

Pressure regulators MS-LR-B

FESTO



Key features

At a glance

Very compact and extremely lightweight series for use close to the process directly in the machine.

- Stable control behaviour
- The rotary knob latches in order to prevent it from being turned unintentionally
- Integrated secondary and primary venting with return flow feature

Function

For continuously variable, precise adjustment of the required operating pressure

The pressure regulator maintains a constant working pressure regardless of pressure fluctuations in the system and air consumption

Pneumatic connection

Different connection types can be selected depending on size

- Individual fittings which are mounted via a female thread
- Integrated connections into which the tubing can be directly inserted

Pressure regulation range [bar]

The following ranges can be set:

- With MS2-...: 0.5 ... 7 bar
- With MS4-... and MS6-...: 0.3 ... 7 bar

Pressure gauge alternatives

The pressure regulator can be ordered with or without pressure gauge. The interface has a G1/8 thread.

Display unit

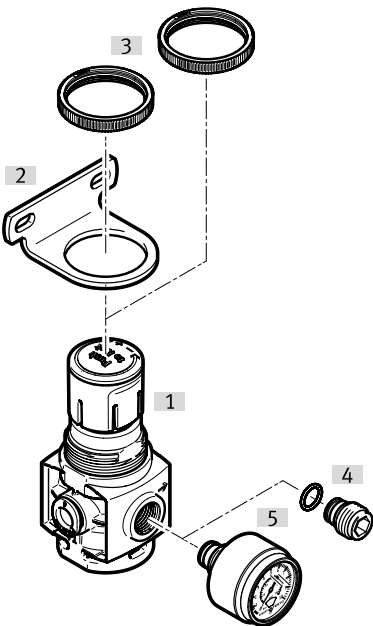
The scale of the built-in pressure gauge can be selected. The units [MPa], [bar] and [psi] are available for selection.

Type codes

001	Series		005	Pressure regulation range	
MS	MS series		D6	0.3 ... 7 bar	
002	Size		006	Pressure gauge alternatives	
2	Grid dimension 25 mm		AR	With pressure gauge	
4	Grid dimension 40 mm		AG	MS pressure gauge	
6	Grid dimension 62 mm		A8	Adapter for EN pressure gauge 1/8, without pressure gauge	
003	Function		007	Alternative pressure gauge scale	
LR	Pressure regulator			MS pressure gauge	
004	Pneumatic connection		BAR	bar	
M5	Female thread M5		MPA	MPa	
QS6	Push-in connector 6 mm		008	Version	
1/4	Female thread G1/4		B	Basic	
1/2	Female thread G1/2				

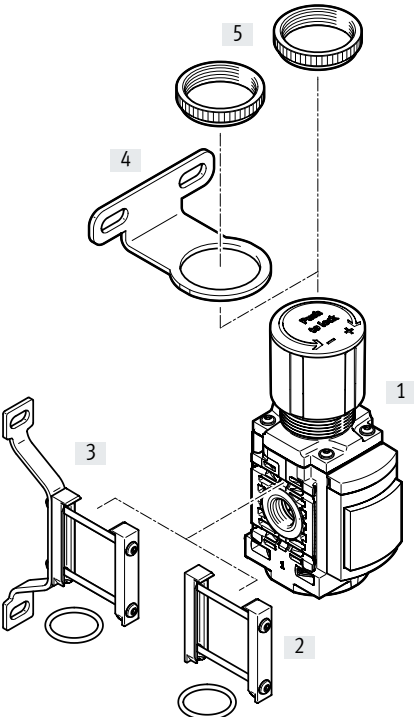
Peripherals overview

Size 2



Mounting attachments and accessories		→ Page/Internet
[1]	Pressure regulator MS2-LR-...-B	5
[2]	Mounting bracket MS2-WR-B	For wall mounting, knurled nut included in the scope of delivery11
[3]	Nut MS2-WRS	For front panel mounting12
[4]	Plug screw MS2-G18S	12
[5]	Pressure gauge PAGN	10

Size 4 and 6



Mounting attachments and accessories		→ Page/Internet
[1]	Pressure regulator MS4/6-LR-...-B	5
[2]	Module connector MS...-MV1	For connecting the modules12
[3]	Wall mounting kit MS...-WPE-B	For connecting the modules for wall mounting11
[4]	Mounting bracket MS...WR-B	For wall mounting, knurled nut included in the scope of delivery11
[5]	Nut MS...-WRS	For front panel mounting12

Datasheet

General technical data				
Pneumatic connection 1	G1/2	G1/4	M5	QS-6
Size	6	4	2	
Pneumatic connection 2	G1/2	G1/4	M5	QS-6
Standard nominal flow rate	6000 l/min	1800 l/min	170 l/min	350 l/min
Pressure regulation range	0.03 ... 0.7 MPa		0.05 ... 0.7 MPa	
	4.35 ... 101.5 psi		7.25 ... 101.5 psi	
	0.3 ... 7 bar		0.5 ... 7 bar	
Max. pressure hysteresis	0.035 MPa	0.05 MPa	0.025 MPa	
	5.075 psi	7.25 psi	3.63 psi	
	0.35 bar	0.5 bar	0.25 bar	
Design	Pressure regulator with pressure gauge, pressure regulator without pressure gauge, directly actuated piston regulator		Directly actuated diaphragm regulator	
Regulator function	Outlet pressure constant, with secondary exhausting, with return flow action			
Type of mounting	Optional: front panel mounting, in-line installation, with accessories			
Mounting position	Any			
Actuator lock	Rotary knob with detent			
Pressure indicator	G1/8 prepared, with pressure gauge			

Operating and environmental conditions				
Pneumatic connection 1	G1/2	G1/4	M5	QS-6
Size	6	4	2	
Operating pressure	0.1 ... 1 MPa			0.1 ... 0.8 MPa
	14.5 ... 145 psi			14.5 ... 116 psi
	1 ... 10 bar			1 ... 8 bar
Ambient temperature	-5 ... 50°C			
Temperature of medium	-5 ... 50°C			
Storage temperature	-5 ... 50°C			
Corrosion resistance class CRC ¹⁾	1 - Low corrosion stress			

1) Corrosion resistance class CRC 1 to Festo standard FN 940070.

Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, or parts that are covered in the application (e.g. drive trunnions).

Weight				
Pneumatic connection 1	G1/2	G1/4	M5	QS-6
Size	6	4	2	
Product weight	479 ... 482 g	163 ... 165 g	34.8 ... 39.8 g	31.6 ... 36.6 g

Materials				
Pneumatic connection 1	G1/2	G1/4	M5	QS-6
Size	6	4	2	
Housing material	Reinforced PA		PA	
Rotary knob material	POM			
Valve tappet material	POM		Wrought aluminium alloy, NBR	
Diaphragm material	–		NBR	
Spring material	High-alloy steel, galvanised steel		High-alloy steel	
Note on materials	RoHS-compliant			

Datasheet

Dimensions Download CAD data → www.festo.com

[AR] With pressure gauge

MS2-LR-M5-...-AR

MS2-LR-QS6-...-AR

[1] Pneumatic connection QS-6

→ Flow direction

	B1	B2	B3	B4	B7	D1	D2 ø	D3 ø	D5 ø	L1	L2	L3
MS2-LR-M5-...-AR	28	16.7	49	25	15.5	M5	21	M23x1	23	31	14.4	34.1
MS2-LR-QS6-...-AR	33.1					QS-6						

Dimensions Download CAD data → www.festo.com

[A8] Without pressure gauge, adapter for EN pressure gauge 1/8

→ Flow direction

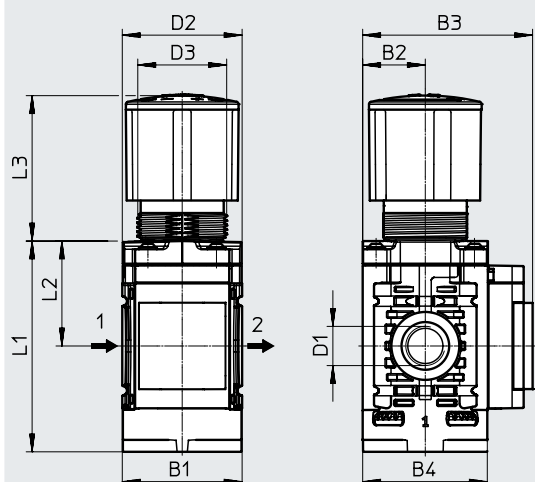
	B2	B3	D1	D6
MS2-LR-M5-...-A8	16.7	33.4	M5	G1/8
MS2-LR-QS6-...-A8			QS-6	

Datasheet

Dimensions

Download CAD data → www.festo.com

[AG] With pressure gauge



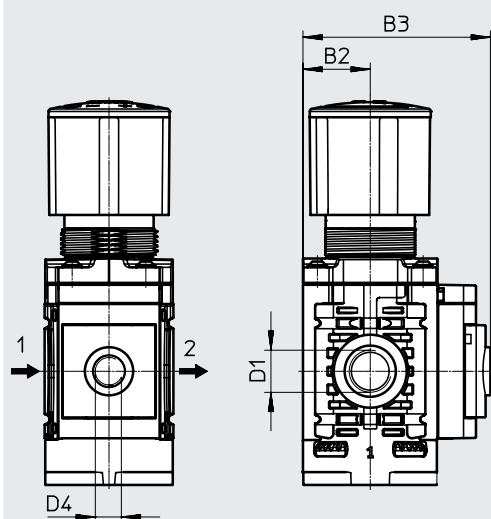
→ Flow direction

	B1	B2	B3	B4	D1	D2 ø	D3	L1	L2	L3
MS4-LR-1/4-...-AG	40.2	21	57	41.8	G1/4	37.8	M30x1.5	70.7	35.2	48.8

Dimensions

Download CAD data → www.festo.com

[A8] Without pressure gauge, adapter for EN pressure gauge 1/8



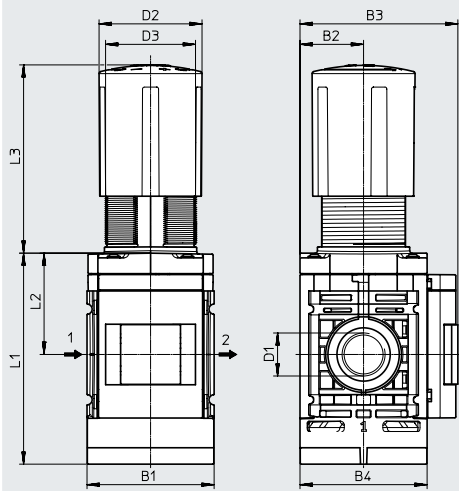
→ Flow direction

	B2	B3	D1	D4
MS4-LR-1/4-...-A8	21	58.5	G1/4	G1/8

Datasheet

Dimensions Download CAD data → www.festo.com

[AG] With pressure gauge

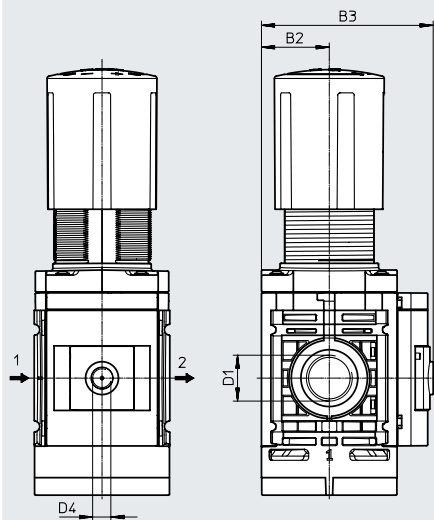


→ Flow direction

	B1	B2	B3	B4	D1	D2 Ø	D3	L1	L2	L3
MS6-LR-1/2-...-AG	62	31	77	62	G1/2	50.2	43.9	102.9	49.4	91.8

Dimensions Download CAD data → www.festo.com

[A8] Without pressure gauge, adapter for EN pressure gauge 1/8



→ Flow direction

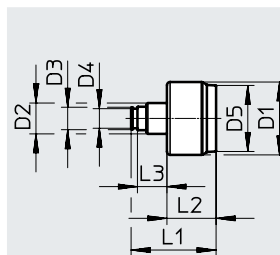
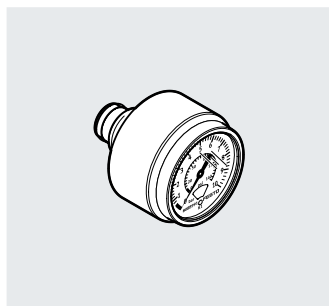
	B2	B3	D1	D4
MS6-LR-1/2-...-A8	31	78.5	G1/2	G1/8

Datasheet

Ordering data					
Size	Pneumatic connection	Pressure gauge	Pressure gauge scale	Part no.	Type
2	M5	Available	MPa	8086636	MS2-LR-M5-D6-AR-MPA-B
			bar	8086628	MS2-LR-M5-D6-AR-BAR-B
		None	–	8086637	MS2-LR-M5-D6-A8-B
	QS-6	Available	MPa	8086639	MS2-LR-QS6-D6-AR-MPA-B
			bar	8086638	MS2-LR-QS6-D6-AR-BAR-B
		None	–	8086640	MS2-LR-QS6-D6-A8-B
4	G1/4	Available	MPa	8099359	MS4-LR-1/4-D6-AG-MPA-B
			bar	8099358	MS4-LR-1/4-D6-AG-BAR-B
		None	–	8099360	MS4-LR-1/4-D6-A8-B
6	G1/2	Available	MPa	8099204	MS6-LR-1/2-D6-AG-MPA-B
			bar	8099205	MS6-LR-1/2-D6-AG-BAR-B
		None	–	8099203	MS6-LR-1/2-D6-A8-B

Accessories

Pressure gauge PAGN



Dimensions							
D1 ø	D2	D3 ø	D4 ø ±0.05	D5 ø	L1	L2	L3
23	G1/8	7.1	6.2	20.8	26.8	15.5	9.3

General technical data		
Nominal size	23	
Pneumatic connection	G1/8 with sealing ring	
Operating medium	Inert gases Neutral fluids	
Note on the operating/ pilot medium	No oxygen No acetylene	
Design	Bourdon tube pressure gauge	
Type of mounting	In-line installation	
Connection position	Centred, rear	
Ambient temperature [°C]	-5 ... +50	
Temperature of medium [°C]	-5 ... +50 ¹⁾	
Storage temperature [°C]	-5 ... +50	
Measurement accuracy class	5	
Continuous load factor	0.75	
Intermittent load factor	0.6	
Degree of protection	IP44	
Weight [g]	6	

1) If the temperature of the medium used is below 0°C, ensure the operating medium is dry.

Materials	
Housing	ABS (colour: black)
Inspection window	PMMA
Screwed trunnion	Reinforced ABS
Materials in contact with the media	Reinforced ABS, brass
Note on materials	RoHS-compliant

Ordering data						
Size	Pneumatic connection	Operating pressure	Display range		Part no.	Type
			Outer scale	Inner scale		
2	G1/8 with sealing ring	0 ... 1 MPa	0 ... 1 MPa	–	8088992	PAGN-23-1M-G18S
		0 ... 10 bar	0 ... 10 bar	0 ... 145 psi	8088991	PAGN-23-10-G18S

Accessories

Mounting bracket

MS...-WR-B

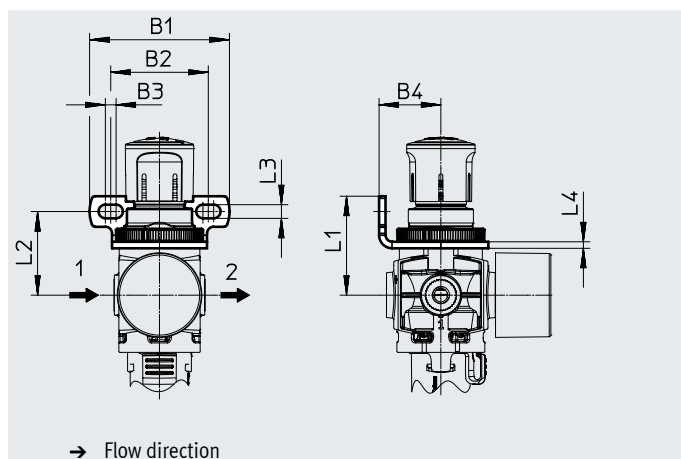
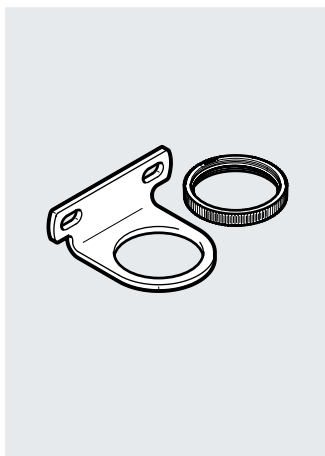
For sizes 2, 4 and 6

- For wall mounting
- Knurled nut included in the scope of delivery

Materials:

Steel

RoHS-compliant



Dimensions and ordering data

Size	B1 ±0.2	B2	B3	B4	L1	L2	L3 ±0.1	L4	Weight [g]	Part no.	Type
2	43	30	3.3	19	30.4	25.7	4.2	2	13.8	8087978	MS2-WR-B
4	68	44	8	41	52	44	7	2.5	49	8149680	MS4-WR-B
6	70	42	8.2	40	67	57	7.1	3	90	8149681	MS6-WR-B

Wall mounting kit

MS...-WPE-B

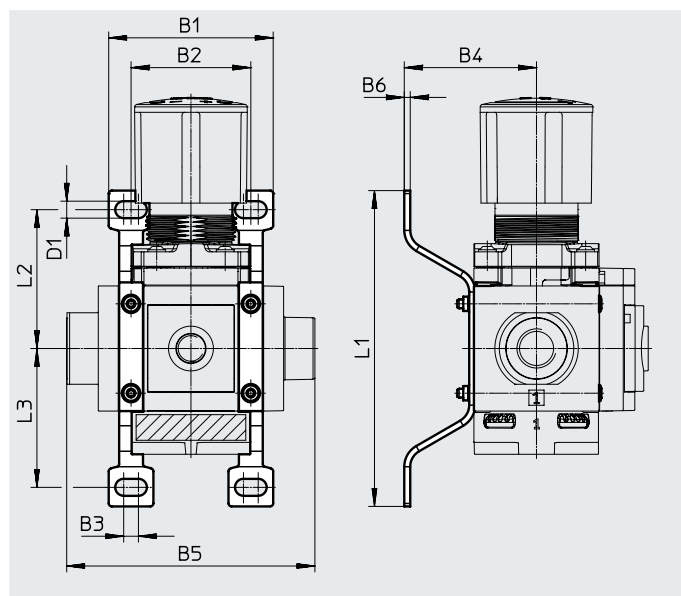
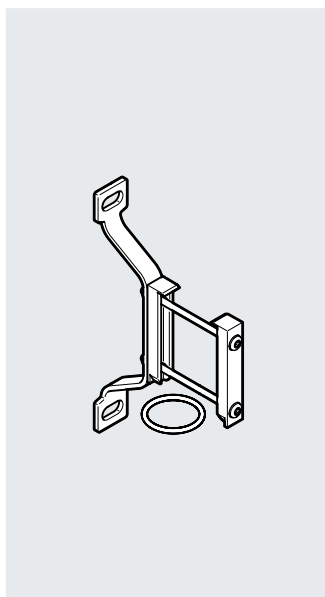
For sizes 4 and 6

- For wall mounting

Materials:

Steel

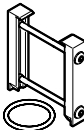
RoHS-compliant



Dimensions and ordering data

Size	B1	B2	B3	B4	B5	B6	D1 Ø	L1	L2	L3	Weight [g]	Part no.	Type
4	55.2	40.2	5	44.4	83.3	2	5.7	106	46.6	46.6	30	8118600	MS4-WPE-B
6	79	62	4.3	53.9	114.9	2	6.5	158	71	71	58	8118599	MS6-WPE-B

Accessories

Cylinder mountings					
	Size	Description	Part no.	Type	
Module connector					
	4	For connecting the modules for wall mounting	8119201	MS4-MV1	
	6		8119204	MS6-MV1	
Nut					
	2	For front panel mounting	8098037	MS2-WRS	
	4		532187	MS4-WRS	
	6		532188	MS6-WRS	
Plug screw					
	2	For sealing the pressure gauge connection	8095766	MS2-G18S	