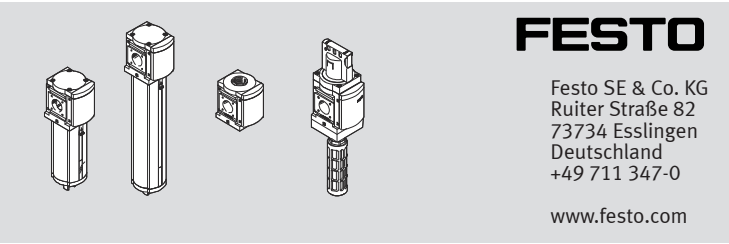


# MS(B)9-...-EX2

## Service unit component/Service unit combination



Addendum document | Operating conditions EX

8162180  
2021-12c  
[8162182]



Translation of the original instructions

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### 1 Identification EX

Identification		
	II 3G	Ex nA IIC T5 X Gc
	II 3D	Ex tc IIIC T95°C X Dc IP54

Tab. 1: Identification EX

### 2 Certified products

Type	Designation	Part number
MS9-EE	Electric on/off valve	562177
MS9-EM	Manual on/off valve	562178
MS9-FRM	Branching module	562534
MS9-LF	Filters	562532
MS9-LFM	Fine filter	552940
MS9-LFR	Filter regulator	562531
MS9-LFX	Active carbon filter	552942
MS9-LR	Pressure regulator	562530
MS9-LWS	Water separator	567857

Tab. 2: Certified products

### 3 Safety

#### 3.1 Safety instructions

- The device can be used under the stated operating conditions in zone 2, explosive gas atmospheres, and in zone 22, explosive dust atmospheres.
- The device with the lowest category determines the category of the entire product for the operation of service unit combinations.
- All work must be carried out outside of potentially explosive areas.
- Only operate the device with a suitable operating medium → Technical data
- The device is not intended for use with other fluids.
- Use the device in its original status without any unauthorised modifications.
- The device may only be used in the delivered configuration in a potentially explosive atmosphere.

#### 3.2 Intended use

Service unit components and service unit combinations are intended for use for the preparation of compressed air.

#### 3.3 Identification X: special conditions

- Danger of electrostatic discharges.
- When using devices with a condensate drain, make sure that the operating medium has a pressure dew point  $\leq -10$  °C.
- Limit overvoltage to 140% of the maximum nominal voltage.
- Do not disconnect when powered.
- Use an additional strain relief for cables upstream of the plug.
- Protect the device from mechanical impact.
- Protect the device from UV radiation.

### 4 Function

Service unit components and service unit combinations include function for compressed air preparation, e.g. filters or branching modules.

### 5 Commissioning

#### ⚠ WARNING

The discharge of electrostatically charged parts can lead to ignitable sparks.

- Prevent electrostatic charging by taking appropriate installation and cleaning measures.
- Include the device in the system's potential equalisation.
- Closed-loop controller: do not remove the rotary knob during operation in a potentially explosive atmosphere.
- Closed-loop controller: use the knurled nut only for installation with an earthed mounting bracket. When using other mounting components, remove the knurled nut.

#### NOTICE

Draw in compressed air outside of the explosive atmosphere.

#### NOTICE

Strong charge-generating processes can charge non-conductive layers and coatings on metal surfaces.

#### NOTICE

Escaping exhaust air can swirl up dust and create an explosive dust atmosphere.

#### NOTICE

Particulate matter in the compressed air can cause electrostatic charges.

- Observe the product labelling.
- Make sure that the contact between the service unit components and the sub-bases is electrically conductive.
- Earth all service unit components and their combinations on the left or right sub-base with the earthing screw.
- Prevent draw-in of ambient air by preventing negative pressure in the devices.

### 6 Maintenance and care

- Check the products regularly for correct functioning and service every 6 months.

### 7 Fault clearance

Malfunction	Remedy
Audible leakage at the connections	Check fittings of the connections.
Incomplete pressurisation of an output	Ensure constant pressure in the system.

Tab. 3: Fault clearance

The replacement of wearing parts and spare parts is possible in individual cases. Repairs of this type must only be carried out by trained and authorised personnel.

- Please contact your Festo technical consultant.
- After assembly, check the electrical resistivity between the earthing screws on the left-hand and right-hand sub-base → Technical data.

**8 Technical data**

Operating conditions		
Ambient temperature		
EE	[°C]	$-10 \leq T_a \leq +50$
EM, FRM, LF, LFM, LFR, LFX, LR, LWS	[°C]	$-10 \leq T_a \leq +60$
Temperature of medium		
EE, EM, FRM, LF, LFM, LFR, LFX, LR, LWS	[°C]	$-10 \dots +60$
Operating pressure		
EE	[MPa]	0.35 ... 1.6
	[bar]	3.5 ... 16
	[psi]	50.8 ... 232
EM, FRM, LF, LFM, LFX	[MPa]	0 ... 2
	[bar]	0 ... 20
	[psi]	0 ... 290
LFR, LR	[MPa]	0.1 ... 2
	[bar]	1 ... 20
	[psi]	14.5 ... 290
LWS	[MPa]	0.08 ... 1.6
	[bar]	0.8 ... 16
	[psi]	11.6 ... 232
Operating medium		
EE, EM, FRM, LR		Compressed air to ISO 8573-1:2010 [7:4:4]
LF		Compressed air to ISO 8573-1:2010 [7:9:-]
LFM		Compressed air to ISO 8573-1:2010 [6:8:4]
LFR		Compressed air to ISO 8573-1:2010 [7:4:-]
LFX		Compressed air to ISO 8573-1:2010 [1:4:2]
LWS		Compressed air to ISO 8573-1:2010 [-:7:4]
Information on operating medium		Lubricated operation not possible
Electrical resistivity between the earthing screws on the left-hand and right-hand sub-base	[Ω]	100
Electric on/off valve MS9-EE		
Voltage of coil	[V DC]	24
Power rating of coil	[W]	4.5
Tightening torque of plug socket	[Nm]	0.3 ... 0.5
Cable diameter	[mm]	4 ... 8
Conductor cross section	[mm <sup>2</sup> ]	0.75 ... 1.5
Tightening torque of cable connector	[Nm]	1.6 ... 2.0
Materials		
All aluminium alloys used contain less than 7.5% magnesium (Mg).		

Tab. 4: Technical data