

## 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	
MS	MS series	

002	Size	
2	Grid dimension 25 mm	
4	Grid dimension 40 mm	
6	Grid dimension 62 mm	

003	Function	
LR	Pressure regulator	

004	Pneumatic connection	
M5	Female thread M5	
QS6	Push-in connector 6 mm	
1/4	Female thread G1/4	
1/2	Female thread G1/2	

005	Pressure regulation range	
D6	0.3 ... 7 bar	

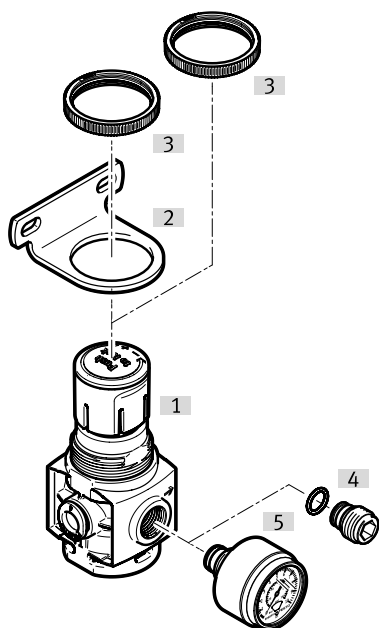
006	Pressure gauge alternatives	
AR	With pressure gauge	
AG	MS pressure gauge	
A8	Adapter for EN pressure gauge 1/8, without pressure gauge	

007	Alternative pressure gauge scale	
	MS pressure gauge	
BAR	bar	
MPA	MPa	

008	Version	
B	Basic	

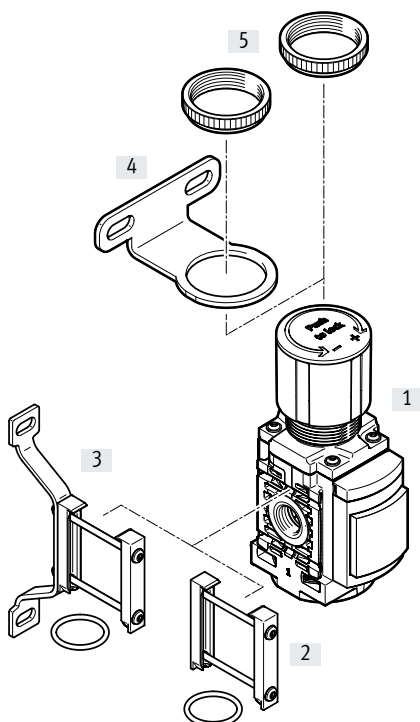
## Peripherals overview

### 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 delivery
[3]	Nut MS2-WRS	For front panel mounting
[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 modules
[3]	Wall mounting kit MS...-WPE-B	For connecting the modules for wall mounting
[4]	Mounting bracket MS...WR-B	For wall mounting, knurled nut included in the scope of delivery
[5]	Nut MS...-WRS	For front panel mounting

## 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		0.025 MPa	
	5.075 psi		3.63 psi	
	0.35 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 <sup>1)</sup>	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

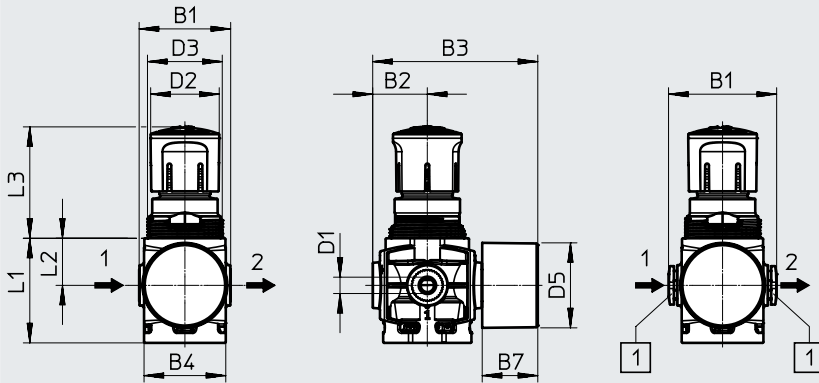
**Dimensions**

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

[AR] With pressure gauge

MS2-LR-M5-...-AR

MS2-LR-QS6-...-AR



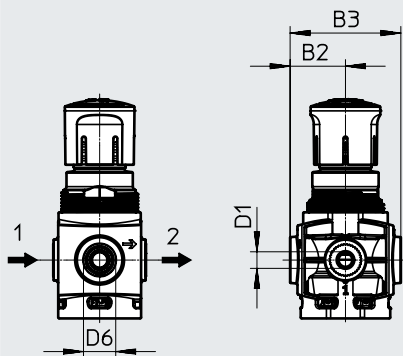
[1] Pneumatic connection QS-6  
→ Flow direction

	B1	B2	B3	B4	B7	D1	D2 ∅	D3 ∅	D5 ∅	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](http://www.festo.com)

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



→ Flow direction

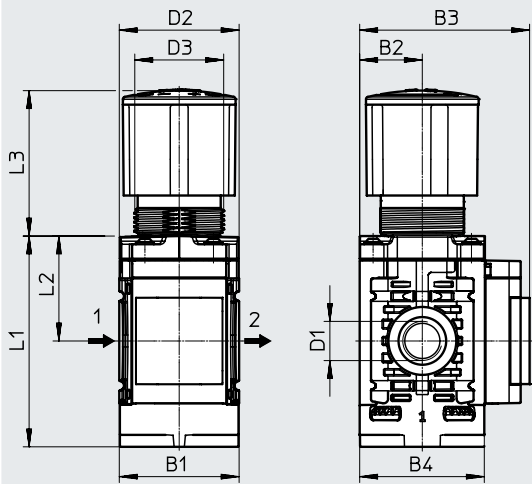
	B2	B3	D1	D6
MS2-LR-M5-...-A8	16.7	33.4	M5	G1/8
MS2-LR-QS6-...-A8			QS-6	

Datasheet

**Dimensions**

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

[AG] With pressure gauge



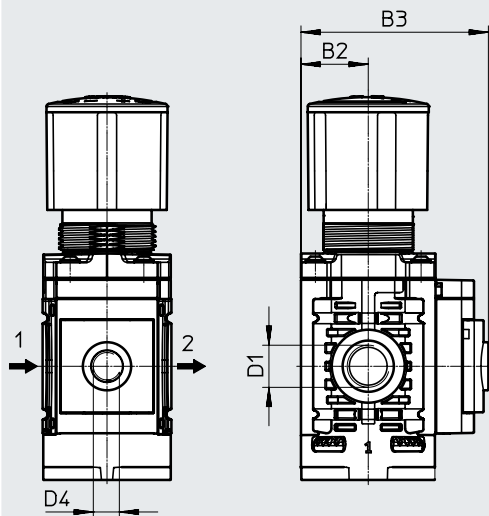
→ Flow direction

	B1	B2	B3	B4	D1	D2 ∅	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](http://www.festo.com)

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



→ Flow direction

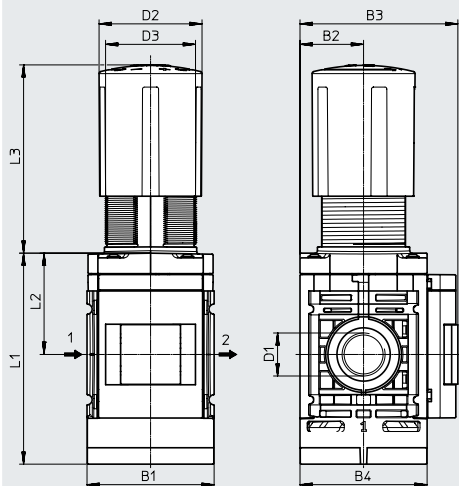
	B2	B3	D1	D4
MS4-LR-1/4-...-A8	21	58.5	G1/4	G1/8

Datasheet

**Dimensions**

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

[AG] With pressure gauge



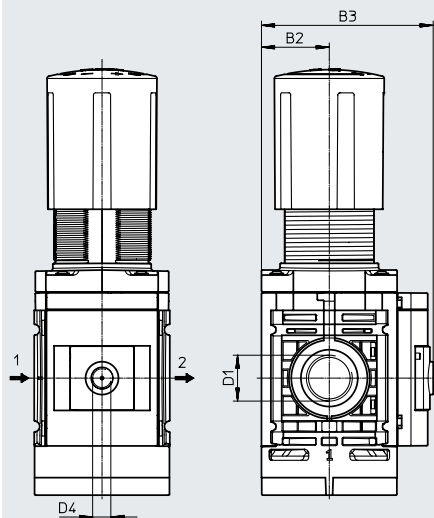
→ Flow direction

	B1	B2	B3	B4	D1	D2 ∅	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](http://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

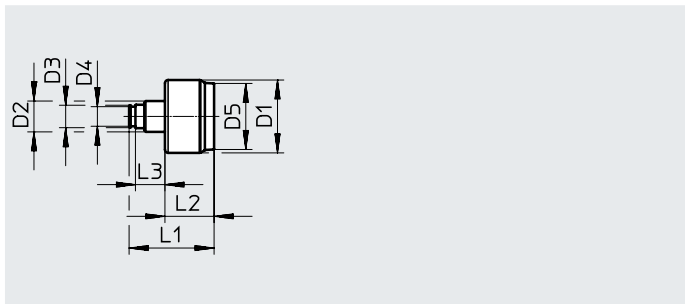
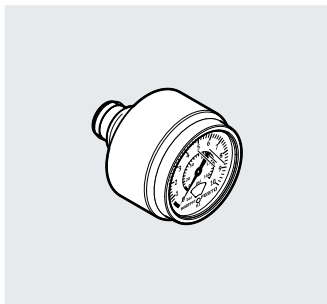


## Datasheet

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

Accessories

Pressure gauge PAGN



Dimensions							
D1 ∅	D2	D3 ∅	D4 ∅ ±0.05	D5 ∅	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 <sup>1)</sup>
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		
23	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**

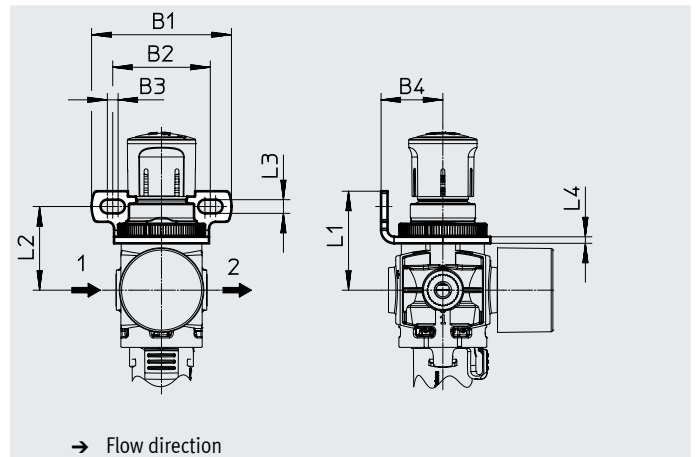
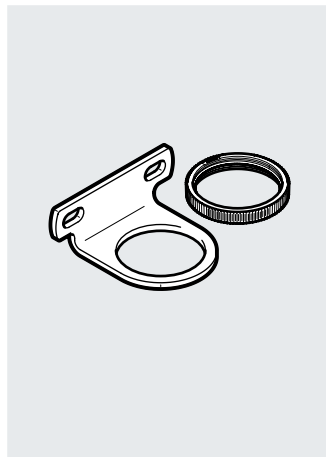
For sizes 2, 4 and 6

- 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**

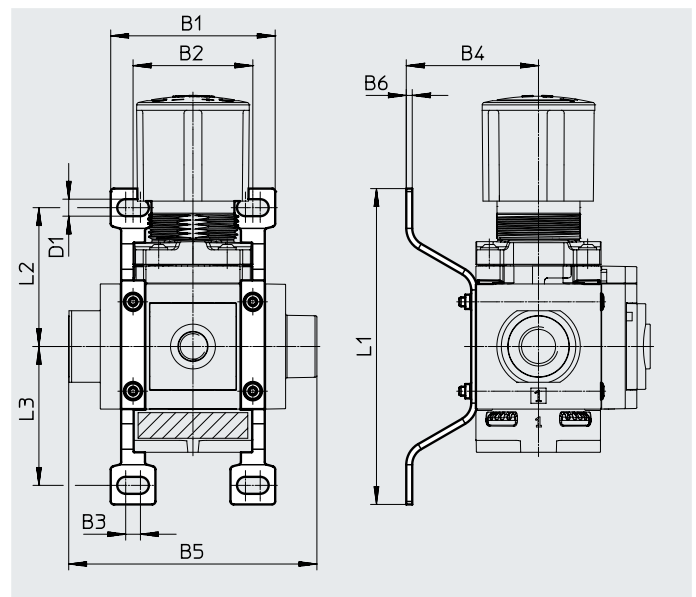
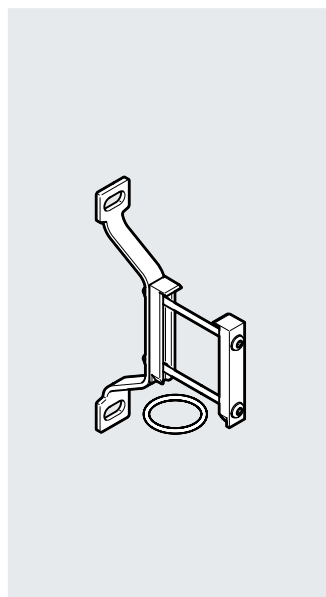
For sizes 4 and 6

- For wall mounting

Materials:

Steel

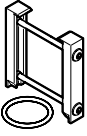



RoHS-compliant



**Dimensions and ordering data**

Size	B1	B2	B3	B4	B5	B6	D1 ∅	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