

## Air preparation combination unit MSB4N

**FESTO**



### Characteristics

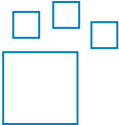
#### At a glance

Predefined or freely configurable service unit combinations.

- Width dimension: 40 mm
- Depending on the application, combination of filter regulator, filter, lubricator, on/off valve, soft-start valve, branching module

#### Ordering data - modular system

Link [msb4n](#)



Configurable product

This product and all its product options can be ordered online via the configurator.

#### Engineering Tools

Link [engineering tools](#)



A selection tool for suitable air preparation unit dimensioning and the correct air purity class can be found under Engineering Tools.

#### Pneumatic connection

Individual fittings can be connected via connecting plates with internal threads.

#### UL certification

Optional device variant UL1, which meets the safety requirements for the Canadian and US markets.

#### Flow direction

Available with opposite flow direction.

#### Air preparation unit equipment

The order of the individual air preparation units within a combination is relevant for safety and functionality. The following rules must be observed:

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

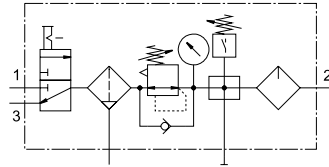
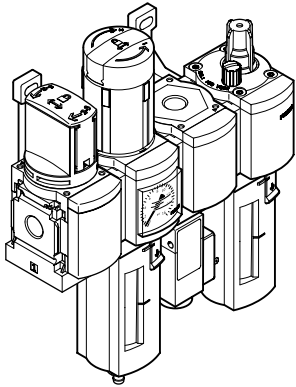
## Type code

|            |                                             |  |
|------------|---------------------------------------------|--|
| 001        | Series                                      |  |
| <b>MSB</b> | Air preparation combination unit, MS series |  |
| 002        | Size                                        |  |
| <b>4</b>   | Width dimension 40 mm                       |  |
| 003        | Thread type                                 |  |
| <b>N</b>   | NPT thread                                  |  |
| 004        | Pneumatic connection, inch                  |  |
| <b>1/8</b> | Internal thread NPT 1/8                     |  |
| <b>1/4</b> | Internal thread NPT 1/4                     |  |
| <b>AQK</b> | Sub-base NPT1/8                             |  |
| <b>AQN</b> | Sub-base NPT1/4                             |  |
| <b>AQP</b> | Sub-base NPT3/8                             |  |

|            |                                                       |  |
|------------|-------------------------------------------------------|--|
| 005        | Air preparation unit equipment                        |  |
| ...        | For selection, see overview list                      |  |
| 006        | Type of mounting                                      |  |
|            | Without mounting bracket                              |  |
| <b>WP</b>  | Mounting bracket standard design                      |  |
| <b>WPB</b> | Mounting bracket for large wall gap                   |  |
| <b>WPM</b> | Mounting bracket for hooking in air preparation units |  |
| 007        | Flow direction                                        |  |
|            | Flow direction from left to right                     |  |
| <b>Z</b>   | Flow direction from right to left                     |  |

## Datasheet

## Technical data – Combination 1



- For filtered and lubricated compressed air supply.
- Supply pressure can be switched on or off.
- Output pressure is continuously adjustable within the pressure regulation range.
- The system is exhausted when it is switched off
- Electrical pressure monitoring with adjustable switching pressure.
- Tapping of filtered and unlubricated compressed air at the connections of the branching module.

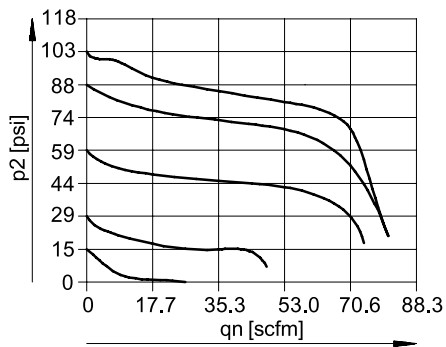
## Structure:

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

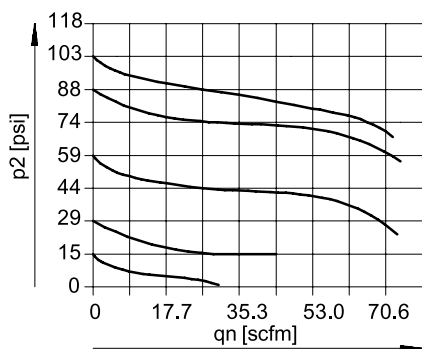
|                                                |                                                                                                                                |                                               |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Size                                           | 4                                                                                                                              |                                               |
| Condensate drain                               | Fully automatic                                                                                                                |                                               |
| Grade of filtration                            | 5 µm                                                                                                                           | 40 µm                                         |
| Pneumatic connection 1                         | 1/4 NPT                                                                                                                        |                                               |
| Pneumatic connection 2                         | 1/4 NPT                                                                                                                        |                                               |
| Pneumatic connection 3                         | 1/4 NPT                                                                                                                        |                                               |
| Controller function                            | Constant output pressure<br>With primary pressure compensation<br>With secondary exhausting<br>With return flow characteristic |                                               |
| Type of mounting                               | With accessories                                                                                                               |                                               |
| Mounting position                              | Vertical ±5°                                                                                                                   |                                               |
| Air quality class at the output                | Compressed air as per ISO 8573-1:2010 [6:4:-]                                                                                  | Compressed air as per ISO 8573-1:2010 [7:4:-] |
| Bowl guard                                     | Plastic bowl guard                                                                                                             |                                               |
| Actuator lock                                  | Rotary knob with integrated lock                                                                                               |                                               |
| Pressure gauge                                 | with pressure gauge                                                                                                            |                                               |
| Pressure regulation range                      | 1 ... 12 bar                                                                                                                   |                                               |
| Operating pressure                             | 2 ... 12 bar                                                                                                                   |                                               |
| Operating medium                               | Compressed air as per ISO 8573-1:2010 [7:4:4], Inert gases                                                                     |                                               |
| Information on operating and pilot media       | Operation with oil lubrication possible (required for further use)                                                             |                                               |
| Ambient temperature                            | 5 ... 60°C                                                                                                                     |                                               |
| Temperature of medium                          | 5 ... 60°C                                                                                                                     |                                               |
| Storage temperature                            | -10 ... 60°C                                                                                                                   |                                               |
| Corrosion resistance class (CRC) <sup>1)</sup> | 2 - Moderate corrosion stress                                                                                                  |                                               |
| For use in the food industry <sup>2)</sup>     | See supplementary material information                                                                                         |                                               |
| Housing material                               | Die-cast aluminum                                                                                                              |                                               |
| Material of bowl                               | PC                                                                                                                             |                                               |
| LABS (PWIS) conformity                         | VDMA24364-B1/B2-L                                                                                                              |                                               |

1) For more information, visit [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)2) Further information: [www.festo.com/catalogue/msb4](http://www.festo.com/catalogue/msb4) → Support/Downloads.

## Datasheet

Normal flow  $q_n$  as a function of the outlet pressure  $p_2$  (combination 1, filter fineness 5  $\mu\text{m}$ )

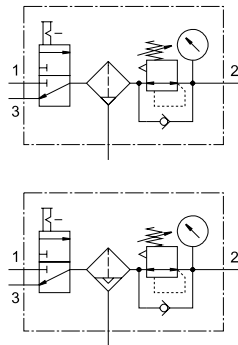
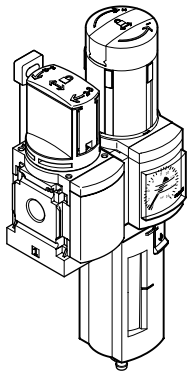
Grade of filtration 5  $\mu\text{m}$   
 Pressure regulation range 15 ... 176 psi  
 Primary pressure  $p_1 = 147$  psi

Normal flow  $q_n$  as a function of the outlet pressure  $p_2$  (combination 1, filter fineness 40  $\mu\text{m}$ )

Grade of filtration 40  $\mu\text{m}$   
 Pressure regulation range 15 ... 176 psi  
 Primary pressure  $p_1 = 147$  psi

## Datasheet

## Technical data – Combination 2



- For filtered and unlubricated compressed air supply.
- Supply pressure can be switched on or off.
- Output pressure is continuously adjustable within the pressure regulation range.

## Structure:

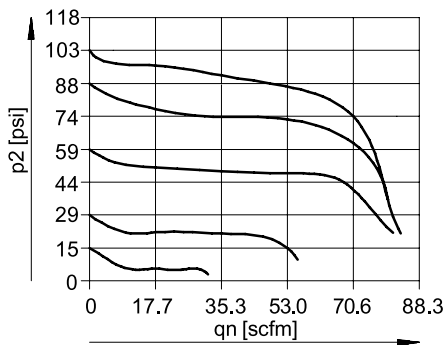
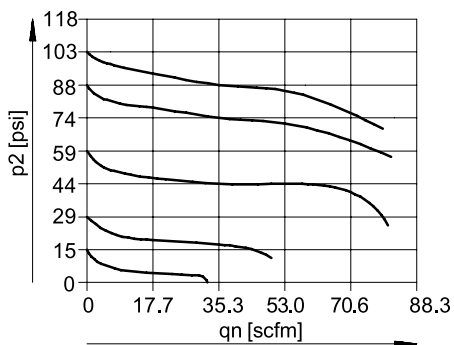
- On/off valve MS...-EM1, manually operated
- Filter regulator MS...-LFR-D7
- Mounting bracket MS...-WP

|                                                |                                                                                                                                |                                               |                                               |                                                           |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------------------|
| Size                                           | 4                                                                                                                              |                                               |                                               |                                                           |
| Condensate drain                               | Fully automatic                                                                                                                |                                               | Manual, rotating                              |                                                           |
| Grade of filtration                            | 5 µm                                                                                                                           | 40 µm                                         | 5 µm                                          | 40 µm                                                     |
| Pneumatic connection 1                         | 1/4 NPT                                                                                                                        |                                               |                                               |                                                           |
| Pneumatic connection 2                         | 1/4 NPT                                                                                                                        |                                               |                                               |                                                           |
| Pneumatic connection 3                         | 1/4 NPT                                                                                                                        |                                               |                                               |                                                           |
| Controller function                            | Constant output pressure<br>With primary pressure compensation<br>With secondary exhausting<br>With return flow characteristic |                                               |                                               |                                                           |
| Type of mounting                               | With accessories                                                                                                               |                                               |                                               |                                                           |
| Mounting position                              | Vertical ±5°                                                                                                                   |                                               |                                               |                                                           |
| Air quality class at the output                | Compressed air as per ISO 8573-1:2010 [6:4:4]                                                                                  | Compressed air as per ISO 8573-1:2010 [7:4:4] | Compressed air as per ISO 8573-1:2010 [6:4:4] | Compressed air as per ISO 8573-1:2010 [7:4:4]             |
| Bowl guard                                     | Plastic bowl guard                                                                                                             |                                               |                                               |                                                           |
| Actuator lock                                  | Rotary knob with integrated lock                                                                                               |                                               |                                               | Rotary knob with detent<br>can be closed with accessories |
| Pressure gauge                                 | with pressure gauge                                                                                                            |                                               |                                               |                                                           |
| Pressure regulation range                      | 0.5 ... 12 bar                                                                                                                 |                                               |                                               | 1 ... 12 bar                                              |
| Operating pressure                             | 2 ... 12 bar                                                                                                                   |                                               | 0.8 ... 14 bar                                | 1.5 ... 14 bar                                            |
| Operating medium                               | Compressed air as per ISO 8573-1:2010 [7:4:4], Inert gases                                                                     |                                               |                                               |                                                           |
| Information on operating and pilot media       | Operation with oil lubrication possible (required for further use)                                                             |                                               |                                               |                                                           |
| Ambient temperature                            | 5 ... 60°C                                                                                                                     |                                               | -10 ... 60°C                                  |                                                           |
| Temperature of medium                          | -10 ... 60°C                                                                                                                   | 5 ... 60°C                                    | -10 ... 60°C                                  |                                                           |
| Storage temperature                            | -10 ... 60°C                                                                                                                   |                                               |                                               |                                                           |
| Corrosion resistance class (CRC) <sup>1)</sup> | 2 - Moderate corrosion stress                                                                                                  |                                               |                                               |                                                           |
| For use in the food industry <sup>2)</sup>     | See supplementary material information                                                                                         |                                               |                                               |                                                           |
| Housing material                               | Die-cast aluminum                                                                                                              |                                               |                                               |                                                           |
| Material of bowl                               | PC                                                                                                                             |                                               |                                               |                                                           |
| LABS (PWIS) conformity                         | VDMA24364-B1/B2-L                                                                                                              |                                               |                                               |                                                           |

1) For more information, visit [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

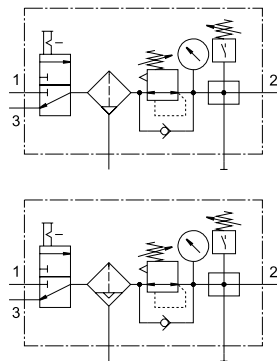
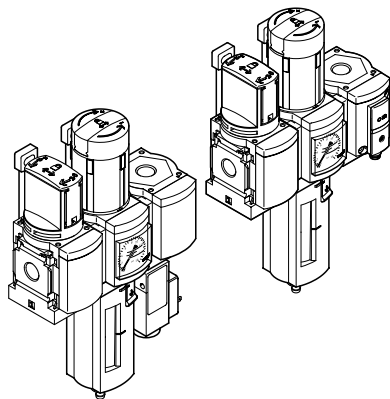
2) Further information: [www.festo.com/catalogue/msb4](http://www.festo.com/catalogue/msb4) → Support/Downloads.

## Datasheet

Normal flow  $q_n$  as a function of the outlet pressure  $p_2$  (combination 2, filter fineness 5  $\mu\text{m}$ )Normal flow  $q_n$  as a function of the outlet pressure  $p_2$  (combination 2, filter fineness 40  $\mu\text{m}$ )

## Datasheet

## Technical data – Combination 3



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

## Structure:

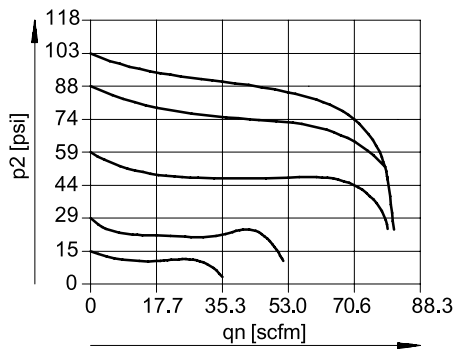
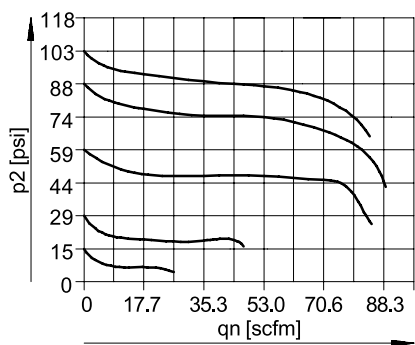
- On/off valve MS...-EM1, manually operated
- Filter regulator MS...-LFR-D7
- Branching module MS...-FRM-Y with pressure switch, without display
- Mounting bracket MS...-WP

|                                                |                                                                                                                                |                                               |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Size                                           | 4                                                                                                                              |                                               |
| Condensate drain                               | Fully automatic                                                                                                                |                                               |
| Grade of filtration                            | 5 µm                                                                                                                           | 40 µm                                         |
| Pneumatic connection 1                         | 1/4 NPT                                                                                                                        |                                               |
| Pneumatic connection 2                         | 1/4 NPT                                                                                                                        |                                               |
| Pneumatic connection 3                         | 1/4 NPT                                                                                                                        |                                               |
| Controller function                            | Constant output pressure<br>With primary pressure compensation<br>With secondary exhausting<br>With return flow characteristic |                                               |
| Type of mounting                               | With accessories                                                                                                               |                                               |
| Mounting position                              | Vertical ±5°                                                                                                                   |                                               |
| Air quality class at the output                | Compressed air as per ISO 8573-1:2010 [6:4:4]                                                                                  | Compressed air as per ISO 8573-1:2010 [7:4:4] |
| Bowl guard                                     | Plastic bowl guard                                                                                                             |                                               |
| Actuator lock                                  | Rotary knob with integrated lock                                                                                               |                                               |
| Pressure gauge                                 | with pressure gauge                                                                                                            |                                               |
| Pressure regulation range                      | 0.3 ... 12 bar                                                                                                                 | 0.5 ... 12 bar                                |
| Operating pressure                             | 0.8 ... 14 bar                                                                                                                 | 2 ... 12 bar                                  |
| Operating medium                               | Compressed air as per ISO 8573-1:2010 [7:4:4], Inert gases                                                                     |                                               |
| Information on operating and pilot media       | Operation with oil lubrication possible (required for further use)                                                             |                                               |
| Ambient temperature                            | -10 ... 60°C                                                                                                                   | 5 ... 60°C                                    |
| Temperature of medium                          | -10 ... 60°C                                                                                                                   | 5 ... 60°C                                    |
| Storage temperature                            | -10 ... 60°C                                                                                                                   |                                               |
| Corrosion resistance class (CRC) <sup>1)</sup> | 2 - Moderate corrosion stress                                                                                                  |                                               |
| For use in the food industry <sup>2)</sup>     | See supplementary material information                                                                                         |                                               |
| Housing material                               | Die-cast aluminum                                                                                                              |                                               |
| Material of bowl                               | PC                                                                                                                             |                                               |
| LABS (PWIS) conformity                         | VDMA24364-B1/B2-L                                                                                                              |                                               |

1) For more information, visit [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

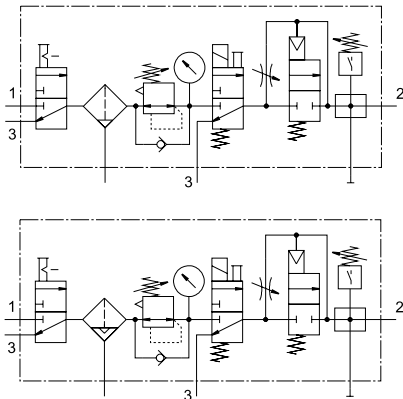
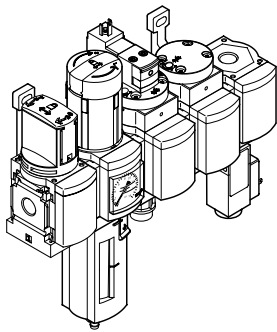
2) Further information: [www.festo.com/catalogue/msb4](http://www.festo.com/catalogue/msb4) → Support/Downloads.

## Datasheet

Normal flow  $q_n$  as a function of the outlet pressure  $p_2$  (combination 3, filter fineness 5  $\mu\text{m}$ )Normal flow  $q_n$  as a function of the outlet pressure  $p_2$  (combination 3, filter fineness 40  $\mu\text{m}$ )

## Datasheet

## Technical data – Combination 4



- For filtered and unlubricated compressed air supply.
- Supply pressure can be switched on or off.
- Output pressure is continuously adjustable within the pressure regulation range.
- Gradual pressure build-up prevents sudden, unpredictable movements.
- For shutting off and venting the downstream device or system.
- Electrical pressure monitoring with adjustable switching pressure.

## Structure:

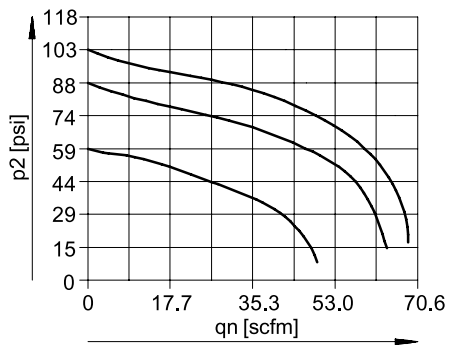
- On/off valve MS...-EM1, manually operated
- Filter regulator MS...-LFR-D7
- On/off valve MS...-EE-10V24 or MS...-EE-V24, electrically operated
- Soft-start valve MS...-DL, pneumatically actuated
- Branching module MS...-FRM-Y with pressure switch, without display
- Mounting bracket MS...-WP

|                                                |                                                                                                                                |                                               |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| Size                                           | 4                                                                                                                              |                                               |
| Condensate drain                               | Manual, rotating                                                                                                               |                                               |
| Grade of filtration                            | 5 µm                                                                                                                           | 40 µm                                         |
| Pneumatic connection 1                         | 1/4 NPT                                                                                                                        |                                               |
| Pneumatic connection 2                         | 1/4 NPT                                                                                                                        |                                               |
| Pneumatic connection 3                         | G1/4, 1/4 NPT                                                                                                                  |                                               |
| Controller function                            | Constant output pressure<br>With primary pressure compensation<br>With secondary exhausting<br>With return flow characteristic |                                               |
| Type of mounting                               | With accessories                                                                                                               |                                               |
| Mounting position                              | Vertical ±5°                                                                                                                   |                                               |
| Air quality class at the output                | Compressed air as per ISO 8573-1:2010 [6:4:4]                                                                                  | Compressed air as per ISO 8573-1:2010 [7:4:4] |
| Bowl guard                                     | Plastic bowl guard                                                                                                             |                                               |
| Actuator lock                                  | Rotary knob with detent<br>Rotary knob with integrated lock<br>can be closed with accessories                                  | Rotary knob with integrated lock              |
| Pressure gauge                                 | with pressure gauge                                                                                                            |                                               |
| Pressure regulation range                      | 4 ... 12 bar                                                                                                                   |                                               |
| Operating pressure                             | 4.5 ... 14 bar                                                                                                                 | 1.5 ... 14 bar                                |
| Operating medium                               | Compressed air as per ISO 8573-1:2010 [7:4:4], Inert gases                                                                     |                                               |
| Information on operating and pilot media       | Operation with oil lubrication possible (required for further use)                                                             |                                               |
| Ambient temperature                            | -10 ... 60°C                                                                                                                   |                                               |
| Temperature of medium                          | -10 ... 60°C                                                                                                                   |                                               |
| Storage temperature                            | -10 ... 60°C                                                                                                                   |                                               |
| Corrosion resistance class (CRC) <sup>1)</sup> | 2 - Moderate corrosion stress                                                                                                  |                                               |
| For use in the food industry <sup>2)</sup>     | See supplementary material information                                                                                         |                                               |
| Housing material                               | Die-cast aluminum                                                                                                              |                                               |
| Material of bowl                               | PC                                                                                                                             |                                               |
| LABS (PWIS) conformity                         | VDMA24364-B2-L, VDMA24364-B1/B2-L                                                                                              | VDMA24364-B1/B2-L                             |

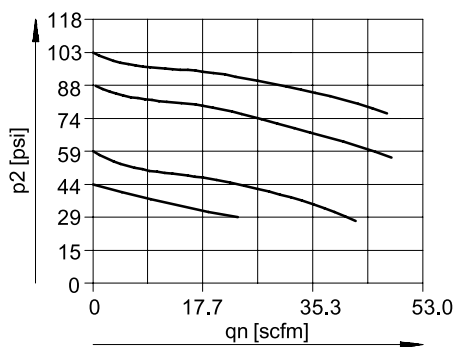
1) For more information, visit [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

2) Further information: [www.festo.com/catalogue/msb4](http://www.festo.com/catalogue/msb4) → Support/Downloads.

## Datasheet

Normal flow  $q_n$  as a function of the outlet pressure  $p_2$  (combination 4, filter fineness 5  $\mu\text{m}$ )Grade of filtration 5  $\mu\text{m}$ 

Pressure regulation range 59 ... 132 psi / 59 ... 176 psi

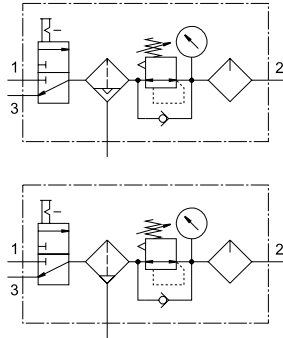
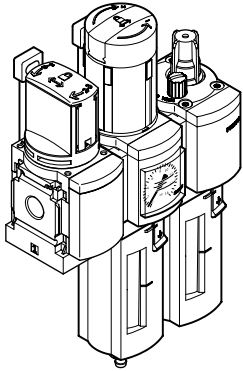
Primary pressure  $p_1 = 147$  psiNormal flow  $q_n$  as a function of the outlet pressure  $p_2$  (combination 4, filter fineness 40  $\mu\text{m}$ )Grade of filtration 40  $\mu\text{m}$ 

Pressure regulation range 59 ... 132 psi / 59 ... 176 psi

Primary pressure  $p_1 = 147$  psi

## Datasheet

## Technical data – Combination 5



- For filtered and lubricated compressed air supply.
- Supply pressure can be switched on or off.
- Output pressure is continuously adjustable within the pressure regulation range.

## Setup:

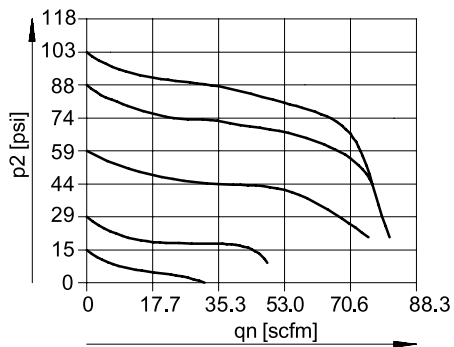
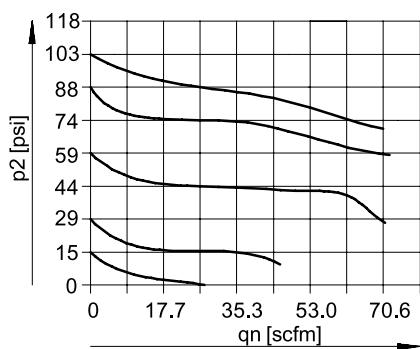
- On/off valve MS...-EM1, manually operated
- Filter regulator MS...-LFR-D7
- Lubricator MS...-LOE-R
- Mounting bracket MS...-WP

|                                                |                                                                                                                                |                                               |                  |
|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|------------------|
| Size                                           | 4                                                                                                                              |                                               |                  |
| Condensate drain                               | Fully automatic                                                                                                                |                                               | Manual, rotating |
| Grade of filtration                            | 5 µm                                                                                                                           | 40 µm                                         |                  |
| Pneumatic connection 1                         | 1/4 NPT                                                                                                                        |                                               |                  |
| Pneumatic connection 2                         | 1/4 NPT                                                                                                                        |                                               |                  |
| Pneumatic connection 3                         | 1/4 NPT                                                                                                                        |                                               |                  |
| Controller function                            | Constant output pressure<br>With primary pressure compensation<br>With secondary exhausting<br>With return flow characteristic |                                               |                  |
| Type of mounting                               | With accessories                                                                                                               |                                               |                  |
| Mounting position                              | Vertical ±5°                                                                                                                   |                                               |                  |
| Air quality class at the output                | Compressed air as per ISO 8573-1:2010 [6:4:-]                                                                                  | Compressed air as per ISO 8573-1:2010 [7:4:-] |                  |
| Bowl guard                                     | Plastic bowl guard                                                                                                             |                                               |                  |
| Actuator lock                                  | Rotary knob with integrated lock                                                                                               |                                               |                  |
| Pressure gauge                                 | with pressure gauge                                                                                                            |                                               |                  |
| Pressure regulation range                      | 1 ... 12 bar                                                                                                                   |                                               |                  |
| Operating pressure                             | 1.5 ... 14 bar                                                                                                                 | 2 ... 12 bar                                  | 1.5 ... 14 bar   |
| Operating medium                               | Compressed air as per ISO 8573-1:2010 [7:4:4], Inert gases                                                                     |                                               |                  |
| Information on operating and pilot media       | Operation with oil lubrication possible (required for further use)                                                             |                                               |                  |
| Ambient temperature                            | -10 ... 60°C                                                                                                                   | 5 ... 60°C                                    | -10 ... 60°C     |
| Temperature of medium                          | -10 ... 60°C                                                                                                                   | 5 ... 60°C                                    | -10 ... 60°C     |
| Storage temperature                            | -10 ... 60°C                                                                                                                   |                                               |                  |
| Corrosion resistance class (CRC) <sup>1)</sup> | 2 - Moderate corrosion stress                                                                                                  |                                               |                  |
| For use in the food industry <sup>2)</sup>     | See supplementary material information                                                                                         |                                               |                  |
| Housing material                               | Die-cast aluminum                                                                                                              |                                               |                  |
| Material of bowl                               | PC                                                                                                                             |                                               |                  |
| LABS (PWIS) conformity                         | VDMA24364-B1/B2-L                                                                                                              |                                               |                  |

1) For more information, visit [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

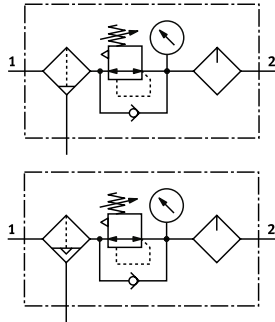
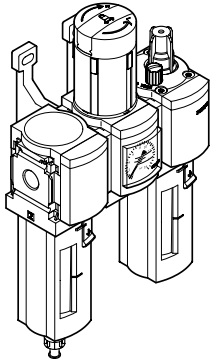
2) For more information, visit [www.festo.com/catalogue/msb4](http://www.festo.com/catalogue/msb4) → Support/Downloads.

## Datasheet

Normal flow  $q_n$  as a function of the outlet pressure  $p_2$  (combination 5, filter fineness 5  $\mu\text{m}$ )Normal flow  $q_n$  as a function of the outlet pressure  $p_2$  (combination 5, filter fineness 40  $\mu\text{m}$ )

## Datasheet

## Technical data – Combination 6



- For filtered and lubricated compressed air supply.
- Output pressure is continuously adjustable within the pressure regulation range.

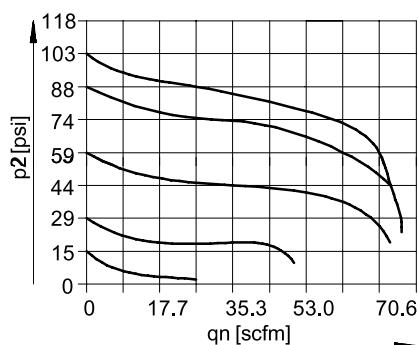
## Structure:

- Filter MS...-LF
- Pressure regulator MS...-LR
- Lubricator MS...-LOE
- Mounting bracket MS...-WP

|                                                |                                                                    |                                               |                                                            |
|------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------|------------------------------------------------------------|
| Size                                           | 4                                                                  |                                               |                                                            |
| Condensate drain                               | Fully automatic                                                    |                                               | Manual, rotating                                           |
| Grade of filtration                            | 5 µm                                                               | 40 µm                                         |                                                            |
| Pneumatic connection 1                         | 1/4 NPT                                                            |                                               |                                                            |
| Pneumatic connection 2                         | 1/4 NPT                                                            |                                               |                                                            |
| Type of mounting                               | With accessories                                                   |                                               |                                                            |
| Mounting position                              | Vertical ±5°                                                       |                                               |                                                            |
| Air quality class at the output                | Compressed air as per ISO 8573-1:2010 [6:4:-]                      | Compressed air as per ISO 8573-1:2010 [7:4:-] |                                                            |
| Bowl guard                                     | Plastic bowl guard                                                 |                                               |                                                            |
| Actuator lock                                  | Rotary knob with integrated lock                                   |                                               |                                                            |
| Pressure gauge                                 | with pressure gauge                                                |                                               |                                                            |
| Pressure regulation range                      | 1 ... 12 bar                                                       |                                               |                                                            |
| Operating pressure                             | 2 ... 12 bar                                                       |                                               | 1.5 ... 14 bar                                             |
| Operating medium                               | Compressed air as per ISO 8573-1:2010 [7:4:-], Inert gases         |                                               | Compressed air as per ISO 8573-1:2010 [-:4:-], Inert gases |
| Information on operating and pilot media       | Operation with oil lubrication possible (required for further use) |                                               |                                                            |
| Ambient temperature                            | -10 ... 60°C                                                       | 5 ... 60°C                                    | -10 ... 60°C                                               |
| Temperature of medium                          | -10 ... 60°C                                                       | 5 ... 60°C                                    | -10 ... 60°C                                               |
| Storage temperature                            | -10 ... 60°C                                                       |                                               |                                                            |
| Corrosion resistance class (CRC) <sup>1)</sup> | 2 - Moderate corrosion stress                                      |                                               |                                                            |
| For use in the food industry <sup>2)</sup>     | See supplementary material information                             |                                               |                                                            |
| Housing material                               | Die-cast aluminum                                                  |                                               |                                                            |
| Material of bowl                               | PC                                                                 |                                               |                                                            |
| LABS (PWIS) conformity                         | VDMA24364-B2-L                                                     |                                               |                                                            |

1) For more information, visit [www.festo.com/x/topic/kbk](http://www.festo.com/x/topic/kbk)

2) Further information: [www.festo.com/catalogue/msb4](http://www.festo.com/catalogue/msb4) → Support/Downloads.

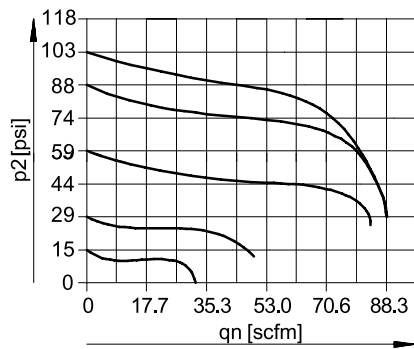
Normal flow  $q_n$  as a function of the outlet pressure  $p_2$  (combination 6, filter fineness 5 µm)

Grade of filtration 5 µm

Pressure regulation range 15 ... 176 psi

Primary pressure  $p_1 = 147$  psi

## Datasheet

Normal flow  $q_n$  as a function of the outlet pressure  $p_2$  (combination 6, filter fineness  $40\ \mu\text{m}$ )Grade of filtration  $40\ \mu\text{m}$ 

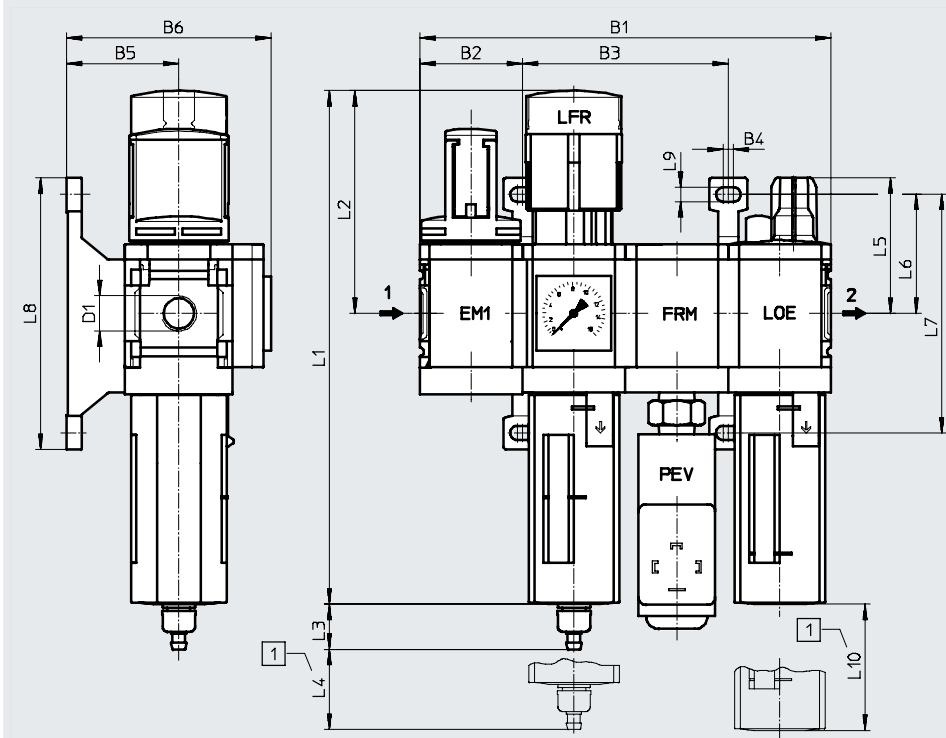
Pressure regulation range 15 ... 176 psi

Primary pressure  $p_1 = 147\ \text{psi}$

Dimensions

Dimensions – Combination 1 – on/off valve manually operated, filter regulator with pressure gauge, branching module with pressure switch, lubricator

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



[1] Installation dimension

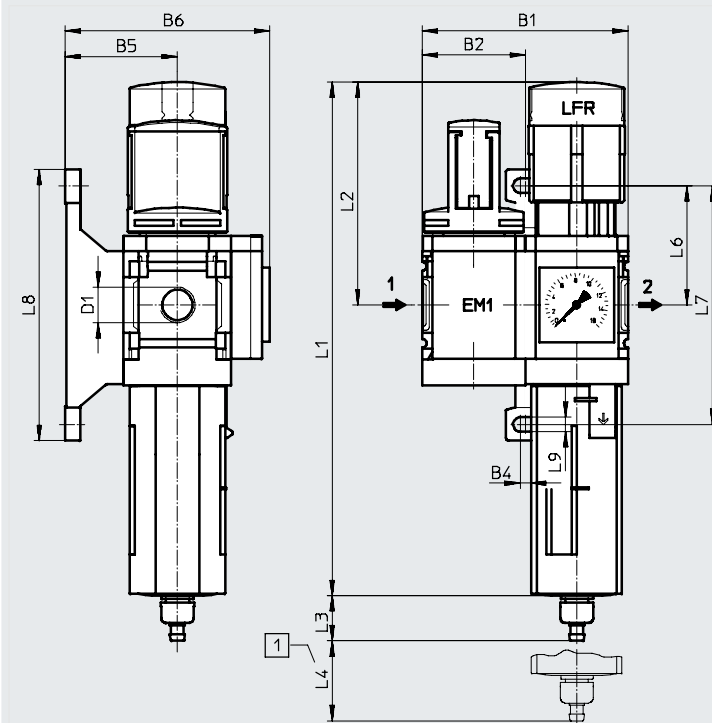
|       | B1<br>[inch] | B2<br>[inch] | B3<br>[inch] | B4<br>[inch] | B5<br>[inch] | B6<br>[inch] | D1      | L1<br>[inch] | L2<br>[inch] |
|-------|--------------|--------------|--------------|--------------|--------------|--------------|---------|--------------|--------------|
| MSB4N | 6,33         | 1,58         | 3,17         | 0,16         | 1,73         | 3,15         | 1/4 NPT | 7,91         | 3,43         |

|       | L3                |                   | L4<br>[inch] | L5<br>[inch] | L6<br>[inch] | L7<br>[inch] | L8<br>[inch] | L9<br>[inch] | L10<br>[inch] |
|-------|-------------------|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
|       | [inch]            |                   |              |              |              |              |              |              |               |
| MSB4N | 0,7 <sup>1)</sup> | 0,8 <sup>2)</sup> | 0,98         | 2,09         | 1,83         | 3,67         | 4,17         | 0,22         | 3,15          |

## Dimensions

Dimensions – Combination 2 – manually operated on/off valve, filter regulator with pressure gauge

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[1] Installation dimension

|       |              |              |              |              |              |         |              |              |
|-------|--------------|--------------|--------------|--------------|--------------|---------|--------------|--------------|
|       | B1<br>[inch] | B2<br>[inch] | B4<br>[inch] | B5<br>[inch] | B6<br>[inch] | D1      | L1<br>[inch] | L2<br>[inch] |
| MSB4N | 3,17         | 1,58         | 0,16         | 1,73         | 3,15         | 1/4 NPT | 7,91         | 3,43         |

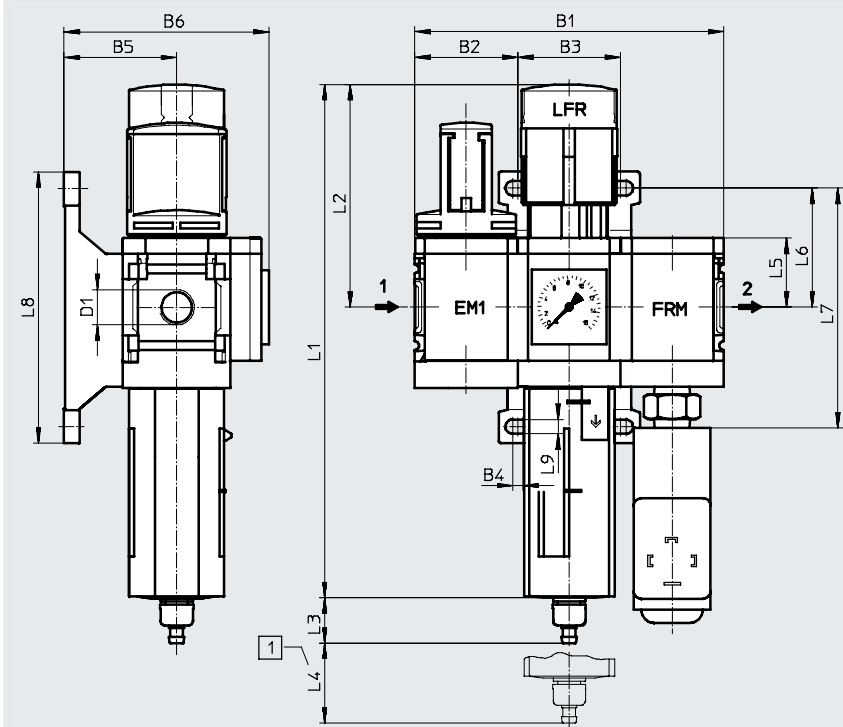
|       |                   |                   |              |              |              |              |              |
|-------|-------------------|-------------------|--------------|--------------|--------------|--------------|--------------|
|       | L3<br>[inch]      |                   | L4<br>[inch] | L6<br>[inch] | L7<br>[inch] | L8<br>[inch] | L9<br>[inch] |
| MSB4N | 0,7 <sup>1)</sup> | 0,8 <sup>2)</sup> | 0,98         | 1,83         | 3,67         | 4,17         | 0,22         |

- 1) Manual rotary condensate drain  
2) Fully automatic condensate drain

Dimensions

Dimensions – Combination 3 – manually operated on/off valve, filter regulator with pressure gauge, branching module with pressure switch

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[1] Installation dimension

|       | B1<br>[inch] | B2<br>[inch] | B3<br>[inch] | B4<br>[inch] | B5<br>[inch] | B6<br>[inch] | D1      | L1<br>[inch] | L2<br>[inch] |
|-------|--------------|--------------|--------------|--------------|--------------|--------------|---------|--------------|--------------|
| MSB4N | 4,75         | 1,58         | 1,58         | 0,16         | 1,73         | 3,15         | 1/4 NPT | 7,91         | 3,43         |

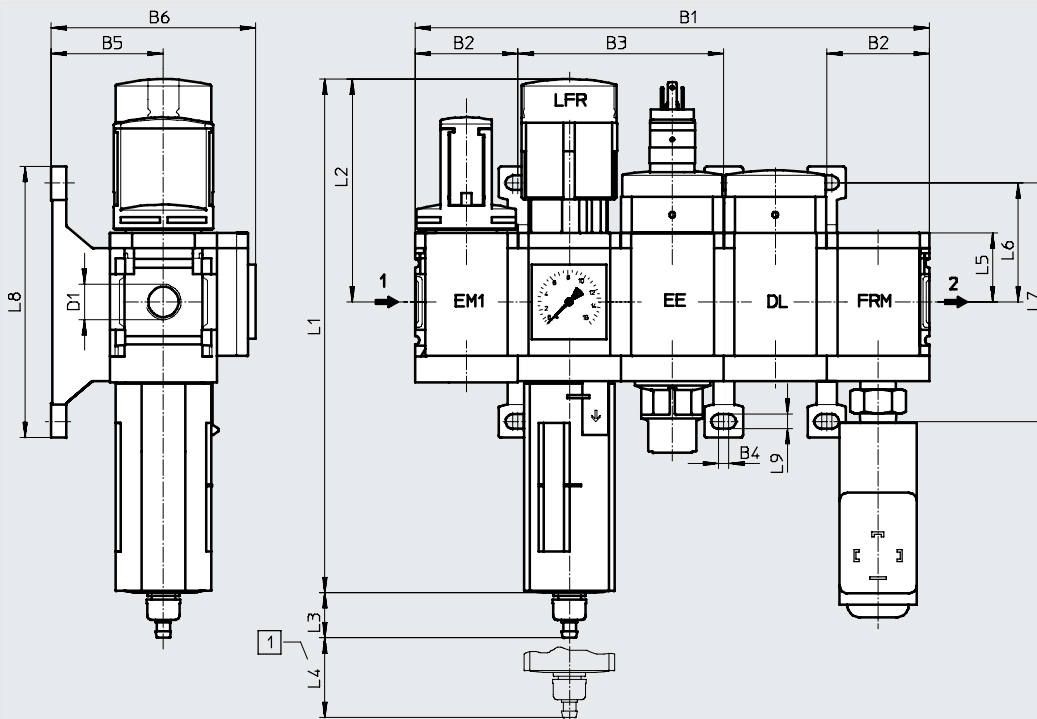
|       | L3<br>[inch]      |                   | L4<br>[inch] | L5<br>[inch] | L6<br>[inch] | L7<br>[inch] | L8<br>[inch] | L9<br>[inch] |
|-------|-------------------|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| MSB4N | 0,7 <sup>1)</sup> | 0,8 <sup>2)</sup> | 0,98         | 1,06         | 1,83         | 3,69         | 4,17         | 0,22         |

1) Manual rotary condensate drain  
2) Fully automatic condensate drain

## Dimensions

Dimensions – Combination 4 – manually operated on/off valve, filter regulator with pressure gauge, electrically operated on/off valve, pneumatically operated soft-start valve, branching module with pressure switch

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[1] Installation dimension

[2] Electrical connection to IEC 61076-2-101, M12x1 plug, 2-pin, for NEBA-M12

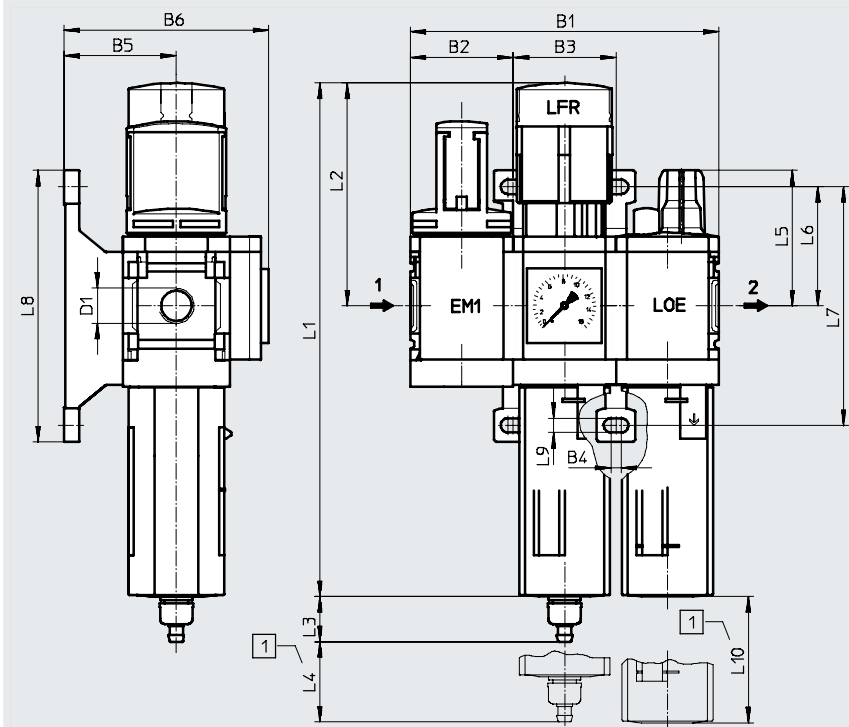
[3] Pressure sensor SDE5-D10-O-...-P-M8 with 3-pin plug M8x1, threshold value comparator, 1 switching output PNP, N/O contact

|       | B1<br>[inch]      | B2<br>[inch]      | B3<br>[inch] | B4<br>[inch] | B5<br>[inch] | B6<br>[inch] | D1           | L1<br>[inch] | L2<br>[inch] |
|-------|-------------------|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| MSB4N | 7,91              | 1,58              | 3,17         | 0,16         | 1,73         | 3,15         | 1/4 NPT      | 7,91         | 3,43         |
|       | L3<br>[inch]      | L4<br>[inch]      | L5<br>[inch] | L6<br>[inch] | L7<br>[inch] | L8<br>[inch] | L9<br>[inch] |              |              |
| MSB4N | 0,7 <sup>1)</sup> | 0,8 <sup>2)</sup> | 0,98         | 1,06         | 1,83         | 3,67         | 4,17         | 0,22         |              |

Dimensions

Dimensions – Combination 5 – manually operated on/off valve, filter regulator with pressure gauge, lubricator

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



[1] Installation dimension

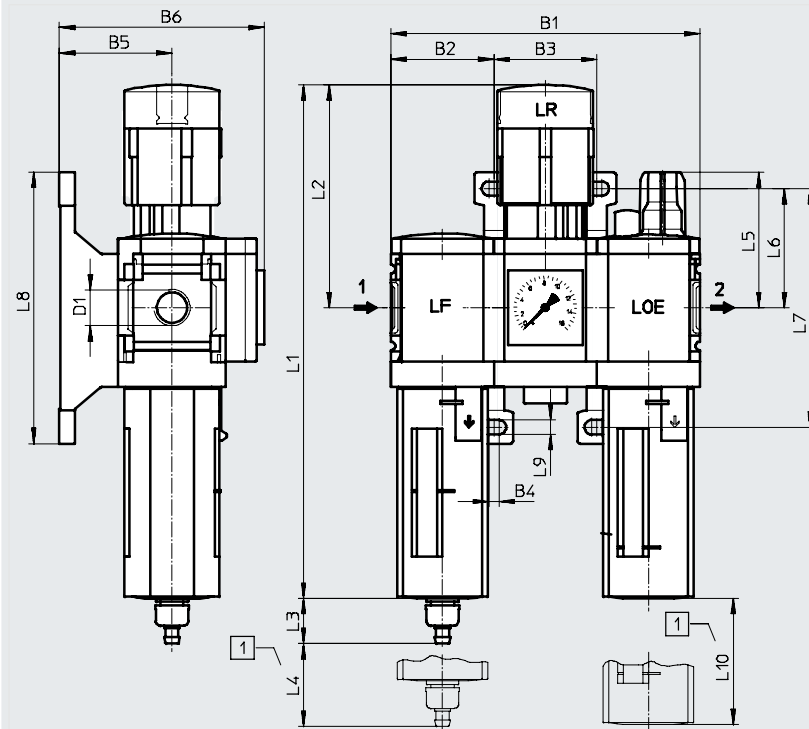
|       | B1<br>[inch] | B2<br>[inch] | B3<br>[inch] | B4<br>[inch] | B5<br>[inch] | B6<br>[inch] | D1      | L1<br>[inch] | L2<br>[inch] |
|-------|--------------|--------------|--------------|--------------|--------------|--------------|---------|--------------|--------------|
| MSB4N | 4,75         | 1,58         | 1,58         | 0,16         | 1,73         | 3,15         | 1/4 NPT | 7,91         | 3,43         |

|       | L3<br>[inch]      |                   | L4<br>[inch] | L5<br>[inch] | L6<br>[inch] | L7<br>[inch] | L8<br>[inch] | L9<br>[inch] | L10<br>[inch] |
|-------|-------------------|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| MSB4N | 0,7 <sup>1)</sup> | 0,8 <sup>2)</sup> | 0,98         | 2,09         | 1,83         | 3,67         | 4,17         | 0,22         | 3,15          |

1) Manual rotary condensate drain  
2) Fully automatic condensate drain

## Dimensions

### Dimensions – Combination 6 – Filter, pressure regulator, lubricator

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


[1] Installation dimension

|       |              |              |              |              |              |              |         |              |              |
|-------|--------------|--------------|--------------|--------------|--------------|--------------|---------|--------------|--------------|
|       | B1<br>[inch] | B2<br>[inch] | B3<br>[inch] | B4<br>[inch] | B5<br>[inch] | B6<br>[inch] | D1      | L1<br>[inch] | L2<br>[inch] |
| MSB4N | 4,75         | 1,58         | 1,58         | 0,16         | 1,73         | 3,15         | 1/4 NPT | 7,91         | 3,43         |

|       |                   |                   |              |              |              |              |              |              |               |
|-------|-------------------|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
|       | L3<br>[inch]      |                   | L4<br>[inch] | L5<br>[inch] | L6<br>[inch] | L7<br>[inch] | L8<br>[inch] | L9<br>[inch] | L10<br>[inch] |
| MSB4N | 0,7 <sup>1)</sup> | 0,8 <sup>2)</sup> | 0,98         | 2,09         | 1,83         | 3,67         | 4,17         | 0,22         | 3,15          |

- 1) Manual rotary condensate drain  
 2) Fully automatic condensate drain

## Ordering data

Ordering data – Combination 1

|                                                                                  | Pressure regulation range | Condensate drain | Grade of filtration | Product weight | Part no. | Type                  |
|----------------------------------------------------------------------------------|---------------------------|------------------|---------------------|----------------|----------|-----------------------|
|  | 1 ... 12 bar              | Manual, rotating | 40 µm               | 1,700 g        | 542295   | MSB4N-1/4:C3J1F3M1-WP |

Ordering data – Combination 2

|                                                                                  | Pressure regulation range | Condensate drain | Grade of filtration | Product weight | Part no. | Type              |
|----------------------------------------------------------------------------------|---------------------------|------------------|---------------------|----------------|----------|-------------------|
|  | 0.5 ... 12 bar            | Fully automatic  | 5 µm                | 1,300 g        | 543571   | MSB4N-1/4:C3J4-WP |
|                                                                                  |                           |                  | 40 µm               |                | 543559   | MSB4N-1/4:C3J2-WP |
|                                                                                  | 1 ... 12 bar              | Manual, rotating | 5 µm                |                | 543565   | MSB4N-1/4:C3J3-WP |
|                                                                                  |                           |                  | 40 µm               |                | 543553   | MSB4N-1/4:C3J1-WP |
|                                                                                  |                           |                  |                     |                |          |                   |

Ordering data – Combination 3

|                                                                                    | Pressure regulation range | Condensate drain | Grade of filtration | Product weight | Part no. | Type                |
|------------------------------------------------------------------------------------|---------------------------|------------------|---------------------|----------------|----------|---------------------|
|  | 0.3 ... 12 bar            | Fully automatic  | 5 µm                | 1,500 g        | 543562   | MSB4N-1/4:C3J3F3-WP |
|                                                                                    | 0.5 ... 12 bar            |                  | 40 µm               |                | 543556   | MSB4N-1/4:C3J2F3-WP |

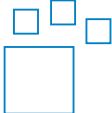
Ordering data – Combination 4

| Drinking water combination 1                                                       |                           |                  |                     |                |          |                         |
|------------------------------------------------------------------------------------|---------------------------|------------------|---------------------|----------------|----------|-------------------------|
|                                                                                    | Pressure regulation range | Condensate drain | Grade of filtration | Product weight | Part no. | Type                    |
|  | 4 ... 9 bar               | Manual, rotating | 5 µm                | 2,200 g        | 550487   | MSB4N-1/4:C3J3D7A1F3-WP |
|                                                                                    | 4 ... 12 bar              |                  | 40 µm               | 2,000 g        | 543560   | MSB4N-1/4:C3J3D1A1F3-WP |
|                                                                                    |                           |                  |                     |                | 543548   | MSB4N-1/4:C3J1D1A1F3-WP |

## Ordering data

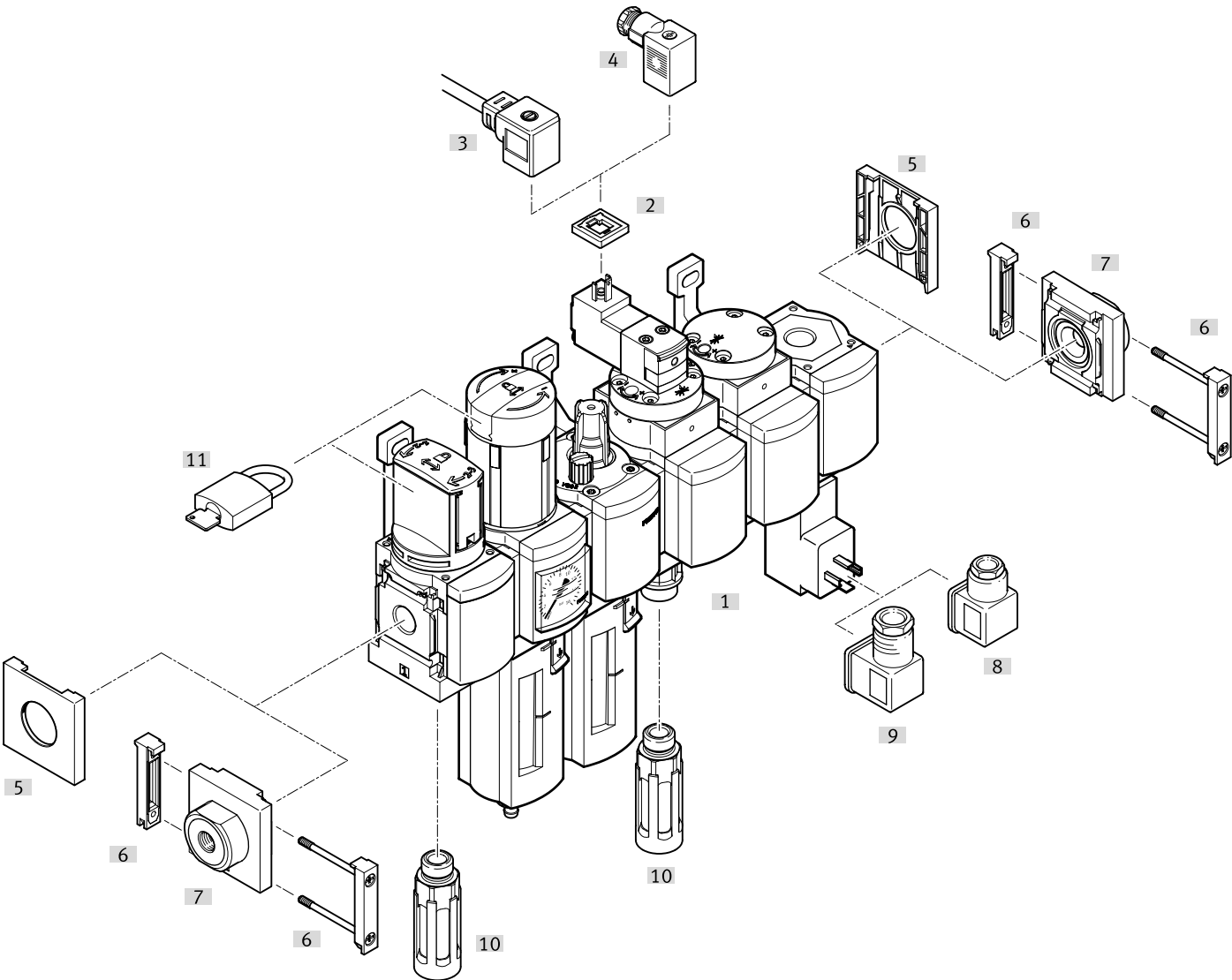
| Ordering data – Combination 5                                                     |                           |                  |                     |                |          |                     |
|-----------------------------------------------------------------------------------|---------------------------|------------------|---------------------|----------------|----------|---------------------|
|                                                                                   | Pressure regulation range | Condensate drain | Grade of filtration | Product weight | Part no. | Type                |
|  | 1 ... 12 bar              | Fully automatic  | 5 µm                | 1,500 g        | 543564   | MSB4N-1/4:C3J3M1-WP |
|                                                                                   |                           | Manual, rotating | 40 µm               |                | 543558   | MSB4N-1/4:C3J2M1-WP |
|                                                                                   |                           |                  |                     |                | 543552   | MSB4N-1/4:C3J1M1-WP |

| Ordering data – Combination 6                                                      |                           |                  |                     |                |          |                     |
|------------------------------------------------------------------------------------|---------------------------|------------------|---------------------|----------------|----------|---------------------|
|                                                                                    | Pressure regulation range | Condensate drain | Grade of filtration | Product weight | Part no. | Type                |
|  | 1 ... 12 bar              | Fully automatic  | 5 µm                | 1,000 g        | 541434   | MSB4N-1/4:H4N3M1-WP |
|                                                                                    |                           | Manual, rotating | 40 µm               |                | 541431   | MSB4N-1/4:H1N3M1-WP |
|                                                                                    |                           |                  |                     |                | 541432   | MSB4N-1/4:H2N3M1-WP |

| Ordering information – Modular product system                                       |           |          |       |
|-------------------------------------------------------------------------------------|-----------|----------|-------|
|                                                                                     | Type code | Part no. | Type  |
|  | MSB4N     | 532306   | MSB4N |

Peripherals overview

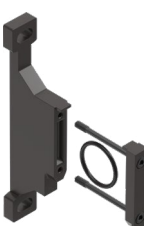
Peripherals overview

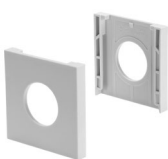


| Accessories                           |                                | → Page/Internet      |
|---------------------------------------|--------------------------------|----------------------|
| Type/order code                       | Description                    |                      |
| [1] Service unit combination MSB4N    |                                | <a href="#">msb4</a> |
| [2] Illuminating seal MEB-LD          |                                | <a href="#">26</a>   |
| [3] Plug socket with cable KMEB       |                                | <a href="#">26</a>   |
| [4] Plug socket MSSD-EB               |                                | <a href="#">27</a>   |
| [5] Cover cap MS4-END                 |                                | <a href="#">25</a>   |
| [6] Module connector MS4-MV1          |                                | <a href="#">25</a>   |
| [7] Sub-base-SET MS4-AQ...            | Order code [AG...]             | <a href="#">25</a>   |
| [8] Plug socket MSSD-C-4P             |                                | <a href="#">27</a>   |
| [9] Angled plug socket PEV-1/4-WD-LED |                                | <a href="#">27</a>   |
| [10] Silencer U                       |                                | <a href="#">27</a>   |
| [11] Padlock LRVS-D                   |                                | <a href="#">28</a>   |
| [12] Mounting bracket MS4-WP...       | Order code [WP...] (not shown) | <a href="#">25</a>   |

## Accessories

| Module connector MS4-MV1                                                          |      |                                 |                        |                |                |                |
|-----------------------------------------------------------------------------------|------|---------------------------------|------------------------|----------------|----------------|----------------|
|                                                                                   | Size | Module connector material       | LABS (PWIS) conformity | Product weight | Part no.       | Type           |
|  | 4    | POM, high-alloy stainless steel | VDMA24364-B1/B2-L      | 13 g           | <b>8119201</b> | <b>MS4-MV1</b> |

| Mounting bracket MS4-WP...                                                        |      |                   |                        |                |               |                   |
|-----------------------------------------------------------------------------------|------|-------------------|------------------------|----------------|---------------|-------------------|
|                                                                                   | Size | Bracket material  | LABS (PWIS) conformity | Product weight | Part no.      | Type              |
|  | 4    | Die-cast aluminum | VDMA24364-B1/B2-L      |                | <b>558869</b> | <b>MS4-WPE</b>    |
|                                                                                   |      |                   |                        | 39 g           | <b>541554</b> | <b>MS4-WP-EX</b>  |
|                                                                                   |      |                   |                        |                | <b>532184</b> | <b>MS4-WP</b>     |
|                                                                                   |      |                   |                        | 45 g           | <b>526060</b> | <b>MS4-WPM-D</b>  |
|                                                                                   |      |                   |                        | 55 g           | <b>526063</b> | <b>MS4-WPB</b>    |
|                                                                                   |      |                   |                        |                | <b>541552</b> | <b>MS4-WPB-EX</b> |
|                                                                                   |      |                   |                        |                | <b>526061</b> | <b>MS4-WPM-2D</b> |

| Cover cap MS4-END                                                                   |      |                  |                        |                |               |                |
|-------------------------------------------------------------------------------------|------|------------------|------------------------|----------------|---------------|----------------|
|                                                                                     | Size | Housing material | LABS (PWIS) conformity | Product weight | Part no.      | Type           |
|  | 4    | PA-reinforced    | VDMA24364-B1/B2-L      |                | <b>538779</b> | <b>MS4-END</b> |

| Sub-base SET MS4-AQ...                                                              |      |                        |                      |                |               |                 |
|-------------------------------------------------------------------------------------|------|------------------------|----------------------|----------------|---------------|-----------------|
|                                                                                     | Size | Pneumatic connection 1 | Material of sub-base | Product weight | Part no.      | Type            |
|  | 4    | 1/8 NPT                | Die-cast aluminum    | 128 g          | <b>526065</b> | <b>MS4N-AQK</b> |
|                                                                                     |      | 1/4 NPT                |                      |                | <b>526066</b> | <b>MS4N-AQN</b> |
|                                                                                     |      | 3/8 NPT                |                      |                | <b>526067</b> | <b>MS4N-AQP</b> |

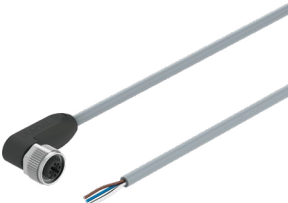
| Connecting cable NEBA, straight                                                     |                                                |                                                |                                               |              |                |                               |
|-------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|--------------|----------------|-------------------------------|
|                                                                                     | Electrical connection 1, connection technology | Electrical connection 2, connection technology | Electrical connection 2, number of pins/wires | Cable length | Part no.       | Type                          |
|  | M12x1 A-coded as per EN 61076-2-101            | Open end                                       | 4                                             | 2.5 m        | <b>8078239</b> | <b>NEBA-M12G5-U-2.5-N-LE4</b> |

## Accessories

## Connecting cable NEBA, straight

|                                                                                  | Electrical connection 1, connection technology | Electrical connection 2, connection technology | Electrical connection 2, number of pins/wires | Cable length | Part no. | Type                  |
|----------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|--------------|----------|-----------------------|
|  | M12x1 A-coded as per EN 61076-2-101            | Open end                                       | 4                                             | 5 m          | 8078240  | NEBA-M12G5-U-5-N-LE4  |
|                                                                                  | M8x1 A-coded as per EN 61076-2-104             |                                                | 3                                             | 2.5 m        | 8078223  | NEBA-M8G3-U-2.5-N-LE3 |
|                                                                                  |                                                |                                                |                                               | 5 m          | 8078224  | NEBA-M8G3-U-5-N-LE3   |

## Connecting cable NEBA, angled

|                                                                                   | Electrical connection 1, connection technology | Electrical connection 2, connection technology | Electrical connection 2, number of pins/wires | Cable length | Part no. | Type                   |
|-----------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------|-----------------------------------------------|--------------|----------|------------------------|
|  | M12x1 A-coded as per EN 61076-2-101            | Open end                                       | 4                                             | 2.5 m        | 8078248  | NEBA-M12W5-U-2.5-N-LE4 |
|                                                                                   |                                                |                                                |                                               | 5 m          | 8078249  | NEBA-M12W5-U-5-N-LE4   |
|                                                                                   | M8x1 A-coded as per EN 61076-2-104             |                                                | 3                                             | 2.5 m        | 8078230  | NEBA-M8W3-U-2.5-N-LE3  |
|                                                                                   |                                                |                                                |                                               | 5 m          | 8078231  | NEBA-M8W3-U-5-N-LE3    |

## Illuminating seal MEB-LD

|                                                                                    | DC operating voltage range | Nominal operating voltage AC | Product weight | Part no. | Type           |
|------------------------------------------------------------------------------------|----------------------------|------------------------------|----------------|----------|----------------|
|  | 12 ... 24 V                | 230 V                        | 0.6 g          | 151718   | MEB-LD-230AC   |
|                                                                                    |                            |                              |                | 151717   | MEB-LD-12-24DC |

## Plug socket with cable KMEB 230V AC

|                                                                                     | Nominal operating voltage AC | Cable length | Product weight | Part no. | Type             |
|-------------------------------------------------------------------------------------|------------------------------|--------------|----------------|----------|------------------|
|  | 230 V                        | 2.5 m        | 125 g          | 151690   | KMEB-1-230AC-2.5 |
|                                                                                     |                              | 5 m          | 230 g          | 151691   | KMEB-1-230AC-5   |

## Accessories

## Plug socket with cable KMEB 24 VDC

|                                                                                   | Nominal operating voltage DC | Cable length | Product weight | Part no. | Type              |
|-----------------------------------------------------------------------------------|------------------------------|--------------|----------------|----------|-------------------|
|  | 24 V                         | 2.5 m        | 120 g          | 547268   | KMEB-3-24-2.5-LED |
|                                                                                   |                              |              |                | 547270   | KMEB-3-24-2.5     |
|                                                                                   |                              | 5 m          | 125 g          | 151688   | KMEB-1-24-2.5-LED |
|                                                                                   |                              |              |                | 547271   | KMEB-3-24-5       |
|                                                                                   |                              |              |                | 151689   | KMEB-1-24-5-LED   |
|                                                                                   |                              |              |                | 547269   | KMEB-3-24-5-LED   |
|                                                                                   |                              | 10 m         | 460 g          | 193457   | KMEB-1-24-10-LED  |

## Plug socket MSSD-EB

|                                                                                   | Electrical connection                                                                                                                 | Cable fitting | Product weight | Part no. | Type                    |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------|----------|-------------------------|
|  | 3-pin, Socket, Angled socket, Type C, As per DIN EN 175301-803, As per DIN EN 61984, Rectangular design MSEB, Rectangular design MSN2 | M12x1.5       | 11 g           | 570367   | MSSD-EB-M12-24VDC-SD-EX |
|                                                                                   |                                                                                                                                       | Pg7           |                | 539712   | MSSD-EB-M12             |
|                                                                                   |                                                                                                                                       |               |                | 151687   | MSSD-EB                 |

## Plug socket MSSD-C-4P

|                                                                                     | Electrical connection                                                                                   | Cable fitting | Cable diameter | Product weight | Part no. | Type      |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------|----------------|----------------|----------|-----------|
|  | 3-pin, Angled socket, Type A, As per DIN EN 175301-803, Rectangular design MSC, Rectangular design MSN1 | Pg9           | 6 ... 8 mm     | 22 g           | 171157   | MSSD-C-4P |

## Angled plug socket PEV-1/4-WD-LED-...

|                                                                                     | Electrical connection | Switching status indication | Operating voltage range AC | DC operating voltage range | Part no. | Type               |
|-------------------------------------------------------------------------------------|-----------------------|-----------------------------|----------------------------|----------------------------|----------|--------------------|
|  |                       | Yellow LED, Green LED       |                            | 15 ... 30 V                | 164274   | PEV-1/4-WD-LED-24  |
|                                                                                     |                       |                             | 150 ... 230 V              | 140 ... 180 V              | 164275   | PEV-1/4-WD-LED-230 |

## Muffler U

|                                                                                     | Pneumatic connection | Noise level | Flow rate with respect to atmosphere | Product weight | Part no. | Type    |
|-------------------------------------------------------------------------------------|----------------------|-------------|--------------------------------------|----------------|----------|---------|
|  | G1/4                 | 76 dB(A)    | 3,300 l/min                          | 7.7 g          | 2316     | U-1/4   |
|                                                                                     |                      | 80 dB(A)    | 2,440 l/min                          | 17 g           | 6842     | U-1/4-B |

Accessories

|                                                                                   |                        |                |          |        |
|-----------------------------------------------------------------------------------|------------------------|----------------|----------|--------|
| Padlock LRV5-D                                                                    |                        |                |          |        |
|                                                                                   | LABS (PWIS) conformity | Product weight | Part no. | Type   |
|  | VDMA24364-B1/B2-L      | 120 g          | 193786   | LRVS-D |