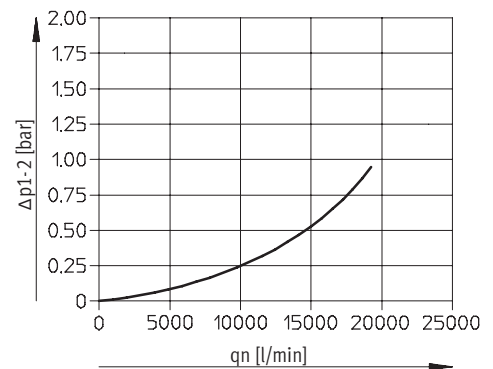
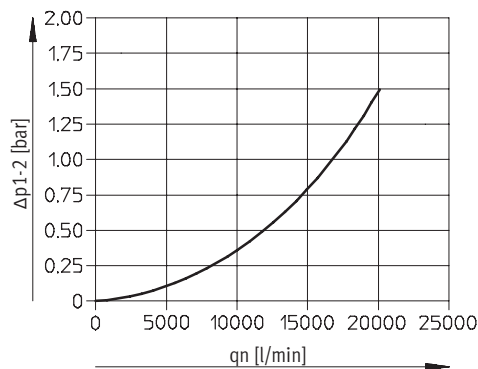
Filter		
1	Body	Die-cast aluminium
4	Metal bowl	Wrought aluminium alloy
5	Filter element	Sintered bronze
7	Spin disc	Polyacetate
8	Filter holder	Polyacetate
9	Separating plate	Polyacetate
10	Stabilising disc	Polyacetate
-	Seals	Nitrile rubber

## Standard flow rate $q_n$ as a function of the differential pressure $\Delta p_{1-2}$

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

With connecting plate MS12-AGF  
Pneumatic connection G1

With connecting plate MS12-AGI  
Pneumatic connection G2



# Filters MS12-LF, MS series

Technical data

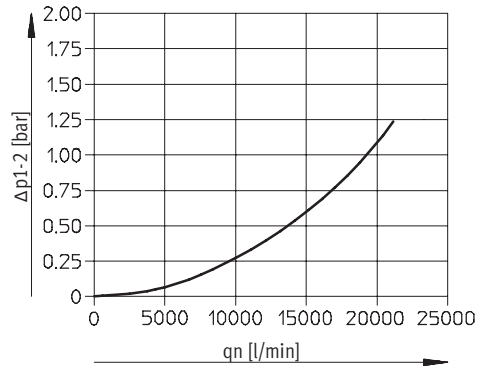


## Standard flow rate $q_n$ as a function of the differential pressure $\Delta p_{1-2}$

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

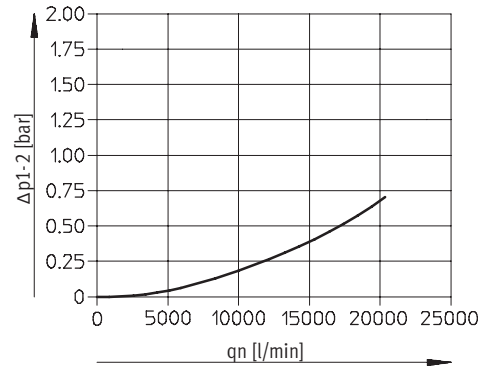
With connecting plate MS12-AGF

Pneumatic connection G1



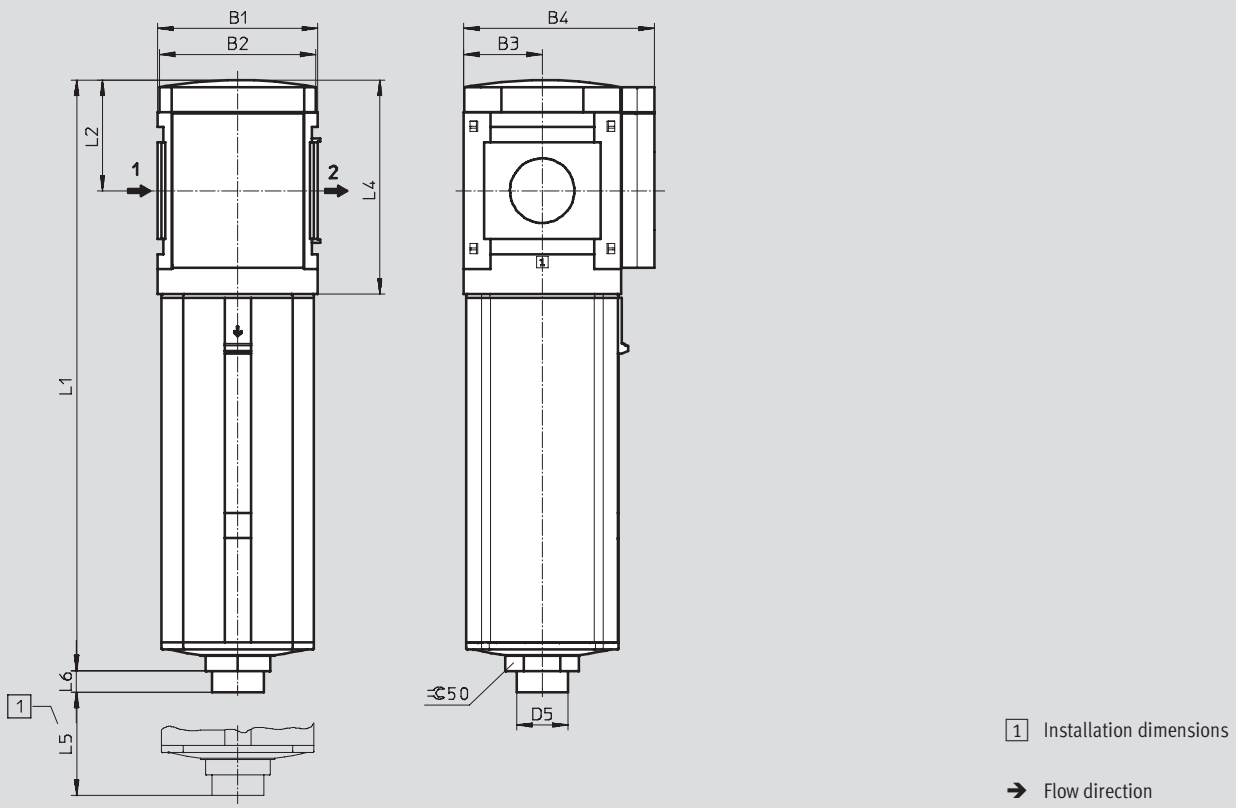
With connecting plate MS12-AGI

Pneumatic connection G2



## Dimensions – Standard

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



Type	B1	B2	B3	B4	D5	L1	L2	L4	L5	L6
MS12-LF	124	122	61	148	40 ∅	458	86	166	250	16

# Filters MS12-LF, 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-LF-...-M	11

Type	L6
MS12-LF-...-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						
Metal bowl						
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>	537 152	MS12-LF-G-CUV	537 151	MS12-LF-G-EUV

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.

MS series service units  
Filters

# Filters MS12-LF, MS series

Ordering data – Modular products



M Mandatory data							O Options		
Module No.	Series	Size	Function	Connection size	Grade of filtration	Bowl	Condensate drain	Type of mounting	Alternative flow direction
535 023	MS	12	LF	AGF AGG AGH AGI G	E C	U	M V E1 E2 E3 E4	WP	Z
<b>Order example</b>									
535 023	MS	12	- LF	- G	- E	- U	- V	-	-

Ordering table		Grid dimension [mm]	124	Condi-tions	Code	Enter code
M	Module No.	535 023				
	Series	Standard			MS	MS
	Size	12			12	12
	Function	Filter			-LF	-LF
	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	
	Grade of filtration	40 µm			-E	
		5 µm			-C	
	Bowl	Metal bowl			-U	-U
	Condensate drain	Manual			-M	
		Fully automatic (P1 max. 12 bar)			-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	Type of mounting	Mounting bracket		1	-WP	
	Alternative flow direction	Flow direction from right to left			-Z	

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

**Transfer order code**

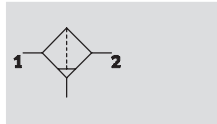
535 023	MS	12	- LF	-	-	- U	-	-	-
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# Fine and micro filters MS12-LFM, MS series

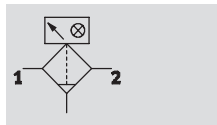
Technical data

**Function**

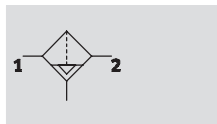
Condensate drain  
manual rotary  
without differential pressure indicator



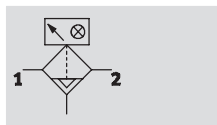
with differential pressure indicator






Condensate drain  
fully automatic  
without differential pressure indicator



with differential pressure indicator




-  - Flow rate  
5,000 ... 7,600 l/min
-  - Temperature range  
-10 ... +60 °C
-  - Input pressure  
0.8 ... 20 bar



- High-performance filter for exceptionally clean compressed air
  - Air quality to DIN ISO 8573-1
  - Available with manual, fully automatic or fully automatic, electrically actuated condensate drain
  - Available with differential pressure indicator for optical indication of filter contamination
  - Choice of filter cartridges: 0.01 µm or 1 µm
  - Filter cartridges → 11-18
- LFM-A:  
ISO class 1 for particles:  
max. particle density 0.1 mg/m<sup>3</sup>  
ISO class 2 for oil aerosols:  
max. oil concentration 0.1 mg/m<sup>3</sup>  
Filter efficiency 99.9999%
- LFM-B:  
ISO class 2 for particles:  
max. particle density 1 mg/m<sup>3</sup>  
ISO class 3 for oil aerosols:  
max. oil concentration 1 mg/m<sup>3</sup>  
Filter efficiency 99.99%

General technical data				
Pneumatic connection 1, 2 <sup>1)</sup>	G1	G1¼	G1½	G2
Design	Fibre filter			
Type of mounting	Via accessories			
	In-line installation			
Assembly position	Vertical ±5°			
Grade of filtration [µm]	0.01 (micro filter LFM-A, air purity class at the output 1.7.2 to DIN ISO 8573-1)			
	1 (fine filter LFM-B, air purity class at the output 2.7.3 to DIN ISO 8573-1)			
Bowl guard	Metal bowl			
Condensate drain	Manual rotary			
	Fully automatic			
	Fully automatic, electrical actuated			
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.

# Fine and micro filters MS12-LFM, MS series

Technical data



Standard nominal flow rate $q_{nN}^{1)}$ and standard flow rate $q_n^{1)}$ [l/min]				
Pneumatic connection	G1	G1¼	G1½	G2
<b>Micro filter LFM-A</b>				
$q_{nN} 1 \rightarrow 2$	5,000	6,000	6,500	7,000
$q_n \text{ min}$	700	700	700	700
$q_n \text{ max}$	23,000	23,000	23,000	23,000
<b>Fine filter LFM-B</b>				
$q_{nN} 1 \rightarrow 2$	5,200	6,200	7,500	7,600
$q_n \text{ min}$	950	950	950	950
$q_n \text{ max}$	23,000	23,000	23,000	23,000

1) Dependent on connecting plate selected, must be ordered separately as an accessory → 11-2  
Measured at  $p_1 = 6 \text{ bar}$  and  $\Delta p = 70 \text{ mbar}$ .

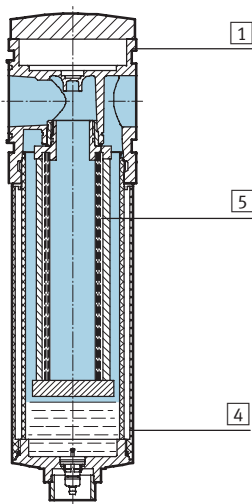
Operating and environmental conditions			
Condensate drain	Manual rotary M	Fully automatic V	Fully automatic, electrical actuated E1 ... E4
Input pressure [bar]	0.8 ... 20	2 ... 12	0.8 ... 16
Operating medium micro filter LFM-A	Compressed air, filtered, unlubricated, grade of filtration 1 µm		
Operating medium fine filter LFM-B	Compressed air, filtered, unlubricated, grade of filtration 5 µm		
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



Fine and micro filter	
1	Body Die-cast aluminium
4	Metal bowl Wrought aluminium alloy
5	Filter element Borosilicate mesh
-	Seals Nitrile rubber

# Fine and micro filters MS12-LFM, MS series

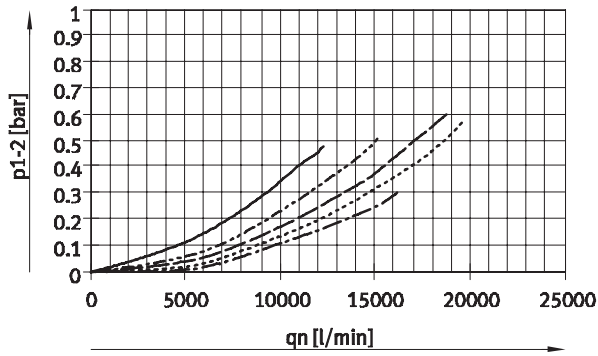
Technical data



## Standard flow rate $q_n$ as a function of the differential pressure $p_{1-2}$

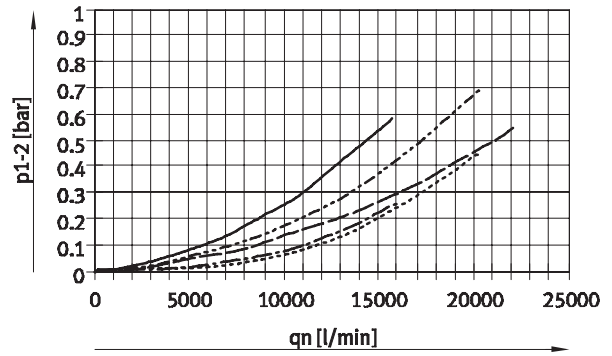
Grade of filtration 0.01  $\mu\text{m}$

With connecting plate MS12-AGF, Pneumatic connection G1



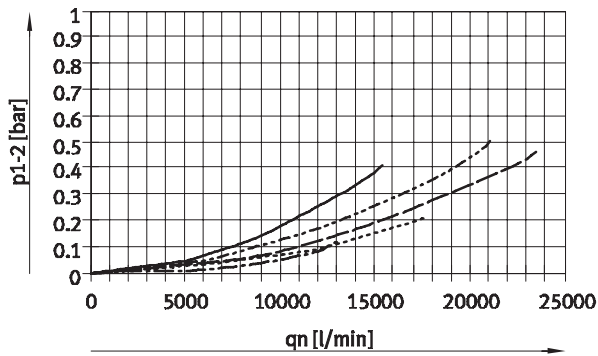
Grade of filtration 0.01  $\mu\text{m}$

With connecting plate MS12-AGG, Pneumatic connection G1¼



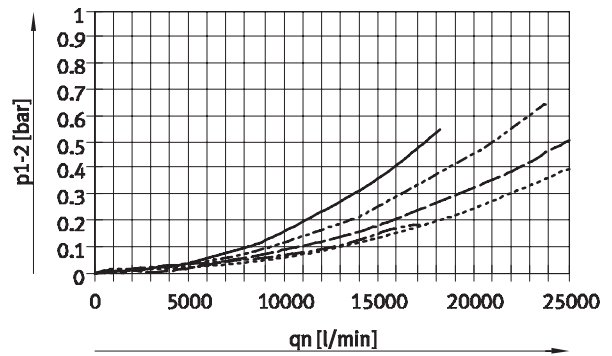
Grade of filtration 0.01  $\mu\text{m}$

With connecting plate MS12-AGH, Pneumatic connection G1½



Grade of filtration 0.01  $\mu\text{m}$

With connecting plate MS12-AGI, Pneumatic connection G2



- p1: 4 bar
- - - - - p1: 6 bar
- — — — — p1: 8 bar
- · · · · p1: 10 bar
- · - · - p1: 12 bar

# Fine and micro filters MS12-LFM, MS series

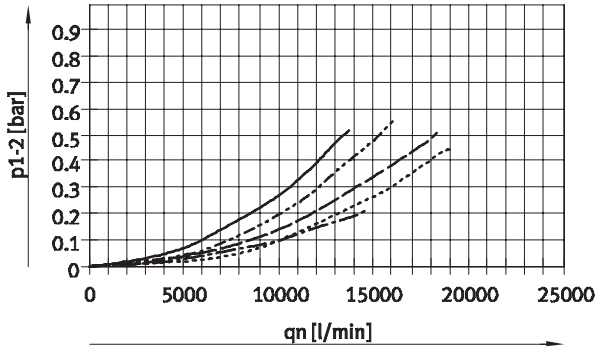
Technical data



## Standard flow rate $q_n$ as a function of the differential pressure $p_{1-2}$

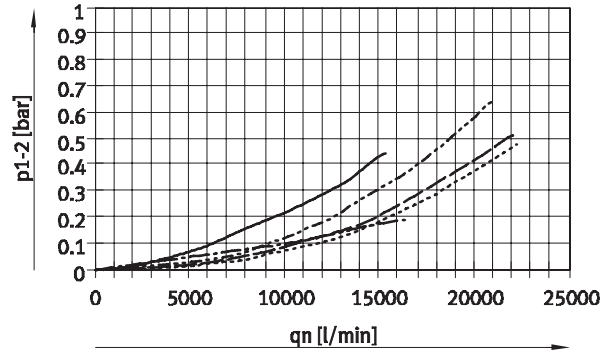
Grade of filtration  $1\ \mu\text{m}$

With connecting plate MS12-AGF, Pneumatic connection G1



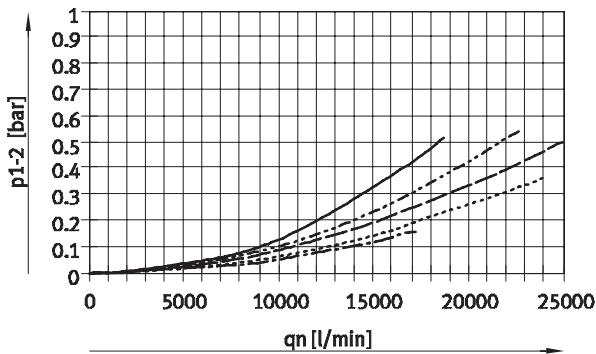
Grade of filtration  $1\ \mu\text{m}$

With connecting plate MS12-AGG, Pneumatic connection G1¼



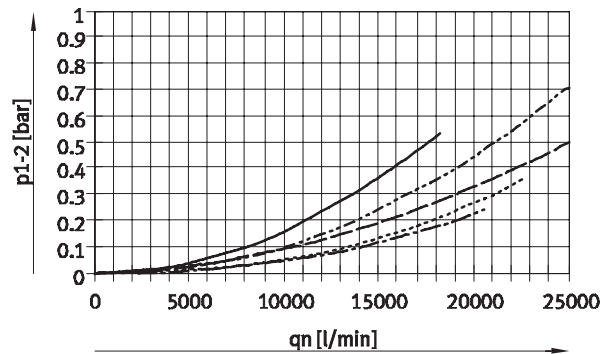
Grade of filtration  $1\ \mu\text{m}$

With connecting plate MS12-AGH, Pneumatic connection G1½



Grade of filtration  $1\ \mu\text{m}$

With connecting plate MS12-AGI, Pneumatic connection G2



- p1: 4 bar
- - - - p1: 6 bar
- — — p1: 8 bar
- · · · · p1: 10 bar
- · - · - p1: 12 bar

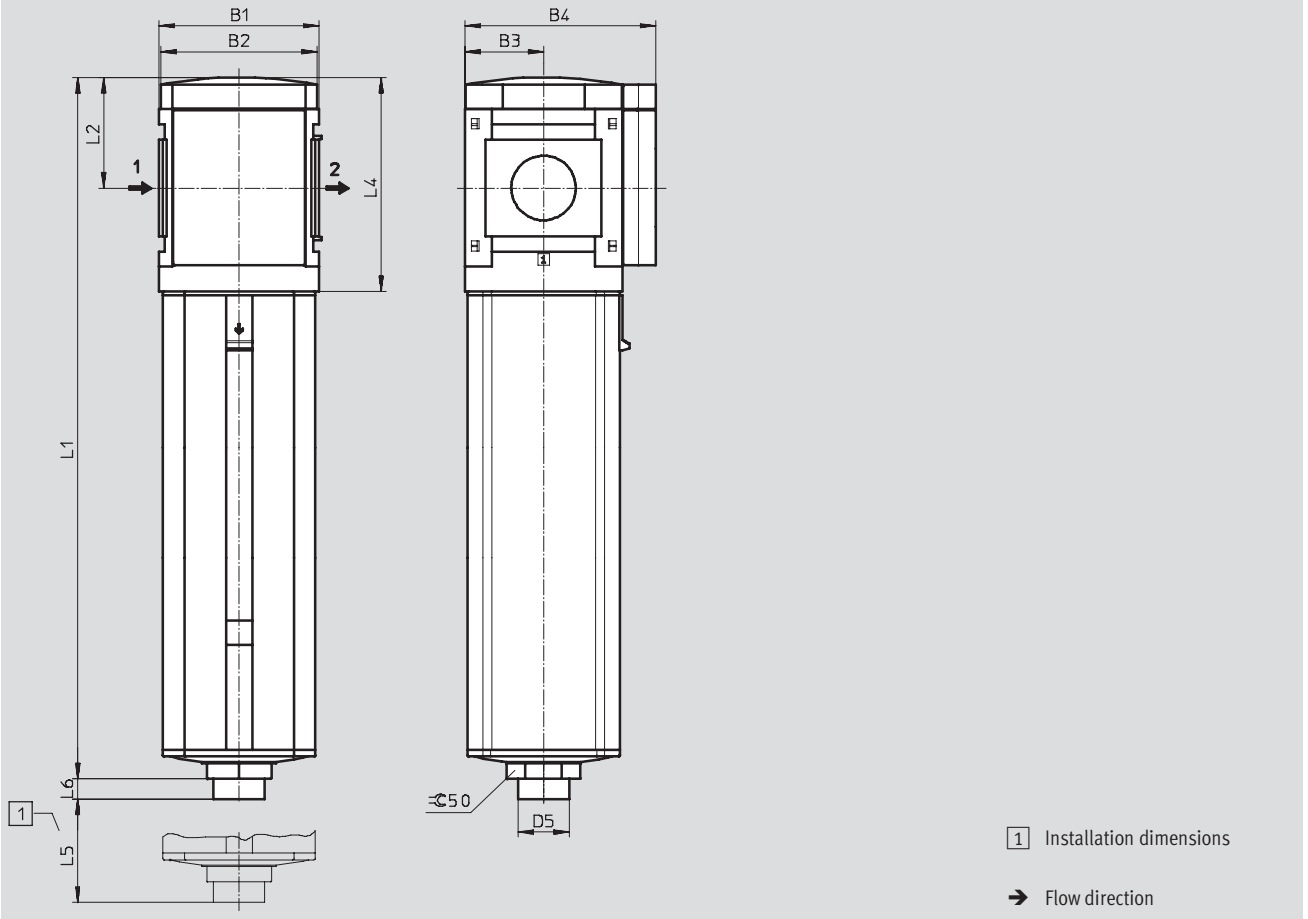


# Fine and micro filters MS12-LFM, MS series

Technical data

Dimensions – Standard

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



Type	B1	B2	B3	B4	D5	L1	L2	L4	L5	L6
MS12-LFM	124	122	61	148	40 ∅	543	86	166	350	16

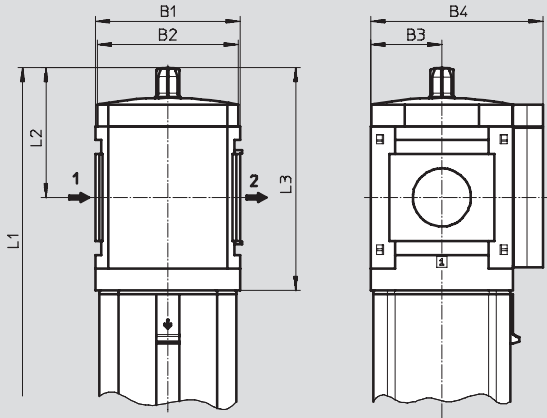
# Fine and micro filters MS12-LFM, MS series

Technical data



## Dimensions – Differential pressure indicator

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



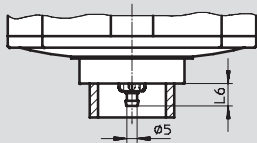
→ Flow direction

Type	B1	B2	B3	B4	L1	L2	L3
MS12-LFM-...-DA	124	122	61	148	569	112	192

## Dimensions – Condensate drain

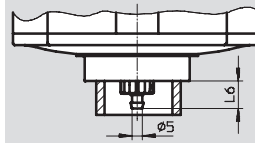
Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

### Manual rotary M



Barbed fitting for plastic tubing  
PCN-4

### Fully automatic V



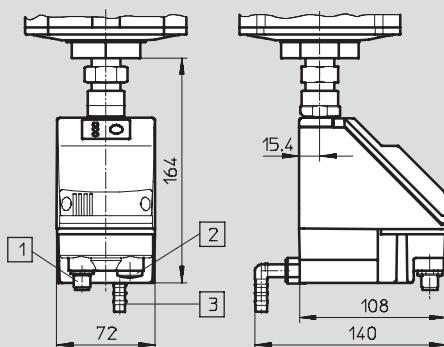
Barbed fitting for plastic tubing  
PCN-4

Type	L6
MS12-LFM-...-M	11

Type	L6
MS12-LFM-...-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

Metal bowl						
Size	Condensate drain	Connection	Micro filter		Fine filter	
			Grade of filtration 0.01 µm	Part No.	Type	Grade of filtration 1 µm
MS12	fully automatic	G1 ... G2 <sup>1)</sup>	537 154	MS12-LFM-G-AUV	537 153	MS12-LFM-G-BUV

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.

# Fine and micro filters MS12-LFM, MS series

Ordering data – Modular products



M Mandatory data							O Options			
Module No.	Series	Size	Function	Connection size	Grade of filtration	Bowl	Condensate drain	Filter change sensor	Type of mounting	Alternative flow direction
535 042	MS	12	LFM	AGF AGG AGH AGI G	B A	U	M V E1 E2 E3 E4	DA	WP	Z
<b>Order example</b>										
535 042	MS	12	- LFM	- AGI	- A	- U	- M	-	-	-

Ordering table				Condi- tions	Code	Enter code
Grid dimension	[mm]	124				
M Module No.	535 042					
Series	Standard				MS	MS
Size	12				12	12
Function	Fine and micro filter				-LFM	-LFM
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	
Grade of filtration	1 µm				-B	
	0.01 µm				-A	
Bowl	Metal bowl				-U	-U
Condensate drain	Manual				-M	
	Fully automatic (P1 max. 12 bar)				-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 Filter change sensor	Differential pressure indicator, optical				-DA	
Type of mounting	Mounting bracket				-WP	
Alternative flow direction	Flow direction from right to left				-Z	

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

### Transfer order code

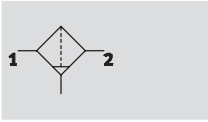
535 042	MS	12	-	LFM	-		-		-	U	-		-		-	
---------	----	----	---	-----	---	--	---	--	---	---	---	--	---	--	---	--

# Active carbon filters MS12-LFX, MS series

Technical data



## Function



- - Flow rate  
4,800 ... 6,000 l/min
- - Temperature range  
-10 ... +60 °C
- - Input pressure  
0 ... 20 bar



- Removal of liquid and gaseous oil particles from compressed air using active carbon
- Eliminates odours and vapours
- Prefiltration with micro filter MS-LFM-A, grade of filtration 0.01 µm, recommended
- Filter cartridges → 11-18

## General technical data

Pneumatic connection 1, 2 <sup>1)</sup>	G1	G1¼	G1½	G2
Design	Active carbon filter			
Type of mounting	Via accessories			
	In-line installation			
Assembly position	Vertical ±5°			
Air purity class at the output	1.7.1 to DIN ISO 8573-1			
Bowl guard	Metal bowl			
Residual oil content [mg/m <sup>3</sup> ]	≤ 0.003			
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.

## Standard nominal flow rate qnN<sup>1)</sup> [l/min]

Pneumatic connection	G1	G1¼	G1½	G2
In main flow direction 1 → 2	4,800	5,000	5,500	6,000

- 1) Dependent on connecting plate selected, must be ordered separately as an accessory → 11-2  
 Measured at p<sub>1</sub> = 6 bar and Δp = 70 mbar

## Operating and environmental conditions

Input pressure [bar]	0 ... 20
Operating medium	Compressed air, filtered, unlubricated, grade of filtration 0.01 µm
Ambient temperature [°C]	-10 ... +60
Temperature of medium [°C]	+5 ... +30
Storage temperature [°C]	-10 ... +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]

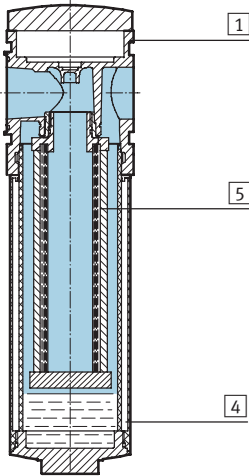
With metal bowl	7,000
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# Active carbon filters MS12-LFX, MS series

Technical data

## Materials

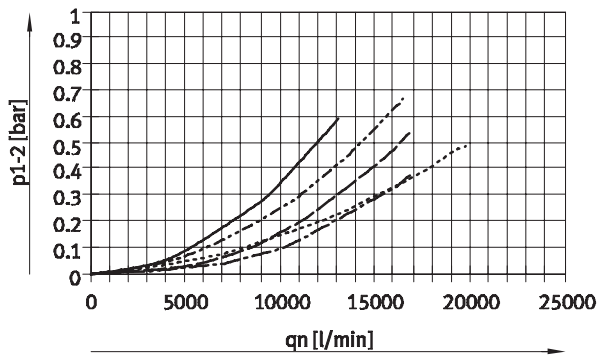
Sectional view



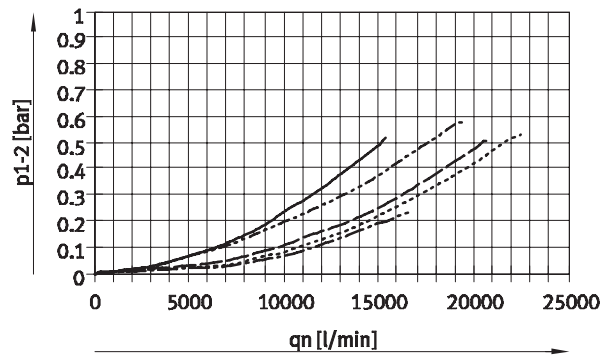
Active carbon filter		
1	Body	Die-cast aluminium
4	Metal bowl	Wrought aluminium alloy
5	Filter	Active carbon
-	Seals	Nitrile rubber
Note on materials		Free of copper and PTFE

### Standard flow rate $q_n$ as a function of the differential pressure $p_{1-2}$

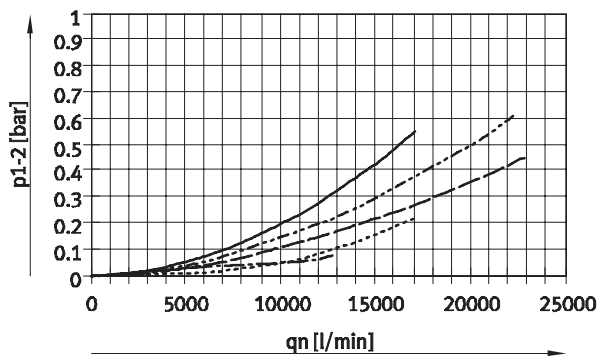
With connecting plate MS12-AGF, Pneumatic connection G1



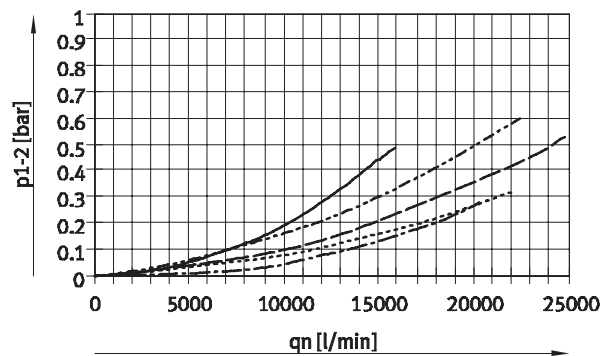
With connecting plate MS12-AGG, Pneumatic connection G1¼



With connecting plate MS12-AGH, Pneumatic connection G1½



With connecting plate MS12-AGI, Pneumatic connection G2



- p1: 4 bar
- - - p1: 6 bar
- · - p1: 8 bar
- · · p1: 10 bar
- - - p1: 12 bar

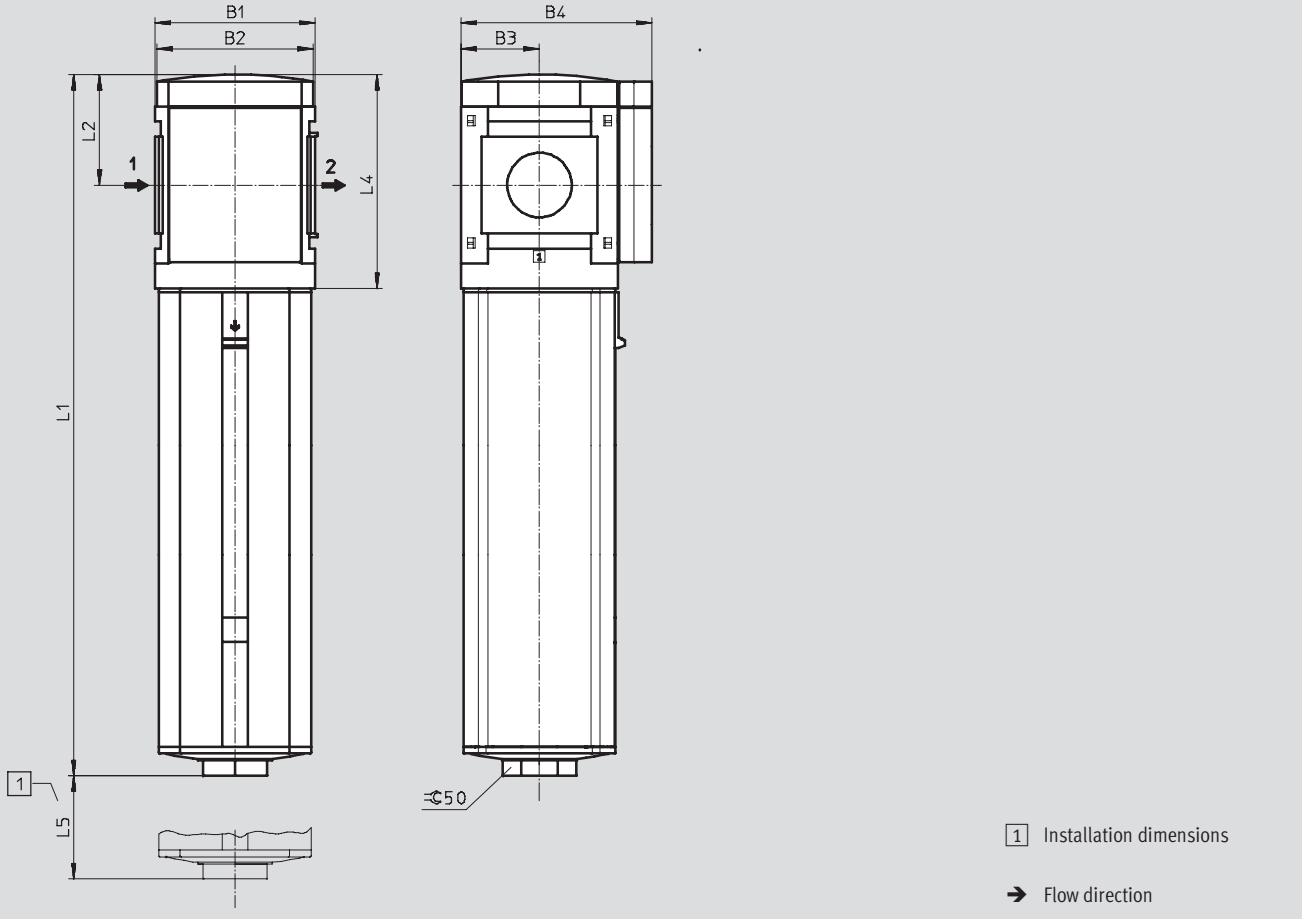
# Active carbon filters MS12-LFX, MS series

Technical data



## Dimensions – Standard

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



Type	B1	B2	B3	B4	L1	L2	L4	L5
MS12-LFX	124	122	61	148	543	86	166	350

Ordering data			
Metal bowl			
Size	Connection	Part No.	Type
MS12	G1 ... G2 <sup>1)</sup>	537 155	MS12-LFX-G-U

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.

# Active carbon filters MS12-LFX, MS series

Ordering data – Modular products

M Mandatory data						O Options	
Module No.	Series	Size	Function	Connection size	Bowl	Type of mounting	Alternative flow direction
535 043	MS	12	LFX	AGF AGG AGH AGI G	U	WP	Z
<b>Order example</b>							
535 043	MS	12	- LFX	- AGF	- U	- WP	- Z

Ordering table			
Grid dimension	[mm]	124	Enter code
M	Module No.	535 043	
	Series	Standard	MS
	Size	12	12
	Function	Active carbon filter	-LFX
	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
	Bowl	Metal bowl	-U
O	Type of mounting	Mounting bracket	1 -WP
	Alternative flow direction	Flow direction from right to left	-Z

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

Transfer order code

535 043	MS	12	- LFX	-	U	-		-	
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# MS series service units

Accessories

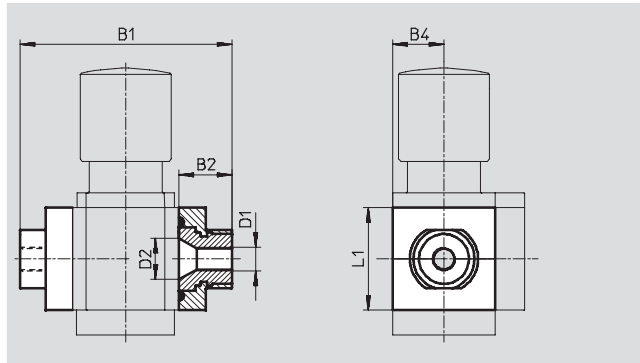


## Connecting plate MS4/6-AG...

(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

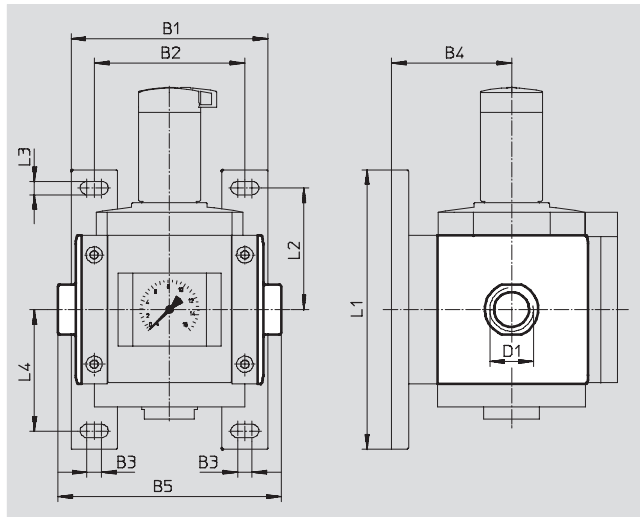
-||- Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

## 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.

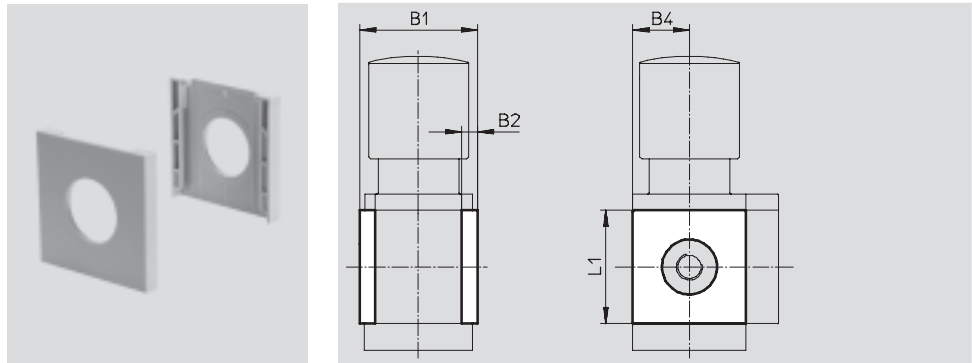
## MS series service units

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

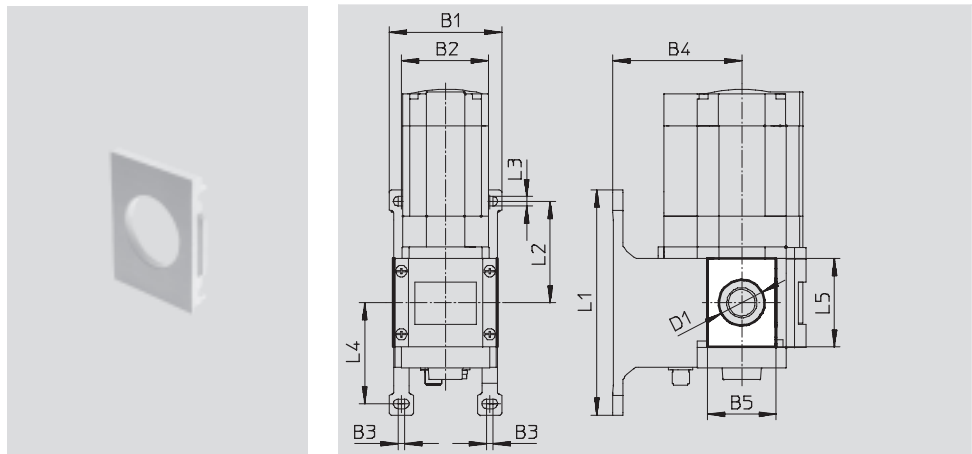
• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.


### 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



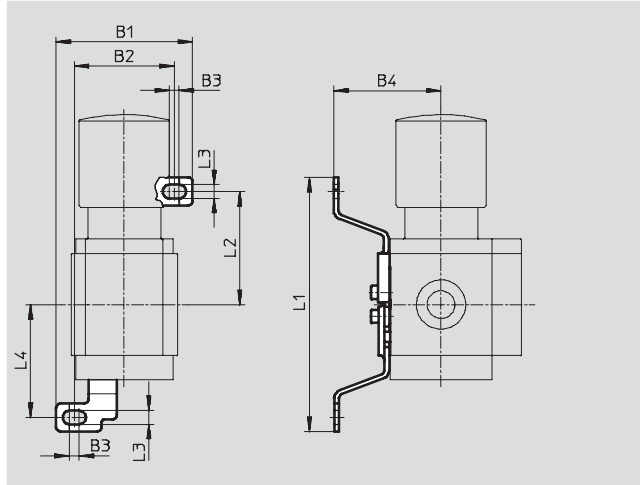
## Mounting bracket MS4/6-WB

(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

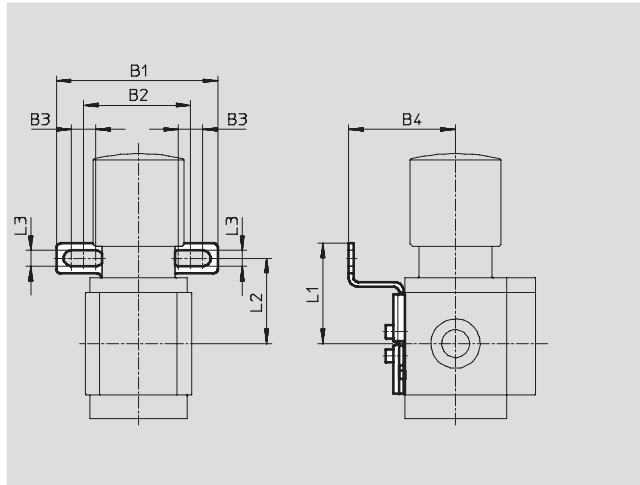
## Mounting bracket MS4-WBM

(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-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

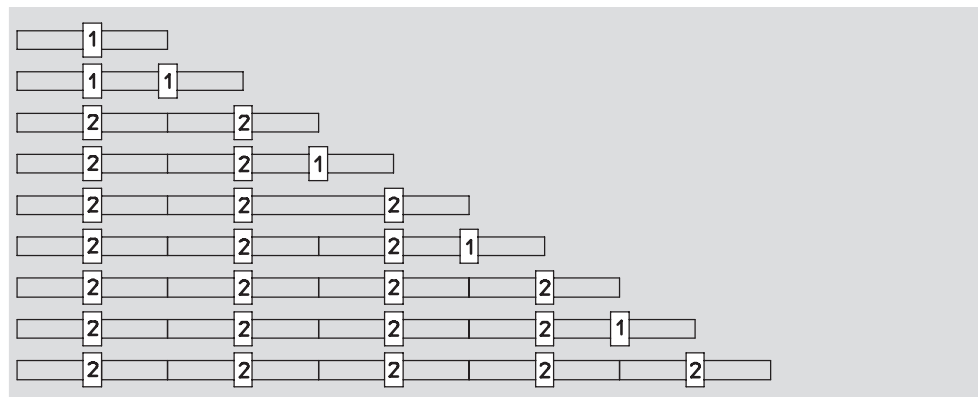
138 mm with WPM-2D

1 Mounting bracket WP, WPB or WPM-D

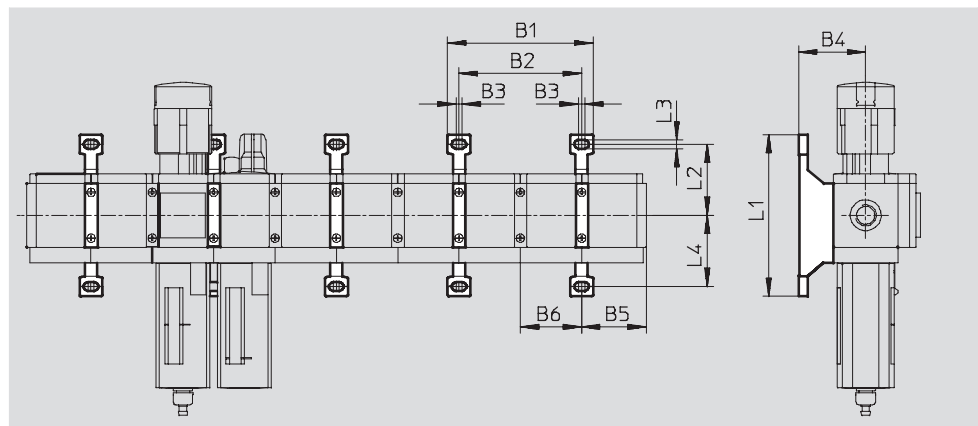
2 Mounting bracket WP, WPB or WPM-2D

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						40	
MS4-WPM-...D				44						92.8	34.8
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71	
MS6-WPB				90.5						69	41.3
MS6-WPM-...D				168						138	17.5

# MS series service units

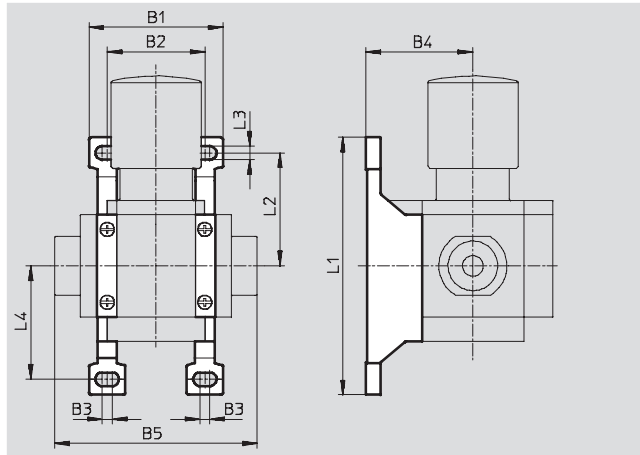
Accessories



## 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:

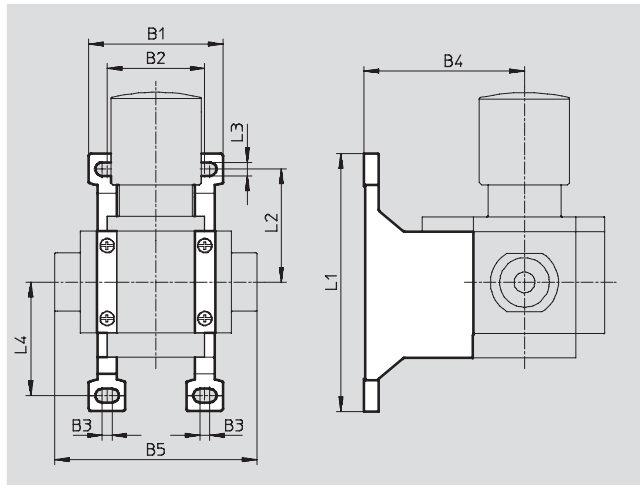
Die-cast aluminium

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



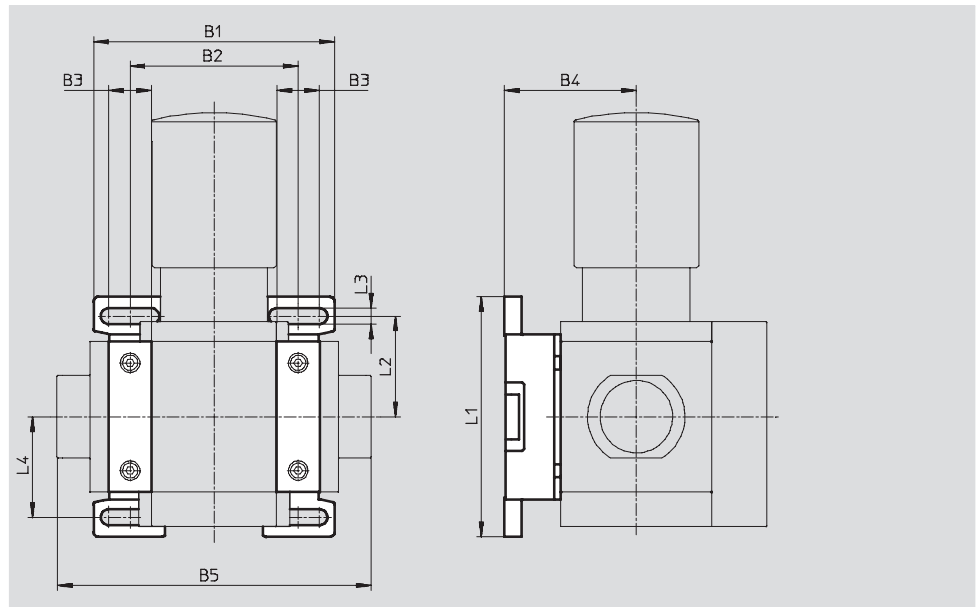
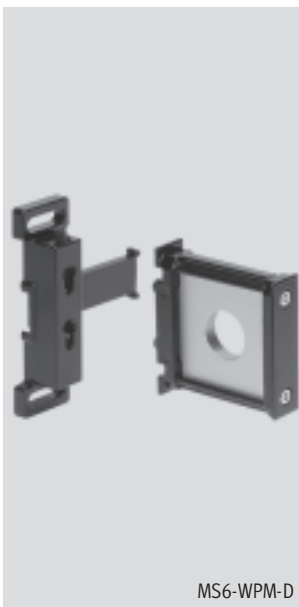
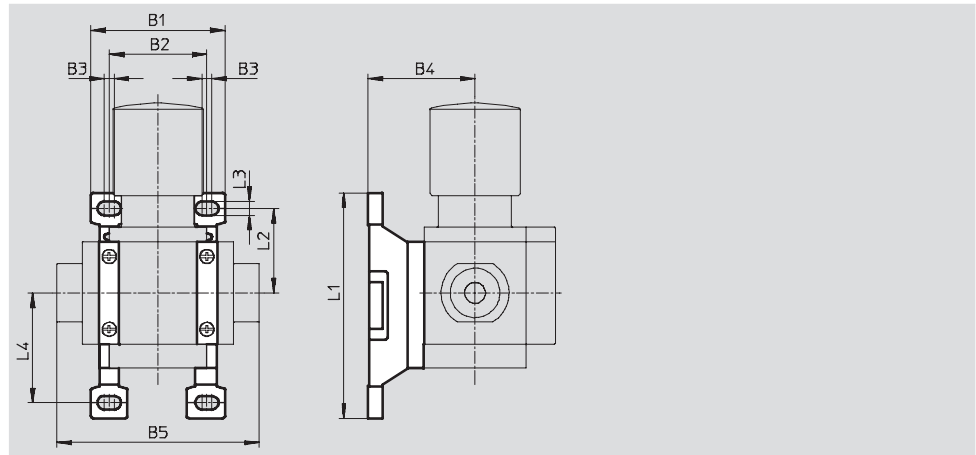
## Mounting bracket MS4/6-WPM

(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

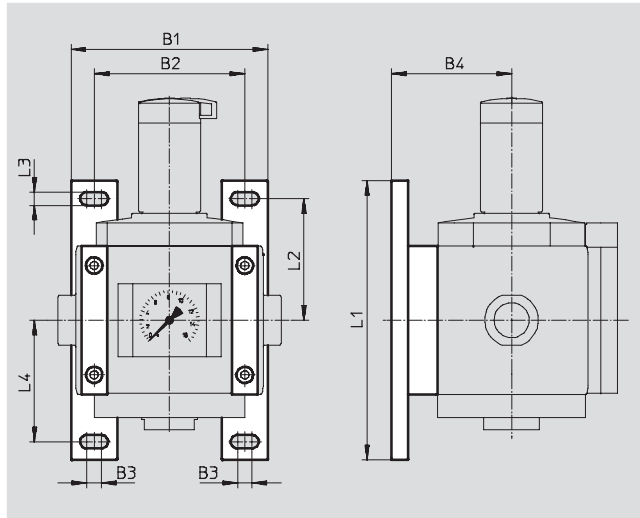


## Wall mounting plate MS12-WP

(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



MS4/6



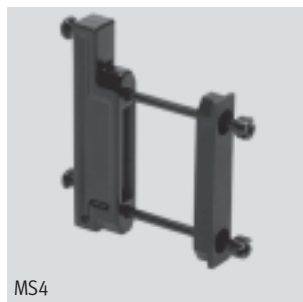
MS12

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



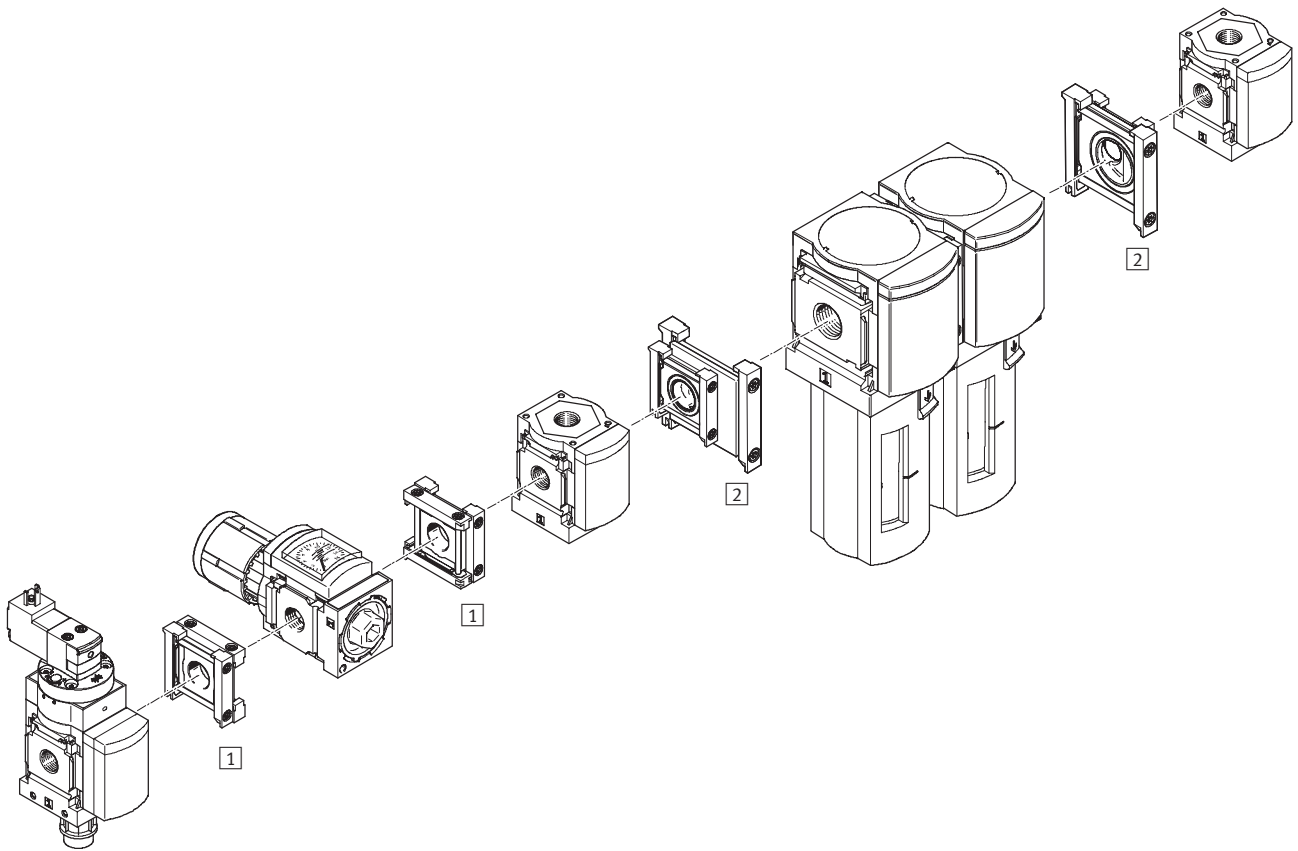
MS6

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




# MS series service units

Accessories



Mounting attachments		→ Page
1	Module connector MS4/6-RMV	11-10
2	Module connector MS4-6-AMV	11-11

 Note  
 Mounting attachments for wall  
 mounting → 11-5

## 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:

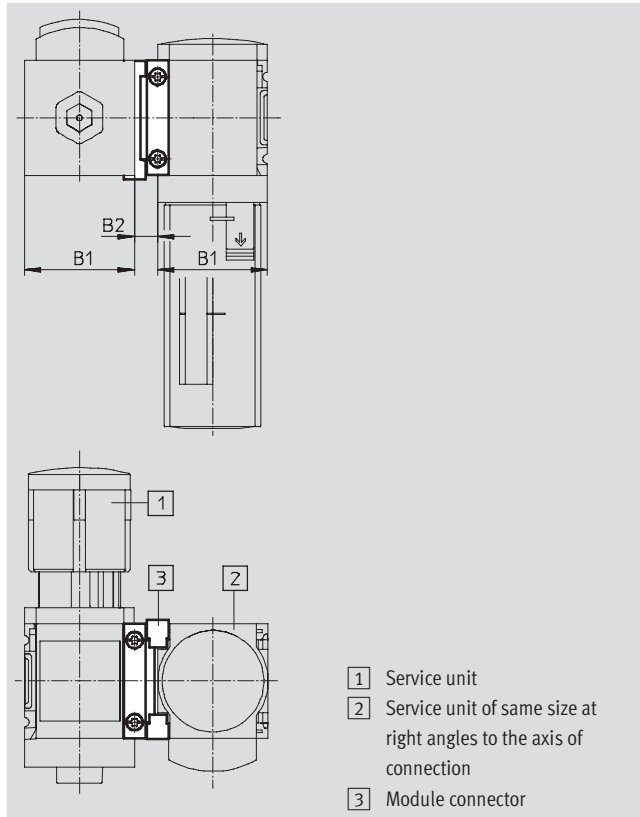
Die-cast aluminium

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:

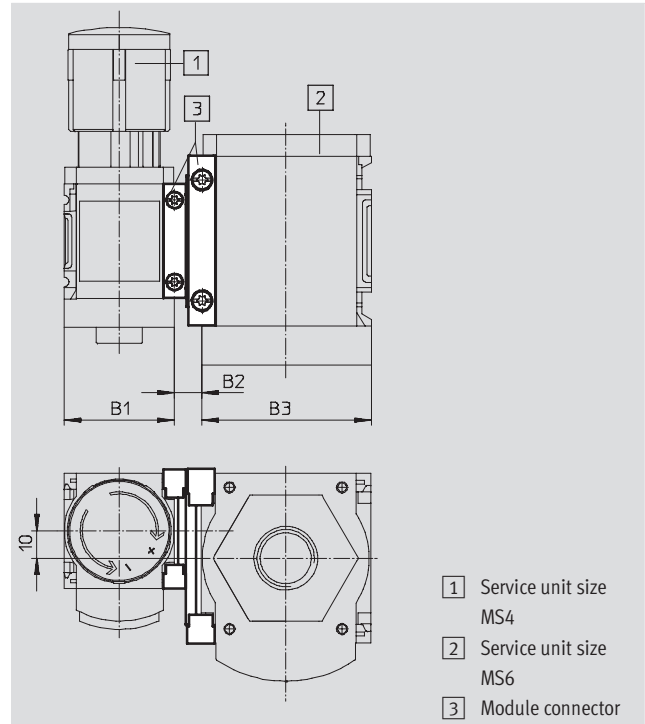
Die-cast aluminium

Sealing ring: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



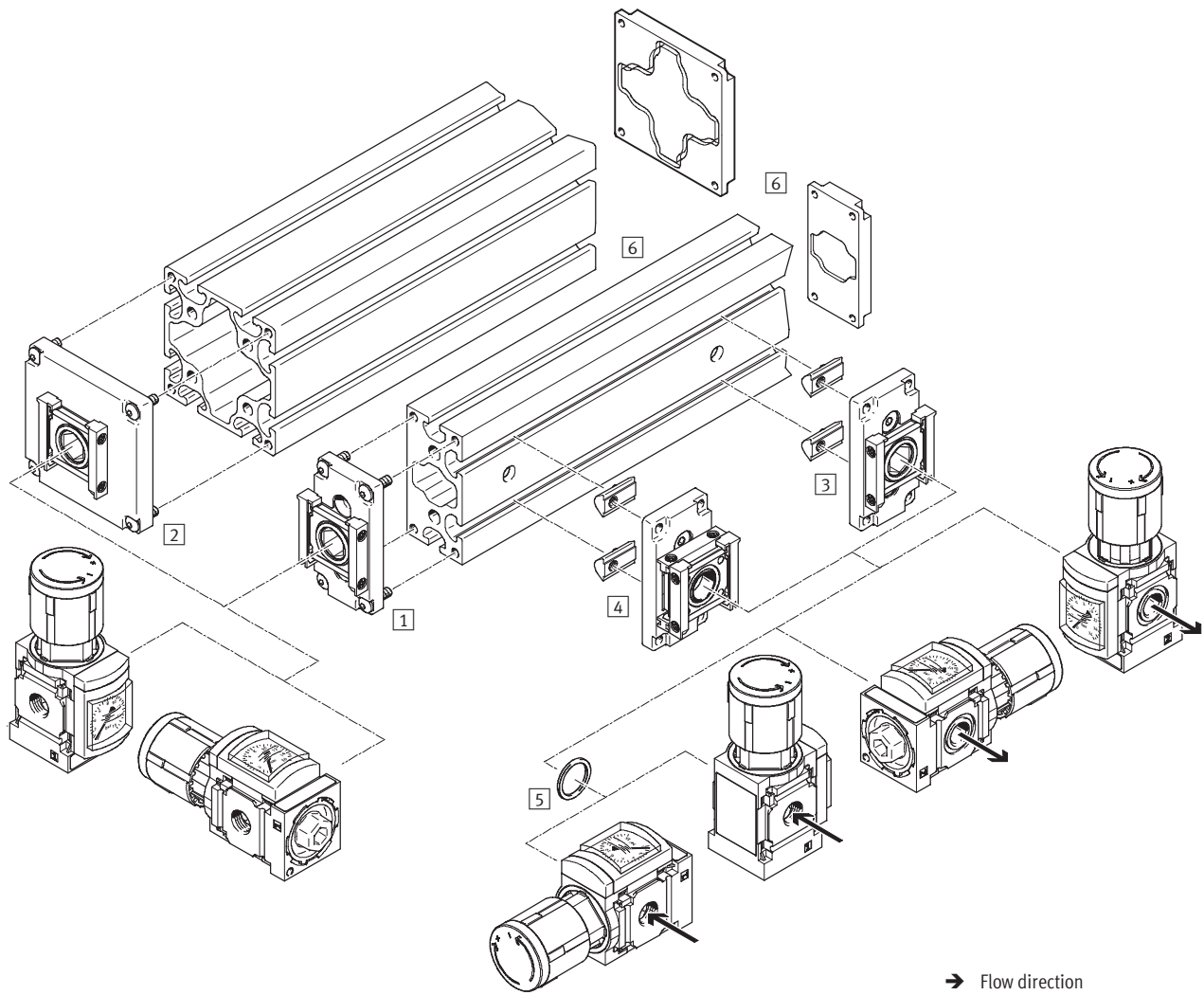
- 1 Service unit size MS4
- 2 Service unit size MS6
- 3 Module connector

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	<b>543 489</b>	<b>MS4-6-AMV</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



→ Flow direction

Mounting attachments		→ Page
1	Pressure supply module MS4/6-E-IPM-40-80	11-13
2	Pressure supply module MS4/6-E-IPM-80-80	11-14
3	Branching module MS4/6-A-IPM-80	11-15
4	Branching module MS4/6-A-RMV-IPM-80	11-16
5	Sealing ring MS4/6-NNR	11-17
6	Profiles 40x80/80x80, cover plates, supply plates, drilling jigs	On request

 Note

Further mounting attachments are required for mounting a service unit combination → 11-5

## 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

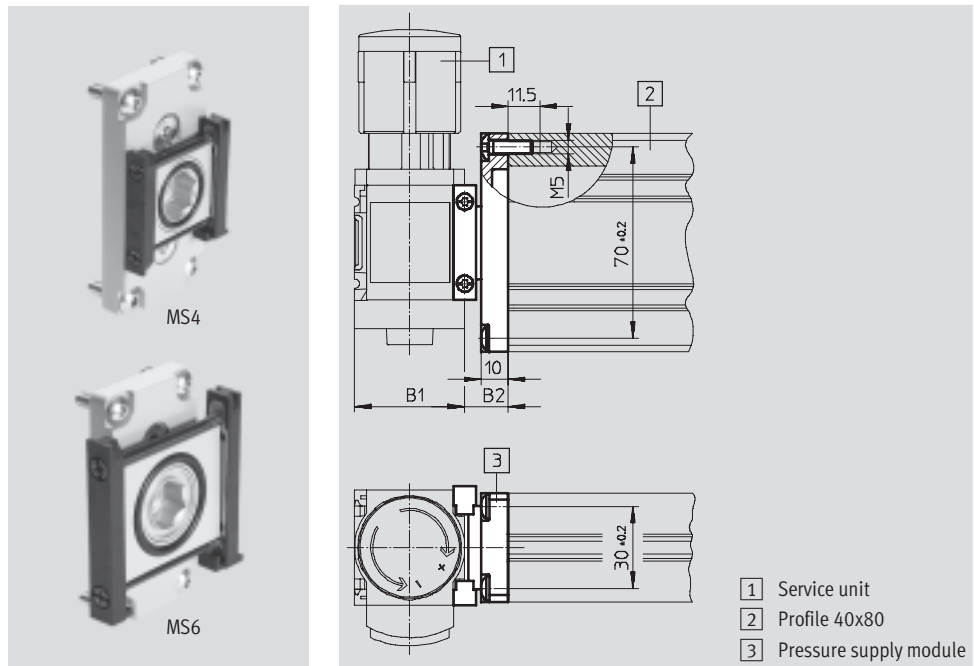
Screws: Steel

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

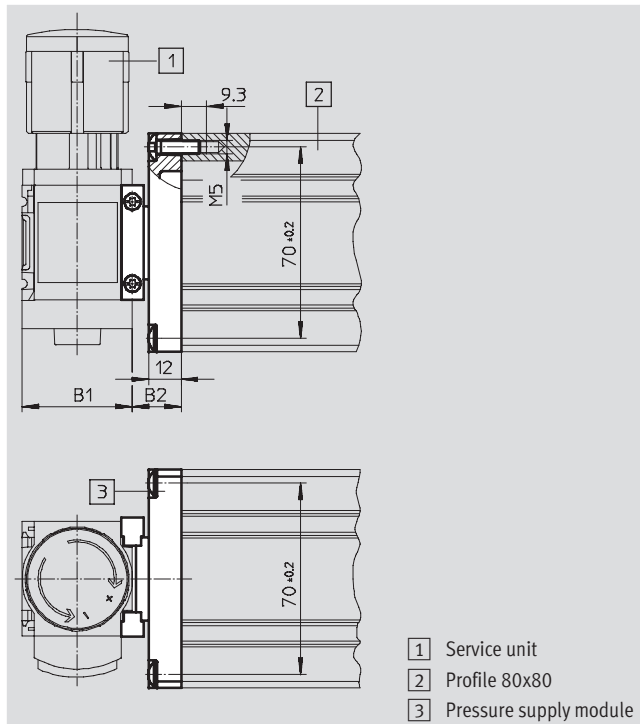
Screws: Steel

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

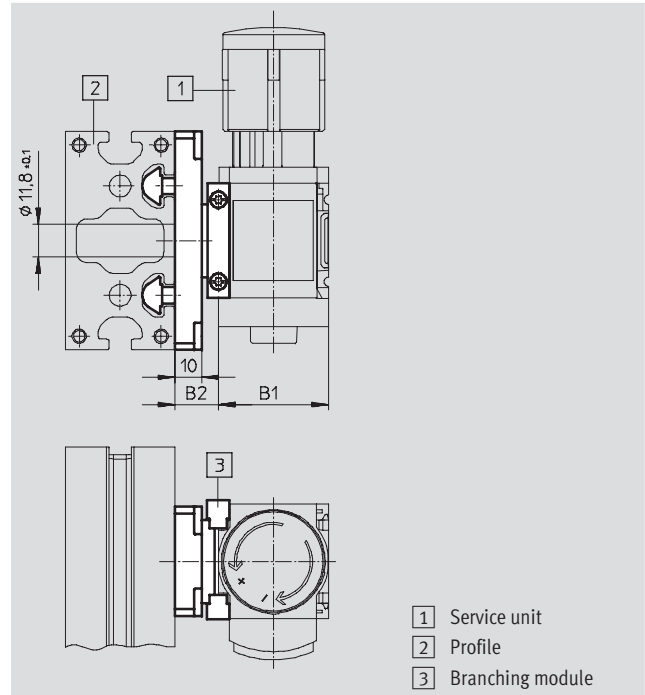
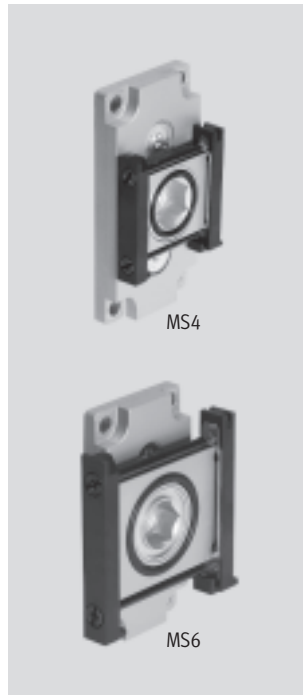
Screws: Steel

Seals: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



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

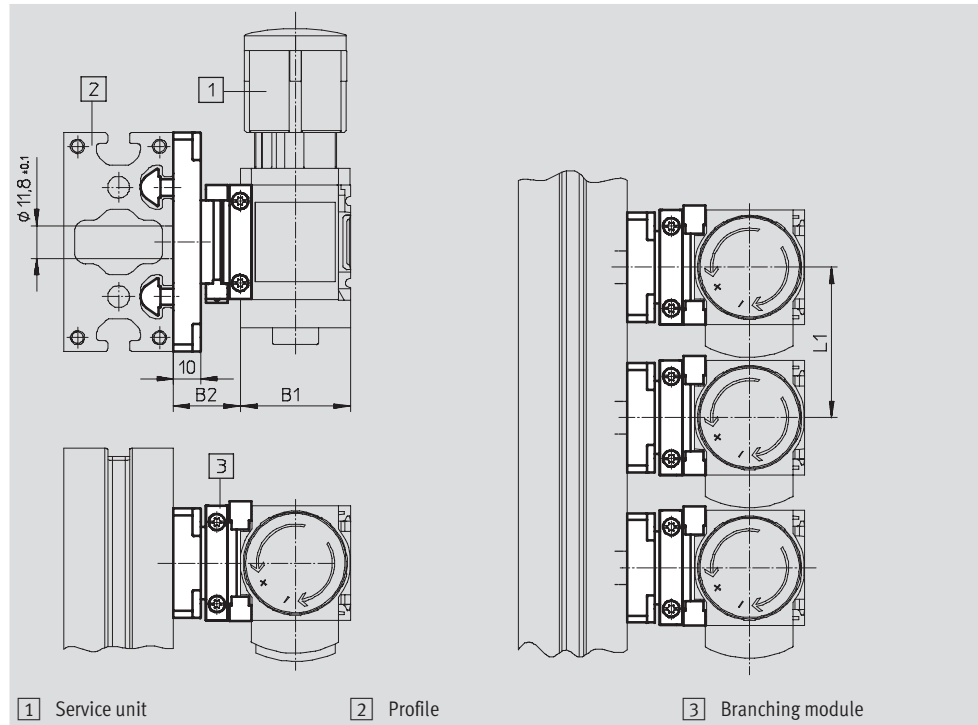
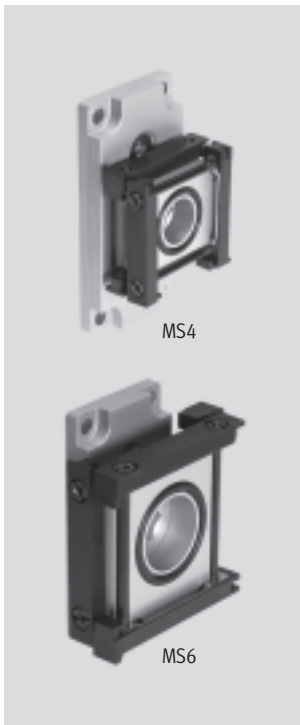
- For mounting a service unit on the long side of a profile
- Suitable for manifold mounting (the fittings on the module connector can be accessed from above for fast replacement of an individual component)
- Module connector can be repositioned by 90° for horizontal mounting of the service unit

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

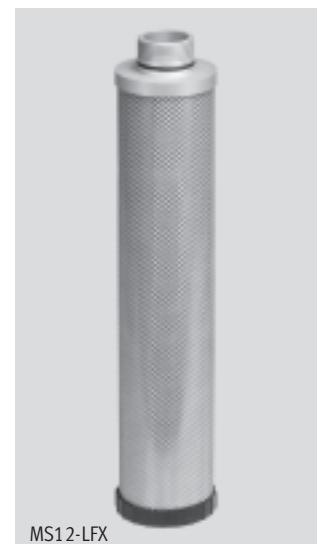
**FESTO**

### 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

FESTO

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
M12x1, 5-pin			2.5	175 715
			5	175 716
	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

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