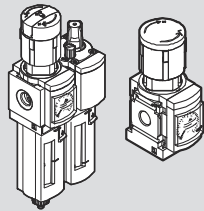


MS(B)4/MS(B)6-...-EX4

Service unit component/Service unit combination



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Addendum document | Operating conditions EX

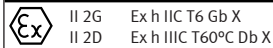
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Translation of the original instructions

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1 Identification EX

Marking



Tab. 1: Identification EX

2 Applicable documents

NOTICE

Technical data for the product can have different values in other documents. For operation in an explosive atmosphere, the information in this document always have priority.



All available documents for the product → www.festo.com/sp.

3 Certified products

Type	Designation	Part number
MS4-DL	Soft start valve	527711
MS4-EM1	On/off valve	541266
MS4-FRM	Branching module	527703
MS4-LDM1	Membrane dryer	543628
MS4-LF	Filters	527695
MS4-LFM	Fine filter	527697
MS4-LFR	Filter regulator	526489
MS4-LFX	Active carbon filter	527699
MS4-LOE	Lubricator	527701
MS4-LR	Pressure regulator	527690
MS4-LRB		527692

Tab. 2: Certified products - individual devices MS4

Type	Designation	Part number
MS6-DL	Soft start valve	527684
MS6-EM1	On/off valve	541279
MS6-FRM	Branching module	527676
MS6-LDM1	Membrane dryer	543638
MS6-LF	Filters	527668
MS6-LFM	Fine filter	527670
MS6-LFR	Filter regulator	526490
MS6-LFX	Active carbon filter	527672
MS6-LOE	Lubricator	527674
MS6-LR	Pressure regulator	527663
MS6-LRB		527665
MS6-LRPB	Precision pressure regulator	535007
MS6-LRP		538028
MS6-LWS	Water separator	564858

Tab. 3: Certified products - individual devices MS6

Type	Designation	Part number
Service unit combination	MSB4	531029
	MSB6	531030

Tab. 4: Certified products - MSB4/MSB6 service unit combinations

4 Safety

4.1 Safety instructions

- The device can be used under the stated operating conditions in zones 1 and 2 of explosive gas atmospheres and in zones 21 and 22 of 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.

4.2 Intended use

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

4.3 Specific conditions of use

- Danger of electrostatic discharges.
- Ambient temperature during use of a membrane dryer LDM1: $+2\text{ °C} \leq T_a \leq +50\text{ °C}$
- When using devices with a condensate drain, make sure that the operating medium has a pressure dew point $\leq -10\text{ °C}$.

5 Function

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

6 Commissioning

⚠ WARNING

- The discharge of electrostatically charged parts can lead to ignitable sparks.
- Prevent electrostatic charging by taking appropriate installation and cleaning measures.
 - Integrate the device into the system's equipotential bonding.
 - The metal bowl guards of the filters and lubricators (bowl guard U) are electrically insulated from the housing and have capacitances of up to 150 pF. The cartridges of the membrane dryers are electrically insulated from the housing and have capacitances of up to 110 pF for MS4 and up to 250 pF for MS6. When using the metal bowl guards or membrane dryers avoid processes that generate powerful charges.
 - 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 an 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.

NOTICE

Related type of ignition protection: c (constructional safety)

- 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.

7 Maintenance

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

8 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. 5: 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.

9 Individual devices for operation in zones 1, 2, 21 and 22

Characteristics	Type
Mechanical on/off valve	MS4-EM1-..., MS6-EM1-...
Pressure gauge	BAR, PSI, MPA, BAR-RG, MPA-RG
Pressure-gauge adapter	A4, A8 (MS4 only)
Alternative flow direction	Z (right → left)
Silencer	S
Mechanical soft start valve	MS4-DL-..., MS6-DL-...
Pressure gauge	BAR, PSI, MPA, BAR-RG, MPA-RG
Pressure-gauge adapter	A4, A8 (MS4 only)
Alternative flow direction	Z (right → left)
Pressure regulator	MS4-LR-..., MS4-LRB-... MS6-LR-..., MS6-LRB-...
Pressure regulation range	D5, D6, D7
Pressure gauge	BAR, PSI, MPA, BAR-RG, MPA-RG
Pressure-gauge adapter	VS, A4, A8 (MS4 only)
without secondary exhaust	OS
with secondary exhaust	without characteristics
Rotary knob	LD (telescope), AS, LD-AS, KD
Alternative flow direction	Z (right → left)
Manifold block (LRB only)	BC, BD, BE
Precision pressure regulator	MS6-LRP-..., MS6-LRPB-...
Pressure regulation range	D2, D4, D5, D7, PO
Pressure gauge	BAR, PSI, MPA, BAR-RG, MPA-RG
Pressure-gauge adapter	VS, A4, A8M, A8 (MS4 only)
Rotary knob	LD (telescope), AS, LD-AS, KD
Alternative flow direction	Z (right → left)
Manifold block (LRB only)	BD, BE
Branching module	MS4-FRM-..., MS6-FRM-...
Pressure gauge	BAR, PSI, MPA, BAR-RG, MPA-RG
Pressure-gauge adapter	A4, A8 (MS4 only)
Alternative flow direction	Z (right → left)
Integrated check function	I
Filters, micro filters	MS4-LF-..., MS4-LFM-... MS6-LF-..., MS6-LFM-...
Condensate drain	M, H, V, VC
Grade of filtration	A-HP, B-HP, A, B, C, E
Filter bowl	R, U
Alternative flow direction	Z (right → left)
Pressure gauge	BAR, PSI, MPA, BAR-RG, MPA-RG
Filter change prompt	DA
Filter regulator	MS4-LFR-..., MS6-LFR-...
Pressure regulation range	D5, D6, D7
Pressure gauge	BAR, PSI, MPA, BAR-RG, MPA-RG
Pressure-gauge adapter	A4, A8 (MS4 only), VS
Condensate drain	M, H, V, VC
Grade of filtration	C, E
Filter bowl	R, U
Alternative flow direction	Z (right → left)
without secondary exhaust	OS
Rotary knob	LD (telescope), AS, LD-AS
Active carbon filter	MS4-LFX-..., MS6-LFX-...
Filter bowl	R, U
Alternative flow direction	Z (right → left)
Suitable for purge and sealing air	HP (MS6 only)
Membrane dryer	MS4-LDM1-..., MS6-LDM1-...
Cartridge size	P05, P10 (MS4) P20, P30, P40 (MS6)
Ducted exhaust air	PAC
Alternative flow direction	Z (right → left)

Characteristics	Type
Lubricator	MS4-LOE-..., MS6-LOE-...
Oiler bowl	R, U
Alternative flow direction	Z (right → left)
Water separator	MS6-LWS-...
Filter bowl	U
Condensate drain	V, VC
Alternative flow direction	Z (right → left)

Tab. 6: Individual devices for operation in zones 1, 2, 21 and 22

10 Technical data

Operating conditions	
Max. operating pressure	→ product labelling of the individual devices
Ambient temperature T _a	
Temperature of medium	
Max. tightening torque for earthing screw [Nm]	1
Electrical resistivity between the earthing screws on the left-hand and right-hand sub-base [Ω]	100
Mounting position	
LF, LFM, LFR with condensate drain M, H, V	Vertical ±5°
All others	Any
Materials	
Housing	Die-cast aluminium
Seals	Nitrile rubber
All aluminium alloys used contain less than 7.5% magnesium (Mg).	

Tab. 7: Technical data