

## Service units MSB4/MSB6, MS series

# FESTO



Festo core product range  
Covers 80% of your automation tasks

Worldwide:

Always in stock

Superb:

Festo quality at an attractive price

Easy:

Simplified procurement and warehousing

★ Generally ready for shipping ex works in 24 hours  
In stock at 13 Service Centres worldwide  
More than 2200 products

★ Generally ready for shipping ex works in 5 days  
Assembled for you at 4 Service Centres worldwide  
Up to  $6 \times 10^{12}$  variants per product family

Just look  
for the  
star!

## Key features

### MS series service unit components

Solutions for every application

With its large product range, highly effective components and a wide choice of functions, the MS series from Festo offers a complete concept for compressed air preparation. It is 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

All the individual components, such as pressure regulators, on/off and soft-start valves with safety function, filters, pressure and flow sensors, dryers, sensors and lubricators, can be assembled into a suitable solution for every task. Their modular structure means that the components are freely combinable. The simple connection method saves time when replacing

individual modules without needing to dismantle the entire combination. Many of the components are also UL and ATEX certified.

### CAD models and configurator

Convenient aids for planning and selecting application-specific individual components 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](http://www.festo.com/engineering/wartungseinheit)



### Integrated sensors

Pressure and flow sensors

### Safety functions

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

### Energy savings

Service units MSE6

Intelligent mix of sizes



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



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



- 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



- 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
Connection 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 $q_{nN}^{1)}$ [l/min]	350	1800	6500	20000	22000

1) Using pressure regulator MS-LR as an example

## 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 connecting 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 the service unit MSB is a reliable and convenient way of arranging individual service unit components and it ensures that the applicable rules are complied with. As a result, you get a completely assembled unit 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 in the flow direction upstream of an activated carbon filter MS-LFX or membrane air dryer MS-LDM1
- 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			Connecting plate with thread	
				M	G	NPT	G	NPT
<b>Combinations</b>								
<b>Service units MSB-FRC</b> <span style="float: right;">Data sheets → Internet: msb</span>								
	Combinations of filter regulator and lubricator	4	–	–	1/8, 1/4	–	–	–
		6	–	–	1/4, 3/8, 1/2	–	–	–
<b>Service units MSB</b> <span style="float: right;">Data sheets → Internet: msb</span>								
	7 combinations, predefined	4	–	–	1/4	–	–	–
		6	–	–	1/2	–	–	–
	Freely configurable combinations	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
<b>Service units MSE6</b> <span style="float: right;">Data sheets → Internet: mse6</span>								
	Combinations with fieldbus connection for measuring pressure, flow rate and consumption	6	–	–	–	–	1/2	–








## Key features

Total product range for MS series service unit components								
Type	Description	Size	Pneumatic connection			Connecting plate with thread		
			Push-in connector	Female thread		Connecting plate with thread		
			M	G	NPT	G	NPT	
<b>Individual components</b>								
<b>Filter regulators MS-LFR</b>								Data sheets → Internet: ms-lfr
	Filter and pressure regulator in a single device, filtration grade 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	–
<b>Filter MS-LF</b>								
								Data sheets → 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	–
<b>Fine and micro filters MS-LFM</b>								
								Data sheets → 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	–
<b>Activated carbon filters MS-LFX</b>								
								Data sheets → 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	–
<b>Water separators MS-LWS</b>								
								Data sheets → Internet: ms-lws
	Remove condensate 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	–





## Key features

Total product range for MS series service unit components								
Type	Description	Size	Pneumatic connection			Connecting plate with thread		
			Push-in connector	Female thread		G		NPT
			M	G	NPT	G	NPT	
<b>Individual components</b>								
<b>Pressure regulators MS-LR</b>								Data sheets → 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	–
<b>Pressure regulators MS-LRB</b>								Data sheets → Internet: ms-lrb
	For configuring 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	–
<b>Precision pressure regulators MS-LRP</b>								Data sheets → Internet: ms-lrp
	For precisely 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
<b>Precision pressure regulators MS-LRPB</b>								Data sheets → 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	–
<b>Electric pressure regulators MS-LRE</b>								Data sheets → 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
<b>Lubricators MS-LOE</b>								Data sheets → Internet: ms-loe
	Add a precisely adjustable amount of oil to the compressed air. The amount of oil mist 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	–

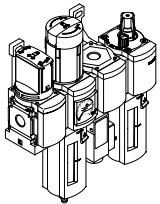
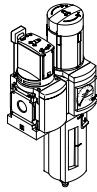
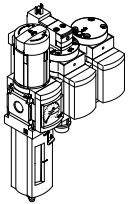
## Key features

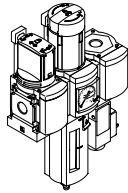
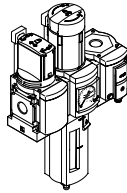
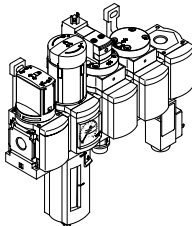
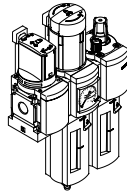
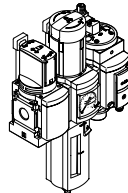
Total product range for MS series service unit components								
Type	Description	Size	Pneumatic connection			Connecting plate with thread		
			Push-in connector	Female thread		G		NPT
			M	G	NPT	G	NPT	
<b>Individual components</b>								
<b>On/off valves MS-EM</b> <span style="float: right;">Data sheets → Internet: ms-em</span>								
	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	–
<b>On/off valves MS-EE</b> <span style="float: right;">Data sheets → Internet: ms-ee</span>								
	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	–
<b>Soft-start valves MS-DL</b> <span style="float: right;">Data sheets → Internet: ms-dl</span>								
	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	–
<b>Soft-start valves MS-DE</b> <span style="float: right;">Data sheets → Internet: ms-de</span>								
	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	–
<b>Soft-start/quick exhaust valves MS-SV</b> <span style="float: right;">Data sheets → Internet: ms-sv</span>								
	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
	Up to category 4, PL e.	6	–	–	1/2	–	1/4, 3/8, 1/2, 3/4	–

## Key features

Total product range for MS series service unit components								
Type	Description	Size	Pneumatic connection				Connecting plate with thread	
			Push-in connector	Female thread				
			M	G	NPT	G	NPT	
<b>Individual components</b>								
<b>Membrane air dryer MS-LDM1</b>							Data sheets → 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
<b>Branching modules MS-FRM</b>								
							Data sheets → Internet: ms-frm	
	Compressed air distributors 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	–
<b>Distributor blocks MS-FRM-FRZ</b>								
							Data sheets → Internet: ms-frm-frz	
	Compressed air distributors with 4 connections and half the grid width	4	–	–	–	–	–	–
		6	–	–	–	–	–	–
<b>Flow sensors SFAM</b>								
							Data sheets → 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

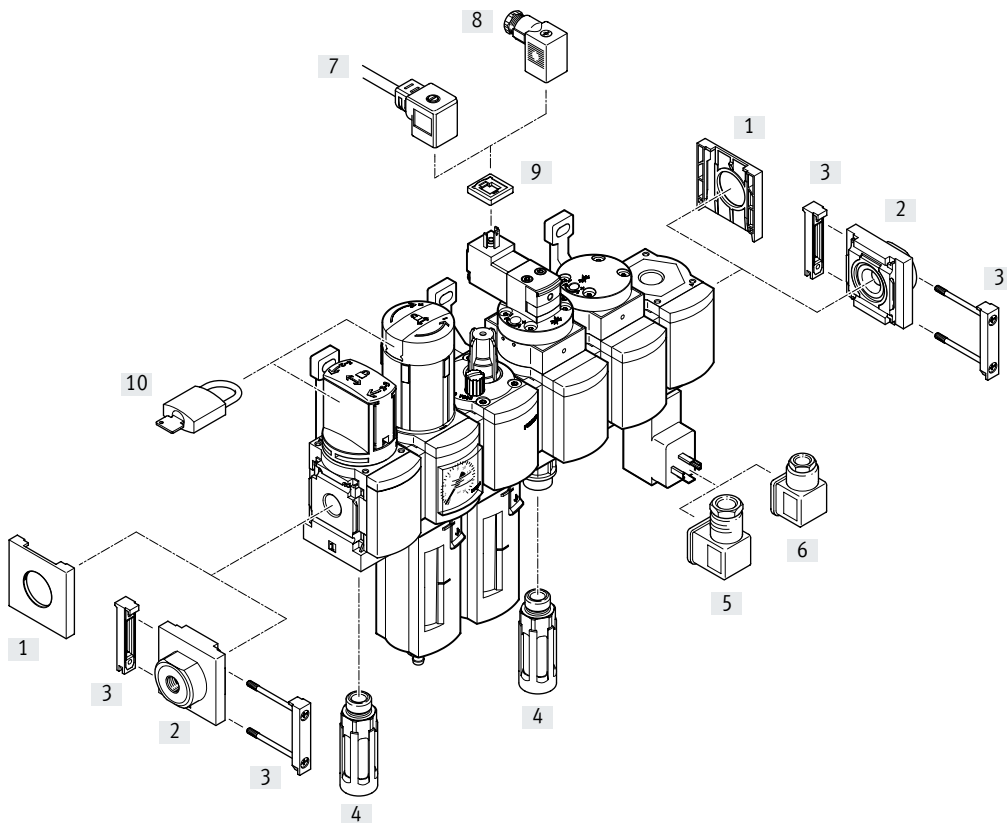
Product range overview

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	■	■	■
<b>Data sheet → page</b>		<b>10</b>	<b>13</b>	<b>17</b>

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	■	■	■	■	■
<b>Data sheet → page</b>		<b>20</b>	<b>20</b>	<b>25</b>	<b>28</b>	<b>31</b>



## Peripherals overview



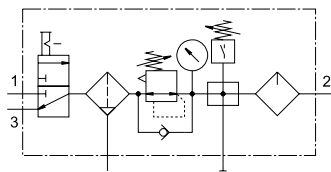
**Note**  
 The range of accessories depends on the service unit selected.  
 Range of accessories  
 → Peripherals pages of the individual components

Mounting components 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	35
[5]	Angled plug socket PEV-1/4-WD-LED	35
[6]	Plug socket MSSD-C-4P	35
[7]	Plug socket with cable KMEB	35
[8]	Plug socket MSSD-EB	35
[9]	Illuminating seal MEB-LD	35
[10]	Padlock LRVS-D	35
-	Mounting bracket MS4/6-WP/WPB/WPE/WPM	ms4-wp, ms6-wp

## Data sheet – Combination 1

### Function

With manual rotary condensate drain



- Flow rate  
950 l/min
- Temperature range  
-10 ... +60°C
- Pressure regulation range  
1 ... 12 bar
- Spare parts service

- On/off valve MS...-EM1, manually operated
- 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



- For filtered and lubricated compressed air
- Supply pressure can be switched on or off
- 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 ports

### General technical data

Size	MSB4
Pneumatic connection 1, 2, 3	G1/4
Regulator function	Output pressure constant, with primary pressure compensation, with return flow, with secondary venting
Type of mounting	With accessories
Mounting position	Vertical ±5°
Grade of filtration [µm]	40
Air quality class at the output	Compressed air to ISO 8573-1:2010 [7:4:-]
Bowl guard	Plastic bowl guard
Condensate drain	Manual rotary
Actuator lock	Rotary knob with detent, can be locked using accessories
Pressure regulation range [bar]	1 ... 12
Pressure indication	Via pressure gauge

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

### Standard nominal flow rate qnN [l/min]

Size	MSB4
Grade of filtration 40 µm	950

## Data sheet – Combination 1

Operating and environmental conditions	
Condensate drain	Manual rotary
Size	MSB4
Operating pressure [bar]	1.5 ... 14
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4] Inert gases
Note on the operating/pilot medium	Lubricated operation 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 <sup>1)</sup>	2
Food-safe <sup>2)</sup>	See supplementary information on materials

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

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

2) Additional information is available at [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

Weight [g]	
Size	MSB4
Service unit	1700
Mounting bracket	40

**Note**

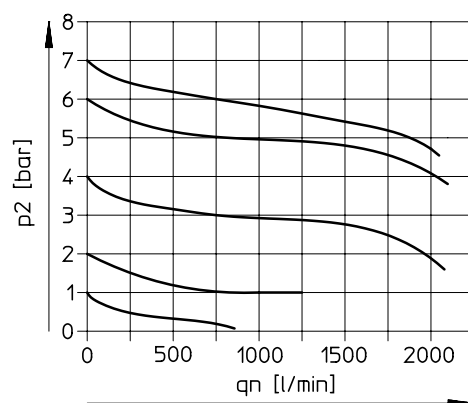
Materials → Data sheet for the individual components

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

Pressure regulation range 1 ... 12 bar Degree of filtration 40  $\mu\text{m}$

MSB4-1/4

Primary pressure  $p_1 = 10$  bar

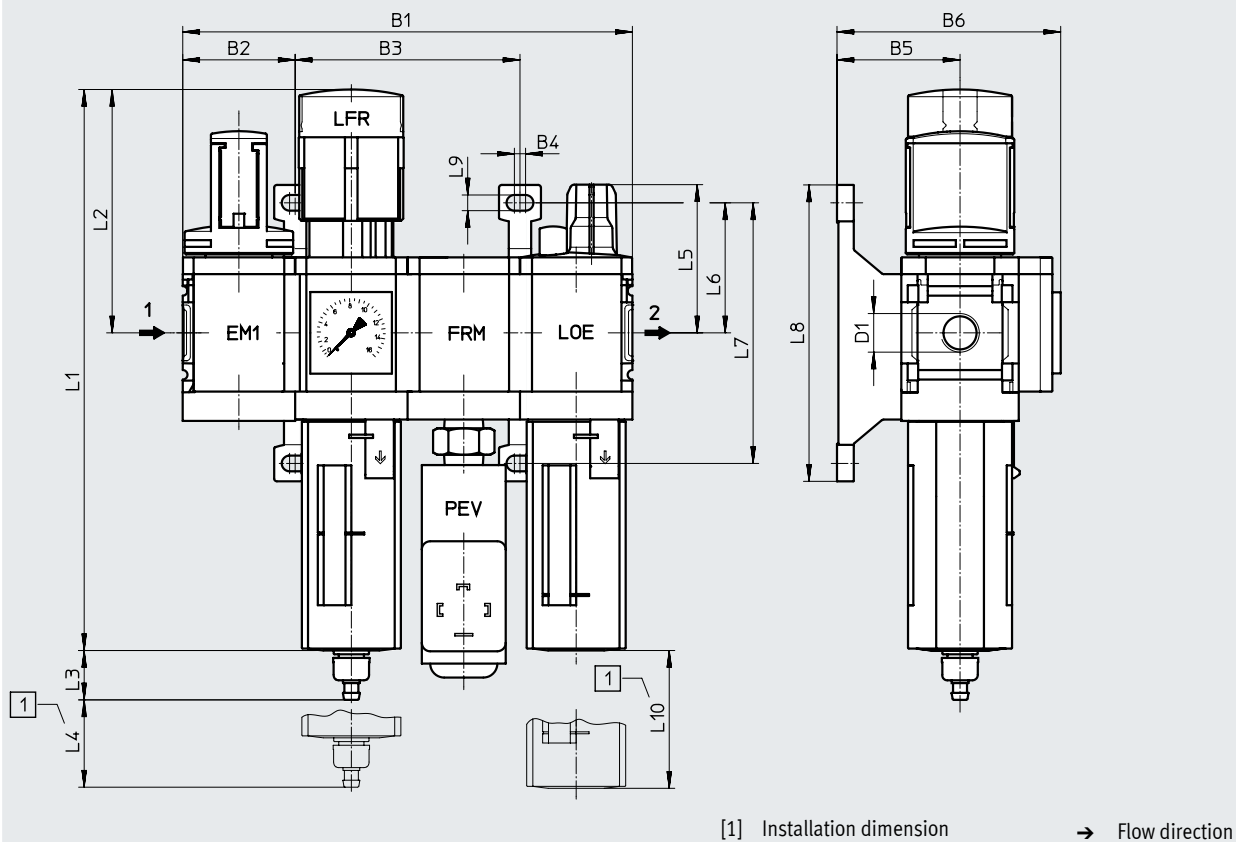


## Data sheet – Combination 1

### Dimensions

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

Manually operated 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	G1/4	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 ISO 228-1.

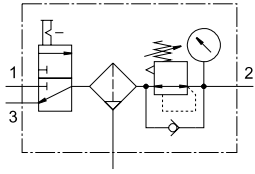
### Ordering data

Size	Connection	Condensate drain	Degree of filtration [µm]	Part no.	Type
<b>Pressure regulation range 1 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi</b>					
MSB4	G1/4	Manual rotary	40	542295	MSB4-1/4:C3J1F3M1-WP

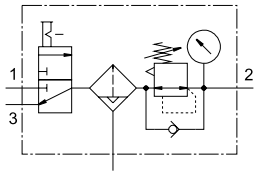
## Data sheet – Combination 2

### Function

With manual rotary condensate drain



Fully automatic condensate drain



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

- - Flow rate  
950 ... 5500 l/min
- - Temperature range  
-10 ... +60°C
- - Pressure regulation range  
0.5 ... 12 bar
- - Spare parts service



- For filtered and unlubricated compressed air
- Supply pressure can be switched on or off
- 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
Regulator function	Output pressure constant, with primary pressure compensation, with return flow, with secondary venting	
Type of mounting	With accessories	
Mounting position	Vertical ±5°	
Grade of filtration [µm]	5 40	
Air quality class at the output	Compressed air to ISO 8573-1:2010 [6:4:4] (grade of filtration 5 µm) Compressed air to 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, can be locked using accessories	
Pressure regulation range [bar]	0.5 ... 7 0.5 ... 12	
Pressure indication	Via pressure gauge	

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

### Standard nominal flow rate qn [l/min]

Condensate drain	Manual rotary		Fully automatic	
	MSB4	MSB6	MSB4	MSB6
<b>Pressure regulation range 0.5 ... 7 bar</b>				
Grade of filtration 40 µm	1150	5500	-	-
<b>Pressure regulation range 0.5 ... 12 bar</b>				
Grade of filtration 5 µm	950	4800	950	4800
Grade of filtration 40 µm	1700	5100	1000	5100

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

## Data sheet – Combination 2

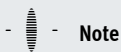
Operating and environmental conditions				
Condensate drain	Manual rotary		Fully automatic	
Size	MSB4	MSB6	MSB4	MSB6
Operating pressure [bar]	0.8 ... 14	0.8 ... 18	2 ... 12	2 ... 12
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4] Inert gases			
Note on the operating/pilot medium	Lubricated operation 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 <sup>1)</sup>	2			
Food-safe <sup>2)</sup>	See supplementary information on materials			

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

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

2) Additional information is available at [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

Weight [g]		
Size	MSB4	MSB6
Service unit	1300	1100
Mounting bracket	40	76



**Note**

Materials → Data sheet for the individual components

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

Pressure regulation range

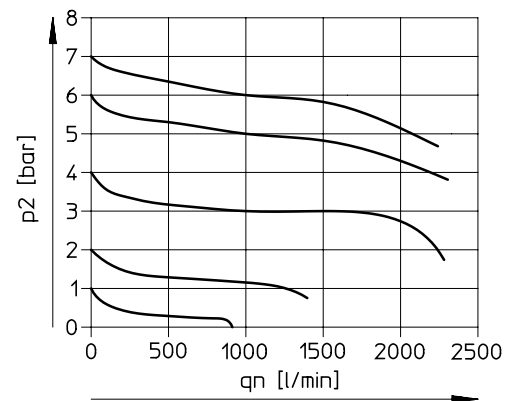
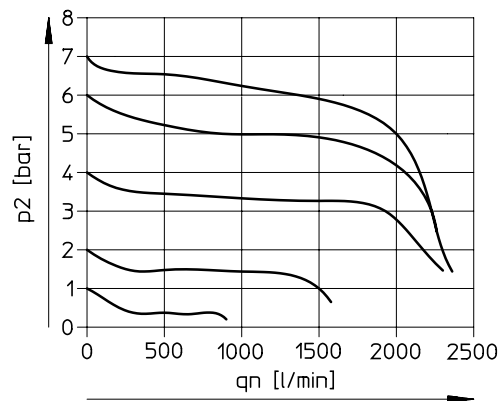
0.5 ... 12 bar

MSB4-1/4

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

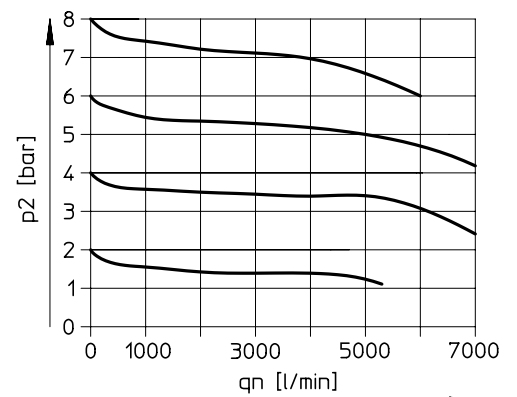
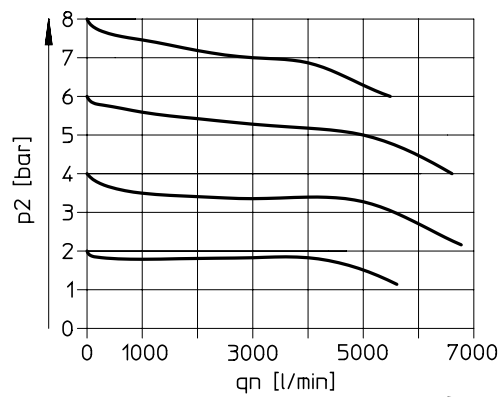
Degree of filtration 40  $\mu\text{m}$

Primary pressure  $p_1 = 10$  bar



MSB6-1/2

Primary pressure  $p_1 = 10$  bar

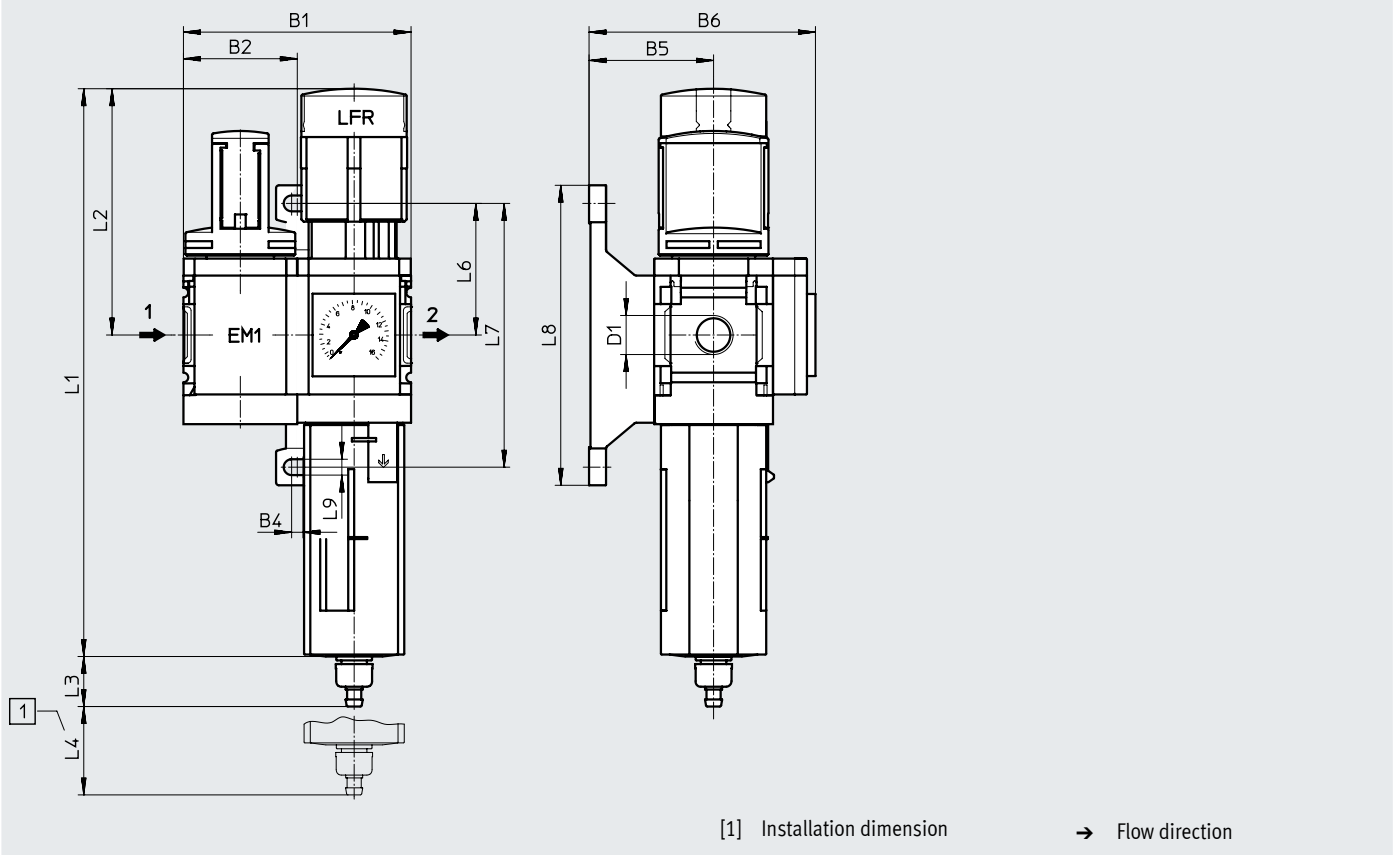


## Data sheet – Combination 2

### Dimensions

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

Manually operated 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	G1/4	201	87
MSB6	124	62	4.5	54	100	G1/2	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 ISO 228-1.

## Data sheet – Combination 2

### ★ Core product range

Ordering data					
Size	Connection	Condensate drain	Degree of filtration [µm]	Part no.	Type
<b>Pressure regulation range 0.5 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi</b>					
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	Degree of filtration [µm]	Part no.	Type
<b>Pressure regulation range 0.5 ... 7 bar, pressure gauge with outer scale in MPa</b>					
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
<b>Pressure regulation range 0.5 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi</b>					
MSB4	G1/4	Manual rotary	5	542304	MSB4-1/4:C3:J3-WP
		Fully automatic	40	542298	MSB4-1/4:C3:J2-WP
			5	542310	MSB4-1/4:C3:J4-WP
MSB6	G1/2	Manual rotary	5	542280	MSB6-1/2:C3:J3-WP
		Fully automatic	40	542274	MSB6-1/2:C3:J2-WP
			5	542286	MSB6-1/2:C3:J4-WP

Festo core product range

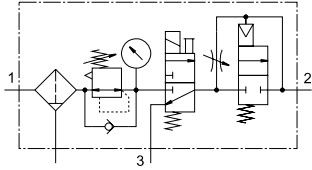
- ★ Generally ready for shipping ex works in 24 hours
- ★ Generally ready for shipping ex works in 5 days



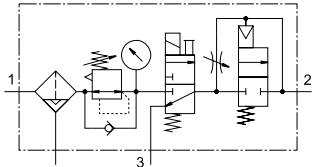
## Data sheet – Combination 3

## Function

With manual rotary condensate drain



Fully automatic condensate drain



- 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

- - Flow rate  
750 ... 3100 l/min
- - Temperature range  
-10 ... +60°C
- - Pressure regulation range  
4 ... 12 bar
- - Spare parts service



- 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 the unit is switched off, quick venting ensures rapid pressure reduction

General technical data		
Size	MSB4	MSB6
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	With accessories	
Mounting position	Vertical ±5°	
Grade of filtration [µm]	40	
Air quality class at the output	Compressed air to 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, can be locked using accessories	
Pressure regulation range [bar]	4 ... 12	
Pressure indication	Via pressure gauge	
Characteristic coil data	24 V DC: 1.5 W	
		24 V DC: 1.5 W

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

Standard nominal flow rate qnN [l/min]		
Size	MSB4	MSB6
Grade of filtration 40 µm	750	3100

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

## Data sheet – 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 to ISO 8573-1:2010 [--:4:-]		Compressed air to ISO 8573-1:2010 [7:4:-]
	Inert gases		
Note on the operating/pilot medium	Lubricated operation 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 <sup>1)</sup>	2		
Food-safe <sup>2)</sup>	See supplementary information on materials		

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

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

2) Additional information is available at [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

Weight [g]		
Size	MSB4	MSB6
Service unit	1600	2400
Mounting bracket	40	76

 **Note**

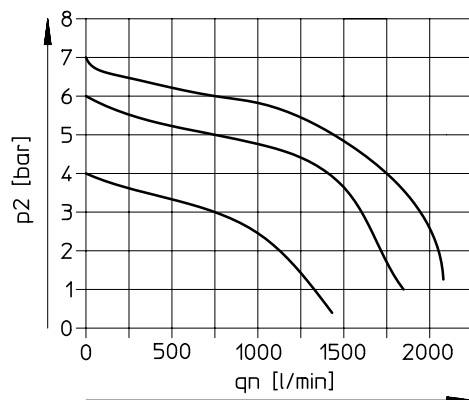
Materials → Data sheet for the individual components

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

Pressure regulation range 4 ... 12 bar Degree of filtration 40  $\mu\text{m}$

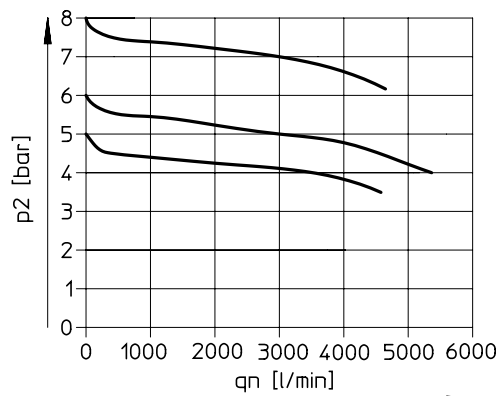
MSB4-1/4

Primary pressure  $p_1 = 10$  bar



MSB6-1/2

Primary pressure  $p_1 = 10$  bar

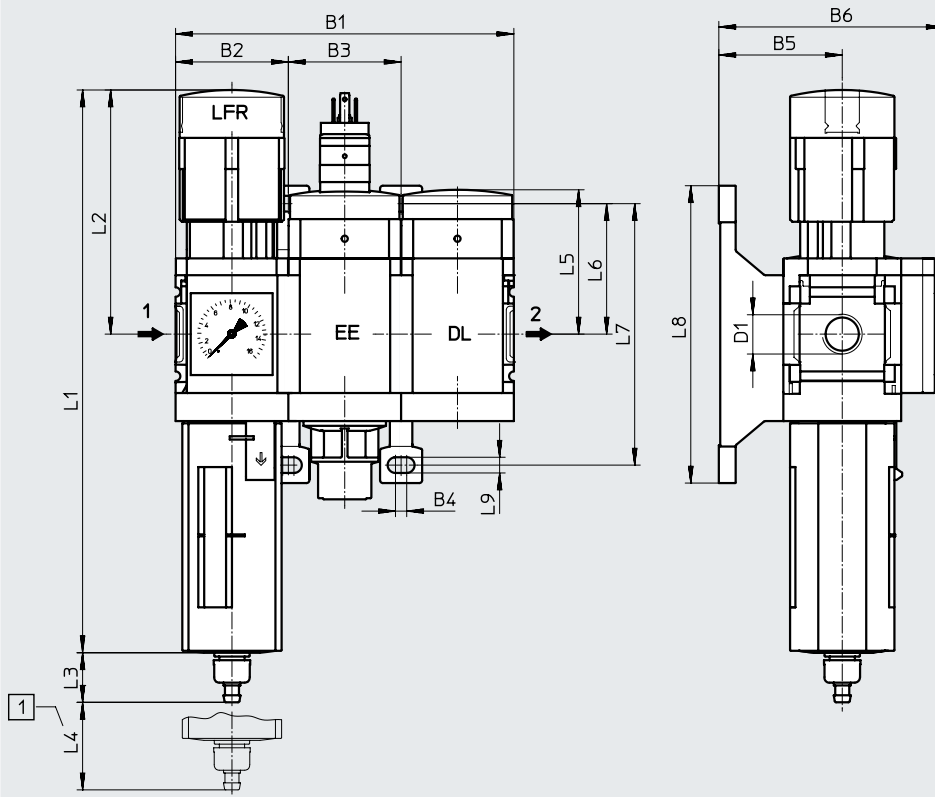


Data sheet – Combination 3

Dimensions

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

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



[1] Installation dimension

→ Flow direction

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	–	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 ISO 228-1.

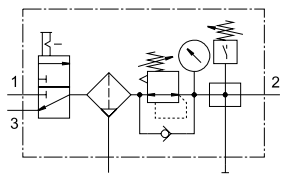
Ordering data

Size	Connection	Condensate drain	Degree of filtration [µm]	Part no.	Type
<b>Pressure regulation range 4 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi</b>					
MSB4	G1/4	Manual rotary	40	531101	MSB4-1/4:J1D1A1-WP
MSB6	G1/2	Manual rotary	40	530222	MSB6-1/2:J1D1A1-WP
		Fully automatic	40	530224	MSB6-1/2:J2D1A1-WP

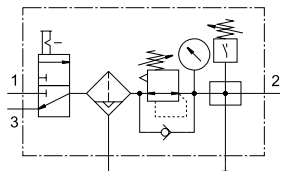
## Data sheet – Combination 4

### Function

With manual rotary condensate drain



Fully automatic condensate drain



- - Flow rate 1300 ... 5300 l/min
- - Temperature range -10 ... +60°C
- - Pressure regulation range 0.5 ... 12 bar
- - Spare parts service



- For filtered and unlubricated compressed air
- Supply pressure can be switched on or off
- Output pressure is infinitely adjustable within the pressure regulation range
- Electrical pressure monitoring with adjustable switching pressure

- On/off valve MS...-EM1, manually operated
- Filter regulator MS...-LFR with pressure gauge
- Branching module MS...-FRM-Y with pressure switch or MS...-FRM-AD7 with pressure sensor for status indication
- Mounting bracket MS...-WP

### General technical data

Size	MSB4		MSB6	
	Branching module with	Pressure switch	Pressure sensor	Pressure switch
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	With accessories			
Mounting position	Vertical ±5°			
Grade of filtration [µm]	40			
Air quality class at the output	Compressed air 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	-
Actuator lock	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 indicating the output pressure			

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

### Standard nominal flow rate qnN [l/min]

Size	MSB4		MSB6	
	Branching module with	Pressure switch	Pressure sensor	Pressure switch
<b>Pressure regulation range 0.5 ... 7 bar</b>				
Grade of filtration 40 µm	-	1750	-	5300
<b>Pressure regulation range 0.5 ... 10 bar</b>				
Grade of filtration 40 µm	-	1600	-	4500
<b>Pressure regulation range 0.5 ... 12 bar</b>				
Grade of filtration 40 µm	1300	-	4500	-

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

## Data sheet – 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 to ISO 8573-1:2010 [7:4:4]					
	Inert gases					
Note on the operating/pilot medium	Lubricated operation 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 <sup>1)</sup>	2					
Food-safe <sup>2)</sup>	See supplementary information on materials					

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

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

2) Additional information is available at [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

Weight [g]		
Size	MSB4	MSB6
Service unit	1500	2000
Mounting bracket	40	76



### Note

Materials → Data sheet for the individual components

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

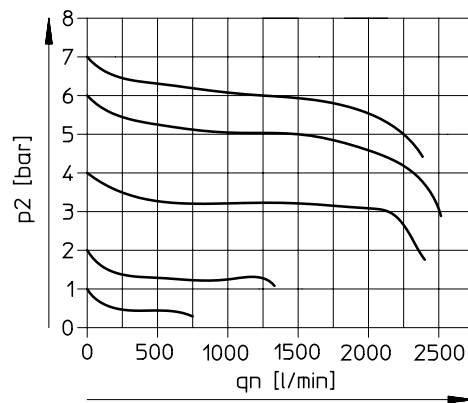
Pressure regulation range

Degree of filtration 40  $\mu$ m

0.5 ... 12 bar

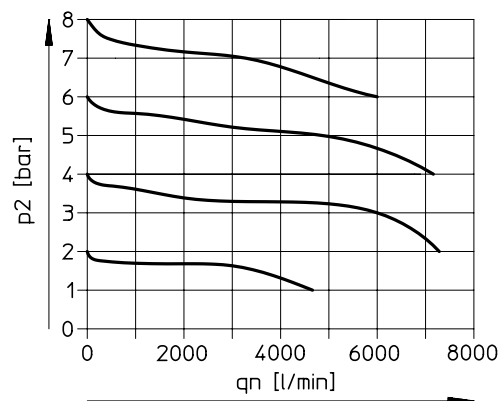
MSB4-1/4

Primary pressure  $p_1 = 10$  bar



MSB6-1/2

Primary pressure  $p_1 = 10$  bar

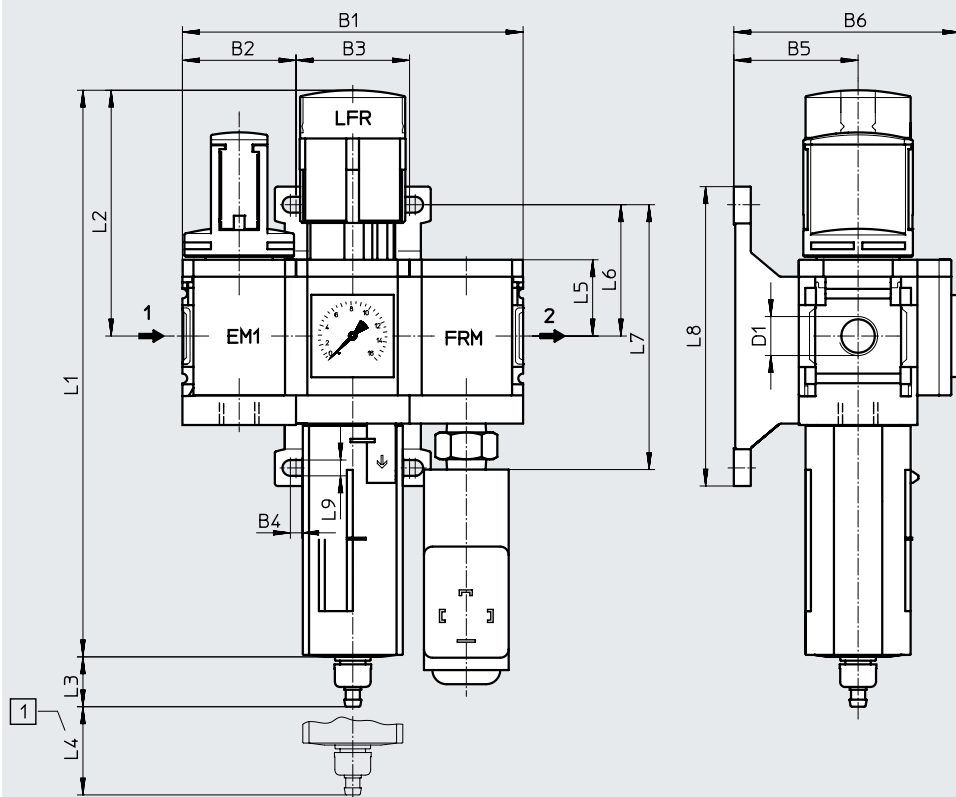


## Data sheet – Combination 4

### Dimensions

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

Manually operated on/off valve, filter regulator with pressure gauge, branching module with pressure switch



- [1] Installation dimension
- [2] Pressure switch PEV-1/4-B-OD with adjustable pressure switching point, plug, square design to EN 175301, type A  
→ Internet: pev

→ Flow direction

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

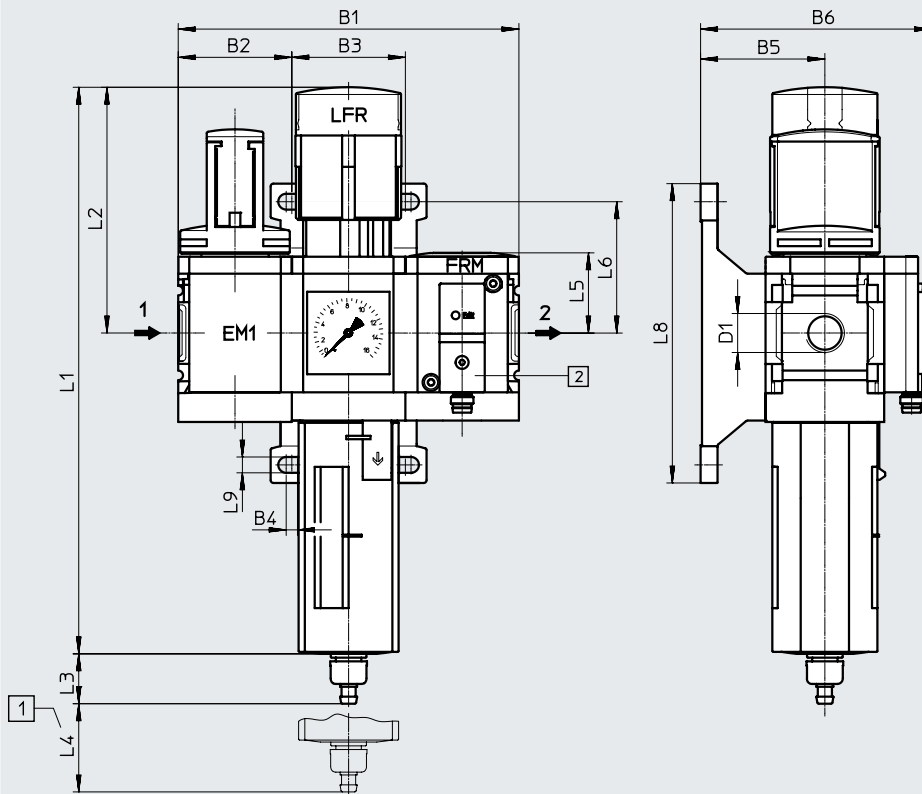
† Note: This product conforms to ISO 1179-1 and ISO 228-1.

## Data sheet – Combination 4

### Dimensions

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

Manually operated on/off valve, filter regulator with pressure gauge, branching module with pressure sensor



- [1] Installation dimension
- [2] 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	G1/4
MSB6	186	62	62	4.5	54	102	G1/2

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 ISO 228-1.

## Data sheet – Combination 4

### ★ Core product range

Ordering data					
Size	Connection	Condensate drain	Degree of filtration [µm]	Part no.	Type
<b>Pressure regulation range 0.5 ... 10 bar, pressure gauge with outer scale in bar and inner scale in psi, branching module with pressure sensor</b>					
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	Degree of filtration [µm]	Part no.	Type
<b>Pressure regulation range 0.5 ... 7 bar, pressure gauge with outer scale in MPa, branching module with pressure sensor</b>					
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
<b>Pressure regulation range 0.5 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi, branching module with pressure switch</b>					
MSB4	G1/4	Manual rotary	40	542294	MSB4-1/4:C3:J1F3-WP
		Fully automatic	40	542300	MSB4-1/4:C3:J2F3-WP
MSB6	G1/2	Manual rotary	40	542270	MSB6-1/2:C3:J1F3-WP
		Fully automatic	40	542276	MSB6-1/2:C3:J2F3-WP

Festo core product range

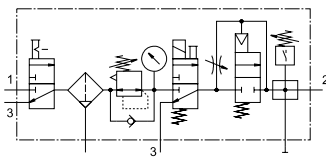
- ★ Generally ready for shipping ex works in 24 hours
- ☆ Generally ready for shipping ex works in 5 days



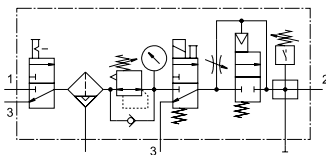
## Data sheet – Combination 5





## Function

## With manual rotary condensate drain



## Fully automatic condensate drain



-  - Flow rate  
750 ... 3100 l/min
-  - Temperature range  
-10 ... +60°C
-  - Pressure regulation range  
4 ... 12 bar
-  - Spare parts service



- On/off valve MS...-EM1, manually operated
- 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 switched on or off
- 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
Regulator function	Output pressure constant, with primary pressure compensation, with return flow, with secondary venting	
Type of mounting	With accessories	
Mounting position	Vertical ±5°	
Grade of filtration [µm]	-	5
	40	
Air quality class at the output	Compressed air to ISO 8573-1:2010 [6:4:4] (grade of filtration 5 µm)	
	Compressed air to 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, can be locked using accessories	
Pressure regulation range [bar]	4 ... 12	
Pressure indication	Via pressure gauge	
Characteristic coil data	24 V DC: 1.5 W	24 V DC: 1.5 W

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

**Standard nominal flow rate q<sub>n</sub> [l/min]**

Size	MSB4	MSB6
Grade of filtration 5 µm	-	3000
40 µm	750	3100

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

## Data sheet – Combination 5

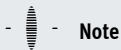
Operating and environmental conditions				
Condensate drain		Manual rotary		Fully automatic
Size	MSB4	MSB6	MSB4	MSB6
Operating pressure [bar]	4.5 ... 14	4.5 ... 18	4.5 ... 12	4.5 ... 12
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4] Inert gases			
Note on the operating/pilot medium	Lubricated operation 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 <sup>1)</sup>	2			
Food-safe <sup>2)</sup>	See supplementary information on materials			

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

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

2) Additional information is available at [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

Weight [g]		
Size	MSB4	MSB6
Service unit	2200	3500
Mounting bracket	40	76



### Note

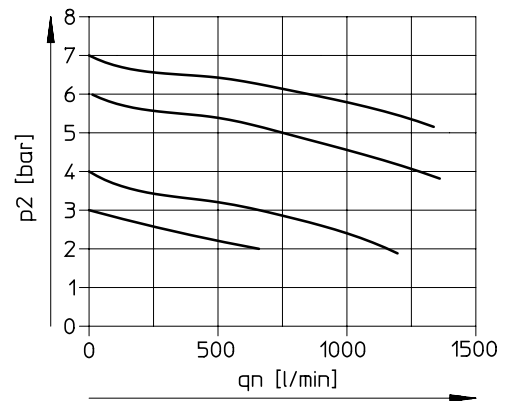
Materials → Data sheet for the individual components

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

Pressure regulation range 4 ... 12 bar Degree of filtration 5  $\mu\text{m}$   
MSB4-1/4

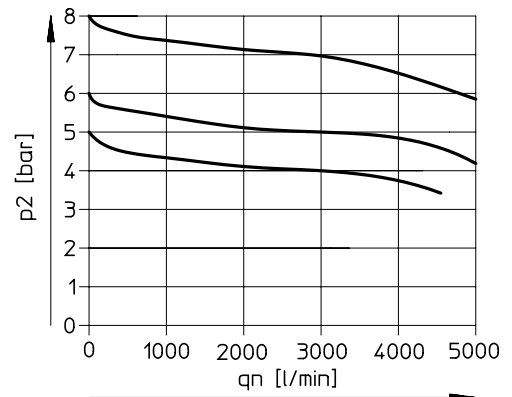
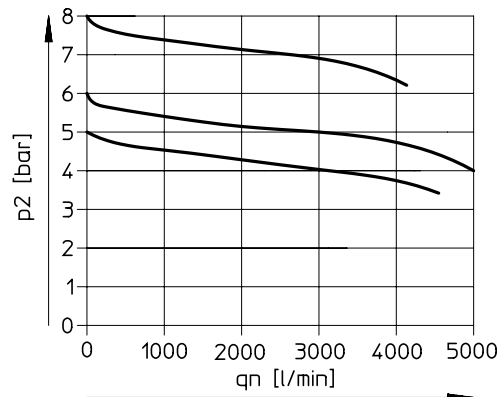
Degree of filtration 40  $\mu\text{m}$

Primary pressure  $p_1 = 10$  bar



MSB6-1/2

Primary pressure  $p_1 = 10$  bar

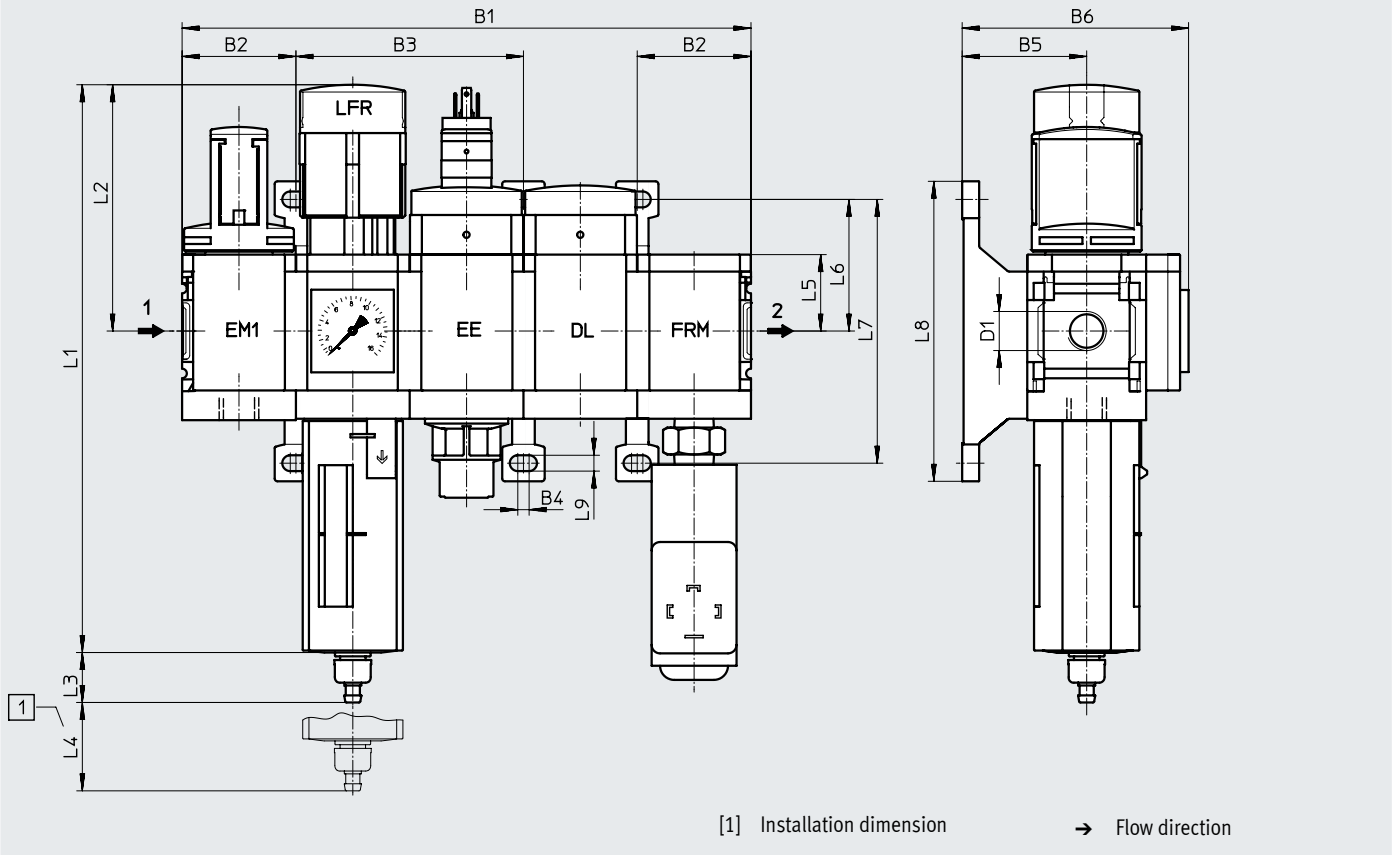


Data sheet – Combination 5

Dimensions

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

Manually operated 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	G1/4	201	87
MSB6	310	62	124	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 ISO 228-1.

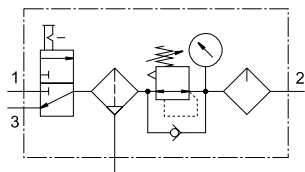
Ordering data

Size	Connection	Condensate drain	Degree of filtration [µm]	Part no.	Type
<b>Pressure regulation range 4 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi</b>					
MSB4	G1/4	Manual rotary	40	542293	MSB4-1/4:C3J1D1A1F3-WP
		Fully automatic	40	542299	MSB4-1/4:C3J2D1A1F3-WP
MSB6	G1/2	Manual rotary	40	542269	MSB6-1/2:C3J1D1A1F3-WP
			5	542281	MSB6-1/2:C3J3D1A1F3-WP
		Fully automatic	40	542275	MSB6-1/2:C3J2D1A1F3-WP
			5	542287	MSB6-1/2:C3J4D1A1F3-WP

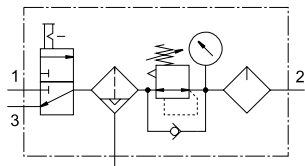
## Data sheet – Combination 6

### Function

With manual rotary condensate drain



Fully automatic condensate drain



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

- - Flow rate  
750 ... 3100 l/min
- - Temperature range  
-10 ... +60°C
- - Pressure regulation range  
1 ... 12 bar
- - Spare parts service



- For filtered and lubricated compressed air
- Supply pressure can be switched on or off
- 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
Regulator function	Output pressure constant, with primary pressure compensation, with return flow, with secondary venting	
Type of mounting	With accessories	
Mounting position	Vertical ±5°	
Grade of filtration [µm]	40	
Air quality class at the output	Compressed air to 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, can be locked using accessories	
Pressure regulation range [bar]	1 ... 12	
Pressure indication	Via pressure gauge	

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

### Standard nominal flow rate qnN [l/min]

Size	MSB4	MSB6
Grade of filtration 40 µm	750	3100

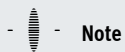
† - 125 l/min must be available for the fully automatic condensate drain to close correctly.

## Data sheet – 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 to ISO 8573-1:2010 [7:4:4]		
	Inert gases		
Note on the operating/pilot medium	Lubricated operation 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 <sup>1)</sup>	2		
Food-safe <sup>2)</sup>	See supplementary information on materials		

- 1) Corrosion resistance class CRC 2 to Festo standard FN 940070  
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.
- 2) Additional information is available at [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

Weight [g]		
Size	MSB4	MSB6
Service unit	1500	1750
Mounting bracket	40	76



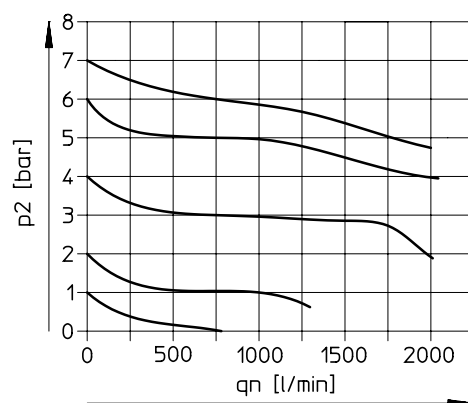
**Note**

Materials → Data sheet for the individual components

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

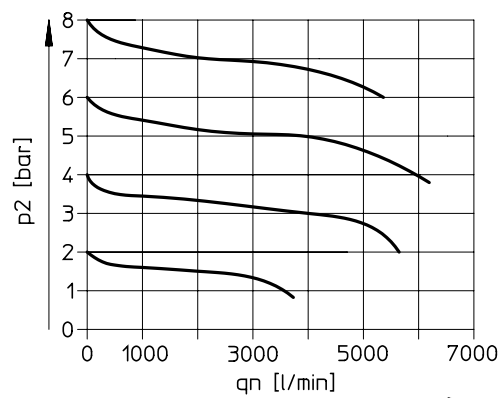
Pressure regulation range 1 ... 12 bar Degree of filtration 40  $\mu\text{m}$   
MSB4-1/4

Primary pressure  $p_1 = 10$  bar



MSB6-1/2

Primary pressure  $p_1 = 10$  bar

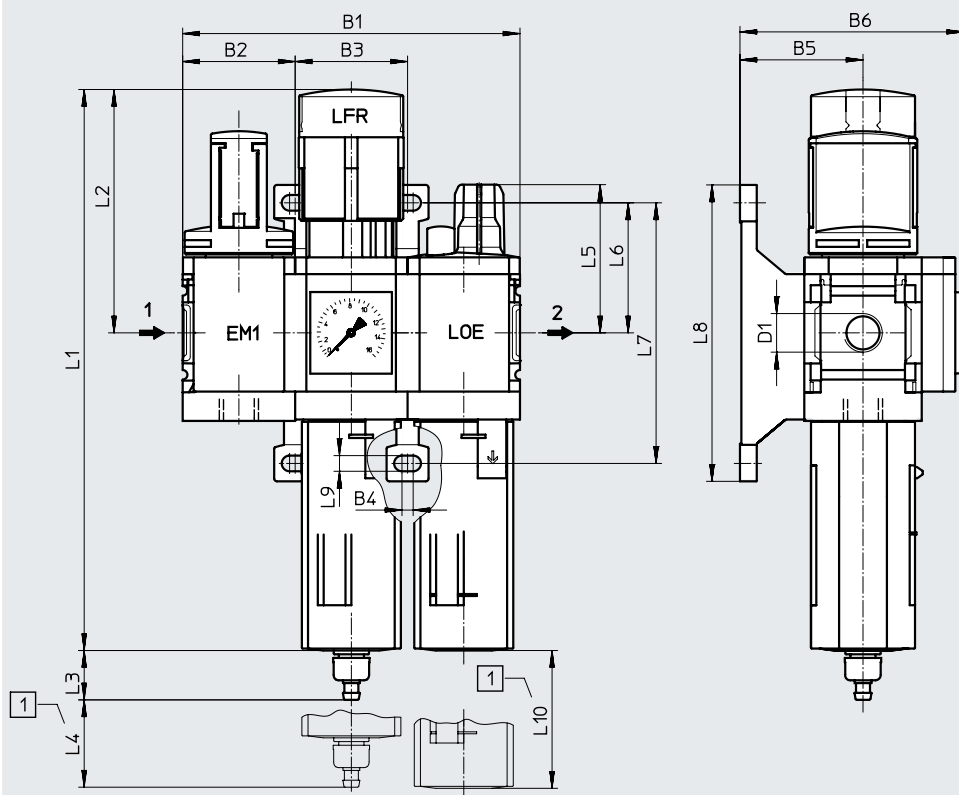


## Data sheet – Combination 6

### Dimensions

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

Manually operated on/off valve, filter regulator with pressure gauge, lubricator



[1] Installation dimension

→ Flow direction

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	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 ISO 228-1.

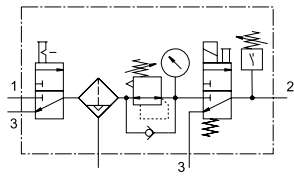
### Ordering data

Size	Connection	Condensate drain	Degree of filtration [µm]	Part no.	Type
<b>Pressure regulation range 1 ... 12 bar, pressure gauge with outer scale in bar and inner scale in psi</b>					
MSB4	G1/4	Manual rotary	40	542296	MSB4-1/4:C3J1M1-WP
MSB6	G1/2	Manual rotary	40	542272	MSB6-1/2:C3J1M1-WP
		Fully automatic	40	542278	MSB6-1/2:C3J2M1-WP

## Data sheet – Combination 7

### Function

With manual rotary condensate drain



- - Flow rate 1400 ... 4400 l/min
- - Temperature range 0 ... +50°C
- - Pressure regulation range 0.5 ... 10 bar
- - Spare parts service

- On/off valve MS...-EM1, manually operated
- Filter regulator MS...-LFR with pressure gauge
- On/off valve MS...-EE-10V24P-AD7, solenoid actuated, with pressure sensor for status indication
- Mounting bracket MS...-WP



- For filtered and unlubricated compressed air
- Supply pressure can be switched on or off
- Output pressure is infinitely adjustable within the pressure regulation range
- When the unit is switched off, quick venting ensures rapid pressure reduction
- Electrical pressure monitoring with adjustable switching pressure

General technical data		MSB4	MSB6
Size			
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		With accessories	
Mounting position		Vertical ±5°	
Grade of filtration	[µm]	40	
Air quality class at the output		Compressed air to ISO 8573-1:2010 [7:4:4]	
Bowl guard		Plastic bowl guard	
Condensate drain		Manual rotary	
Actuator lock		Rotary knob with detent, can be locked using accessories	
Pressure regulation range	[bar]	0.5 ... 7 0.5 ... 10	
Pressure indication		Via pressure sensor with status indication for displaying the output pressure and with electrical output Via pressure gauge for indicating the output pressure	

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

### Electrical data – On/off valve MS...-EE-10V24P-AD7

Characteristic coil data		24 V DC: 1.8 W; perm. voltage fluctuations -15%/+10%
Electrical connection		M12x1 to IEC 61076-2-101
Degree of protection for solenoid coil		IP65
Duty cycle	[%]	100

## Data sheet – Combination 7

<b>Standard nominal flow rate qnN [l/min]</b>		
Size	MSB4	MSB6
<b>Pressure regulation range 0.5 ... 7 bar</b>		
Grade of filtration	40 µm	1600
		4400
<b>Pressure regulation range 0.5 ... 10 bar</b>		
Grade of filtration	40 µm	1400
		4000


<b>Operating and environmental conditions</b>		
Condensate drain	Manual rotary	
Size	MSB4	MSB6
Operating pressure [bar]	0.8 ... 14	0.8 ... 18
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]	
	Inert gases	
Note on the operating/pilot medium	Lubricated operation 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 <sup>1)</sup>	2	
Food-safe <sup>2)</sup>	See supplementary information on materials	

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

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

2) Additional information is available at [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

<b>Weight [g]</b>		
Size	MSB4	MSB6
Service unit	1600	2000
Mounting bracket	40	76

 **Note**

Materials → Data sheet for the individual components

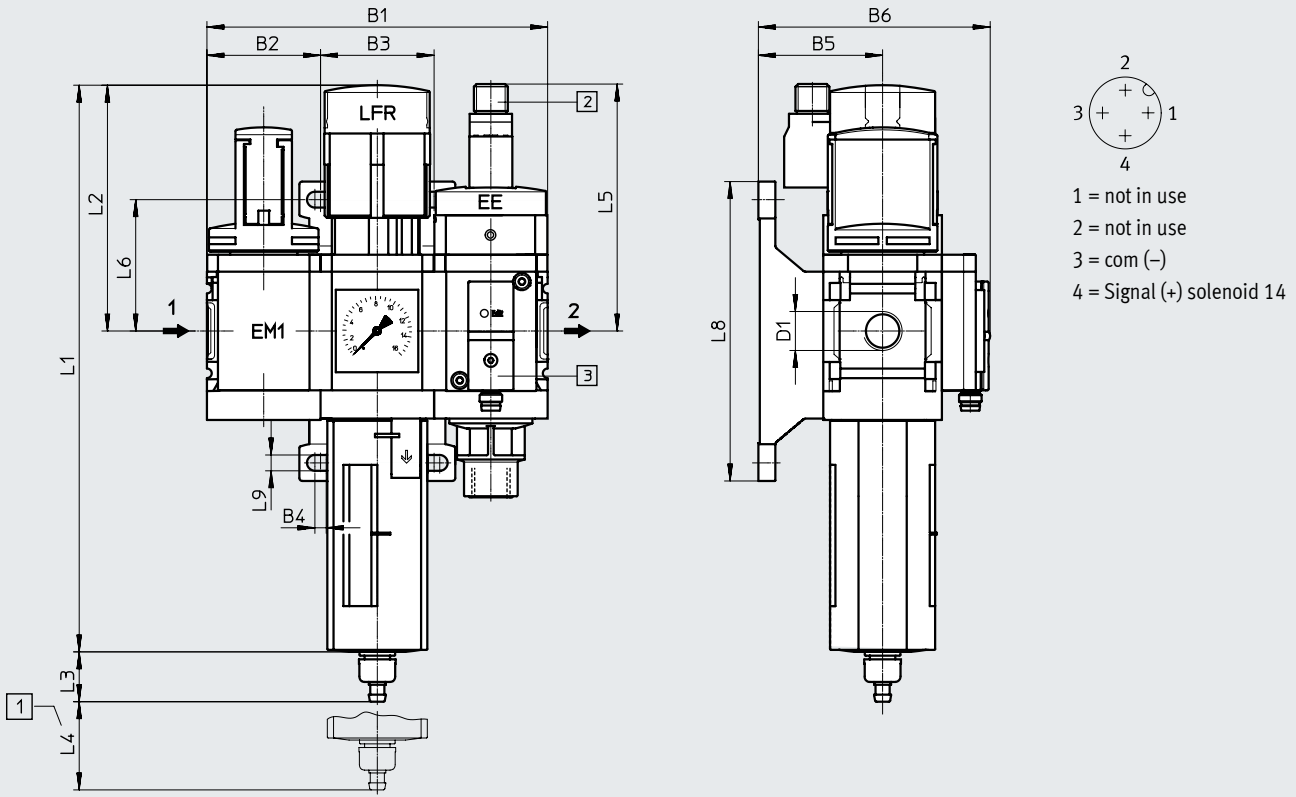


Data sheet – Combination 7

Dimensions

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

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



[1] Installation dimension  
 [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	G1/4
MSB6	186	62	62	4.5	54	102	G1/2

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 ISO 228-1.

## Data sheet – Combination 7

### ★ Core product range

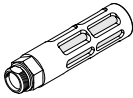
Ordering data					
Size	Connection	Condensate drain	Degree of filtration [µm]	Part no.	Type
<b>Pressure regulation range 0.5 ... 10 bar, pressure gauge with outer scale in bar and inner scale in psi</b>					
MSB4	G1/4	Manual rotary	40	★ 8025358	MSB4-1/4:C3:J1:D14-WP
MSB6	G1/2	Manual rotary	40	★ 8025359	MSB6-1/2:C3:J1:D14-WP


Ordering data					
Size	Connection	Condensate drain	Degree of filtration [µm]	Part no.	Type
<b>Pressure regulation range 0.5 ... 7 bar, pressure gauge with outer scale in MPa</b>					
MSB4	G1/4	Manual rotary	40	8042666	MSB4-1/4:C3:J120:D14-WP
MSB6	G1/2	Manual rotary	40	8042670	MSB6-1/2:C3:J120:D14-WP


Festo core product range

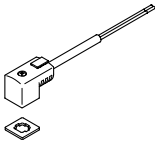
- ★ Generally ready for shipping ex works in 24 hours
- ☆ Generally ready for shipping ex works in 5 days


## Accessories

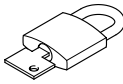
Ordering data – Silencers U				Data sheets → Internet: u
	Description	Pneumatic connection	Part no.	Type
	For MS4-EM1/EE	G1/4	6842	U-1/4-B
	For MS6-EM1/EE	G1/2	6844	U-1/2-B

Ordering data – Angled socket PEV						Data sheets → Internet: pev
	Description	Operating voltage range	Electrical connection	Switching status indication	Part no.	Type
	For PEV-1/4-...-OD	15 ... 30 V DC	4-pin	Yellow LED	164274	PEV-1/4-WD-LED-24
		≤ 230 V AC ≤ 180 V DC	4-pin	Yellow LED	164275	PEV-1/4-WD-LED-230

Ordering data – Plug socket MSSD						Data sheets → Internet: mssd
	Description	Operating voltage range	Electrical connection	Type of mounting for cable connection	Part no.	Type
	For PEV-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							Data sheets → Internet: kmeb
	Description	Operating voltage	Electrical connection	Switching status indication	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	
		230 V AC	3-pin	–	10	193457	KMEB-1-24-10-LED
					2.5	151690	KMEB-1-230AC-2.5
				–	5	151691	KMEB-1-230AC-5

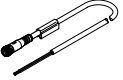

Ordering data – Illuminating seal MEB-LD					Data sheets → Internet: meb
	Description	Operating voltage range	Part no.	Type	
	For plug socket with cable KMEB and plug socket MSSD-EB	12 ... 24 V DC	151717	MEB-LD-12-24DC	
		230 V DC/AC ±10%	151718	MEB-LD-230AC	

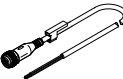
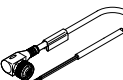
Ordering data – Padlock LRVS-D				
	Description	Weight [g]	Part no.	Type
	For filter and pressure regulators	120	193786	LRVS-D

Festo core product range

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

## Accessories

Ordering data – Connecting cable NEBU-M8					Data sheets → 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					Data sheets → 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