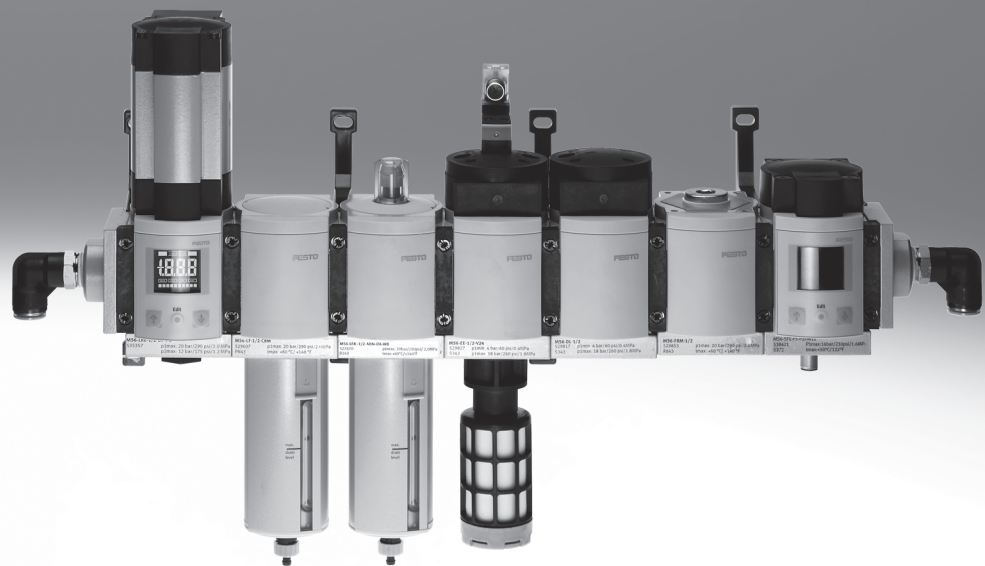


# Service unit combinations MSB, MS series



Festo core product range  
Covers 80% of your automation tasks

Worldwide:

Always in stock

Superb:

Festo quality at an attractive price

Easy:

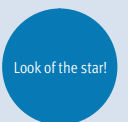
Reduces procurement and storing complexity



Ready for dispatch from the Festo factory in 24 hours  
Held in stock in 13 service centres worldwide  
More than 2200 products



Ready for dispatch in 5 days maximum from stock  
Assembled for you in 4 service centres worldwide  
Up to  $6 \times 10^{12}$  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](http://www.festo.com/engineering/wartungseinheit)**

**Air quality**  
 This program supports configuring an appropriate service unit. Please insert the required air cleanliness either by your application or an ISO-code or by direct selection of air filters.  
**Selection criteria: Application**  
 Filter combination is proposed based upon your selected application:  
 standard pneumatics (operation of valves and cylinders, e.g. in automotive industry, secondary packaging)  
 mining and building industry (application without special air-cleaning requirements)  
 application of pressure operated tools and machines: (pneumatic hammer, air engine, positioning with proportional valve)  
 electronic, flatpanel and solar industry, textile and paper production (application with residual oil content <0.5 mg/m<sup>3</sup>)  
 painting, powder coating, air bearing (application with residual oil content <0.01 mg/m<sup>3</sup>)  
 food and beverage industry, optics (application with residual oil content <0.005 mg/m<sup>3</sup> reduction of oil vapours and aerosols)

**Selection criteria: ISO-class**  
 Filter combination is proposed based upon the air cleanliness class according to ISO 8573-1:2010

particle : 4 \* : oil

**Direct filter selection**  
 Independent selection of filter combination:  
 40 µm Filter  
 5 µm Filter  
 1 µm Fine Filter  
 0.01 µm Micro Filter \*  
 Active Carbon Filter

**ISO**

\* Downstream from the compressor the water content is assumed to be ISO class 4, better classes can be achieved by applying an adsorption dryer (DSD) or a membrane dryer (DMT)

\* To enhance the filter lifetime and in consequence the maintenance interval arrange a 1 µm Fine Filter in front of the 0.01 µm Micro Filter as a preliminary filter.

## Integrated sensors      Safety functions      Energy savings      Intelligent mix of sizes



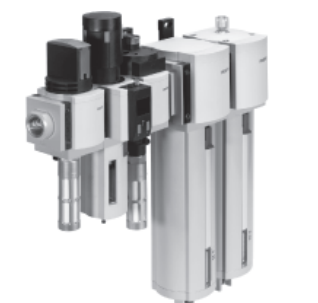
- Maximum machine availability through controlled processes
- Reliable compressed air preparation and supply for systems
- Integrable or stand-alone
- Easy to connect with M8/M12 plug



- 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
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 <sup>1)</sup> [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
<b>Combinations</b>								
<b>Service units MSB-FRC</b> <span style="float: right;">Technical data → 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;">Technical data → Internet: msb</span>								
	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
<b>Service units MSE6</b> <span style="float: right;">Technical data → Internet: mse6</span>								
	Combinations with fieldbus connection for measuring pressure, flow rate and consumption	6	-	-	-	-	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
<b>Individual devices</b>								
<b>Filter regulators MS-LFR</b>							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	–
<b>Filters MS-LF</b>							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	–
<b>Fine and micro filters MS-LFM</b>							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	–
<b>Activated carbon filters MS-LFX</b>							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	–
<b>Water separators MS-LWS</b>							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

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
<b>Individual devices</b>								
<b>Pressure regulators MS-LR</b> <span style="float: right;">Technical data → Internet: ms-lr</span>								
	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> <span style="float: right;">Technical data → Internet: ms-lrb</span>								
	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	–
<b>Precision pressure regulators MS-LRP</b> <span style="float: right;">Technical data → Internet: ms-lrp</span>								
	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
<b>Precision pressure regulators MS-LRPB</b> <span style="float: right;">Technical data → Internet: ms-lrpb</span>								
	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>Electrical pressure regulators MS-LRE</b> <span style="float: right;">Technical data → Internet: ms-lre</span>								
	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> <span style="float: right;">Technical data → Internet: ms-loe</span>								
	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

Key features





FESTO

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
<b>Individual devices</b>								
<b>On/off valves MS-EM</b>							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	–
<b>On/off valves MS-EE</b>								
<b>On/off valves MS-EE</b>							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	–
<b>Soft-start valves MS-DL</b>								
<b>Soft-start valves MS-DL</b>							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	–
<b>Soft-start valves MS-DE</b>								
<b>Soft-start valves MS-DE</b>							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	–
<b>Soft-start/quick exhaust valves MS-SV</b>								
<b>Soft-start/quick exhaust valves MS-SV</b>							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
	Up to category 4, PL e.	6	–	–	1/2	–	1/4, 3/8, 1/2, 3/4	–

# MS series service unit components

Key features

FESTO

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
<b>Individual devices</b>								
<b>Membrane air dryers MS-LDM1</b> <span style="float: right;">Technical data → Internet: ms-ldm</span>								
	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> <span style="float: right;">Technical data → Internet: ms-frm</span>								
	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	-
<b>Distributor blocks MS-FRM-FRZ</b> <span style="float: right;">Technical data → Internet: ms-frm-frz</span>								
	Compressed air distributor with 4 connections and half the grid dimension width	4	-	-	-	-	-	-
		6	-	-	-	-	-	-
<b>Flow sensors SFAM</b> <span style="float: right;">Technical data → Internet: sfam</span>								
	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 MSB, MS series

Key features



## Configurable service unit combinations MSB

Overview



- 3 sizes:  
MSB4 – grid dimension 40 mm  
MSB6 – grid dimension 62 mm  
MSB9 – grid dimension 90 mm
- Threaded connections in the product housing or with connecting plates
- Type of mounting and flow direction can be optionally selected
- Can be configured in accordance with the ATEX directive for explosive atmospheres
- Food safe (MSB4/MSB6)



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## Configurator

The configurator enables step-by-step configuration of complex service unit combinations. It is divided into a basic configuration and the individual service unit configurations.

The technical parameters for the entire service unit combination are defined

using the features of the basic configuration. All service unit configurations define the service unit along with the general technical conditions.

You can navigate through your configuration using the structure [1]. All of the features available for selection are

stored in drop-down lists [2]. Missing or incomplete information is indicated by an exclamation mark. Features shown against a grey background cannot be selected in the selected configuration → table "Conditions and exclusion of features".

If you select a feature shown against a grey background, red font will indicate that the configuration is incorrect.

A dynamic graphic [3] and the order code [4] (→ type codes) are created in accordance with your current configuration.

Close

## Service unit combination MSB6

Select features
Product list
My favourites

MSB6-AGD:D4:A1:J1:F1:I5-WP [4]

[1]

- Basic configuration
  - Basic function
  - Size
  - Connection size
  - Mounting type
  - EU certification
  - >>> Alternative flow direction
- Service unit 1
  - Service unit equipment position
  - >>> Supply voltage 1
  - >>> Silencer 1
- Service unit 2
- Service unit 3
- Service unit 4
- Service unit 5
- Service unit 6
- Service unit 7

**Basic configuration**

Basic function	MSB Standard manifold
Size	6 [2]
Connection size	AGD Connecting plate G1/2
Mounting type	WP Mounting bracket
EU certification	None
>>> Alternative flow direction	Flow direction from left to right

Value Z: with LRB(O1-O6), LRPB(R1-R4) pressure output to the front

**Service unit 1**

Service unit equipment position 1	EE On-off valve, electrical
>>> Supply voltage 1	V24 24 V DC
>>> Silencer 1	S Silencer

Add to basket

2D/3D view

Accessories

Documentation

Data Sheet

Display Overview

Save as

Reset

---

Valid selection

request your price

# 531030

W - One week delivery time

Exemplary representation



# Service unit combinations MSB, MS series

Key features

## Information

### General

The adjacent columns and the product range overview (→ 3) provide a brief overview of the available service units of a specific size.

You can find the breakdown of the service unit short code transferred in the order code for the size MSB4/MSB6 from page 12 onwards and for the size MSB9 from page 31 onwards.

You can find detailed information and all of the technical data in the documentation for the corresponding service unit. To do so, enter the code for the service unit (e.g. MS6-EE) in the search window in the product catalogue and select Documentation.

### Note

Individual devices with selected features are available for the configurable service unit combinations → Overview lists. Further feature options can be selected via the configurable individual device.

1) Not available in all markets.

### ★ 531029 MSB4 (ISO) 532306 MSB4N (NPT)<sup>1)</sup>

- Filter regulator MS4-LFR
- Pressure regulator MS4-LR
- Pressure regulator for manifold assembly MS4-LRB
- Filter MS4-LF
- Fine and micro filter MS4-LFM
- Activated carbon filter MS4-LFX
- Lubricator MS4-LOE
- Manual on-off valve MS4-EM1
- Electric on-off valve MS4-EE
- Pneumatic soft-start valve MS4-DL
- Electric soft-start valve MS4-DE
- Membrane air dryer MS4-LDM1
- Branching module MS4-FRM

### ★ 531030 MSB6 (ISO) 532307 MSB6N (NPT)<sup>1)</sup>

- Filter regulator MS6-LFR
- Pressure regulator MS6-LR
- Pressure regulator for manifold assembly MS6-LRB
- Precision pressure regulator MS6-LRP
- Precision pressure regulator for manifold assembly MS6-LRPB
- Electric pressure regulator MS6-LRE
- Filter MS6-LF
- Fine and micro filter MS6-LFM
- Activated carbon filter MS6-LFX
- Water separator MS6-LWS
- Lubricator MS6-LOE
- Manual on-off valve MS6-EM1
- Electric on-off valve MS6-EE
- Pneumatic soft-start valve MS6-DL
- Electric soft-start valve MS6-DE
- Soft-start and exhaust valve MS6-SV
- Membrane air dryer MS6-LDM1
- Branching module MS6-FRM
- Flow sensor SFAM-62

### 552938 MSB9 (ISO + NPT)

- Filter regulator MS9-LFR
- Pressure regulator MS9-LR
- Filter MS9-LF
- Fine and micro filter MS9-LFM
- Activated carbon filter MS9-LFX
- Water separator MS9-LWS
- Lubricator MS9-LOE
- Manual on-off valve MS9-EM
- Electric on-off valve MS9-EE
- Soft-start and exhaust valve MS9-SV
- Branching module MS9-FRM
- Flow sensor SFAM-90

## Notes on individual service units and their features

### MS-LFR and MS-LF:

- Grade of filtration with feature E (40 µm) or C (5 µm)

### MS-LFM:

- Grade of filtration with feature B (1 µm) or A (0.01 µm)
- Filter contamination sensor with feature DA is an optical differential pressure indicator with red-green range
- Filter contamination sensor with feature DP is an electric filter contamination indicator with switching output

### MS-LRB/LRPB:

- Pressure output is to the rear, the pressure output is to the front if the feature Z (alternative flow direction) is selected

### MS-EE and MS-DE:

- The supply voltage with feature 10V24 is only permissible up to an operating voltage of max. 10 bar
- With the supply voltages with feature V24/V110/V230 the solenoid head has a non-detenting/detenting manual override, with feature 10V24 just a non-detenting manual override

### MS-LDM1:

- Flow cartridge with feature P05, P10 only for MSB4; with feature P20, P30, P40 only for MSB6

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

Key features

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## Conditions and exclusions of features

### Note

If a service unit combination is configured with ISO thread then the individual devices also have ISO thread (e.g. the outlets of the branching module MS-FRM), individual devices with integrated MS pressure gauge (e.g. the pressure regulator MS-LR) have a display scale in [bar].

If you configure a service unit combination with NPT thread, the other pneumatic connections are equipped with NPT threads and integrated MS pressure gauges with the display unit [psi].

In addition to the conditions and exclusions mentioned here, you can also obtain information by selecting the information button beside some of the selection lists in the configurator.

## General rules

- Selection of at least 2 to at most 10 service units
- 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
- Mounting bracket for large wall gap WPB must be chosen if the combination contains the electric pressure regulator MS-LRE, the soft-start and exhaust valve MS-SV-E or the lockable regulator MS-LRB without angled outlet block
- 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

## Service unit-specific rules

### MS-LFM:

- Only manual condensate drain permissible with MS4-LFM with plastic bowl

### MS-DL:

- No filter MS-LFR/LF/LFM with fully automatic condensate drain downstream of MS4-DL

### SFAM:

- Connection size of the service unit combination must be at least G $\frac{1}{2}$  for SFAM-62 and at least G $\frac{3}{4}$  for SFAM-90
- An SFAM cannot be installed directly downstream of a regulator MS-LFR/LR; a branching module MS-FRM must be positioned between them
- SFAM-90 only in flow direction from left to right

### MS-SV-D/E:

- Must be the last service unit in the flow direction

# Service unit combinations MSB, MS series

Key features

## ATEX certification

A configured service unit combination consisting of mechanical service units can be used in zones 1 and 2 of explosive gas atmospheres and in zones 21 and 22 of explosive dust atmospheres. The following service units are approved and can be selected using the code EX4 in the order section "EU certification":

- Filter regulator MS4/6/9-LFR
- Pressure regulator MS4/6/9-LR
- Pressure regulator for manifold assembly MS4/6-LRB
- Precision pressure regulator MS6-LRP
- Precision pressure regulator for manifold assembly MS6-LRPB

- Filter MS4/6/9-LF
- Fine and micro filter MS4/6/9-LFM
- Activated carbon filter MS4/6/9-LFX
- Water separator MS6/9-LWS
- Lubricator MS4/6-LOE
- Manual on-off valve MS4/6-EM1, MS9-EM
- Pneumatic soft-start valve MS4/6-DL
- Membrane air dryer MS4/6-LDM1
- Branching module MS4/6/9-FRM

A configured service unit combination consisting of mechanical and electric service units can be used in zone 2 of explosive gas atmospheres and in zone 22 of explosive dust atmospheres. In this case, the code EX2 must be selected in the order section "EU certification". The following electric service units are approved in addition to the mechanical service units:

- Electric on-off valve MS4/6/9-EE
- Electric soft-start valve MS4/6-DE
- Flow sensor SFAM

- Supplied with special accessories, e.g. mounting brackets, module connectors, connecting plates with earthing screws
- Only connecting plates with G thread possible
- Lubricated operation not permissible
- On-off valve MS-EE or soft-start valve MS-DE only with 24 V supply voltage

EU certification	EX2	EX4
<b>MSB4/6</b>		
ATEX category for gas	II 3G	II 2G
Explosion ignition protection type for gas	Ex nA IIC T4 X Gc	Ex h IIC T6 Gb X
ATEX category for dust	II 3D	II 2D
Explosion ignition protection type for dust	Ex tc IIIC T105°C X Dc IP65	Ex h IIIC T60°C Db X
Explosion-proof temperature rating	-10 °C ≤ Ta ≤ +60 °C	
	+5 °C ≤ Ta ≤ +60 °C <sup>1)</sup>	
	+2 °C ≤ Ta ≤ +50 °C <sup>2)</sup>	
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)	
	To EU EMC Directive	-
	To EU Low Voltage Directive	-
<b>MSB9</b>		
ATEX category for gas	II 3G	II 2G
Explosion ignition protection type for gas	Ex nA IIC T5 X Gc	Ex h IIC T6 Gb X
ATEX category for dust	II 3D	II 2D
Explosion ignition protection type for dust	Ex tc IIIB T95°C X Dc IP54	Ex h IIIC T60°C Db X
Explosion-proof temperature rating	-10 °C ≤ Ta ≤ +50 °C	-10 °C ≤ Ta ≤ +60 °C
	+5 °C ≤ Ta ≤ +50 °C <sup>1)</sup>	+5 °C ≤ Ta ≤ +60 °C <sup>1)</sup>
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)	

1) When using a service unit with manual / semi-automatic / fully automatic condensate drain.  
 2) When using a membrane air dryer MS4/6-LDM1.

## UL certification

Component certified by UL for the market in the USA and Canada for normal environments. To be selected using the code UL1 in the order section "UL certification",

- Operating pressure/pressure regulation range max. 10 bar
- Supply voltage for on-off valve MS-EE or soft-start valve MS-DE max. 24 V DC

# Service unit combinations MSB4/6, MS series

Type codes

MSB4 with G thread

MSB 4 - 1/8 : : ... : - WP - - -

Series	
MSB	Standard service unit combination

Size	
4	Grid dimension 40 mm

Pneumatic connection	
1/8	Female thread G1/8
1/4	Female thread G1/4
AGA	Connecting plate G1/8
AGB	Connecting plate G1/4
AGC	Connecting plate G3/8
AQK	Connecting plate NPT3/8
AQN	Connecting plate NPT1/2
AQP	Connecting plate NPT3/4

Service unit equipment		
Code 1	Selection → Overview list	Position 1
Code 2		Position 2
...		...
Code 10		Position 10

Type of mounting	
	Without mounting bracket
WP	Mounting bracket standard design
WPB	Mounting bracket for large wall gap
WPM	Mounting bracket for attaching the service units

EU certification	
	None
EX2	II 3GD to EU Explosion Protection Directive (ATEX)
EX4	II 2GD to EU Explosion Protection Directive (ATEX)

UL certification	
	None
UL1	cULus, ordinary location for Canada and USA

Flow direction	
	From left to right
Z	From right to left

# Service unit combinations MSB4/6, MS series

Type codes

MSB6 with G thread

MSB 6 - 1/2 : : ... : - WP - - -

Series	
MSB	Standard service unit combination

Size	
6	Grid dimension 62 mm

Pneumatic connection	
1/4	Female thread G1/4
3/8	Female thread G3/8
1/2	Female thread G1/2
AGB	Connecting plate G1/4
AGC	Connecting plate G3/8
AGD	Connecting plate G1/2
AGE	Connecting plate G3/4
AQN	Connecting plate NPT1/4
AQP	Connecting plate NPT3/8
AQR	Connecting plate NPT1/2
AQS	Connecting plate NPT3/4

Service unit equipment		
Code 1	Selection → Overview list	Position 1
Code 2		Position 2
...		...
Code 10		Position 10

Type of mounting	
	Without mounting bracket
WP	Mounting bracket standard design
WPB	Mounting bracket for large wall gap
WPM	Mounting bracket for attaching the service units

EU certification	
	None
EX2	II 3GD to EU Explosion Protection Directive (ATEX)
EX4	II 2GD to EU Explosion Protection Directive (ATEX)

UL certification	
	None
UL1	cULus, ordinary location for Canada and USA

Flow direction	
	From left to right
Z	From right to left

# Service unit combinations MSB4/6, MS series

Type codes

MSB4/6 with NPT thread

MSB 6 N - 1/2 : : ... : - WP -

Series	
MSB	Standard service unit combination

Size	
4	Grid dimension 40 mm
6	Grid dimension 62 mm

Thread	
N	NPT

Pneumatic connection	
MSB4N	
1/8	Female thread NPT1/8
1/4	Female thread NPT1/4
AQK	Connecting plate NPT1/8
AQN	Connecting plate NPT1/4
AQP	Connecting plate NPT3/8
MSB6N	
1/4	Female thread NPT1/4
3/8	Female thread NPT3/8
1/2	Female thread NPT1/2
AQN	Connecting plate NPT1/4
AQP	Connecting plate NPT3/8
AQR	Connecting plate NPT1/2
AQS	Connecting plate NPT3/4

Service unit equipment		
Code 1	Selection → Overview list	Position 1
Code 2		Position 2
...		...
Code 10		Position 10

Type of mounting	
	Without mounting bracket
WP	Mounting bracket standard design
WPB	Mounting bracket for large wall gap
WPM	Mounting bracket for attaching the service units

Flow direction	
	From left to right
Z	From right to left

# Service unit combinations MSB4/6, MS series

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
<b>Soft-start valve MS-DL, pneumatically actuated</b>				
A1	■	■	MS-DL	Cover plate
A2	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-DL-AD7	Pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
1) Female thread only with G $\frac{1}{4}$ (MS4) or G $\frac{1}{2}$ (MS6)				
<b>Soft-start valve MS-DE, electrically actuated</b>				
B1	■	■	MS-DE-V24	Supply voltage 24 V DC, operating pressure 4 ... 14 bar (MS4) / 4 ... 18 bar (MS6), electrical connection to EN 175301-803 (plug connector, type C), cover plate
B2	■	■	MS-DE-V110	Supply voltage 110 V AC, operating pressure 4 ... 14 bar (MS4) / 4 ... 18 bar (MS6), electrical connection to EN 175301-803 (plug connector, type C), cover plate
B3	■	■	MS-DE-V230	Supply voltage 230 V AC, operating pressure 4 ... 14 bar (MS4) / 4 ... 18 bar (MS6), electrical connection to EN 175301-803 (plug connector, type C), cover plate
B4	■	■	MS-DE-10V24	Supply voltage 24 V DC, operating pressure 4 ... 10 bar, electrical connection to EN 175301-803 (plug connector, type C), cover plate
B5	■	■	MS-DE-V24-EX2	Supply voltage 24 V DC, operating pressure 4 ... 14 bar (MS4) / 4 ... 18 bar (MS6), electrical connection to EN 175301-803 (plug connector, type C), cover plate, to EU Explosion Protection Directive (ATEX)
<b>On-off valve MS-EM1, manually actuated</b>				
C3	■	■	MS-EM1	Without silencer, cover plate
C4	■	■	MS-EM1-S	Silencer, cover plate
<b>On-off valve MS-EE, electrically actuated</b>				
D1	■	■	MS-EE-V24	Supply voltage 24 V DC, operating pressure 4 ... 14 bar (MS4) / 4 ... 18 bar (MS6), electrical connection to EN 175301-803 (plug connector, type C), without silencer, cover plate
D2	■	■	MS-EE-V110	Supply voltage 110 V AC, operating pressure 4 ... 14 bar (MS4) / 4 ... 18 bar (MS6), electrical connection to EN 175301-803 (plug connector, type C), without silencer, cover plate
D3	■	■	MS-EE-V230	Supply voltage 230 V AC, operating pressure 4 ... 14 bar (MS4) / 4 ... 18 bar (MS6), electrical connection to EN 175301-803 (plug connector, type C), without silencer, cover plate
D4	■	■	MS-EE-V24-S	Supply voltage 24 V DC, operating pressure 4 ... 10 bar, electrical connection to EN 175301-803 (plug connector, type C), silencer, cover plate
D5	■	■	MS-EE-V110-S	Supply voltage 110 V AC, operating pressure 4 ... 10 bar, electrical connection to EN 175301-803 (plug connector, type C), silencer, cover plate
D6	■	■	MS-EE-V230-S	Supply voltage 230 V AC, operating pressure 4 ... 10 bar, electrical connection to EN 175301-803 (plug connector, type C), silencer, cover plate
D7	■	■	MS-EE-10V24	Supply voltage 24 V DC, operating pressure 4 ... 10 bar, electrical connection to EN 175301-803 (plug connector, type C), without silencer, cover plate
D8	■	■	MS-EE-10V24-S	Supply voltage 24 V DC, operating pressure 4 ... 10 bar, electrical connection to EN 175301-803 (plug connector, type C), silencer, cover plate
D9	■	■	MS-EE-V24-EX2	Supply voltage 24 V DC, operating pressure 4 ... 14 bar (MS4) / 4 ... 18 bar (MS6), electrical connection to EN 175301-803 (plug connector, type C), without silencer, cover plate, to EU Explosion Protection Directive (ATEX)
D10	■	■	MS-EE-V24-S-EX2	Supply voltage 24 V DC, operating pressure 4 ... 10 bar, electrical connection to EN 175301-803 (plug connector, type C), silencer, cover plate, to EU Explosion Protection Directive (ATEX)
D12	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-EE-10V24-AD7	Supply voltage 24 V DC, operating pressure 4 ... 10 bar, electrical connection to EN 175301-803 (plug connector, type C), without silencer, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
D13	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-EE-10V24-S-AD7	Supply voltage 24 V DC, operating pressure 4 ... 10 bar, electrical connection to EN 175301-803 (plug connector, type C), silencer, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
1) Female thread only with G $\frac{1}{4}$ (MS4) or G $\frac{1}{2}$ (MS6)				

# Service unit combinations MSB4/6, MS series

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
<b>On-off valve MS-EE, electrically actuated</b>				
D14	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-EE-10V24P-AD7	Supply voltage 24 V DC, operating pressure 4 ... 10 bar, electrical connection to IEC 61076-2-101 (plug connector M12x1, 2-pin), without silencer, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
D15	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-EE-10V24P-S-AD7	Supply voltage 24 V DC, operating pressure 4 ... 10 bar, electrical connection to IEC 61076-2-101 (plug connector M12x1, 2-pin), silencer, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
D19	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-EE-10V24P	Supply voltage 24 V DC, operating pressure 4 ... 10 bar, electrical connection to IEC 61076-2-101 (plug connector M12x1, 2-pin), without silencer, cover plate
D20	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-EE-10V24P-S	Supply voltage 24 V DC, operating pressure 4 ... 10 bar, electrical connection to IEC 61076-2-101 (plug connector M12x1, 2-pin), silencer, cover plate
1) Female thread only with G1/4 (MS4) or G1/2 (MS6)				
<b>Branching module MS-FRM/distributor block MS-FRM-FRZ</b>				
F1	■	■	MS-FRM	Cover plate
F2	■	■	MS-FRM-I	Integrated non-return function, cover plate
F3	■	■	MS-FRM-Y	Pressure switch without display (plug socket, EN 175 301, type A, cube), cover plate
F6	■	■	MS-FRM-AD1	Pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin)
F7	■	■	MS-FRM-I-AD1	Integrated non-return function, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin)
F8	■	■	MS-FRM-M12	Pressure switch without display (plug socket, round, M12, 4-pin), cover plate
F9	■	■	MS-FRM-I-M12	Integrated non-return function, pressure switch without display (plug socket, round, M12, 4-pin), cover plate
F10	■	■	MS-FRM-AD3	Pressure sensor with LCD display (plug M12, 1 switching output PNP, 4-pin)
F11	■	■	MS-FRM-I-AD3	Integrated non-return function, pressure sensor with LCD display (plug M12, 1 switching output PNP, 4-pin)
F12	■	■	MS-FRM-AD7	Pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
F13	■	■	MS-FRM-I-AD7	Integrated non-return function, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
F14	■	■	MS-FRM-FRZ	Half grid dimension 20/31 mm
<b>Membrane air dryer MS-LDM1</b>				
G3	■	–	MS-LDM1-P05	Flow cartridge 50 l/min
G4	■	–	MS-LDM1-P10	Flow cartridge 100 l/min
G5	–	■	MS-LDM1-P20	Flow cartridge 200 l/min
G6	–	■	MS-LDM1-P30	Flow cartridge 300 l/min
G7	–	■	MS-LDM1-P40	Flow cartridge 400 l/min
<b>Filter MS-LF</b>				
H1	■	■	MS-LF-ERV	Grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain
H2	■	■	MS-LF-ERM	Grade of filtration 40 µm, plastic bowl guard, manual condensate drain
H3	■	■	MS-LF-CRM	Grade of filtration 5 µm, plastic bowl guard, manual condensate drain
H4	■	■	MS-LF-CRV	Grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain
H5	■	■	MS-LF-CUM	Grade of filtration 5 µm, metal bowl, manual condensate drain
H6	■	■	MS-LF-CUV	Grade of filtration 5 µm, metal bowl, fully automatic condensate drain
H7	■	■	MS-LF-EUV	Grade of filtration 40 µm, metal bowl, fully automatic condensate drain
H8	■	■	MS-LF-EUM	Grade of filtration 40 µm, metal bowl, manual condensate drain



## Service unit combinations MSB4/6, MS series

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
Fine and micro filter MS-LFM				
I1	■	■	MS-LFM-BRM	Grade of filtration 1 µm, plastic bowl guard, manual condensate drain
I2	–	■	MS-LFM-BRV	Grade of filtration 1 µm, plastic bowl guard, fully automatic condensate drain
I3	■	■	MS-LFM-ARM	Grade of filtration 0.01 µm, plastic bowl guard, manual condensate drain
I4	–	■	MS-LFM-ARV	Grade of filtration 0.01 µm, plastic bowl guard, fully automatic condensate drain
I5	■	■	MS-LFM-ARM-DA	Grade of filtration 0.01 µm, plastic bowl guard, manual condensate drain, optical differential pressure indicator
I6	–	■	MS-LFM-ARV-DA	Grade of filtration 0.01 µm, plastic bowl guard, fully automatic condensate drain, optical differential pressure indicator
I7	■	■	MS-LFM-BUV	Grade of filtration 1 µm, metal bowl, fully automatic condensate drain
I8	■	■	MS-LFM-AUV	Grade of filtration 0.01 µm, metal bowl, fully automatic condensate drain
I9	■	■	MS-LFM-BUV-DA	Grade of filtration 1 µm, metal bowl, fully automatic condensate drain, optical differential pressure indicator
I10	■	■	MS-LFM-BRM-DA	Grade of filtration 1 µm, plastic bowl guard, manual condensate drain, optical differential pressure indicator
I11	–	■	MS-LFM-BRV-DA	Grade of filtration 1 µm, plastic bowl guard, fully automatic condensate drain, optical differential pressure indicator
I12	■	■	MS-LFM-AUV-DA	Grade of filtration 0.01 µm, metal bowl, fully automatic condensate drain, optical differential pressure indicator
I13	■	■	MS-LFM-BRM-DP	Grade of filtration 1 µm, plastic bowl guard, manual condensate drain, filter contamination indicator (plug M8, PNP, 3-pin)
I14	–	■	MS-LFM-BRV-DP	Grade of filtration 1 µm, plastic bowl guard, fully automatic condensate drain, filter contamination indicator (plug M8, PNP, 3-pin)
I15	■	■	MS-LFM-ARM-DP	Grade of filtration 0.01 µm, plastic bowl guard, manual condensate drain, filter contamination indicator (plug M8, PNP, 3-pin)
I16	–	■	MS-LFM-ARV-DP	Grade of filtration 0.01 µm, plastic bowl guard, fully automatic condensate drain, filter contamination indicator (plug M8, PNP, 3-pin)
I17	■	■	MS-LFM-BUV-DP	Grade of filtration 1 µm, metal bowl, fully automatic condensate drain, filter contamination indicator (plug M8, PNP, 3-pin)
I18	■	■	MS-LFM-AUV-DP	Grade of filtration 0.01 µm, metal bowl, fully automatic condensate drain, filter contamination indicator (plug M8, PNP, 3-pin)
I23	–	■	MS-LFM-BUV-HF	Grade of filtration 1 µm, metal bowl, fully automatic condensate drain, high flow rate
I24	–	■	MS-LFM-AUV-HF	Grade of filtration 0.01 µm, metal bowl, fully automatic condensate drain, high flow rate
I25	–	■	MS-LFM-BUV-HF-DA	Grade of filtration 1 µm, metal bowl, fully automatic condensate drain, high flow rate, optical differential pressure indicator
I26	–	■	MS-LFM-AUV-HF-DA	Grade of filtration 0.01 µm, metal bowl, fully automatic condensate drain, high flow rate, optical differential pressure indicator
I27	–	■	MS-LFM-BUV-HF-DP	Grade of filtration 1 µm, metal bowl, fully automatic condensate drain, high flow rate, filter contamination indicator (plug M8, PNP, 3-pin)
I28	–	■	MS-LFM-AUV-HF-DP	Grade of filtration 0.01 µm, metal bowl, fully automatic condensate drain, high flow rate, filter contamination indicator (plug M8, PNP, 3-pin)
I29	–	■ <sup>1)</sup>	MS-LFM-ARV-HP	Grade of filtration 0.01 µm, plastic bowl guard, fully automatic condensate drain, low flow rate suitable for sealing air and cleaning air
I30	–	■ <sup>1)</sup>	MS-LFM-BRV-HP	Grade of filtration 1 µm, plastic bowl guard, fully automatic condensate drain, low flow rate suitable for sealing air and cleaning air
I31	–	■ <sup>1)</sup>	MS-LFM-ARV-HP-DP	Grade of filtration 0.01 µm, plastic bowl guard, fully automatic condensate drain, low flow rate suitable for sealing air and cleaning air, filter contamination indicator (plug M8, PNP, 3-pin)
I32	–	■ <sup>1)</sup>	MS-LFM-BRV-HP-DP	Grade of filtration 1 µm, plastic bowl guard, fully automatic condensate drain, low flow rate suitable for sealing air and cleaning air, filter contamination indicator (plug M8, PNP, 3-pin)

1) Female thread only with G<sup>1</sup>/<sub>2</sub> (MS6)

## Service unit combinations MSB4/6, MS series

FESTO

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
Filter regulator MS-LFR				
J1	■	■	MS-LFR-D7-ERM-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J2	■	■	MS-LFR-D7-ERV-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J3	■	■	MS-LFR-D7-CRM-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J4	■	■	MS-LFR-D7-CRV-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J5	■	■	MS-LFR-D6-ERM-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J6	■	■	MS-LFR-D6-ERV-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J7	■	■	MS-LFR-D6-CRM-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J8	■	■	MS-LFR-D6-CRV-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J9	■	■	MS-LFR-D7-CUM-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J10	■	■	MS-LFR-D7-CUV-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J11	■	■	MS-LFR-D7-EUM-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J12	■	■	MS-LFR-D7-EUV-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J13	■	■	MS-LFR-D7-ERM-AD1-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
J14	■	■	MS-LFR-D7-ERV-AD1-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
J15	■	■	MS-LFR-D7-CRM-AD1-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
J16	■	■	MS-LFR-D7-CRV-AD1-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories

## Service unit combinations MSB4/6, MS series

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
Filter regulator MS-LFR				
J17	■	■	MS-LFR-D6-ERM-AD1-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
J18	■	■	MS-LFR-D6-ERV-AD1-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
J19	■	■	MS-LFR-D6-CRM-AD1-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
J20	■	■	MS-LFR-D6-CRV-AD1-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
J21	■	■	MS-LFR-D7-EUM-AD1-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
J22	■	■	MS-LFR-D7-EUV-AD1-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
J23	■	■	MS-LFR-D7-CUM-AD1-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
J24	■	■	MS-LFR-D7-CUV-AD1-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
J35	■	■	MS-LFR-D7-ERM-AD7-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
J36	■	■	MS-LFR-D7-ERV-AD7-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
J37	■	■	MS-LFR-D7-CRM-AD7-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
J38	■	■	MS-LFR-D7-CRV-AD7-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
J39	■	■	MS-LFR-D6-ERM-AD7-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
J40	■	■	MS-LFR-D6-ERV-AD7-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
J41	■	■	MS-LFR-D6-CRM-AD7-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
J42	■	■	MS-LFR-D6-CRV-AD7-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories

## Service unit combinations MSB4/6, MS series

FESTO

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
Filter regulator MS-LFR				
J43	■	■	MS-LFR-D7-EUM-AD7-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
J44	■	■	MS-LFR-D7-EUV-AD7-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
J45	■	■	MS-LFR-D7-CUM-AD7-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
J46	■	■	MS-LFR-D7-CUV-AD7-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
J79	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D7-ERM-RG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J80	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D7-ERV-RG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J81	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D7-CRM-RG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J82	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D7-CRV-RG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J83	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D6-ERM-RG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J84	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D6-ERV-RG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J85	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D6-CRM-RG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J86	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D6-CRV-RG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J87	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D7-EUM-RG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J88	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D7-EUV-RG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J89	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D7-CUM-RG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J90	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D7-CUV-RG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
1) Female thread only with G¾ (MS4) or G½ (MS6)				

# Service unit combinations MSB4/6, MS series

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
Filter regulator MS-LFR				
J91	■ <sup>1)</sup>	–	MS-LFR-D7-ERM-A8-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LFR-D7-ERM-A4-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
J92	■ <sup>1)</sup>	–	MS-LFR-D7-ERV-A8-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LFR-D7-ERV-A4-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
J93	■ <sup>1)</sup>	–	MS-LFR-D7-CRM-A8-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LFR-D7-CRM-A4-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
J94	■ <sup>1)</sup>	–	MS-LFR-D7-CRV-A8-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LFR-D7-CRV-A4-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
J95	■ <sup>1)</sup>	–	MS-LFR-D6-ERM-A8-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LFR-D6-ERM-A4-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
J96	■ <sup>1)</sup>	–	MS-LFR-D6-ERV-A8-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LFR-D6-ERV-A4-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
J97	■ <sup>1)</sup>	–	MS-LFR-D6-CRM-A8-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LFR-D6-CRM-A4-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
J98	■ <sup>1)</sup>	–	MS-LFR-D6-CRV-A8-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LFR-D6-CRV-A4-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
1) Female thread only with G1/4 (MS4) or G1/2 (MS6)				

# Service unit combinations MSB4/6, MS series

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
<b>Filter regulator MS-LFR</b>				
J99	■ <sup>1)</sup>	–	MS-LFR-D7-EUM-A8-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LFR-D7-EUM-A4-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
J100	■ <sup>1)</sup>	–	MS-LFR-D7-EUV-A8-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LFR-D7-EUV-A4-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
J101	■ <sup>1)</sup>	–	MS-LFR-D7-CUM-A8-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LFR-D7-CUM-A4-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
J102	■ <sup>1)</sup>	–	MS-LFR-D7-CUV-A8-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LFR-D7-CUV-A4-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
J119	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D6-CRV-MPA-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, fully automatic condensate drain, integrated MS pressure gauge with outer scale in MPa, standard rotary knob with detent, lockable with accessories
J120	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D6-ERM-MPA-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, manual condensate drain, integrated MS pressure gauge with outer scale in MPa, standard rotary knob with detent, lockable with accessories
J121	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D6-ERV-MPA-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, plastic bowl guard, fully automatic condensate drain, integrated MS pressure gauge with outer scale in MPa, standard rotary knob with detent, lockable with accessories
J124	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LFR-D6-CRM-MPA-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, plastic bowl guard, manual condensate drain, integrated MS pressure gauge with outer scale in MPa, standard rotary knob with detent, lockable with accessories
1) Female thread only with G3/4 (MS4) or G1/2 (MS6)				
<b>Activated carbon filter MS-LFX</b>				
L1	■	■	MS-LFX-R	Plastic bowl guard
L2	■	■	MS-LFX-U	Metal bowl
L3	–	■	MS-LFX-U-HF	Metal bowl, high flow rate
L4	–	■ <sup>1)</sup>	MS-LFX-R-HP	Plastic bowl guard, low flow rate suitable for sealing air and cleaning air
1) Female thread only with G1/2 (MS6)				
<b>Lubricator MS-LOE</b>				
M1	■	■	MS-LOE-R	Plastic bowl guard
M2	■	■	MS-LOE-U	Metal bowl

## Service unit combinations MSB4/6, MS series

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
Pressure regulator MS-LR				
N1	■	■	MS-LR-D5-AS	Pressure regulation range 0.3 ... 4 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N2	■	■	MS-LR-D6-AS	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N3	■	■	MS-LR-D7-AS	Pressure regulation range 0.5 ... 12 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N4	■	■	MS-LR-D5-AD1-AS	Pressure regulation range 0.3 ... 4 bar, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
N5	■	■	MS-LR-D6-AD1-AS	Pressure regulation range 0.3 ... 7 bar, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
N6	■	■	MS-LR-D7-AD1-AS	Pressure regulation range 0.5 ... 12 bar, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories
N7	■	■	MS-LR-D5-KD-AS	Pressure regulation range 0.3 ... 4 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, rotary knob underneath, standard rotary knob with detent, lockable with accessories
N8	■	■	MS-LR-D6-KD-AS	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, rotary knob underneath, standard rotary knob with detent, lockable with accessories
N9	■	■	MS-LR-D7-KD-AS	Pressure regulation range 0.5 ... 12 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, rotary knob underneath, standard rotary knob with detent, lockable with accessories
N10	■	■	MS-LR-D5-AD1-KD-AS	Pressure regulation range 0.3 ... 4 bar, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), rotary knob underneath, standard rotary knob with detent, lockable with accessories
N11	■	■	MS-LR-D6-AD1-KD-AS	Pressure regulation range 0.3 ... 7 bar, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), rotary knob underneath, standard rotary knob with detent, lockable with accessories
N12	■	■	MS-LR-D7-AD1-KD-AS	Pressure regulation range 0.5 ... 12 bar, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), rotary knob underneath, standard rotary knob with detent, lockable with accessories
N19	■	■	MS-LR-D5-AD7-AS	Pressure regulation range 0.3 ... 4 bar, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
N20	■	■	MS-LR-D6-AD7-AS	Pressure regulation range 0.3 ... 7 bar, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
N21	■	■	MS-LR-D7-AD7-AS	Pressure regulation range 0.5 ... 12 bar, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories
N22	■	■	MS-LR-D5-AD7-KD-AS	Pressure regulation range 0.3 ... 4 bar, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), rotary knob underneath, standard rotary knob with detent, lockable with accessories
N23	■	■	MS-LR-D6-AD7-KD-AS	Pressure regulation range 0.3 ... 7 bar, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), rotary knob underneath, standard rotary knob with detent, lockable with accessories
N24	■	■	MS-LR-D7-AD7-KD-AS	Pressure regulation range 0.5 ... 12 bar, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), rotary knob underneath, standard rotary knob with detent, lockable with accessories
N28	–	■	MS-LR-D5-VS-DM2	Pressure regulation range 0.3 ... 4 bar, cover plate, large rotary knob pressure gauge
N29	–	■	MS-LR-D6-VS-DM2	Pressure regulation range 0.3 ... 7 bar, cover plate, large rotary knob pressure gauge
N30	–	■	MS-LR-D7-VS-DM2	Pressure regulation range 0.5 ... 12 bar, cover plate, large rotary knob pressure gauge
N31	■	–	MS-LR-D5-VS-DM1	Pressure regulation range 0.3 ... 4 bar, cover plate, small rotary knob pressure gauge
N32	■	–	MS-LR-D6-VS-DM1	Pressure regulation range 0.3 ... 7 bar, cover plate, small rotary knob pressure gauge
N33	■	–	MS-LR-D7-VS-DM1	Pressure regulation range 0.5 ... 12 bar, cover plate, small rotary knob pressure gauge

## Service unit combinations MSB4/6, MS series

FESTO

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
<b>Pressure regulator MS-LR</b>				
N47	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LR-D5-RG-AS	Pressure regulation range 0.3 ... 4 bar, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N48	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LR-D6-RG-AS	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N49	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LR-D7-RG-AS	Pressure regulation range 0.5 ... 12 bar, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N50	■ <sup>1)</sup>	–	MS-LR-D5-A8-AS	Pressure regulation range 0.3 ... 4 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LR-D5-A4-AS	Pressure regulation range 0.3 ... 4 bar, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
N51	■ <sup>1)</sup>	–	MS-LR-D6-A8-AS	Pressure regulation range 0.3 ... 7 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LR-D6-A4-AS	Pressure regulation range 0.3 ... 7 bar, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
N52	■ <sup>1)</sup>	–	MS-LR-D7-A8-AS	Pressure regulation range 0.5 ... 12 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories
	–	■ <sup>1)</sup>	MS-LR-D7-A4-AS	Pressure regulation range 0.5 ... 12 bar, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
N59	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LR-D5-MPA-AS	Pressure regulation range 0.3 ... 4 bar, integrated MS pressure gauge with outer scale in MPa, standard rotary knob with detent, lockable with accessories
N60	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LR-D6-MPA-AS	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with outer scale in MPa, standard rotary knob with detent, lockable with accessories
1) Female thread only with G <sup>3</sup> / <sub>4</sub> (MS4) or G <sup>1</sup> / <sub>2</sub> (MS6)				
<b>Pressure regulator MS-LRB</b>				
O1	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D5-AS	Pressure regulation range 0.3 ... 4 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
O2	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D6-AS	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
O3	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D7-AS	Pressure regulation range 0.5 ... 12 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
O4	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D5-AS-BD	Pressure regulation range 0.3 ... 4 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
O5	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D6-AS-BD	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
O6	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D7-AS-BD	Pressure regulation range 0.5 ... 12 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
1) Female thread only with G <sup>3</sup> / <sub>4</sub> (MS4) or G <sup>1</sup> / <sub>2</sub> (MS6)				



# Service unit combinations MSB4/6, MS series

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
Pressure regulator MS-LRB				
07	■ <sup>1)</sup>	–	MS-LRB-D5-A8-AS	Pressure regulation range 0.3 ... 4 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
	–	■ <sup>1)</sup>	MS-LRB-D5-A4-AS	Pressure regulation range 0.3 ... 4 bar, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
08	■ <sup>1)</sup>	–	MS-LRB-D6-A8-AS	Pressure regulation range 0.3 ... 7 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
	–	■ <sup>1)</sup>	MS-LRB-D6-A4-AS	Pressure regulation range 0.3 ... 7 bar, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
09	■ <sup>1)</sup>	–	MS-LRB-D7-A8-AS	Pressure regulation range 0.5 ... 12 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
	–	■ <sup>1)</sup>	MS-LRB-D7-A4-AS	Pressure regulation range 0.5 ... 12 bar, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
010	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D5-AD1-AS	Pressure regulation range 0.3 ... 4 bar, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
011	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D6-AD1-AS	Pressure regulation range 0.3 ... 7 bar, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
012	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D7-AD1-AS	Pressure regulation range 0.5 ... 12 bar, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
013	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D5-AD1-AS-BD	Pressure regulation range 0.3 ... 4 bar, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
014	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D6-AD1-AS-BD	Pressure regulation range 0.3 ... 7 bar, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
015	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D7-AD1-AS-BD	Pressure regulation range 0.5 ... 12 bar, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
016	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D5-VS-KD-AS	Pressure regulation range 0.3 ... 4 bar, cover plate, rotary knob underneath, standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
017	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D6-VS-KD-AS	Pressure regulation range 0.3 ... 7 bar, cover plate, rotary knob underneath, standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
018	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D7-VS-KD-AS	Pressure regulation range 0.5 ... 12 bar, cover plate, rotary knob underneath, standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
019	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D5-KD-AS-BD	Pressure regulation range 0.3 ... 4 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, rotary knob underneath, standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
020	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D6-KD-AS-BD	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, rotary knob underneath, standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
021	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D7-KD-AS-BD	Pressure regulation range 0.5 ... 12 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, rotary knob underneath, standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8

1) Female thread only with G3/4 (MS4) or G1/2 (MS6)

# Service unit combinations MSB4/6, MS series

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
Pressure regulator MS-LRB				
022	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D5-AD7-AS	Pressure regulation range 0.3 ... 4 bar, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
023	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D6-AD7-AS	Pressure regulation range 0.3 ... 7 bar, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
024	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D7-AD7-AS	Pressure regulation range 0.5 ... 12 bar, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
025	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D5-AD7-AS-BD	Pressure regulation range 0.3 ... 4 bar, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
026	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D6-AD7-AS-BD	Pressure regulation range 0.3 ... 7 bar, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
027	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D7-AD7-AS-BD	Pressure regulation range 0.5 ... 12 bar, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact), standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
028	–	■ <sup>1)</sup>	MS-LRB-D5-VS-DM2	Pressure regulation range 0.3 ... 4 bar, cover plate, large rotary knob pressure gauge, pressure output to rear/front without angled outlet block
029	–	■ <sup>1)</sup>	MS-LRB-D6-VS-DM2	Pressure regulation range 0.3 ... 7 bar, cover plate, large rotary knob pressure gauge, pressure output to rear/front without angled outlet block
030	–	■ <sup>1)</sup>	MS-LRB-D7-VS-DM2	Pressure regulation range 0.5 ... 12 bar, cover plate, large rotary knob pressure gauge, pressure output to rear/front without angled outlet block
031	■ <sup>1)</sup>	–	MS-LRB-D5-VS-DM1	Pressure regulation range 0.3 ... 4 bar, cover plate, small rotary knob pressure gauge, pressure output to rear/front without angled outlet block
032	■ <sup>1)</sup>	–	MS-LRB-D6-VS-DM1	Pressure regulation range 0.3 ... 7 bar, cover plate, small rotary knob pressure gauge, pressure output to rear/front without angled outlet block
033	■ <sup>1)</sup>	–	MS-LRB-D7-VS-DM1	Pressure regulation range 0.5 ... 12 bar, cover plate, small rotary knob pressure gauge, pressure output to rear/front without angled outlet block
034	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D5-RG-AS	Pressure regulation range 0.3 ... 4 bar, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
035	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D6-RG-AS	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
036	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D7-RG-AS	Pressure regulation range 0.5 ... 12 bar, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
037	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D5-RG-AS-BD	Pressure regulation range 0.3 ... 4 bar, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
038	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D6-RG-AS-BD	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
039	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D7-RG-AS-BD	Pressure regulation range 0.5 ... 12 bar, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories, pressure output to rear/front with angled outlet block QS-8
040	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D5-MPA-AS	Pressure regulation range 0.3 ... 4 bar, integrated MS pressure gauge with outer scale in MPa, standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block
041	■ <sup>1)</sup>	■ <sup>1)</sup>	MS-LRB-D6-MPA-AS	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with outer scale in MPa, standard rotary knob with detent, lockable with accessories, pressure output to rear/front without angled outlet block

<sup>1)</sup> Female thread only with G<sup>3</sup>/<sub>4</sub> (MS4) or G<sup>1</sup>/<sub>2</sub> (MS6)

## Service unit combinations MSB4/6, MS series

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
Precision pressure regulator MS-LRP				
P1	–	■ <sup>1)</sup>	MS-LRP-D2-A8	Pressure regulation range 0.05 ... 0.7 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent
P2	–	■ <sup>1)</sup>	MS-LRP-D4-A8	Pressure regulation range 0.05 ... 2.5 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent
P3	–	■ <sup>1)</sup>	MS-LRP-D5-A8	Pressure regulation range 0.1 ... 4 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent
P4	–	■ <sup>1)</sup>	MS-LRP-D7-A8	Pressure regulation range 0.1 ... 12 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent
Precision pressure regulator MS-LRPB				
R1	–	■ <sup>1)</sup>	MS-LRPB-D2-A8	Pressure regulation range 0.05 ... 0.7 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, pressure output to rear/front without angled outlet block
R2	–	■ <sup>1)</sup>	MS-LRPB-D4-A8	Pressure regulation range 0.05 ... 2.5 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, pressure output to rear/front without angled outlet block
R3	–	■ <sup>1)</sup>	MS-LRPB-D5-A8	Pressure regulation range 0.1 ... 4 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, pressure output to rear/front without angled outlet block
R4	–	■ <sup>1)</sup>	MS-LRPB-D7-A8	Pressure regulation range 0.1 ... 12 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, pressure output to rear/front without angled outlet block
R5	–	■ <sup>1)</sup>	MS-LRPB-D2-A8-BD	Pressure regulation range 0.05 ... 0.7 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, pressure output to rear/front with angled outlet block QS-8
R6	–	■ <sup>1)</sup>	MS-LRPB-D4-A8-BD	Pressure regulation range 0.05 ... 2.5 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, pressure output to rear/front with angled outlet block QS-8
R7	–	■ <sup>1)</sup>	MS-LRPB-D5-A8-BD	Pressure regulation range 0.1 ... 4 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, pressure output to rear/front with angled outlet block QS-8
R8	–	■ <sup>1)</sup>	MS-LRPB-D7-A8-BD	Pressure regulation range 0.1 ... 12 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, pressure output to rear/front with angled outlet block QS-8
R9	–	■ <sup>1)</sup>	MS-LRPB-D2-A8-BE	Pressure regulation range 0.05 ... 0.7 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, pressure output to rear/front with angled outlet block QS-10
R10	–	■ <sup>1)</sup>	MS-LRPB-D4-A8-BE	Pressure regulation range 0.05 ... 2.5 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, pressure output to rear/front with angled outlet block QS-10
R11	–	■ <sup>1)</sup>	MS-LRPB-D5-A8-BE	Pressure regulation range 0.1 ... 4 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, pressure output to rear/front with angled outlet block QS-10
R12	–	■ <sup>1)</sup>	MS-LRPB-D7-A8-BE	Pressure regulation range 0.1 ... 12 bar, adapter plate for EN pressure gauge 1/8 (without pressure gauge), standard rotary knob with detent, pressure output to rear/front with angled outlet block QS-10
1) Female thread only with G1/2 (MS6)				

## Service unit combinations MSB4/6, MS series

FESTO

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
<b>Electric pressure regulator MS-LRE (not with EX2/EX4 EU certification)</b>				
S1	–	■	MS-LRE-D6	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi
S2	–	■	MS-LRE-D7	Pressure regulation range 0.5 ... 12 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi
S3	–	■	MS-LRE-D6-PI	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, electrical pressure output (integrated pressure sensor with current output, plug M8x1, 3-pin)
S4	–	■	MS-LRE-D7-PI	Pressure regulation range 0.5 ... 12 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, electrical pressure output (integrated pressure sensor with current output, plug M8x1, 3-pin)
S5	–	■	MS-LRE-D6-PU	Pressure regulation range 0.3 ... 7 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, electrical pressure output (integrated pressure sensor with voltage output, plug M8x1, 3-pin)
S6	–	■	MS-LRE-D7-PU	Pressure regulation range 0.5 ... 12 bar, integrated MS pressure gauge with outer scale in bar and inner scale in psi, electrical pressure output (integrated pressure sensor with voltage output, plug M8x1, 3-pin)
<b>Flow sensor SFAM</b>				
U5	–	■	SFAM-1000-M-2SA-M12	Flow measuring range 10 ... 1,000 l/min, electrical output (2x PNP or NPN, 1 analogue output 4 ... 20 mA), electrical connection (plug M12x1, 5-pin)
U6	–	■	SFAM-1000-M-2SV-M12	Flow measuring range 10 ... 1,000 l/min, electrical output (2x PNP or NPN, 1 analogue output 0 ... 10 V), electrical connection (plug M12x1, 5-pin)
U7	–	■	SFAM-3000-M-2SA-M12	Flow measuring range 30 ... 3,000 l/min, electrical output (2x PNP or NPN, 1 analogue output 4 ... 20 mA), electrical connection (plug M12x1, 5-pin)
U8	–	■	SFAM-3000-M-2SV-M12	Flow measuring range 30 ... 3,000 l/min, electrical output (2x PNP or NPN, 1 analogue output 0 ... 10 V), electrical connection (plug M12x1, 5-pin)
U9	–	■	SFAM-5000-M-2SA-M12	Flow measuring range 50 ... 5,000 l/min, electrical output (2x PNP or NPN, 1 analogue output 4 ... 20 mA), electrical connection (plug M12x1, 5-pin)
U10	–	■	SFAM-5000-M-2SV-M12	Flow measuring range 50 ... 5,000 l/min, electrical output (2x PNP or NPN, 1 analogue output 0 ... 10 V), electrical connection (plug M12x1, 5-pin)
<b>Soft-start and exhaust valve MS-SV (not with EX2/EX4 EU certification)</b>				
V1	–	■ <sup>1)</sup>	MS-SV-E-10V24-SO-AG	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, open silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi, without multi-pin plug socket
V2	–	■ <sup>1)</sup>	MS-SV-E-10V24-AG	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, without silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi, without multi-pin plug socket
V3	–	■ <sup>1)</sup>	MS-SV-E-10V24-AD1	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, without silencer, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), without multi-pin plug socket
V4	–	■ <sup>1)</sup>	MS-SV-E-10V24-SO-AD1	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, open silencer, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), without multi-pin plug socket
V5	–	■ <sup>1)</sup>	MS-SV-E-10V24-SO-AG-MP1	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, open silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi, multi-pin plug socket (Sub-D, 9-pin, screw terminal, without cable, enable signals static)
V6	–	■ <sup>1)</sup>	MS-SV-E-10V24-AG-MP1	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, without silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi, multi-pin plug socket (Sub-D, 9-pin, screw terminal, without cable, enable signals static)
1) Female thread only with G1/2 (MS6)				

# Service unit combinations MSB4/6, MS series

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
Soft-start and exhaust valve MS-SV (not with EX2/EX4 EU certification)				
V7	–	■ <sup>1)</sup>	MS-SV-E-10V24-AD1-MP1	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, without silencer, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), multi-pin plug socket (Sub-D, 9-pin, screw terminal, without cable, enable signals static)
V8	–	■ <sup>1)</sup>	MS-SV-E-10V24-SO-AD1-MP1	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, open silencer, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), multi-pin plug socket (Sub-D, 9-pin, screw terminal, without cable, enable signals static)
V12	–	■ <sup>1)</sup>	MS-SV-C-10V24-S	Performance level "c", supply voltage 24 V DC, operating pressure 3 ... 10 bar, electrical connection to EN 175301-803 (plug connector, 2-pin, type C), silencer, cover plate
V22	–	■ <sup>1)</sup>	MS-SV-C-10V24-S-AD7	Performance level "c", supply voltage 24 V DC, operating pressure 3 ... 10 bar, electrical connection to EN 175301-803 (plug connector, 2-pin, type C), silencer, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
V27	–	■ <sup>1)</sup>	MS-SV-E-ASIS-AG	Performance level "e", supply voltage 22 ... 31.6 V DC (AS-I Safety at Work, SPEC 3.0, Profile 7.5.5), operating pressure 3.5 ... 10 bar, without silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi
V28	–	■ <sup>1)</sup>	MS-SV-E-ASIS-SO-AG	Performance level "e", supply voltage 22 ... 31.6 V DC (AS-I Safety at Work, SPEC 3.0, Profile 7.5.5), operating pressure 3.5 ... 10 bar, open silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi
V31	–	■ <sup>1)</sup>	MS-SV-E-10V24-SO-AG-MP3	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, open silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi, multi-pin plug socket (Sub-D, 9-pin, screw terminal, without cable, enable signals static, short-circuit detection possible)
V32	–	■ <sup>1)</sup>	MS-SV-E-10V24-AG-MP3	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, without silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi, multi-pin plug socket (Sub-D, 9-pin, screw terminal, without cable, enable signals static, short-circuit detection possible)
V33	–	■ <sup>1)</sup>	MS-SV-E-10V24-AD1-MP3	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, without silencer, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), multi-pin plug socket (Sub-D, 9-pin, screw terminal, without cable, enable signals static, short-circuit detection possible)
V34	–	■ <sup>1)</sup>	MS-SV-E-10V24-SO-AD1-MP3	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, open silencer, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), multi-pin plug socket (Sub-D, 9-pin, screw terminal, without cable, enable signals static, short-circuit detection possible)
V35	–	■ <sup>1)</sup>	MS-SV-C-10V24P-S	Performance level "c", supply voltage 24 V DC, operating pressure 3 ... 10 bar, electrical connection to IEC 61076-2-101 (plug connector M12x1, 2-pin), silencer, cover plate
V36	–	■ <sup>1)</sup>	MS-SV-C-10V24P-S-AD7	Performance level "c", supply voltage 24 V DC, operating pressure 3 ... 10 bar, electrical connection to IEC 61076-2-101 (plug connector M12x1, 2-pin), silencer, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
V37	–	■ <sup>1)</sup>	MS-SV-D-10V24-2M8	Performance level "d", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, electrical connection to EN 175301-803 (2 x plug connectors, 2-pin, type C), 2 proximity sensors SMT with cable (plug connector M8x1, 3-pin, rotatable thread, cable length 0.3 m), without silencer, cover plate
V38	–	■ <sup>1)</sup>	MS-SV-D-10V24-2M8-SO-AG	Performance level "d", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, electrical connection to EN 175301-803 (2 x plug connectors, 2-pin, type C), 2 proximity sensors SMT with cable (plug connector M8x1, 3-pin, rotatable thread, cable length 0.3 m), open silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi

1) Female thread only with G<sup>1</sup>/<sub>2</sub> (MS6)

## Service unit combinations MSB4/6, MS series

FESTO

Type codes

Overview list – Service units MS4/6				
Code	Size		Type	Description
	MS4	MS6		
Soft-start and exhaust valve MS-SV (not with EX2/EX4 EU certification)				
V39	–	■ <sup>1)</sup>	MS-SV-D-10V24P-2M12-SO-AG	Performance level "d", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, electrical connection to IEC 61076-2-101 (2 x plug connectors M12x1, 2-pin), 2 proximity sensors SMT with cable (plug connector M12x1, 3-pin, rotatable thread, cable length 0.3 m), open silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi
V40	–	■ <sup>1)</sup>	MS-SV-D-10V24P-20E-SO-AG	Performance level "d", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, electrical connection to IEC 61076-2-101 (2 x plug connectors M12x1, 2-pin), 2 proximity sensors SMT with cable (open end, 3-wire, cable length 5 m), open silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi
V41	–	■ <sup>1)</sup>	MS-SV-E-10V24-SO-AG-MP5	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, open silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi, multi-pin plug socket (Sub-D, 9-pin, screw terminal, without cable, enable signals static, galvanic isolation of the enable signals from the supply voltage)
V42	–	■ <sup>1)</sup>	MS-SV-E-10V24-AG-MP5	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, without silencer, integrated MS pressure gauge with outer scale in bar and inner scale in psi, multi-pin plug socket (Sub-D, 9-pin, screw terminal, without cable, enable signals static, galvanic isolation of the enable signals from the supply voltage)
V43	–	■ <sup>1)</sup>	MS-SV-E-10V24-AD1-MP5	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, without silencer, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), multi-pin plug socket (Sub-D, 9-pin, screw terminal, without cable, enable signals static, galvanic isolation of the enable signals from the supply voltage)
V44	–	■ <sup>1)</sup>	MS-SV-E-10V24-SO-AD1-MP5	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, open silencer, pressure sensor with LCD display (plug M8, 1 switching output PNP, 3-pin), multi-pin plug socket (Sub-D, 9-pin, screw terminal, without cable, enable signals static, galvanic isolation of the enable signals from the supply voltage)
V45	–	■ <sup>1)</sup>	MS-SV-E-10V24-RG	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, without silencer, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, without multi-pin plug socket, without multi-pin plug socket
V46	–	■ <sup>1)</sup>	MS-SV-E-10V24-SO-RG	Performance level "e", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, open silencer, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, without multi-pin plug socket, without multi-pin plug socket
V47	–	■ <sup>1)</sup>	MS-SV-D-10V24-2M8-SO-RG	Performance level "d", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, electrical connection to EN 175301-803 (2 x plug connectors, 2-pin, type C), 2 proximity sensors SMT with cable (plug connector M8x1, 3-pin, rotatable thread, cable length 0.3 m), open silencer, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi
V48	–	■ <sup>1)</sup>	MS-SV-D-10V24P-2M12-SO-RG	Performance level "d", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, electrical connection to IEC 61076-2-101 (2 x plug connectors M12x1, 2-pin), 2 proximity sensors SMT with cable (plug connector M12x1, 3-pin, rotatable thread, cable length 0.3 m), open silencer, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi
V49	–	■ <sup>1)</sup>	MS-SV-D-10V24-20E-SO-RG	Performance level "d", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, electrical connection to EN 175301-803 (2 x plug connectors, 2-pin, type C), 2 proximity sensors SMT with cable (open end, 3-wire, cable length 5 m), open silencer, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi
1) Female thread only with G <sup>1</sup> / <sub>2</sub> (MS6)				
Water separator MS-LWS				
W1	–	■	MS-LWS-U-V	Metal bowl, fully automatic condensate drain

# Service unit combinations MSB9, MS series

Type codes

MSB 9 - G : : : ... : - WP - - -

Series	
MSB	Standard service unit combination

Size	
9	Grid dimension 90 mm

Pneumatic connection	
3/4	Female thread G3/4
1	Female thread G1
AGD	Connecting plate G1/2
AGE	Connecting plate G3/4
AGF	Connecting plate G1
AGG	Connecting plate G1 1/4
AGH	Connecting plate G1 1/2
N3/4	Female thread NPT3/4
N1	Female thread NPT1
AQR	Connecting plate NPT1/2
AQS	Connecting plate NPT3/4
AQT	Connecting plate NPT1
AQU	Connecting plate NPT1 1/4
AQV	Connecting plate NPT1 1/2
G	Module without connecting thread, without connecting plate
NG	Module without connecting thread, without connecting plate (port 2 or 3 in NPT)

Service unit equipment		
Code 1	Selection → Overview list	Position 1
Code 2		Position 2
...		...
Code 10		Position 10

Type of mounting	
	Without mounting bracket
WP	Mounting bracket standard design
WPB	Mounting bracket for large wall gap
WPM	Mounting bracket for attaching the service units

EU certification	
	None
EX2	II 3GD to EU Explosion Protection Directive (ATEX)
EX4	II 2GD to EU Explosion Protection Directive (ATEX)

UL certification	
	None
UL1	cULus, ordinary location for Canada and USA

Flow direction	
	From left to right
Z	From right to left

## Service unit combinations MSB9, MS series

FESTO

Type codes

Overview list – Service units MS9		
Code	Type	Description
On-off valve MS-EM, manually actuated		
C2	MS-EM-S-VS	Silencer, cover plate
On-off valve MS-EE, electrically actuated		
D4	MS-EE-V24-S-VS	Supply voltage 24 V DC, operating pressure 3.5 ... 16 bar, electrical connection to EN 175301-803 (plug connector, type A), silencer, cover plate
D16	MS-EE-V24-S-AD7	Supply voltage 24 V DC, operating pressure 3.5 ... 16 bar, electrical connection to EN 175301-803 (plug connector, type A), silencer, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
D17	MS-EE-V24P-S-VS	Supply voltage 24 V DC, operating pressure 3.5 ... 16 bar, electrical connection to IEC 61076-2-101 (plug connector M12x1, 4-pin to DESINA), silencer, cover plate
D18	MS-EE-V24P-S-AD7	Supply voltage 24 V DC, operating pressure 3.5 ... 16 bar, electrical connection to IEC 61076-2-101 (plug connector M12x1, 4-pin to DESINA), silencer, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
Branching module MS-FRM		
F1	MS-FRM-VS	Cover plate
F3	MS-FRM-VS-Y	Cover plate, pressure switch PEV without display (plug socket, EN 175 301, type A, cube)
F8	MS-FRM-VS-M12	Cover plate, pressure switch PEV without display (plug socket, round, M12, 4-pin)
Filter MS-LF		
H5	MS-LF-CUM	Grade of filtration 5 µm, metal bowl, manual condensate drain
H6	MS-LF-CUV	Grade of filtration 5 µm, metal bowl, fully automatic condensate drain
H7	MS-LF-EUV	Grade of filtration 40 µm, metal bowl, fully automatic condensate drain
H8	MS-LF-EUM	Grade of filtration 40 µm, metal bowl, manual condensate drain
Fine and micro filter MS-LFM		
I7	MS-LFM-BUV	Grade of filtration 1 µm, metal bowl, fully automatic condensate drain
I8	MS-LFM-AUV	Grade of filtration 0.01 µm, metal bowl, fully automatic condensate drain
I9	MS-LFM-BUV-DA	Grade of filtration 1 µm, metal bowl, fully automatic condensate drain, optical differential pressure indicator
I12	MS-LFM-AUV-DA	Grade of filtration 0.01 µm, metal bowl, fully automatic condensate drain, optical differential pressure indicator
I23	MS-LFM-BUV-HF	Grade of filtration 1 µm, metal bowl, fully automatic condensate drain, high flow rate
I24	MS-LFM-AUV-HF	Grade of filtration 0.01 µm, metal bowl, fully automatic condensate drain, high flow rate
I25	MS-LFM-BUV-HF-DA	Grade of filtration 1 µm, metal bowl, fully automatic condensate drain, high flow rate, optical differential pressure indicator
I26	MS-LFM-AUV-HF-DA	Grade of filtration 0.01 µm, metal bowl, fully automatic condensate drain, high flow rate, optical differential pressure indicator
Filter regulator MS-LFR		
J47	MS-LFR-D6-EUM-DI-AG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, directly actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J50	MS-LFR-D6-EUV-DI-AG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, directly actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J53	MS-LFR-D6-CUM-DI-AG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, directly actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J56	MS-LFR-D6-CUV-DI-AG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, directly actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories



## Service unit combinations MSB9, MS series

Type codes

Overview list – Service units MS9		
Code	Type	Description
Filter regulator MS-LFR		
J59	MS-LFR-D6-EUM-AG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J62	MS-LFR-D6-EUV-AG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J65	MS-LFR-D6-CUM-AG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J68	MS-LFR-D6-CUV-AG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J71	MS-LFR-D7-CUM-AG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J72	MS-LFR-D7-CUV-AG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J73	MS-LFR-D7-EUM-AG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J74	MS-LFR-D7-EUV-AG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J103	MS-LFR-D7-EUM-RG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J104	MS-LFR-D7-EUV-RG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J105	MS-LFR-D7-CUM-RG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J106	MS-LFR-D7-CUV-RG-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J107	MS-LFR-D6-EUM-RG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J108	MS-LFR-D6-EUV-RG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J109	MS-LFR-D6-CUM-RG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
J110	MS-LFR-D6-CUV-RG-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories

## Service unit combinations MSB9, MS series

FESTO

Type codes

Overview list – Service units MS9		
Code	Type	Description
Filter regulator MS-LFR		
J111	MS-LFR-D7-EUM-A4-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, adapter plate for EN pressure gauge ¼ (without pressure gauge), standard rotary knob with detent, lockable with accessories
J112	MS-LFR-D7-EUV-A4-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, adapter plate for EN pressure gauge ¼ (without pressure gauge), standard rotary knob with detent, lockable with accessories
J113	MS-LFR-D7-CUM-A4-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, adapter plate for EN pressure gauge ¼ (without pressure gauge), standard rotary knob with detent, lockable with accessories
J114	MS-LFR-D7-CUV-A4-AS	Pressure regulation range 0.5 ... 12 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, adapter plate for EN pressure gauge ¼ (without pressure gauge), standard rotary knob with detent, lockable with accessories
J115	MS-LFR-D6-EUM-A4-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, adapter plate for EN pressure gauge ¼ (without pressure gauge), standard rotary knob with detent, lockable with accessories
J116	MS-LFR-D6-EUV-A4-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, adapter plate for EN pressure gauge ¼ (without pressure gauge), standard rotary knob with detent, lockable with accessories
J117	MS-LFR-D6-CUM-A4-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, adapter plate for EN pressure gauge ¼ (without pressure gauge), standard rotary knob with detent, lockable with accessories
J118	MS-LFR-D6-CUV-A4-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 5 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, adapter plate for EN pressure gauge ¼ (without pressure gauge), standard rotary knob with detent, lockable with accessories
J122	MS-LFR-D6-EUM-AG-MPA-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, metal bowl, manual condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in MPa, standard rotary knob with detent, lockable with accessories
J123	MS-LFR-D6-EUV-AG-MPA-AS	Pressure regulation range 0.3 ... 7 bar, grade of filtration 40 µm, metal bowl, fully automatic condensate drain, pilot actuated filter diaphragm regulator, integrated MS pressure gauge with outer scale in MPa, standard rotary knob with detent, lockable with accessories
Activated carbon filter MS-LFX		
L2	MS-LFX-U	Metal bowl
Lubricator MS-LOE (not with EX2/EX4 EU certification)		
M2	MS-LOE-U	Metal bowl
Pressure regulator MS-LR		
N1	MS-LR-D5-DI-AG-AS	Pressure regulation range 0.3 ... 4 bar, directly actuated diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N2	MS-LR-D6-DI-AG-AS	Pressure regulation range 0.3 ... 7 bar, directly actuated diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N7	MS-LR-D5-DI-AG-KD-AS	Pressure regulation range 0.3 ... 4 bar, directly actuated diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, rotary knob underneath, standard rotary knob with detent, lockable with accessories
N8	MS-LR-D6-DI-AG-KD-AS	Pressure regulation range 0.3 ... 7 bar, directly actuated diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, rotary knob underneath, standard rotary knob with detent, lockable with accessories

## Service unit combinations MSB9, MS series

Type codes

Overview list – Service units MS9		
Code	Type	Description
Pressure regulator MS-LR		
N35	MS-LR-D5-AG-AS	Pressure regulation range 0.3 ... 4 bar, pilot actuated diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N36	MS-LR-D6-AG-AS	Pressure regulation range 0.3 ... 7 bar, pilot actuated diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N37	MS-LR-D7-AG-AS	Pressure regulation range 0.5 ... 12 bar, pilot actuated diaphragm regulator, integrated MS pressure gauge with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N53	MS-LR-D5-RG-AS	Pressure regulation range 0.3 ... 4 bar, pilot actuated diaphragm regulator, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N54	MS-LR-D6-RG-AS	Pressure regulation range 0.3 ... 7 bar, pilot actuated diaphragm regulator, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N55	MS-LR-D7-RG-AS	Pressure regulation range 0.5 ... 12 bar, pilot actuated diaphragm regulator, integrated MS pressure gauge with red-green scale with outer scale in bar and inner scale in psi, standard rotary knob with detent, lockable with accessories
N56	MS-LR-D5-A4-AS	Pressure regulation range 0.3 ... 4 bar, pilot actuated diaphragm regulator, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
N57	MS-LR-D6-A4-AS	Pressure regulation range 0.3 ... 7 bar, pilot actuated diaphragm regulator, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
N58	MS-LR-D7-A4-AS	Pressure regulation range 0.5 ... 12 bar, pilot actuated diaphragm regulator, adapter plate for EN pressure gauge 1/4 (without pressure gauge), standard rotary knob with detent, lockable with accessories
N61	MS-LR-D6-AG-MPA-AS	Pressure regulation range 0.3 ... 7 bar, pilot actuated diaphragm regulator, integrated MS pressure gauge with outer scale in MPa, standard rotary knob with detent, lockable with accessories
Flow sensor SFAM (only in flow direction from left to right)		
U9	SFAM-5000L-M-2SA-M12	Flow measuring range 50 ... 5,000 l/min, electrical output (2x PNP or NPN, 1 analogue output 4 ... 20 mA), electrical connection (plug M12x1, 5-pin)
U10	SFAM-5000L-M-2SV-M12	Flow measuring range 50 ... 5,000 l/min, electrical output (2x PNP or NPN, 1 analogue output 0 ... 10 V), electrical connection (plug M12x1, 5-pin)
U11	SFAM-10000L-M-2SA-M12	Flow measuring range 100 ... 10,000 l/min, electrical output (2x PNP or NPN, 1 analogue output 4 ... 20 mA), electrical connection (plug M12x1, 5-pin)
U12	SFAM-10000L-M-2SV-M12	Flow measuring range 100 ... 10,000 l/min, electrical output (2x PNP or NPN, 1 analogue output 0 ... 10 V), electrical connection (plug M12x1, 5-pin)
U13	SFAM-15000L-M-2SA-M12	Flow measuring range 150 ... 15,000 l/min, electrical output (2x PNP or NPN, 1 analogue output 4 ... 20 mA), electrical connection (plug M12x1, 5-pin)
U14	SFAM-15000L-M-2SV-M12	Flow measuring range 150 ... 15,000 l/min, electrical output (2x PNP or NPN, 1 analogue output 0 ... 10 V), electrical connection (plug M12x1, 5-pin)
Soft-start/quick exhaust valve MS-SV (not with EX2/EX4 EU certification)		
V12	MS-SV-C-V24-S-VS	Performance Level "c", supply voltage 24 V DC, operating pressure 3.5 ... 16 bar, electrical connection to EN 175301-803 (plug connector, type A), silencer, cover plate
V22	MS-SV-C-V24-S-AD7	Performance Level "c", supply voltage 24 V DC, operating pressure 3.5 ... 16 bar, electrical connection to EN 175301-803 (plug connector, type A), silencer, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
V35	MS-SV-C-10V24P-S-VS	Performance Level "c", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, electrical connection to IEC 61076-2-101 (plug connector M12x1, 4-pin to DESINA), silencer, cover plate
V36	MS-SV-C-10V24P-S-AD7	Performance Level "c", supply voltage 24 V DC, operating pressure 3.5 ... 10 bar, electrical connection to IEC 61076-2-101 (plug connector M12x1, 4-pin to DESINA), silencer, pressure sensor with operational status indicator (plug M8, threshold value comparator, PNP, N/O contact)
Water separator MS-LWS		
W1	MS-LWS-U-V	Metal bowl, fully automatic condensate drain

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