

Service unit combinations MSB, MS series

FESTO



Festo core product range
Covers 80% of your automation tasks

Worldwide:
Superb:
Easy:

Always in stock
Festo quality at an attractive price
Reduces procurement and storing complexity

★ Generally ready for shipping ex works in 24 hours
Held in stock in 13 service centres worldwide
More than 2200 product

★ Generally ready for shipping ex works in 5 days
Assembled for you in 4 service centres worldwide
Up to 6×10^{12} variants per product series



MS series service unit components

Key features



MS series service unit components

Solutions for every application

With its large product range, highly functional components and a wide choice of services, the MS series from Festo offers a complete concept for compressed air preparation. Suitable for simple standard applications as well as application-specific solutions to the highest quality standards.

Available as individual components, pre-assembled combinations ex-stock, application-specific combinations or complete turnkey solutions. The five sizes in the MS series achieve maximum flow rates with minimum space requirements.

Freely combinable function modules

Pressure regulators, on/off and soft-start valves with safety function, filter, pressure and flow sensors, dryers, sensors and lubricators. All these allow a suitable solution to be assembled for every task. Their modular structure means that the components

are freely combinable. A simple connection system saves time when replacing individual modules without dismantling the entire combination. What's more, many of the components are certified to UL and ATEX.

CAD models and configurator

Convenient aids for planning and selecting application-specific individual devices and combinations. The product configurator lets you configure customised solutions quickly and transfer the order data with no hassle.

Engineering tools

Selection tool for choosing the right service unit without oversizing, and with the right air quality class: www.festo.com/engineering/wartungseinheit



Integrated sensors

Pressure and flow sensors



- Maximum machine availability through controlled processes
- Reliable compressed air preparation and supply for systems
- Integrable or stand-alone
- Easy to connect with M8/M12 plug

Safety functions

Soft-start/quick exhaust valves
MS6-SV/MS9-SV



- Fast and reliable exhausting of systems up to Performance Level e, certified to EN ISO 13849-1
- Integrated soft-start function

Energy savings

Service units MSE6



- Fully automatic monitoring and regulation of compressed air supply
- Automatic shut-off of the compressed air in stand-by mode
- Detection and notification of leakages
- Condition monitoring of relevant process data

Intelligent mix of sizes



- Optimum flow rate with up to 18% smaller size
- Excellent energy efficiency
- Cost-optimised combinations – save up to 30%!

Size differences					
Size	MS2	MS4	MS6	MS9	MS12
Grid dimension [mm]	25	40	62	90	124
Port sizes	M5, QS-6	G1/8, G1/4, G3/8	G1/4, G3/8, G1/2, G3/4	G1/2, G3/4, G1, G1 1/4, G1 1/2	G1, G1 1/4, G1 1/2, G2
Standard nominal flow rate qnN ¹⁾ [l/min]	350	1800	6500	20000	22000

1) Using pressure regulator MS-LR as an example

MS series service unit components

Key features

Note
Information

The next few pages provide a brief overview of the complete product range for the MS series service unit components.

You can find detailed information and all of the technical data in the documentation for the corresponding service unit component.

Accessories such as connection plates or mounting brackets can be ordered either via the configurator or separately.

Structure of a service unit

The order of the individual components within a service unit is relevant for safety and functionality. It is not possible to assemble the service unit components in any order in the flow direction. There are restrictions and rules.

The configurator for service unit MSB is a reliable and convenient way of arranging individual service unit components. This ensures that the applicable rules are complied with. As a result, you get a completely assembled combination with UL or ATEX certification if you need it. When arranging a combination of individually configured and ordered service unit components, the points on the right must be adhered to under all circumstances.

- Regulators MS-LFR/LR/LRP/LRE are only permissible in the flow direction with the same or decreasing pressure regulation range
- Filters MS-LFR/LF/LFM/LFX are only permissible in the flow direction with an increasing grade of filtration
- Lubricators MS-LOE are not permitted in the flow direction upstream of a filter MS-LFR/LFM/LF/LFX, water separator MS-LWS or membrane air dryer MS-LDM1
- A micro filter MS-LFM must be installed upstream of an activated carbon filter MS-LFX or membrane air dryer MS-LDM1 in the flow direction
- A flow sensor SFAM cannot be installed directly downstream of a regulator MS-LFR/LR; a branching module MS-FRM must be positioned between them
- A soft-start/quick exhaust valve MS-SV must be the last service unit component in the flow direction

Total product range for MS series service unit components

Type	Description	Size	Pneumatic connection					
			Push-in connector	Female thread			Connection plate with thread	
				M	G	NPT	G	NPT
Combinations								
Service units MSB-FRC Technical data → Internet: msb								
	Combinations of filter regulator and lubricator	4	-	-	1/8, 1/4	-	-	-
		6	-	-	1/4, 3/8, 1/2	-	-	-
Service units MSB Technical data → Internet: msb								
	7 combinations, predefined	4	-	-	1/4	-	-	-
		6	-	-	1/2	-	-	-
	Combinations freely configurable	4	-	-	1/8, 1/4	-	1/8, 1/4, 3/8	1/8, 1/4, 3/8
		6	-	-	1/4, 3/8, 1/2	-	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		9	-	-	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
Service units MSE6 Technical data → Internet: mse6								
	Combinations with fieldbus connection for measuring pressure, flow rate and consumption	6	-	-	-	-	1/2	-

MS series service unit components

Key features

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Total product range for MS series service unit components								
Type	Description	Size	Pneumatic connection					
			Push-in connector	Female thread			Connection plate with thread	
				M	G	NPT	G	NPT
Individual devices								
Filter regulators MS-LFR							Technical data → Internet: ms-lfr	
	Filter and pressure regulator in a single device, grade of filtration 5 or 40 µm	2	QS-6	M5	–	–	–	–
		4	–	–	1/8, 1/4	–	1/8, 1/4, 3/8	1/8, 1/4, 3/8
		6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		9	–	–	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
		12	–	–	–	–	1, 1 1/4, 1 1/2, 2	–
Filters MS-LF							Technical data → Internet: ms-lf	
	Grade of filtration 5 or 40 µm	4	–	–	1/8, 1/4	–	1/8, 1/4, 3/8	1/8, 1/4, 3/8
		6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		9	–	–	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
		12	–	–	–	–	1, 1 1/4, 1 1/2, 2	–
Fine and micro filters MS-LFM							Technical data → Internet: ms-lfm	
	Grade of filtration 0.01 or 1 µm	4	–	–	1/8, 1/4	–	1/8, 1/4, 3/8	1/8, 1/4, 3/8
		6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		9	–	–	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
		12	–	–	–	–	1, 1 1/4, 1 1/2, 2	–
Activated carbon filters MS-LFX							Technical data → Internet: ms-lfx	
	For removing liquid and gaseous oil particles	4	–	–	1/8, 1/4	–	1/8, 1/4, 3/8	1/8, 1/4, 3/8
		6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		9	–	–	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
		12	–	–	–	–	1, 1 1/4, 1 1/2, 2	–
Water separators MS-LWS							Technical data → Internet: ms-lws	
	Remove condensed water from compressed air, maintenance-free	6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		9	–	–	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
		12	–	–	–	–	1, 1 1/4, 1 1/2, 2	–

MS series service unit components

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Total product range for MS series service unit components								
Type	Description	Size	Pneumatic connection					
			Push-in connector	Female thread			Connection plate with thread	
				M	G	NPT	G	NPT
Individual devices								
Pressure regulators MS-LR Technical data → Internet: ms-lr								
	For setting the required operating pressure, 4 pressure regulation ranges	2	QS-6	M5	–	–	–	–
		4	–	–	1/8, 1/4	–	1/8, 1/4, 3/8	1/8, 1/4, 3/8
		6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		9	–	–	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
		12	–	–	–	–	1, 1 1/4, 1 1/2, 2	–
Pressure regulators MS-LRB Technical data → Internet: ms-lrb								
	For creating a regulator manifold with independent pressure regulation ranges. Pressure output is to the front or rear.	4	–	–	1/4	–	1/8, 1/4, 3/8	–
		6	–	–	1/2	–	1/4, 3/8, 1/2, 3/4	–
Precision pressure regulators MS-LRP Technical data → Internet: ms-lrp								
	For precise setting of the required operating pressure, 4 pressure regulation ranges, pressure hysteresis 0.02 bar	6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
Precision pressure regulators MS-LRPB Technical data → Internet: ms-lrpb								
	For configuring a regulator manifold with independent pressure regulation ranges. Pressure output is to the front or rear.	6	–	–	1/2	–	1/4, 3/8, 1/2, 3/4	–
Electrical pressure regulators MS-LRE Technical data → Internet: ms-lre								
	Electrically adjustable pressure regulator, 4 pressure regulation ranges	6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
Lubricators MS-LOE Technical data → Internet: ms-loe								
	Add a precisely adjustable amount of oil to the compressed air. The oil mist component is proportional to the compressed air flow rate.	4	–	–	1/8, 1/4	–	1/8, 1/4, 3/8	1/8, 1/4, 3/8
		6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		9	–	–	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
		12	–	–	–	–	1, 1 1/4, 1 1/2, 2	–

MS series service unit components

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Total product range for MS series service unit components								
Type	Description	Size	Pneumatic connection					
			Push-in connector	Female thread			Connection plate with thread	
				M	G	NPT	G	NPT
Individual devices								
On/off valves MS-EM Technical data → Internet: ms-em								
	Manually operated on/off valve for pressurising and exhausting pneumatic installations.	4	–	–	1/8, 1/4	–	1/8, 1/4, 3/8	1/8, 1/4, 3/8
		6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		9	–	–	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
		12	–	–	–	–	1, 1 1/4, 1 1/2, 2	–
On/off valves MS-EE Technical data → Internet: ms-ee								
	Solenoid actuated on/off valve for pressurising and exhausting pneumatic installations.	4	–	–	1/8, 1/4	–	1/8, 1/4, 3/8	1/8, 1/4, 3/8
		6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		9	–	–	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
		12	–	–	–	–	1, 1 1/4, 1 1/2, 2	–
Soft-start valves MS-DL Technical data → Internet: ms-dl								
	Pneumatically actuated soft-start valve for slowly pressurising and exhausting pneumatic installations.	4	–	–	1/8, 1/4	–	1/8, 1/4, 3/8	1/8, 1/4, 3/8
		6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		12	–	–	–	–	1, 1 1/4, 1 1/2, 2	–
Soft-start valves MS-DE Technical data → Internet: ms-de								
	Solenoid actuated soft-start valve for slowly pressurising and exhausting pneumatic installations.	4	–	–	1/8, 1/4	–	1/8, 1/4, 3/8	1/8, 1/4, 3/8
		6	–	–	1/4, 3/8, 1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		12	–	–	–	–	1, 1 1/4, 1 1/2, 2	–
Soft-start/quick exhaust valves MS-SV Technical data → Internet: ms-sv								
	For building up pressure gradually and reducing pressure quickly and safely in pneumatic piping systems. Up to category 1, PL c.	6	–	–	1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		9	–	–	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
	Up to category 3, PL d. Up to category 4, PL e in the case of optional extension.	6	–	–	1/2	–	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
		9	–	–	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
	Up to category 4, PL e.	6	–	–	1/2	–	1/4, 3/8, 1/2, 3/4	–
		9	–	–	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	–

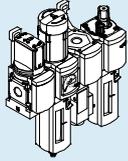
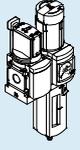
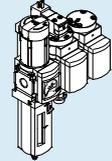
MS series service unit components

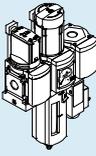
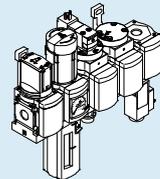
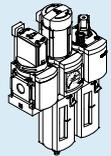
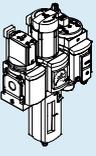
Key features

Total product range for MS series service unit components								
Type	Description	Size	Pneumatic connection					
			Push-in connector	Female thread			Connection plate with thread	
				M	G	NPT	G	NPT
Individual devices								
Membrane air dryers MS-LDM1							Technical data → Internet: ms-ldm	
	Wear-free membrane dryer with internal air consumption	4	-	-	1/8, 1/4	-	1/8, 1/4, 3/8	1/8, 1/4, 3/8
		6	-	-	1/4, 3/8, 1/2	-	1/4, 3/8, 1/2, 3/4	1/4, 3/8, 1/2, 3/4
Branching modules MS-FRM								
							Technical data → Internet: ms-frm	
	Compressed air distributor with 4 connections	4	-	-	1/8, 1/4	-	1/8, 1/4, 3/8	-
		6	-	-	1/4, 3/8, 1/2	-	1/4, 3/8, 1/2, 3/4	-
		9	-	-	3/4, 1	3/4, 1	1/2, 3/4, 1, 1 1/4, 1 1/2	1/2, 3/4, 1, 1 1/4, 1 1/2
		12	-	-	-	-	1, 1 1/4, 1 1/2, 2	-
Distributor blocks MS-FRM-FRZ								
							Technical data → Internet: ms-frm-frz	
	Compressed air distributor with 4 connections and half the grid dimension width	4	-	-	-	-	-	-
		6	-	-	-	-	-	-
Flow sensors SFAM								
							Technical data → Internet: sfam	
	For absolute flow rate information and accumulated air consumption measurement	6	-	-	-	-	1/2	1/2
		9	-	-	-	-	1, 1 1/2	1, 1 1/2

Service unit combinations MSB4/MSB6, MS series

Product range overview

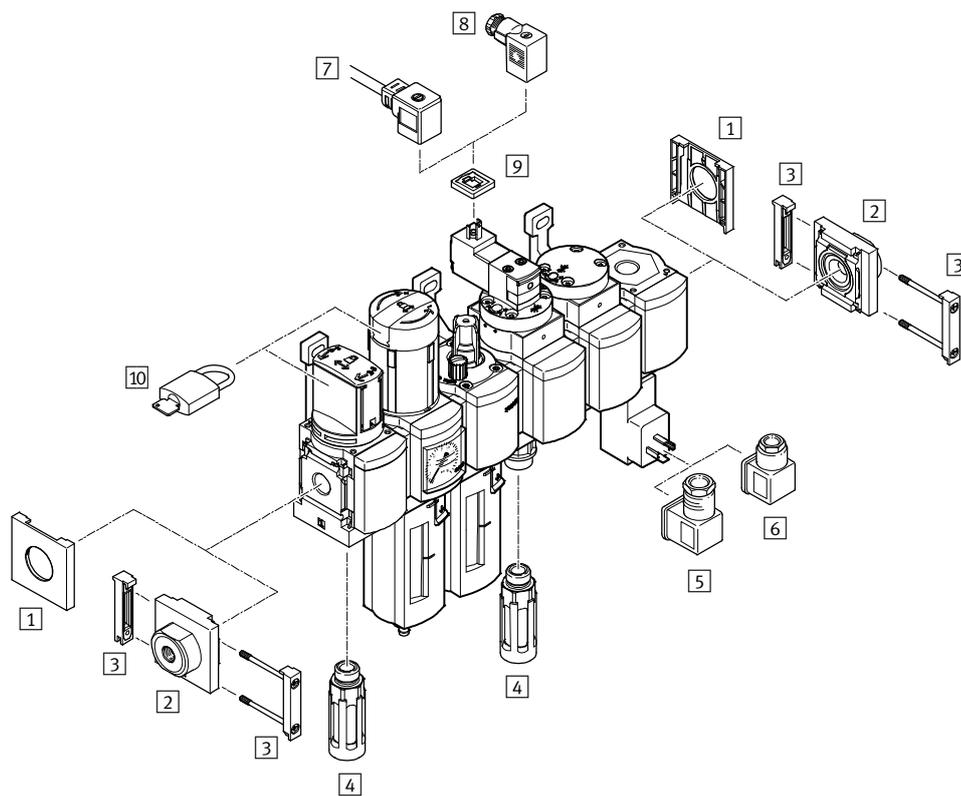
Combinations	Combination 1		Combination 2		Combination 3	
						
Comprising:						
Manually operated on-off valve	EM1	■	■	■	-	-
Filter regulator with pressure gauge, lockable	LFR	■	■	■	■	■
Lubricator	LOE	■	-	-	-	-
Solenoid actuated on-off valve	EE	-	-	-	■	■
Solenoid actuated on-off valve, with pressure sensor	EE	-	-	-	-	-
Pneumatically actuated soft-start valve	DL	-	-	-	■	■
Branching module with pressure switch	FRM	■	-	-	-	-
Branching module with pressure sensor	FRM	-	-	-	-	-
Mounting bracket	WP	■	■	■	■	■
Type codes → Page		10	10	10	10	10
Technical data → Page		11	14	14	18	18

Combinations	Combination 4		Combination 5		Combination 6		Combination 7	
								
Comprising:								
Manually operated on-off valve	EM1	■	■	■	■	■	■	■
Filter regulator with pressure gauge, lockable	LFR	■	■	■	■	■	■	■
Lubricator	LOE	-	-	-	■	-	-	-
Solenoid actuated on-off valve	EE	-	-	■	-	-	-	-
Solenoid actuated on-off valve, with pressure sensor	EE	-	-	-	-	-	■	■
Pneumatically actuated soft-start valve	DL	-	-	■	-	-	-	-
Branching module with pressure switch	FRM	■	-	■	-	-	-	-
Branching module with pressure sensor	FRM	-	■	-	-	-	-	-
Mounting bracket	WP	■	■	■	■	■	■	■
Type codes → Page		10	10	10	10	10	10	10
Technical data → Page		21	21	26	29	29	32	32

Service unit combinations MSB4/MSB6, MS series

Peripherals overview

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-  Note
 The choice of accessories depends on the selected service unit combination.
 Range of accessories
 → Peripherals pages of the individual devices

Mounting attachments and accessories		→ Page/Internet
1	Cover cap MS4/6-END	ms4-end, ms6-end
2	Connecting plate-SET MS4/6-AG...	ms4-ag, ms6-ag
3	Module connector MS4/6-MV	ms4-mv, ms6-mv
4	Silencer U	36
5	Angled socket PEV-¼-WD-LED	36
6	Plug socket MSSD-C-4P	36
7	Plug socket with cable KMEB	36
8	Plug socket MSSD-EB	36
9	Illuminating seal MEB-LD	36
10	Padlock LRVS-D	36
-	Mounting bracket MS4/6-WP/WPB/WPE/WPM	ms4-wp, ms6-wp

Service unit combinations MSB4/MSB6, MS series

Type codes

MSB 6 - 1/2 : C3 J1 D1 A1 F3 - WP

Series

MSB	Service unit combination
-----	--------------------------

Size

4	Grid dimension 40 mm
6	Grid dimension 62 mm

Pneumatic connection

MSB4	
1/4	Thread G1/4
MSB6	
1/2	Thread G1/2

Service unit combination

On-off valve	→ Internet: ms4-em1, ms6-em1
C3	MS...-EM1
Filter regulator	→ Internet: ms4-lfr, ms6-lfr
J1	MS...-LFR-D7-ERM-AS
J2	MS...-LFR-D7-ERV-AS
J3	MS...-LFR-D7-CRM-AS
J4	MS...-LFR-D7-CRV-AS
J120	MS...-LFR-D6-ERM-MPAAS
Soft-start valve	→ Internet: ms4-dl, ms6-dl
A1	MS...-DL
Lubricator	→ Internet: ms4-loe, ms6-loe
M1	MS...-LOE-R
On-off valve	→ Internet: ms4-ee, ms6-ee
D1	MS...-EE-V24
D14	MS...-EE-10V24P-AD7
Branching module	→ Internet: ms4-frm, ms6-frm
F3	MS...-FRM-Y
F12	MS...-FRM-AD7

Type of mounting

WP	Mounting bracket
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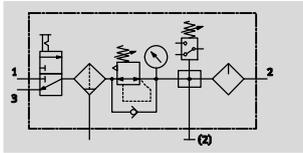
Further variants can be ordered using the modular system → www.festo.com

- Connection size
- Connecting plates
- Service unit equipment
- Alternative flow direction

Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 1

Function
With condensate drain
manual rotary



- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7 with pressure gauge
- Branching module MS...-FRM-Y with pressure switch without display
- Lubricator MS...-LOE-R
- Mounting bracket MS...-WP

- - Flow rate
950 l/min
- - Temperature range
-10 ... +60 °C
- - Pressure regulation range
1 ... 12 bar
- - www.festo.com



- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- The unit is vented when switched off
- Electrical pressure monitoring with adjustable switching pressure
- Removal of filtered and unlubricated compressed air at the branching module connections

General technical data	
Size	MSB4
Pneumatic connection 1, 2, 3	G $\frac{1}{4}$
Regulating function	Output pressure constant, with primary pressure compensation, with return flow function, with secondary venting
Type of mounting	Via accessories
Assembly position	Vertical $\pm 5^\circ$
Grade of filtration [µm]	40
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [7:4:4] (grade of filtration 40 µm)
Bowl guard	Plastic bowl guard
Condensate drain	Manual rotary
Actuator lock	Rotary knob with detent, lockable with accessories
Pressure regulation range [bar]	1 ... 12
Pressure indicator	With pressure gauge

- - Note: This product conforms to ISO 1179-1 and to ISO 228-1

Standard nominal flow rate qnN [l/min]		
Size	MSB4	
Grade of filtration	40 µm	950

Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 1

Operating and environmental conditions	
Condensate drain	Manual rotary
Size	MSB4
Operating pressure [bar]	1.5 ... 14
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]
	Inert gases
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)
Ambient temperature [°C]	-10 ... +60
Temperature of medium [°C]	-10 ... +60
Storage temperature [°C]	-10 ... +60
Corrosion resistance class CRC ¹⁾	2
Food-safe ²⁾	See supplementary material information

- 1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
- 2) Additional information www.festo.com/sp → Certificates.

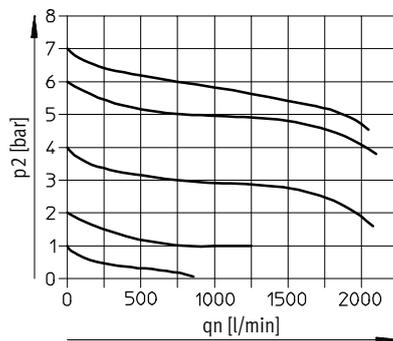
Weights [g]	
Size	MSB4
Service unit combination	1,700
Mounting bracket	40

 Note
Materials → Technical data of the individual devices

Standard flow rate qn as a function of output pressure p2

Pressure regulation range 1 ... 12 bar Grade of filtration 40 µm
MSB4-1/4

Primary pressure p1 = 10 bar



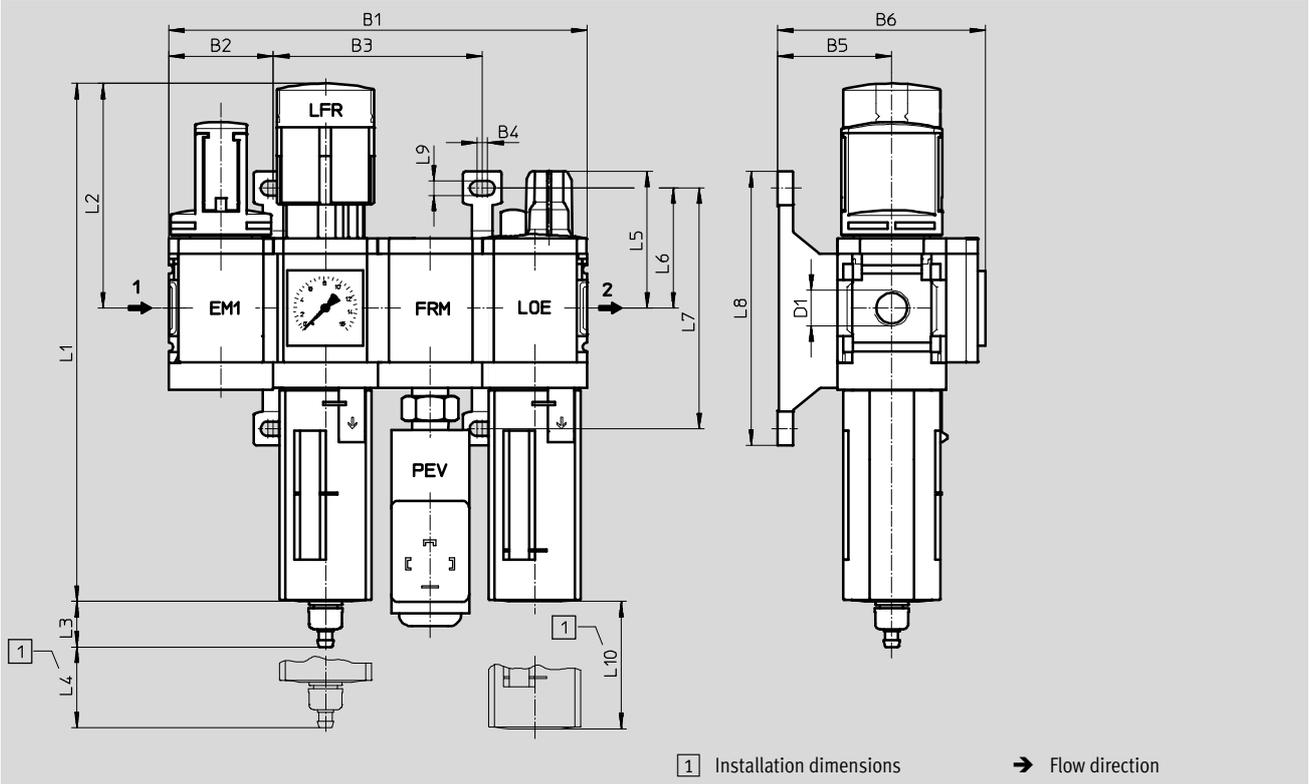
Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 1

Dimensions

Download CAD data → www.festo.com

Manually actuated on-off valve, filter regulator with pressure gauge, branching module with pressure switch, lubricator



Type	B1	B2	B3	B4	B5	B6	D1	L1	L2
MSB4	160.8	40.2	80.4	4	44	80	G $\frac{1}{4}$	201	87

Type	L3	L4	L5	L6	L7	L8	L9	L10
MSB4	17.7	25	53	46.5	93.2	106	5.6	80

• - Note: This product conforms to ISO 1179-1 and to ISO 228-1

Ordering data

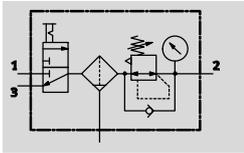
Size	Connection	Condensate drain	Grade of filtration [μm]	Part No.	Type
Pressure regulation range 1 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi					
MSB4	G $\frac{1}{4}$	Manual rotary	40	542295	MSB4- $\frac{1}{4}$:C3J1F3M1-WP

Service unit combinations MSB4/MSB6, MS series

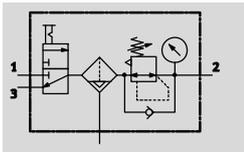
Technical data – Combination 2

Function

With condensate drain
manual rotary



With condensate drain
fully automatic



- - Flow rate
950 ... 5,500 l/min
- - Temperature range
-10 ... +60 °C
- - Pressure regulation
range
0.5 ... 12 bar
- - www.festo.com



- For filtered and unlubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range
- Supply pressure can be opened and closed

- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR with pressure gauge
- Mounting bracket MS...-WP

General technical data		
Size	MSB4	MSB6
Pneumatic connection 1, 2, 3	G $\frac{1}{4}$	G $\frac{1}{2}$
Regulating function	Output pressure constant, with primary pressure compensation, with return flow function, with secondary venting	
Type of mounting	Via accessories	
Assembly position	Vertical $\pm 5^\circ$	
Grade of filtration [µm]	5	
	40	
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [6:4:4] (grade of filtration 5 µm)	
	Compressed air in accordance with ISO 8573-1:2010 [7:4:4] (grade of filtration 40 µm)	
Bowl guard	Plastic bowl guard	
Condensate drain	Manual rotary	
	Fully automatic	
Actuator lock	Rotary knob with detent, lockable with accessories	
Pressure regulation range [bar]	0.5 ... 7	
	0.5 ... 12	
Pressure indicator	With pressure gauge	

• Note: This product conforms to ISO 1179-1 and to ISO 228-1

Standard nominal flow rate qnN [l/min]					
Condensate drain	Manual rotary			Fully automatic	
	MSB4	MSB6	MSB4	MSB6	
Pressure regulation range 0.5 ... 7 bar					
Grade of filtration	40 µm	1,150	5,500	-	-
Pressure regulation range 0.5 ... 12 bar					
Grade of filtration	5 µm	950	4,800	950	4,800
	40 µm	1,700	5,100	1,000	5,100

• 125 l/min must be available for the fully automatic condensate drain to close correctly.

Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 2

Operating and environmental conditions				
Condensate drain		Manual rotary		Fully automatic
Size	MSB4	MSB6	MSB4	MSB6
Operating pressure [bar]	0.8 ... 14	0.8 ... 18	2 ... 12	2 ... 12
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4] Inert gases			
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)			
Ambient temperature [°C]	-10 ... +60		+5 ... +60	
Temperature of medium [°C]	-10 ... +60		+5 ... +60	
Storage temperature [°C]	-10 ... +60		-10 ... +60	
Corrosion resistance class CRC ¹⁾	2			
Food-safe ²⁾	See supplementary material information			

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

2) Additional information www.festo.com/sp → Certificates.

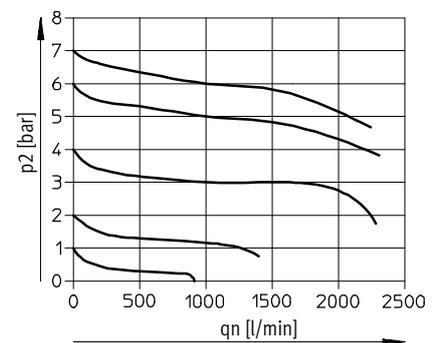
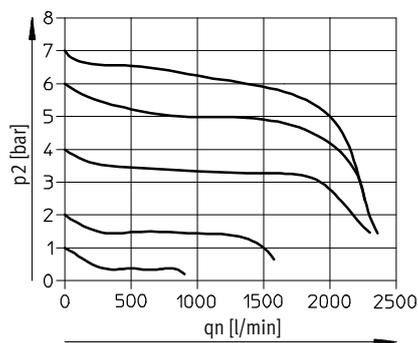
Weights [g]		
Size	MSB4	MSB6
Service unit combination	1,300	1,100
Mounting bracket	40	76

Note
Materials → Technical data of the individual devices

Standard flow rate qn as a function of output pressure p2

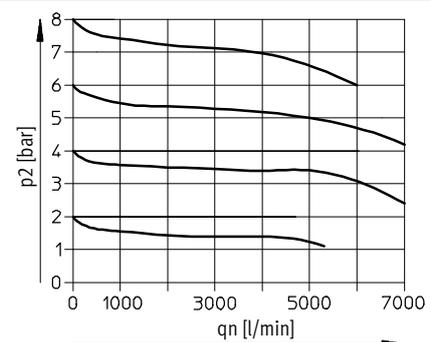
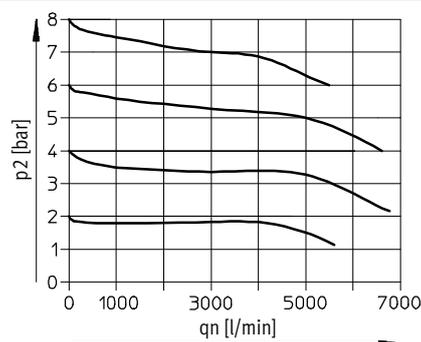
Pressure regulation range 0.5 ... 12 bar Grade of filtration 5 µm Grade of filtration 40 µm

MSB4-1/4
Primary pressure p1 = 10 bar



MSB6-1/2

Primary pressure p1 = 10 bar



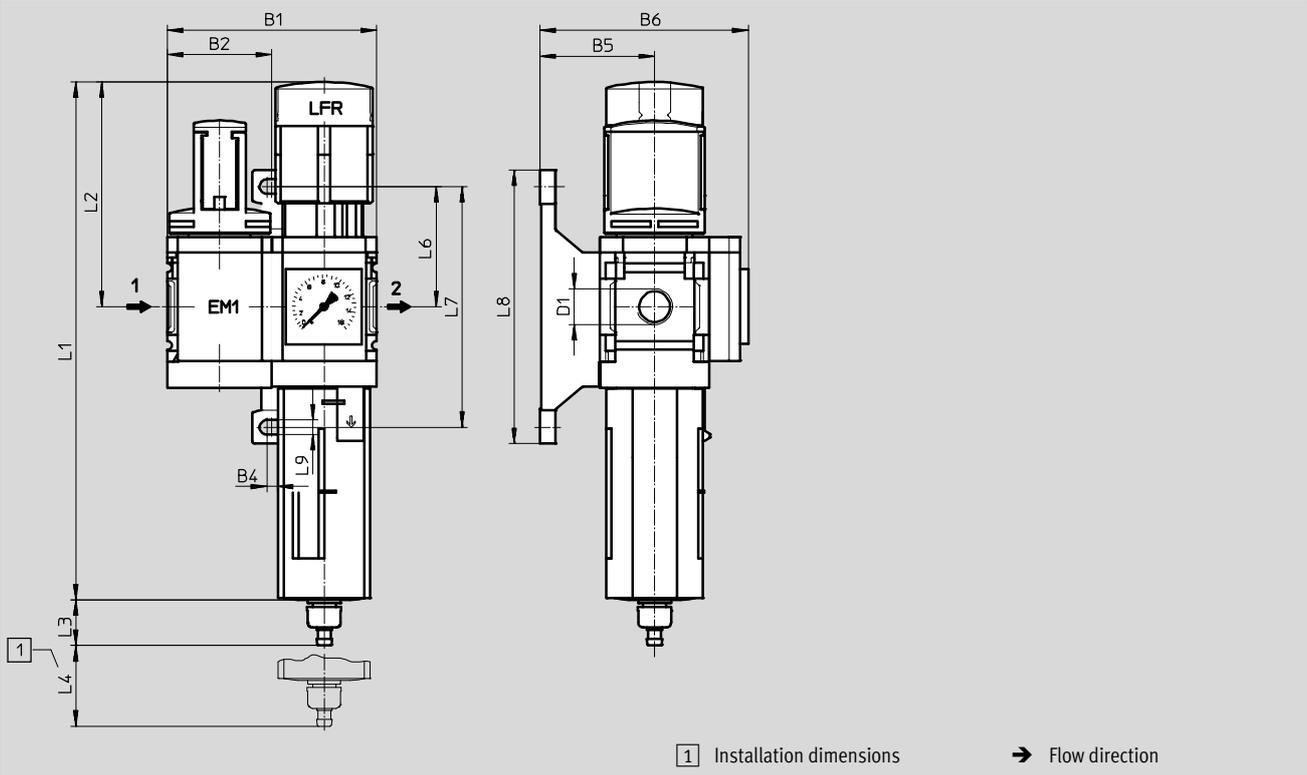
Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 2

Dimensions

Download CAD data → www.festo.com

Manually actuated on-off valve, filter regulator with pressure gauge



Type	B1	B2	B4	B5	B6	D1	L1	L2
MSB4	80.4	40.2	4	44	80	G $\frac{1}{4}$	201	87
MSB6	124	62	4.5	54	100	G $\frac{1}{2}$	285	134.5

Type	L3 Condensate drain		L4	L6	L7	L8	L9
	Manual rotary	Fully automatic					
MSB4	17.7	20.4	25	46.5	93.2	106	5.6
MSB6	15.8	18.5	68	71	142	158	6.6

• • Note: This product conforms to ISO 1179-1 and to ISO 228-1

Service unit combinations MSB4/MSB6, MS series

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Technical data – Combination 2

★ Core product range

Ordering data					
Size	Connection	Condensate drain	Grade of filtration [µm]	Part No.	Type
Pressure regulation range 0.5 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi					
MSB4	G1/4	Manual rotary	40	★ 8025354	MSB4-1/4:C3:J1-WP
MSB6	G1/2	Manual rotary	40	★ 8025355	MSB6-1/2:C3:J1-WP

Ordering data					
Size	Connection	Condensate drain	Grade of filtration [µm]	Part No.	Type
Pressure regulation range 0.5 ... 7 bar, pressure gauge with outer scale in MPa					
MSB4	G1/4	Manual rotary	40	8042668	MSB4-1/4:C3:J120-WP
MSB6	G1/2	Manual rotary	40	8042672	MSB6-1/2:C3:J120-WP
Pressure regulation range 0.5 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi					
MSB4	G1/4	Manual rotary	5	542304	MSB4-1/4:C3J3-WP
		Fully automatic	40	542298	MSB4-1/4:C3J2-WP
			5	542310	MSB4-1/4:C3J4-WP
MSB6	G1/2	Manual rotary	5	542280	MSB6-1/2:C3J3-WP
		Fully automatic	40	542274	MSB6-1/2:C3J2-WP
			5	542286	MSB6-1/2:C3J4-WP

Festo core product range

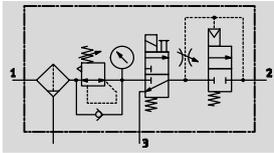
- ★ Generally ready for shipping ex works in 24 hours
- ☆ Generally ready for shipping ex works in 5 days

Service unit combinations MSB4/MSB6, MS series

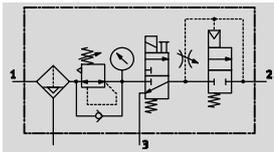
Technical data – Combination 3

Function

With condensate drain
manual rotary



With condensate drain
fully automatic



- - Flow rate
750 ... 3,100 l/min
- - Temperature range
-10 ... +60 °C
- - Pressure regulation
range
4 ... 12 bar
- - www.festo.com



- Filter regulator MS...-LFR-D7 with pressure gauge
- On-off valve MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Mounting bracket MS...-WP

- For filtered and unlubricated compressed air
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- When supply pressure is closed, quick venting ensures rapid pressure reduction

General technical data		
Size	MSB4	MSB6
Pneumatic connection 1, 2, 3	G $\frac{1}{4}$	G $\frac{1}{2}$
Regulating function	Output pressure constant, with primary pressure compensation, with return flow function, with secondary venting	
Type of mounting	Via accessories	
Assembly position	Vertical $\pm 5^\circ$	
Grade of filtration [µm]	40	
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [7:4:-] (grade of filtration 40 µm)	
Bowl guard	Plastic bowl guard	
Condensate drain	Manual rotary	
	-	Fully automatic
Actuator lock	Rotary knob with detent, lockable with accessories	
Pressure regulation range [bar]	4 ... 12	
Pressure indicator	With pressure gauge	
Coil characteristics	24 V DC: 1.5 W	24 V DC: 1.5 W

- - Note: This product conforms to ISO 1179-1 and to ISO 228-1

Standard nominal flow rate q _{nN} [l/min]		
Size	MSB4	MSB6
Grade of filtration 40 µm	750	3,100

- - 125 l/min must be available for the fully automatic condensate drain to close correctly.

Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 3

Operating and environmental conditions			
Condensate drain	Manual rotary		Fully automatic
Size	MSB4	MSB6	MSB6
Operating pressure [bar]	4.5 ... 14	4.5 ... 18	4.5 ... 12
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [-:4:-]		Compressed air in accordance with ISO 8573-1:2010 [7:4:-]
	Inert gases		
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)		
Ambient temperature [°C]	-10 ... +60		+5 ... +60
Temperature of medium [°C]	-10 ... +60		+5 ... +60
Storage temperature [°C]	-10 ... +60		-10 ... +60
Corrosion resistance class CRC ¹⁾	2		
Food-safe ²⁾	See supplementary material information		

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

2) Additional information www.festo.com/sp → Certificates.

Weights [g]		
Size	MSB4	MSB6
Service unit combination	1,600	2,400
Mounting bracket	40	76

 Note
Materials → Technical data of the individual devices

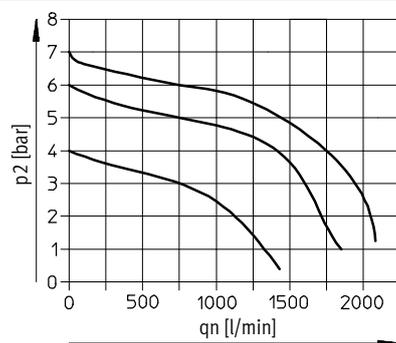
Standard flow rate qn as a function of output pressure p2

Pressure regulation range Grade of filtration 40 µm

4 ... 12 bar

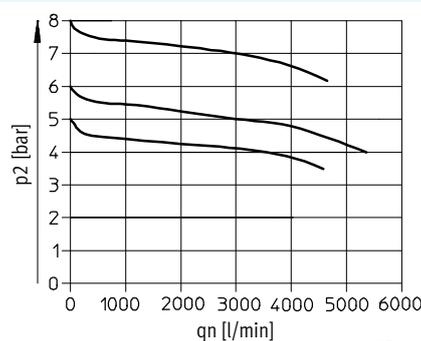
MSB4-1/4

Primary pressure p1 = 10 bar



MSB6-1/2

Primary pressure p1 = 10 bar

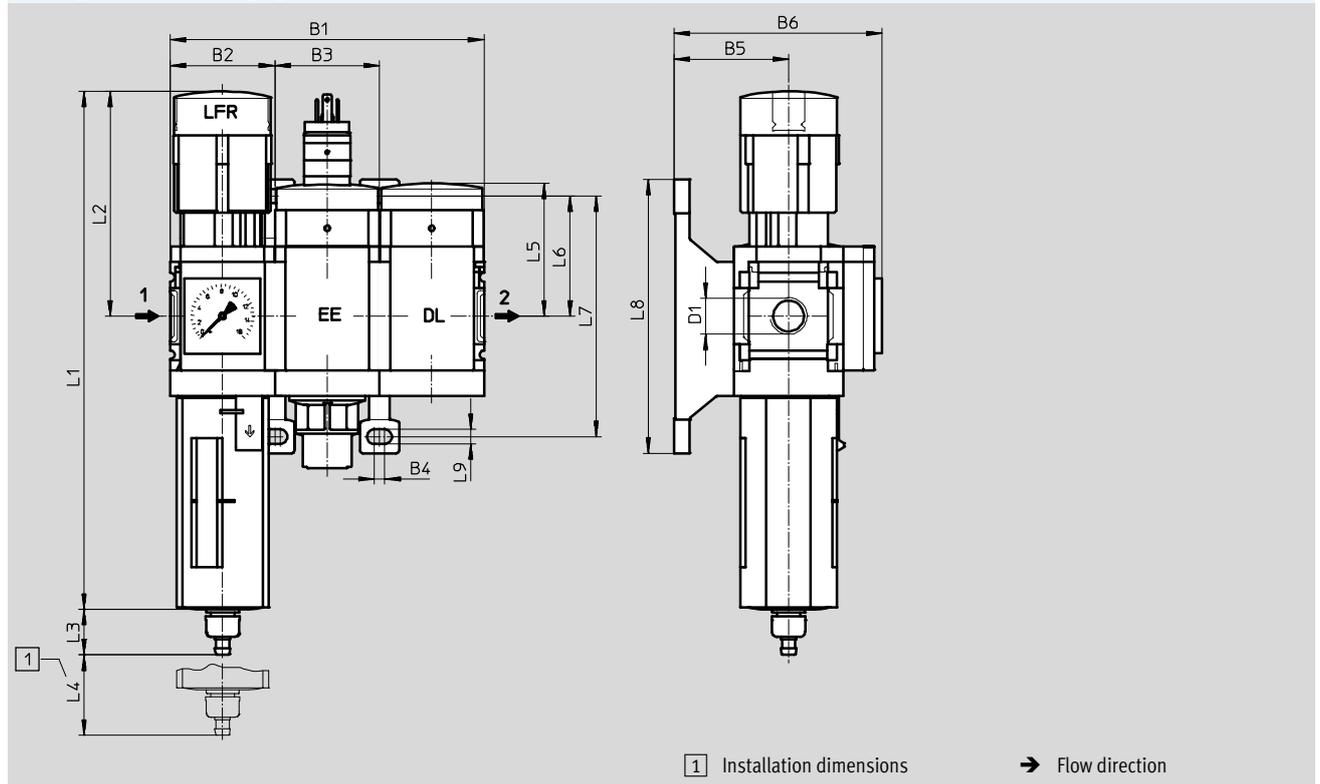


Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 3

Dimensions Download CAD data → www.festo.com

Filter regulator with pressure gauge, solenoid actuated on-off valve, pneumatically actuated soft-start valve



Type	B1	B2	B3	B4	B5	B6	D1	L1	L2
MSB4	120.6	40.2	40.2	4	44	80	G $\frac{1}{4}$	201	87
MSB6	186	62	62	4.5	54	100	G $\frac{1}{2}$	285	134.5

Type	L3 Condensate drain		L4	L5	L6	L7	L8	L9
	Manual rotary	Fully automatic						
MSB4	17.7	–	25	51.7	46.5	93.2	106	5.6
MSB6	15.8	18.5	68	71	71	142	158	6.6

Note: This product conforms to ISO 1179-1 and to ISO 228-1

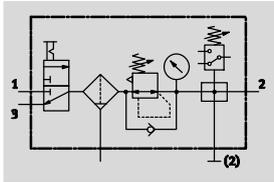
Ordering data					
Size	Connection	Condensate drain	Grade of filtration [μ m]	Part No.	Type
Pressure regulation range 4 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi					
MSB4	G $\frac{1}{4}$	Manual rotary	40	531101	MSB4- $\frac{1}{4}$:j1D1A1-WP
MSB6	G $\frac{1}{2}$	Manual rotary	40	530222	MSB6- $\frac{1}{2}$:j1D1A1-WP
		Fully automatic	40	530224	MSB6- $\frac{1}{2}$:j2D1A1-WP

Service unit combinations MSB4/MSB6, MS series

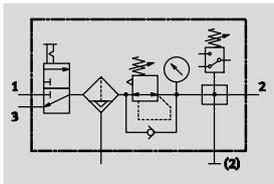
Technical data – Combination 4

Function

With condensate drain,
manual rotary



With condensate drain,
fully automatic



- Manually operated on-off valve MS...-EM1
- Filter regulator MS...-LFR with pressure gauge

- Flow rate
1,300 ... 5,300 l/min
- Temperature range
-10 ... +60 °C
- Pressure regulation range
0.5 ... 12 bar
- www.festo.com

- Branching module MS...-FRM-Y with pressure switch or MS...-FRM-AD7 with pressure sensor for displaying output pressure via operational status indicator
- Mounting bracket MS...-WP



- For filtered and unlubricated compressed air supply
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Electrical pressure monitoring with adjustable switching pressure

General technical data				
Size	MSB4		MSB6	
Branching module with	Pressure switch	Pressure sensor	Pressure switch	Pressure sensor
Pneumatic connection 1, 2, 3	G1/4		G1/2	
Regulator function	Output pressure constant, with primary pressure compensation, with return flow, with secondary venting			
Type of mounting	Via accessories			
Mounting position	Vertical ±5°			
Grade of filtration [µm]	40			
Air purity class at the output	Compressed air according to ISO 8573-1:2010 [7:4:4] (grade of filtration 40 µm)			
Bowl guard	Plastic bowl guard			
Condensate drain	Manual rotary	Manual rotary	Manual rotary	Manual rotary
	Fully automatic	–	Fully automatic	–
Actuation security	Rotary knob with detent, can be locked using accessories			
Pressure regulation range [bar]	–	0.5 ... 7	–	0.5 ... 7
	0.5 ... 12	0.5 ... 10	0.5 ... 12	0.5 ... 10
Pressure indication	Via pressure gauge for displaying output pressure			

• Note: This product conforms to ISO 1179-1 and to ISO 228-1

Standard nominal flow rate qnN [l/min]				
Size	MSB4		MSB6	
Branching module with	Pressure switch	Pressure sensor	Pressure switch	Pressure sensor
Pressure regulation range 0.5 ... 7 bar				
Grade of filtration 40 µm	–	1,750	–	5,300
Pressure regulation range 0.5 ... 10 bar				
Grade of filtration 40 µm	–	1,600	–	4,500
Pressure regulation range 0.5 ... 12 bar				
Grade of filtration 40 µm	1,300	–	4,500	–

• 125 l/min must be available for the fully automatic condensate drain to close correctly.

Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 4

Operating and environmental conditions						
Condensate drain	Manual rotary				Fully automatic	
Size	MSB4		MSB6		MSB4	MSB6
Branching module with	Pressure switch	Pressure sensor	Pressure switch	Pressure sensor	Pressure switch	Pressure switch
Operating pressure [bar]	0.8 ... 14		0.8 ... 18		2 ... 12	2 ... 12
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4] Inert gases					
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)					
Ambient temperature [°C]	-10 ... +60	0 ... +50	-10 ... +60	0 ... +50	+5 ... +60	
Temperature of medium [°C]	-10 ... +60	0 ... +50	-10 ... +60	0 ... +50	+5 ... +60	
Storage temperature [°C]	-10 ... +60				-10 ... +60	
Corrosion resistance class CRC ¹⁾	2					
Food-safe ²⁾	See supplementary material information					

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

2) Additional information www.festo.com/sp → Certificates.

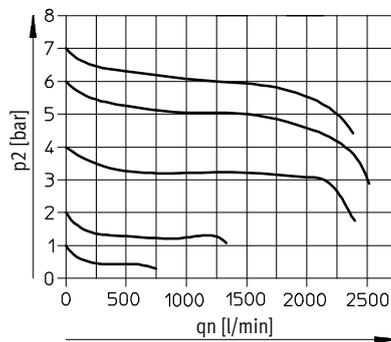
Weight [g]		
Size	MSB4	MSB6
Service unit combination	1,500	2,000
Mounting bracket	40	76

-  - Note
Materials → Technical data of the individual devices

Standard flow rate q_n as a function of output pressure p_2

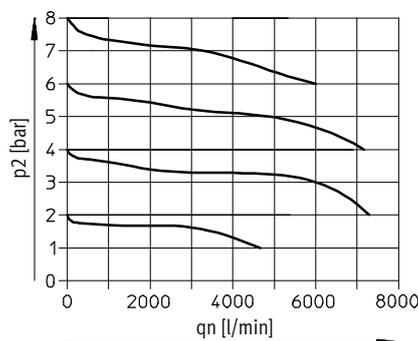
Pressure regulation range 0.5 ... 12 bar Grade of filtration 40 μm
MSB4-1/4

Primary pressure $p_1 = 10$ bar



MSB6-1/2

Primary pressure $p_1 = 10$ bar



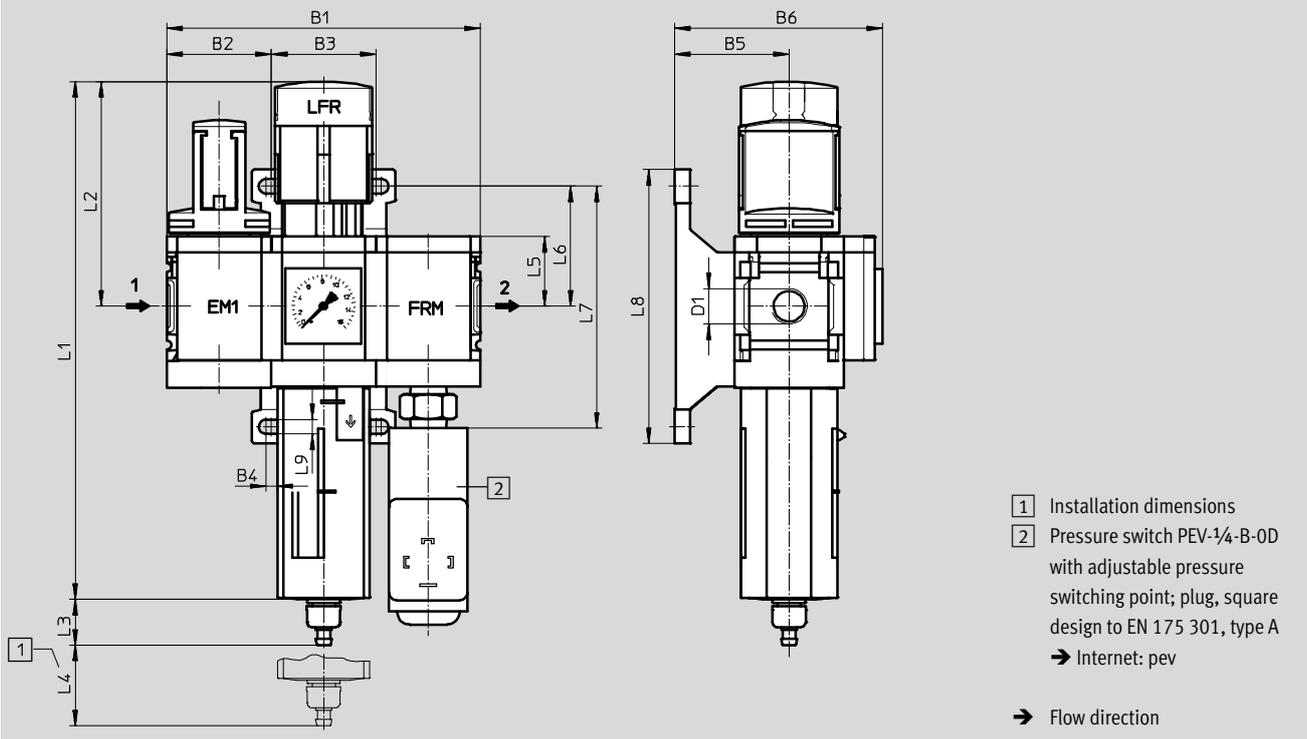
Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 4

Dimensions

Download CAD data → www.festo.com

Manually actuated on-off valve, filter regulator with pressure gauge, branching module with pressure switch



Type	B1	B2	B3	B4	B5	B6	D1	L1	L2
MSB4	120.6	40.2	40.2	4	44	80	G1/4	201	87
MSB6	186	62	62	4.5	54	100	G1/2	285	134.5

Type	L3 Condensate drain		L4	L5	L6	L7	L8	L9
	Manual rotary	Fully automatic						
MSB4	17.7	20.4	25	27	46.5	93.2	106	5.6
MSB6	15.8	18.5	68	39	71	142	158	6.6

• † - Note: This product conforms to ISO 1179-1 and to ISO 228-1

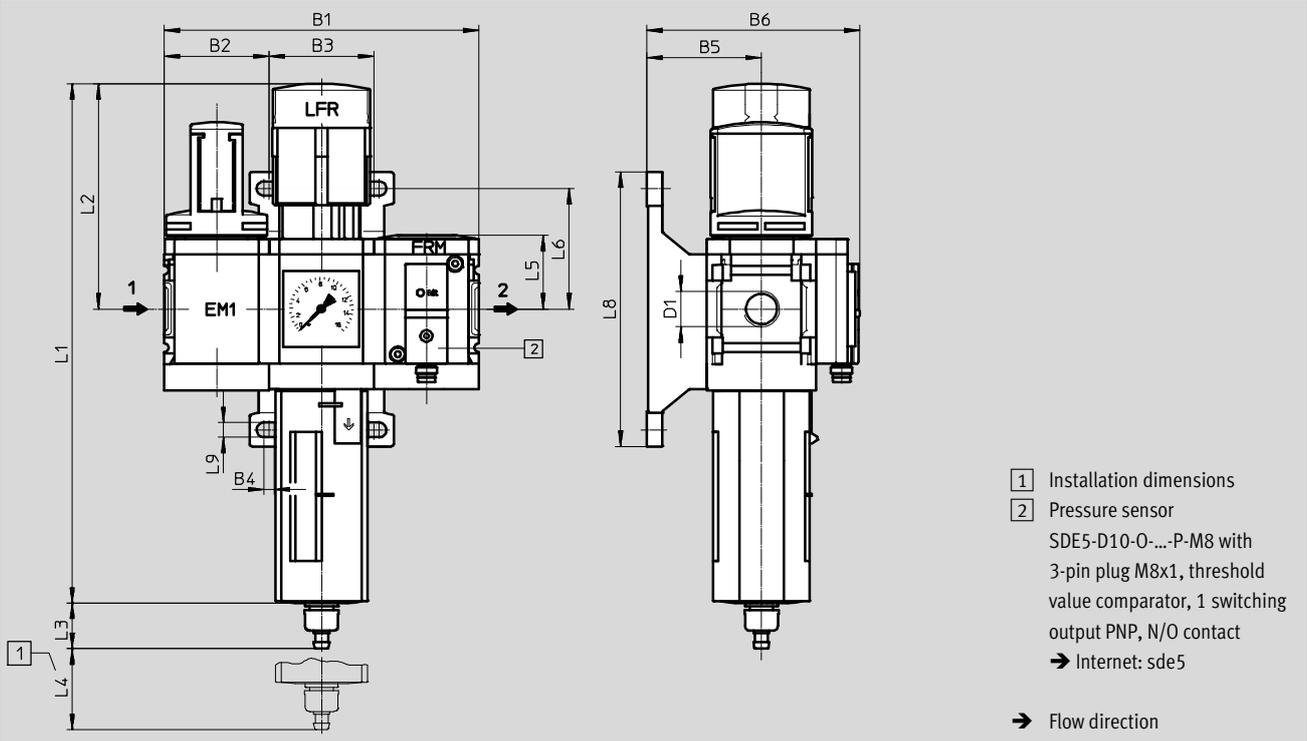
Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 4

Dimensions

Download CAD data → www.festo.com

Manually actuated on-off valve, filter regulator with pressure gauge, branching module with pressure sensor



Type	B1	B2	B3	B4	B5	B6	D1
MSB4	120.6	40.2	40.2	4	44	82	G $\frac{1}{4}$
MSB6	186	62	62	4.5	54	102	G $\frac{1}{2}$

Type	L1	L2	L3	L4	L5	L6	L8	L9
MSB4	201	87	17.7	25	29.4	46.5	106	5.6
MSB6	285	134.5	15.8	68	41.7	71	158	6.6

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Service unit combinations MSB4/MSB6, MS series

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Technical data – Combination 4

★ Core product range

Ordering data					
Size	Connection	Condensate drain	Grade of filtration [µm]	Part No.	Type
Pressure regulation range 0.5 ... 10 bar, pressure gauge with outer scale in bar and inner scale in psi, branching module with pressure sensor					
MSB4	G1/4	Manual rotary	40	★ 8025356	MSB4-1/4:C3:J1:F12-WP
MSB6	G1/2	Manual rotary	40	★ 8025357	MSB6-1/2:C3:J1:F12-WP

Ordering data					
Size	Connection	Condensate drain	Grade of filtration [µm]	Part No.	Type
Pressure regulation range 0.5 ... 7 bar, pressure gauge with outer scale in MPa, branching module with pressure sensor					
MSB4	G1/4	Manual rotary	40	8042667	MSB4-1/4:C3:J120:F12-WP
MSB6	G1/2	Manual rotary	40	8042671	MSB6-1/2:C3:J120:F12-WP
Pressure regulation range 0.5 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi, branching module with pressure switch					
MSB4	G1/4	Manual rotary	40	542294	MSB4-1/4:C3J1F3-WP
		Fully automatic	40	542300	MSB4-1/4:C3J2F3-WP
MSB6	G1/2	Manual rotary	40	542270	MSB6-1/2:C3J1F3-WP
		Fully automatic	40	542276	MSB6-1/2:C3J2F3-WP

Festo core product range

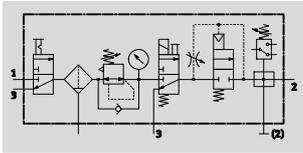
- ★ Generally ready for shipping ex works in 24 hours
- ☆ Generally ready for shipping ex works in 5 days

Service unit combinations MSB4/MSB6, MS series

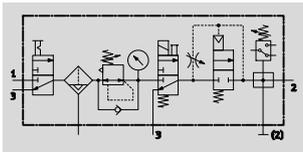
Technical data – Combination 5

Function

With condensate drain
manual rotary



With condensate drain
fully automatic



- - Flow rate
750 ... 3,100 l/min
- - Temperature range
-10 ... +60 °C
- - Pressure regulation
range
4 ... 12 bar
- - www.festo.com



- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7 with pressure gauge
- On-off valve MS...-EE-V24 solenoid actuated
- Soft-start valve MS...-DL pneumatically actuated
- Branching module MS...-FRM-Y with pressure switch without display
- Mounting bracket MS...-WP

- For filtered and unlubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- Gradual pressure build-up prevents sudden, unpredictable movements
- To shut-off and vent the following device or the system
- Electrical pressure monitoring with adjustable switching pressure

General technical data		
Size	MSB4	MSB6
Pneumatic connection 1, 2, 3	G1/4	G1/2
Regulating function	Output pressure constant, with primary pressure compensation, with return flow function, with secondary venting	
Type of mounting	Via accessories	
Assembly position	Vertical ±5°	
Grade of filtration [µm]	- 40	5
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [6:4:4] (grade of filtration 5 µm) Compressed air in accordance with ISO 8573-1:2010 [7:4:4] (grade of filtration 40 µm)	
Bowl guard	Plastic bowl guard	
Condensate drain	Manual rotary Fully automatic	
Actuator lock	Rotary knob with detent, lockable with accessories	
Pressure regulation range [bar]	4 ... 12	
Pressure indicator	With pressure gauge	
Coil characteristics	24 V DC: 1.5 W	24 V DC: 1.5 W

- - Note: This product conforms to ISO 1179-1 and to ISO 228-1

Standard nominal flow rate qnN [l/min]		
Size	MSB4	MSB6
Grade of filtration 5 µm	-	3,000
40 µm	750	3,100

- - 125 l/min must be available for the fully automatic condensate drain to close correctly.

Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 5

Operating and environmental conditions				
Condensate drain	Manual rotary		Fully automatic	
Size	MSB4	MSB6	MSB4	MSB6
Operating pressure [bar]	4.5 ... 14	4.5 ... 18	4.5 ... 12	4.5 ... 12
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4] Inert gases			
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)			
Ambient temperature [°C]	-10 ... +60		+5 ... +60	
Temperature of medium [°C]	-10 ... +60		+5 ... +60	
Storage temperature [°C]	-10 ... +60		-10 ... +60	
Corrosion resistance class CRC ¹⁾	2			
Food-safe ²⁾	See supplementary material information			

- 1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
- 2) Additional information www.festo.com/sp → Certificates.

Weights [g]		
Size	MSB4	MSB6
Service unit combination	2,200	3,500
Mounting bracket	40	76

 Note
Materials → Technical data of the individual devices

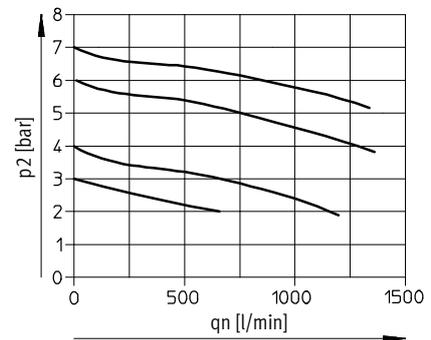
Standard flow rate qn as a function of output pressure p2

Pressure regulation range 4 ... 12 bar
MSB4-1/4

Primary pressure p1 = 10 bar

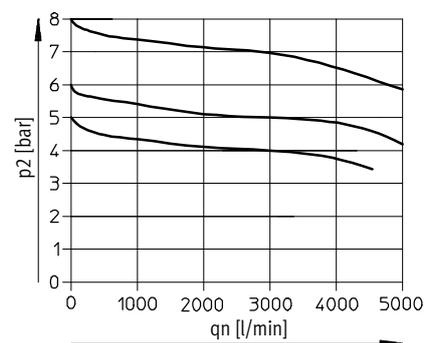
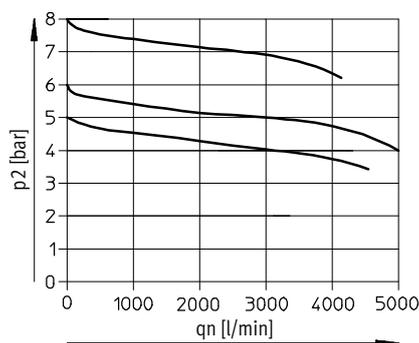
Grade of filtration 5 µm

Grade of filtration 40 µm



MSB6-1/2

Primary pressure p1 = 10 bar



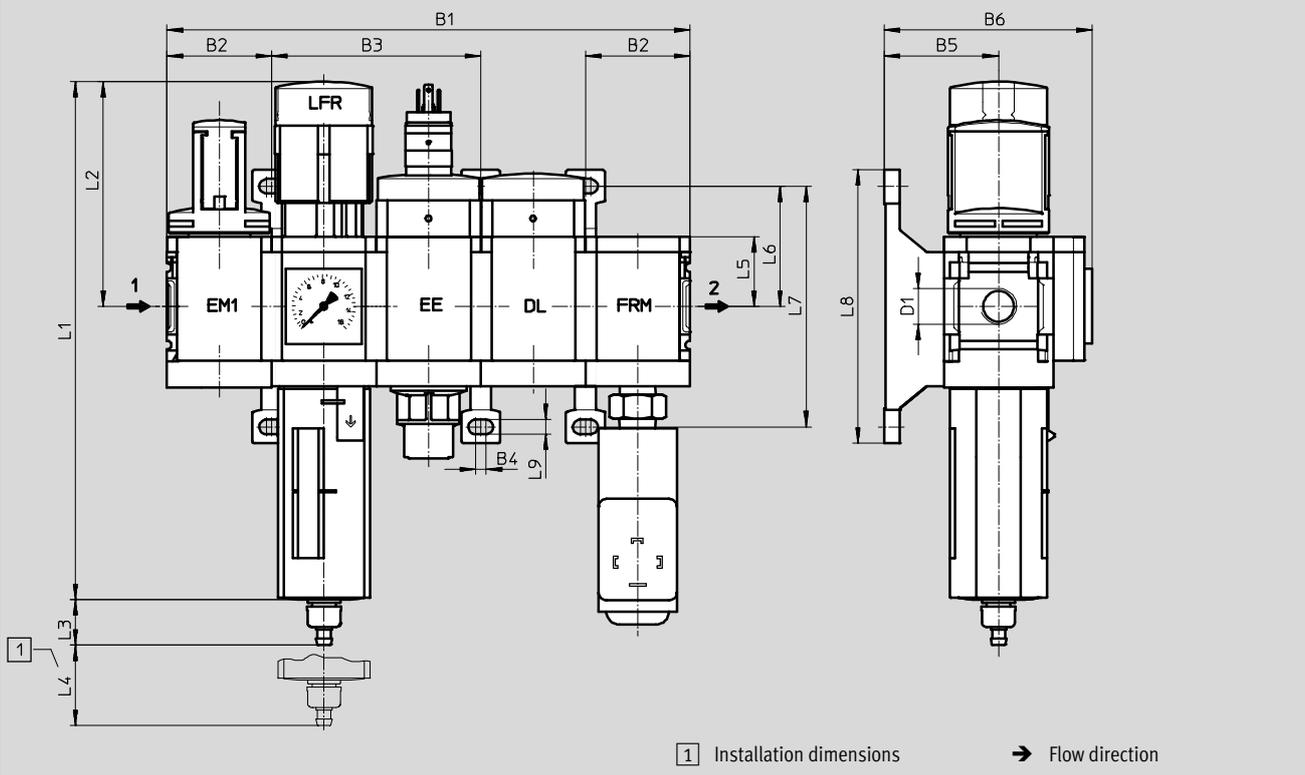
Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 5

Dimensions

Download CAD data → www.festo.com

Manually actuated on-off valve, filter regulator with pressure gauge, solenoid actuated on-off valve, pneumatically actuated soft-start valve, branching module with pressure switch



Type	B1	B2	B3	B4	B5	B6	D1	L1	L2
MSB4	201	40.2	80.4	4	44	80	G $\frac{1}{4}$	201	87
MSB6	310	62	124	4.5	54	100	G $\frac{1}{2}$	285	134.5

Type	L3 Condensate drain		L4	L5	L6	L7	L8	L9
	Manual rotary	Fully automatic						
MSB4	17.7	20.4	25	27	46.5	93.2	106	5.6
MSB6	15.8	18.5	68	39	71	142	158	6.6

– Note: This product conforms to ISO 1179-1 and to ISO 228-1

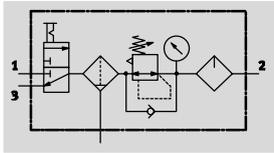
Ordering data					
Size	Connection	Condensate drain	Grade of filtration [µm]	Part No.	Type
Pressure regulation range 4 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi					
MSB4	G $\frac{1}{4}$	Manual rotary	40	542293	MSB4- $\frac{1}{4}$:C3J1D1A1F3-WP
		Fully automatic	40	542299	MSB4- $\frac{1}{4}$:C3J2D1A1F3-WP
MSB6	G $\frac{1}{2}$	Manual rotary	40	542269	MSB6- $\frac{1}{2}$:C3J1D1A1F3-WP
			5	542281	MSB6- $\frac{1}{2}$:C3J3D1A1F3-WP
		Fully automatic	40	542275	MSB6- $\frac{1}{2}$:C3J2D1A1F3-WP
			5	542287	MSB6- $\frac{1}{2}$:C3J4D1A1F3-WP

Service unit combinations MSB4/MSB6, MS series

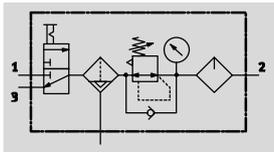
Technical data – Combination 6

Function

With condensate drain
manual rotary



With condensate drain
fully automatic



- On-off valve MS...-EM1 manually actuated
- Filter regulator MS...-LFR-D7 with pressure gauge
- Lubricator MS...-LOE-R
- Mounting bracket MS...-WP

- - Flow rate
750 ... 3,100 l/min
- - Temperature range
-10 ... +60 °C
- - Pressure regulation range
1 ... 12 bar
- - www.festo.com



- For filtered and lubricated compressed air
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range

General technical data		
Size	MSB4	MSB6
Pneumatic connection 1, 2, 3	G1/4	G1/2
Regulating function	Output pressure constant, with primary pressure compensation, with return flow function, with secondary venting	
Type of mounting	Via accessories	
Assembly position	Vertical ±5°	
Grade of filtration [µm]	40	
Air purity class at the output	Compressed air in accordance with ISO 8573-1:2010 [7:4:4] (grade of filtration 40 µm)	
Bowl guard	Plastic bowl guard	
Condensate drain	Manual rotary	
	-	Fully automatic
Actuator lock	Rotary knob with detent, lockable with accessories	
Pressure regulation range [bar]	1 ... 12	
Pressure indicator	With pressure gauge	

- - Note: This product conforms to ISO 1179-1 and to ISO 228-1

Standard nominal flow rate qnN [l/min]		
Size	MSB4	MSB6
Grade of filtration 40 µm	750	3,100

- - 125 l/min must be available for the fully automatic condensate drain to close correctly.

Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 6

Operating and environmental conditions			
Condensate drain	Manual rotary		Fully automatic
Size	MSB4	MSB6	MSB6
Operating pressure [bar]	1.5 ... 14	1.5 ... 18	2 ... 12
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4]		
	Inert gases		
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)		
Ambient temperature [°C]	-10 ... +60		+5 ... +60
Temperature of medium [°C]	-10 ... +60		+5 ... +60
Storage temperature [°C]	-10 ... +60		-10 ... +60
Corrosion resistance class CRC ¹⁾	2		
Food-safe ²⁾	See supplementary material information		

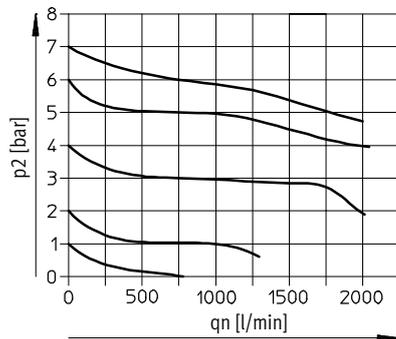
- 1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
- 2) Additional information www.festo.com/sp → Certificates.

Weights [g]		
Size	MSB4	MSB6
Service unit combination	1,500	1,750
Mounting bracket	40	76

 Note
Materials → Technical data of the individual devices

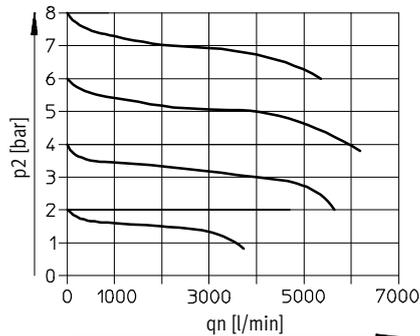
Standard flow rate qn as a function of output pressure p2
 Pressure regulation range 1 ... 12 bar Grade of filtration 40 µm Grade of filtration 5 µm
 MSB4-1/4

Primary pressure p1 = 10 bar



MSB6-1/2

Primary pressure p1 = 10 bar



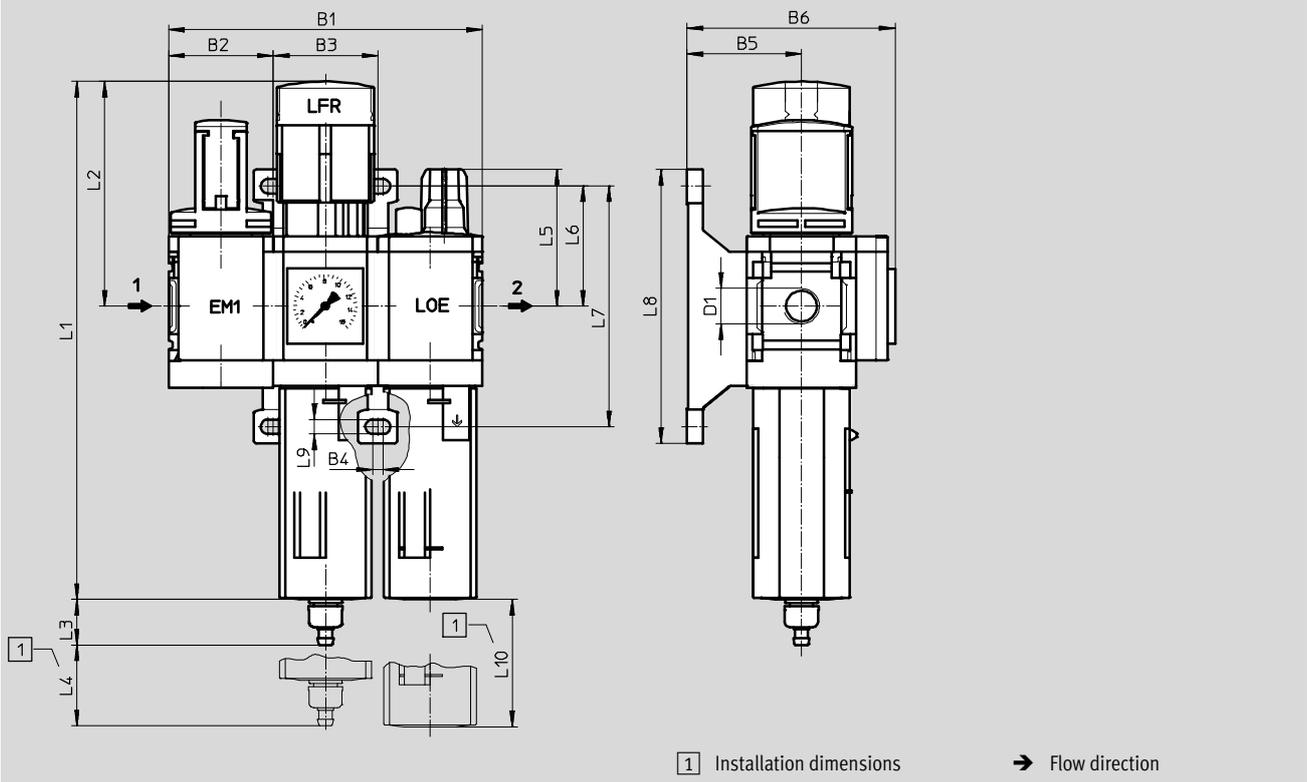
Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 6

Dimensions

Download CAD data → www.festo.com

Manually actuated on-off valve, filter regulator with pressure gauge, lubricator



Type	B1	B2	B3	B4	B5	B6	D1	L1	L2
MSB4	120.6	40.2	40.2	4	44	80	G $\frac{1}{4}$	201	87
MSB6	186	62	62	4.5	54	100	G $\frac{1}{2}$	285	134.5

Type	L3 Condensate drain		L4	L5	L6	L7	L8	L9	L10
	Manual rotary	Fully automatic							
MSB4	17.7	–	25	53	46.5	93.2	106	5.6	80
MSB6	15.8	18.5	68	66	71	142	158	6.6	130

– Note: This product conforms to ISO 1179-1 and to ISO 228-1

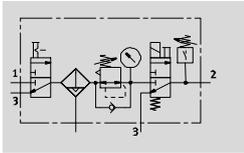
Ordering data

Size	Connection	Condensate drain	Grade of filtration [μ m]	Part No.	Type
Pressure regulation range 1 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi					
MSB4	G $\frac{1}{4}$	Manual rotary	40	542296	MSB4- $\frac{1}{4}$:C3J1M1-WP
MSB6	G $\frac{1}{2}$	Manual rotary	40	542272	MSB6- $\frac{1}{2}$:C3J1M1-WP
		Fully automatic	40	542278	MSB6- $\frac{1}{2}$:C3J2M1-WP

Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 7

Function
With condensate drain,
manual rotary



- Manually operated on-off valve MS...-EM1
- Filter regulator MS...-LFR with pressure gauge
- Solenoid actuated on-off valve MS...-EE-10V24P-AD7, with pressure sensor for displaying output pressure via operational status indicator
- Mounting bracket MS...-WP

- Flow rate
1,400 ... 4,400 l/min
- Temperature range
0 ... +50 °C
- Pressure regulation range
0.5 ... 10 bar
- www.festo.com



- For filtered and unlubricated compressed air supply
- Supply pressure can be opened and closed
- Output pressure is infinitely adjustable within the pressure regulation range
- When the supply pressure is closed, quick venting ensures rapid pressure reduction
- Electrical pressure monitoring with adjustable switching pressure

General technical data		
Size	MSB4	MSB6
Pneumatic connection 1, 2, 3	G $\frac{1}{4}$	G $\frac{1}{2}$
Regulator function	Output pressure constant, with primary pressure compensation, with return flow, with secondary venting	
Type of mounting	Via accessories	
Mounting position	Vertical $\pm 5^\circ$	
Grade of filtration [μm]	40	
Air purity class at the output	Compressed air according to ISO 8573-1:2010 [7:4:4]	
Bowl guard	Plastic bowl guard	
Condensate drain	Manual rotary	
Actuation security	Rotary knob with detent, can be locked using accessories	
Pressure regulation range [bar]	0.5 ... 7	
	0.5 ... 10	
Pressure indication	Via pressure sensor for displaying output pressure via operational status indicator and electrical output	
	Via pressure gauge for displaying output pressure	

- Note: This product conforms to ISO 1179-1 and to ISO 228-1

Electrical data – On-off valve MS...-EE-10V24P-AD7	
Coil characteristics	24 V DC: 1.8 W; permissible voltage fluctuations $-15\%/+10\%$
Electrical connection	M12x1 to IEC 61076-2-101
Protection class for solenoid coil	IP65
Duty cycle [%]	100

Service unit combinations MSB4/MSB6, MS series

Technical data – Combination 7

Standard nominal flow rate q _N [l/min]		
Size	MSB4	MSB6
Pressure regulation range 0.5 ... 7 bar		
Grade of filtration	40 µm	4,400
Pressure regulation range 0.5 ... 10 bar		
Grade of filtration	40 µm	4,000

Operating and environmental conditions		
Condensate drain	Manual rotary	
Size	MSB4	MSB6
Operating pressure [bar]	0.8 ... 14	0.8 ... 18
Operating medium	Compressed air in accordance with ISO 8573-1:2010 [7:4:4] Inert gases	
Note on operating/pilot medium	Operation with lubricated medium possible (in which case lubricated operation will always be required)	
Ambient temperature [°C]	0 ... +50	
Temperature of medium [°C]	0 ... +50	
Storage temperature [°C]	-10 ... +60	
Corrosion resistance class CRC ¹⁾	2	
Food-safe ²⁾	See supplementary material information	

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

2) Additional information www.festo.com/sp → Certificates.

Weight [g]		
Size	MSB4	MSB6
Service unit combination	1,600	2,000
Mounting bracket	40	76

-  - Note

Materials → Technical data of the individual devices

Service unit combinations MSB4/MSB6, MS series

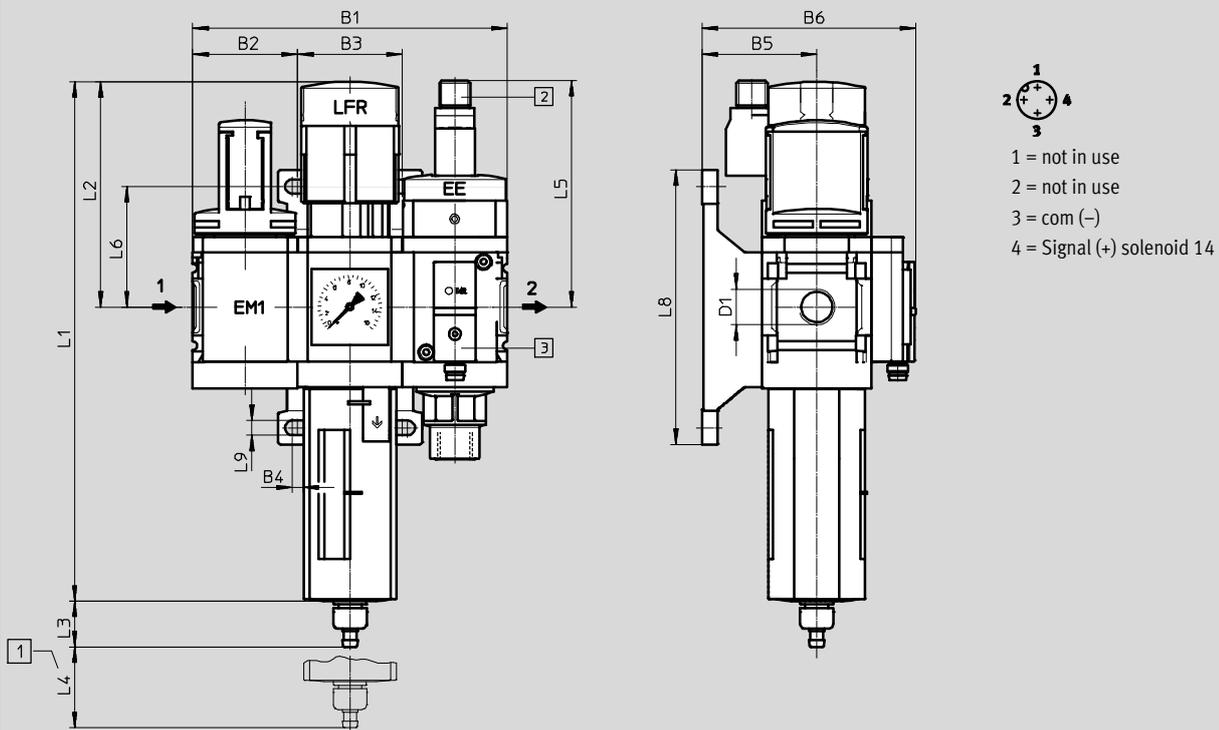
Technical data – Combination 7



Dimensions

Download CAD data → www.festo.com

Manually actuated on-off valve, filter regulator with pressure gauge, solenoid actuated on-off valve with pressure sensor



- 1 Installation dimensions
- 2 Electrical connection to IEC 61076-2-101, plug M12x1, 2-pin for NEBU-M12

- 3 Pressure sensor SDE5-D10-O-...-P-M8 with 3-pin plug M8x1, threshold value comparator, 1 switching output PNP, N/O contact
→ Internet: sde5

→ Flow direction

Type	B1	B2	B3	B4	B5	B6	D1
MSB4	120.6	40.2	40.2	4	44	82	G $\frac{1}{4}$
MSB6	186	62	62	4.5	54	102	G $\frac{1}{2}$

Type	L1	L2	L3	L4	L5	L6	L8	L9
MSB4	201	87	17.7	25	86.3	46.5	106	5.6
MSB6	285	134.5	15.8	68	104	71	158	6.6

– Note: This product conforms to ISO 1179-1 and to ISO 228-1

Service unit combinations MSB4/MSB6, MS series

FESTO

Technical data – Combination 7

★ Core product range

Ordering data					
Size	Connection	Condensate drain	Grade of filtration [µm]	Part No.	Type
Pressure regulation range 0.5 ... 10 bar, pressure gauge with outer scale in bar and inner scale in psi					
MSB4	G ¹ / ₄	Manual rotary	40	★ 8025358	MSB4- ¹ / ₄ :C3:J1:D14-WP
MSB6	G ¹ / ₂	Manual rotary	40	★ 8025359	MSB6- ¹ / ₂ :C3:J1:D14-WP

Ordering data					
Size	Connection	Condensate drain	Grade of filtration [µm]	Part No.	Type
Pressure regulation range 0.5 ... 7 bar, pressure gauge with outer scale in MPa					
MSB4	G ¹ / ₄	Manual rotary	40	8042666	MSB4- ¹ / ₄ :C3:J120:D14-WP
MSB6	G ¹ / ₂	Manual rotary	40	8042670	MSB6- ¹ / ₂ :C3:J120:D14-WP

Festo core product range

- ★ Generally ready for shipping ex works in 24 hours
- ☆ Generally ready for shipping ex works in 5 days

Service unit combinations MSB, MS series

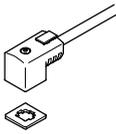
FESTO

Accessories

Ordering data – Silencer U				Technical data → Internet: u	
	Description	Pneumatic connection	Part No.	Type	
	for MS4-EM1/EE	G $\frac{1}{4}$	★ 6842	U- $\frac{1}{4}$ -B	
	for MS6-EM1/EE	G $\frac{1}{2}$	★ 6844	U- $\frac{1}{2}$ -B	

Ordering data – Angled socket PEV					Technical data → Internet: pev	
	Description	Operating voltage range	Electrical connection	Switching status display	Part No.	Type
	for PEV- $\frac{1}{4}$ -...-OD	15 ... 30 V DC	4-pin	Yellow LED	164274	PEV- $\frac{1}{4}$ -WD-LED-24
		≤ 230 V AC	4-pin	Yellow LED	164275	PEV- $\frac{1}{4}$ -WD-LED-230
		≤ 180 V DC				

Ordering data – Plug socket MSSD					Technical data → Internet: mssd	
	Description	Operating voltage range	Electrical connection	Type of mounting cable connection	Part No.	Type
	for PEV- $\frac{1}{4}$ -...-OD	≤ 250 V AC/DC	3-pin	Clamping screws	171157	MSSD-C-4P
	for MS4/6-EE/DE	≤ 250 V AC/DC	3-pin	Clamping screws	★ 151687	MSSD-EB
			4-pin	Insulation displacement technology	192745	MSSD-EB-S-M14

Ordering data – Plug socket with cable KMEB						Technical data → Internet: kmeb		
	Description	Operating voltage range	Electrical connection	Switching status display	Cable length [m]	Part No.	Type	
	for MS4/6-EE/DE	24 V DC	2-pin	LED	2.5	547268	KMEB-3-24-2,5-LED	
					5	547269	KMEB-3-24-5-LED	
				–	2.5	547270	KMEB-3-24-2,5	
				5	547271	KMEB-3-24-5		
			LED	2.5	★ 151688	KMEB-1-24-2,5-LED		
				5	151689	KMEB-1-24-5-LED		
		10		193457	KMEB-1-24-10-LED			
		230 V AC	3-pin	–		2.5	151690	KMEB-1-230AC-2,5
						5	151691	KMEB-1-230AC-5

Ordering data – Illuminating seal MEB-LD				Technical data → Internet: meb	
	Description	Operating voltage range	Part No.	Type	
	for plug socket with cable KMEB and plug socket MSSD-EB	12 ... 24 V DC	151717	MEB-LD-12-24DC	
		230 V DC/AC ±10%	151718	MEB-LD-230AC	

Ordering data – Padlock LRVS-D			
	Description	Weight [g]	Part No. Type
	for filter or pressure regulators	120	193786 LRVS-D

Festo core product range

- ★ Generally ready for shipping ex works in 24 hours
- ☆ Generally ready for shipping ex works in 5 days

Service unit combinations MSB, MS series

FESTO

Accessories

Ordering data – Connecting cable NEBU-M8				Technical data → Internet: nebu	
	Electrical connection	Number of wires	Cable length [m]	Part No.	Type
	M8x1, straight socket	3	2.5	★ 541333	NEBU-M8G3-K-2.5-LE3
			5	★ 541334	NEBU-M8G3-K-5-LE3
	M8x1, angled socket	3	2.5	★ 541338	NEBU-M8W3-K-2.5-LE3
			5	★ 541341	NEBU-M8W3-K-5-LE3

Ordering data – Connecting cable NEBU-M12				Technical data → Internet: nebu	
	Electrical connection	Number of wires	Cable length [m]	Part No.	Type
	M12x1, straight socket	4	2.5	★ 550326	NEBU-M12G5-K-2.5-LE4
			5	★ 541328	NEBU-M12G5-K-5-LE4
	M12x1, angled socket	4	2.5	550325	NEBU-M12W5-K-2.5-LE4
			5	541329	NEBU-M12W5-K-5-LE4

Festo core product range

★ Generally ready for shipping ex works in 24 hours

☆ Generally ready for shipping ex works in 5 days