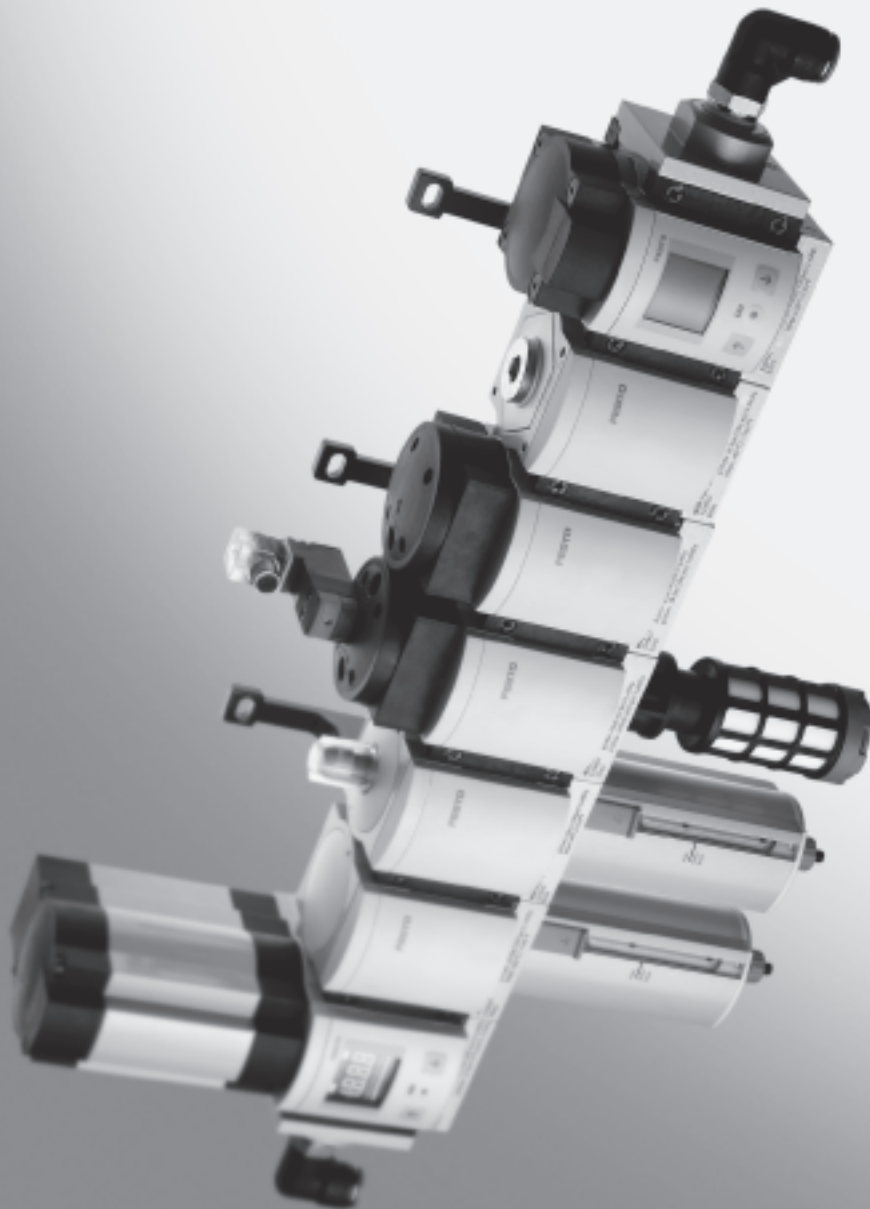


Wide range of configuration options

→ [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

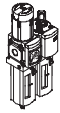
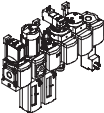








Specified types in accordance with ATEX directive for potentially explosive atmospheres

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

# MS series service units

Product range overview



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						
				... 0.7	... 2.5	... 4	... 7	... 12	... 16	0.01	1	5	40		
Code			AG...	D2	D4	D5	D6	D7	D8	A	B	C	E		
<b>Service units</b>															
MSB-FRC		4	G1/8, G1/4	G1/8, G1/4, G3/8	-	-	-	■	■	-	-	-	■	■	
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	-	-	-	■	■	-	-	-	-	■	■
		12	-												
Service unit combinations (further variants can be ordered using the configurator → <a href="http://www.festo.com/en/engineering">www.festo.com/en/engineering</a> )															
MSB		4	G1/4	G1/8, G1/4, G3/8	-	-	-	■	■	-	-	-	■	■	
		6	G1/2	G1/4, G3/8, G1/2, G3/4	-	-	-	■	■	-	-	-	-	■	■
		12	-												
<b>Individual devices</b>															
Filter regulators MS-LFR		4	G1/8, G1/4	G1/8, G1/4, G3/8	-	-	■	■	■	-	-	-	■	■	
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	-	-	■	■	■	■	-	-	-	■	■
		12	-	G1, G1 1/4, G1 1/2, G2	-	-	-	■	■	■	-	-	-	■	■
Filters MS-LF		4	G1/8, G1/4	G1/8, G1/4, G3/8	-	-	-	-	-	-	-	-	■	■	
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	-	-	-	-	-	-	-	-	-	■	■
		12	-	G1, G1 1/4, G1 1/2, G2	-	-	-	-	-	-	-	-	-	■	■
Fine and micro filters MS-LFM		4	G1/8, G1/4	G1/8, G1/4, G3/8	-	-	-	-	-	-	■	■	-	-	
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	-	-	-	-	-	-	■	■	-	-	
		12	-	G1, G1 1/4, G1 1/2, G2	-	-	-	-	-	-	■	■	-	-	
Activated carbon filters MS-LFX		4	G1/8, G1/4	G1/8, G1/4, G3/8	-	-	-	-	-	-	-	-	-	-	
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	-	-	-	-	-	-	-	-	-	-	
		12	-	G1, G1 1/4, G1 1/2, G2	-	-	-	-	-	-	-	-	-	-	
Pressure regulators MS-LR		4	G1/8, G1/4	G1/8, G1/4, G3/8	-	-	■	■	■	-	-	-	-	-	
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	-	-	■	■	■	■	-	-	-	-	
		12	-	G1, G1 1/4, G1 1/2, G2	-	-	-	■	■	■	-	-	-	-	
Pressure regulators MS-LRB		4	G1/4	G1/8, G1/4, G3/8	-	-	■	■	■	-	-	-	-	-	
		6	G1/2	G1/4, G3/8, G1/2, G3/4	-	-	■	■	■	■	-	-	-	-	
		12	-												
Precision pressure regulators MS-LRP		4	-												
		6	G1/4, G3/8, G1/2	G1/4, G3/8, G1/2, G3/4	■	■	■	-	■	-	-	-	-	-	
		12	-												
Precision pressure regulators MS-LRPB		4	-												
		6	G1/2	G1/4, G3/8, G1/2, G3/4	■	■	■	-	■	-	-	-	-	-	
		12	-												

# MS series service units

Product range overview



Type	Size	Bowl guard		Condensate drains				Pressure indicator					Actuator lock		Options		→ Page
		Plastic bowl guard	Metal bowl	Manual rotary	Semi-automatic	Fully automatic	External, fully-automatic, electrical	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for EN pressure gauge G 1/8	Adapter for EN pressure gauge G 1/4	Pressure sensor with display	Rotary knob, lockable	Rotary knob, long	Silencer	Flow direction from right to left	
Code		R	U	M	H	V	E...	VS	AG	A8	A4	AD...	AS	LD	S	Z	
<b>Service units</b>																	
MSB-FRC	4	■	-	■	-	■	-	-	■	-	-	-	■	-	-	■	2-2
	6	■	■	■	-	■	-	-	■	-	-	-	■	-	-	■	
	12	-															
<b>Service unit combinations</b>																	
MSB	4	■	■	■	-	■	-	-	■	-	-	-	■	-	-	■	2-2
	6	■	■	■	-	■	-	-	■	-	-	-	■	-	-	■	
	12	-															
<b>Individual devices</b>																	
Filter regulators MS-LFR	4	■	■	■	■	■	-	■	■	■	■	■	■	■	-	■	3-2
	6	■	■	■	■	■	■	■	■	-	■	■	■	■	-	■	
	12	-	■	■	-	■	■	■	■	-	■	-	■	■	-	■	3-18
Filters MS-LF	4	■	■	■	■	■	-	-	-	-	-	-	-	-	-	■	4-2, 4-4
	6	■	■	■	■	■	■	-	-	-	-	-	-	-	-	■	
	12	-	■	■	-	■	■	-	-	-	-	-	-	-	-	■	4-32, 4-34
Fine and micro filters MS-LFM	4	■	■	■	■	■	-	-	-	-	-	-	-	-	-	■	4-2, 4-12
	6	■	■	■	■	■	■	-	-	-	-	-	-	-	-	■	
	12	-	■	■	-	■	■	-	-	-	-	-	-	-	-	■	4-32, 4-39
Activated carbon filters MS-LFX	4	■	■	-	-	-	-	-	-	-	-	-	-	-	-	■	4-2, 4-24
	6	■	■	-	-	-	-	-	-	-	-	-	-	-	-	■	
	12	-	■	-	-	-	-	-	-	-	-	-	-	-	-	■	4-32, 4-46
Pressure regulators MS-LR	4	-	-	-	-	-	-	■	■	■	■	■	■	■	-	■	5-2, 5-7
	6	-	-	-	-	-	-	■	■	-	■	■	■	■	-	■	
	12	-	-	-	-	-	-	■	■	-	■	-	■	■	-	■	5-58
Pressure regulators MS-LRB	4	-	-	-	-	-	-	■	■	■	■	■	■	■	-	■	5-2, 5-16
	6	-	-	-	-	-	-	■	■	-	■	■	■	■	-	■	
	12	-															
Precision pressure regulators MS-LRP	4	-															5-24, 5-29
	6	-	-	-	-	-	-	■	-	■	■	■	■	■	-	■	
	12	-															
Precision pressure regulators MS-LRPB	4	-															5-24, 5-38
	6	-	-	-	-	-	-	■	-	■	■	■	■	■	-	■	
	12	-															

# MS series service units

Product range overview



Type	Size	Pneumatic connection in housing	Connecting plate	Pressure regulation range [bar]				Supply voltage				
				0.3 ... 4	0.3 ... 7	0.5 ... 12	0.5 ... 16	24 V DC (connection pattern to EN 175301)	24 V DC (connection pattern M12 to DESINA)	110 V AC (connection pattern to EN 175301)	230 V AC (connection pattern to EN 175301)	
Code			AG...	D5	D6	D7	D8	V24	V24P	V110	V230	
<b>Individual devices</b>												
Electrical pressure regulators <b>MS-LRE</b>		4	–									
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	■	■	■	■	–	–	–	–
		12	–									
Lubricators <b>MS-LOE</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	–	–	–	–
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	–	–	–	–
		12	–	G1, G $\frac{1}{4}$ , G $\frac{1}{2}$ , G2	–	–	–	–	–	–	–	–
On-off valves <b>MS-EM(1)</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	–	–	–	–
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	–	–	–	–
		12	–	G1, G $\frac{1}{4}$ , G $\frac{1}{2}$ , G2	–	–	–	–	–	–	–	–
On-off valves <b>MS-EE</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	■	–	■	■
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	■	–	■	■
		12	–	G1, G $\frac{1}{4}$ , G $\frac{1}{2}$ , G2	–	–	–	–	■	■	■	■
Soft-start valves <b>MS-DL</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	–	–	–	–
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	–	–	–	–
		12	–	G1, G $\frac{1}{4}$ , G $\frac{1}{2}$ , G2	–	–	–	–	–	–	–	–
Soft-start valves <b>MS-DE</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	■	–	■	■
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	■	–	■	■
		12	–	G1, G $\frac{1}{4}$ , G $\frac{1}{2}$ , G2	–	–	–	–	■	■	■	■
Membrane air dryers <b>MS-LDM1</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	–	–	–	–
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	–	–	–	–
		12	–									
Branching modules <b>MS-FRM</b>		4	G $\frac{1}{8}$ , G $\frac{1}{4}$	G $\frac{1}{8}$ , G $\frac{1}{4}$ , G $\frac{3}{8}$	–	–	–	–	–	–	–	–
		6	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$	G $\frac{1}{4}$ , G $\frac{3}{8}$ , G $\frac{1}{2}$ , G $\frac{3}{4}$	–	–	–	–	–	–	–	–
		12	–	G1, G $\frac{1}{4}$ , G $\frac{1}{2}$ , G2	–	–	–	–	–	–	–	–
Flow sensors <b>MS-SFE</b>		4	–									
		6	G $\frac{1}{2}$	G $\frac{1}{2}$	–	–	–	–	–	–	–	–
		12	–									

# MS series service units

Product range overview

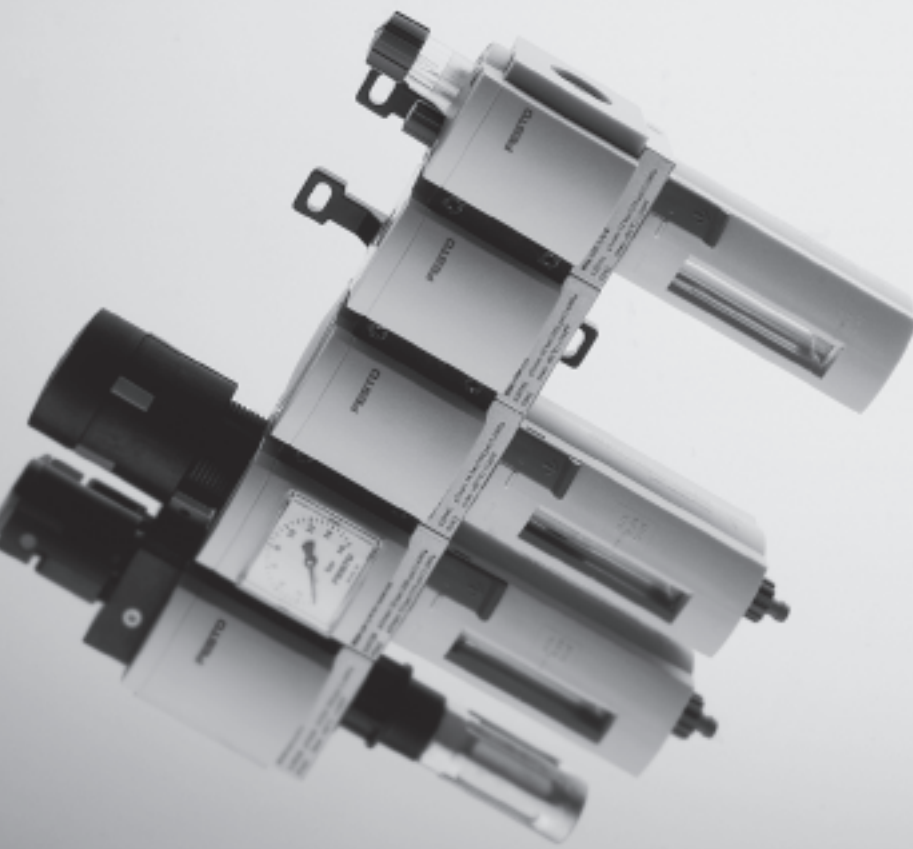


Type	Size	Bowl guard		Pressure indicator					Switch output		Options		→ Page	
		Plastic bowl guard	Metal bowl	Cover plate (without pressure gauge)	Integrated MS pressure gauge	Adapter for EN pressure gauge G 1/8	Adapter for EN pressure gauge G 1/4	Pressure sensor with display	2x PNP	2x NPN	Silencer	Flow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

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



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




- MS4 – grid  
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

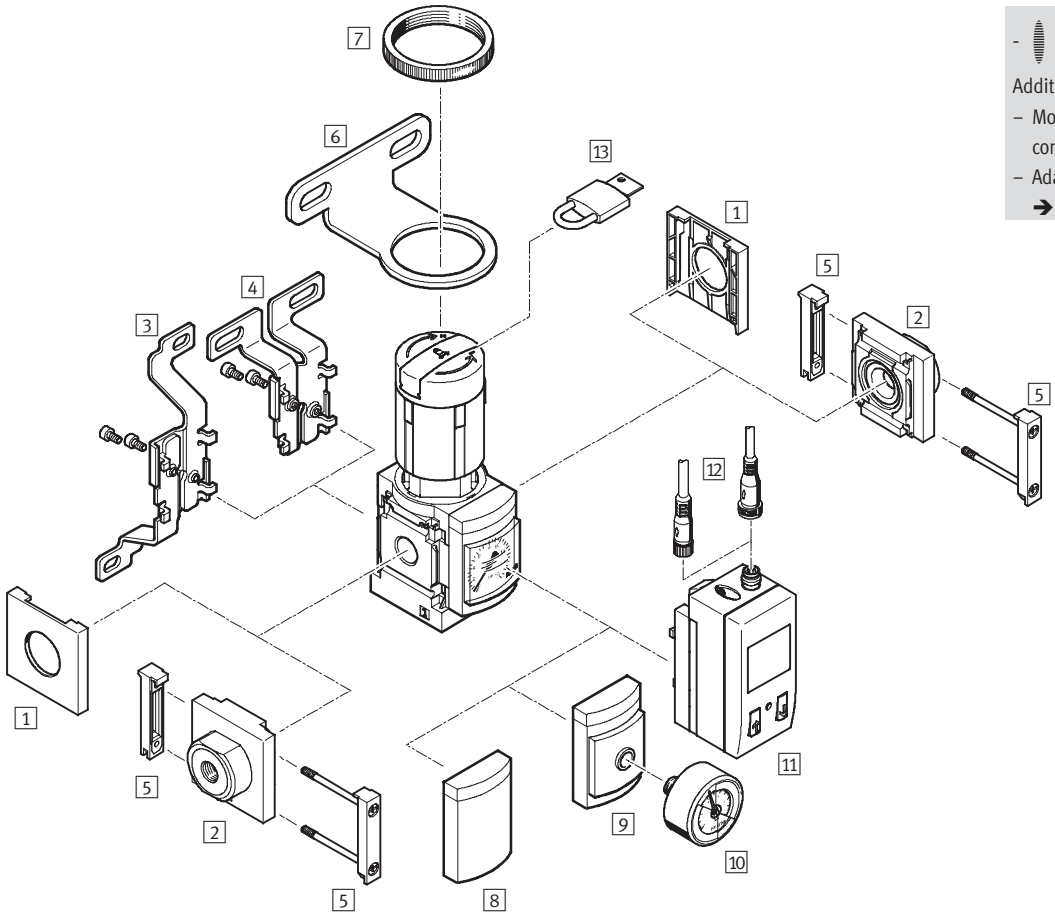
Specified types in accordance with  
ATEX directive for potentially  
explosive atmospheres  
→ [www.festo.com/en/ex](http://www.festo.com/en/ex)

# Pressure regulators MS4/MS6-LR/LRB, MS series

Peripherals overview

## Pressure regulator LR

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



MS series service units  
 Pressure regulators  
**5**



## Pressure regulators MS4/MS6-LR/LRB, MS series

Peripherals overview

**FESTO**

Mounting attachments and accessories – LR						
		Individual unit		Combination → 3/2.11-0		→ Page
		without connect- ing plate	with connecting plate	without connect- ing plate	with connecting plate	
1	Cover cap MS4/6-END	■	-	■	-	11-3
2	Connecting plate MS4/6-AG...	-	■	-	■	11-2
3	Mounting bracket MS4/6-WB	■	■	-	-	11-4
4	Mounting bracket MS4-WBM	■	■	-	-	11-4
5	Module connector MS4/6-MV	-	■	■	■	11-9
6	Regulator wall bracket MS4/6-WR	■	■	-	-	11-5
7	Knurled nut (included in scope of delivery) MS-LR	■	■	-	-	-
8	Cover plate VS	■	■	■	■	5-14
9	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	5-14
10	Pressure gauge MA	■	■	■	■	11-19
11	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	5-14
12	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	11-19
13	Padlock LRVS-D	■	■	■	■	11-20
-	Mounting bracket MS4/6-WP/WPB/WPM	-	■	■	■	11-7, 11-8

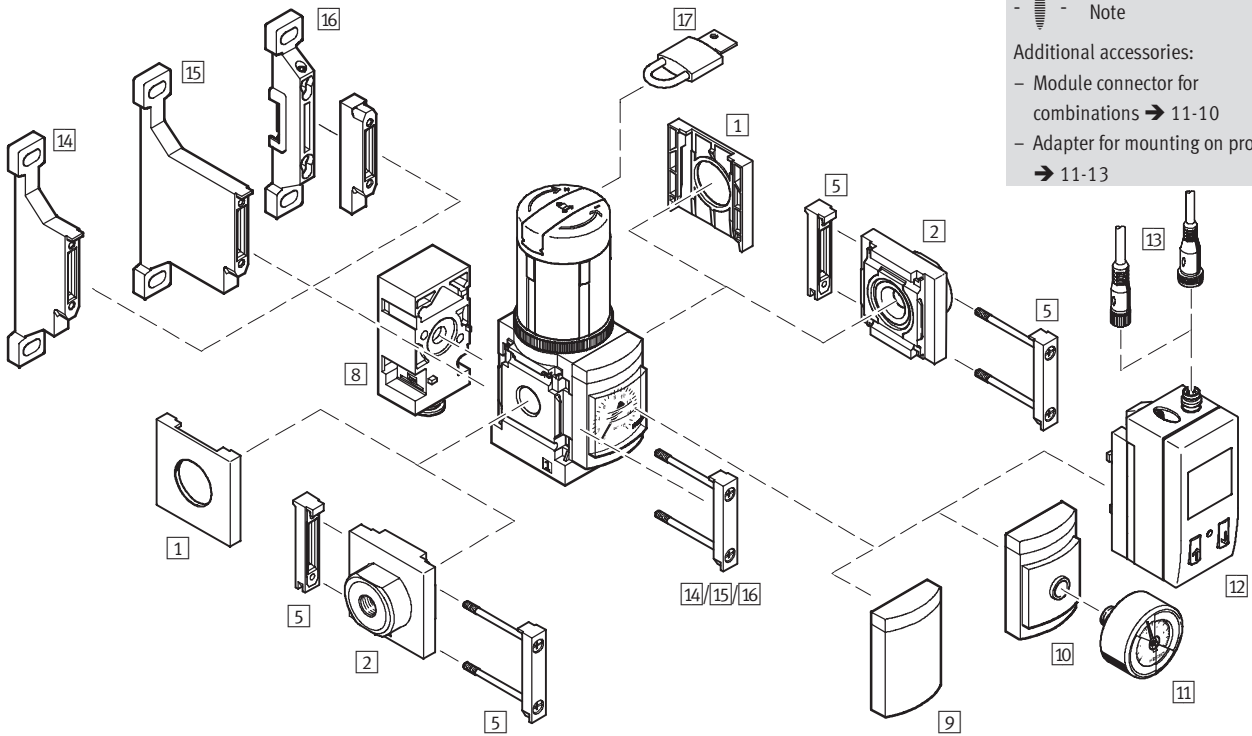
# Pressure regulators MS4/MS6-LR/LRB, MS series

Peripherals overview



## Pressure regulator LRB

Pressure output at rear

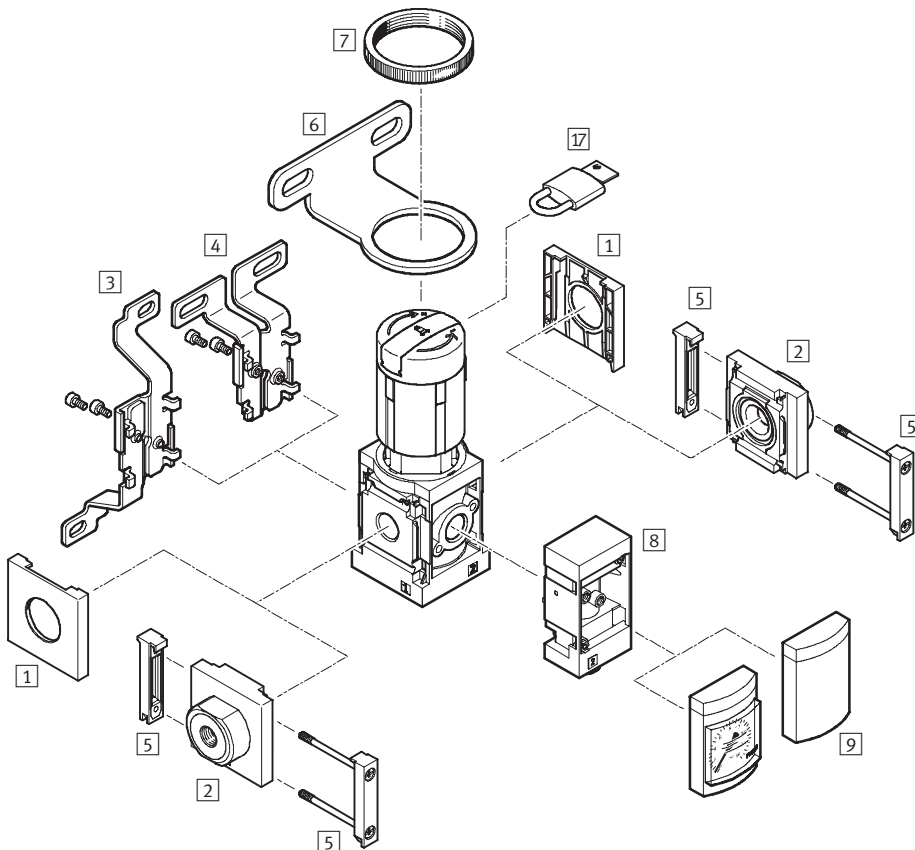


Note  
Additional accessories:  
- Module connector for combinations → 11-10  
- Adapter for mounting on profiles → 11-13

MS series service units  
Pressure regulators

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## Pressure output to front Z



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

## Pressure regulators MS4/MS6-LR/LRB, MS series

Peripherals overview

**FESTO**

Mounting attachments and accessories – LRB						
		Individual unit		Combination → 3/2.11-0		→ Page
		without connect- ing plate	with connecting plate	without connect- ing plate	with connecting plate	
1	Cover cap MS4/6-END	■	-	■	-	11-3
2	Connecting plate MS4/6-AG...	-	■	-	■	11-2
3	Mounting bracket MS4/6-WB	■	■	-	-	11-4
4	Mounting bracket MS4-WBM	■	■	-	-	11-4
5	Module connector MS4/6-MV	-	■	■	■	11-9
6	Regulator wall bracket MS4/6-WR	■	■	-	-	11-5
7	Knurled nut (included in scope of delivery) MS-LR	■	■	-	-	-
8	Angled outlet block B...	■	■	■	■	5-22
9	Cover plate VS	■	■	■	■	5-22
10	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	5-22
11	Pressure gauge MA	■	■	■	■	11-19
12	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	5-22
13	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	11-19
14	Mounting bracket MS4/6-WP	-	■	■	■	11-7
15	Mounting bracket MS4/6-WPB	-	■	■	■	11-7
16	Mounting bracket MS4/6-WPM	-	■	■	■	11-8
17	Padlock LRVS-D	■	■	■	■	11-20

**New**  
**Variants AD..., KD, DM...**

**Pressure regulators MS4/MS6-LR/LRB, MS series**

Type codes

**FESTO**

MS series service units  
 Pressure regulators

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		MS	6	-	LRB	-	1/2	-	D7	-		-	AS	-	BD
<b>Series</b>															
MS	Standard service unit														
<b>Size</b>															
4	Grid dimension 40 mm														
6	Grid dimension 62 mm														
<b>Service function</b>															
LR	Pressure regulator														
LRB	Pressure regulator for manifold assembly														
<b>Connection size</b>															
1/8	Thread G1/8														
1/4	Thread G1/4														
3/8	Thread G3/8														
1/2	Thread G1/2														
<b>Pressure regulation range</b>															
D5	0.3 ... 4 bar														
D6	0.3 ... 7 bar														
D7	0.5 ... 12 bar														
<b>Pressure gauge alternatives</b>															
	Integrated pressure gauge														
A8	Adapter plate for EN pressure gauge 1/8, without pressure gauge														
A4	Adapter plate for EN pressure gauge 1/4, without pressure gauge														
<b>Security</b>															
AS	Lockable rotary knob as standard														
<b>Pressure output (LRB only)</b>															
	Without angled outlet block														
BD	Angled outlet block QS-8														

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

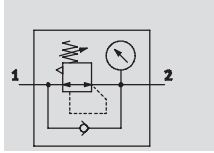
Pressure regulators LR → 5-14  
 Pressure regulators LRB → 5-22


- Connecting plates
- Pressure regulation range
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Secondary venting
- Rotary knob alternative
- Alternative mounting position
- Pressure output (LRB only)
- Type of mounting
- Alternative flow direction


## Pressure regulators MS4/MS6-LR, MS series


Technical data

Function  
with pressure gauge



-  - Flow rate  
1,000 ... 7,500 l/min

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

-  - Input pressure  
0.8 ... 20 bar

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

Wearing parts kits  
→ 5-13

The pressure regulator maintains a constant working pressure (secondary side), regardless of the pressure variations in the system (primary side) and the air consumption.



- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Available with or without secondary venting
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Four pressure regulation ranges: 0.3 ... 4 bar, 0.3 ... 7 bar, 0.5 ... 12 bar and 0.5 ... 16 bar
- Two pressure gauge connections for different fitting options
- Return flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display
- Optional rotary knob pressure gauge for size MS4

General technical data					
Size	MS4		MS6		
Pneumatic connection 1, 2	G1/8	G1/4	G1/4	G3/8	G1/2
Design	Directly actuated diaphragm regulator				
Regulating function	With primary pressure compensation				
	With/without secondary venting				
	Output pressure constant				
Type of mounting	Via accessories				
	In-line installation				
	Front panel mounting				
Assembly position	Any				
Actuator lock	Rotary knob with detent				
	Lockable with accessories				
Pressure regulation range	D5 [bar]	0.3 ... 4			
		0.8 ... 4 with variant rotary knob pressure gauge DM...		-	
	D6 [bar]	0.3 ... 7			
		0.8 ... 7 with variant rotary knob pressure gauge DM...		-	
	D7 [bar]	0.5 ... 12			
		0.8 ... 12 with variant rotary knob pressure gauge DM...		-	
		0.5 ... 10 with variant pressure sensor AD...			
	D8 [bar]	-		0.5 ... 16	
Max. hysteresis [bar]	0.25				
Pressure indicator	With pressure sensor for the output pressure display and with electric output				
	With pressure gauge for the output pressure display				

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

**New**  
**Variants AD..., KD, DM...**

**Pressure regulators MS4/MS6-LR, MS series**

Technical data



Standard nominal flow rate $q_{nN^{1}}$ [l/min]						
Size	MS4			MS6		
Pneumatic connection		G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
Pressure regulation range	D5	1,200 <sup>2)</sup>	2,100 <sup>2)</sup>	2,400 <sup>2)</sup>	5,500 <sup>2)</sup>	7,500 <sup>2)</sup>
	D6	1,150	1,800	3,000	5,800	6,500
	D7	1,000	1,700	2,700	4,500	5,500
	D8	–	–	2,200	4,000	4,500

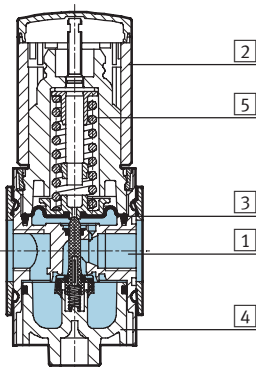
- 1) Measured at  $p_1 = 10$  bar and  $p_2 = 6$  bar,  $\Delta p = 1$  bar  
 2) Measured at  $p_1 = 10$  bar and  $p_2 = 3$  bar,  $\Delta p = 1$  bar

Operating and environmental conditions					
Variant	Standard			Pressure sensor with display AD...	
Size	MS4		MS6	MS4	MS6
Input pressure [bar]	0.8 ... 14		0.8 ... 20	0.8 ... 14	0.8 ... 20
Operating medium	Compressed air			Filtered compressed air, lubricated or unlubricated, grade of filtration 40 $\mu$ m	
Ambient temperature [°C]	-10 ... +60		-10 ... +60	0 ... +50	0 ... +50
Temperature of medium [°C]	-10 ... +60		-10 ... +60	0 ... +50	0 ... +50
Storage temperature [°C]	-10 ... +60		-10 ... +60	-10 ... +60	-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
Pressure regulator	225	730

**Materials**  
 Sectional view

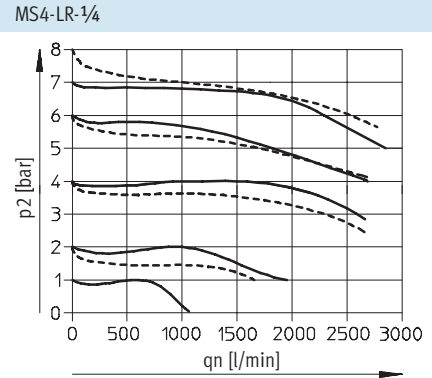
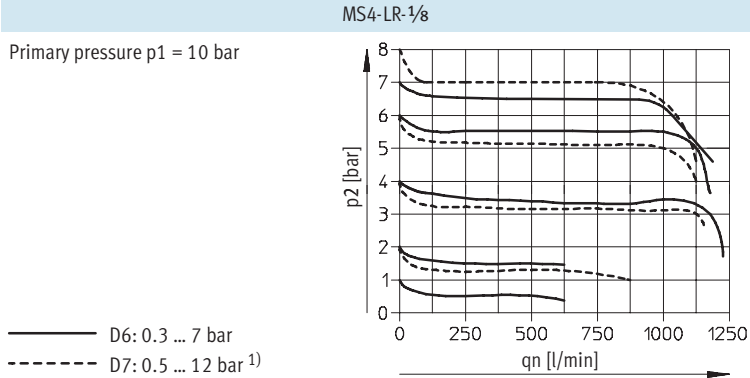


Pressure regulator	
1	Body Die-cast aluminium
2	Regulating knob Polyamide/polyacetate
3	Diaphragm Nitrile rubber
4	Bottom cap Polyester, fibreglass reinforced
5	Springs Steel
–	Seals Nitrile rubber
Note on materials Free of copper and PTFE only with cover plate VS	

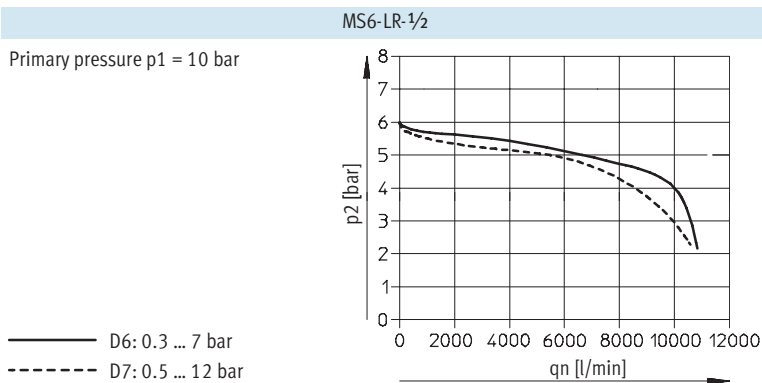
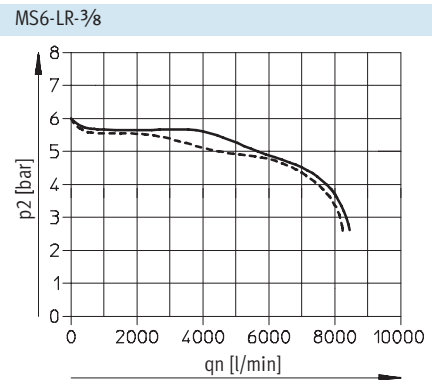
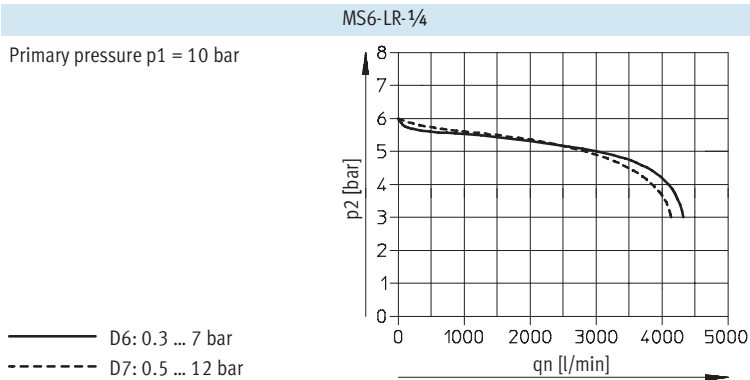
# Pressure regulators MS4/MS6-LR, MS series

Technical data

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



1) The characteristic curve for the variant DM1/DM2 shows a higher drop in starting pressure.



**New**  
**Variants AD..., KD, DM...**

**Pressure regulators MS4/MS6-LR, MS series**

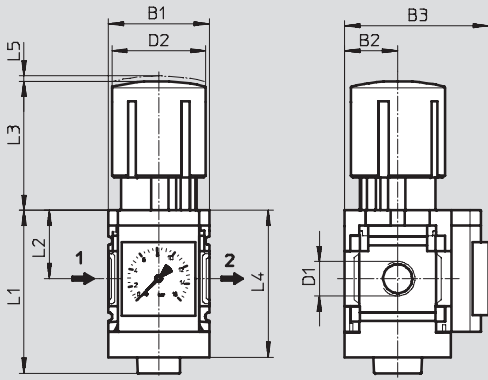
Technical data



**Dimensions – Standard**

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

With pressure gauge, display unit [bar]



→ Flow direction

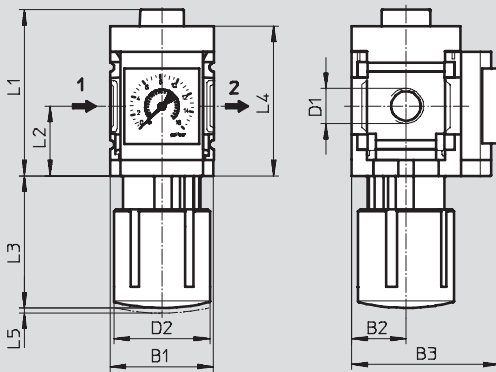
Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4-LR-1/8	40	21	57	G1/8	37.2	64.4	27	51.1	58	2
MS4-LR-1/4				G1/4						
MS6-LR-1/4	62	31	77	G1/4	51	93	39	86	84	5
MS6-LR-3/8				G3/8						
MS6-LR-1/2				G1/2						

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

**Dimensions – Alternative mounting position**

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

Rotary knob underneath KD, standard rotary knob, with pressure gauge



→ Flow direction

Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4-LR-1/8-...-KD	40	21	57	G1/8	37.2	64.4	27	51.1	58	2
MS4-LR-1/4-...-KD				G1/4						
MS4-LR-1/4-...-KD	62	31	77	G1/4	51	93	39	86	84	5
MS6-LR-3/8-...-KD				G3/8						
MS6-LR-1/2-...-KD				G1/2						

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



## Pressure regulators MS4/MS6-LR, MS series

Technical data

**FESTO**

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

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

→ Flow direction

**Pressure sensor with display AD1 ... AD4** Technical data SDE1 → [www.festo.com](http://www.festo.com)

→ Flow direction

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

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

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

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

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

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

**New**  
Variants AD..., KD, DM...

**Pressure regulators MS4/MS6-LR, MS series**

Technical data

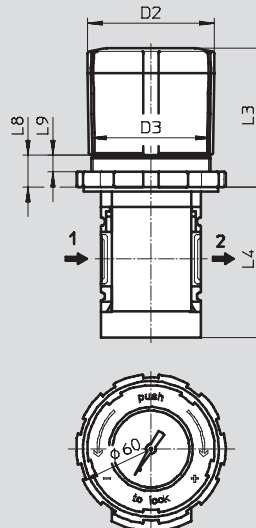
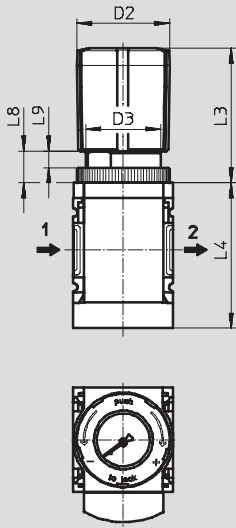


**Dimensions – Rotary knob pressure gauge**

Download CAD-Daten → [www.festo.com/de/engineering](http://www.festo.com/de/engineering)

Small DM1

Large DM2



Note

Due to the protruding rotary knob, only a MS4-FRM branching module can be connected as a directly adjacent service unit.

→ Flow direction

→ Flow direction

Type	D2	D3	L3	L4	L8	L9
MS4-LR-...-DM1	37.2	M30x1.5	54	58.5	13	6.7
MS4-LR-...-DM2	51.1	M48x1.5	55.7	60.5	13	6.6

**Dimensions – Rotary knob**

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

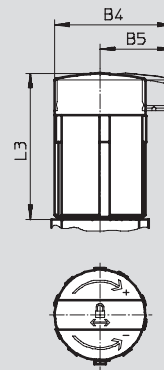
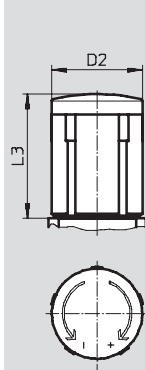
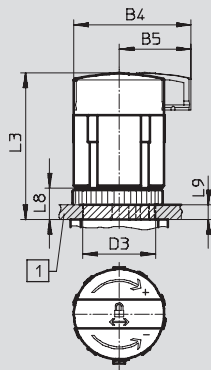
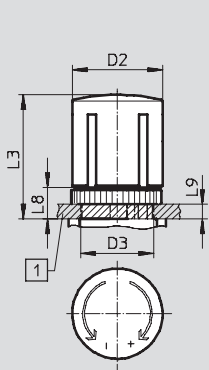
For installation into control panel

Standard

Standard, lockable AS

Long LD

Long, lockable LD-AS



1 Max. control panel thickness

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

MS series service units  
Pressure regulators

5

## Pressure regulators MS4/MS6-LR, MS series

**FESTO**

Technical data

Ordering data			
Pressure gauge, lockable standard type rotary knob			
Size	Connection	Part No.	Type
Pressure regulation range 0.3 ... 4 bar			
MS4	G1/8	529 421	MS4-LR-1/8-D5-AS
	G1/4	529 415	MS4-LR-1/4-D5-AS
MS6	G1/4	529 995	MS6-LR-1/4-D5-AS
	G3/8	530 001	MS6-LR-3/8-D5-AS
	G1/2	529 989	MS6-LR-1/2-D5-AS
Pressure regulation range 0.3 ... 7 bar			
MS4	G1/8	529 423	MS4-LR-1/8-D6-AS
	G1/4	529 417	MS4-LR-1/4-D6-AS
MS6	G1/4	529 997	MS6-LR-1/4-D6-AS
	G3/8	530 003	MS6-LR-3/8-D6-AS
	G1/2	529 991	MS6-LR-1/2-D6-AS
Pressure regulation range 0.5 ... 12 bar			
MS4	G1/8	529 425	MS4-LR-1/8-D7-AS
	G1/4	529 419	MS4-LR-1/4-D7-AS
MS6	G1/4	529 999	MS6-LR-1/4-D7-AS
	G3/8	530 005	MS6-LR-3/8-D7-AS
	G1/2	529 993	MS6-LR-1/2-D7-AS

Ordering data – Wearing parts kits			
Size	Part No.	Type	
MS4	673 649	MS4-LR/LRB	
MS6	673 650	MS6-LR/LRB	

**New**  
Variants AD..., KD, DM...

**Pressure regulators MS4/MS6-LR, MS series**

Ordering data – Modular products



**Mandatory data** →

Module No.	Series	Size	Function	Connection size	Pressure regulation range
527 690 527 663	MS	4 6	LR	1/8, 1/4, 3/8, 1/2, AGA, AGB, AGC, AGD, AGE	D5 D6 D7 D8
<b>Ordering example</b>					
527 690	MS	4	- LR	- AGB	- D6

**Ordering table**

Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code
<b>M</b> Module No.		527 690	527 663			
Series		Standard			MS	MS
Size		4	6		...	
Function		Pressure regulator			-LR	-LR
Connection size	Thread G1/8	-			-1/8	
	Thread G1/4	Thread G1/4			-1/4	
	-	Thread G3/8			-3/8	
	-	Thread G1/2			-1/2	
	Connecting plate G1/8	-			-AGA	
	Connecting plate G1/4	Connecting plate G1/4			-AGB	
	Connecting plate G3/8	Connecting plate G3/8			-AGC	
	-	Connecting plate G1/2			-AGD	
	-	Connecting plate G3/4			-AGE	
Pressure regulation range	0.3 ... 4 bar				-D5	
	0.3 ... 7 bar				-D6	
	0.5 ... 12 bar				-D7	
	-	0.5 ... 16 bar		<sup>1</sup>	-D8	

<sup>1</sup> D8 Not with rotary knob alternative DM2.

**Transfer order code**

	MS		- LR		-	
--	----	--	------	--	---	--

MS series service units  
Pressure regulators  
5

Pressure regulators MS4/MS6-LR, MS series

Ordering data – Modular products

Options							
Pressure gauge alternatives	Alternative pressure gauge scale	Secondary venting	Rotary knob alternative	Alternative assembly position	Security	Type of mounting	Alternative flow direction
VS A8 A4 AD1 AD2 AD3 AD4	PSI MPA	OS	LD DM1 DM2	KD	AS	WR WP WPM WB WBM	Z
- AD3	-	- OS	- LD	-	- AS	- WB	- Z

Ordering table							
Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code	
0 Pressure gauge alternatives	Cover plate				-VS		
	Adapter plate for EN pressure gauge 1/8, without pressure gauge		-		-A8		
	Adapter plate for EN pressure gauge 1/4, without pressure gauge				-A4		
	Pressure sensor with display, plug M8, 1 switch output PNP, 3-pin			2	-AD1		
	Pressure sensor with display, plug M8, 1 switch output NPN, 3-pin			2	-AD2		
	Pressure sensor with display, plug M12, 1 switch output PNP, 4-pin, analogue output 4 ... 20 mA			2	-AD3		
	Pressure sensor with display, plug M12, 1 switch output NPN, 4-pin, analogue output 4 ... 20 mA			2	-AD4		
Alternative pressure gauge scale	psi			3	-PSI		
	MPa			3	-MPA		
Secondary venting	Without secondary venting			4	-OS		
Rotary knob alternative	Long rotary knob				-LD		
	Rotary knob pressure gauge, small		-	5	-DM1		
	Rotary knob pressure gauge, large		-	6	-DM2		
Alternative assembly position	Rotary knob at bottom			7	-KD		
Security	Lockable rotary knob			8	-AS		
Type of mounting	Wall mounting bracket with knurled nut for regulator head			9	-WR		
	Wall mounting plate			10	-WP		
	Wall mounting plate			10	-WPM		
	Wall mounting bracket			11	-WB		
	Wall mounting bracket		-			-WBM	
Alternative flow direction	Flow direction from right to left				-Z		

- 2 **AD1 ... AD4** Measuring range max. 10 bar  
Not with pressure regulation range D8  
Not with rotary knob alternative DM2
- 3 **PSI, MPA** Not with pressure gauge alternatives VS, A8, A4, AD1, AD2, AD3, AD4  
Not with rotary knob alternatives DM1, DM2
- 4 **OS** Not with rotary knob alternatives DM1, DM2
- 5 **DM1** Only with one pressure gauge alternative VS, A8, A4, AD1, AD2, AD3 or AD4
- 6 **DM2** Only with one pressure gauge alternative VS, A8, A4

- 7 **KD** Not with alternative pressure gauge scale PSI, MPA  
Not with mounting type WP  
Not with rotary knob alternatives DM1, DM2
- 8 **AS** Not with rotary knob alternatives DM1, DM2
- 9 **WR** Not with long rotary knob LD  
Not with rotary knob alternative DM2.
- 10 **WP, WPM** Only with connecting plate AGA, AGB, AGC, AGD or AGE
- 11 **WB** Not with rotary knob alternative DM2

Transfer order code

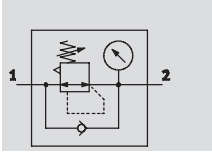
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## Pressure regulators MS4/MS6-LRB, MS series

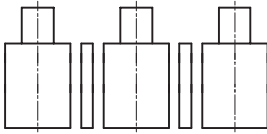
Technical data

**FESTO**

Function  
with pressure gauge



LRB-manifold  
with through pressure supply for  
manifold assembly



- - Flow rate  
300 ... 7,300 l/min

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

- - Input pressure  
0.8 ... 20 bar

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

Wearing parts kits  
→ 5-21

The pressure regulator is suitable for manifold assemblies with through air supply on both sides, for configuring a regulator manifold with separate, independent pressure regulation ranges. Pressure output is at the front or rear.



- Good control characteristics with low hysteresis and primary pressure compensation
- Manifold assembly with through air supply
- For configuring a regulator manifold with independent pressure regulation ranges
- Available with or without secondary venting
- Setting values are secured by locking the rotary knob
- Lockable rotary knob
- Four pressure regulation ranges: 0.3 ... 4 bar, 0.3 ... 7 bar, 0.5 ... 12 bar and 0.5 ... 16 bar
- Return flow option for exhausting from output 2 to output 1
- Optional pressure sensor with display

General technical data			
Size	MS4	MS6	
Pneumatic connection 1	G $\frac{1}{4}$	G $\frac{1}{2}$	
Pneumatic connection 2	G $\frac{1}{4}$	G $\frac{1}{2}$	
	QS-6	QS-8	
	QS-8	QS-10	
Design	Directly actuated diaphragm regulator with through pressure supply		
Regulating function	With primary pressure compensation		
	With/without secondary venting		
	Output pressure constant		
Type of mounting	Via accessories		
	In-line installation		
	Front panel mounting		
Assembly position	Any		
Actuator lock	Rotary knob with detent		
	Lockable with accessories		
Pressure regulation range	D5 [bar]	0.3 ... 4	
	D6 [bar]	0.3 ... 7	
	D7 [bar]	0.5 ... 12 (0.5 ... 10 with variant pressure sensor AD...)	
	D8 [bar]	-	0.5 ... 16
Max. hysteresis [bar]	0.25		
Pressure indicator	With pressure sensor for the output pressure display and with electric output		
	With pressure gauge for the output pressure display		

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

## Pressure regulators MS4/MS6-LRB, MS series

Technical data

**FESTO**

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]							
Size		MS4			MS6		
		Standard	Angled outlet block		Standard	Angled outlet block	
			QS-6	QS-8		QS-8	QS-10
Pressure regulation range	D5	1,900 <sup>2)</sup>	300 <sup>2)</sup>	650 <sup>2)</sup>	7,300 <sup>2)</sup>	600 <sup>2)</sup>	750 <sup>2)</sup>
	D6	1,700	350	840	6,300	880	1,000
	D7	1,500	350	640	5,500	800	950
	D8	–	–	–	4,500	750	850

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

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

Operating and environmental conditions					
Variant		Standard		Pressure sensor with display AD...	
Size		MS4	MS6	MS4	MS6
Input pressure	[bar]	0.8 ... 14	0.8 ... 20	0.8 ... 14	0.8 ... 20
Operating medium		Compressed air		Filtered compressed air, lubricated or unlubricated, grade of filtration 40 $\mu$ m	
Ambient temperature	[°C]	-10 ... +60	-10 ... +60	0 ... +50	0 ... +50
Temperature of medium	[°C]	-10 ... +60	-10 ... +60	0 ... +50	0 ... +50
Storage temperature	[°C]	-10 ... +60	-10 ... +60	-10 ... +60	-10 ... +60
Corrosion resistance	CRC <sup>1)</sup>	2			

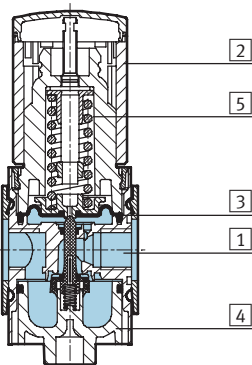
1) Corrosion resistance class 2 according to Festo standard 940 070

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
Pressure regulator	222	747

### Materials

Sectional view



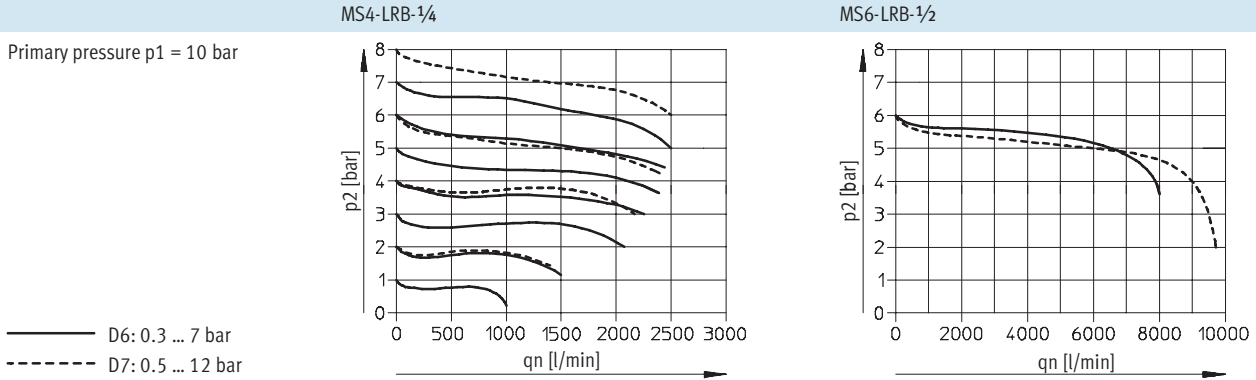
Pressure regulator (manifold assembly)		
1	Body	Die-cast aluminium
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Bottom cap	Polyester, fibreglass reinforced
5	Springs	Steel
–	Seals	Nitrile rubber
	Note on materials	Free of copper and PTFE only with cover plate VS

## Pressure regulators MS4/MS6-LRB, MS series

Technical data

**FESTO**

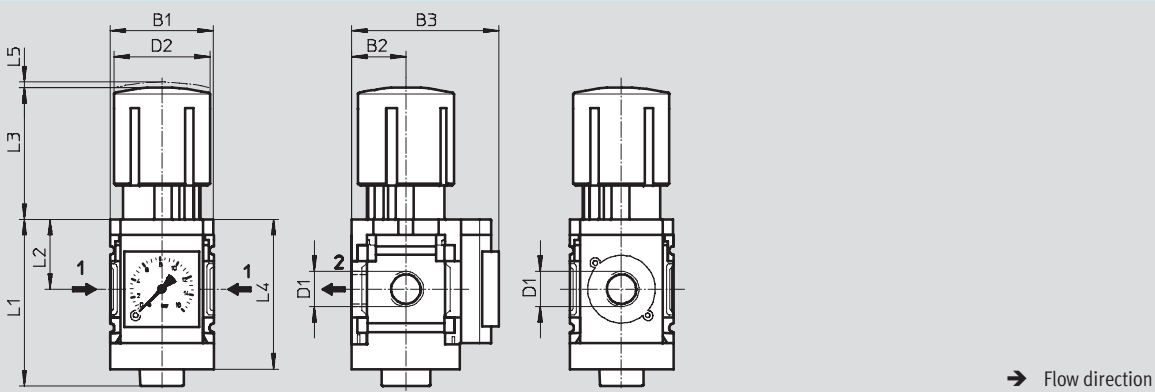
### Standard flow rate $q_n$ as a function of output pressure $p_2$



### Dimensions – Standard

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

With pressure gauge, display unit [bar]



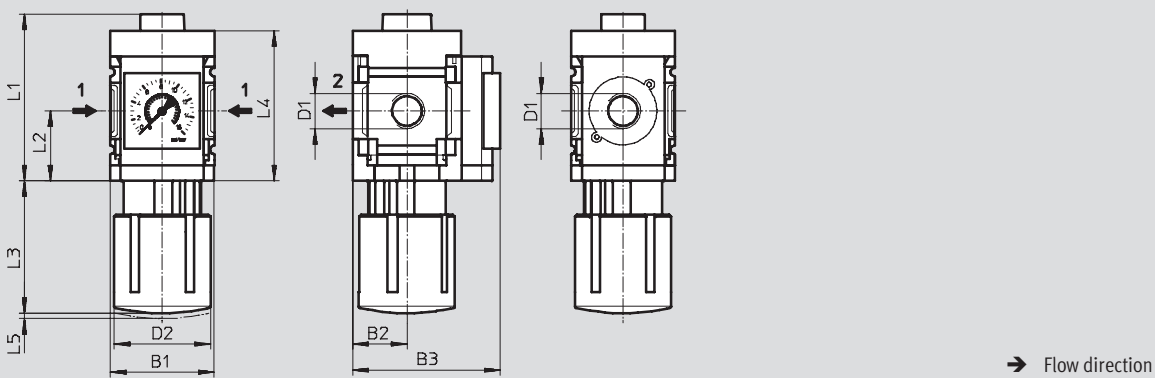
Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4-LRB-1/4	40	21	57	G1/4	37.2	64.4	27	51.1	58	2
MS6-LRB-1/2	62	31	77	G1/2	51	93	39	86	84	5

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

### Dimensions – Alternative mounting position

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

Rotary knob underneath KD, standard rotary knob, with pressure gauge



Type	B1	B2	B3	D1	D2	L1	L2	L3	L4	L5
MS4-LRB-1/4-...-KD	40	21	57	G1/4	37.2	64.4	27	51.1	58	2
MS6-LRB-1/2-...-KD	62	31	77	G1/2	51	93	39	86	84	5

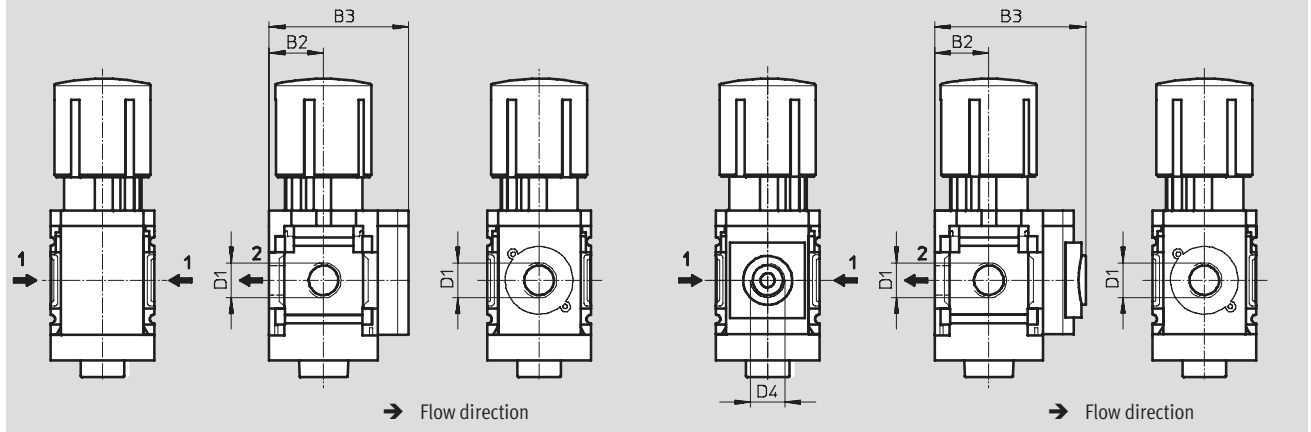
— Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.



## Pressure regulators MS4/MS6-LRB, MS series

Technical data

Dimensions – Pressure gauge alternatives Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)  
 Cover plate VS Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



Pressure sensor with display AD1 ... AD4 Technical data SDE1 → [www.festo.com](http://www.festo.com)

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

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

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

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

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

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

## Pressure regulators MS4/MS6-LRB, MS series

Technical data

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### Dimensions – Angled outlet block BC/BD/BE

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

Pressure output at rear

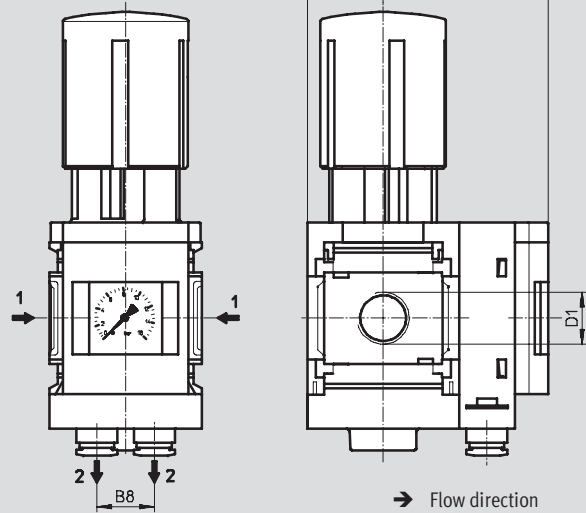
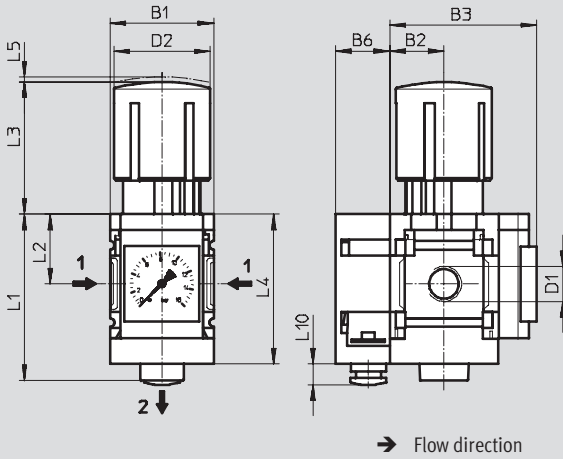
Pressure output to front Z

MS4

MS6 (not illustrated)

MS4 (not illustrated)

MS6



Type	B1	B2	B3	B6	B7	B8	D1	D2	L1	L2	L3	L4	L5	L10
MS4-LRB-1/4-...-B...	40	21	57	21	78	-	G1/4	37.2	64.4	27	51.1	58	2	8
MS6-LRB-1/2-...-B...	62	31	77	22.6	99.6	23.4	G1/2	51	93	39	86	84	5	11

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

### Dimensions – Rotary knob

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

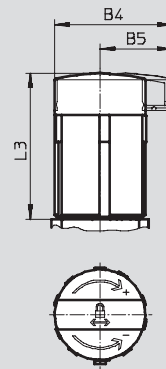
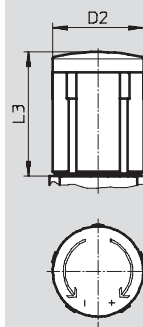
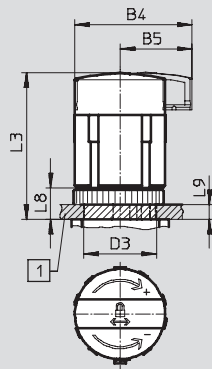
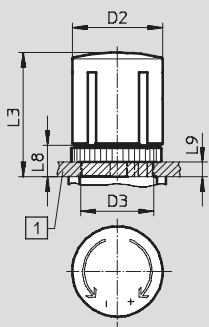
For installation into control panel

Standard

Standard, lockable AS

Long LD

Long, lockable LD-AS



1 Max. control panel thickness

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

## Pressure regulators MS4/MS6-LRB, MS series

Technical data

**FESTO**

Ordering data					
Pressure gauge, lockable standard type rotary knob					
Size	Connection	Pressure output to rear without angled outlet block		Pressure output to rear with angled outlet block QS-8	
		Part No.	Type	Part No.	Type
Pressure regulation range 0.3 ... 4 bar					
MS4	G1/4	529 473	MS4-LRB-1/4-D5-AS	529 474	MS4-LRB-1/4-D5-AS-BD
MS6	G1/2	530 322	MS6-LRB-1/2-D5-AS	530 323	MS6-LRB-1/2-D5-AS-BD
Pressure regulation range 0.3 ... 7 bar					
MS4	G1/4	529 479	MS4-LRB-1/4-D6-AS	529 480	MS4-LRB-1/4-D6-AS-BD
MS6	G1/2	530 328	MS6-LRB-1/2-D6-AS	530 329	MS6-LRB-1/2-D6-AS-BD
Pressure regulation range 0.5 ... 12 bar					
MS4	G1/4	529 485	MS4-LRB-1/4-D7-AS	529 486	MS4-LRB-1/4-D7-AS-BD
MS6	G1/2	530 334	MS6-LRB-1/2-D7-AS	530 335	MS6-LRB-1/2-D7-AS-BD

Ordering data					
Adapter plate A8 for EN pressure gauge 1/8, lockable standard-type rotary knob					
Size	Connection	Pressure output to rear without angled outlet block			
		Part No.	Type		
Pressure regulation range 0.3 ... 4 bar					
MS4	G1/4	529 471	MS4-LRB-1/4-D5-A8-AS		
Pressure regulation range 0.3 ... 7 bar					
MS4	G1/4	529 477	MS4-LRB-1/4-D6-A8-AS		
Pressure regulation range 0.5 ... 12 bar					
MS4	G1/4	529 483	MS4-LRB-1/4-D7-A8-AS		

Ordering data					
Adapter plate A4 for EN pressure gauge 1/4, lockable standard-type rotary knob					
Size	Connection	Pressure output to rear without angled outlet block			
		Part No.	Type		
Pressure regulation range 0.3 ... 4 bar					
MS6	G1/2	530 320	MS6-LRB-1/2-D5-A4-AS		
Pressure regulation range 0.3 ... 7 bar					
MS6	G1/2	530 326	MS6-LRB-1/2-D6-A4-AS		
Pressure regulation range 0.5 ... 12 bar					
MS6	G1/2	530 332	MS6-LRB-1/2-D7-A4-AS		

Ordering data – Wearing parts kits			
Size	Part No.	Type	
MS4	673 649	MS4-LR/LRB	
MS6	673 650	MS6-LR/LRB	

## Pressure regulators MS4/MS6-LRB, MS series

Ordering data – Modular products



Mandatory data						Options
Module No.	Series	Size	Function	Connection size	Pressure regulation range	Pressure gauge alternatives
527 692 527 665	MS	4 6	LRB	1/4 1/2 AGA AGB AGC AGD AGE	D5 D6 D7 D8	VS A8 A4 AD1 AD2 AD3 AD4
<b>Ordering example</b>						
527 692	MS	4	- LRB	- AGC	- D5	- A4

Ordering table						
Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code
M	Module No.	527 692	527 665			
	Series	Standard			MS	MS
	Size	4	6		...	
	Function	Pressure regulator for manifold assembly			-LRB	-LRB
	Connection size	Thread G1/4	-		-1/4	
		-	Thread G1/2		-1/2	
		Connecting plate G1/8	-		-AGA	
		Connecting plate G1/4	Connecting plate G1/4		-AGB	
		Connecting plate G3/8	Connecting plate G3/8		-AGC	
		-	Connecting plate G1/2		-AGD	
		-	Connecting plate G3/4		-AGE	
	Pressure regulation range	0.3 ... 4 bar			-D5	
		0.3 ... 7 bar			-D6	
		0.5 ... 12 bar			-D7	
		-	0.5 ... 16 bar		-D8	
O	Pressure gauge alternatives	Cover plate		1	-VS	
		Adapter plate for EN pressure gauge 1/8, without pressure gauge	-	2	-A8	
		Adapter plate for EN pressure gauge 1/4, without pressure gauge		2	-A4	
		Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin		2 3	-AD1	
		Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin		2 3	-AD2	
		Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analogue output 4 ... 20 mA		2 3	-AD3	
		Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analogue output 4 ... 20 mA		2 3	-AD4	

- 1 VS Must be selected if alternative flow direction Z is selected without alternative assembly position KD and without pressure output BC, BD, BE.  
Must be selected if alternative assembly position KD is selected without alternative flow direction Z and without pressure output BC, BD, BE

- 2 A8, A4, AD1 ... AD4 In combination with alternative flow direction Z only with alternative assembly position KD  
3 AD1 ... AD4 Measuring range max. 10 bar.  
Not with pressure regulation range D8

### Transfer order code

	MS		-	LRB		-		-		-	
--	----	--	---	-----	--	---	--	---	--	---	--

## Pressure regulators MS4/MS6-LRB, MS series

Ordering data – Modular products

Options							
Alternative pressure gauge scale	Secondary venting	Rotary knob alternative	Alternative assembly position	Security	Pressure output	Type of mounting	Alternative flow direction
PSI MPA	OS	LD	KD	AS	BC BD BE	WR WP WPM WPB WB WBM	Z
-	- OS	- LD	-	- AS	- BC	- WP	-

Ordering table							
Grid dimension	[mm]	40	62	Condi- tions	Code	Enter code	
Alternative pressure gauge scale	psi			4	-PSI		
	MPa			4	-MPA		
Secondary venting	Without secondary venting				-OS		
Rotary knob alternative	Long rotary knob				-LD		
Alternative assembly position	Rotary knob, underneath			5	-KD		
Security	Lockable rotary knob				-AS		
Pressure output ( $p_{max} = 10$ bar)	Angled outlet block QS-6		-		-BC		
	Angled outlet block QS-8		Angled outlet block QS-8		-BD		
	-		Angled outlet block QS-10		-BE		
Type of mounting	Mounting bracket with knurled nut for regulator head			6 7	-WR		
	Mounting bracket			8 9	-WP		
	Mounting bracket			6 8	-WPM		
	Mounting bracket for large wall gap			8 10	-WPB		
	Mounting bracket			6	-WB		
	Mounting bracket		-	6	-WBM		
Alternative flow direction	Pressure output at front (for manometer connection an angled outlet block is required)				-Z		

- 4 PSI, MPA** Not with pressure gauge alternatives VS, A8, A4, AD1, AD2, AD3, AD4.  
Not with alternative assembly position KD.  
In combination with alternative flow direction Z only with pressure output BC, BD, BE
- 5 KD** Not with alternative pressure gauge scale PSI, MPA.  
Not with mounting type WP, WPB.  
In combination with mounting type WR, WPM, WB, WBM not with alternative flow direction Z.  
In combination with pressure gauge alternatives A8, A4, AD1, AD2, AD3, AD4 only with alternative flow direction Z

- 6 WR, WPM, WB, WBM** In combination with alternative flow direction Z not with alternative assembly position KD
- 7 WR** Only with alternative flow direction Z.  
Not with rotary knob alternative LD
- 8 WP, WPM, WPB** Only with connecting plate AGA, AGB, AGC, AGD, AGE
- 9 WP** Only with alternative flow direction Z and/or only with pressure output BC, BD, BE
- 10 WPB** Not with alternative flow direction Z.  
Not with pressure output BC, BD, BE

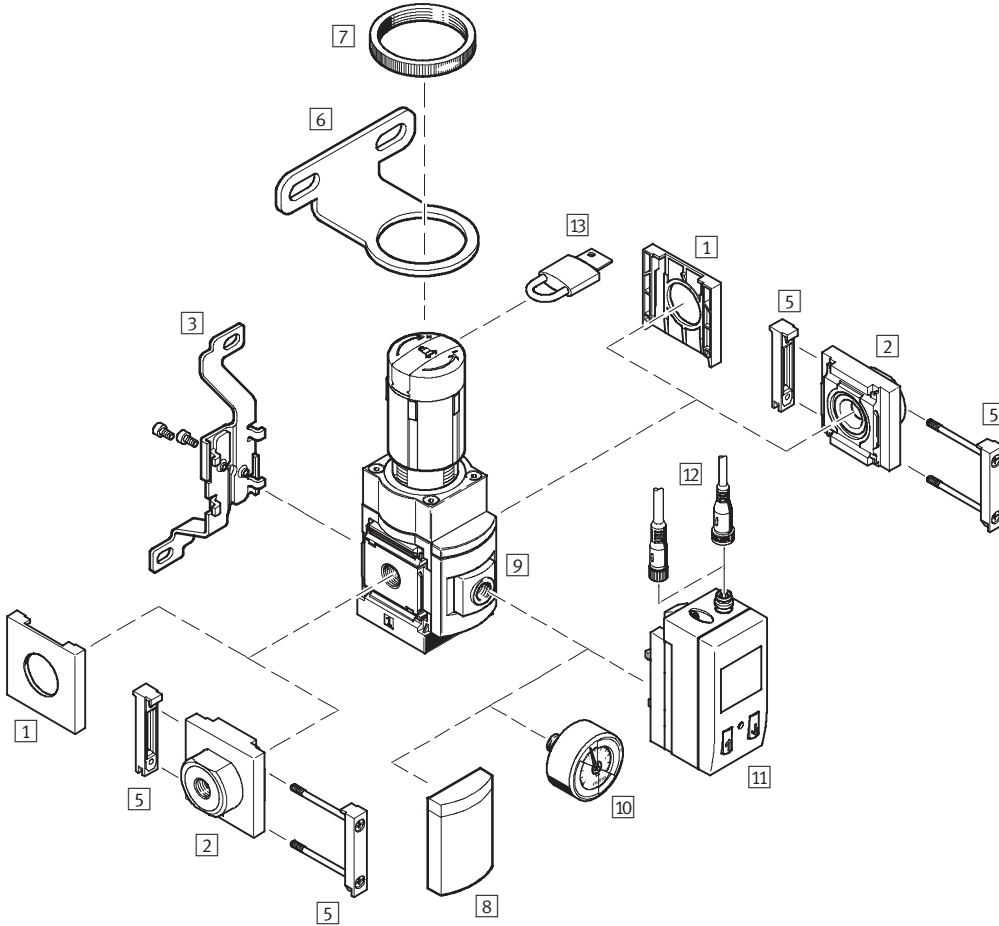
### Transfer order code


- [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

# Precision pressure regulators MS6-LRP/LRPB, MS series

Peripherals overview

## Precision pressure regulator LRP



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

MS series service units  
 Pressure regulators

5

## Precision pressure regulators MS6-LRP/LRPB, MS series

Peripherals overview

FESTO

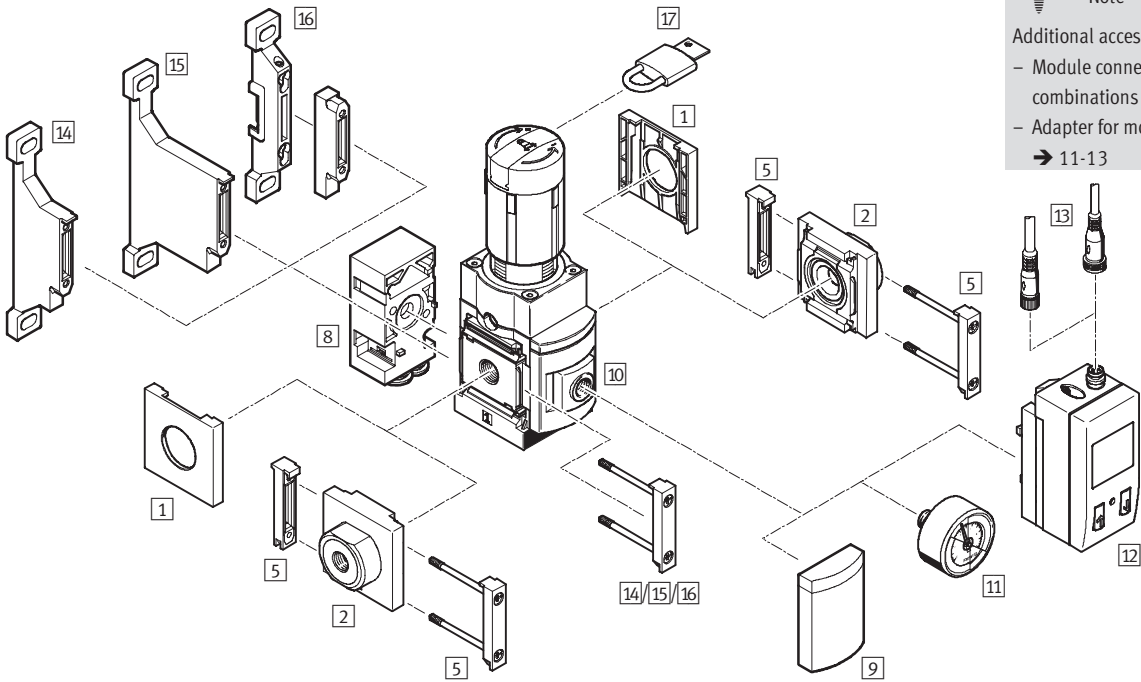
Mounting attachments and accessories – LRP						
		Individual unit		Combination → 3/2.11-0		→ Page
		without connect- ing plate	with connecting plate	without connect- ing plate	with connecting plate	
1	Cover cap MS6-END	■	-	■	-	11-3
2	Connecting plate MS6-AG...	-	■	-	■	11-2
3	Mounting bracket MS6-WB	■	■	-	-	11-4
5	Module connector MS6-MV	-	■	■	■	11-9
6	Regulator wall bracket MS6-WR	■	■	-	-	11-5
7	Knurled nut (included in scope of delivery) MS-LR	■	■	-	-	-
8	Cover plate VS	■	■	■	■	5-36
9	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	5-36
10	Precision pressure gauge A8M/MAP	■	■	■	■	5-36 11-19
11	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	5-36
12	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	11-19
13	Padlock LRVS-D	■	■	■	■	11-20
-	Mounting bracket MS6-WP/WPB/WPM	-	■	■	■	11-7, 11-8

# Precision pressure regulators MS6-LRP/LRPB, MS series

Peripherals overview

## Precision pressure regulator LRPB

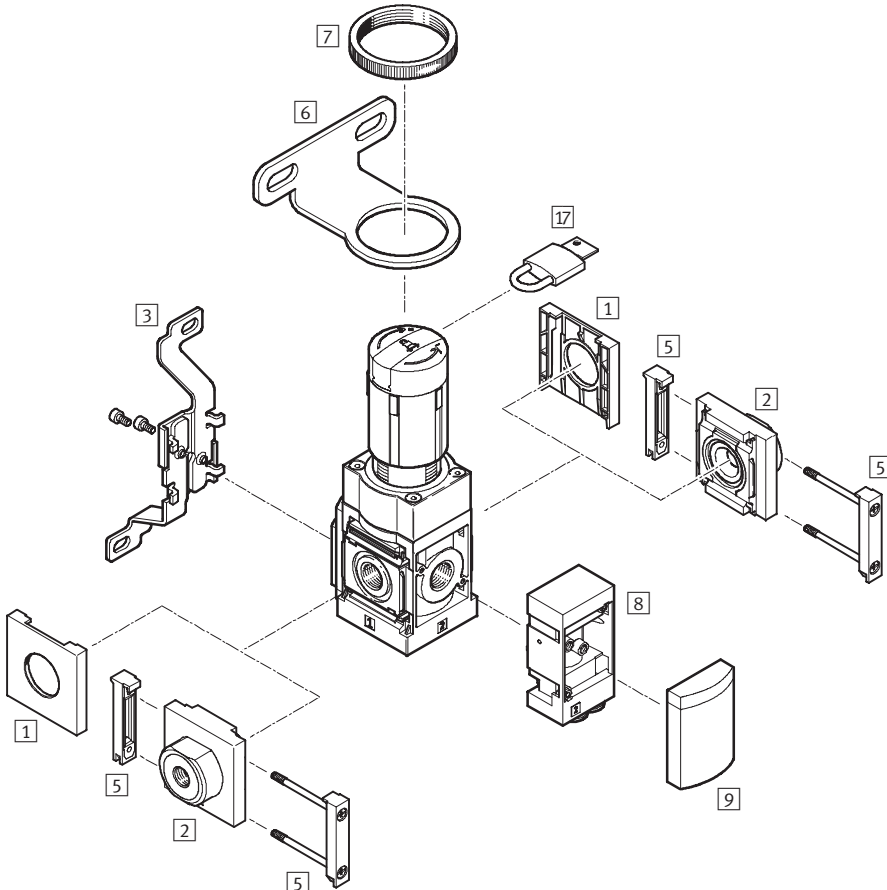
Pressure output at rear



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

MS series service units  
 Pressure regulators

## Pressure output to front Z



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



## Precision pressure regulators MS6-LRP/LRPB, MS series

Peripherals overview

FESTO

Mounting attachments and accessories – LRPB						
		Individual unit		Combination → 3/2.11-0		→ Page
		without connect- ing plate	with connecting plate	without connect- ing plate	with connecting plate	
1	Cover cap MS6-END	■	-	■	-	11-3
2	Connecting plate MS6-AG...	-	■	-	■	11-2
3	Mounting bracket MS6-WB	■	■	-	-	11-4
5	Module connector MS6-MV	-	■	■	■	11-9
6	Regulator wall bracket MS6-WR	■	■	-	-	11-5
7	Knurled nut (included in scope of delivery) MS-LR	■	■	-	-	-
8	Angled outlet block B...	■	■	■	■	5-44
9	Cover plate VS	■	■	■	■	5-44
10	Adapter for EN pressure gauge 1/8/1/4 A8/A4	■	■	■	■	5-44
11	Precision pressure gauge A8M/MAP	■	■	■	■	5-44 11-19
12	Pressure sensor SDE1-...-MS AD1 ... AD4	■	■	■	■	5-44
13	Plug socket with cable SIM-M8-3.../SIM-M12-4...	■	■	■	■	11-19
14	Mounting bracket MS6-WP	-	■	■	■	11-7
15	Mounting bracket MS6-WPB	-	■	■	■	11-7
16	Mounting bracket MS6-WPM	-	■	■	■	11-8
17	Padlock LRVS-D	■	■	■	■	11-20

## Precision pressure regulators MS6-LRP/LRPB, MS series

Type codes

		MS	6	-	LRPB	-	1/2	-	D7	-	A8	-	BD
<b>Series</b>													
MS	Standard service unit												
<b>Size</b>													
6	Grid dimension 62 mm												
<b>Service function</b>													
LRP	Precision pressure regulator												
LRPB	Precision pressure regulator for manifold assembly												
<b>Connection size</b>													
1/4	Thread G1/4												
3/8	Thread G3/8												
1/2	Thread G1/2												
<b>Pressure regulation range</b>													
D2	0.05 ... 0.7 bar												
D4	0.05 ... 2.5 bar												
D5	0.1 ... 4 bar												
D7	0.1 ... 12 bar												
<b>Pressure gauge alternatives</b>													
A8	Adapter plate for EN pressure gauge 1/8, without pressure gauge												
<b>Pressure output (LRPB only)</b>													
	Without angled outlet block												
BD	Angled outlet block QS-8												
BE	Angled outlet block QS-10												

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

- Precision pressure regulators LRP → 5-36
- Precision pressure regulators LRPB → 5-44

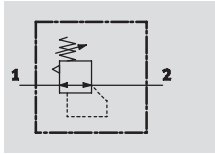
- Connecting plates
- Pressure gauge alternatives
- Rotary knob alternative
- Alternative assembly position
- Security
- Type of mounting
- Alternative flow direction





# Precision pressure regulators MS6-LRP, MS series

Technical data



## Function



-  Flow rate  
800 ... 5,000 l/min
-  Temperature range  
-10 ... +60 °C
-  Input pressure  
1 ... 14 bar
-  [www.festo.com/en/  
Spare\\_parts\\_service](http://www.festo.com/en/Spare_parts_service)



The precision pressure regulator is suitable for sensitive applications with a required pressure hysteresis of 0.02 bar.

- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Setting values are secured by locking the rotary knob
- Lockable rotary knob (optional)
- Four pressure regulation ranges: 0.05 ... 0.7 bar, 0.05 ... 2.5 bar, 0.1 ... 4 bar and 0.1 ... 12 bar
- Optional pressure sensor with display

General technical data		MS6		
Size		MS6		
Pneumatic connection 1, 2		G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
Pneumatic connection 3 (Secondary venting)		G $\frac{1}{4}$		
Constructional design		Pilot actuated precision diaphragm regulator		
Regulating function		Via secondary venting Output pressure constant		
Type of mounting		Via accessories In-line installation Front panel mounting		
Installation position		Any		
Actuator lock		Rotary knob with detent Lockable with accessories		
Pressure regulation range	D2 [bar]	0.05 ... 0.7		
	D4 [bar]	0.05 ... 2.5		
	D5 [bar]	0.1 ... 4		
	D7 [bar]	0.1 ... 12 (0.1 ... 10 with pressure sensor variant AD...)		
Max. hysteresis	[bar]	0.02		
Pressure display		Via pressure sensor for displaying output pressure and electrical output Via precision pressure gauge for displaying output pressure G $\frac{1}{8}$ prepared G $\frac{1}{4}$ prepared		
Flow rate of secondary venting	[l/min]	≥ 220 with pressure regulation range D2 ≥ 450 with pressure regulation range D4 ≥ 650 with pressure regulation range D5 ≥ 900 with pressure regulation range D7		

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

# Precision pressure regulators MS6-LRP, MS series

Technical data

Standard nominal flow rate qnN [l/min]				
Pneumatic connection		G¼	G¾	G½
Pressure regulation range	D2	800 <sup>1)</sup>	1,100 <sup>1)</sup>	1,600 <sup>1)</sup>
	D4	1,100 <sup>2)</sup>	1,400 <sup>2)</sup>	2,300 <sup>2)</sup>
	D5	1,400 <sup>3)</sup>	1,700 <sup>3)</sup>	3,000 <sup>3)</sup>
	D7	3,000 <sup>4)</sup>	3,300 <sup>4)</sup>	5,000 <sup>4)</sup>

- 1) Measured at p1 = 10 bar and p2 = 0.5 bar, Δp = 0.1 bar
- 2) Measured at p1 = 10 bar and p2 = 1.5 bar, Δp = 0.1 bar
- 3) Measured at p1 = 10 bar and p2 = 2.5 bar, Δp = 0.1 bar
- 4) Measured at p1 = 10 bar and p2 = 6.0 bar, Δp = 0.1 bar

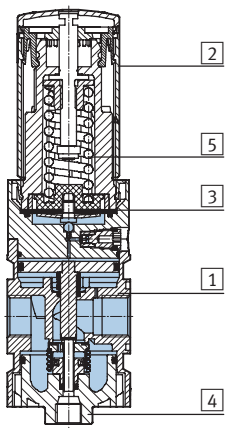
Operating and environmental conditions		
Variant	Standard	Pressure sensor with display AD...
Input pressure [bar]	1 ... 14	1 ... 14
Operating medium	Compressed air, filtered, unlubricated, grade of filtration 40 µm	
Ambient temperature [°C]	-10 ... +60	0 ... +50
Temperature of medium [°C]	-10 ... +60	0 ... +50
Storage temperature [°C]	-10 ... +60	-10 ... +60
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.

Weight [g]	
Precision pressure regulator	1,000

## Materials

Sectional view

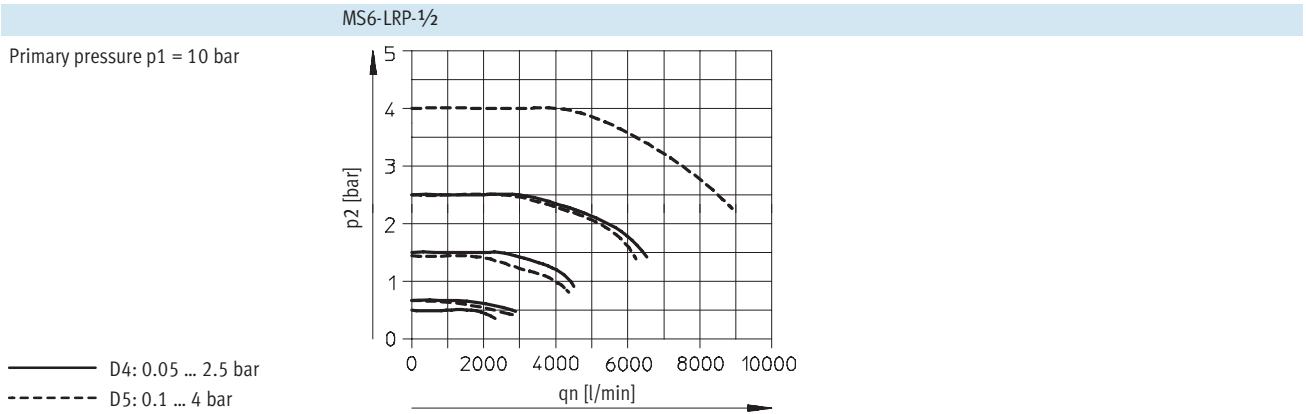
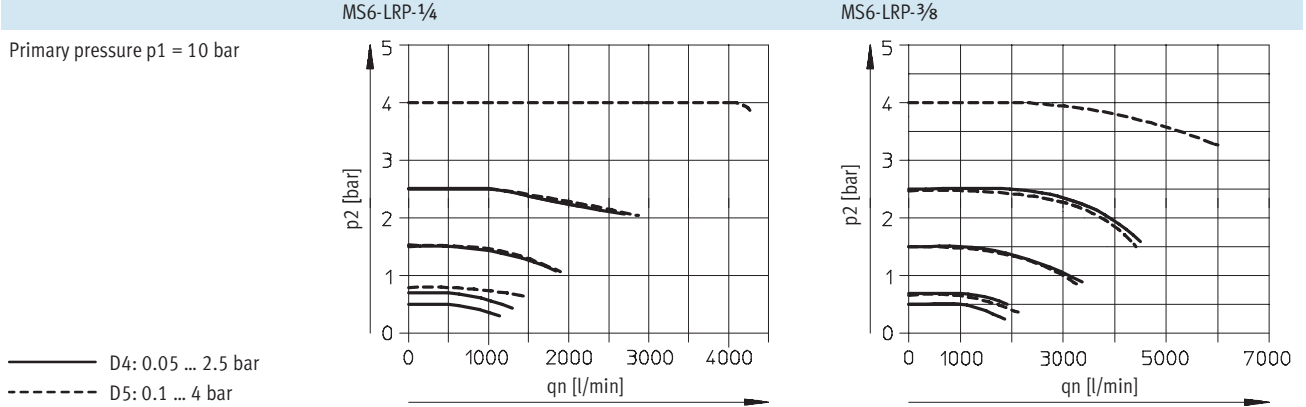


Precision pressure regulator		
1	Housing	Die-cast aluminium
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Cap, bottom	Polyester, fibreglass reinforced
5	Springs	Steel
-	Seals	Nitrile rubber
Note on materials		Free of copper and PTFE (not with variants A8M or AD...)

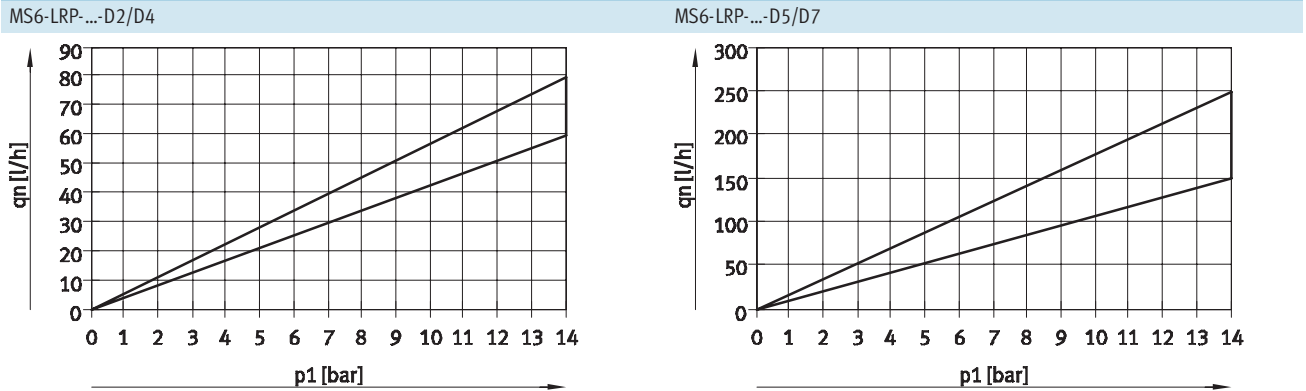
# Precision pressure regulators MS6-LRP, MS series

Technical data

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



## Internal air consumption $q_n$ as a function of supply pressure $p_1$



# Precision pressure regulators MS6-LRP, MS series

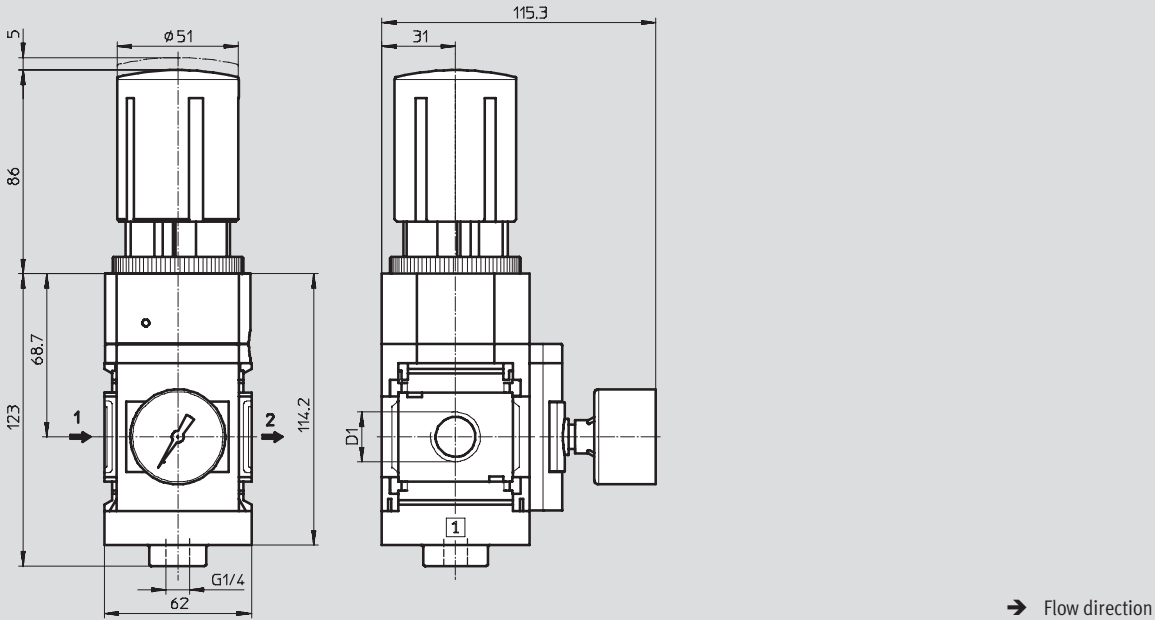
Technical data

**Dimensions**

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

Adapter plate A8M for EN pressure gauge 1/8, with precision pressure gauge

Technical data MAP → [www.festo.com](http://www.festo.com)



Type	D1
MS6-LRP-1/4-...-A8M	G1/4
MS6-LRP-3/8-...-A8M	G3/8
MS6-LRP-1/2-...-A8M	G1/2

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

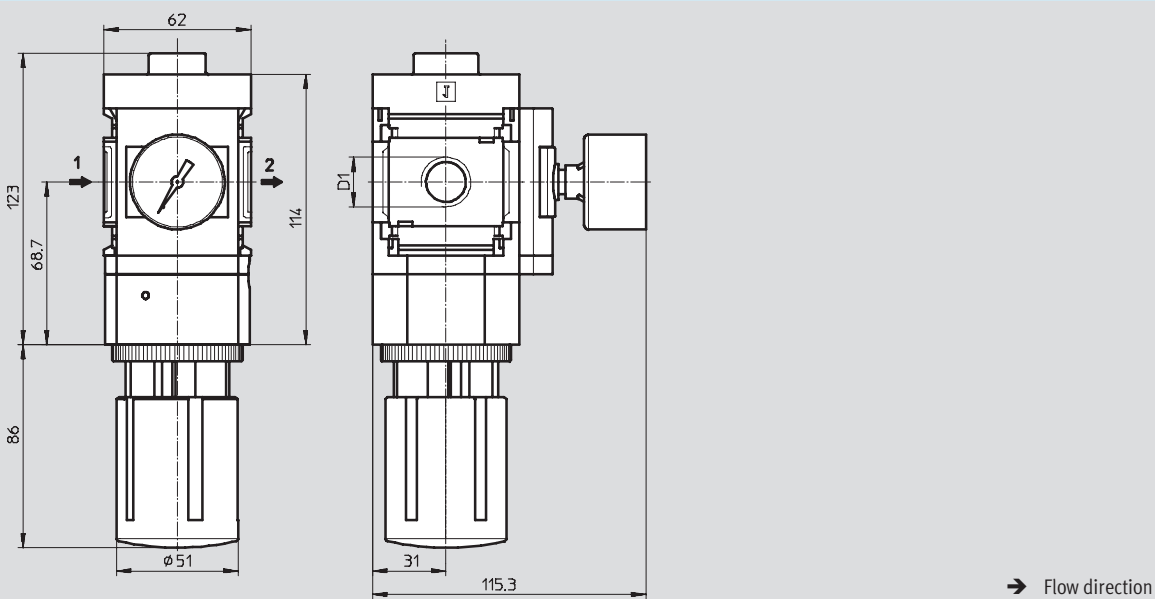
MS series service units  
Pressure regulators

5

**Dimensions – Alternative assembly position**

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

Rotary knob at bottom KD



Type	D1
MS6-LRP-1/4-...-KD	G1/4
MS6-LRP-3/8-...-KD	G3/8
MS6-LRP-1/2-...-KD	G1/2

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

# Precision pressure regulators MS6-LRP, MS series

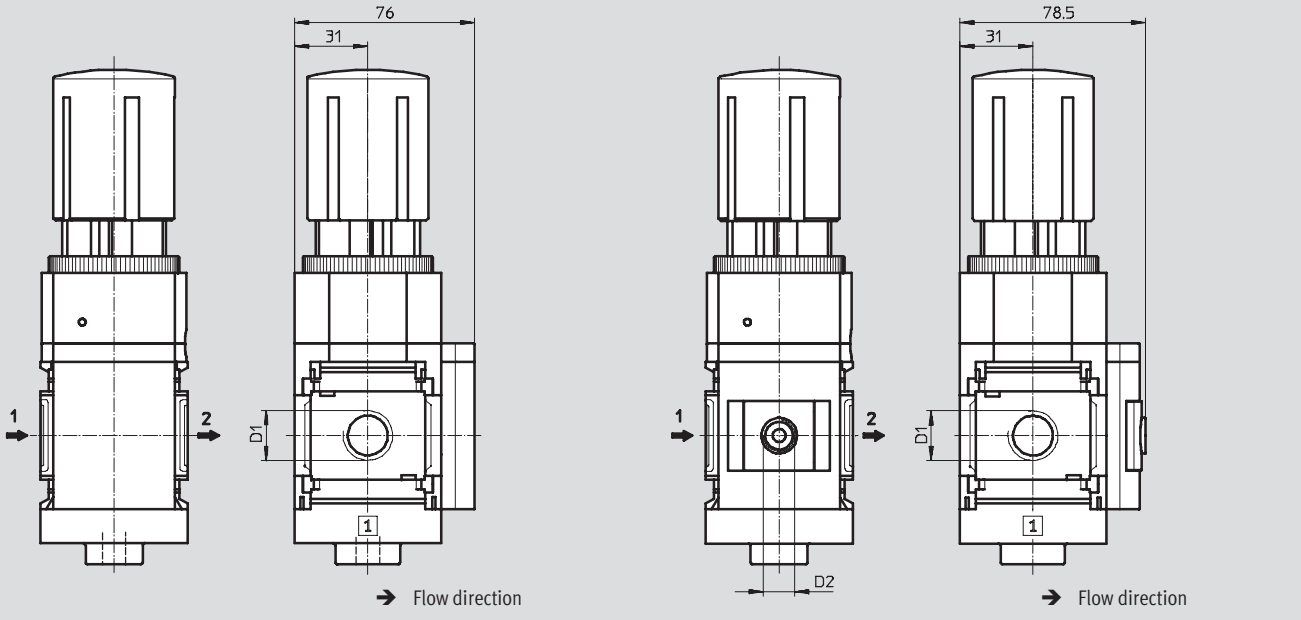
Technical data

**Dimensions – Pressure gauge alternatives**

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

Cover plate VS

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



Type	D1	D2
MS6-LRP-1/4-...-VS	G1/4	-
MS6-LRP-3/8-...-VS	G3/8	
MS6-LRP-1/2-...-VS	G1/2	
MS6-LRP-1/4-...-A8	G1/4	G1/8
MS6-LRP-3/8-...-A8	G3/8	
MS6-LRP-1/2-...-A8	G1/2	
MS6-LRP-1/4-...-A4	G1/4	G1/4
MS6-LRP-3/8-...-A4	G3/8	
MS6-LRP-1/2-...-A4	G1/2	

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

# Precision pressure regulators MS6-LRP, MS series

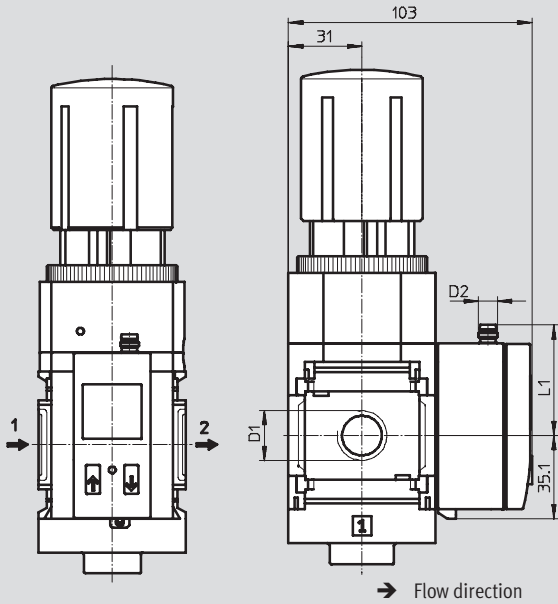
Technical data

## Dimensions – Pressure gauge alternatives

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

Pressure sensor with display AD1 ... AD4

Technical data SDE1 → [www.festo.com](http://www.festo.com)



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

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

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

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

Type	D1	D2	L1
MS6-LRP-1/4-...-AD1/AD2	G1/4	M8x1	46.7
MS6-LRP-3/8-...-AD1/AD2	G3/8		
MS6-LRP-1/2-...-AD1/AD2	G1/2		
MS6-LRP-1/4-...-AD3/AD4	G1/4	M12x1	55.8
MS6-LRP-3/8-...-AD3/AD4	G3/8		
MS6-LRP-1/2-...-AD3/AD4	G1/2		

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

## Dimensions – Rotary knob

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

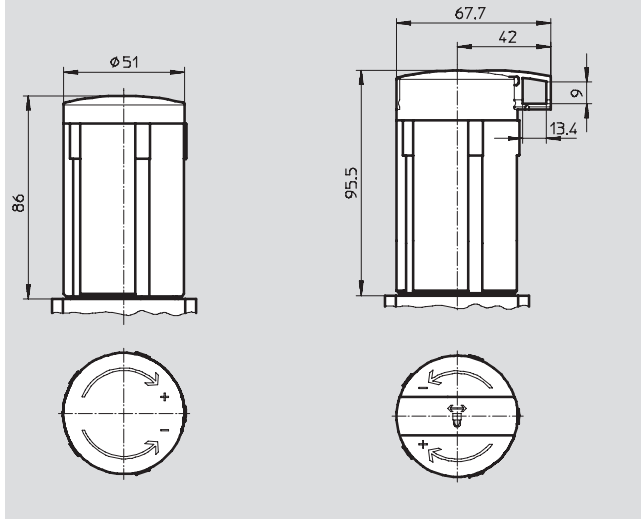
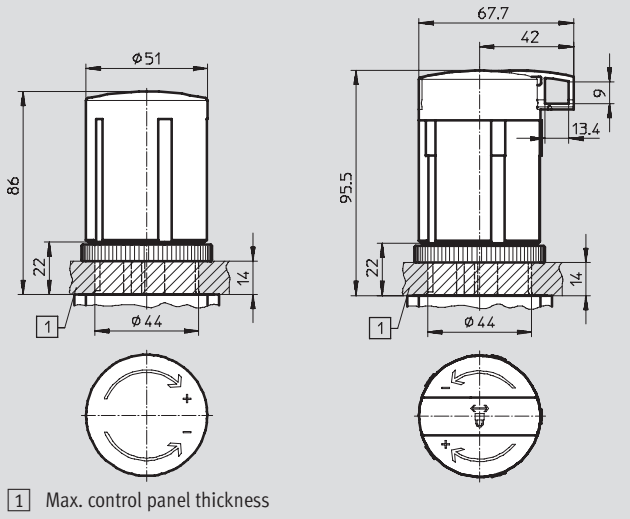
For installation into control panel

Standard

Standard, lockable AS

Long LD

Long, lockable LD-AS



1 Max. control panel thickness



## Precision pressure regulators MS6-LRP, MS series

**FESTO**

Technical data

Ordering data			
Adapter plate for EN pressure gauge 1/8, standard rotary knob			
Size	Connection	Part No.	Type
Pressure regulation range 0.05 ... 0.7 bar			
MS6	G1/4	538 004	MS6-LRP-1/4-D2-A8 <sup>1)</sup>
	G3/8	538 012	MS6-LRP-3/8-D2-A8 <sup>1)</sup>
	G1/2	538 020	MS6-LRP-1/2-D2-A8 <sup>1)</sup>
Pressure regulation range 0.05 ... 2.5 bar			
MS6	G1/4	538 006	MS6-LRP-1/4-D4-A8 <sup>1)</sup>
	G3/8	538 014	MS6-LRP-3/8-D4-A8 <sup>1)</sup>
	G1/2	538 022	MS6-LRP-1/2-D4-A8 <sup>1)</sup>
Pressure regulation range 0.1 ... 4 bar			
MS6	G1/4	538 008	MS6-LRP-1/4-D5-A8 <sup>1)</sup>
	G3/8	538 016	MS6-LRP-3/8-D5-A8 <sup>1)</sup>
	G1/2	538 024	MS6-LRP-1/2-D5-A8 <sup>1)</sup>
Pressure regulation range 0.1 ... 12 bar			
MS6	G1/4	538 010	MS6-LRP-1/4-D7-A8 <sup>1)</sup>
	G3/8	538 018	MS6-LRP-3/8-D7-A8 <sup>1)</sup>
	G1/2	538 026	MS6-LRP-1/2-D7-A8 <sup>1)</sup>

1) Free of copper and PTFE

# Precision pressure regulators MS6-LRP, MS series

Ordering data – Modular products



M Mandatory data						
Module No.	Series	Size	Function	Connection size	Pressure regulation range	Pressure gauge alternatives
538 028	MS	6	LRP	1/4, 3/8, 1/2, AGB, AGC, AGD, AGE	D2 D4 D5 D7	VS A8 A8M A4 AD1 AD2 AD3 AD4
<b>Ordering example</b>						
<b>538 028</b>	<b>MS</b>	<b>6</b>	<b>- LRP</b>	<b>- 1/2</b>	<b>- D4</b>	<b>- A4</b>

Ordering table					
Grid dimension	[mm]	62	Condi- tions	Code	Enter code
M	Module No.	538 028			
	Series	Standard		MS	MS
	Size	6		6	6
	Function	Precision pressure regulator		-LRP	-LRP
	Connection size	Thread G1/4		-1/4	
		Thread G3/8		-3/8	
		Thread G1/2		-1/2	
		Connecting plate G1/4		-AGB	
		Connecting plate G3/8		-AGC	
		Connecting plate G1/2		-AGD	
		Connecting plate G3/4		-AGE	
	Pressure regulation range	0.05 ... 0.7 bar		-D2	
		0.05 ... 2.5 bar		-D4	
		0.1 ... 4 bar		-D5	
		0.1 ... 12 bar		-D7	
	Pressure gauge alternatives	Cover plate		-VS	
		Adapter plate for EN pressure gauge 1/8, without pressure gauge		-A8	
		Adapter plate for EN pressure gauge 1/8, with precision pressure gauge		-A8M	
		Adapter plate for EN pressure gauge 1/4, without pressure gauge		-A4	
		Pressure sensor with display, plug M8, 1 switch output PNP, 3-pin	1	-AD1	
		Pressure sensor with display, plug M8, 1 switch output NPN, 3-pin	1	-AD2	
		Pressure sensor with display, plug M12, 1 switch output PNP, 4-pin, analogue output 4 ... 20 mA	1	-AD3	
		Pressure sensor with display, plug M12, 1 switch output NPN, 4-pin, analogue output 4 ... 20 mA	1	-AD4	

1 AD1 ... AD4 Measuring range max. 10 bar

**Transfer order code**

538 028	MS	6	- LRP	-	-	-
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# Precision pressure regulators MS6-LRP, MS series

Ordering data – Modular products



→ **0 Options**

Rotary knob alternative	Alternative assembly position	Security	Type of mounting	Alternative flow direction
LD	KD	AS	WR WP WPM WB	Z
- LD	-	- AS	- WB	- Z

Ordering table					
Grid dimension	[mm]	62	Condi- tions	Code	Enter code
0 Rotary knob alternative		Long rotary knob		-LD	
Alternative assembly position		Rotary knob at bottom	2	-KD	
Security		Lockable rotary knob		-AS	
Type of mounting		Wall mounting bracket with knurled nut for regulator head	3	-WR	
		Wall mounting plate	4	-WP	
		Wall mounting plate	4	-WPM	
		Wall mounting bracket		-WB	
Alternative flow direction		Flow direction from right to left (without pressure output, no pressure gauge)		-Z	

2 **KD** Not with mounting type WP

3 **WR** Not with long rotary knob LD

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

Transfer order code

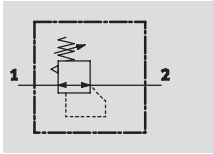
-  -  -  -  -

# Precision pressure regulators MS6-LRPB, MS series

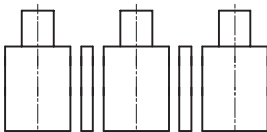
Technical data







## Function



LRPB combination with through pressure supply for manifold assembly



-  Flow rate  
1,600 ... 5,000 l/min
-  Temperature range  
-10 ... +60 °C
-  Input pressure  
1 ... 14 bar
-  [www.festo.com/en/Spare\\_parts\\_service](http://www.festo.com/en/Spare_parts_service)



The precision pressure regulator is suitable for sensitive applications with a required pressure hysteresis of 0.02 bar.

The pressure regulator is suitable for manifold assemblies with through air supply on both sides, for configuring a regulator manifold with separate, independent pressure regulation ranges. Pressure output is at the front or rear.

- Good control characteristics with low hysteresis and primary pressure compensation
- Manifold assembly with through air supply
- For configuring a regulator manifold with separate, independent pressure regulation ranges
- Setting values are secured by locking the rotary knob
- Lockable rotary knob (optional)
- Four pressure regulation ranges: 0.05 ... 0.7 bar, 0.05 ... 2.5 bar, 0.1 ... 4 bar and 0.1 ... 12 bar
- Optional pressure sensor with display

General technical data		
Size	MS6	
Pneumatic connection 1	G $\frac{1}{2}$	
Pneumatic connection 2	G $\frac{1}{2}$	
	QS-8	
	QS-10	
Pneumatic connection 3 (Secondary venting)	G $\frac{1}{4}$	
Constructional design	Pilot actuated precision diaphragm regulator with through pressure supply	
Regulating function	Via secondary venting	
	Output pressure constant	
Type of mounting	Via accessories	
	In-line installation	
	Front panel mounting	
Installation position	Any	
Actuator lock	Rotary knob with detent	
	Lockable with accessories	
Pressure regulation range	D2 [bar]	0.05 ... 0.7
	D4 [bar]	0.05 ... 2.5
	D5 [bar]	0.1 ... 4
	D7 [bar]	0.1 ... 12 (0.1 ... 10 with pressure sensor variant AD...)
Max. hysteresis [bar]	0.02	
Pressure display	Via pressure sensor for displaying output pressure and electrical output	
	Via pressure gauge for displaying output pressure	
	G $\frac{1}{8}$ prepared	
	G $\frac{1}{4}$ prepared	
Flow rate of secondary venting [l/min]	$\geq 220$ with pressure regulation range D2	
	$\geq 450$ with pressure regulation range D4	
	$\geq 650$ with pressure regulation range D5	
	$\geq 900$ with pressure regulation range D7	

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

# Precision pressure regulators MS6-LRPB, MS series

Technical data

**FESTO**

Standard nominal flow rate qnN [l/min]		
Pressure regulation range	D2	1,600 <sup>1)</sup>
	D4	2,300 <sup>2)</sup>
	D5	3,000 <sup>3)</sup>
	D7	5,000 <sup>4)</sup>

- 1) Measured at p1 = 10 bar and p2 = 0.5 bar, Δp = 0.1 bar
- 2) Measured at p1 = 10 bar and p2 = 1.5 bar, Δp = 0.1 bar
- 3) Measured at p1 = 10 bar and p2 = 2.5 bar, Δp = 0.1 bar
- 4) Measured at p1 = 10 bar and p2 = 6.0 bar, Δp = 0.1 bar

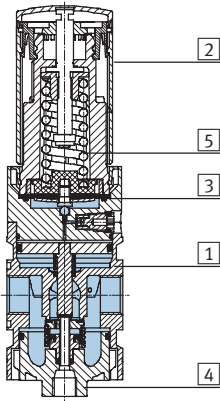
Operating and environmental conditions		
Variant	Standard	Pressure sensor with display AD...
Input pressure [bar]	1 ... 14	1 ... 14
Operating medium	Compressed air, filtered, unlubricated, grade of filtration 40 μm	
Ambient temperature [°C]	-10 ... +60	0 ... +50
Temperature of medium [°C]	-10 ... +60	0 ... +50
Storage temperature [°C]	-10 ... +60	-10 ... +60
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.

Weight [g]	
Precision pressure regulator	1,000

## Materials

Sectional view

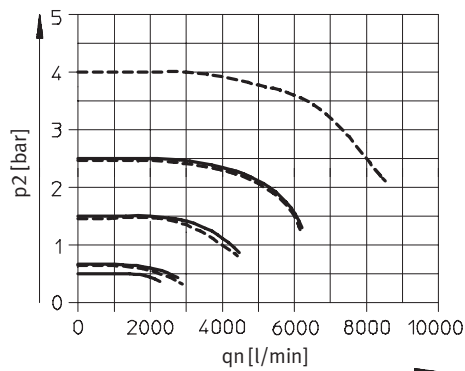


Precision pressure regulator (manifold assembly)		
1	Housing	Die-cast aluminium
2	Regulating knob	Polyamide/polyacetate
3	Diaphragm	Nitrile rubber
4	Cap, bottom	Polyester, fibreglass reinforced
5	Springs	Steel
-	Seals	Nitrile rubber
Note on materials		Free of copper and PTFE (not with variants A8M or AD...)

## Standard flow rate qn as a function of output pressure p2

MS6-LRPB-1/2

Primary pressure p1 = 10 bar



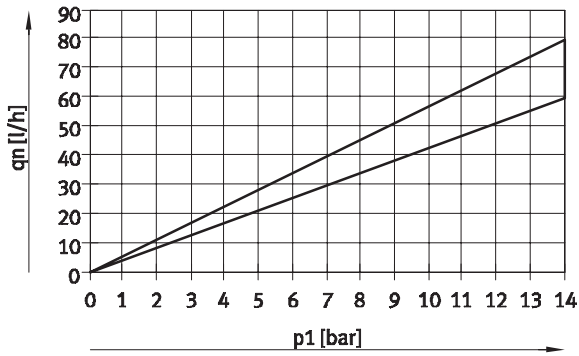
— D4: 0.05 ... 2.5 bar  
- - - D5: 0.1 ... 4 bar

# Precision pressure regulators MS6-LRPB, MS series

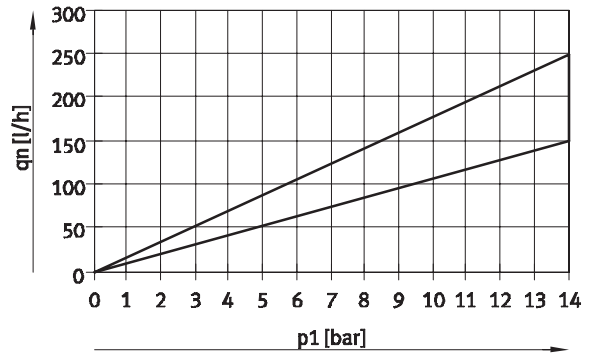
Technical data

## Internal air consumption $q_n$ as a function of supply pressure $p_1$

MS6-LRPB-...-D2/D4



MS6-LRPB-...-D5/D7

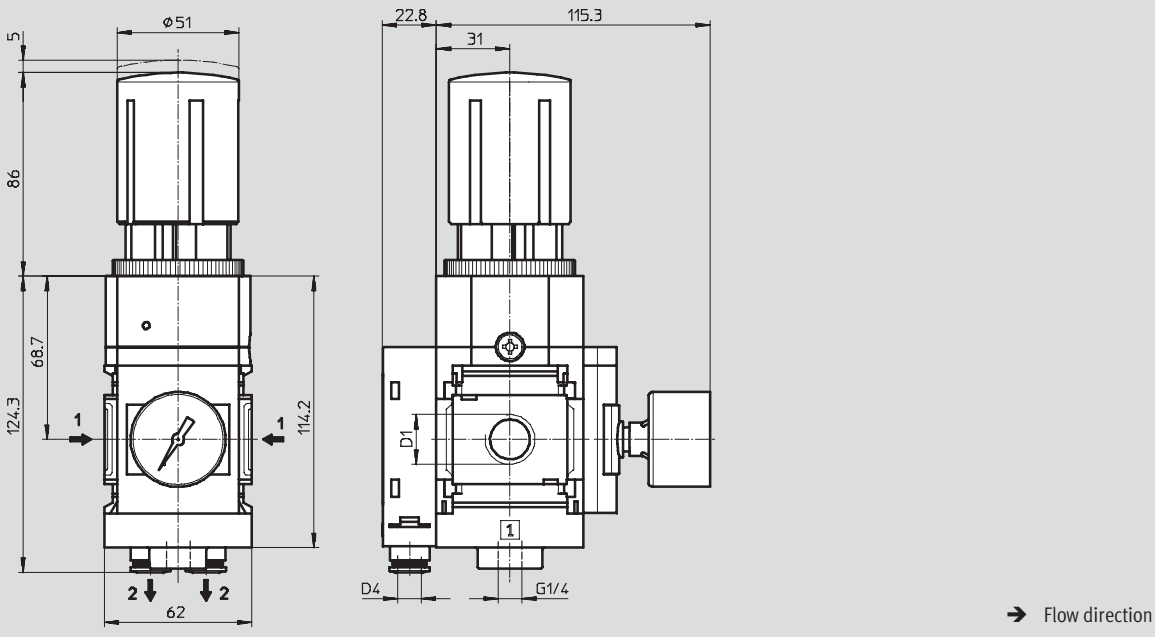


## Dimensions

Adapter plate A8M for EN pressure gauge  $\frac{1}{8}$ , with precision pressure gauge, angled outlet block BD/BE

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

Technical data MAP → [www.festo.com](http://www.festo.com)



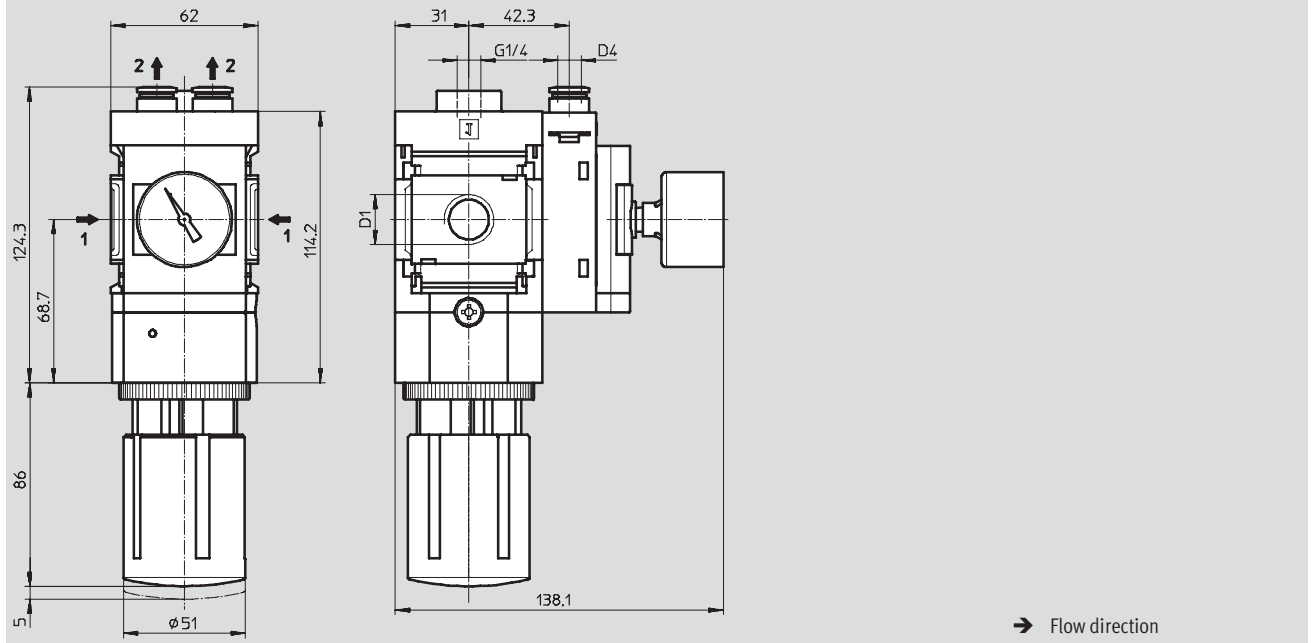
Type	D1	D4
MS6-LRPB-1/2-...-A8M-BD	G1/2	QS-8
MS6-LRPB-1/2-...-A8M-BE		QS-10

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

# Precision pressure regulators MS6-LRPB, MS series

Technical data

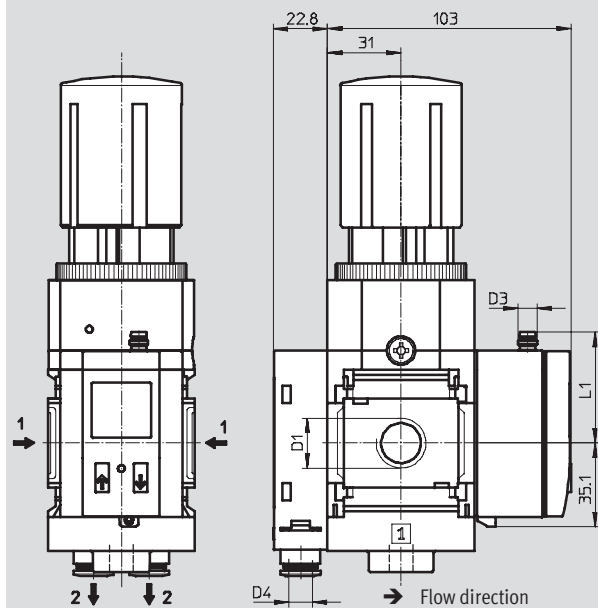
**Dimensions – Alternative assembly position** Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)  
 Rotary knob at bottom KD, angled outlet block BD/BE



Type	D1	D4
MS6-LRPB-1/2-...-KD-BD	G1/2	QS-8
MS6-LRPB-1/2-...-KD-BE		QS-10

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

**Dimensions – Pressure gauge alternatives** Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)  
 Pressure sensor with display AD1 ... AD4, angled outlet block BD/BE Technical data SDE1 → [www.festo.com](http://www.festo.com)



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

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

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

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

Type	D1	D3	D4	L1
MS6-LRPB-1/2-...-AD1/AD2-BD	G1/2	M8x1	QS-8	46.7
MS6-LRPB-1/2-...-AD1/AD2-BE			QS-10	
MS6-LRPB-1/2-...-AD3/AD4-BD	G1/2	M12x1	QS-8	55.8
MS6-LRPB-1/2-...-AD3/AD4-BE			QS-10	

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

# Precision pressure regulators MS6-LRPB, MS series

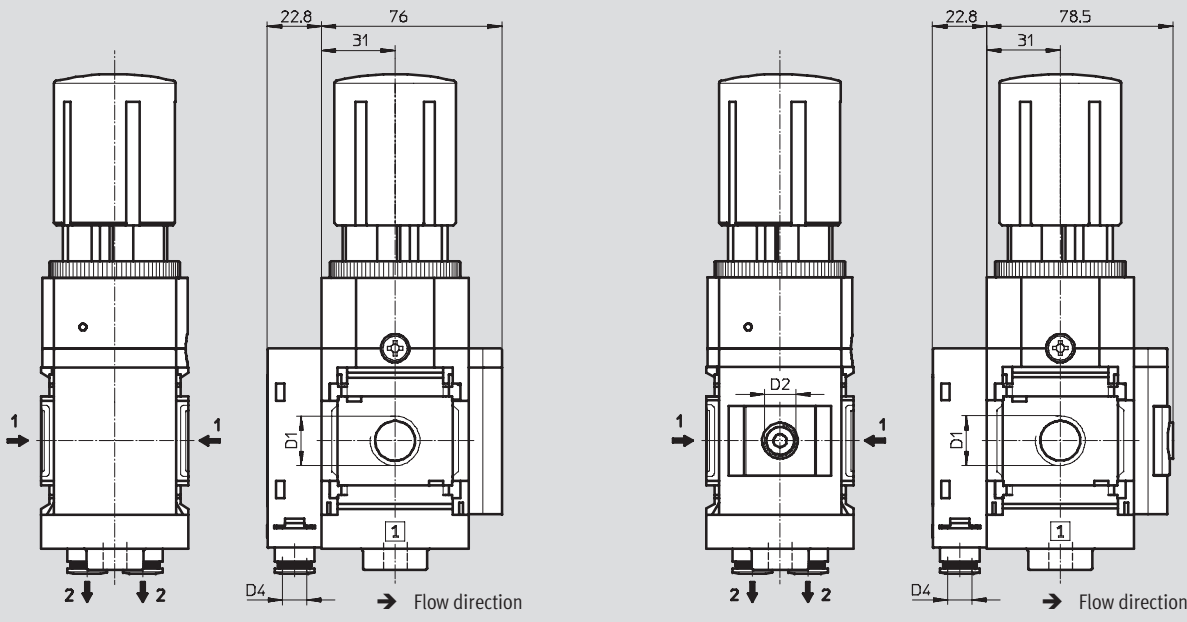
Technical data

## Dimensions – Pressure gauge alternatives

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

Cover plate VS, angled outlet block BD/BE

Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge, angled outlet block BD/BE



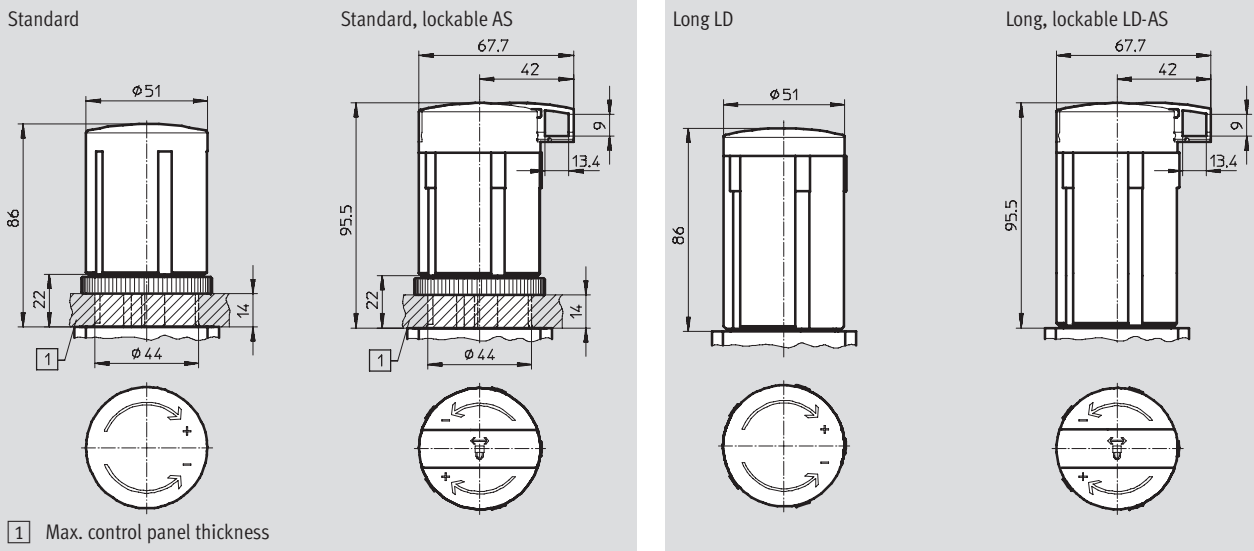
Type	D1	D2	D4
MS6-LRPB-1/2-...-VS-BD	G1/2	-	QS-8
MS6-LRPB-1/2-...-VS-BE			QS-10
MS6-LRPB-1/2-...-A8-BD	G1/2	G1/8	QS-8
MS6-LRPB-1/2-...-A8-BE			QS-10
MS6-LRPB-1/2-...-A4-BD	G1/2	G1/4	QS-8
MS6-LRPB-1/2-...-A4-BE			QS-10

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

## Dimensions – Rotary knob

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

For installation into control panel





## Precision pressure regulators MS6-LRPB, MS series

**FESTO**

Technical data

Ordering data			
Adapter plate A8 for EN pressure gauge 1/8, standard rotary knob			
Size	Connection	Pressure output to rear without angled outlet block	
		Part No.	Type
Pressure regulation range 0.05 ... 0.7 bar			
MS6	G1/2	534 911	MS6-LRPB-1/2-D2-A8 <sup>1)</sup>
Pressure regulation range 0.05 ... 2.5 bar			
MS6	G1/2	534 914	MS6-LRPB-1/2-D4-A8 <sup>1)</sup>
Pressure regulation range 0.1 ... 4 bar			
MS6	G1/2	534 917	MS6-LRPB-1/2-D5-A8 <sup>1)</sup>
Pressure regulation range 0.1 ... 12 bar			
MS6	G1/2	534 920	MS6-LRPB-1/2-D7-A8 <sup>1)</sup>

1) Free of copper and PTFE

Ordering data					
Adapter plate A8 for EN pressure gauge 1/8, standard rotary knob					
Size	Connection	Pressure output to rear with angled outlet block QS-8		Pressure output to rear with angled outlet block QS-10	
		Part No.	Type	Part No.	Type
Pressure regulation range 0.05 ... 0.7 bar					
MS6	G1/2	534 865	MS6-LRPB-1/2-D2-A8-BD <sup>1)</sup>	534 913	MS6-LRPB-1/2-D2-A8-BE <sup>1)</sup>
Pressure regulation range 0.05 ... 2.5 bar					
MS6	G1/2	534 868	MS6-LRPB-1/2-D4-A8-BD <sup>1)</sup>	534 916	MS6-LRPB-1/2-D4-A8-BE <sup>1)</sup>
Pressure regulation range 0.1 ... 4 bar					
MS6	G1/2	534 871	MS6-LRPB-1/2-D5-A8-BD <sup>1)</sup>	534 919	MS6-LRPB-1/2-D5-A8-BE <sup>1)</sup>
Pressure regulation range 0.1 ... 12 bar					
MS6	G1/2	534 874	MS6-LRPB-1/2-D7-A8-BD <sup>1)</sup>	534 922	MS6-LRPB-1/2-D7-A8-BE <sup>1)</sup>

1) Free of copper and PTFE

# Precision pressure regulators MS6-LRPB, MS series

Ordering data – Modular products

Mandatory data						
Module No.	Series	Size	Function	Connection size	Pressure regulation range	Pressure gauge alternatives
535 007	MS	6	LRPB	1/2, AGB, AGC, AGD, AGE	D2 D4 D5 D7	VS A8 A8M A4 AD1 AD2 AD3 AD4
<b>Ordering example</b>						
<b>535 007</b>	<b>MS</b>	<b>6</b>	<b>- LRPB</b>	<b>- AGD</b>	<b>- D5</b>	<b>- VS</b>

Ordering table		Grid dimension [mm]	62	Condi- tions	Code	Enter code
M	Module No.	535 007				
	Series	Standard			MS	MS
	Size	6			6	6
	Function	Precision pressure regulator for manifold assembly			-LRPB	-LRPB
	Connection size	Thread G1/2			-1/2	
		Connecting plate G1/4			-AGB	
		Connecting plate G3/8			-AGC	
		Connecting plate G1/2			-AGD	
		Connecting plate G3/4			-AGE	
	Pressure regulation range	0.05 ... 0.7 bar			-D2	
		0.05 ... 2.5 bar			-D4	
		0.1 ... 4 bar			-D5	
		0.1 ... 12 bar			-D7	
	Pressure gauge alternatives	Cover plate		1	-VS	
		Adapter plate for EN pressure gauge 1/8, without pressure gauge		2	-A8	
		Adapter plate for EN pressure gauge 1/8, with precision pressure gauge		2	-A8M	
		Adapter plate for EN pressure gauge 1/4, without pressure gauge		2	-A4	
		Pressure sensor with display, plug M8, 1 switch output PNP, 3-pin		2 3	-AD1	
		Pressure sensor with display, plug M8, 1 switch output NPN, 3-pin		2 3	-AD2	
		Pressure sensor with display, plug M12, 1 switch output PNP, 4-pin, analogue output 4 ... 20 mA		2 3	-AD3	
		Pressure sensor with display, plug M12, 1 switch output NPN, 4-pin, analogue output 4 ... 20 mA		2 3	-AD4	

- 1 VS Must be selected with alternative flow direction Z without alternative assembly position KD or without alternative pressure output BD, BE
- 2 A8, A8M, A4, AD1 ... AD4 In combination with alternative flow direction Z only with alternative assembly position KD
- 3 AD1 ... AD4 Measuring range max. 10 bar

**Transfer order code**

535 007	MS	6	- LRPB	-		-		-	
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# Precision pressure regulators MS6-LRPB, MS series

Ordering data – Modular products

→ **0 Options**

Rotary knob alternative	Alternative assembly position	Security	Alternative pressure output	Type of mounting	Alternative flow direction
LD	KD	AS	BD BE	WR WP WPM WPB WB	Z
- LD	-	- AS	- BE	- WB	- Z

Ordering table					
Grid dimension	[mm]	62	Condi- tions	Code	Enter code
<b>0</b> Rotary knob alternative	Long rotary knob			-LD	
Alternative assembly position	Rotary knob at bottom		<b>4</b>	-KD	
Security	Lockable rotary knob			-AS	
Alternative pressure output	Angled outlet block QS-8			-BD	
	Angled outlet block QS-10			-BE	
Type of mounting	Wall mounting bracket with knurled nut for regulator head		<b>5</b> <b>6</b>	-WR	
	Wall mounting plate		<b>7</b> <b>8</b>	-WP	
	Wall mounting plate		<b>5</b> <b>7</b>	-WPM	
	Wall mounting plate for large wall gap		<b>7</b> <b>9</b>	-WPB	
	Wall mounting bracket		<b>5</b>	-WB	
Alternative flow direction	Pressure output to front (without pressure output, no pressure gauge)			-Z	

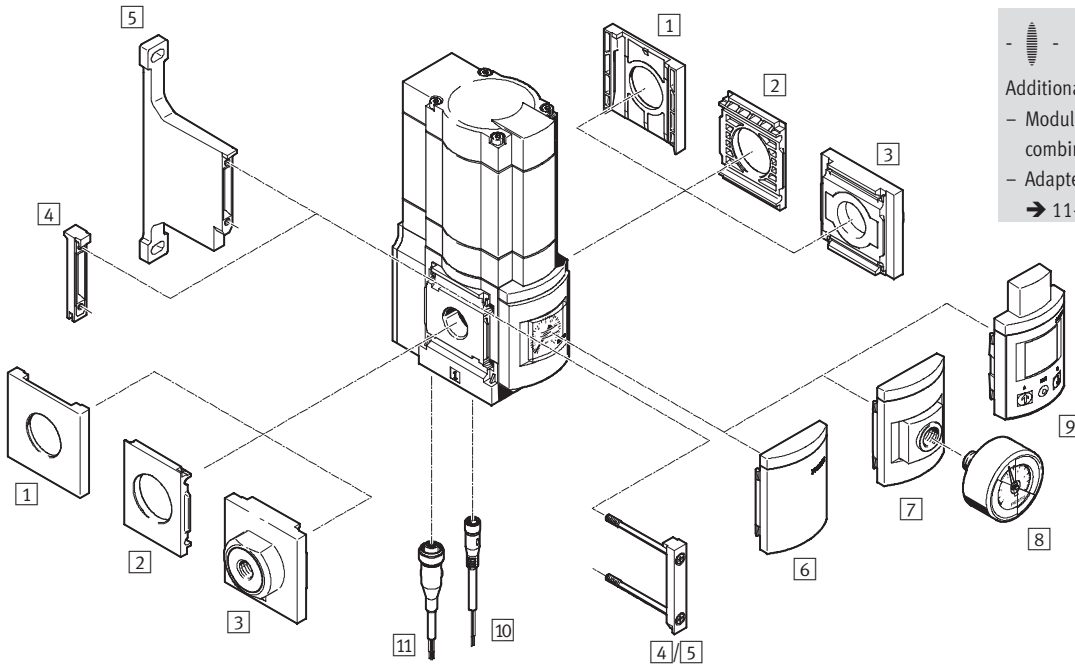
- |  |  |
|--|--|
| <p><b>4</b> <b>KD</b> In combination with pressure gauge alternatives A8, A4, AD1, AD2, AD3, AD4 only with alternative flow direction Z</p> <p><b>5</b> <b>WPM, WB</b> Either only with alternative flow direction Z or only with alternative assembly position KD</p> <p><b>6</b> <b>WR</b> Only with alternative flow direction Z<br/>Not with long rotary knob LD<br/>Not with alternative assembly position KD</p> | <p><b>7</b> <b>WP, WPM, WPB</b> Only with connecting plate AGB, AGC, AGD or AGE</p> <p><b>8</b> <b>WP</b> Not with alternative assembly position KD<br/>Either only with alternative flow direction Z or only with alternative pressure output BD, BE</p> <p><b>9</b> <b>WPB</b> Not with alternative assembly position KD<br/>Not with alternative pressure output BD, BE<br/>Not with alternative flow direction Z</p> |
|--|--|

Transfer order code

-  -  -  -  -  -

# Electrical pressure regulators MS6-LRE, MS series

Peripherals overview



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

MS series service units  
 Pressure regulators

5

Mounting attachments and accessories					
	Individual unit		Combination → 3/2.11-0		→ Page
	Without connecting plate	With connecting plate	Without connecting plate	With connecting plate	
1	Cover cap MS6-END	-	-	■	11-3
2	Mounting plate MS6-AEND	■ <sup>1)</sup>	-	■ <sup>2)</sup>	11-3
3	Connecting plate MS6-AG...	-	■ <sup>1)</sup>	■ <sup>2)</sup>	11-2
4	Module connector MS6-MV	-	-	■	11-9
5	Mounting bracket MS6-WPB	■	■	■	11-7
6	Cover plate VS	■	■	■	5-54
7	Adapter plate for EN pressure gauge 1/4 A4	■	■	■	5-54
8	Pressure gauge MA	■	■	■	11-19
9	Control unit with display OP	■	■	■	5-54
10	Plug socket with cable SIM-M8-3...	■	■	■	11-19
11	Plug socket with cable SIM-M12-5...	■	■	■	11-19

1) Mounting bracket MS6-WPB is required for mounting.  
 2) Module connector MS6-MV or mounting bracket MS6-WPB is required for mounting.

# Electrical pressure regulators MS6-LRE, MS series

Type codes



**Series**

MS	Standard service unit
----	-----------------------

**Size**

6	Grid dimension 62 mm
---	----------------------

**Service function**

LRE	Electrical pressure regulator
-----	-------------------------------

**Pneumatic connection**

1/4	Thread G1/4
3/8	Thread G3/8
1/2	Thread G1/2

**Pressure regulation range**

D6	Pressure regulation range 0.3 ... 7 bar
D7	Pressure regulation range 0.5 ... 12 bar

**Electrically controlled pressure output (integrated pressure sensor with electrical output)**

	None
PI	Plug, M8, 3-pin, I out
PU	Plug, M8, 3-pin, V out

**Further variants can be ordered using the modular system**  
 Electrical pressure regulator LRE → 5-54

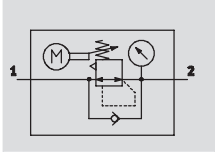
- Connecting plates
- Pressure regulation range
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Secondary venting
- Sensor cables
- Supply cables
- Type of mounting
- Alternative flow direction

# Electrical pressure regulators MS6-LRE, MS series

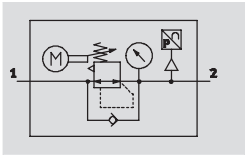
Technical data



Function  
with pressure gauge



with pressure gauge and integrated pressure sensor



- - Flow rate  
2,200 ... 7,500 l/min
- - Temperature range  
0 ... +50 °C
- - Input pressure  
0.8 ... 20 bar



- - Note  
The electrical pressure regulator is not suitable for the set-up of closed control loops.

The electrical pressure regulator maintains incoming compressed air at the set output pressure. It also maintains a constant output pressure independent of pressure fluctuations and air consumption.  
The output pressure is set indirectly via an integrated electrical drive unit. The drive unit can be operated either with digital inputs via the M12 plug or

using the optional control and display unit.  
The direction of rotation of the drive unit is thus pre-set, which makes adjustment of the output pressure in the rising or falling direction possible.  
In the event of a power failure, the last drive unit or output pressure setting is saved. Pneumatic pressure regulation continues to function.

- Four pressure regulation ranges: 0.3 ... 4 bar, 0.3 ... 7 bar, 0.5 ... 12 bar and 0.5 ... 16 bar
- Optional control unit with display
- Optional integrated pressure sensor with electrical output
- Constant output pressure even in the event of a power failure thanks to the fail-safe function
- Available with or without secondary venting

MS series service units  
Pressure regulators

5

General technical data		MS6	
Size		MS6	
Pneumatic connection 1, 2		G $\frac{1}{4}$	G $\frac{3}{8}$   G $\frac{1}{2}$
Design		Electrically adjustable pressure regulator	
Regulating function		With primary pressure compensation	
		With/without secondary venting	
		Output pressure constant	
Type of mounting		Via accessories	
		In-line installation	
Assembly position		Any, preferably vertical	
Pressure regulation range	D5 [bar]	0.3 ... 4	
	D6 [bar]	0.3 ... 7	
	D7 [bar]	0.5 ... 12	
	D8 [bar]	0.5 ... 16	
Max. hysteresis	[bar]	0.25	
Pressure indicator		With pressure gauge	
		With control unit	

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

# Electrical pressure regulators MS6-LRE, MS series

Technical data

Standard nominal flow rate $q_{nN}^{1)}$ [l/min]				
Pneumatic connection		G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$
Pressure regulation range	D5	2,400 <sup>2)</sup>	5,500 <sup>2)</sup>	7,500 <sup>2)</sup>
	D6	3,000	5,800	6,500
	D7	2,700	4,500	5,500
	D8	2,200	4,000	4,500

- 1) Measured at  $p_1 = 10$  bar and  $p_2 = 6$  bar,  $\Delta p = 1$  bar  
 2) Measured at  $p_1 = 10$  bar and  $p_2 = 3$  bar,  $\Delta p = 1$  bar

Electrical data					
		Without integrated pressure sensor		With integrated pressure sensor	
				PI (I out)	PU (V out)
Analogue output	[V]	-		-	
	[mA]	-		4 ... 20	
Analogue outputs, absolute accuracy at 25 °C		[%]	-		$\pm 3$
Cable interface	Inputs	Plug M12x1, 5-pin			
	Outputs	-		Plug M8x1, 3-pin	
Design of inputs		To IEC 61131-2, no electrical isolation			
Nominal operating voltage		[V DC]	24		
Permissible voltage fluctuations		[%]	$\pm 10$		
Current consumption at 24 V DC		[A]	Max. 3.5		
Current consumption at nominal operating voltage		[A]	Max. 1		
Duration of actuation at 25°C		[s]	Max. 90 <sup>1)</sup>		
Protection against short circuit		For all electrical connections			
Protection class		IP65			

- 1) In order to prevent the drive from overheating, a control/pause ratio of 1:3 must be observed.

Operating and environmental conditions		
Supply pressure	[bar]	0.8 ... 20
Operating medium	Compressed air, air quality class 5.4. – to DIN ISO 8573-1	
Ambient temperature	[°C]	0 ... +50
Temperature of medium	[°C]	0 ... +50
Storage temperature	[°C]	0 ... +50
Corrosion resistance	CRC <sup>1)</sup>	2
CE symbol (declaration of conformance)	In accordance with EU EMC Directive	

- 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]	
Electrical pressure regulator	1,280

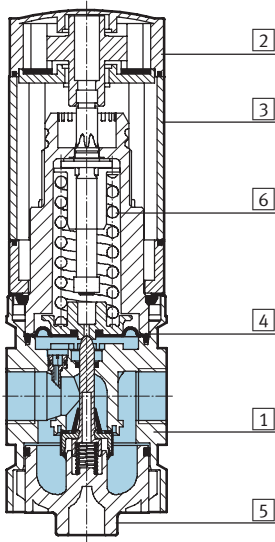
# Electrical pressure regulators MS6-LRE, MS series

Technical data



## Materials

Sectional view



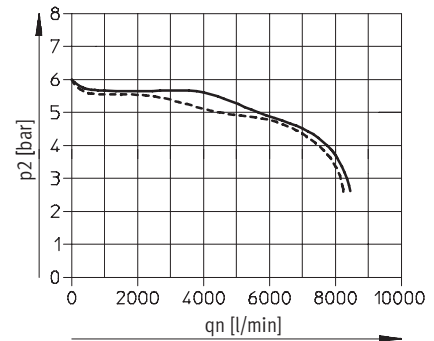
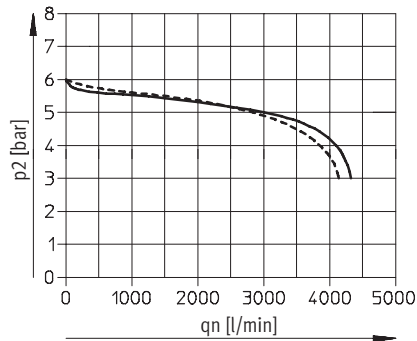
Electrical pressure regulator		
1	Body	Die-cast aluminium
2	Drive housing	Reinforced polyamide
3	Profile housing	Wrought aluminium alloy
4	Diaphragm	Nitrile rubber
5	Bottom cap	Polyester, fibreglass reinforced
6	Springs	Steel
-	Display and control unit	Polyamide
-	Seals	Nitrile rubber

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

MS6-LRE-1/4

MS6-LRE-3/8

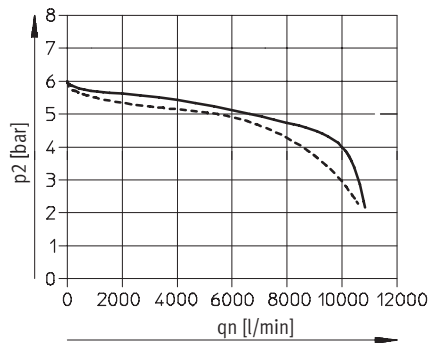
Primary pressure  $p_1 = 10$  bar



— D6: 0.3 ... 7 bar  
 - - - D7: 0.5 ... 12 bar

MS6-LRE-1/2

Primary pressure  $p_1 = 10$  bar



— D6: 0.3 ... 7 bar  
 - - - D7: 0.5 ... 12 bar



# Electrical pressure regulators MS6-LRE, MS series

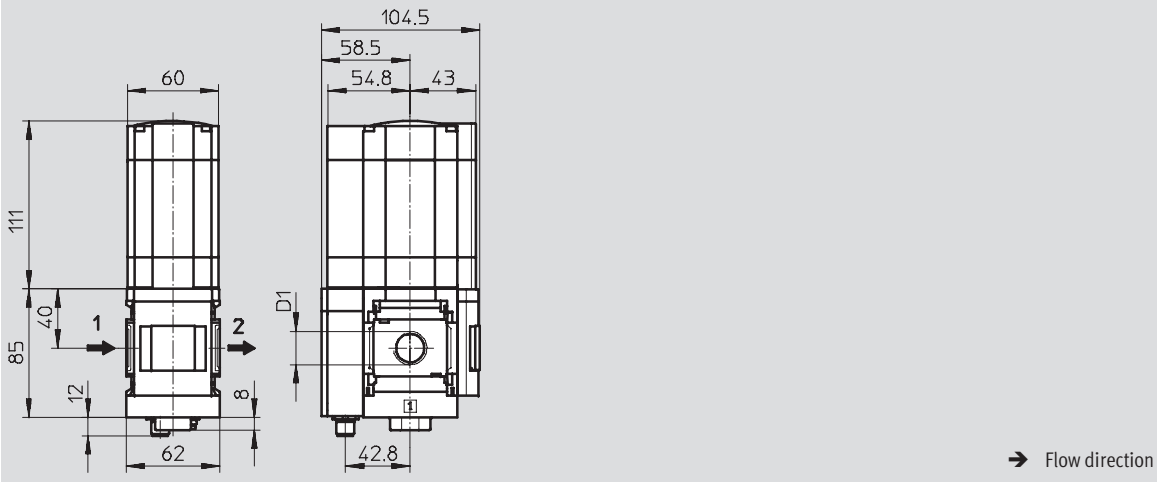
Technical data



## Dimensions – Standard

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

With pressure gauge, display unit [bar]



Type	D1
MS6-LRE-1/4	G1/4
MS6-LRE-3/8	G3/8
MS6-LRE-1/2	G1/2

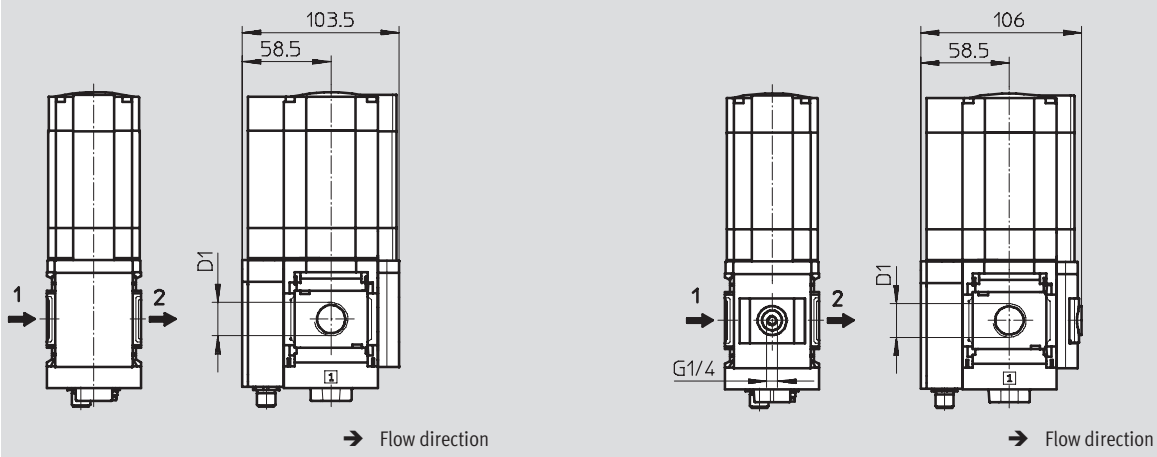
• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

## Dimensions – Pressure gauge alternatives

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

Cover plate VS

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



Type	D1
MS6-LRE-1/4	G1/4
MS6-LRE-3/8	G3/8
MS6-LRE-1/2	G1/2

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

# Electrical pressure regulators MS6-LRE, MS series

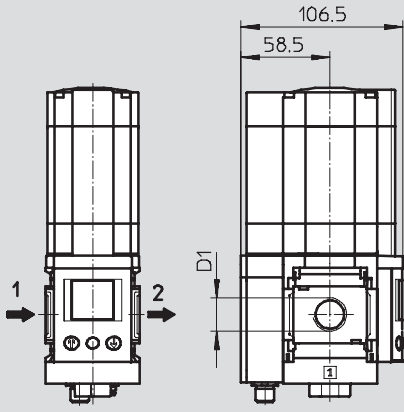
Technical data

**FESTO**

## Dimensions – Pressure gauge alternatives

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

Control unit with display OP



→ Flow direction

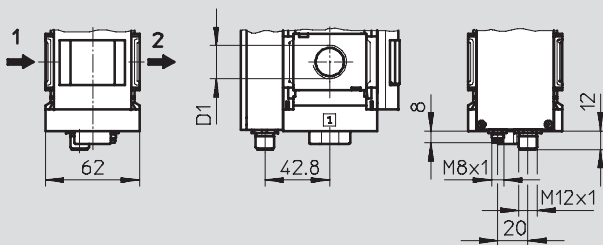
Type	D1
MS6-LRE-1/4	G1/4
MS6-LRE-3/8	G3/8
MS6-LRE-1/2	G1/2

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

## Dimensions – Electrically controlled pressure output

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

Integrated pressure sensor with electrical output PI/PU



→ Flow direction

# Electrical pressure regulators MS6-LRE, MS series

FESTO

Technical data

Ordering data			
Pressure gauge			
Size	Connection	Pressure regulation range 0.3... 7 bar	Pressure regulation range 0.5... 12 bar
		Part No. Type	Part No. Type
Standard			
MS6	G $\frac{1}{4}$	535 358 MS6-LRE- $\frac{1}{4}$ -D6	535 364 MS6-LRE- $\frac{1}{4}$ -D7
	G $\frac{3}{8}$	535 372 MS6-LRE- $\frac{3}{8}$ -D6	535 378 MS6-LRE- $\frac{3}{8}$ -D7
	G $\frac{1}{2}$	535 348 MS6-LRE- $\frac{1}{2}$ -D6	535 354 MS6-LRE- $\frac{1}{2}$ -D7
Electrically controlled pressure output (integrated pressure sensor with voltage output), M8x1 plug, 3-pin			
MS6	G $\frac{1}{4}$	535 360 MS6-LRE- $\frac{1}{4}$ -D6-PI	535 366 MS6-LRE- $\frac{1}{4}$ -D7-PI
	G $\frac{3}{8}$	535 374 MS6-LRE- $\frac{3}{8}$ -D6-PI	535 380 MS6-LRE- $\frac{3}{8}$ -D7-PI
	G $\frac{1}{2}$	535 350 MS6-LRE- $\frac{1}{2}$ -D6-PI	535 356 MS6-LRE- $\frac{1}{2}$ -D7-PI
Electrically controlled pressure output (integrated pressure sensor with voltage output), M8x1 plug, 3-pin			
MS6	G $\frac{1}{4}$	535 362 MS6-LRE- $\frac{1}{4}$ -D6-PU	535 369 MS6-LRE- $\frac{1}{4}$ -D7-PU
	G $\frac{3}{8}$	535 376 MS6-LRE- $\frac{3}{8}$ -D6-PU	535 382 MS6-LRE- $\frac{3}{8}$ -D7-PU
	G $\frac{1}{2}$	535 352 MS6-LRE- $\frac{1}{2}$ -D6-PU	535 357 MS6-LRE- $\frac{1}{2}$ -D7-PU

# Electrical pressure regulators MS6-LRE, MS series

Ordering data – Modular products



**M** Mandatory data →

Module No.	Series	Size	Function	Connection size	Pressure regulation range
535 191	MS	6	LRE	1/4, 3/8, 1/2, AGB, AGC, AGD, AGE	D5 D6 D7 D8
<b>Order example</b>					
535 191	MS	6	- LRE	- AGC	- D6

**Ordering table**

Grid dimension	[mm]	62	Condi- tions	Code	Enter code
<b>M</b> Module No.	535 191				
Series	Standard			<b>MS</b>	MS
Size	6			<b>6</b>	6
Function	Electrical pressure regulator			<b>-LRE</b>	-LRE
Connection size	Thread G1/4			<b>-1/4</b>	
	Thread G3/8			<b>-3/8</b>	
	Thread G1/2			<b>-1/2</b>	
	Connecting plate G1/4			<b>-AGB</b>	
	Connecting plate G3/8			<b>-AGC</b>	
	Connecting plate G1/2			<b>-AGD</b>	
	Connecting plate G3/4			<b>-AGE</b>	
Pressure regulation range	0.3 ... 4 bar			<b>-D5</b>	
	0.3 ... 7 bar			<b>-D6</b>	
	0.5 ... 12 bar			<b>-D7</b>	
	0.5 ... 16 bar			<b>-D8</b>	

MS series service units  
Pressure regulators

5

Transfer order code

535 191	MS	6	-	LRE	-		-	
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# Electrical pressure regulators MS6-LRE, MS series

Ordering data – Modular products

**0 Options**

Pressure gauge alternatives	Alternative pressure gauge scale	Secondary venting	Electrically controlled pressure output	Sensor cables	Supply cables	Type of mounting	Alternative flow direction
VS A4 OP	PSI MPA	OS	PI PU	SK2 SK5	VK2 VK5	WBE WPB	Z
- OP	-	- OS	- PU	- SK5	-	-	- Z

Ordering table		Grid dimension [mm]	62	Condi- tions	Code	Enter code
0 Pressure gauge alternatives	Cover plate				-VS	
	Adapter plate for EN pressure gauge 1/4, without pressure gauge				-A4	
	Control unit with display			1	-OP	
Alternative pressure gauge scale	psi			2	-PSI	
	MPa			2	-MPA	
Secondary venting	Without secondary venting				-OS	
Electrically controlled pressure output	Plug, M8, 3-pin, I out				-PI	
	Plug, M8, 3-pin, V out				-PU	
Sensor cables	Plug socket, M8, with cable, 2.5 m			1	-SK2	
	Plug socket, M8, with cable, 5 m			1	-SK5	
Supply cable	Plug socket, M12, with cable, 2.5 m				-VK2	
	Plug socket, M12, with cable, 5 m				-VK5	
Type of mounting	Connecting plate for direct thread			3	-WBE	
	Mounting bracket for large wall gap			4	-WPB	
Alternative flow direction	Flow direction from right to left				-Z	

- 1 OP, SK2, SK5 Only with electrical pressure output PI, PU.
- 2 PSI, MPA Not with pressure gauge alternatives VS, A4, OP.

- 3 WBE Only with connection thread size 1/4, 3/8, 1/2.
- 4 WPB Only with connecting plate size AGB, AGC, AGD, AGE.

**Transfer order code**

- [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]



## MS12 series service units

FESTO

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



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



# Pressure regulators MS12-LR, MS series

Peripherals overview

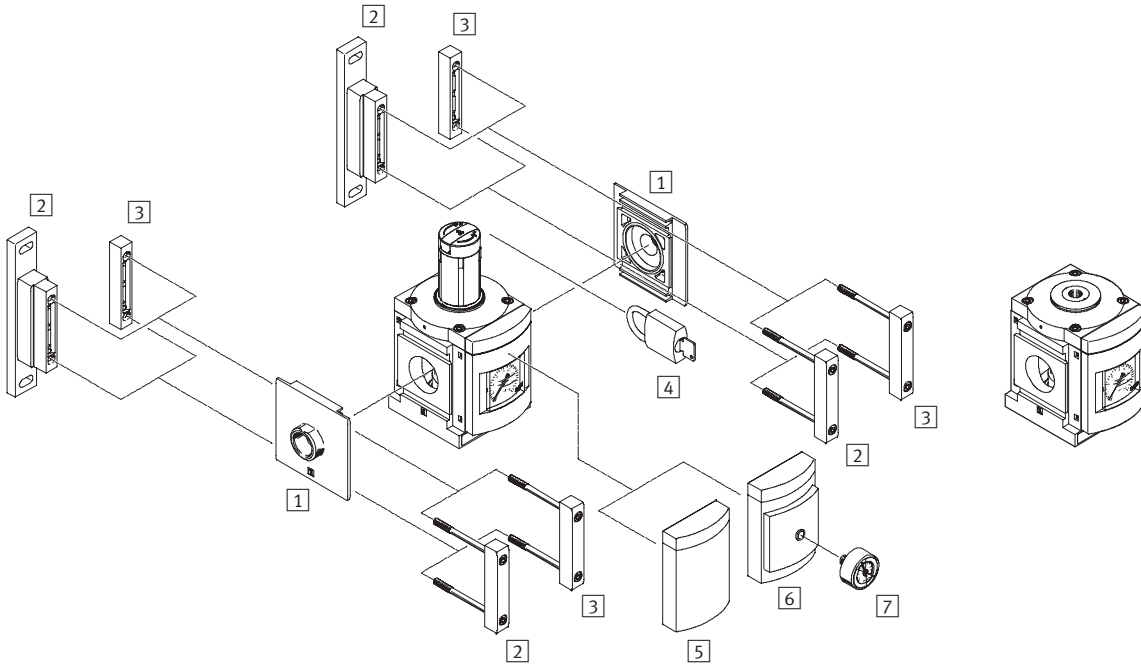


## Pressure regulator LR

Standard

Variant PO

pneumatically actuated



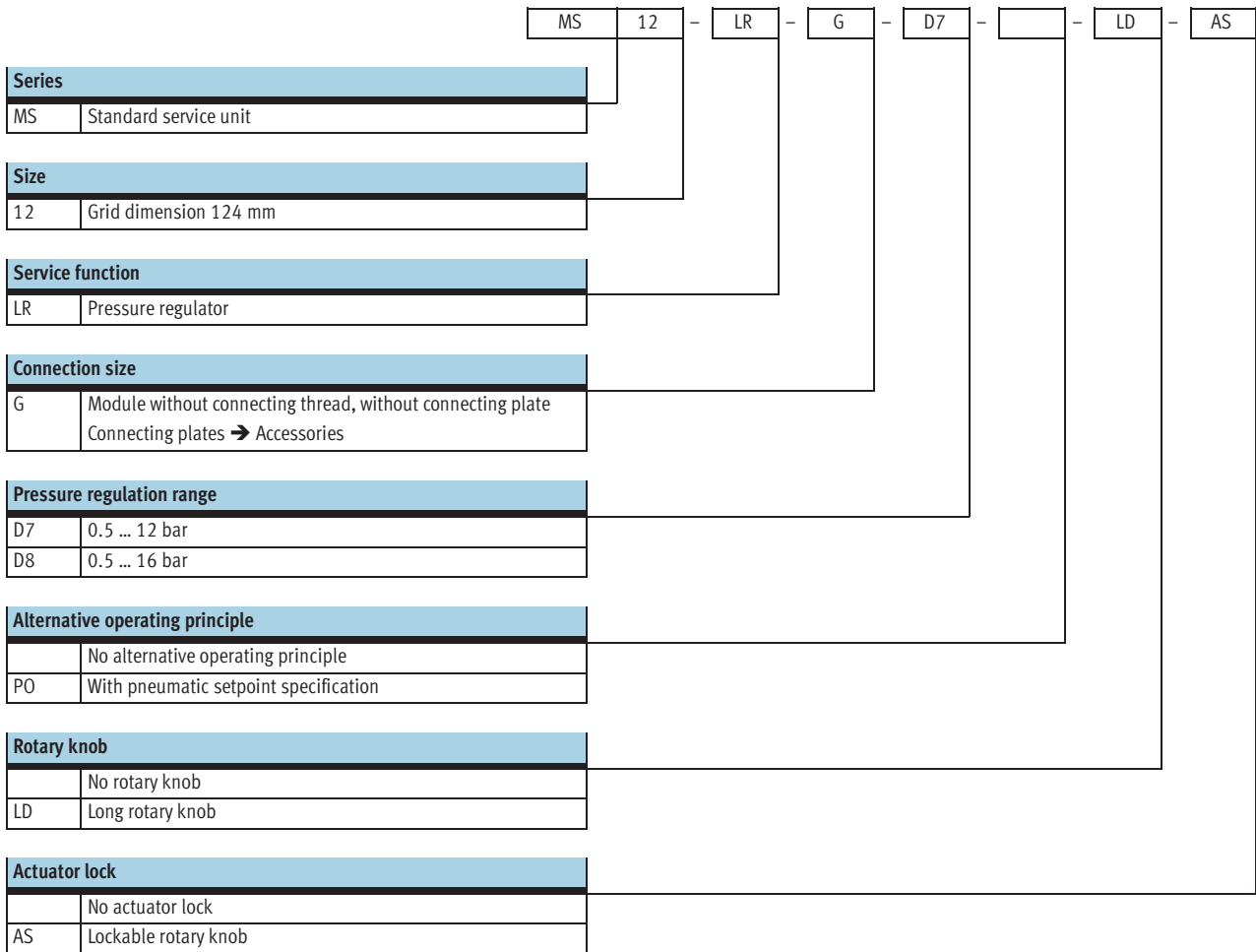
### Mounting attachments and accessories

		→ Page
1	Connecting plate MS12-AG...	11-2
2	Mounting bracket MS12-WP	11-9
3	Module connector MS12-MV	11-9
4	Padlock (except variant PO) LRVS-D	11-20
5	Cover plate VS	5-64
6	Adapter for EN pressure gauge 1/4 A4	5-64
7	Pressure gauge MA	11-19



# Pressure regulators MS12-LR, MS series

Type codes



**Further variants can be ordered using the modular system**  
 Pressure regulators LR → 5-64

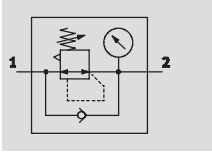
- Connecting plates
- Pressure regulation range
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Rotary knob
- Actuator lock
- Type of mounting
- Alternative flow direction

# Pressure regulators MS12-LR, MS series

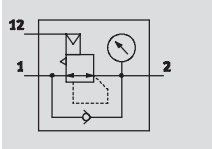
Technical data



Function  
with pressure gauge



with pressure gauge and pneumatic  
setpoint specification PO



- - Flow rate  
13,000 ... 22,000 l/min

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

- - Input pressure  
0.8 ... 21 bar

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

Wearing parts kits  
→ 5-63

The pressure regulator maintains a constant working pressure (secondary side), regardless of the pressure variations in the system (primary side) and the air consumption.



- Good control characteristics with low hysteresis and primary pressure compensation
- High flow rate with minimal pressure drop
- Setting values are secured by locking the rotary knob
- Rotary knob can be locked using accessories
- With secondary venting
- Three pressure regulation ranges: 0.3 ... 7 bar, 0.5 ... 12 bar and 0.5 ... 16 bar
- Pressure gauge connection for different fitting options

## General technical data

Pneumatic connection 1, 2 <sup>1)</sup>	G1	G1¼	G1½	G2
Pilot air connection 12 for variant PO	G¼			
Design	Pressure regulator with/without pressure gauge			
	Pilot actuated diaphragm regulator (except variant PO)			
	Diaphragm regulator (variant PO)			
Regulating function	With primary pressure compensation			
	With secondary venting			
	Output pressure constant			
Type of mounting	Via accessories			
	In-line installation			
Assembly position	Any			
Actuator lock	Rotary knob with detent			
	Lockable with accessories			
Pressure regulation range	D6 [bar]	0.3 ... 7		
	D7 [bar]	0.5 ... 12		
	D8 [bar]	0.5 ... 16		
Max. hysteresis [bar]	0.4			
Pressure indicator	With pressure gauge			
Flow rate of secondary venting [l/min]	≤ 600			
Product weight [g]	4,000			

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	13,000	13,500	16,000	22,000

1) Dependent on connecting plate selected, must be ordered separately as an accessory → 11-2  
 Measured at p1 = 10 bar and p2 = 6 bar, Δp = 0.5 bar

# Pressure regulators MS12-LR, MS series

Technical data

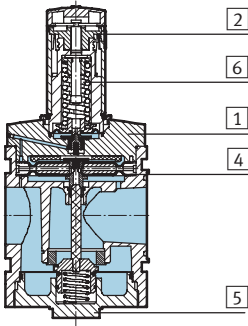


Operating and environmental conditions		
Input pressure	[bar]	0.8 ... 21
Operating medium		Compressed air, air quality class 5.7.- to DIN ISO 8573-1
Ambient temperature	[°C]	-10 ... +60
Temperature of medium	[°C]	-10 ... +60
Storage temperature	[°C]	-10 ... +60
Corrosion resistance	CRC <sup>1)</sup>	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.

## Materials

Sectional view

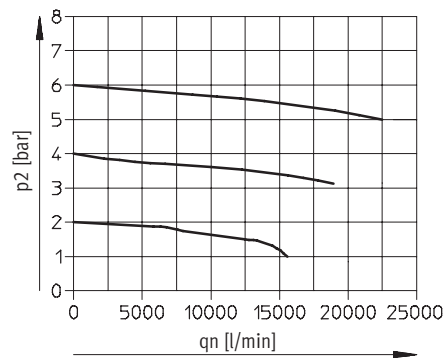


Pressure regulator		
1	Body	Die-cast aluminium
2	Regulating knob	Polyamide/polyacetate
4	Diaphragm	Nitrile rubber
5	Bottom cap	Wrought aluminium alloy
6	Springs	Steel
-	Seals	Nitrile rubber
Note on materials		Free of copper and PTFE only with cover plate VS

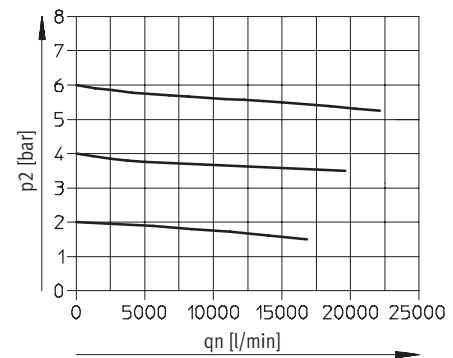
## Standard flow rate $q_n$ as a function of output pressure $p_2$

With connecting plate MS12-AGF  
 Pneumatic connection G1

Primary pressure  $p_1 = 10$  bar

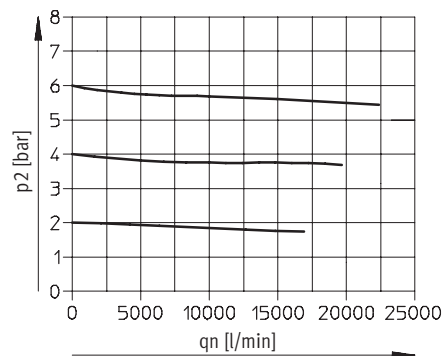


With connecting plate MS12-AGG  
 Pneumatic connection G1¼

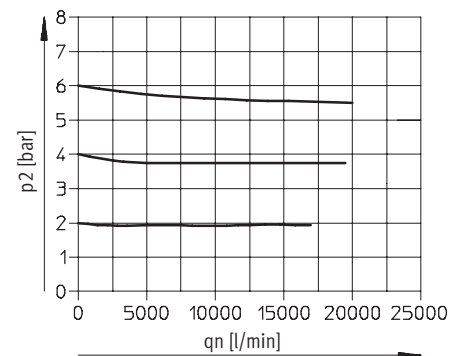


With connecting plate MS12-AGH  
 Pneumatic connection G1½

Primary pressure  $p_1 = 10$  bar



With connecting plate MS12-AGI  
 Pneumatic connection G2



# Pressure regulators MS12-LR, MS series

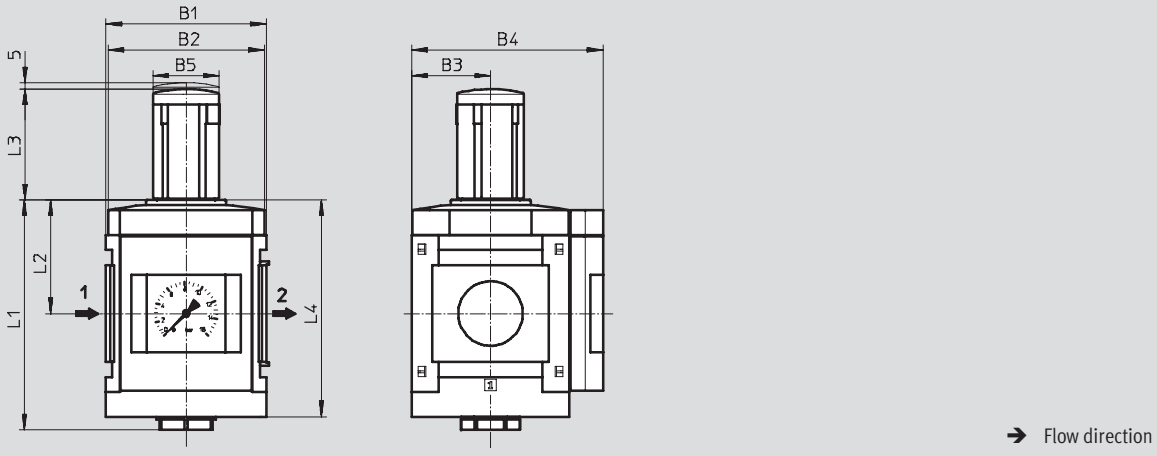
Technical data



## Dimensions – Standard

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

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

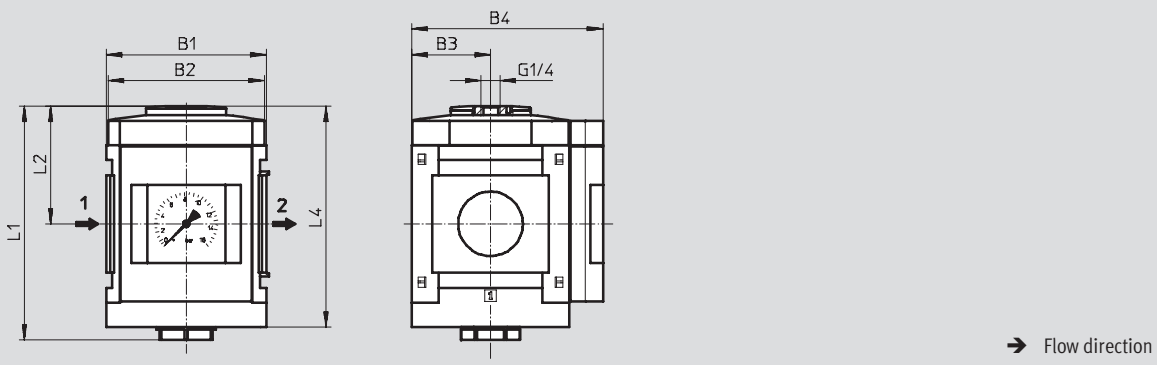


Type	B1	B2	B3	B4	B5	L1	L2	L3	L4
MS12-LR	124	122	61	148	51	178	88	86	168

## Dimensions – Alternative operating principle

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

Pneumatically actuated PO, with pressure gauge, display unit [bar]



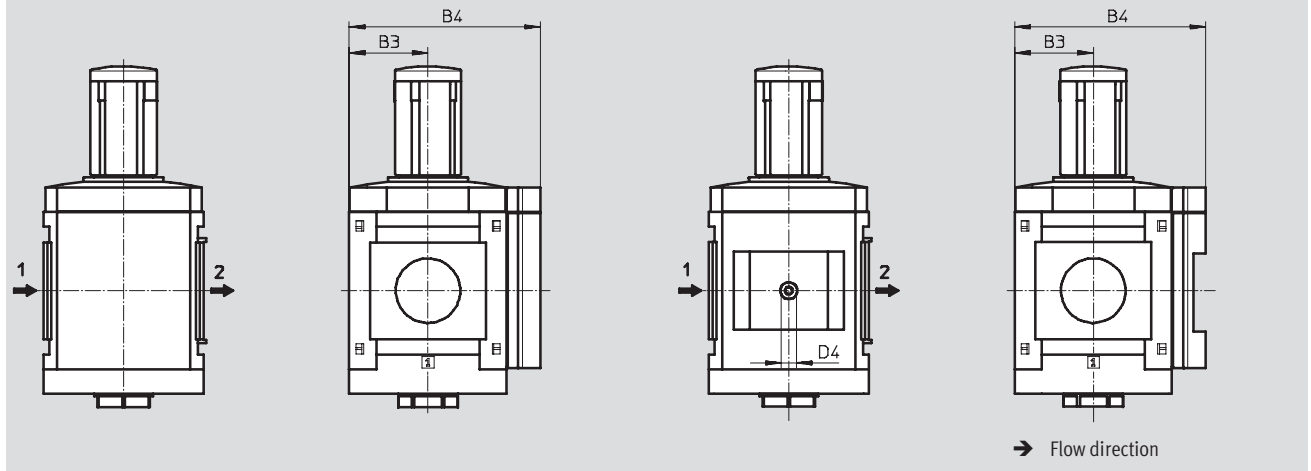
Type	B1	B2	B3	B4	L1	L2	L4
MS12-LR-...-PO	124	122	61	148	181	91	171

# Pressure regulators MS12-LR, MS series

Technical data



**Dimensions – Pressure gauge alternatives** Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)  
 Cover plate VS Adapter A4 for EN pressure gauge 1/4, without pressure gauge



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

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

**Dimensions – Rotary knob**



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

**Ordering data**

Pressure gauge			
Size	Connection	Long rotary knob, can be locked using accessories, pressure regulation range 0.5... 12 bar	Alternative operating principle, pressure regulation range 0.5... 16 bar
		Part No. Type	Part No. Type
MS12	G1 ... G2 <sup>1)</sup>	537 148 MS12-LR-G-D7-LD-AS	541 680 MS12-LR-G-D8-PO

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

**Ordering data – Wearing parts kits**

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

# Pressure regulators MS12-LR, MS series

Ordering data – Modular products



**M** Mandatory data →

Module No.	Series	Size	Function	Connection size	Pressure regulation range
535 021	MS	12	LR	AGF AGG AGH AGI G	D6 D7 D8
<b>Order example</b>					
535 021	MS	12	- LR	- G	- D8

**Ordering table**

Grid dimension	[mm]	124	Condi- tions	Code	Enter code
<b>M</b> Module No.	535 021				
Series	Standard			MS	MS
Size	12			12	12
Function	Pressure regulator			-LR	-LR
Connection size	Connecting plate G1			-AGF	
	Connecting plate G1¼			-AGG	
	Connecting plate G1½			-AGH	
	Connecting plate G2			-AGI	
	Module without connecting thread, without connecting plate			-G	
Pressure regulation range	0.3 ... 7 bar			-D6	
	0.5 ... 12 bar			-D7	
	0.5 ... 16 bar			-D8	

MS series service units  
Pressure regulators  
**5**

Transfer order code

535 021	MS	12	-	LF	-		-	
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# Pressure regulators MS12-LR, MS series

Ordering data – Modular products



## 0 Options

Pressure gauge alternatives	Alternative pressure gauge scale	Rotary knob	Security	Alternative operating principle	Type of mounting	Alternative flow direction
VS A4	PSI MPA	LD	AS	PO	WP	Z
- VS	-	- LD	- AS	- PO	-	- Z

Ordering table		Grid dimension [mm]	124	Condi-tions	Code	Enter code
0 Pressure gauge alternatives	Cover plate				-VS	
	Adapter plate for EN pressure gauge 1/4, without pressure gauge				-A4	
Alternative pressure gauge scale	psi			1	-PSI	
	MPa			1	-MPA	
Rotary knob	Long rotary knob			2	-LD	
Security	Lockable rotary knob				-AS	
Alternative operating principle	Pneumatically actuated			3	-PO	
Type of mounting	Mounting bracket			4	-WP	
Alternative flow direction	Flow direction from right to left				-Z	

- 1 **PSI, MPA** Not with pressure gauge alternatives VS, A4
- 2 **LD** Must be selected if alternative operating principle PO has not been selected

- 3 **PO** Not with rotary knob LD.  
Not with security AS
- 4 **WP** Only with connecting plate AGF, AGG, AGH or AGI

### Transfer order code

- [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]







# MS series service units

Accessories

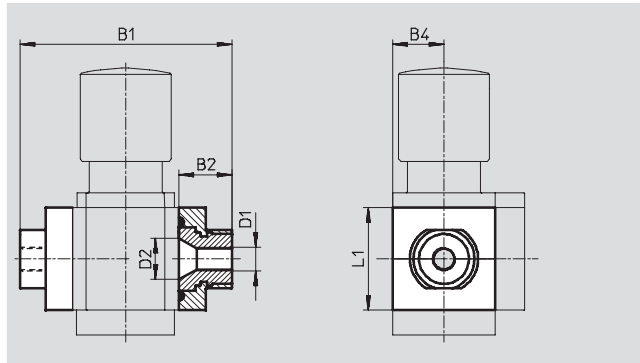


## Connecting plate MS4/6-AG...

(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

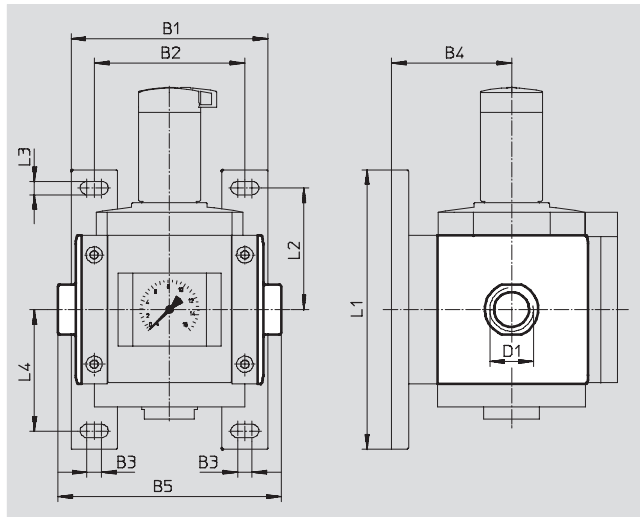
-||- Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

## 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.

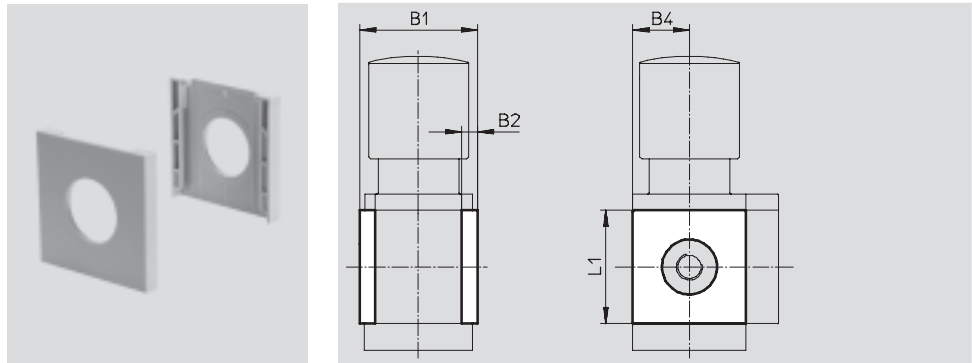
## MS series service units

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

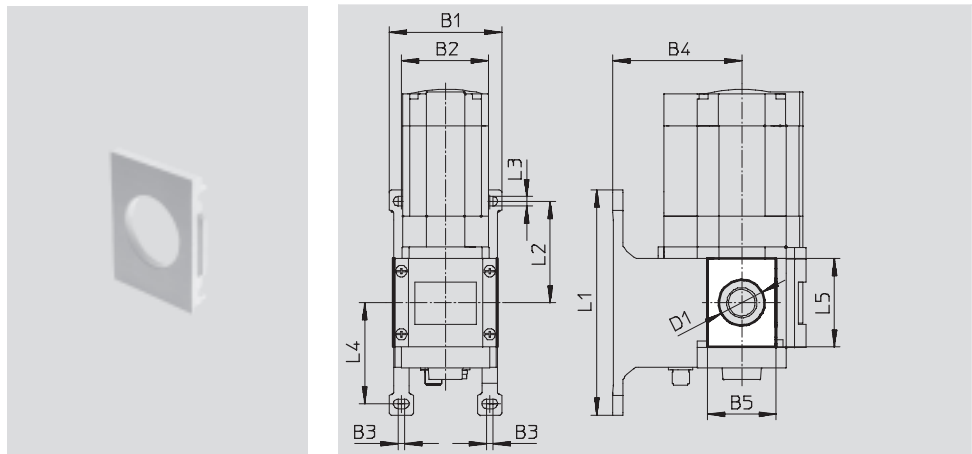
• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.


### 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																
Size	B1	B2	B3	B4		B5	D1 ∅	L1	L2	L3	L4	L5	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
				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 
MS6	79	62	4.5	54	90.5	48.4	32	158	71	6.6	71	62	2	17	535 408	MS6-AEND

1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

# MS series service units

Accessories



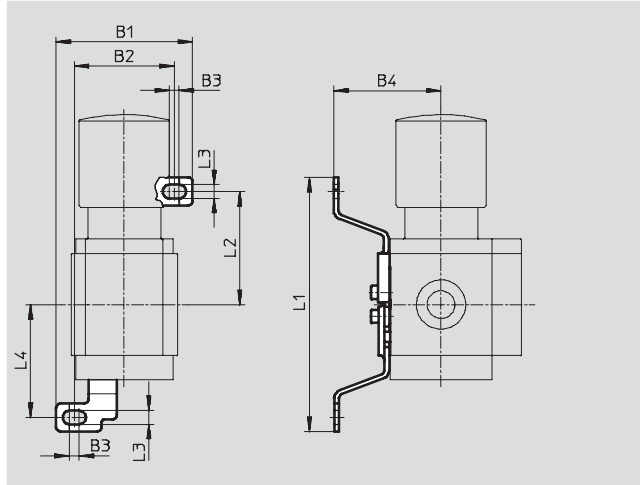
## Mounting bracket MS4/6-WB

(order code: WB)

- For wall mounting

Material:

Steel



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

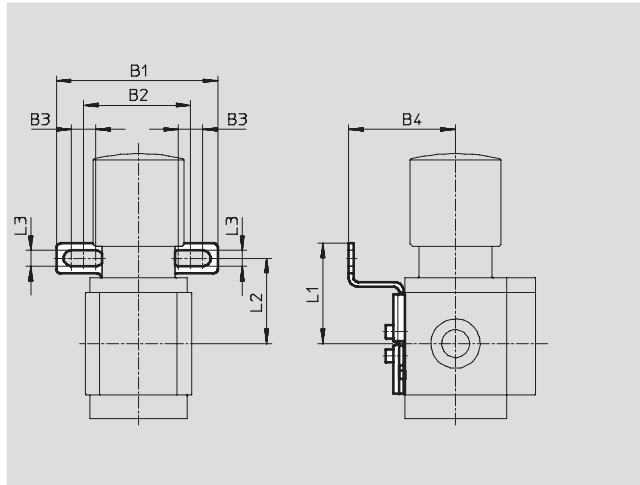
## Mounting bracket MS4-WBM

(order code: WBM)

- For wall mounting

Material:

Steel



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

# MS series service units

Accessories



## Mounting bracket MS4/6-WR

(order code: WR)

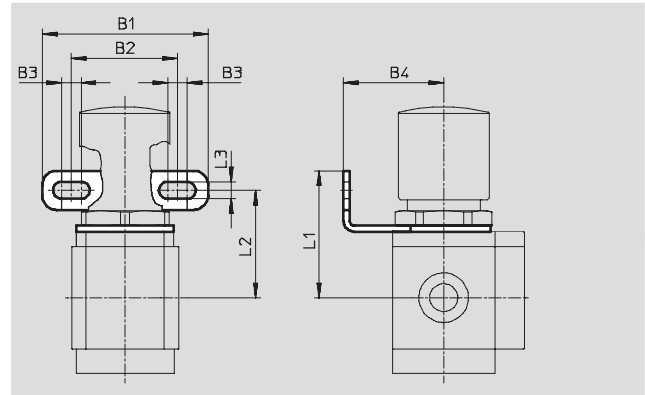
- For wall mounting
- For filter regulator, pressure regulator

Material:  
Steel



Note

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

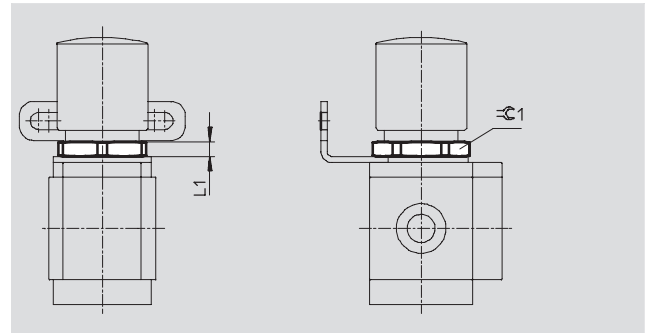


Dimensions and ordering data										
Size	B1	B2	B3	B4	L1	L2	L3	Weight [g]	Part No.	Type
MS4	68	44	8	41	52	44	7	49	526 064	MS4-WR
MS6	70	42	8.2	40	67	57	7.1	90	526 075	MS6-WR

## Hex nut MS4/6-WRS

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

Material:  
Aluminium



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

# MS series service units

Accessories



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

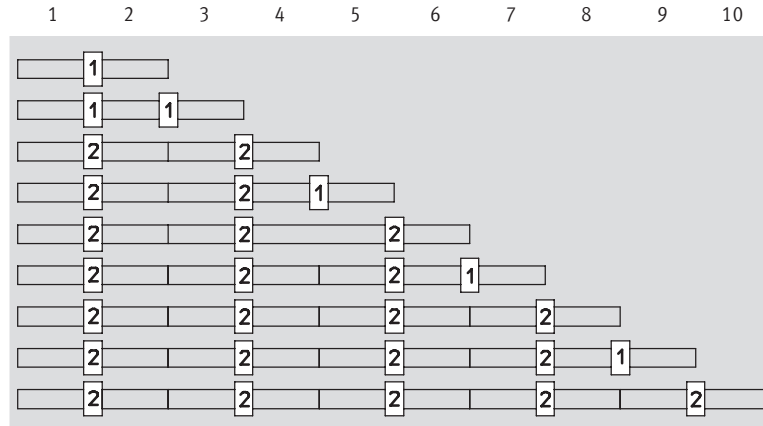
Clearances for mounting service unit combinations

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

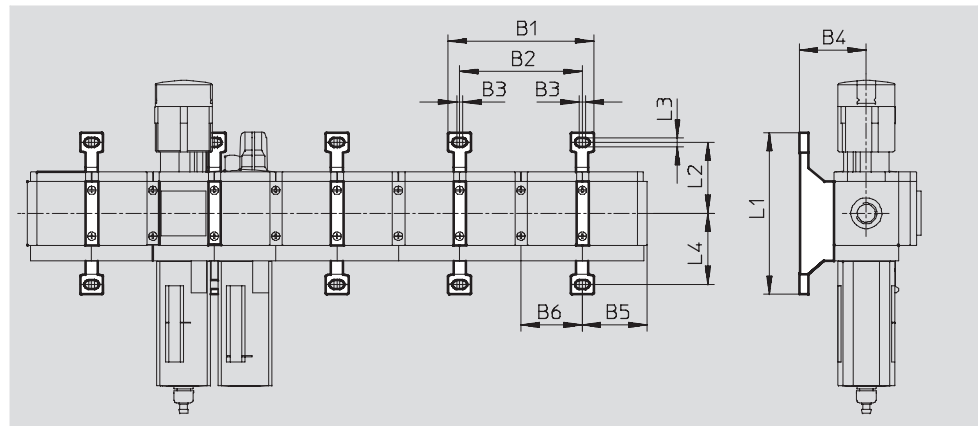
2 units  
MS4-...: 80 mm  
MS6-...: 124 mm with WP, WPB  
138 mm with WPM-2D

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

Number of units



## Mounting dimensions



Type	B1	B2	B3	B4	B5	B6	L1	L2	L3	L4
MS4-WP	95.2	80	4	44	41.9	40	106	46.5	5.6	46.7
MS4-WPB				66						
MS4-WPM-...D				44						
MS6-WP	141	124	4.5	54	64.5	62	158	71	6.6	71
MS6-WPB				90.5						
MS6-WPM-...D				168						

# MS series service units

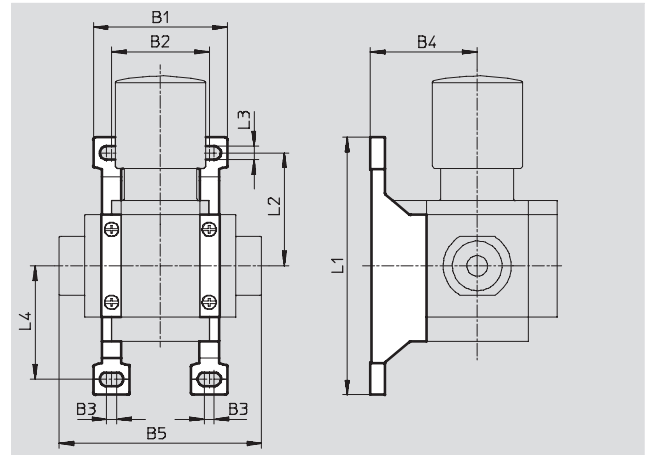
Accessories



## 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:

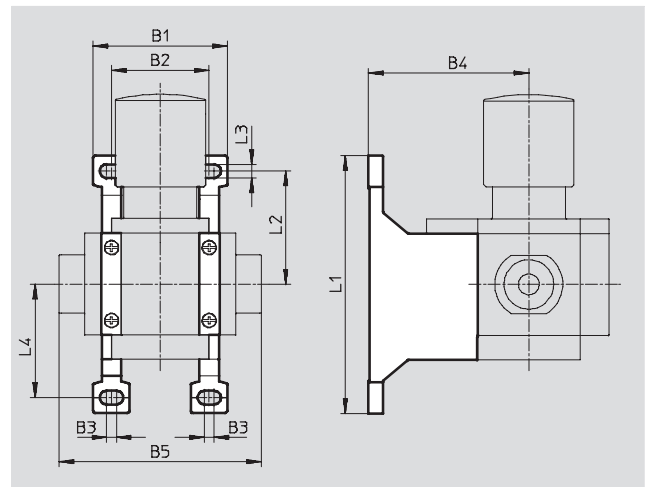
Die-cast aluminium

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



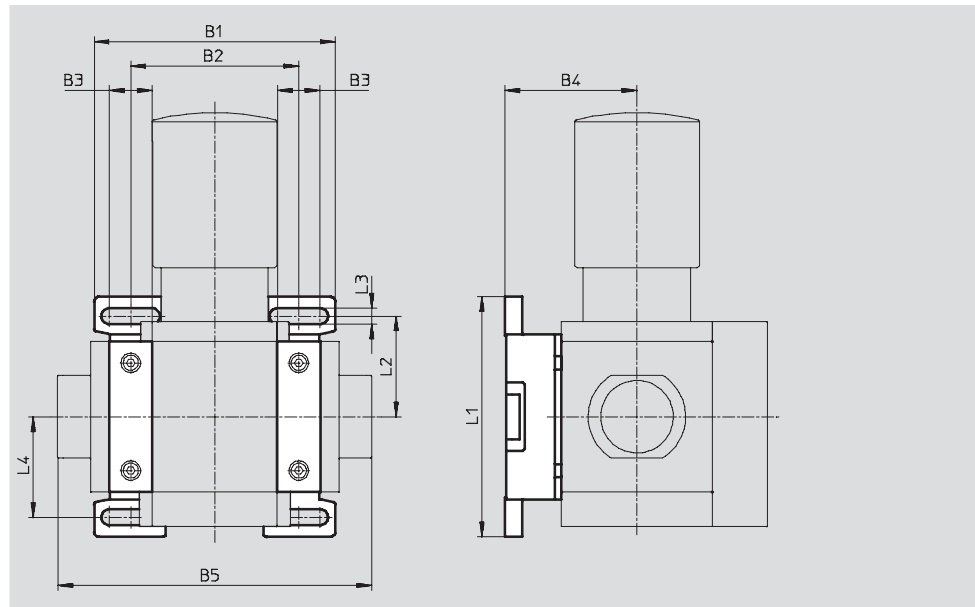
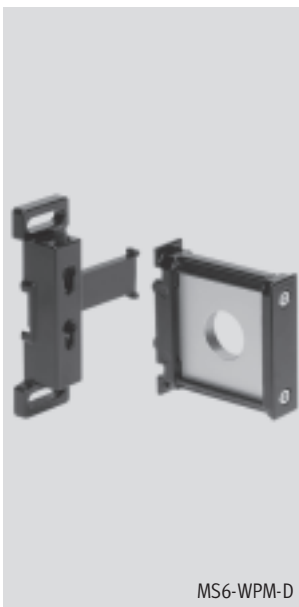
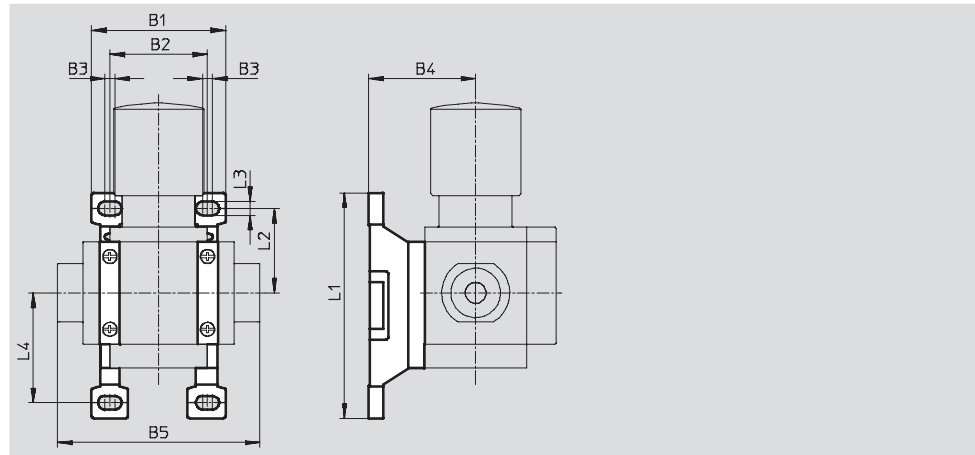
## Mounting bracket MS4/6-WPM

(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

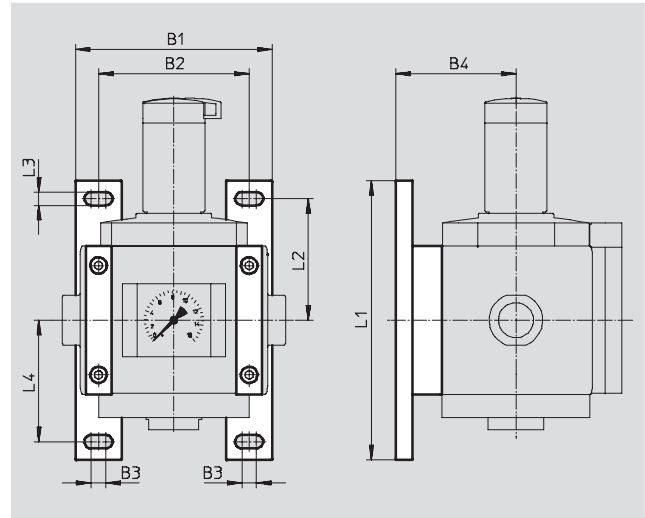


## Wall mounting plate MS12-WP

(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



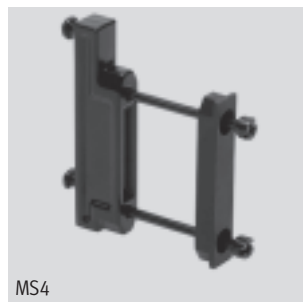
MS12

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

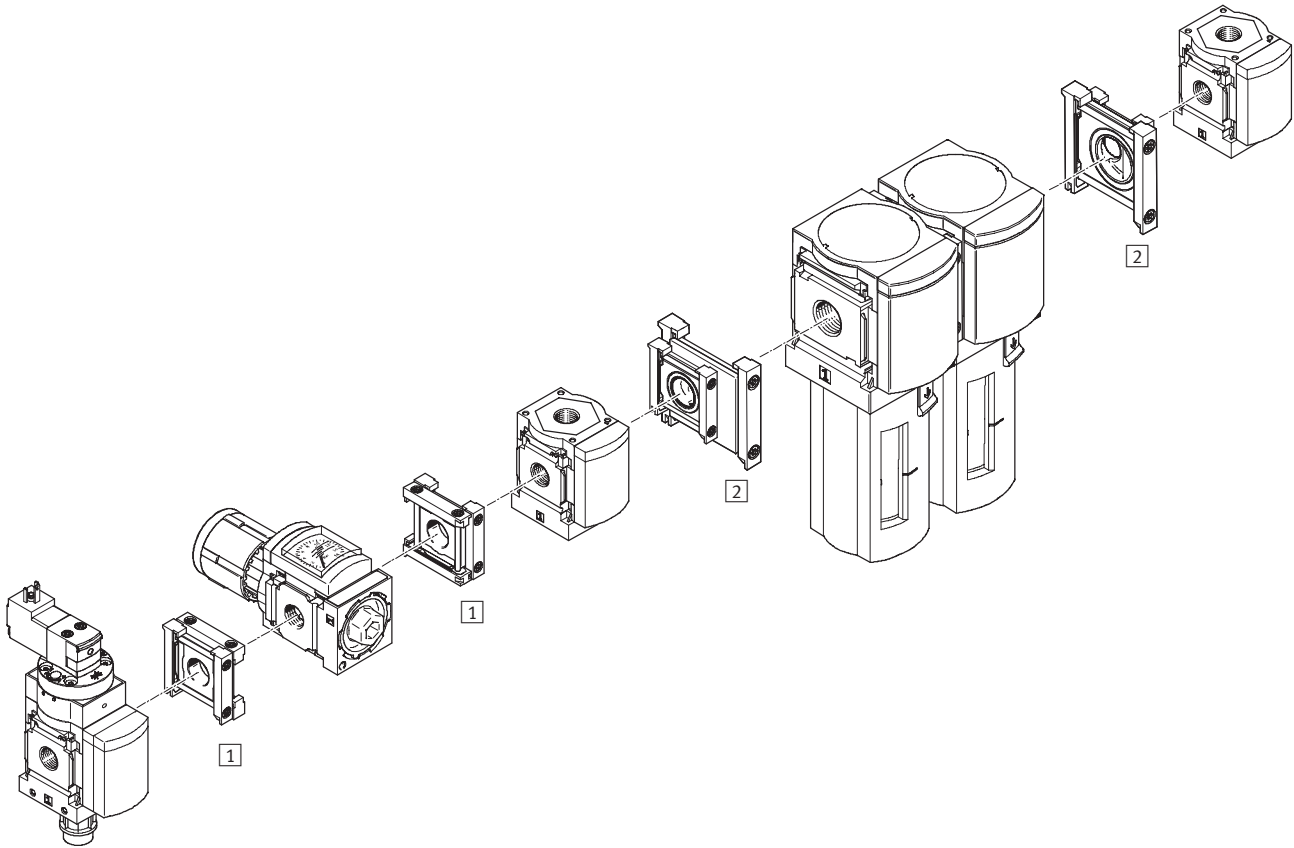


MS6


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	11-11
2	Module connector MS4-6-AMV	11-12

 Note  
Mounting attachments for wall mounting → 11-6

## MS series service units

Accessories

### Module connector MS4/6-RMV

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

Material:

Connecting plate, module connector:

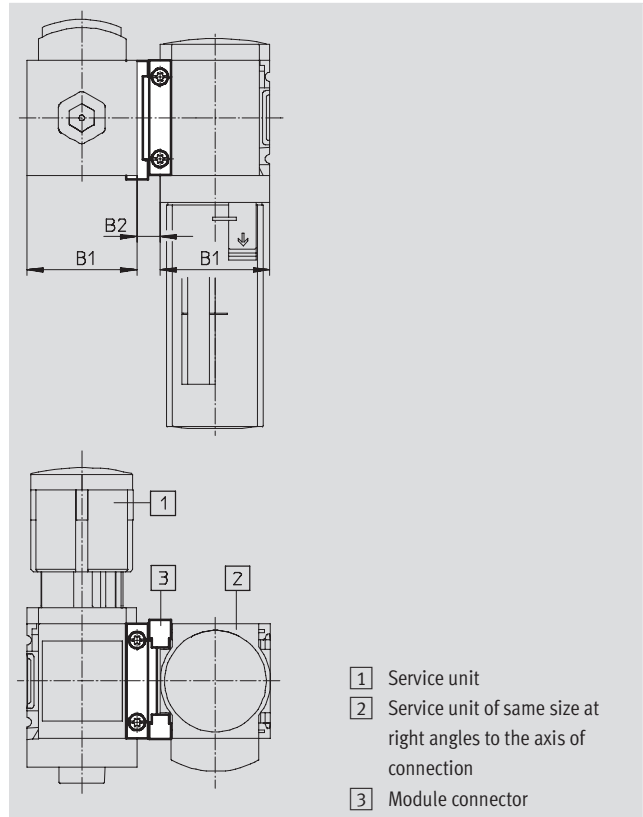
Die-cast aluminium

Sealing ring: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



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

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## MS series service units

Accessories

### Module connector MS4-6-AMV

- For connecting MS4 and MS6 service units as one unit

Material:

Connecting plate, module connector:

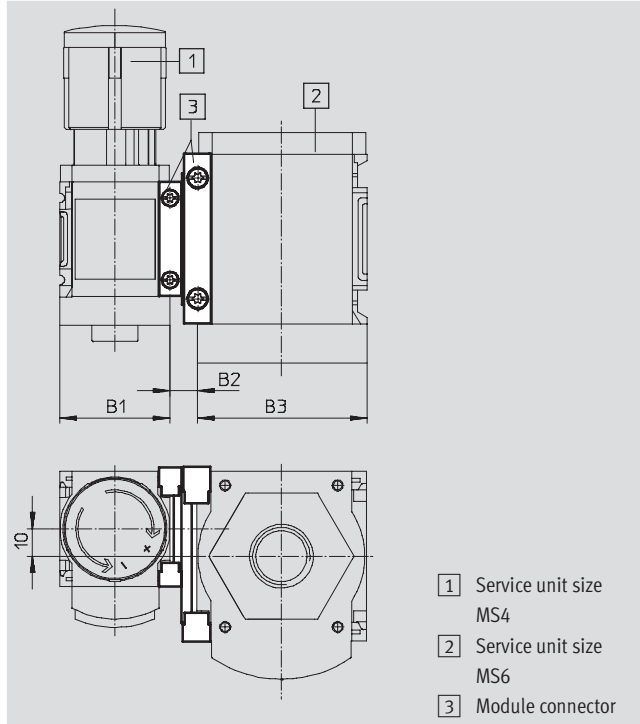
Die-cast aluminium

Sealing ring: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



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

### Dimensions and ordering data

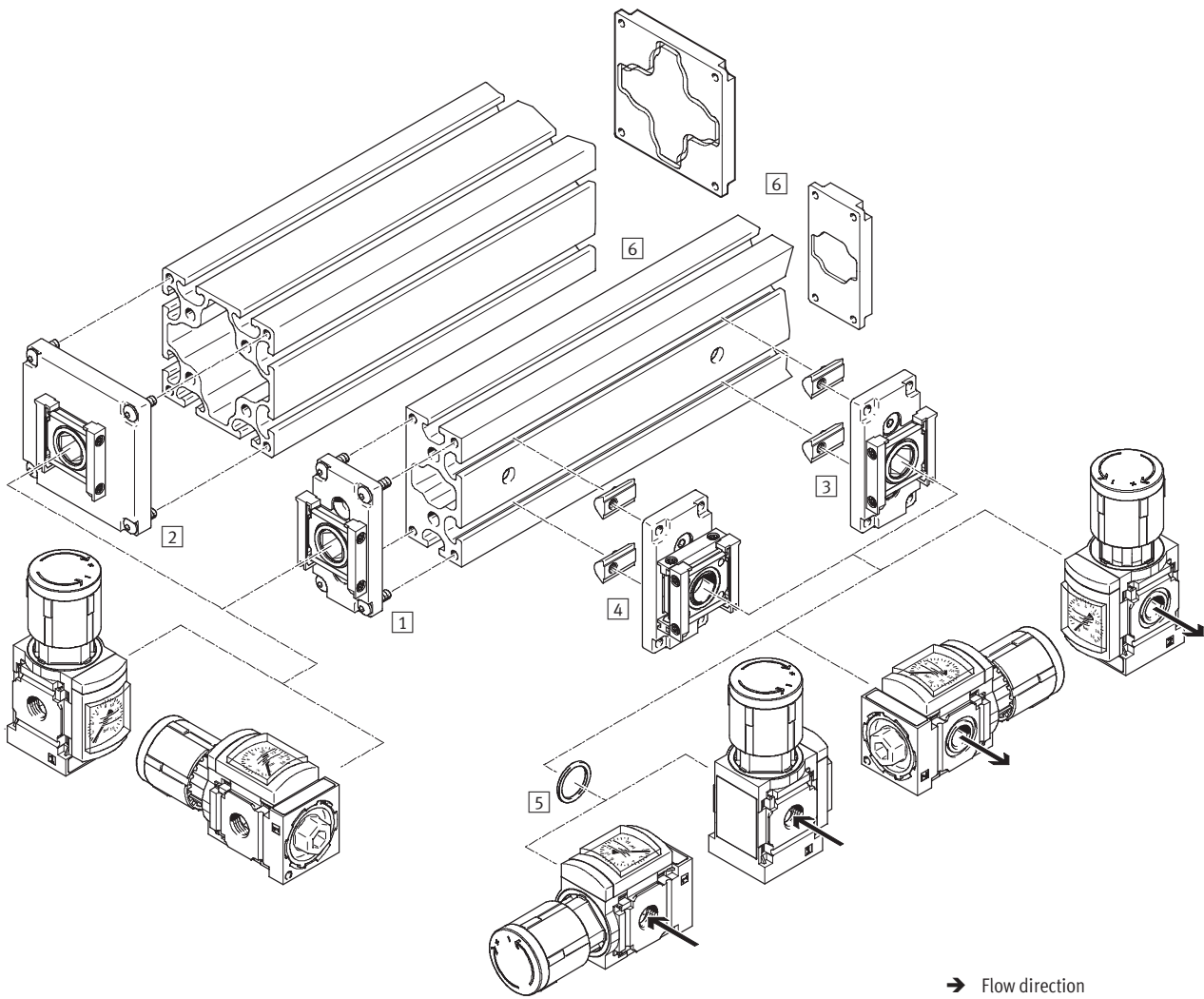
Size	B1	B2	B3	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
MS4/6	40.2	10	62	2	200	543 489	MS4-6-AMV

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.


# MS series service units

Accessories



→ Flow direction

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

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

## MS series service units

Accessories

### Pressure supply module

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

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

Material:

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

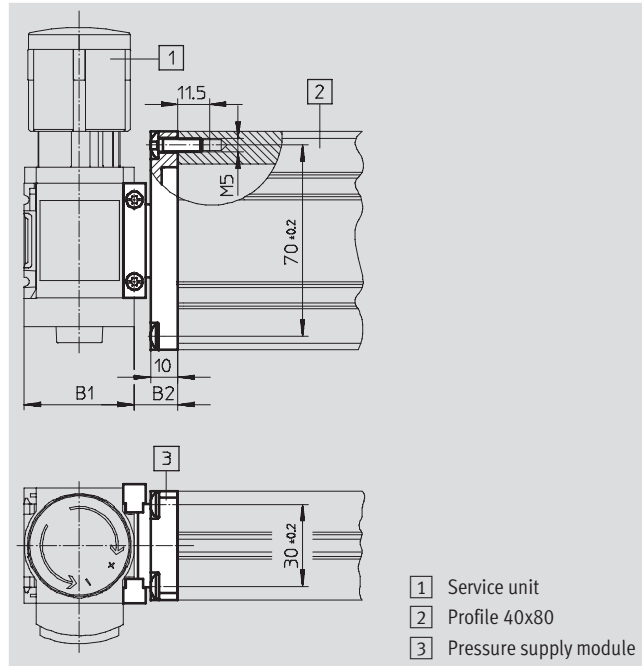
Screws: Steel

Seals: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



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

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

# MS series service units

Accessories

## Pressure supply module

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

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

Material:

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

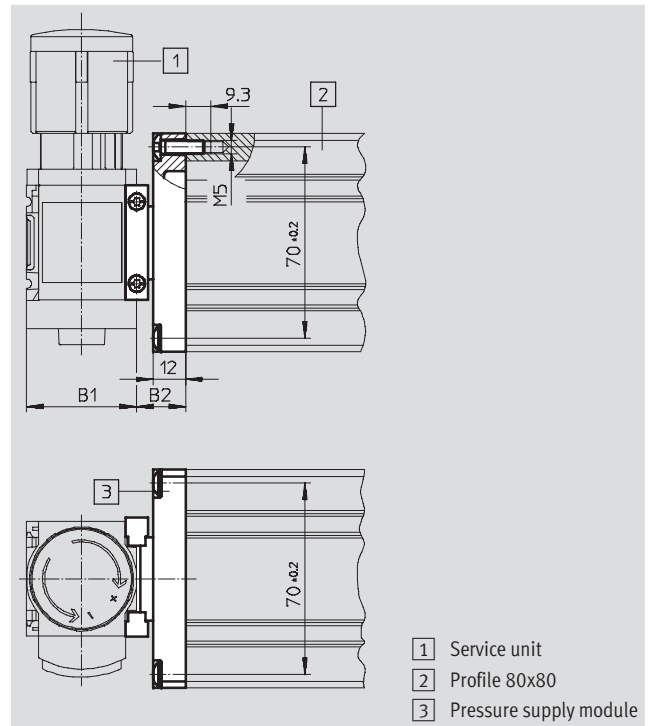
Screws: Steel

Seals: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



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

1) Corrosion resistance class 2 to Festo standard 940 070  
 Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## MS series service units

Accessories

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

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

Material:

Connecting plate, hollow bolt, module

connector: Die-cast aluminium

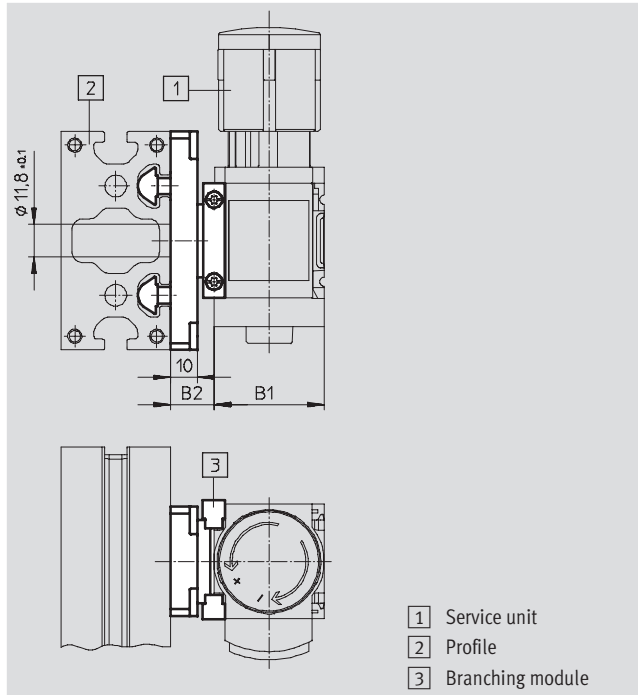
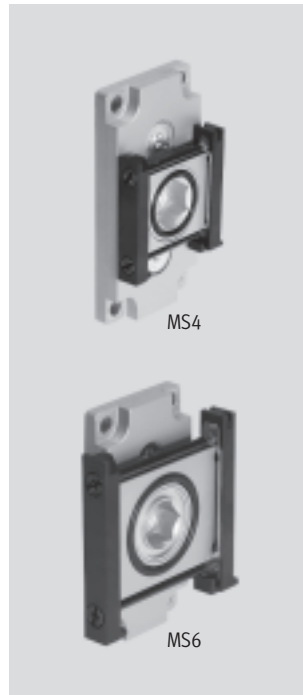
Screws: Steel

Seals: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



- 1 Service unit
- 2 Profile
- 3 Branching module

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

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.



# MS series service units

Accessories

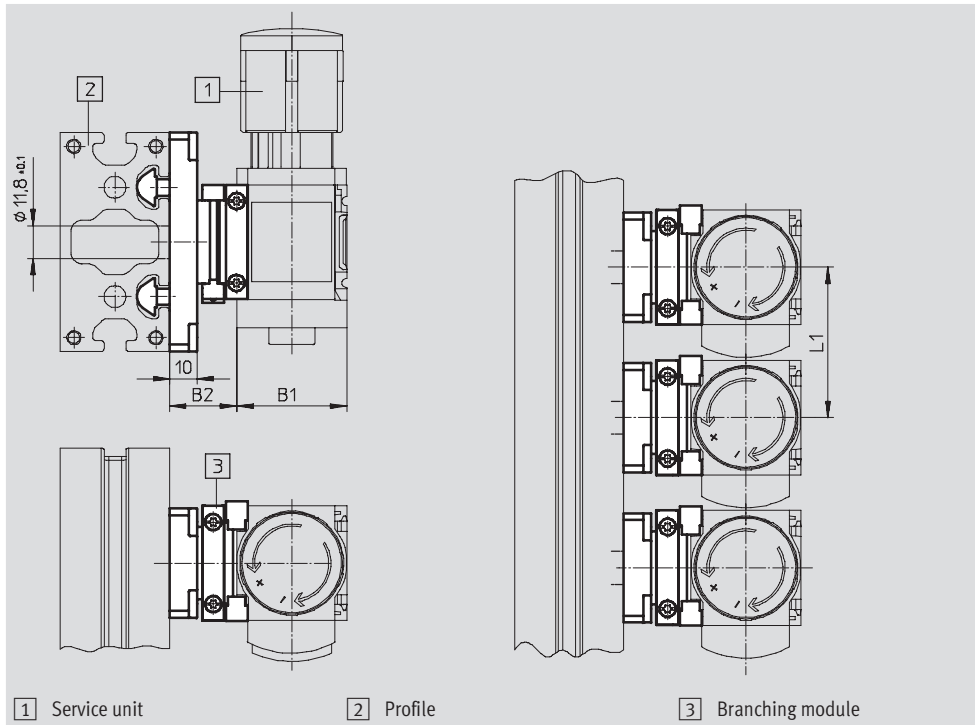
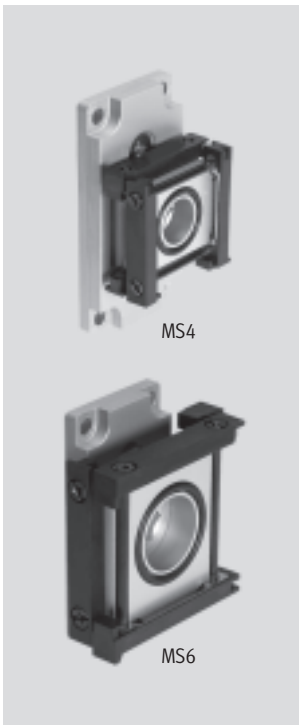
## Branching module

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

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

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

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



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

1) Corrosion resistance class 2 to Festo standard 940 070  
 Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

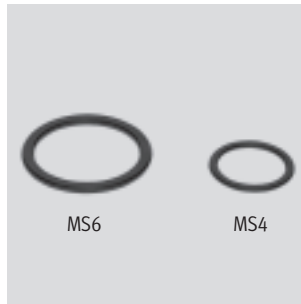
## MS series service units

Accessories

### Sealing ring MS4/6-NNR

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

Material:  
Nitrile rubber  
Conforms to RoHS



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



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



1) Corrosion resistance class 2 to Festo standard 940 070  
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.


# MS series service units

Accessories

FESTO

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
		5		164 259	SIM-M12-4GD-5-PU
	M12x1, 4-pin	5		175 715	SIM-M12-5GD-2,5-PU
	M12x1, 5-pin	2.5		175 716	SIM-M12-5GD-5-PU
	M12x1, 3-pin	2.5		159 430	SIM-M12-3WD-2,5-PU
		5		159 431	SIM-M12-3WD-5-PU
		5		164 258	SIM-M12-4WD-5-PU


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


# MS series service units

Accessories

FESTO

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

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

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

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