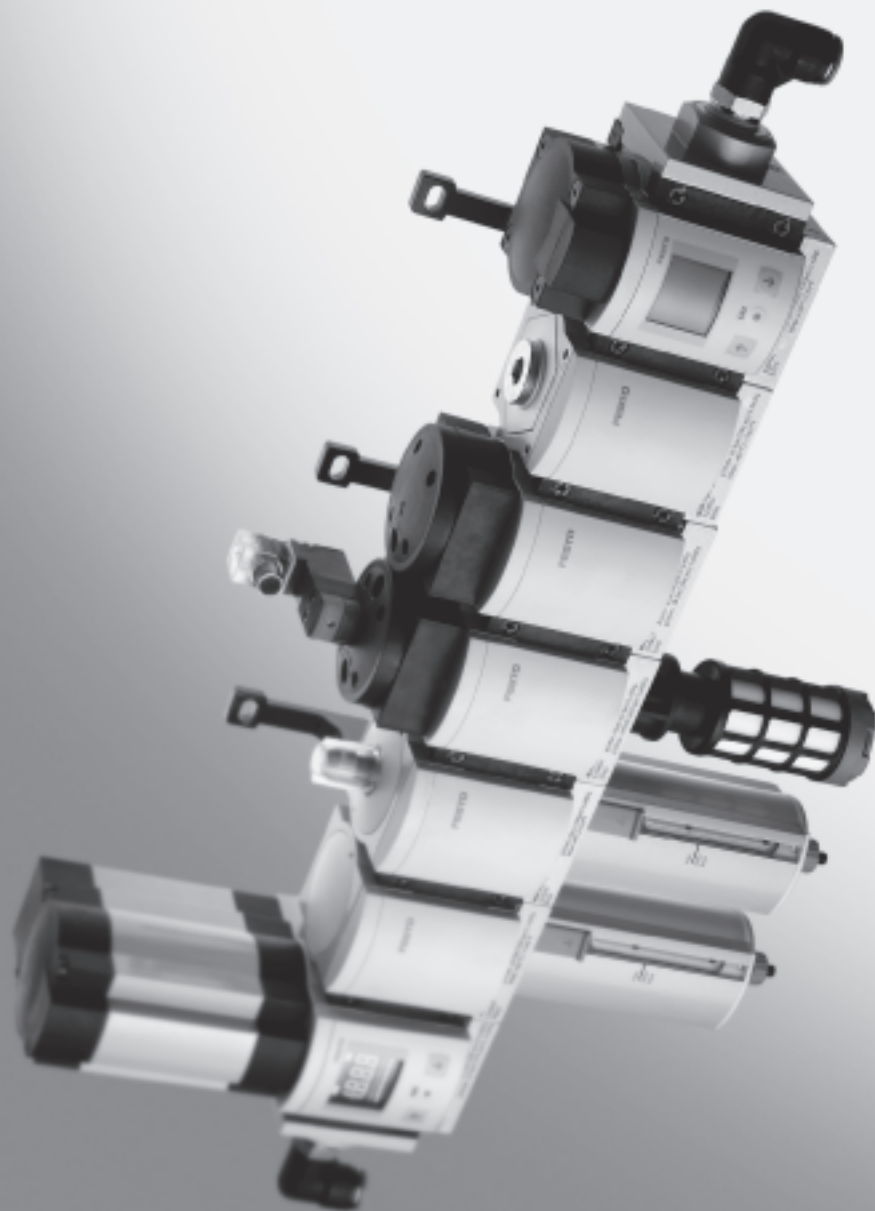


Wide range of configuration options

→ [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



- Three sizes:  
MS4 – grid  
dimension 40 mm  
MS6 – grid  
dimension 62 mm  
MS12 – grid  
dimension 124 mm
- Modular
- Easy to assemble
- Broad range of functions
- Compact with high flow rates
- Modern design
- Wide choice of variants
- Integrated safety functions

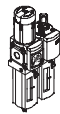
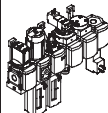
Specified types in accordance with  
ATEX directive for potentially  
explosive atmospheres

→ [www.festo.com/en/ex](http://www.festo.com/en/ex)

# MS series service units

Product range overview

FESTO

| Type                                                                                                                                                                 |                                                                                     | Size |                  | Pneumatic connection in housing | Connecting plate | Pressure regulation range [bar] |                    |                 |                 |                  |                  | Grade of filtration [µm] |   |   |    |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------|------------------|---------------------------------|------------------|---------------------------------|--------------------|-----------------|-----------------|------------------|------------------|--------------------------|---|---|----|--|--|
|                                                                                                                                                                      |                                                                                     |      |                  |                                 |                  |                                 |                    |                 |                 |                  |                  |                          |   |   |    |  |  |
|                                                                                                                                                                      |                                                                                     |      |                  |                                 |                  | 0.05<br>...<br>0.7              | 0.05<br>...<br>2.5 | 0.1<br>...<br>4 | 0.3<br>...<br>7 | 0.1<br>...<br>12 | 0.5<br>...<br>16 | 0.01                     | 1 | 5 | 40 |  |  |
| Code                                                                                                                                                                 |                                                                                     |      |                  |                                 | AG...            | D2                              | D4                 | D5              | D6              | D7               | D8               | A                        | B | C | E  |  |  |
| Service units                                                                                                                                                        |                                                                                     |      |                  |                                 |                  |                                 |                    |                 |                 |                  |                  |                          |   |   |    |  |  |
| MSB-FRC                                                                                                                                                              |    | 4    | G1/8, G1/4       | G1/8, G1/4, G3/8                | –                | –                               | –                  | ■               | ■               | –                | –                | –                        | ■ | ■ |    |  |  |
|                                                                                                                                                                      |                                                                                     | 6    | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –                | –                               | –                  | ■               | ■               | –                | –                | –                        | ■ | ■ |    |  |  |
|                                                                                                                                                                      |                                                                                     | 12   | –                |                                 |                  |                                 |                    |                 |                 |                  |                  |                          |   |   |    |  |  |
| Service unit combinations (further variants can be ordered using the configurator → <a href="http://www.festo.com/en/engineering">www.festo.com/en/engineering</a> ) |                                                                                     |      |                  |                                 |                  |                                 |                    |                 |                 |                  |                  |                          |   |   |    |  |  |
| MSB                                                                                                                                                                  |   | 4    | G1/4             | G1/8, G1/4, G3/8                | –                | –                               | –                  | ■               | ■               | –                | –                | –                        | ■ | ■ |    |  |  |
|                                                                                                                                                                      |                                                                                     | 6    | G1/2             | G1/4, G3/8, G1/2, G3/4          | –                | –                               | –                  | ■               | ■               | –                | –                | –                        | ■ | ■ |    |  |  |
|                                                                                                                                                                      |                                                                                     | 12   | –                |                                 |                  |                                 |                    |                 |                 |                  |                  |                          |   |   |    |  |  |
| Individual devices                                                                                                                                                   |                                                                                     |      |                  |                                 |                  |                                 |                    |                 |                 |                  |                  |                          |   |   |    |  |  |
| Filter regulators<br>MS-LFR                                                                                                                                          |  | 4    | G1/8, G1/4       | G1/8, G1/4, G3/8                | –                | –                               | ■                  | ■               | ■               | –                | –                | –                        | ■ | ■ |    |  |  |
|                                                                                                                                                                      |                                                                                     | 6    | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –                | –                               | ■                  | ■               | ■               | ■                | –                | –                        | ■ | ■ |    |  |  |
|                                                                                                                                                                      |                                                                                     | 12   | –                | G1, G1 1/4, G1 1/2, G2          | –                | –                               | –                  | ■               | ■               | ■                | –                | –                        | ■ | ■ |    |  |  |
| Filters<br>MS-LF                                                                                                                                                     |  | 4    | G1/8, G1/4       | G1/8, G1/4, G3/8                | –                | –                               | –                  | –               | –               | –                | –                | –                        | ■ | ■ |    |  |  |
|                                                                                                                                                                      |                                                                                     | 6    | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –                | –                               | –                  | –               | –               | –                | –                | –                        | ■ | ■ |    |  |  |
|                                                                                                                                                                      |                                                                                     | 12   | –                | G1, G1 1/4, G1 1/2, G2          | –                | –                               | –                  | –               | –               | –                | –                | –                        | ■ | ■ |    |  |  |
| Fine and micro filters<br>MS-LFM                                                                                                                                     |  | 4    | G1/8, G1/4       | G1/8, G1/4, G3/8                | –                | –                               | –                  | –               | –               | –                | ■                | ■                        | – | – |    |  |  |
|                                                                                                                                                                      |                                                                                     | 6    | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –                | –                               | –                  | –               | –               | –                | ■                | ■                        | – | – |    |  |  |
|                                                                                                                                                                      |                                                                                     | 12   | –                | G1, G1 1/4, G1 1/2, G2          | –                | –                               | –                  | –               | –               | –                | ■                | ■                        | – | – |    |  |  |
| Activated carbon filters<br>MS-LFX                                                                                                                                   |  | 4    | G1/8, G1/4       | G1/8, G1/4, G3/8                | –                | –                               | –                  | –               | –               | –                | –                | –                        | – | – |    |  |  |
|                                                                                                                                                                      |                                                                                     | 6    | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –                | –                               | –                  | –               | –               | –                | –                | –                        | – | – |    |  |  |
|                                                                                                                                                                      |                                                                                     | 12   | –                | G1, G1 1/4, G1 1/2, G2          | –                | –                               | –                  | –               | –               | –                | –                | –                        | – | – |    |  |  |
| Pressure regulators<br>MS-LR                                                                                                                                         |  | 4    | G1/8, G1/4       | G1/8, G1/4, G3/8                | –                | –                               | ■                  | ■               | ■               | –                | –                | –                        | – | – |    |  |  |
|                                                                                                                                                                      |                                                                                     | 6    | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –                | –                               | ■                  | ■               | ■               | ■                | –                | –                        | – | – |    |  |  |
|                                                                                                                                                                      |                                                                                     | 12   | –                | G1, G1 1/4, G1 1/2, G2          | –                | –                               | –                  | ■               | ■               | ■                | –                | –                        | – | – |    |  |  |
| Pressure regulators<br>MS-LRB                                                                                                                                        |  | 4    | G1/4             | G1/8, G1/4, G3/8                | –                | –                               | ■                  | ■               | ■               | –                | –                | –                        | – | – |    |  |  |
|                                                                                                                                                                      |                                                                                     | 6    | G1/2             | G1/4, G3/8, G1/2, G3/4          | –                | –                               | ■                  | ■               | ■               | ■                | –                | –                        | – | – |    |  |  |
|                                                                                                                                                                      |                                                                                     | 12   | –                |                                 |                  |                                 |                    |                 |                 |                  |                  |                          |   |   |    |  |  |
| Precision pressure regulators<br>MS-LRP                                                                                                                              |  | 4    | –                |                                 |                  |                                 |                    |                 |                 |                  |                  |                          |   |   |    |  |  |
|                                                                                                                                                                      |                                                                                     | 6    | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | ■                | ■                               | ■                  | –               | ■               | –                | –                | –                        | – | – |    |  |  |
|                                                                                                                                                                      |                                                                                     | 12   | –                |                                 |                  |                                 |                    |                 |                 |                  |                  |                          |   |   |    |  |  |
| Precision pressure regulators<br>MS-LRPB                                                                                                                             |  | 4    | –                |                                 |                  |                                 |                    |                 |                 |                  |                  |                          |   |   |    |  |  |
|                                                                                                                                                                      |                                                                                     | 6    | G1/2             | G1/4, G3/8, G1/2, G3/4          | ■                | ■                               | ■                  | –               | ■               | –                | –                | –                        | – | – |    |  |  |
|                                                                                                                                                                      |                                                                                     | 12   | –                |                                 |                  |                                 |                    |                 |                 |                  |                  |                          |   |   |    |  |  |

# MS series service units

Product range overview

FESTO

| Type                                     | Size | Bowl guard         |            | Condensate drains |                |                 |                                       | Pressure indicator                   |                              |                                     |                                     |                              | Actuator lock         |                   | Options  |                                   | → Page     |
|------------------------------------------|------|--------------------|------------|-------------------|----------------|-----------------|---------------------------------------|--------------------------------------|------------------------------|-------------------------------------|-------------------------------------|------------------------------|-----------------------|-------------------|----------|-----------------------------------|------------|
|                                          |      | Plastic bowl guard | Metal bowl | Manual rotary     | Semi-automatic | Fully automatic | External, fully-automatic, electrical | Cover plate (without pressure gauge) | Integrated MS pressure gauge | Adapter for EN pressure gauge G 1/8 | Adapter for EN pressure gauge G 1/4 | Pressure sensor with display | Rotary knob, lockable | Rotary knob, long | Silencer | Flow direction from right to left |            |
| Code                                     |      | R                  | U          | M                 | H              | V               | E...                                  | VS                                   | AG                           | A8                                  | A4                                  | AD...                        | AS                    | LD                | S        | Z                                 |            |
| Service units                            |      |                    |            |                   |                |                 |                                       |                                      |                              |                                     |                                     |                              |                       |                   |          |                                   |            |
| MSB-FRC                                  | 4    | ■                  | –          | ■                 | –              | ■               | –                                     | –                                    | ■                            | –                                   | –                                   | –                            | ■                     | –                 | –        | ■                                 | 2-2        |
|                                          | 6    | ■                  | ■          | ■                 | –              | ■               | –                                     | –                                    | ■                            | –                                   | –                                   | –                            | ■                     | –                 | –        | ■                                 |            |
|                                          | 12   | –                  |            |                   |                |                 |                                       |                                      |                              |                                     |                                     |                              |                       |                   |          |                                   |            |
| Service unit combinations                |      |                    |            |                   |                |                 |                                       |                                      |                              |                                     |                                     |                              |                       |                   |          |                                   |            |
| MSB                                      | 4    | ■                  | ■          | ■                 | –              | ■               | –                                     | –                                    | ■                            | –                                   | –                                   | –                            | ■                     | –                 | –        | ■                                 | 2-2        |
|                                          | 6    | ■                  | ■          | ■                 | –              | ■               | –                                     | –                                    | ■                            | –                                   | –                                   | –                            | ■                     | –                 | –        | ■                                 |            |
|                                          | 12   | –                  |            |                   |                |                 |                                       |                                      |                              |                                     |                                     |                              |                       |                   |          |                                   |            |
| Individual devices                       |      |                    |            |                   |                |                 |                                       |                                      |                              |                                     |                                     |                              |                       |                   |          |                                   |            |
| Filter regulators<br>MS-LFR              | 4    | ■                  | ■          | ■                 | ■              | ■               | –                                     | ■                                    | ■                            | ■                                   | ■                                   | ■                            | ■                     | ■                 | –        | ■                                 | 3-2        |
|                                          | 6    | ■                  | ■          | ■                 | ■              | ■               | ■                                     | ■                                    | ■                            | –                                   | ■                                   | ■                            | ■                     | ■                 | –        | ■                                 |            |
|                                          | 12   | –                  | ■          | ■                 | –              | ■               | ■                                     | ■                                    | ■                            | ■                                   | –                                   | ■                            | –                     | ■                 | ■        | –                                 | ■          |
| Filters<br>MS-LF                         | 4    | ■                  | ■          | ■                 | ■              | ■               | –                                     | –                                    | –                            | –                                   | –                                   | –                            | –                     | –                 | –        | ■                                 | 4-2, 4-4   |
|                                          | 6    | ■                  | ■          | ■                 | ■              | ■               | ■                                     | –                                    | –                            | –                                   | –                                   | –                            | –                     | –                 | –        | ■                                 |            |
|                                          | 12   | –                  | ■          | ■                 | –              | ■               | ■                                     | –                                    | –                            | –                                   | –                                   | –                            | –                     | –                 | –        | ■                                 | 4-32, 4-34 |
| Fine and micro filters<br>MS-LFM         | 4    | ■                  | ■          | ■                 | ■              | ■               | –                                     | –                                    | –                            | –                                   | –                                   | –                            | –                     | –                 | –        | ■                                 | 4-2, 4-12  |
|                                          | 6    | ■                  | ■          | ■                 | ■              | ■               | ■                                     | –                                    | –                            | –                                   | –                                   | –                            | –                     | –                 | –        | ■                                 |            |
|                                          | 12   | –                  | ■          | ■                 | –              | ■               | ■                                     | –                                    | –                            | –                                   | –                                   | –                            | –                     | –                 | –        | ■                                 | 4-32, 4-39 |
| Activated carbon filters<br>MS-LFX       | 4    | ■                  | ■          | –                 | –              | –               | –                                     | –                                    | –                            | –                                   | –                                   | –                            | –                     | –                 | –        | ■                                 | 4-2, 4-24  |
|                                          | 6    | ■                  | ■          | –                 | –              | –               | –                                     | –                                    | –                            | –                                   | –                                   | –                            | –                     | –                 | –        | ■                                 |            |
|                                          | 12   | –                  | ■          | –                 | –              | –               | –                                     | –                                    | –                            | –                                   | –                                   | –                            | –                     | –                 | –        | ■                                 | 4-32, 4-46 |
| Pressure regulators<br>MS-LR             | 4    | –                  | –          | –                 | –              | –               | –                                     | ■                                    | ■                            | ■                                   | ■                                   | ■                            | ■                     | ■                 | –        | ■                                 | 5-2, 5-7   |
|                                          | 6    | –                  | –          | –                 | –              | –               | –                                     | ■                                    | ■                            | –                                   | ■                                   | ■                            | ■                     | ■                 | –        | ■                                 |            |
|                                          | 12   | –                  | –          | –                 | –              | –               | –                                     | ■                                    | ■                            | –                                   | ■                                   | –                            | ■                     | ■                 | –        | ■                                 | 5-58       |
| Pressure regulators<br>MS-LRB            | 4    | –                  | –          | –                 | –              | –               | –                                     | ■                                    | ■                            | ■                                   | ■                                   | ■                            | ■                     | ■                 | –        | ■                                 | 5-2, 5-16  |
|                                          | 6    | –                  | –          | –                 | –              | –               | –                                     | ■                                    | ■                            | –                                   | ■                                   | ■                            | ■                     | ■                 | –        | ■                                 |            |
|                                          | 12   | –                  |            |                   |                |                 |                                       |                                      |                              |                                     |                                     |                              |                       |                   |          |                                   |            |
| Precision pressure regulators<br>MS-LRP  | 4    | –                  |            |                   |                |                 |                                       |                                      |                              |                                     |                                     |                              |                       |                   |          |                                   | 5-24, 5-29 |
|                                          | 6    | –                  | –          | –                 | –              | –               | –                                     | ■                                    | –                            | ■                                   | ■                                   | ■                            | ■                     | ■                 | –        | ■                                 |            |
|                                          | 12   | –                  |            |                   |                |                 |                                       |                                      |                              |                                     |                                     |                              |                       |                   |          |                                   |            |
| Precision pressure regulators<br>MS-LRPB | 4    | –                  |            |                   |                |                 |                                       |                                      |                              |                                     |                                     |                              |                       |                   |          |                                   | 5-24, 5-38 |
|                                          | 6    | –                  | –          | –                 | –              | –               | –                                     | ■                                    | –                            | ■                                   | ■                                   | ■                            | ■                     | ■                 | –        | ■                                 |            |
|                                          | 12   | –                  |            |                   |                |                 |                                       |                                      |                              |                                     |                                     |                              |                       |                   |          |                                   |            |

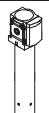
MS series service units

1

# MS series service units

Product range overview

FESTO

| Type                                            | Size                                                                                | Pneumatic connection in housing | Connecting plate | Pressure regulation range [bar] |                 |                  |                  | Supply voltage                            |                                            |                                            |                                            |
|-------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------|------------------|---------------------------------|-----------------|------------------|------------------|-------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
|                                                 |                                                                                     |                                 |                  | 0.3<br>...<br>4                 | 0.3<br>...<br>7 | 0.5<br>...<br>12 | 0.5<br>...<br>16 | 24 V DC (connection pattern to EN 175301) | 24 V DC (connection pattern M12 to DESINA) | 110 V AC (connection pattern to EN 175301) | 230 V AC (connection pattern to EN 175301) |
| Code                                            |                                                                                     |                                 | AG...            | D5                              | D6              | D7               | D8               | V24                                       | V24P                                       | V110                                       | V230                                       |
| <b>Individual devices</b>                       |                                                                                     |                                 |                  |                                 |                 |                  |                  |                                           |                                            |                                            |                                            |
| Electrical pressure regulators<br><b>MS-LRE</b> |    | 4                               | –                |                                 |                 |                  |                  | –                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 6                               | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | ■               | ■                | ■                | ■                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 12                              | –                |                                 |                 |                  |                  |                                           |                                            |                                            |                                            |
| Lubricators<br><b>MS-LOE</b>                    |    | 4                               | G1/8, G1/4       | G1/8, G1/4, G3/8                | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 6                               | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 12                              | –                | G1, G1 1/4, G1 1/2, G2          | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
| On-off valves<br><b>MS-EM(1)</b>                |  | 4                               | G1/8, G1/4       | G1/8, G1/4, G3/8                | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 6                               | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 12                              | –                | G1, G1 1/4, G1 1/2, G2          | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
| On-off valves<br><b>MS-EE</b>                   |  | 4                               | G1/8, G1/4       | G1/8, G1/4, G3/8                | –               | –                | –                | –                                         | ■                                          | –                                          | ■                                          |
|                                                 |                                                                                     | 6                               | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –               | –                | –                | –                                         | ■                                          | –                                          | ■                                          |
|                                                 |                                                                                     | 12                              | –                | G1, G1 1/4, G1 1/2, G2          | –               | –                | –                | –                                         | ■                                          | ■                                          | ■                                          |
| Soft-start valves<br><b>MS-DL</b>               |  | 4                               | G1/8, G1/4       | G1/8, G1/4, G3/8                | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 6                               | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 12                              | –                | G1, G1 1/4, G1 1/2, G2          | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
| Soft-start valves<br><b>MS-DE</b>               |  | 4                               | G1/8, G1/4       | G1/8, G1/4, G3/8                | –               | –                | –                | –                                         | ■                                          | –                                          | ■                                          |
|                                                 |                                                                                     | 6                               | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –               | –                | –                | –                                         | ■                                          | –                                          | ■                                          |
|                                                 |                                                                                     | 12                              | –                | G1, G1 1/4, G1 1/2, G2          | –               | –                | –                | –                                         | ■                                          | ■                                          | ■                                          |
| Membrane air dryers<br><b>MS-LDM1</b>           |  | 4                               | G1/8, G1/4       | G1/8, G1/4, G3/8                | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 6                               | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 12                              | –                |                                 |                 |                  |                  |                                           |                                            |                                            |                                            |
| Branching modules<br><b>MS-FRM</b>              |  | 4                               | G1/8, G1/4       | G1/8, G1/4, G3/8                | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 6                               | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4          | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 12                              | –                | G1, G1 1/4, G1 1/2, G2          | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
| Flow sensors<br><b>MS-SFE</b>                   |  | 4                               | –                |                                 |                 |                  |                  |                                           |                                            |                                            |                                            |
|                                                 |                                                                                     | 6                               | G1/2             | G1/2                            | –               | –                | –                | –                                         | –                                          | –                                          | –                                          |
|                                                 |                                                                                     | 12                              | –                |                                 |                 |                  |                  |                                           |                                            |                                            |                                            |

# MS series service units

Product range overview

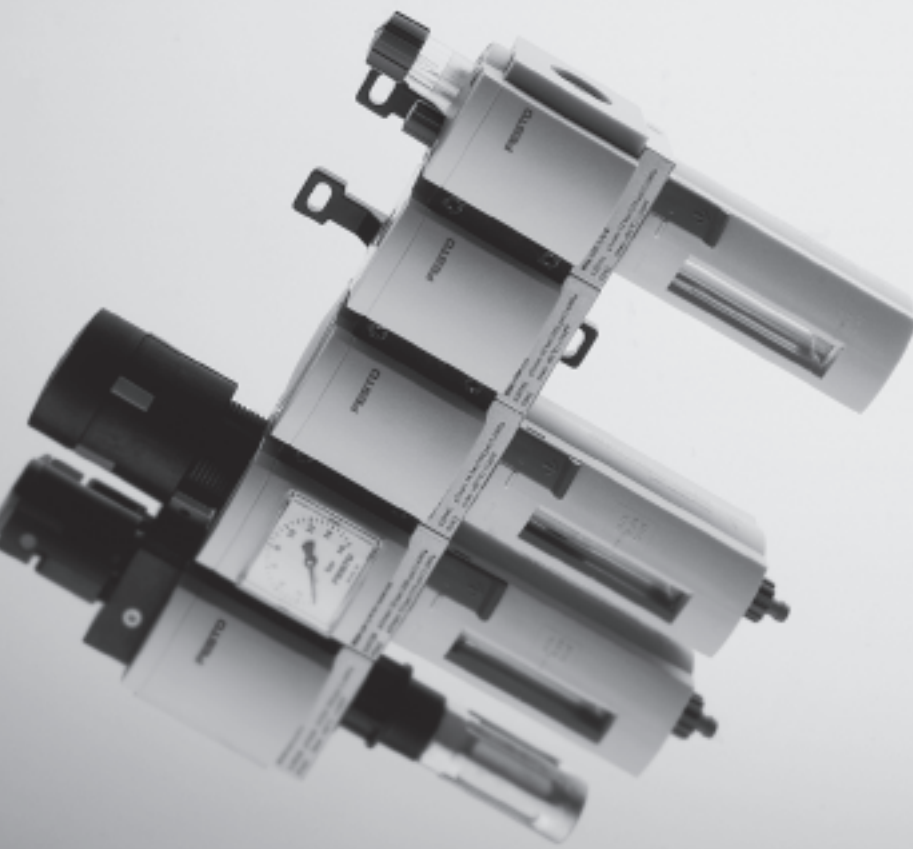
**FESTO**

| Type                                     | Size | Bowl guard         |            | Pressure indicator                   |                              |                                     |                                     |                              | Switch output |        | Options  |                                   | → Page     |
|------------------------------------------|------|--------------------|------------|--------------------------------------|------------------------------|-------------------------------------|-------------------------------------|------------------------------|---------------|--------|----------|-----------------------------------|------------|
|                                          |      | Plastic bowl guard | Metal bowl | Cover plate (without pressure gauge) | Integrated MS pressure gauge | Adapter for EN pressure gauge G 1/8 | Adapter for EN pressure gauge G 1/4 | Pressure sensor with display | 2x PNP        | 2x NPN | Silencer | Flow direction from right to left |            |
|                                          |      |                    |            |                                      |                              |                                     |                                     |                              |               |        |          |                                   |            |
| Individual devices                       |      |                    |            |                                      |                              |                                     |                                     |                              |               |        |          |                                   |            |
| Electrical pressure regulators<br>MS-LRE | 4    | -                  |            |                                      |                              |                                     |                                     |                              |               |        |          |                                   | 5-46       |
|                                          | 6    | -                  | -          | ■                                    | ■                            | -                                   | ■                                   | -                            | -             | -      | -        | ■                                 |            |
|                                          | 12   | -                  |            |                                      |                              |                                     |                                     |                              |               |        |          |                                   |            |
|                                          |      |                    |            |                                      |                              |                                     |                                     |                              |               |        |          |                                   |            |
| Lubricators<br>MS-LOE                    | 4    | ■                  | ■          | -                                    | -                            | -                                   | -                                   | -                            | -             | -      | -        | ■                                 | 6-2        |
|                                          | 6    | ■                  | ■          | -                                    | -                            | -                                   | -                                   | -                            | -             | -      | -        | ■                                 |            |
|                                          | 12   | -                  | ■          | -                                    | -                            | -                                   | -                                   | -                            | -             | -      | -        | -                                 | ■          |
|                                          |      |                    |            |                                      |                              |                                     |                                     |                              |               |        |          |                                   |            |
| On-off valves<br>MS-EM(1)                | 4    | -                  | -          | ■                                    | ■                            | ■                                   | ■                                   | ■                            | -             | -      | ■        | ■                                 | 7-2, 7-5   |
|                                          | 6    | -                  | -          | ■                                    | ■                            | -                                   | ■                                   | ■                            | -             | -      | ■        | ■                                 |            |
|                                          | 12   | -                  | -          | ■                                    | ■                            | -                                   | ■                                   | -                            | -             | -      | ■        | ■                                 | 7-32, 7-35 |
| On-off valves<br>MS-EE                   | 4    | -                  | -          | ■                                    | ■                            | ■                                   | ■                                   | ■                            | -             | -      | ■        | ■                                 | 7-2, 7-10  |
|                                          | 6    | -                  | -          | ■                                    | ■                            | -                                   | ■                                   | ■                            | -             | -      | ■        | ■                                 |            |
|                                          | 12   | -                  | -          | ■                                    | ■                            | -                                   | ■                                   | -                            | -             | -      | ■        | ■                                 | 7-32, 7-39 |
| Soft-start valves<br>MS-DL               | 4    | -                  | -          | ■                                    | ■                            | ■                                   | ■                                   | ■                            | -             | -      | -        | ■                                 | 7-2, 7-18  |
|                                          | 6    | -                  | -          | ■                                    | ■                            | -                                   | ■                                   | ■                            | -             | -      | -        | ■                                 |            |
|                                          | 12   | -                  | -          | ■                                    | ■                            | -                                   | ■                                   | -                            | -             | -      | -        | ■                                 | 7-32, 7-43 |
| Soft-start valves<br>MS-DE               | 4    | -                  | -          | ■                                    | ■                            | ■                                   | ■                                   | ■                            | -             | -      | -        | ■                                 | 7-2, 7-23  |
|                                          | 6    | -                  | -          | ■                                    | ■                            | -                                   | ■                                   | ■                            | -             | -      | -        | ■                                 |            |
|                                          | 12   | -                  | -          | ■                                    | ■                            | -                                   | ■                                   | -                            | -             | -      | -        | ■                                 | 7-32, 7-47 |
|                                          |      |                    |            |                                      |                              |                                     |                                     |                              |               |        |          |                                   |            |
| Membrane air dryers<br>MS-LDM1           | 4    | -                  | ■          | -                                    | -                            | -                                   | -                                   | -                            | -             | -      | -        | ■                                 | 8-2        |
|                                          | 6    | -                  | ■          | -                                    | -                            | -                                   | -                                   | -                            | -             | -      | -        | ■                                 |            |
|                                          | 12   | -                  |            |                                      |                              |                                     |                                     |                              |               |        |          |                                   |            |
|                                          |      |                    |            |                                      |                              |                                     |                                     |                              |               |        |          |                                   |            |
| Branching modules<br>MS-FRM              | 4    | -                  | -          | ■                                    | ■                            | ■                                   | ■                                   | ■                            | -             | -      | -        | ■                                 | 9-2        |
|                                          | 6    | -                  | -          | ■                                    | ■                            | -                                   | ■                                   | ■                            | -             | -      | -        | ■                                 |            |
|                                          | 12   | -                  | -          | ■                                    | -                            | -                                   | -                                   | -                            | -             | -      | -        | -                                 | 9-14       |
|                                          |      |                    |            |                                      |                              |                                     |                                     |                              |               |        |          |                                   |            |
| Flow sensors<br>MS-SFE                   | 4    | -                  |            |                                      |                              |                                     |                                     |                              |               |        |          |                                   | 10-2       |
|                                          | 6    | -                  | -          | -                                    | -                            | -                                   | -                                   | -                            | ■             | ■      | -        | ■ <sup>1)</sup>                   |            |
|                                          | 12   | -                  |            |                                      |                              |                                     |                                     |                              |               |        |          |                                   |            |

1) To be ordered via configurator software only → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



Wide range of configuration options  
→ [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



- MS4 – grid  
dimension 40 mm  
MS6 – grid  
dimension 62 mm
- Modular
- Easy to assemble
- Broad range of functions
- Compact with high flow rates
- Modern design
- Wide choice of variants
- Integrated safety functions

Specified types in accordance with  
ATEX directive for potentially  
explosive atmospheres  
→ [www.festo.com/en/ex](http://www.festo.com/en/ex)

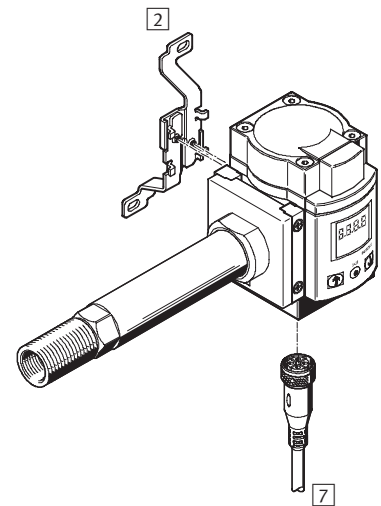
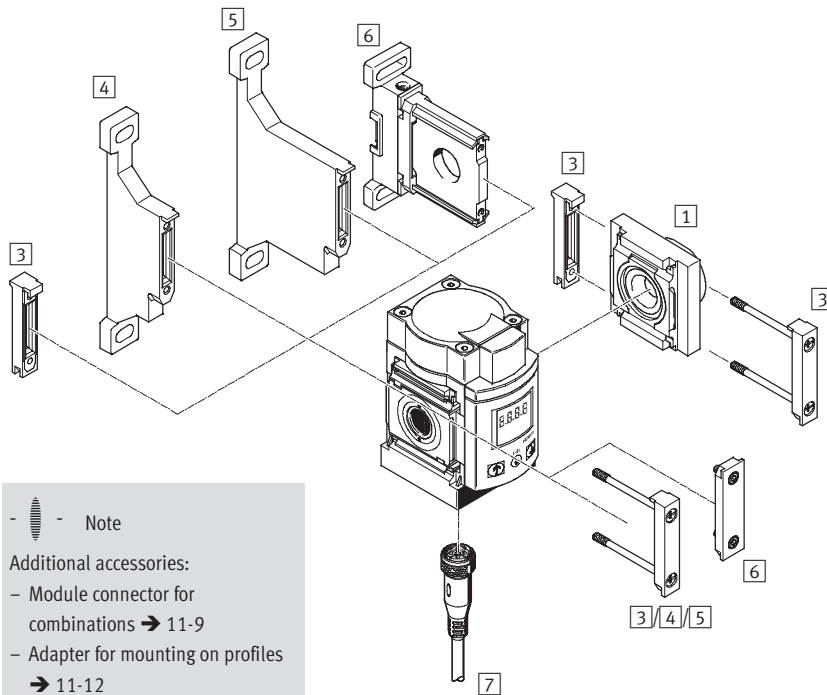
# Flow sensors MS6-SFE, MS series

Peripherals overview

FESTO

**For service unit combinations**  
with filter cartridge

**For individual mounting**  
with connecting plates and inlet section



## Mounting attachments and accessories

|                                         | In service unit combinations, MS series | Individual mounting                | → Page |
|-----------------------------------------|-----------------------------------------|------------------------------------|--------|
| 1 Connecting plate MS6-AG...            | ■                                       | ■<br>included in scope of delivery | 11-2   |
| 2 Mounting bracket MS6-WB               | –                                       | ■<br>included in scope of delivery | 11-4   |
| 3 Module connector MS6-MV               | ■                                       | –                                  | 11-8   |
| 4 Mounting bracket MS6-WP               | ■                                       | –                                  | 11-6   |
| 5 Mounting bracket MS6-WPB              | ■                                       | –                                  | 11-6   |
| 6 Mounting bracket MS6-WPM              | ■                                       | –                                  | 11-7   |
| 7 Plug socket with cable SIM-M12-5GD... | ■                                       | ■                                  | 11-18  |



## Flow sensors MS6-SFE, MS series

Type codes

**FESTO**

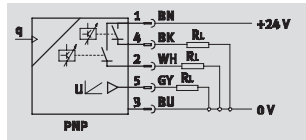
|                                              |                                                                                                                                                                              |    |   |   |     |   |    |   |  |   |    |   |   |     |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|---|---|-----|---|----|---|--|---|----|---|---|-----|
|                                              |                                                                                                                                                                              | MS | 6 | - | SFE | - | F5 | - |  | - | P2 | I | - | M12 |
| <b>Series</b>                                |                                                                                                                                                                              |    |   |   |     |   |    |   |  |   |    |   |   |     |
| MS                                           | Standard service unit                                                                                                                                                        |    |   |   |     |   |    |   |  |   |    |   |   |     |
| <b>Size</b>                                  |                                                                                                                                                                              |    |   |   |     |   |    |   |  |   |    |   |   |     |
| 6                                            | Grid dimension 62 mm                                                                                                                                                         |    |   |   |     |   |    |   |  |   |    |   |   |     |
| <b>Service function</b>                      |                                                                                                                                                                              |    |   |   |     |   |    |   |  |   |    |   |   |     |
| SFE                                          | Flow sensor                                                                                                                                                                  |    |   |   |     |   |    |   |  |   |    |   |   |     |
| <b>Flow measuring range [l/min]</b>          |                                                                                                                                                                              |    |   |   |     |   |    |   |  |   |    |   |   |     |
| F5                                           | 200 ... 5 000                                                                                                                                                                |    |   |   |     |   |    |   |  |   |    |   |   |     |
| <b>Type of mounting/Pneumatic connection</b> |                                                                                                                                                                              |    |   |   |     |   |    |   |  |   |    |   |   |     |
|                                              | Inline installation in service unit combination series MS/<br>depends on connecting plate selected → Accessories                                                             |    |   |   |     |   |    |   |  |   |    |   |   |     |
| AGD                                          | With accessories/connecting plate with internal G $\frac{1}{2}$ thread<br>and stabilizing attachment with internal G $\frac{1}{2}$ thread or outer<br>G $\frac{3}{4}$ thread |    |   |   |     |   |    |   |  |   |    |   |   |     |
| <b>Switch output</b>                         |                                                                                                                                                                              |    |   |   |     |   |    |   |  |   |    |   |   |     |
| P2                                           | 2x PNP                                                                                                                                                                       |    |   |   |     |   |    |   |  |   |    |   |   |     |
| N2                                           | 2x NPN                                                                                                                                                                       |    |   |   |     |   |    |   |  |   |    |   |   |     |
| <b>Analogue output</b>                       |                                                                                                                                                                              |    |   |   |     |   |    |   |  |   |    |   |   |     |
| U                                            | 0 ... 10 V                                                                                                                                                                   |    |   |   |     |   |    |   |  |   |    |   |   |     |
| I                                            | 4 ... 20 mA                                                                                                                                                                  |    |   |   |     |   |    |   |  |   |    |   |   |     |
| <b>Electrical connection</b>                 |                                                                                                                                                                              |    |   |   |     |   |    |   |  |   |    |   |   |     |
| M12                                          | Plug M12x1, 5-pin                                                                                                                                                            |    |   |   |     |   |    |   |  |   |    |   |   |     |

# Flow sensors MS6-SFE, MS series

Technical data

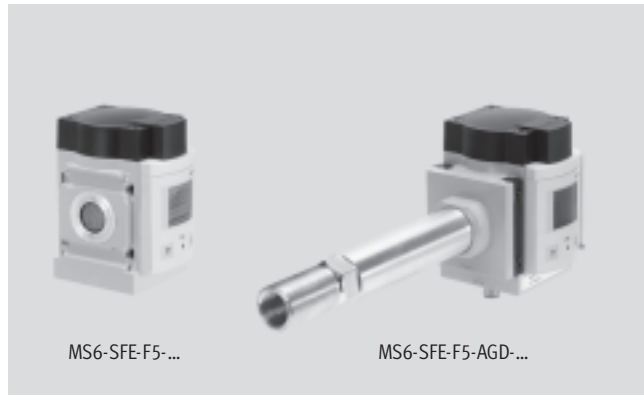
FESTO

Function<sup>1)</sup>



1) For example with 2 switch outputs PNP and 0 ... 10 V analogue

- - Flow rate  
200 ... 5,000 l/min
- - Temperature range  
0 ... +50 °C
- - Operating pressure  
0 ... 16 bar



- Switch output  
2x PNP or 2x NPN
- Analogue output  
0 ... 10 V or 4 ... 20 mA
- Suitable for flow and consumption measurement
- Switching points for measurement are freely programmable
- Freely selectable pulse output for consumption measurement

- - Note  
To comply with the specified accuracies, the MS6-SFE-F5-AGD-... must be supplied via a connection inside diameter of at least 10 mm and the MS6-SFE-F5-... must be supplied via a pneumatic connection of at least G $\frac{1}{2}$ .

- - Note  
After a filter regulator MS6-LFR or pressure regulator MS6-LR, a branching module MS6-FRM must be fitted in front of a flow sensor MS6-SFE-F5-... in order that the specified accuracies can be maintained.

| General technical data                                                       |                                                              |                               |                                                              |
|------------------------------------------------------------------------------|--------------------------------------------------------------|-------------------------------|--------------------------------------------------------------|
|                                                                              | In service unit combinations, MS series                      |                               | Individual mounting                                          |
| Flow measuring range [l/min]                                                 | 200 ... 5,000 <sup>1)</sup>                                  |                               |                                                              |
| Pneumatic connection 1                                                       | min. G $\frac{1}{2}$                                         |                               | Female thread G $\frac{1}{2}$<br>Male thread G $\frac{3}{4}$ |
| Pneumatic connection 2                                                       | G $\frac{1}{2}$ <sup>2)</sup>                                | G $\frac{3}{4}$ <sup>2)</sup> | Female thread G $\frac{1}{2}$                                |
| Measuring principle                                                          | Thermal                                                      |                               |                                                              |
| Method of measurement                                                        | Heat Loss                                                    |                               |                                                              |
| Measured variable                                                            | Flow rate<br>Consumption                                     |                               |                                                              |
| Direction of flow                                                            | Unidirectional P1 > P2                                       |                               |                                                              |
| Type of display                                                              | Illuminated LCD (optimised display)                          |                               |                                                              |
| Displayable unit(s)                                                          | l, m <sup>3</sup> , l/min                                    |                               |                                                              |
| Reproducibility of switching point                                           | $\pm(0.8\% \text{ o.m.v.} + 0.2\% \text{ FS})$ <sup>3)</sup> |                               |                                                              |
| Reproducibility of analogue value                                            | $\pm(0.8\% \text{ o.m.v.} + 0.2\% \text{ FS})$ <sup>3)</sup> |                               |                                                              |
| Accuracy under rated conditions (6 bar, 23 °C, horizontal mounting position) | $\pm(3\% \text{ o.m.v.} + 0.3\% \text{ FS})$ <sup>3)4)</sup> |                               |                                                              |
| Type of mounting                                                             | Inline installation                                          |                               | With accessories                                             |
| Assembly position                                                            | Horizontal $\pm 5^\circ$                                     |                               |                                                              |
| Product weight [g]                                                           | 600                                                          |                               | 1,100                                                        |

- 1) Restricted at operating pressure < 5 bar, diagram  $\rightarrow$  10-5  
2) Depends on connecting plate selected, must be ordered separately as accessory  $\rightarrow$  11-2  
3) % o.m.v. = % of measured value  
% FS = % of measuring range's final value (full scale)  
4) Reduced accuracy with variant Z:  $\pm(5\% \text{ o.m.v.} + 0.3\% \text{ FS})$ . Variant Z (flow direction from right to left), to be ordered via configurator software  $\rightarrow$  [www.festo.com/en/engineering](http://www.festo.com/en/engineering)  
- - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

## Flow sensors MS6-SFE, MS series

Technical data

**FESTO**

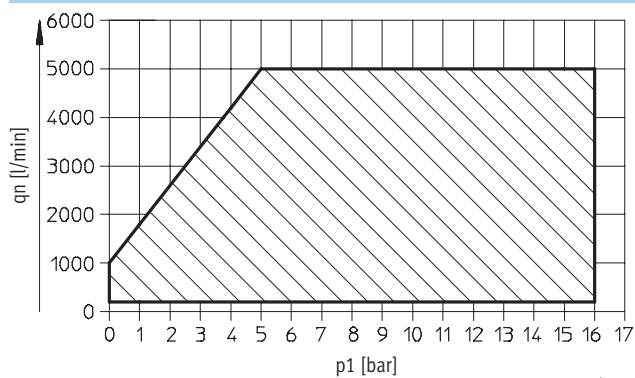
| Electrical data                             |        |                                          |                 |                 |                 |
|---------------------------------------------|--------|------------------------------------------|-----------------|-----------------|-----------------|
| Type                                        |        | MS6-SFE-...-P2U                          | MS6-SFE-...-P2I | MS6-SFE-...-N2U | MS6-SFE-...-N2I |
| Switch output                               |        | 2x PNP                                   | 2x PNP          | 2x NPN          | 2x NPN          |
| Analogue output                             | [V]    | 0 ... 10                                 | –               | 0 ... 10        | –               |
|                                             | [mA]   | –                                        | 4 ... 20        | –               | 4 ... 20        |
| Switching element function                  |        | NC contact                               |                 |                 |                 |
|                                             |        | NO contact                               |                 |                 |                 |
| Switching function                          |        | Window comparator                        |                 |                 |                 |
|                                             |        | Threshold value with variable hysteresis |                 |                 |                 |
| Operating voltage                           | [V DC] | 15 ... 30                                |                 |                 |                 |
| Load resistance                             | [Ω]    | ≥ 10,000                                 | ≤ 500           | ≥ 10,000        | ≤ 500           |
| Max. output current                         | [mA]   | ≤100                                     |                 |                 |                 |
| Electrical connection                       |        | Straight plug, M12x1, 5-pin              |                 |                 |                 |
| Pin allocation in accordance with standards |        | EN 60947-5-2                             |                 |                 |                 |
| Protection against short circuit            |        | Yes                                      |                 |                 |                 |
| Protection class to EN 60 529               |        | IP65                                     |                 |                 |                 |
| CE symbol                                   |        | 89/336/EEC (EMC)                         |                 |                 |                 |

| Operating and environmental conditions       |                                                           |
|----------------------------------------------|-----------------------------------------------------------|
| Operating pressure                           | [bar] 0 ... 16                                            |
| Operating medium                             | Compressed air, air quality class 5.4.3 to DIN ISO 8573-1 |
| Ambient temperature                          | [°C] 0 ... 50                                             |
| Temperature of medium                        | [°C] 0 ... 50                                             |
| Corrosion resistance class CRC <sup>1)</sup> | 2                                                         |

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Flow measuring range  $q_n$  as a function of operating pressure  $p_1$



# Flow sensors MS6-SFE, MS series

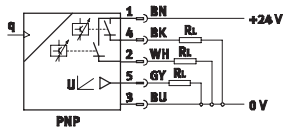
Technical data

FESTO

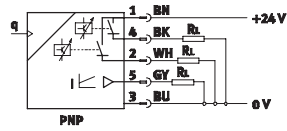
## Electrical outputs<sup>1)</sup>

### 2 switch outputs PNP

0 ... 10 V analogue

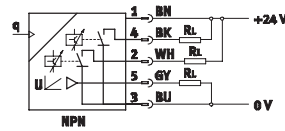


4 ... 20 mA analogue

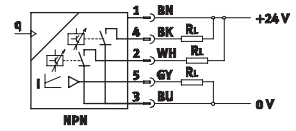


### 2 switch outputs NPN

0 ... 10 V analogue



4 ... 20 mA analogue



## Terminal allocation

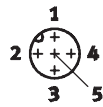
1 = +24 V

2 = Switch output B

3 = 0 V

4 = Switch output A

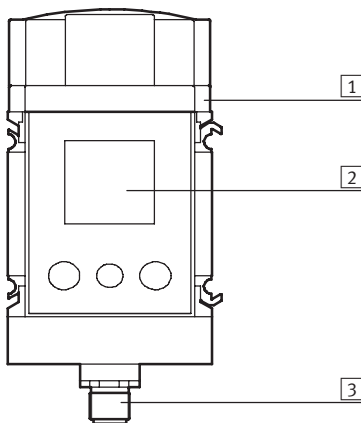
5 = Analogue output C



1) Core colours indicated apply when using plug sockets with cable SIM-M12-5GD → 11-18

## Materials

### Sectional view



| Flow sensor |                  |                                           |
|-------------|------------------|-------------------------------------------|
| 1           | Body             | Die-cast aluminium, polyamide, reinforced |
| 2           | Inspection glass | Polycarbonate                             |
| 3           | Plug contacts    | Gold-plated brass                         |

# Flow sensors MS6-SFE, MS series

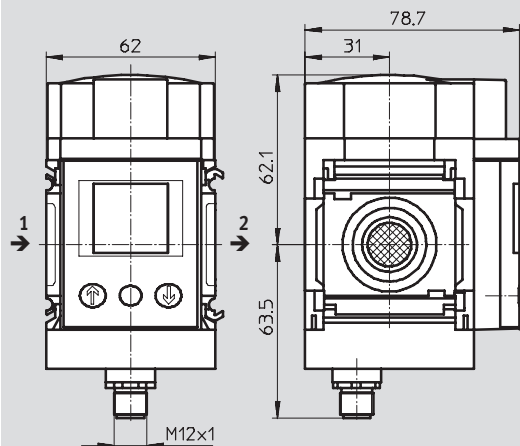
Technical data

**FESTO**

## Dimensions

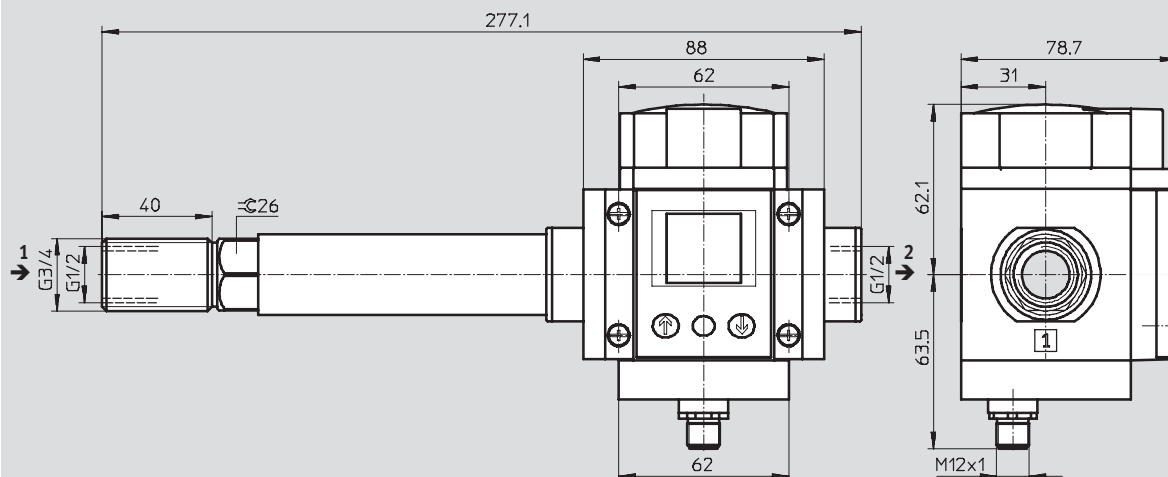
Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

In service unit combinations, MS series



→ Flow direction

## Individual mounting



→ Flow direction

• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

## Ordering data

| Size | Switch output |        | Analogue output |            | In service unit combinations, MS series |                    | Individual mounting |                        |
|------|---------------|--------|-----------------|------------|-----------------------------------------|--------------------|---------------------|------------------------|
|      | 2x PNP        | 2x NPN | 4 ... 20 mA     | 0 ... 10 V | Part No.                                | Type               | Part No.            | Type                   |
| MS6  | ■             | –      | ■               | –          | 538 421                                 | MS6-SFE-F5-P2I-M12 | 538 417             | MS6-SFE-F5-AGD-P2I-M12 |
|      | ■             | –      | –               | ■          | 538 422                                 | MS6-SFE-F5-P2U-M12 | 538 418             | MS6-SFE-F5-AGD-P2U-M12 |
|      | –             | ■      | ■               | –          | 538 423                                 | MS6-SFE-F5-N2I-M12 | 538 419             | MS6-SFE-F5-AGD-N2I-M12 |
|      | –             | ■      | –               | ■          | 538 424                                 | MS6-SFE-F5-N2U-M12 | 538 420             | MS6-SFE-F5-AGD-N2U-M12 |





## MS series service units

Accessories

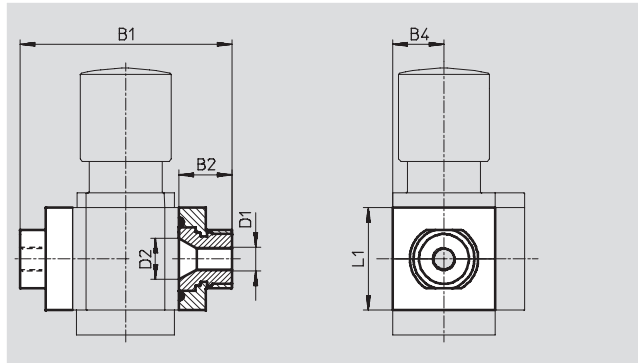
FESTO

### Connecting plate MS4/6-AG...

(order code: AG...)

- Adapter for pneumatic connection
- MS6-AGE for implementing threaded connection G $\frac{3}{4}$

Material:  
Aluminium



| Dimensions and ordering data |      |      |    |                 |      |    |            |          |         |
|------------------------------|------|------|----|-----------------|------|----|------------|----------|---------|
| Size                         | B1   | B2   | B4 | D1              | D2   | L1 | Weight [g] | Part No. | Type    |
| MS4                          | 83.5 | 21.5 | 21 | G $\frac{1}{8}$ | 16.8 | 42 | 128        | 526 068  | MS4-AGA |
|                              |      |      |    | G $\frac{1}{4}$ |      |    |            | 526 069  | MS4-AGB |
|                              |      |      |    | G $\frac{3}{8}$ |      |    |            | 526 070  | MS4-AGC |
| MS6                          | 115  | 26.5 | 31 | G $\frac{1}{4}$ | 24   | 62 | 300        | 526 080  | MS6-AGB |
|                              |      |      |    | G $\frac{3}{8}$ |      |    |            | 526 081  | MS6-AGC |
|                              |      |      |    | G $\frac{1}{2}$ |      |    |            | 526 082  | MS6-AGD |
|                              |      |      |    | G $\frac{3}{4}$ |      |    |            | 526 083  | MS6-AGE |

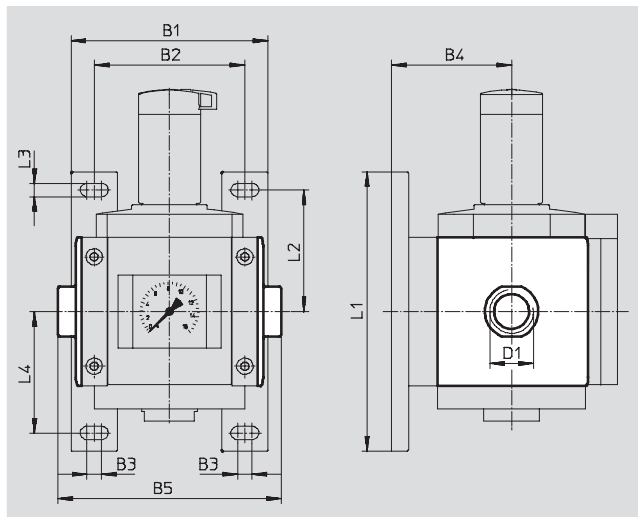
• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

### Connecting plate MS12-AG...

(order code: AG...)

- Adapter for pneumatic connection

Material:  
Die-cast aluminium  
Free of copper and PTFE



| Dimensions and ordering data |     |     |    |    |     |                  |     |     |    |     |            |                  |
|------------------------------|-----|-----|----|----|-----|------------------|-----|-----|----|-----|------------|------------------|
| Size                         | B1  | B2  | B3 | B4 | B5  | D1               | L1  | L2  | L3 | L4  | Weight [g] | Part No. Type    |
| MS12                         | 162 | 124 | 12 | 99 | 184 | G1               | 230 | 100 | 11 | 100 | 1,300      | 537 135 MS12-AGF |
|                              |     |     |    |    | 184 | G1 $\frac{1}{4}$ |     |     |    |     |            | 537 136 MS12-AGG |
|                              |     |     |    |    | 184 | G1 $\frac{1}{2}$ |     |     |    |     |            | 537 137 MS12-AGH |
|                              |     |     |    |    | 196 | G2               |     |     |    |     |            | 537 138 MS12-AGI |

• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.



## MS series service units

Accessories

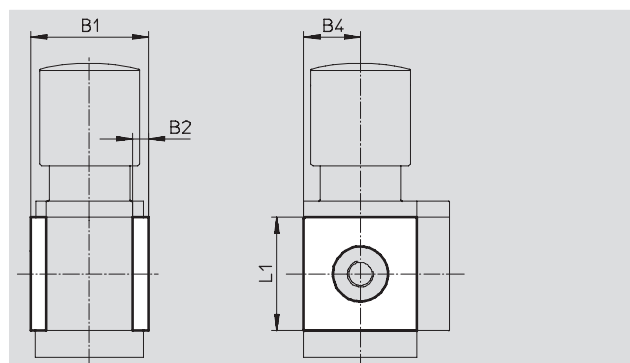
### Cover cap MS4/6-END

- Can be used to cover the body sides of the first and last module if connecting plates are not used.

Material:

Reinforced polyamide

Free of copper and PTFE



| Dimensions and ordering data |      |    |    |    |          |         |
|------------------------------|------|----|----|----|----------|---------|
| Size                         | B1   | B2 | B4 | L1 | Part No. | Type    |
| MS4                          | 43.6 | 6  | 21 | 42 | 538 779  | MS4-END |
| MS6                          | 67   | 8  | 31 | 62 | 538 780  | MS6-END |

 Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

### Mounting plate MS4/6-AEND

(order code: WBE; scope of delivery includes wall mounting plate MS6-WPB)

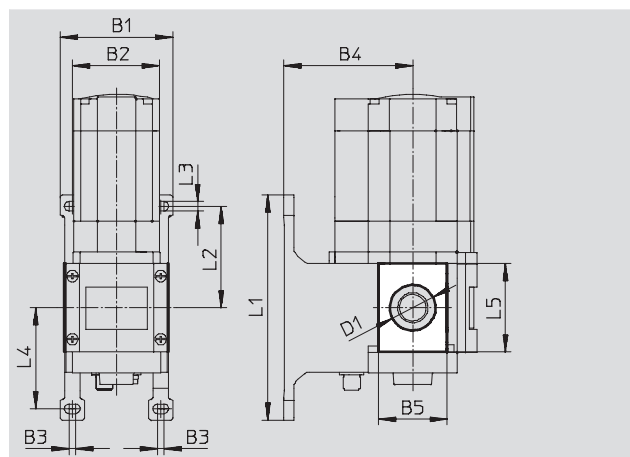
- In combination with wall mounting plate MS-WP or MS-WPB for mounting an individual unit on a wall with direct thread

Material:

Reinforced polyamide

Conforms to RoHS

Free of copper and PTFE



| Dimensions and ordering data |      |      |     |    |      |      |         |     |      |     |      |    |                   |               |          |                                                                                                    |
|------------------------------|------|------|-----|----|------|------|---------|-----|------|-----|------|----|-------------------|---------------|----------|----------------------------------------------------------------------------------------------------|
| Size                         | B1   | B2   | B3  | B4 |      | B5   | D1<br>Ø | L1  | L2   | L3  | L4   | L5 | CRC <sup>1)</sup> | Weight<br>[g] | Part No. | Type                                                                                               |
|                              |      |      |     | WP | WPB  |      |         |     |      |     |      |    |                   |               |          |                                                                                                    |
| MS4                          | 55.2 | 40.2 | 4   | 44 | 66   | 30.4 | 20.3    | 106 | 46.5 | 5.6 | 46.7 | 42 | 2                 | 4             | 542 966  | MS4-AEND  New |
| MS6                          | 79   | 62   | 4.5 | 54 | 90.5 | 48.4 | 32      | 158 | 71   | 6.6 | 71   | 62 | 2                 | 17            | 535 408  | MS6-AEND                                                                                           |

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

# MS series service units

Accessories

FESTO

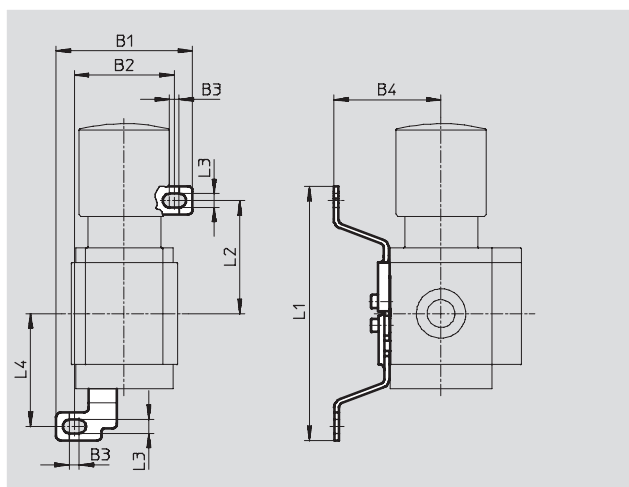
## Mounting bracket MS4/6-WB

(order code: WB)

- For wall mounting

Material:

Steel



### Dimensions and ordering data

| Size | B1   | B2   | B3  | B4   | L1    | L2   | L3  | L4   | Weight [g] | Part No. | Type   |
|------|------|------|-----|------|-------|------|-----|------|------------|----------|--------|
| MS4  | 56.2 | 41.2 | 4   | 44.2 | 104.6 | 46.6 | 5.6 | 46.5 | 46         | 532 185  | MS4-WB |
| MS6  | 79.4 | 61.9 | 4.5 | 55   | 157.6 | 71   | 6.6 | 71   | 121        | 532 196  | MS6-WB |

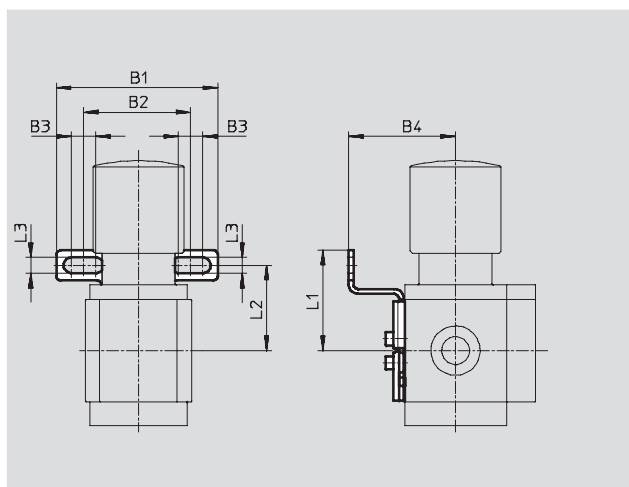
## Mounting bracket MS4-WBM

(order code: WBM)

- For wall mounting

Material:

Steel



### Dimensions and ordering data

| Size | B1   | B2 | B3 | B4 | L1   | L2 | L3  | Weight [g] | Part No. | Type    |
|------|------|----|----|----|------|----|-----|------------|----------|---------|
| MS4  | 66.5 | 44 | 10 | 44 | 41.3 | 35 | 6.5 | 48         | 526 062  | MS4-WBM |

# MS series service units

Accessories

FESTO

## Mounting bracket MS4/6-WP...

Clearances for mounting service unit combinations

1 unit

MS4-...: 40 mm

MS6-...: 62 mm

2 units

MS4-...: 80 mm

MS6-...: 124 mm with WP, WPB

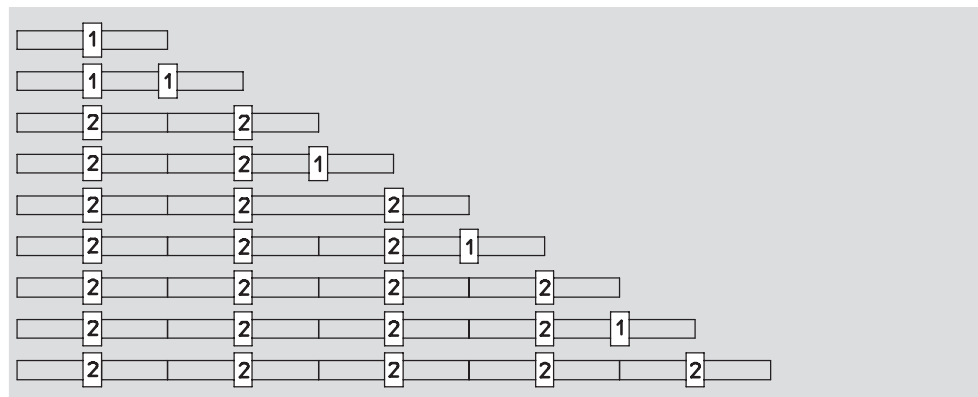
138 mm with WPM-2D

1 Mounting bracket WP, WPB or WPM-D

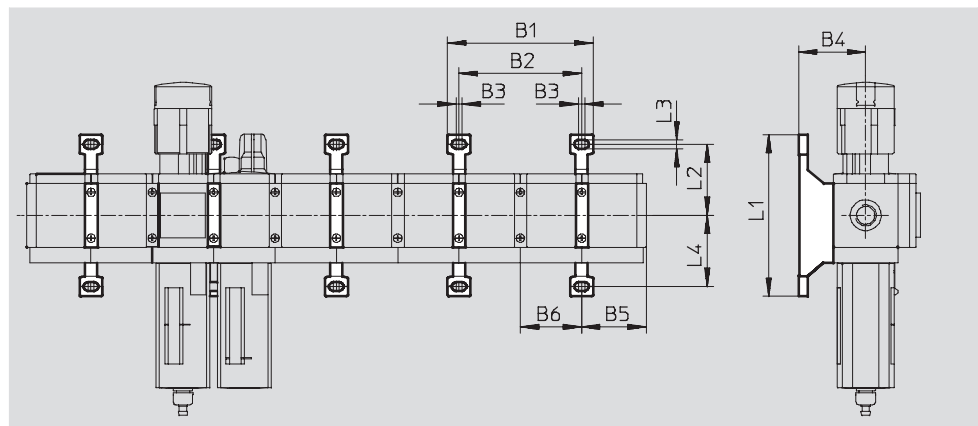
2 Mounting bracket WP, WPB or WPM-2D

Number of units

1 2 3 4 5 6 7 8 9 10



## Mounting dimensions



| Type         | B1   | B2  | B3  | B4   | B5   | B6 | L1   | L2   | L3  | L4   |
|--------------|------|-----|-----|------|------|----|------|------|-----|------|
| MS4-WP       | 95.2 | 80  | 4   | 44   | 41.9 | 40 | 106  | 46.5 | 5.6 | 46.7 |
| MS4-WPB      |      |     |     | 66   |      |    |      |      |     |      |
| MS4-WPM-...D |      |     |     | 44   |      |    | 92.8 | 34.8 |     | 40   |
| MS6-WP       | 141  | 124 | 4.5 | 54   | 64.5 | 62 | 158  | 71   | 6.6 | 71   |
| MS6-WPB      |      |     |     | 90.5 |      |    |      |      |     |      |
| MS6-WPM-...D |      |     |     | 54   |      |    | 98.6 | 41.3 |     | 41.3 |

## MS series service units

Accessories

FESTO

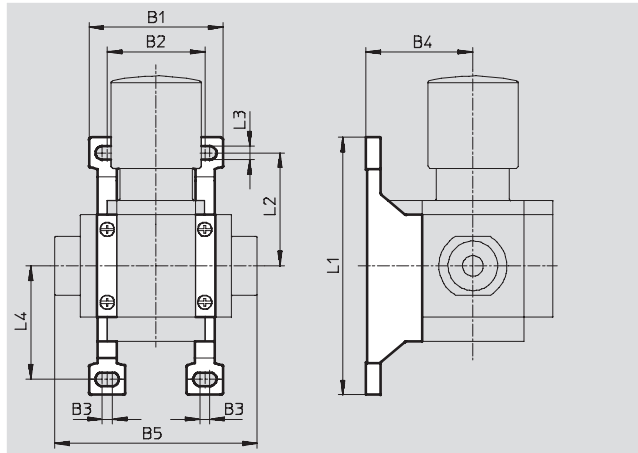
### Mounting bracket MS4/6-WP

(order code: WP)

- For connecting the modules for wall mounting
- In combination with a connecting plate MS4/6-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- For pressure regulator LRB with angled outlet block B... at rear

Material:

Die-cast aluminium



#### Dimensions and ordering data

| Size | B1   | B2   | B3  | B4 | B5   | L1  | L2   | L3  | L4   | Weight [g] | Part No. | Type   |
|------|------|------|-----|----|------|-----|------|-----|------|------------|----------|--------|
| MS4  | 55.2 | 40.2 | 4   | 44 | 83.4 | 106 | 46.5 | 5.6 | 46.7 | 39         | 532 184  | MS4-WP |
| MS6  | 79   | 62   | 4.5 | 54 | 115  | 158 | 71   | 6.6 | 71   | 76         | 532 195  | MS6-WP |

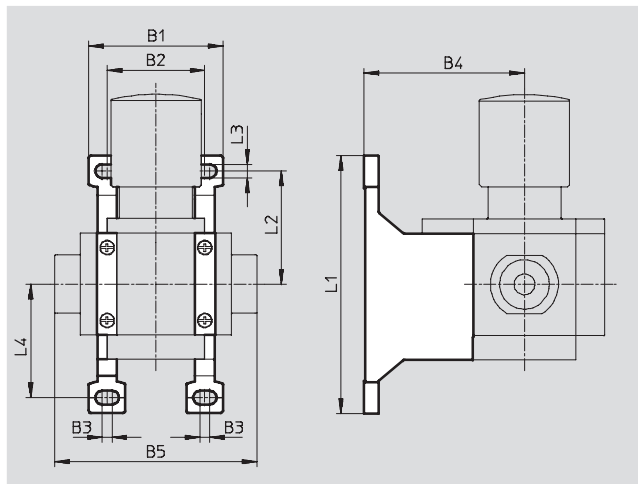
### Mounting bracket MS4/6-WPB

(order code: WPB)

- For connecting the modules for wall mounting
- In combination with a connecting plate MS4/6-AG... for mounting an individual unit on a wall
- In combination with mounting plate MS-AEND or for mounting an individual unit with direct thread on a wall
- Provides large wall gap for pressure regulator

Material:

Die-cast aluminium



#### Dimensions and ordering data

| Size | B1   | B2   | B3  | B4   | B5   | L1  | L2   | L3  | L4   | Weight [g] | Part No. | Type    |
|------|------|------|-----|------|------|-----|------|-----|------|------------|----------|---------|
| MS4  | 55.2 | 40.2 | 4   | 66   | 83.4 | 106 | 46.5 | 5.6 | 46.7 | 55         | 526 063  | MS4-WPB |
| MS6  | 79   | 62   | 4.5 | 90.5 | 115  | 158 | 71   | 6.6 | 71   | 115        | 526 074  | MS6-WPB |

## MS series service units

Accessories

FESTO

### Mounting bracket MS4/6-WPM

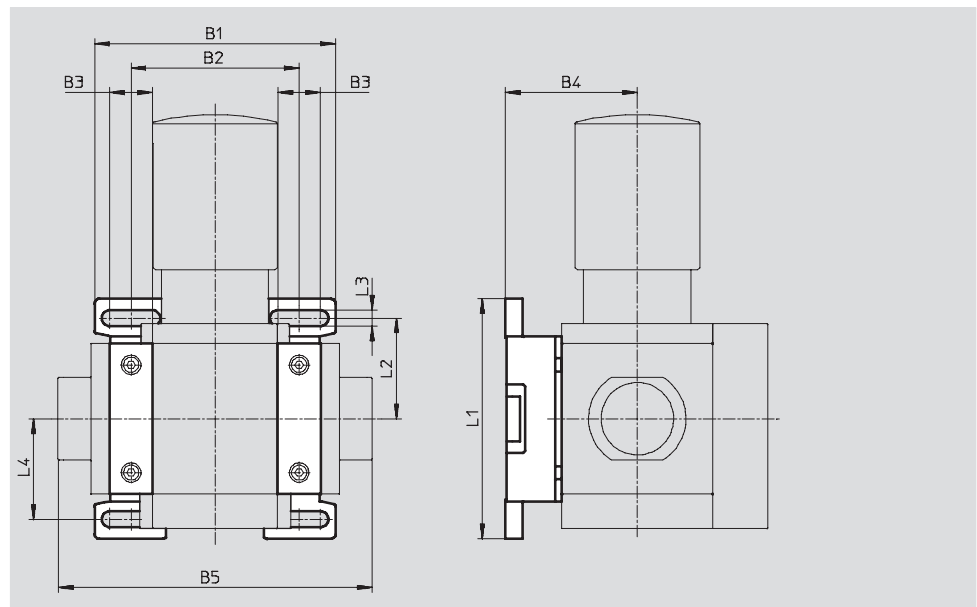
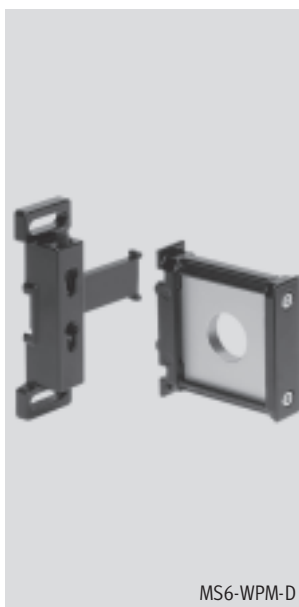
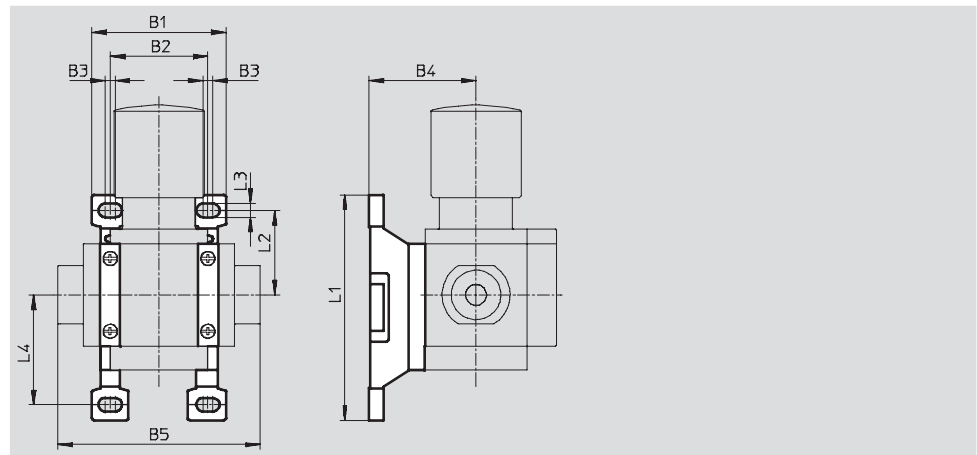
(order code: WPM)

- For connecting the modules for wall mounting
- In combination with a connecting plate MS4/6-AG... for mounting an individual unit on a wall
- Speedy attachment and detachment
- For installation of modules with regulating knob pointing downwards

The distance piece D or 2D (designated in the type code) is included in the scope of delivery and ensures the correct clearance

Material:

Die-cast aluminium



| Dimensions and ordering data |      |     |      |    |       |      |      |     |      |           |            |          |            |
|------------------------------|------|-----|------|----|-------|------|------|-----|------|-----------|------------|----------|------------|
| Size                         | B1   | B2  | B3   | B4 | B5    | L1   | L2   | L3  | L4   | Clearance | Weight [g] | Part No. | Type       |
| MS4                          | 55.2 | 40  | 4    | 44 | 83.4  | 92.8 | 34.8 | 5.6 | 45.2 | 40        | 45         | 526 060  | MS4-WPM-D  |
|                              | 95.2 | 80  |      |    | 123.4 |      |      |     |      | 80        | 55         | 526 061  | MS4-WPM-2D |
| MS6                          | 99   | 69  | 17.5 | 54 | 129   | 98.6 | 41.3 | 6.6 | 41.3 | 62        | 144        | 526 073  | MS6-WPM-D  |
|                              | 168  | 138 |      |    | 198   |      |      |     |      | 124       | 154        | 532 186  | MS6-WPM-2D |

## MS series service units

Accessories

FESTO

### Wall mounting plate MS12-WP

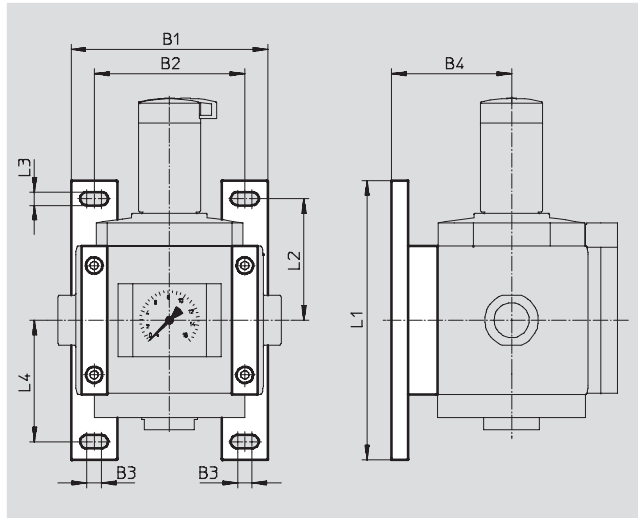
(order code: WP)

- For connecting the modules for wall mounting
- In combination with a connecting plate for mounting an individual unit on a wall

Material:

Die-cast aluminium

Free of copper and PTFE



#### Dimensions and ordering data

| Size | B1  | B2  | B3 | B4 | L1  | L2  | L3 | L4  | Weight [g] | Part No. | Type    |
|------|-----|-----|----|----|-----|-----|----|-----|------------|----------|---------|
| MS12 | 162 | 124 | 12 | 99 | 230 | 100 | 11 | 100 | 700        | 537 133  | MS12-WP |

### Module connector MS...-MV

- For connecting modules

Material:

MS4/6: Stainless steel/polyacetate

MS12: Die-cast aluminium,

free of copper and PTFE



MS4/6



MS12

#### Ordering data

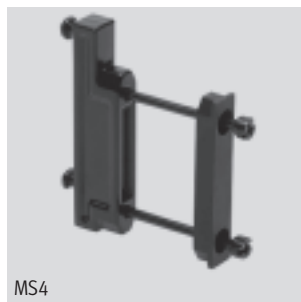
| Size | Weight [g] | Part No. | Type    |
|------|------------|----------|---------|
| MS4  | 36         | 532 798  | MS4-MV  |
| MS6  | 54         | 532 799  | MS6-MV  |
| MS12 | 500        | 537 134  | MS12-MV |

### Module connector MS4/6-MVM

- For installation of modules with regulating knob pointing downwards

Material:

Die-cast aluminium



MS4



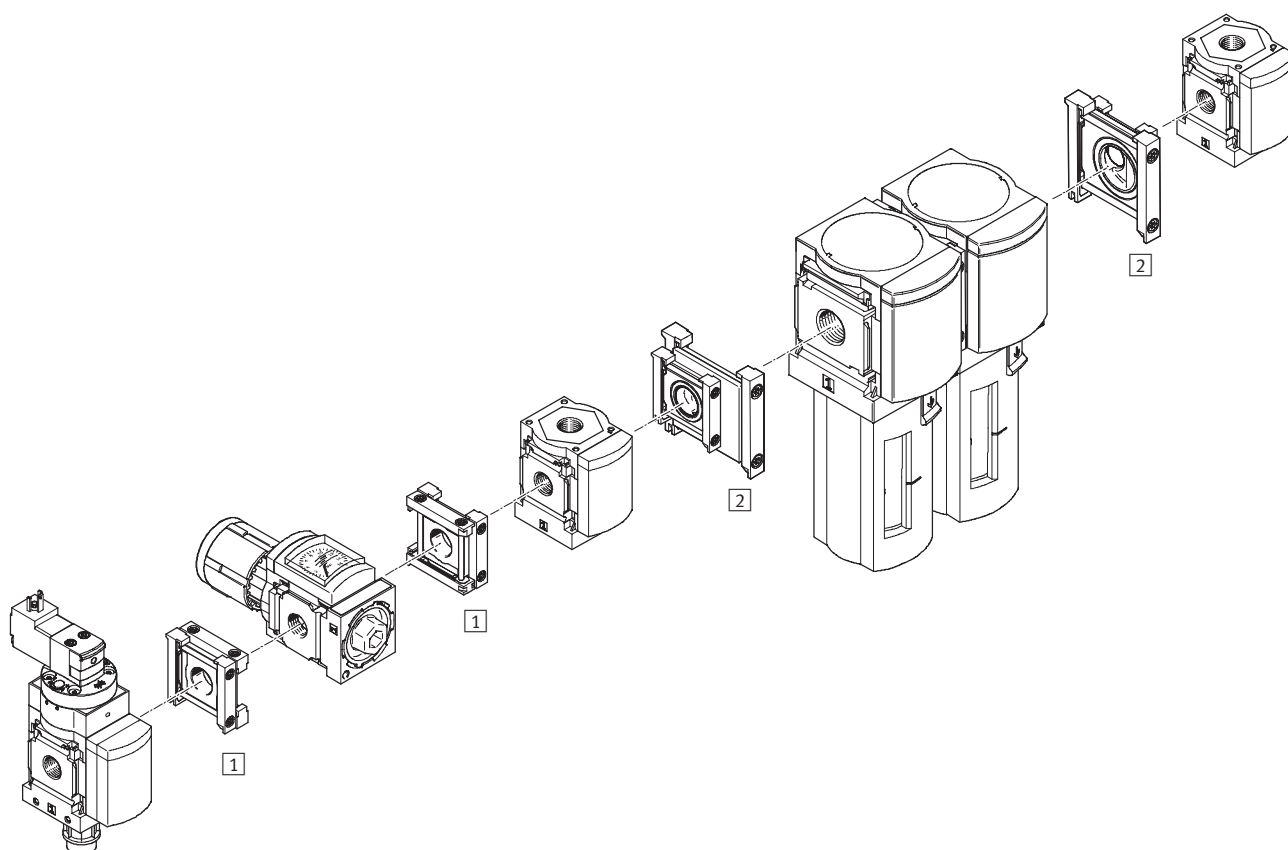
MS6

#### Ordering data

| Size | Part No. | Type    |
|------|----------|---------|
| MS4  | 532 800  | MS4-MVM |
| MS6  | 532 801  | MS6-MVM |

## MS series service units

Accessories



| Mounting attachments |                               | → Page |
|----------------------|-------------------------------|--------|
| 1                    | Module connector<br>MS4/6-RMV | 11-10  |
| 2                    | Module connector<br>MS4-6-AMV | 11-11  |

 Note  
Mounting attachments for wall  
mounting → 11-5

## MS series service units

Accessories

**FESTO**

### Module connector MS4/6-RMV

- For connecting service units at right angles to the axis of connection

Material:

Connecting plate, module connector:

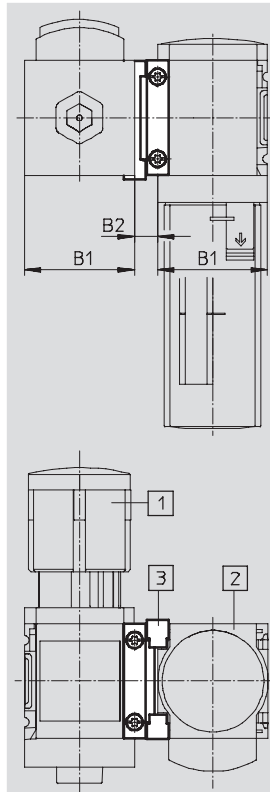
Die-cast aluminium

Sealing ring: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



- 1 Service unit
- 2 Service unit of same size at right angles to the axis of connection
- 3 Module connector

### Dimensions and ordering data

| Size | B1   | B2  | CRC <sup>1)</sup> | Weight [g] | Part No. | Type    |
|------|------|-----|-------------------|------------|----------|---------|
| MS4  | 40.2 | 8.5 | 2                 | 50         | 543 490  | MS4-RMV |
| MS6  | 62   | 11  | 2                 | 80         | 543 491  | MS6-RMV |

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.



## MS series service units

Accessories

### Module connector MS4-6-AMV

- For connecting MS4 and MS6 service units as one unit

Material:

Connecting plate, module connector:

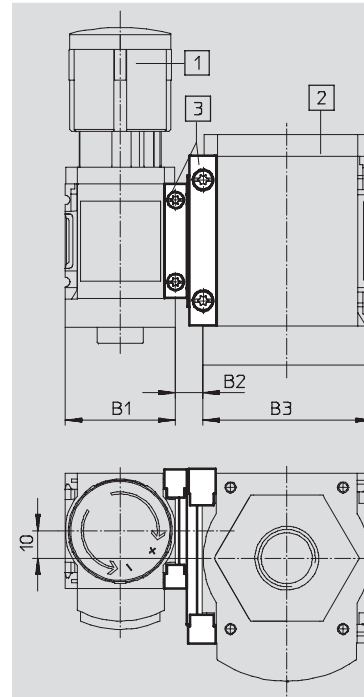
Die-cast aluminium

Sealing ring: Nitrile rubber

Conforms to RoHS

Temperature of medium:

–10 ... +60 °C



- 1 Service unit size MS4
- 2 Service unit size MS6
- 3 Module connector

| Dimensions and ordering data |      |    |    |                   |            |                |                  |
|------------------------------|------|----|----|-------------------|------------|----------------|------------------|
| Size                         | B1   | B2 | B3 | CRC <sup>1)</sup> | Weight [g] | Part No.       | Type             |
| MS4/6                        | 40.2 | 10 | 62 | 2                 | 200        | <b>543 489</b> | <b>MS4-6-AMV</b> |

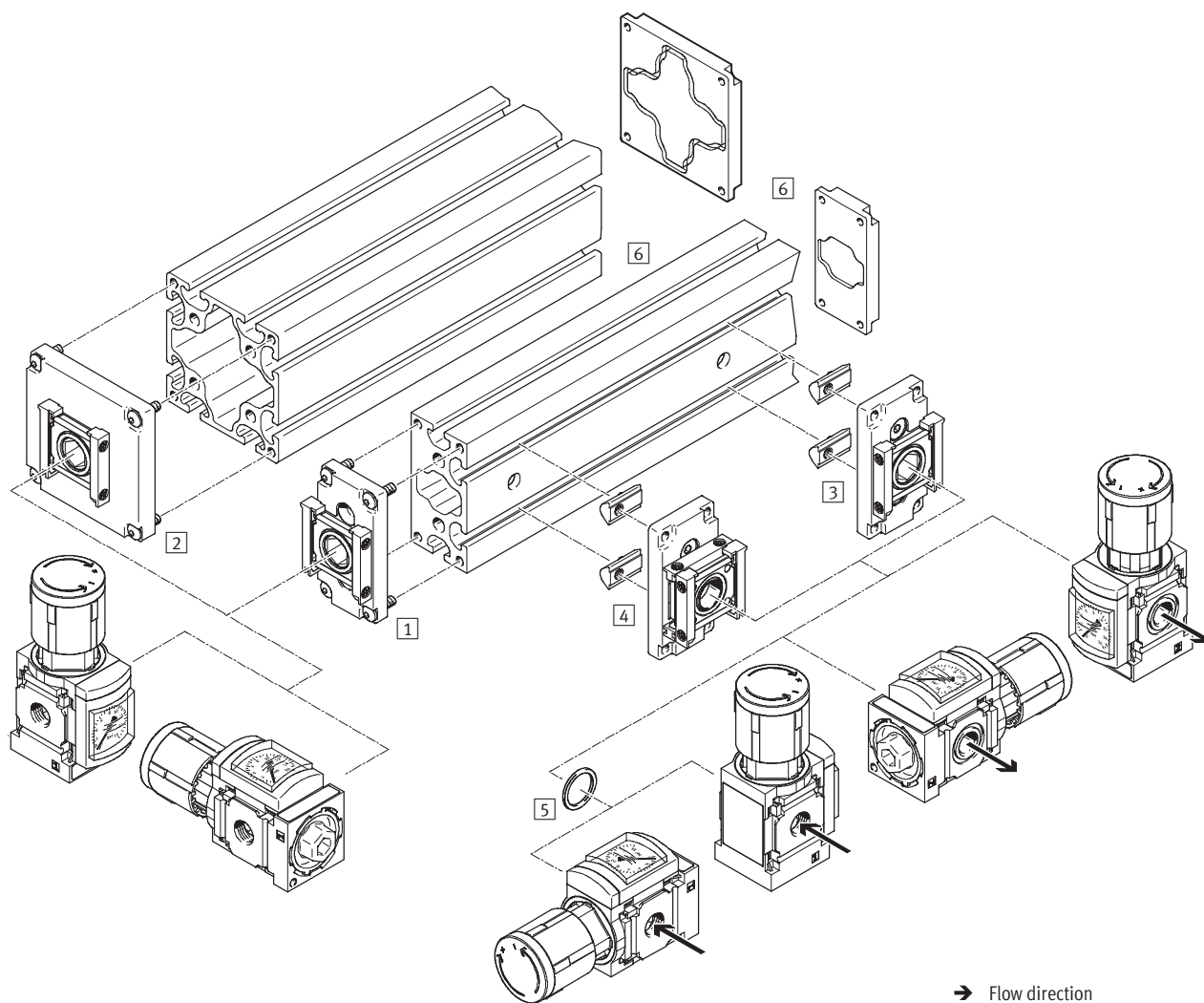
1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## MS series service units

Accessories

**FESTO**



| Mounting attachments |                                                                  | → Page     |
|----------------------|------------------------------------------------------------------|------------|
| 1                    | Pressure supply module<br>MS4/6-E-IPM-40-80                      | 11-13      |
| 2                    | Pressure supply module<br>MS4/6-E-IPM-80-80                      | 11-14      |
| 3                    | Branching module<br>MS4/6-A-IPM-80                               | 11-15      |
| 4                    | Branching module<br>MS4/6-A-RMV-IPM-80                           | 11-16      |
| 5                    | Sealing ring<br>MS4/6-NNR                                        | 11-17      |
| 6                    | Profiles 40x80/80x80, cover plates, supply plates, drilling jigs | On request |

 Note

Further mounting attachments are required for mounting a service unit combination → 11-5

## MS series service units

Accessories

### Pressure supply module

#### MS4/6-E-IPM-40-80

- For mounting a service unit on the end of a profile of size 40x80
- Module connector can be repositioned by 90° for horizontal mounting of the service unit

Material:

Connecting plate, hollow bolt, module connector: Die-cast aluminium

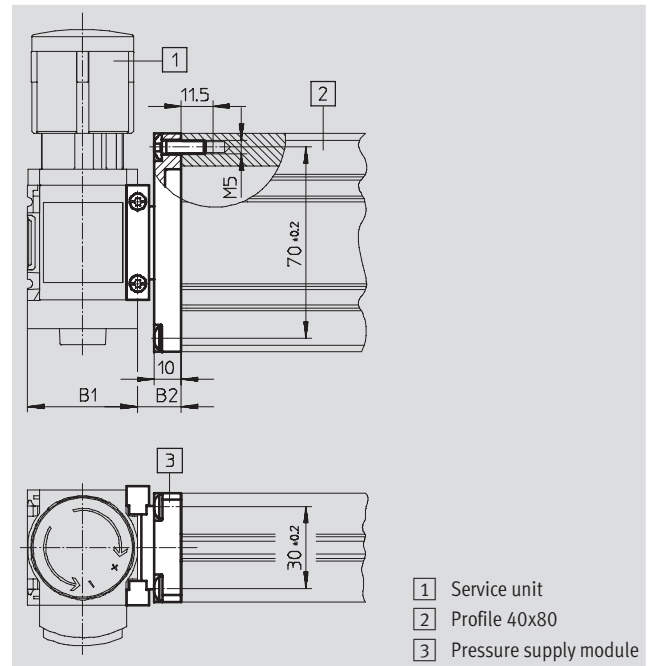
Screws: Steel

Seals: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



| Dimensions and ordering data |      |    |                   |            |          |                 |
|------------------------------|------|----|-------------------|------------|----------|-----------------|
| Size                         | B1   | B2 | CRC <sup>1)</sup> | Weight [g] | Part No. | Type            |
| MS4                          | 40.2 | 16 | 2                 | 90         | 543 494  | MS4-E-IPM-40-80 |
| MS6                          | 62   | 16 | 2                 | 210        | 543 496  | MS6-E-IPM-40-80 |

1) Corrosion resistance class 2 to Festo standard 940 070  
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## MS series service units

Accessories

**FESTO**

### Pressure supply module

#### MS4/6-E-IPM-80-80

- For mounting a service unit on the end of a profile of size 80x80
- Module connector can be repositioned by 90° for horizontal mounting of the service unit

Material:

Connecting plate, hollow bolt, module connector: Die-cast aluminium

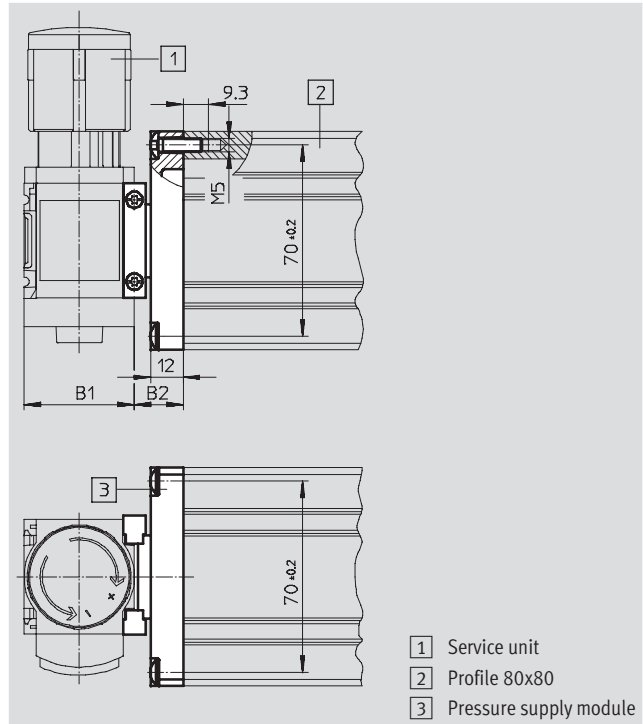
Screws: Steel

Seals: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



| Dimensions and ordering data |      |    |                   |            |          |                 |
|------------------------------|------|----|-------------------|------------|----------|-----------------|
| Size                         | B1   | B2 | CRC <sup>1)</sup> | Weight [g] | Part No. | Type            |
| MS4                          | 40.2 | 18 | 2                 | 100        | 543 495  | MS4-E-IPM-80-80 |
| MS6                          | 62   | 18 | 2                 | 240        | 543 497  | MS6-E-IPM-80-80 |

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## MS series service units

Accessories

### Branching module MS4/6-A-IPM-80

- For mounting a service unit on the long side of a profile
- Module connector can be repositioned by 90° for horizontal mounting of the service unit

Material:

Connecting plate, hollow bolt, module connector: Die-cast aluminium

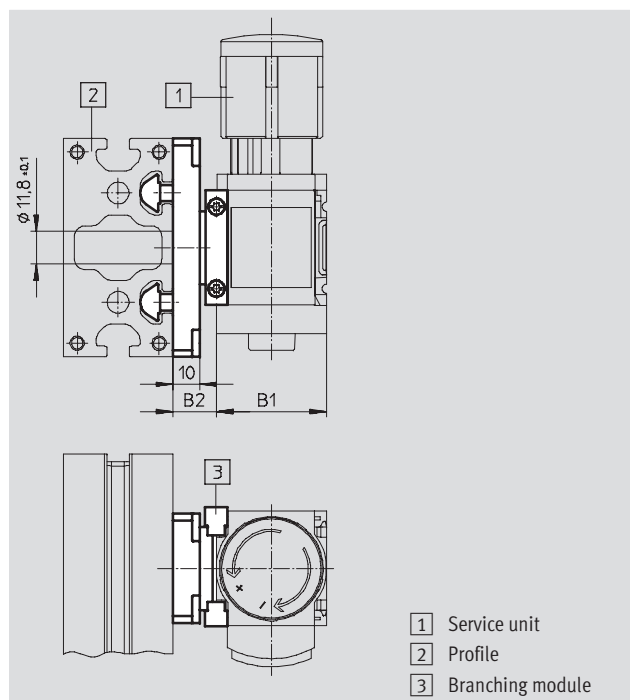
Screws: Steel

Seals: Nitrile rubber

Conforms to RoHS

Temperature of medium:

-10 ... +60 °C



| Dimensions and ordering data |      |    |                   |            |          |              |
|------------------------------|------|----|-------------------|------------|----------|--------------|
| Size                         | B1   | B2 | CRC <sup>1)</sup> | Weight [g] | Part No. | Type         |
| MS4                          | 40.2 | 16 | 2                 | 90         | 543 498  | MS4-A-IPM-80 |
| MS6                          | 62   | 16 | 2                 | 200        | 543 499  | MS6-A-IPM-80 |

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## MS series service units

Accessories

FESTO

### Branching module

#### MS4/6-A-RMV-IPM-80

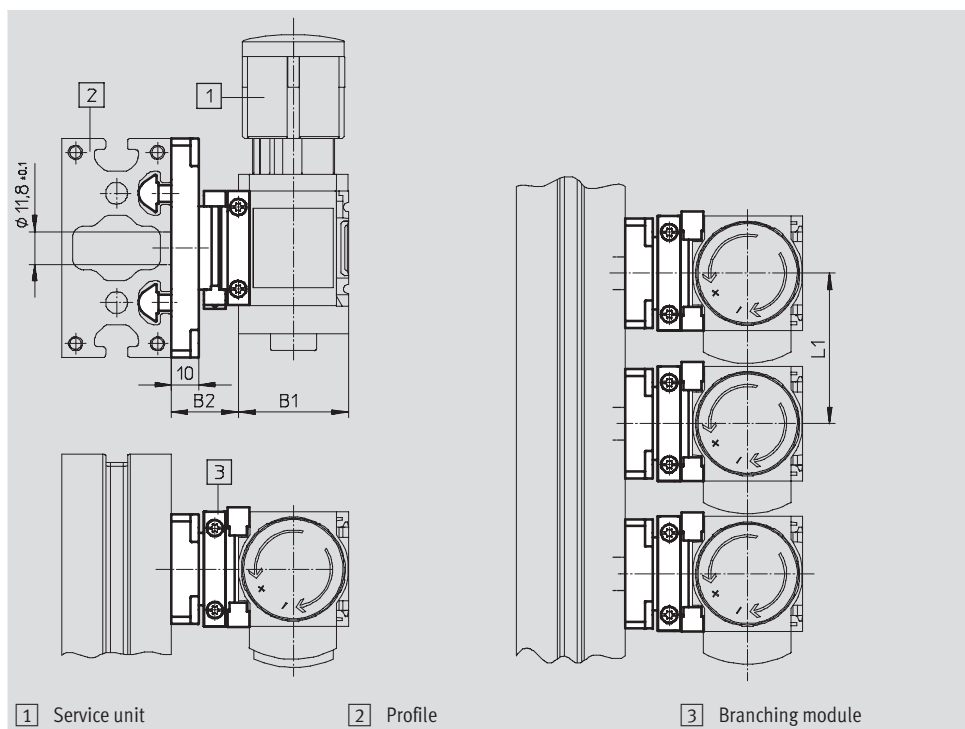
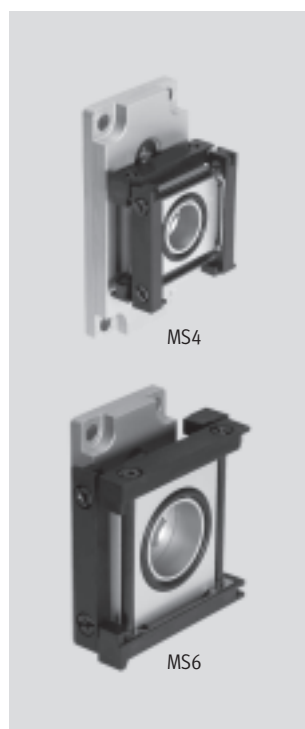
- For mounting a service unit on the long side of a profile
- Suitable for manifold mounting (the fittings on the module connector can be accessed from above for fast replacement of an individual component)
- Module connector can be repositioned by 90° for horizontal mounting of the service unit

Material:

Connecting plate, hollow bolt,  
module connector: Die-cast  
aluminium  
Screws: Steel  
Seals: Nitrile rubber  
Conforms to RoHS

Temperature of medium:

−10 ... +60 °C



| Dimensions and ordering data |      |      |    |                   |               |          |                  |
|------------------------------|------|------|----|-------------------|---------------|----------|------------------|
| Size                         | B1   | B2   | L1 | CRC <sup>1)</sup> | Weight<br>[g] | Part No. | Type             |
| MS4                          | 40.2 | 24.5 | 55 | 2                 | 150           | 543 500  | MS4-A-RMV-IPM-80 |
| MS6                          | 62   | 27   | 77 | 2                 | 220           | 543 501  | MS6-A-RMV-IPM-80 |

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## MS series service units

Accessories

### Sealing ring MS4/6-NNR

- For sealing a branching module  
MS-A-IPM when used as a pressure supply module

Material:  
Nitrile rubber  
Conforms to RoHS

Temperature of medium:  
-10 ... +60 °C



| Dimensions and ordering data |                   |               |                |                |
|------------------------------|-------------------|---------------|----------------|----------------|
| Size                         | CRC <sup>1)</sup> | Weight<br>[g] | Part No.       | Type           |
| MS4                          | 2                 | 1             | <b>543 492</b> | <b>MS4-NNR</b> |
| MS6                          | 2                 | 1             | <b>543 493</b> | <b>MS6-NNR</b> |

- 1) Corrosion resistance class 2 to Festo standard 940 070  
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## MS series service units

Accessories

**FESTO**

| Ordering data – Plug socket with cable SIM-M8                                     |                       |                     |          |                   |
|-----------------------------------------------------------------------------------|-----------------------|---------------------|----------|-------------------|
|                                                                                   | Electrical connection | Cable length<br>[m] | Part No. | Type              |
|  | M8x1, 3-pin           | 2.5                 | 159 420  | SIM-M8-3GD-2,5-PU |
|                                                                                   |                       | 5                   | 159 421  | SIM-M8-3GD-5-PU   |
|                                                                                   |                       | 10                  | 192 964  | SIM-M8-3GD-10-PU  |
|                                                                                   | M8x1, 4-pin           | 2.5                 | 158 960  | SIM-M8-4GD-2,5-PU |
|                                                                                   |                       | 5                   | 158 961  | SIM-M8-4GD-5-PU   |
|  | M8x1, 3-pin           | 2.5                 | 159 422  | SIM-M8-3WD-2,5-PU |
|                                                                                   |                       | 5                   | 159 423  | SIM-M8-3WD-5-PU   |
|                                                                                   |                       | 10                  | 192 965  | SIM-M8-3WD-10-PU  |
|                                                                                   | M8x1, 4-pin           | 2.5                 | 158 962  | SIM-M8-4WD-2,5-PU |
|                                                                                   |                       | 5                   | 158 963  | SIM-M8-4WD-5-PU   |

| Ordering data – Plug socket with cable SIM-M12                                      |                       |                     |          |                    |
|-------------------------------------------------------------------------------------|-----------------------|---------------------|----------|--------------------|
|                                                                                     | Electrical connection | Cable length<br>[m] | Part No. | Type               |
|    | M12x1, 3-pin          | 2.5                 | 159 428  | SIM-M12-3GD-2,5-PU |
|                                                                                     |                       | 5                   | 159 429  | SIM-M12-3GD-5-PU   |
|                                                                                     | M12x1, 4-pin          | 5                   | 164 259  | SIM-M12-4GD-5-PU   |
|                                                                                     |                       | 2.5                 | 175 715  | SIM-M12-5GD-2,5-PU |
|                                                                                     |                       |                     | 175 716  | SIM-M12-5GD-5-PU   |
|  | M12x1, 3-pin          | 2.5                 | 159 430  | SIM-M12-3WD-2,5-PU |
|                                                                                     |                       | 5                   | 159 431  | SIM-M12-3WD-5-PU   |
|                                                                                     | M12x1, 4-pin          | 5                   | 164 258  | SIM-M12-4WD-5-PU   |

| Ordering data – Pressure gauge MA                                                   |                                                       |                      |                  |           |                              |                                |
|-------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------|------------------|-----------|------------------------------|--------------------------------|
|                                                                                     | Nominal size                                          | Pneumatic connection | Indicating range |           | Part No.                     | Type                           |
|                                                                                     |                                                       |                      | [bar]            | [psi]     |                              |                                |
|  | Pressure gauge MA, DIN EN 837-1                       |                      |                  |           |                              |                                |
|                                                                                     | 40                                                    | G $\frac{1}{4}$      | 0 ... 16         | 0 ... 232 | 183 901                      | MA-40-16-G $\frac{1}{4}$ -EN   |
|                                                                                     |                                                       |                      |                  |           |                              |                                |
|                                                                                     | Pressure gauge MA, DIN EN 837-1, with red-green range |                      |                  |           |                              |                                |
|                                                                                     | 40                                                    | R $\frac{1}{8}$      | 0 ... 16         | –         | 525 726                      | MA-40-16-R $\frac{1}{8}$ -E-RG |
|                                                                                     | 50                                                    | R $\frac{1}{4}$      | 0 ... 16         | –         | 525 729                      | MA-50-16-R $\frac{1}{4}$ -E-RG |
|                                                                                     |                                                       |                      |                  |           |                              |                                |
|                                                                                     | Precision pressure gauge MAP, DIN EN 837-1            |                      |                  |           |                              |                                |
|                                                                                     | 40                                                    | R $\frac{1}{8}$      | 0 ... 1          | 0 ... 15  | 161 126                      | MAP-40-1- $\frac{1}{8}$ -EN    |
|                                                                                     |                                                       |                      | 0 ... 4          | 0 ... 58  | 162 842                      | MAP-40-4- $\frac{1}{8}$ -EN    |
| 0 ... 6                                                                             |                                                       |                      | 0 ... 87         | 161 127   | MAP-40-6- $\frac{1}{8}$ -EN  |                                |
| 0 ... 16                                                                            |                                                       |                      | 0 ... 232        | 161 128   | MAP-40-16- $\frac{1}{8}$ -EN |                                |