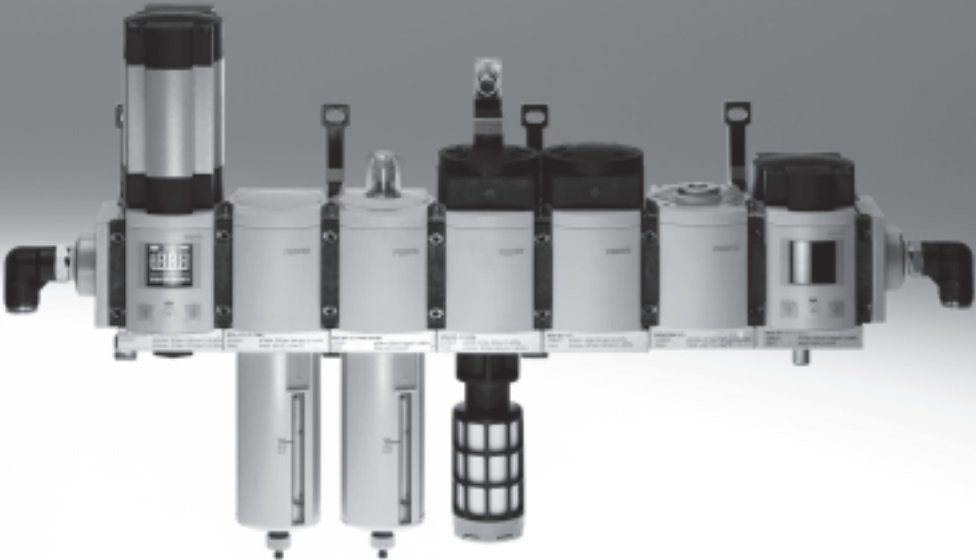


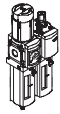
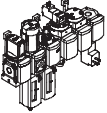





Filter regulators MS-LFR, MS series



Filter regulators MS-LFR, MS series



Product range overview – MS series service units

| Type | Size | Pneumatic connection in housing | Connecting plate | Pressure regulation range [bar] | | | | | | Grade of filtration [µm] | | | | |
|---|------|---|---|---------------------------------|------|-----|-----|-----|-----|--------------------------|---|---|----|--|
| | | | | 0.05 | 0.05 | 0.1 | 0.3 | 0.1 | 0.5 | | | | | |
| | | | | ... | ... | ... | ... | ... | ... | 0.01 | 1 | 5 | 40 | |
| Code | | | AG... | D2 | D4 | D5 | D6 | D7 | D8 | A | B | C | E | |
| Service units | | | | | | | | | | | | | | |
| MSB-FRC  | 4 | G ¹ / ₈ , G ¹ / ₄ | G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈ | - | - | - | ■ | ■ | - | - | - | ■ | ■ | |
| | 6 | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄ | - | - | - | ■ | ■ | - | - | - | ■ | ■ | |
| | 9 | - | | | | | | | | | | | | |
| | 12 | - | | | | | | | | | | | | |
| Service unit combinations (further variants can be ordered using the configurator → Internet: msb4, msb6 or msb9) | | | | | | | | | | | | | | |
| MSB  | 4 | G ¹ / ₄ | G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈ | - | - | - | ■ | ■ | - | - | - | ■ | ■ | |
| | 6 | G ¹ / ₂ | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄ | - | - | - | ■ | ■ | - | - | - | ■ | ■ | |
| | 9 | - | | | | | | | | | | | | |
| | 12 | - | | | | | | | | | | | | |
| Individual devices | | | | | | | | | | | | | | |
| Filter regulators MS-LFR  | 4 | G ¹ / ₈ , G ¹ / ₄ | G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈ | - | - | ■ | ■ | ■ | - | - | - | ■ | ■ | |
| | 6 | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄ | - | - | ■ | ■ | ■ | ■ | - | - | ■ | ■ | |
| | 9 | - | | | | | | | | | | | | |
| | 12 | - | G1, G ¹ / ₄ , G ¹ / ₂ , G2 | - | - | - | ■ | ■ | ■ | - | - | ■ | ■ | |
| Filters MS-LF  | 4 | G ¹ / ₈ , G ¹ / ₄ | G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈ | - | - | - | - | - | - | - | - | ■ | ■ | |
| | 6 | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄ | - | - | - | - | - | - | - | - | ■ | ■ | |
| | 9 | - | | | | | | | | | | | | |
| | 12 | - | G1, G ¹ / ₄ , G ¹ / ₂ , G2 | - | - | - | - | - | - | - | - | ■ | ■ | |
| Fine and micro filters MS-LFM  | 4 | G ¹ / ₈ , G ¹ / ₄ | G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈ | - | - | - | - | - | - | ■ | ■ | - | - | |
| | 6 | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄ | - | - | - | - | - | - | ■ | ■ | - | - | |
| | 9 | G ³ / ₄ , G1 | G ¹ / ₂ , G ³ / ₄ , G1, G ¹ / ₄ , G ¹ / ₂ | - | - | - | - | - | - | ■ | ■ | - | - | |
| | 12 | - | G1, G ¹ / ₄ , G ¹ / ₂ , G2 | - | - | - | - | - | - | ■ | ■ | - | - | |
| Activated carbon filters MS-LFX  | 4 | G ¹ / ₈ , G ¹ / ₄ | G ¹ / ₈ , G ¹ / ₄ , G ³ / ₈ | - | - | - | - | - | - | - | - | - | - | |
| | 6 | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄ | - | - | - | - | - | - | - | - | - | - | |
| | 9 | G ³ / ₄ , G1 | G ¹ / ₂ , G ³ / ₄ , G1, G ¹ / ₄ , G ¹ / ₂ | - | - | - | - | - | - | - | - | - | - | |
| | 12 | - | G1, G ¹ / ₄ , G ¹ / ₂ , G2 | - | - | - | - | - | - | - | - | - | - | |
| Water separators MS-LWS  | 4 | - | | | | | | | | | | | | |
| | 6 | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ | G ¹ / ₄ , G ³ / ₈ , G ¹ / ₂ , G ³ / ₄ | - | - | - | - | - | - | - | - | - | - | |
| | 9 | - | | | | | | | | | | | | |
| | 12 | - | | | | | | | | | | | | |

Filter regulators MS-LFR, MS series

Product range overview – MS series service units

| Type | Size | Bowl guard | | Condensate drains | | | | Pressure indicator | | | | | Actuator lock | | Options | | → Page/ Internet |
|------------------------------------|------|--------------------------------------|------------|-------------------|----------------|-----------------|---------------------------------------|--------------------------------------|------------------------------|--|--|-----------------|--------------------------|-------------------|----------|-----------------------------------|---------------------|
| | | Plastic bowl with 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 plate for EN pressure gauge G1/8 | Adapter plate for EN pressure gauge G1/4 | Pressure sensor | Rotary knob, for padlock | 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 | ■ | - | ■ | - | ■ | - | - | ■ | - | - | - | ■ | - | - | ■ | msb4 |
| | 6 | ■ | ■ | ■ | - | ■ | - | - | ■ | - | - | - | ■ | - | - | ■ | msb6 |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Service unit combinations | | | | | | | | | | | | | | | | | |
| MSB | 4 | ■ | ■ | ■ | - | ■ | - | - | ■ | - | - | - | ■ | - | - | ■ | msb4 |
| | 6 | ■ | ■ | ■ | - | ■ | - | - | ■ | - | - | - | ■ | - | - | ■ | msb6 |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Individual devices | | | | | | | | | | | | | | | | | |
| Filter regulators MS-LFR | 4 | ■ | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | ■ | ■ | ■ | ■ | - | ■ | 8 |
| | 6 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | - | ■ | ■ | ■ | ■ | - | ■ | 8 |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | ■ | ■ | - | ■ | ■ | ■ | ■ | - | ■ | - | ■ | ■ | - | ■ | 24 |
| Filters MS-LF | 4 | ■ | ■ | ■ | ■ | ■ | - | - | - | - | - | - | - | - | - | ■ | ms4-lf |
| | 6 | ■ | ■ | ■ | ■ | ■ | ■ | - | - | - | - | - | - | - | - | ■ | ms6-lf |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | ■ | ■ | - | ■ | ■ | - | - | - | - | - | - | - | - | ■ | ms12-lf |
| Fine and micro filters MS-LFM | 4 | ■ | ■ | ■ | ■ | ■ | - | - | - | - | - | - | - | - | - | ■ | ms4-lfm |
| | 6 | ■ | ■ | ■ | ■ | ■ | ■ | - | - | - | - | - | - | - | - | ■ | ms6-lfm |
| | 9 | - | ■ | ■ | - | ■ | ■ | - | - | - | - | - | - | - | - | ■ | ms9-lfm |
| | 12 | - | ■ | ■ | - | ■ | ■ | - | - | - | - | - | - | - | - | ■ | ms12-lfm |
| Activated carbon filters MS-LFX | 4 | ■ | ■ | - | - | - | - | - | - | - | - | - | - | - | - | ■ | ms4-lfx |
| | 6 | ■ | ■ | - | - | - | - | - | - | - | - | - | - | - | - | ■ | ms6-lfx |
| | 9 | - | ■ | - | - | - | - | - | - | - | - | - | - | - | - | ■ | ms9-lfx |
| | 12 | - | ■ | - | - | - | - | - | - | - | - | - | - | - | - | ■ | ms12-lfx |
| Water separators | | | | | | | | | | | | | | | | | |
| MS-LWS | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 6 | - | ■ | - | - | ■ | ■ | - | - | - | - | - | - | - | - | ■ | ms6-lws |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

Filter regulators MS-LFR, MS series

Product range overview – MS series service units



| Type | Size | Pneumatic connection in housing | Connecting plate | Pressure regulation range [bar] | | | | | | Supply voltage | | | |
|---|------|---------------------------------|------------------|---------------------------------|--------------------|-----------------|-----------------|------------------|------------------|--|---|---|---|
| | | | | 0.05 ... 0.7 | 0.05 ... 2.5 | 0.1 ... 4 | 0.3 ... 7 | 0.1 ... 12 | 0.5 ... 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... | D2 | D4 | D5 | D6 | D7 | D8 | V24 | V24P | V110 | V230 |
| Individual devices | | | | | | | | | | | | | |
| Pressure regulators 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 | - | - | ■ | ■ | ■ | ■ | - | - | - |
| | | 9 | - | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | G1, G1 1/4, G1 1/2, G2 | - | - | - | ■ | ■ | ■ | - | - | - |
| Pressure regulators MS-LRB | | 4 | G1/4 | G1/8, G1/4, G3/8 | - | - | ■ | ■ | ■ | - | - | - | - |
| | | 6 | G1/2 | G1/4, G3/8, G1/2, G3/4 | - | - | ■ | ■ | ■ | ■ | - | - | - |
| | | 9 | - | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | - | - | - | - | - | - | - | - | - | - |
| Precision pressure regulators MS-LRP | | 4 | - | - | - | - | - | - | - | - | - | - | - |
| | | 6 | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4 | ■ | ■ | ■ | - | ■ | - | - | - | - |
| | | 9 | - | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | - | - | - | - | - | - | - | - | - | - |
| Precision pressure regulators MS-LRPB | | 4 | - | - | - | - | - | - | - | - | - | - | - |
| | | 6 | G1/2 | G1/4, G3/8, G1/2, G3/4 | ■ | ■ | ■ | - | ■ | - | - | - | - |
| | | 9 | - | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | - | - | - | - | - | - | - | - | - | - |
| Electrical pressure regulators MS-LRE | | 4 | - | - | - | - | - | - | - | - | - | - | - |
| | | 6 | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4 | - | - | ■ | ■ | ■ | ■ | - | - | - |
| | | 9 | - | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | - | - | - | - | - | - | - | - | - | - |
| Lubricators MS-LOE | | 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 | - | - | - | - | - | - | - | - | - |
| | | 9 | - | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | G1, G1 1/4, G1 1/2, G2 | - | - | - | - | - | - | - | - | - |
| Electrical on-off valves MS-EM(1) | | 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 | - | - | - | - | - | - | - | - | - |
| | | 9 | - | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | G1, G1 1/4, G1 1/2, G2 | - | - | - | - | - | - | - | - | - |
| Electrical on-off valves MS-EE | | 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 | - | - | - | - | - | - | ■ | - | ■ |
| | | 9 | - | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | G1, G1 1/4, G1 1/2, G2 | - | - | - | - | - | - | ■ | ■ | ■ |
| Electrical soft-start valves MS-DL | | 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 | - | - | - | - | - | - | - | - | - |
| | | 9 | - | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | G1, G1 1/4, G1 1/2, G2 | - | - | - | - | - | - | - | - | - |
| Electrical soft-start valves MS-DE | | 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 | - | - | - | - | - | - | ■ | - | ■ |
| | | 9 | - | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | G1, G1 1/4, G1 1/2, G2 | - | - | - | - | - | - | ■ | ■ | ■ |
| Soft start and exhaust valves MS-SV | | 4 | - | - | - | - | - | - | - | - | - | - | - |
| | | 6 | G1/2 | G1/4, G3/8, G1/2, G3/4 | - | - | - | - | - | - | ■ | - | - |
| | | 9 | - | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | - | - | - | - | - | - | - | - | - | - |

Filter regulators MS-LFR, MS series

Product range overview – MS series service units








| Type | Size | Bowl guard | | Pressure indicator | | | | Actuator lock | | Options | | → Page/ Internet | |
|---|------|--------------------------------------|------------|--------------------------------------|------------------------------|--|--|-----------------|--------------------------|-------------------|----------|---------------------|-----------------------------------|
| | | Plastic bowl with plastic bowl guard | Metal bowl | Cover plate (without pressure gauge) | Integrated MS pressure gauge | Adapter plate for EN pressure gauge G1/8 | Adapter plate for EN pressure gauge G1/4 | Pressure sensor | Rotary knob, for padlock | Rotary knob, long | Silencer | | Flow direction from right to left |
| Code | | R | U | VS | AG | A8 | A4 | AD... | AS | LD | S | Z | |
| Individual devices | | | | | | | | | | | | | |
| Pressure regulators MS-LR | 4 | - | - | ■ | ■ | ■ | ■ | ■ | ■ | ■ | - | ■ | ms4-lr |
| | 6 | - | - | ■ | ■ | - | ■ | ■ | ■ | ■ | - | ■ | ms6-lr |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | ■ | ■ | - | ■ | - | ■ | ■ | - | ■ | ms12-lr |
| Pressure regulators MS-LRB | 4 | - | - | ■ | ■ | ■ | ■ | ■ | ■ | ■ | - | ■ | ms4-lrb |
| | 6 | - | - | ■ | ■ | - | ■ | ■ | ■ | ■ | - | ■ | ms6-lrb |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | - | - | - | - | - | - | - | - | - | - |
| Precision pressure regulators MS-LRP | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 6 | - | - | ■ | - | ■ | ■ | ■ | ■ | ■ | - | ■ | ms6-lrp |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | - | - | - | - | - | - | - | - | - | - |
| Precision pressure regulators MS-LRPB | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 6 | - | - | ■ | - | ■ | ■ | ■ | ■ | ■ | - | ■ | ms6-lrpb |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | - | - | - | - | - | - | - | - | - | - |
| Electrical pressure regulators MS-LRE | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 6 | - | - | ■ | ■ | - | ■ | - | - | - | - | ■ | ms6-lre |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | - | - | - | - | - | - | - | - | - | - |
| Lubricators MS-LOE | 4 | ■ | ■ | - | - | - | - | - | - | - | - | ■ | ms4-loe |
| | 6 | ■ | ■ | - | - | - | - | - | - | - | - | ■ | ms6-loe |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | ■ | - | - | - | - | - | - | - | - | ■ | ms12-loe |
| Electrical on-off valves MS-EM(1) | 4 | - | - | ■ | ■ | ■ | ■ | ■ | - | - | ■ | ■ | ms4-em1 |
| | 6 | - | - | ■ | ■ | - | ■ | ■ | - | - | ■ | ■ | ms6-em1 |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | ■ | ■ | - | ■ | - | - | - | ■ | ■ | ms12-em |
| Electrical on-off valves MS-EE | 4 | - | - | ■ | ■ | ■ | ■ | ■ | - | - | ■ | ■ | ms4-ee |
| | 6 | - | - | ■ | ■ | - | ■ | ■ | - | - | ■ | ■ | ms6-ee |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | ■ | ■ | - | ■ | - | - | - | ■ | ■ | ms12-ee |
| Electrical soft-start valves MS-DL | 4 | - | - | ■ | ■ | ■ | ■ | ■ | - | - | - | ■ | ms4-dl |
| | 6 | - | - | ■ | ■ | - | ■ | ■ | - | - | - | ■ | ms6-dl |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | ■ | ■ | - | ■ | - | - | - | - | ■ | ms12-dl |
| Electrical soft-start valves MS-DE | 4 | - | - | ■ | ■ | ■ | ■ | ■ | - | - | - | ■ | ms4-de |
| | 6 | - | - | ■ | ■ | - | ■ | ■ | - | - | - | ■ | ms6-de |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | ■ | ■ | - | ■ | - | - | - | - | ■ | ms12-de |
| Soft start and exhaust valves MS-SV | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 6 | - | - | ■ | ■ | - | ■ | ■ | - | - | ■ | ■ | ms6-sv |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | - | - | - | - | - | - | - | - | - | - |

Filter regulators MS-LFR, MS series

Product range overview – MS series service units



| Type | Size | Pneumatic connection in housing | Connecting plate | Pressure regulation range [bar] | | | | Supply voltage | | | | |
|---|---|---------------------------------|------------------|---------------------------------|-----------------|------------------|------------------|--|---|---|---|---|
| | | | | 0.1 ... 4 | 0.3 ... 7 | 0.1 ... 12 | 0.5 ... 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 | |
| Individual devices | | | | | | | | | | | | |
| Membrane air dryers MS-LDM1 |  | 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 | - | - | - | - | - | - | - | - |
| | | 9 | - | | | | | | | | | |
| | | 12 | - | | | | | | | | | |
| Branching modules MS-FRM |  | 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 | - | - | - | - | - | - | - | - |
| | | 9 | - | | | | | | | | | |
| | | 12 | - | G1, G1 1/4, G1 1/2, G2 | - | - | - | - | - | - | - | - |
| Distributor blocks MS-FRM-FRZ |  | 4 | G1/4 | - | - | - | - | - | - | - | - | - |
| | | 6 | G1/2 | - | - | - | - | - | - | - | - | - |
| | | 9 | - | | | | | | | | | |
| | | 12 | - | | | | | | | | | |
| Flow sensors MS-SFE |  | 4 | - | | | | | | | | | |
| | | 6 | G1/2 | G1/2 | - | - | - | - | - | - | - | - |
| | | 9 | - | | | | | | | | | |
| | | 12 | - | | | | | | | | | |
| Flow sensors SFAM |  | 4 | - | | | | | | | | | |
| | | 6 | G1/2 | G1/2 | - | - | - | - | - | - | - | - |
| | | 9 | - | | | | | | | | | |
| | | 12 | - | | | | | | | | | |

Filter regulators MS-LFR, MS series

Product range overview – MS series service units

| Type | Size | Bowl guard | | Pressure indicator | | | | Switch output | | Options | | → Page/ Internet | |
|---|------|--------------------------------------|------------|--------------------------------------|------------------------------|--|--|-----------------|--------|---------|----------|---------------------|-----------------------------------|
| | | Plastic bowl with plastic bowl guard | Metal bowl | Cover plate (without pressure gauge) | Integrated MS pressure gauge | Adapter plate for EN pressure gauge G1/8 | Adapter plate for EN pressure gauge G1/4 | Pressure sensor | 2x PNP | 2x NPN | Silencer | | Flow direction from right to left |
| Code | | R | U | VS | AG | A8 | A4 | AD... | P2/2S | N2/2S | S | Z/R | |
| Individual devices | | | | | | | | | | | | | |
| Membrane air dryers MS-LDM1 | 4 | - | ■ | - | - | - | - | - | - | - | - | ■ | ms4-ldm1 |
| | 6 | - | ■ | - | - | - | - | - | - | - | - | ■ | ms6-ldm1 |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | - | - | - | - | - | - | - | - | - | - |
| Branching modules MS-FRM | 4 | - | - | ■ | ■ | ■ | ■ | ■ | - | - | - | ■ | ms4-frm |
| | 6 | - | - | ■ | ■ | - | ■ | ■ | - | - | - | ■ | ms6-frm |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | ■ | - | - | - | - | - | - | - | - | ms12-frm |
| Distributor blocks MS-FRM-FRZ | 4 | - | - | - | - | - | - | - | - | - | - | ■ | ms4-frm |
| | 6 | - | - | - | - | - | - | - | - | - | - | ■ | ms6-frm |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | - | - | - | - | - | - | - | - | - | - |
| Flow sensors MS-SFE | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 6 | - | - | - | - | - | - | - | ■ | ■ | - | ■ ¹⁾ | ms6-sfe |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | - | - | - | - | - | - | - | - | - | - |
| Flow sensors SFAM | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 6 | - | - | - | - | - | - | - | ■ | ■ | - | ■ | sfam |
| | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| | 12 | - | - | - | - | - | - | - | - | - | - | - | - |

1) Can only be ordered using the configurator → Internet: ms6-sfe

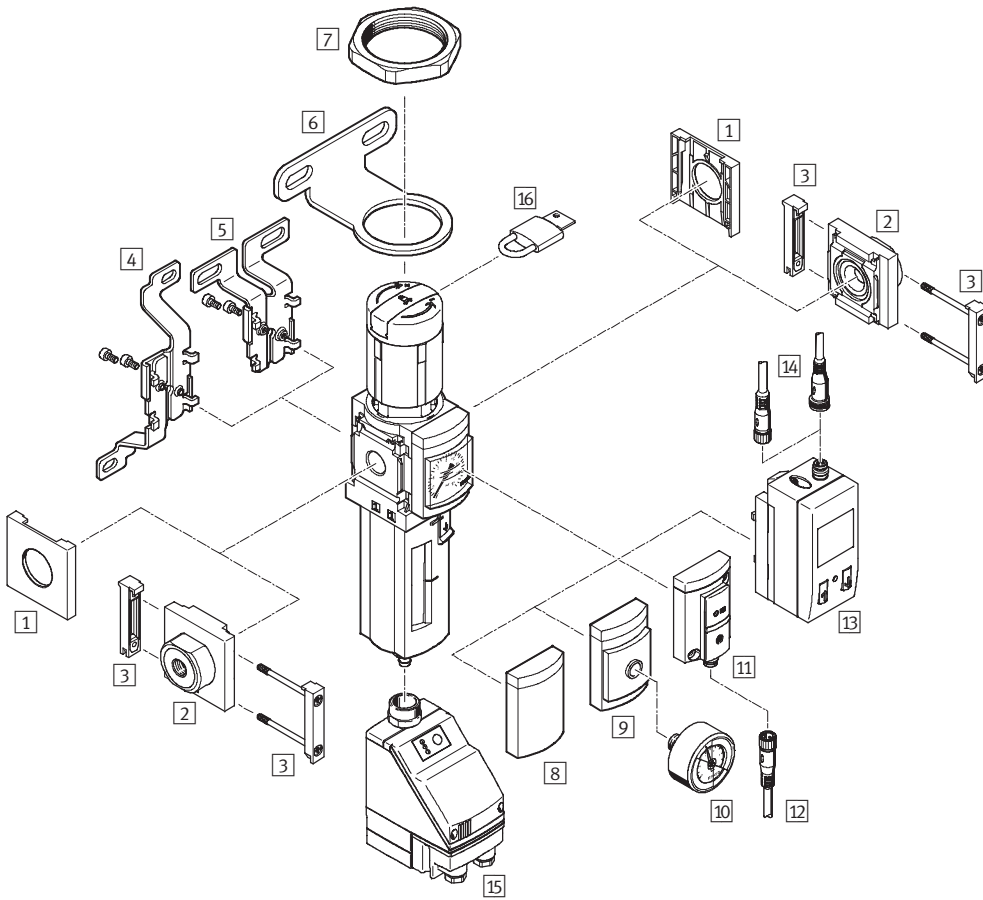
New
Variant AD7 ... AD10

Filter regulators MS4/MS6-LFR, MS series

Peripherals overview

FESTO

Filter regulator MS4/MS6-LFR



Note

Additional accessories:

- Module connector for combination with size MS4/MS6 or size MS9 → Internet: amv, rmv, armv
- Adapter plate for mounting on profiles → Internet: ipm-80, ipm-40-80, ipm-80-80

Filter regulators MS4/MS6-LFR, MS series

Peripherals overview

FESTO

| Mounting attachments and accessories | | | | | | |
|--------------------------------------|--|--------------------------|-----------------------|--------------------------|-----------------------|---------------------|
| | | Individual device | | Combination | | → Page/Internet |
| | | Without connecting plate | With connecting plate | Without connecting plate | With connecting plate | |
| 1 | Cover cap MS4/6-END | ■ | - | ■ | - | ms4-end, ms6-end |
| 2 | Connecting plate MS4/6-AG... | - | ■ | - | ■ | ms4-ag, ms6-ag |
| 3 | Module connector MS4/6-MV | - | ■ | ■ | ■ | ms4-mv, ms6-mv |
| 4 | Mounting bracket MS4/6-WB | ■ | ■ | - | - | ms4-wb, ms6-wb |
| 5 | Mounting bracket MS4-WBM | ■ | ■ | - | - | ms4-wbm |
| 6 | Mounting bracket MS4/6-WR | ■ | ■ | - | - | ms4-wr, ms6-wr |
| 7 | Hex nut MS4/6-WRS | ■ | ■ | ■ | ■ | ms4-wrs, ms6-wrs |
| 8 | Cover plate VS | ■ | ■ | ■ | ■ | 22 |
| 9 | Adapter plate for EN pressure gauge 1/8/1/4 A8/A4 | ■ | ■ | ■ | ■ | 22 |
| 10 | Pressure gauge MA | ■ | ■ | ■ | ■ | 34 |
| 11 | Pressure sensor without display AD7 ... AD10 | ■ | ■ | ■ | ■ | 22 |
| 12 | Connecting cable NEBU-M8...-LE3 | ■ | ■ | ■ | ■ | 34 |
| 13 | Pressure sensor with display AD1 ... AD4 | ■ | ■ | ■ | ■ | 22 |
| 14 | Connecting cable NEBU-M8...-LE3/NEBU-M12...-LE4 | ■ | ■ | ■ | ■ | 34 |
| 15 | Fully automatic condensate drain, electrically actuated E1 ... E4 | ■ | ■ | ■ | ■ | 22 |
| 16 | Padlock LRVS-D | ■ | ■ | ■ | ■ | 34 |
| - | Mounting bracket MS4/6-WP/WPB/WPE/WPM | - | ■ | ■ | ■ | ms4-wp, ms6-wp |

Filter regulators MS4/MS6-LFR, MS series

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Type codes

| | | | | | | | | | | | | | | | |
|----------------------------------|--|----|---|---|-----|---|-----|---|----|---|---|---|---|---|----|
| | | MS | 6 | - | LFR | - | 1/2 | - | D7 | - | E | R | M | - | AS |
| Series | | | | | | | | | | | | | | | |
| MS | Standard service unit | | | | | | | | | | | | | | |
| Size | | | | | | | | | | | | | | | |
| 4 | Grid dimension 40 mm | | | | | | | | | | | | | | |
| 6 | Grid dimension 62 mm | | | | | | | | | | | | | | |
| Service function | | | | | | | | | | | | | | | |
| LFR | Filter regulator | | | | | | | | | | | | | | |
| Pneumatic connection | | | | | | | | | | | | | | | |
| MS4 | | | | | | | | | | | | | | | |
| 1/8 | Thread G1/8 | | | | | | | | | | | | | | |
| 1/4 | Thread G1/4 | | | | | | | | | | | | | | |
| MS6 | | | | | | | | | | | | | | | |
| 1/4 | Thread G1/4 | | | | | | | | | | | | | | |
| 3/8 | Thread G3/8 | | | | | | | | | | | | | | |
| 1/2 | Thread G1/2 | | | | | | | | | | | | | | |
| Pressure regulation range | | | | | | | | | | | | | | | |
| D6 | Pressure regulation range 0.3 ... 7 bar | | | | | | | | | | | | | | |
| D7 | Pressure regulation range 0.5 ... 12 bar | | | | | | | | | | | | | | |
| Grade of filtration | | | | | | | | | | | | | | | |
| C | 5 µm | | | | | | | | | | | | | | |
| E | 40 µm | | | | | | | | | | | | | | |
| Bowl guard | | | | | | | | | | | | | | | |
| R | Plastic bowl guard | | | | | | | | | | | | | | |
| U | Metal bowl | | | | | | | | | | | | | | |
| Condensate drain | | | | | | | | | | | | | | | |
| M | Manual rotary | | | | | | | | | | | | | | |
| V | Fully automatic | | | | | | | | | | | | | | |
| Security | | | | | | | | | | | | | | | |
| AS | Standard rotary knob with detent, lockable via accessories | | | | | | | | | | | | | | |

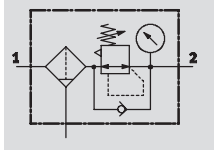
Additional variants can be ordered using the modular system → 22

- Connecting plates
- Pressure regulation range
- Condensate drain
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Secondary venting
- Rotary knob
- Security
- Type of mounting
- Alternative flow direction

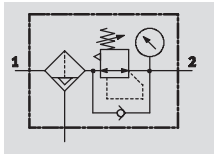
Filter regulators MS4/MS6-LFR, MS series

Technical data


Manual rotary condensate drain,
with pressure gauge




Semi or fully automatic condensate
drain, with pressure gauge



With this device, the filter and pressure regulator are combined into a single unit. The sintered filter with water separator removes contamination, pipe sinter, rust and condensate from the compressed air.

 Flow rate
850 ... 7,200 l/min

 Temperature range
-10 ... +60 °C

 Supply pressure
0.8 ... 20 bar

 www.festo.com

Wearing parts kits

→ 21



- Good regulation characteristics with low hysteresis and primary pressure compensation
- Good particle and condensate separation
- Available with or without secondary venting
- High flow rate
- Directly-actuated diaphragm regulator
- Four pressure regulation ranges: 0.3 ... 4 bar, 0.3 ... 7 bar, 0.5 ... 12 bar and 0.5 ... 16 bar
- Regulator lock for protecting the values against adjustment
- Two pressure gauge connections for different fitting options
- Return flow option for exhausting from output 2 to output 1 already integrated
- Optional pressure sensor
- Choice of filter cartridges: 5 µm or 40 µm
- New filter cartridges → 34

| General technical data | | | | | |
|---|---|--|-----------------|-----------------|-----------------|
| Size | MS4 | | MS6 | | |
| Pneumatic connection 1, 2 | G $\frac{1}{8}$ | G $\frac{1}{4}$ | G $\frac{1}{4}$ | G $\frac{3}{8}$ | G $\frac{1}{2}$ |
| Constructional design | Filter regulator with/without pressure display | | | | |
| Regulating function | Output pressure constant, with return flow action, with/without secondary venting | | | | |
| Type of mounting | Via accessories | | | | |
| | In-line installation | | | | |
| | Front panel mounting | | | | |
| Mounting position | Vertical ±5° | | | | |
| Grade of filtration [µm] | 5 (air quality class at the output 3.7.- to DIN ISO 8573-1) | | | | |
| | 40 (air quality class at the output 5.7.- to DIN ISO 8573-1) | | | | |
| Bowl guard | Plastic bowl guard | | | | |
| | Metal bowl | | | | |
| Condensate drain | Manual rotary | | | | |
| | Semi-automatic | | | | |
| | Fully automatic | | | | |
| Regulator lock | - | | | | |
| | Fully automatic, electrically actuated | | | | |
| | Rotary knob with detent | | | | |
| Pressure regulation range | D5 [bar] | 0.3 ... 4 | | | |
| | D6 [bar] | 0.3 ... 7 | | | |
| | D7 [bar] | 0.5 ... 12 (0.5 ... 10 with pressure sensor variant AD...) | | | |
| Max. hysteresis [bar] | D8 [bar] | - | | | 0.5 ... 16 |
| | 0.25 | | | | |
| Pressure display | Via pressure sensor for displaying output pressure via LCD display and electrical output | | | | |
| | Via pressure sensor for displaying output pressure via operational status indicator and electrical output | | | | |
| | Via pressure gauge for displaying output pressure | | | | |
| Max. condensate volume [cm ³] | 19 (with plastic bowl guard) | | | 38 | |
| | 25 (with metal bowl) | | | | |

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

Filter regulators MS4/MS6-LFR, MS series

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Technical data

| Standard nominal flow rate $q_{nN}^{1)}$ [l/min] | | | | | | |
|--|-----------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Size | MS4 | | | MS6 | | |
| Pneumatic connection | G $\frac{1}{8}$ | G $\frac{1}{4}$ | G $\frac{1}{4}$ | G $\frac{3}{8}$ | G $\frac{1}{2}$ | |
| D5 – Pressure regulation range 0.3 ... 4 bar | | | | | | |
| Grade of filtration | 5 μ m | 900 ²⁾ | 1,800 ²⁾ | 2,000 ²⁾ | 5,500 ²⁾ | 6,900 ²⁾ |
| | 40 μ m | 1,100 ²⁾ | 1,900 ²⁾ | 2,200 ²⁾ | 6,000 ²⁾ | 7,200 ²⁾ |
| D6 – Pressure regulation range 0.3 ... 7 bar | | | | | | |
| Grade of filtration | 5 μ m | 900 | 1,500 | 2,700 | 5,000 | 5,600 |
| | 40 μ m | 1,000 | 1,700 | 2,800 | 5,700 | 6,200 |
| D7 – Pressure regulation range 0.5 ... 12 bar | | | | | | |
| Grade of filtration | 5 μ m | 850 | 1,200 | 2,200 | 3,500 | 4,000 |
| | 40 μ m | 900 | 1,500 | 2,500 | 4,000 | 4,500 |
| D8 – Pressure regulation range 0.5 ... 16 bar | | | | | | |
| Grade of filtration | 5 μ m | – | – | 2,000 | 3,300 | 3,800 |
| | 40 μ m | – | – | 2,300 | 3,500 | 4,000 |

1) Measured at $p_1 = 10$ bar and $p_2 = 6$ bar, $\Delta p = 1$ bar

2) Measured at $p_1 = 10$ bar and $p_2 = 3$ bar, $\Delta p = 1$ bar

| Operating and environmental conditions | | | | | | | |
|--|---|------------|----------------|------------|-----------------|----------|--|
| Condensate drain | Manual rotary | | Semi-automatic | | Fully automatic | | Fully automatic, electrically actuated E1 ... E4 |
| | M | | H | | V | | |
| Size | MS4 | MS6 | MS4 | MS6 | MS4 | MS6 | MS6 |
| Supply pressure [bar] | 0.8 ... 14 | 0.8 ... 20 | 1.5 ... 12 | 1.5 ... 12 | 2 ... 12 | 2 ... 12 | 0.8 ... 16 |
| Operating medium | Compressed air | | | | | | |
| Operating medium with pressure sensor AD... | Filtered compressed air, lubricated or unlubricated, grade of filtration 40 μ m | | | | | | |
| Ambient temperature [°C] | -10 ... +60 | | +5 ... +60 | | +5 ... +60 | | +1 ... +60 |
| Ambient temperature with pressure sensor AD... | 0 ... +50 | | +5 ... +50 | | +5 ... +50 | | +1 ... +50 |
| Temperature of medium [°C] | -10 ... +60 | | +5 ... +60 | | +5 ... +60 | | +1 ... +60 |
| Temperature of medium with pressure sensor AD... | 0 ... +50 | | +5 ... +50 | | +5 ... +50 | | +1 ... +50 |
| Storage temperature [°C] | -10 ... +60 | | -10 ... +60 | | -10 ... +60 | | +1 ... +60 |
| Corrosion resistance class CRC ¹⁾ | 2 | | | | | | |

1) Corrosion resistance class 2 as per 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.

Filter regulators MS4/MS6-LFR, MS series

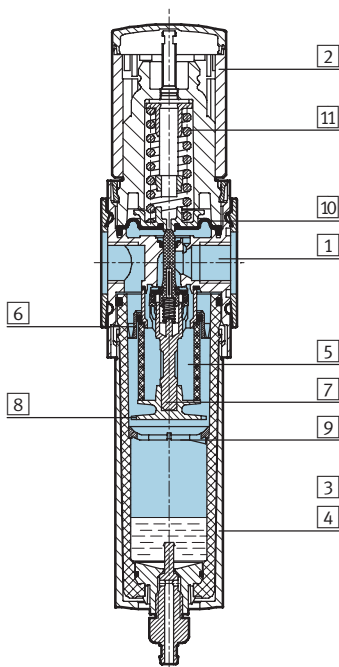
Technical data

FESTO

| Weight [g] | | | | |
|--|-----------------------------|--------------------------|-----------------------------|--------------------------|
| Size | MS4 | | MS6 | |
| Rotary knob | Without integrated lock E11 | With integrated lock E11 | Without integrated lock E11 | With integrated lock E11 |
| Filter regulator with plastic bowl guard R | 275 | 400 | 875 | 1,145 |
| Filter regulator with metal bowl U | 475 | 600 | 1,087 | 1,627 |
| Filter regulator with metal bowl U and fully automatic condensate drain, electrically actuated E1 ... E4 | – | – | 1,800 | 2,070 |

Materials

Sectional view



| Filter regulator | | |
|------------------|--------------------------------------|--|
| 1 | Housing | Die-cast aluminium |
| 2 | Rotary knob | Polyamide/polyacetate |
| | Rotary knob with integrated lock E11 | Aluminium |
| 3 | Plastic bowl guard | Polycarbonate/polyamide |
| 4 | Metal bowl | Aluminium |
| | Inspection window | Polyamide |
| 5 | Filter element | Polyethylene |
| 6 | Spin disc | Polyacetal |
| 7 | Filter holder | Polyacetal |
| 8 | Separating plate | Polyacetal |
| 9 | Stabilising disc | Polyacetal |
| 10 | Diaphragm | Nitrile rubber |
| 11 | Spring | Steel |
| – | Seals | Nitrile rubber |
| | Note on materials | Free of copper and PTFE only with cover plate VS |

Filter regulators MS4/MS6-LFR, MS series

Technical data

FESTO

Standard flow rate q_n as a function of output pressure p_2

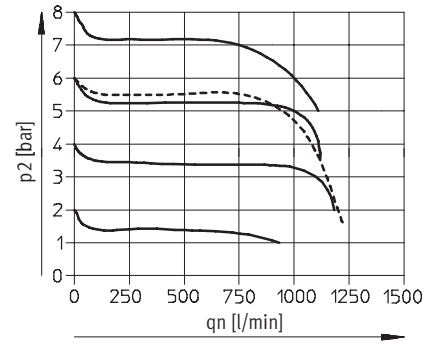
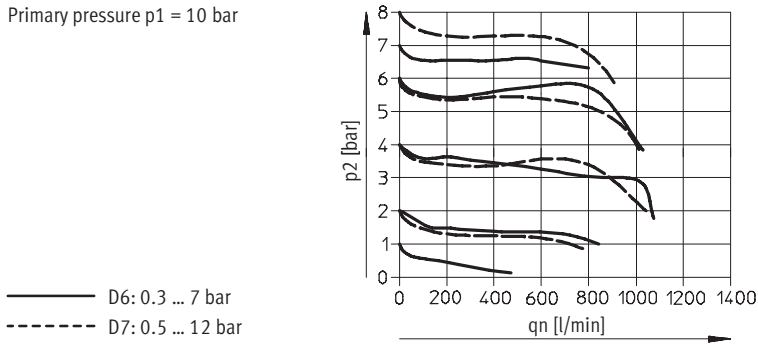
Pressure regulation range D6 or D7

Grade of filtration 5 μm

Grade of filtration 40 μm

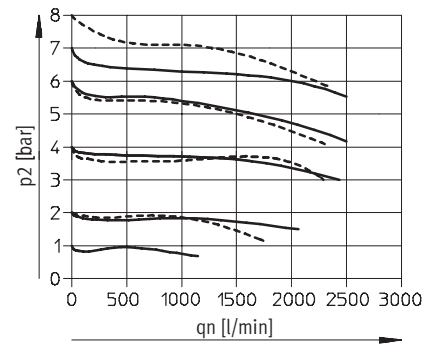
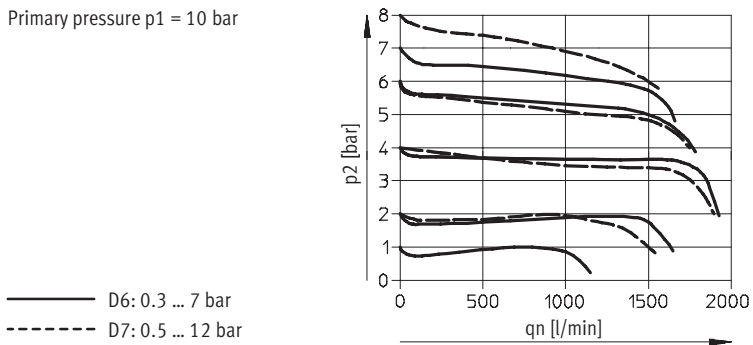
MS4-LFR-1/8

Primary pressure $p_1 = 10$ bar



MS4-LFR-1/4

Primary pressure $p_1 = 10$ bar



Filter regulators MS4/MS6-LFR, MS series

Technical data

Standard flow rate q_n as a function of output pressure p_2

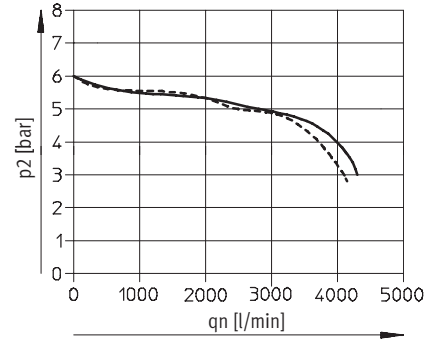
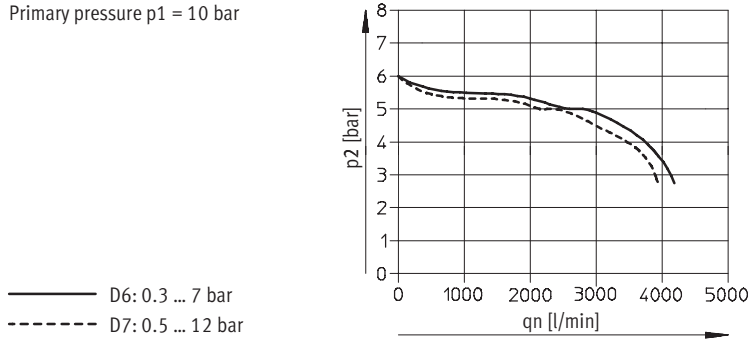
Pressure regulation range D6 or D7

Grade of filtration 5 μm

Grade of filtration 40 μm

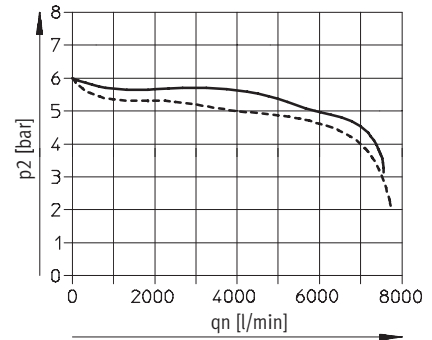
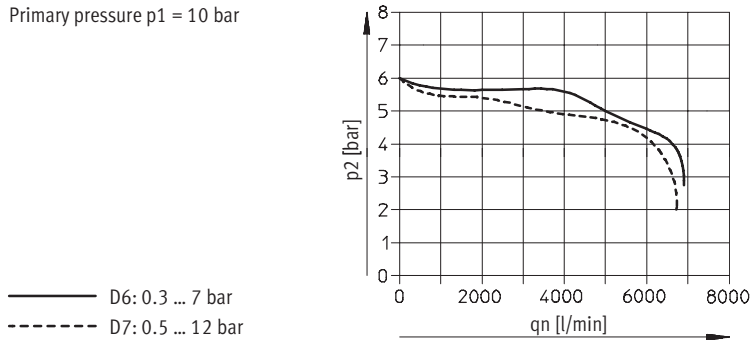
MS6-LFR-1/4

Primary pressure $p_1 = 10$ bar



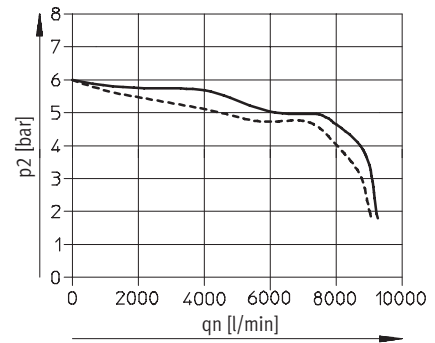
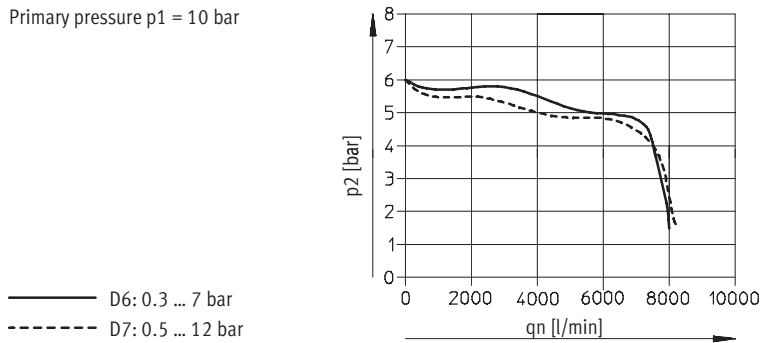
MS6-LFR-3/8

Primary pressure $p_1 = 10$ bar



MS6-LFR-1/2

Primary pressure $p_1 = 10$ bar



New
Variant AD7 ... AD10

Filter regulators MS4/MS6-LFR, MS series

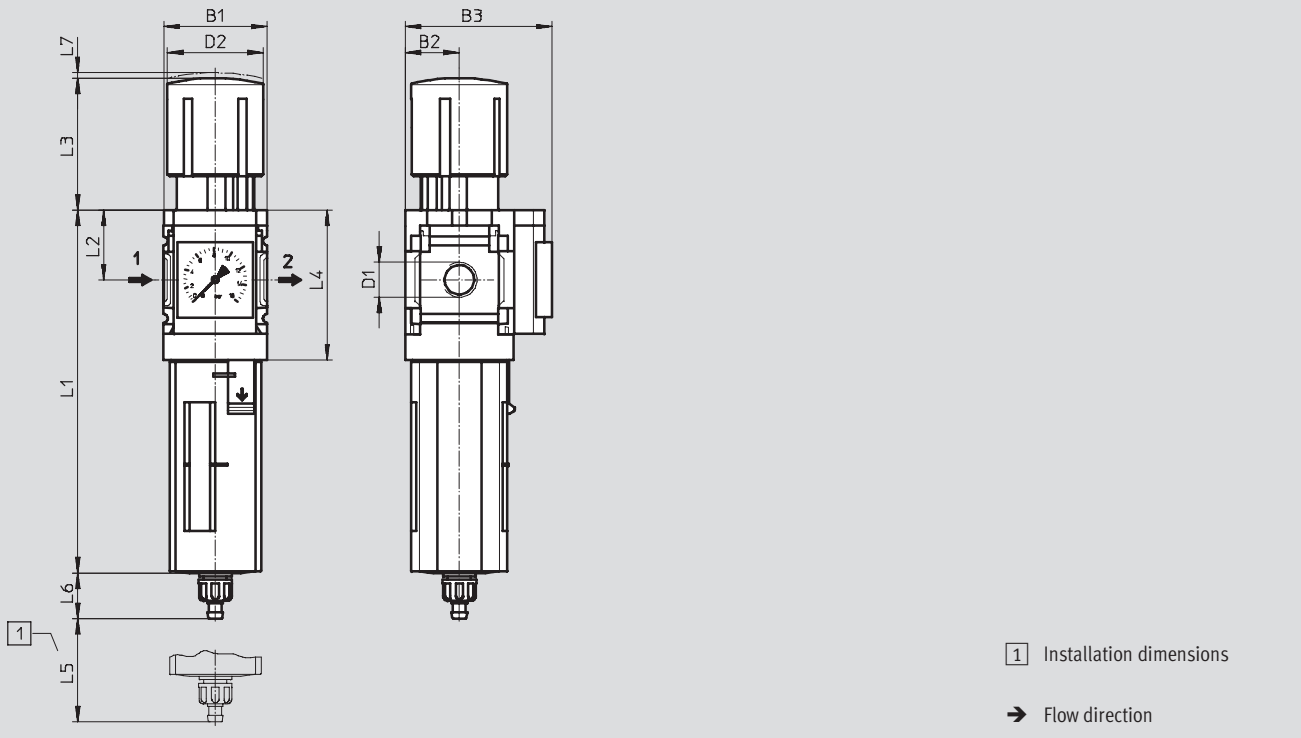
Technical data

FESTO

Dimensions – Standard

Download CAD data → www.festo.com

Integrated pressure gauge, display unit [bar], standard rotary knob with detent, manual rotary condensate drain



| Type | B1 | B2 | B3 | | D1 | D2 | L1 | | L2 | L3 | L4 | L5 | L6 | | L7 |
|-------------|----|----|------------------------|------------------------|------|------|------------|-------|----|------|------|----|------------|-------|----|
| | | | Pressure gauge | | | | Bowl guard | | | | | | Bowl guard | | |
| | | | Stan- dard scale | Red- green scale | | | Plastic | Metal | | | | | Plastic | Metal | |
| MS4-LFR-1/8 | 40 | 21 | 57 | 58.5 | G1/8 | 37.2 | 140.6 | 158.2 | 27 | 51.1 | 58.5 | 25 | 17.7 | 17.7 | 2 |
| MS4-LFR-1/4 | | | | | G1/4 | | | | | | | | | | |
| MS6-LFR-1/4 | 62 | 31 | 77 | 78.5 | G1/4 | 51 | 189 | 194.4 | 39 | 86 | 84 | 68 | 15.8 | 19 | 5 |
| MS6-LFR-3/8 | | | | | G3/8 | | | | | | | | | | |
| MS6-LFR-1/2 | | | | | G1/2 | | | | | | | | | | |

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

Filter regulators MS4/MS6-LFR, MS series

Technical data

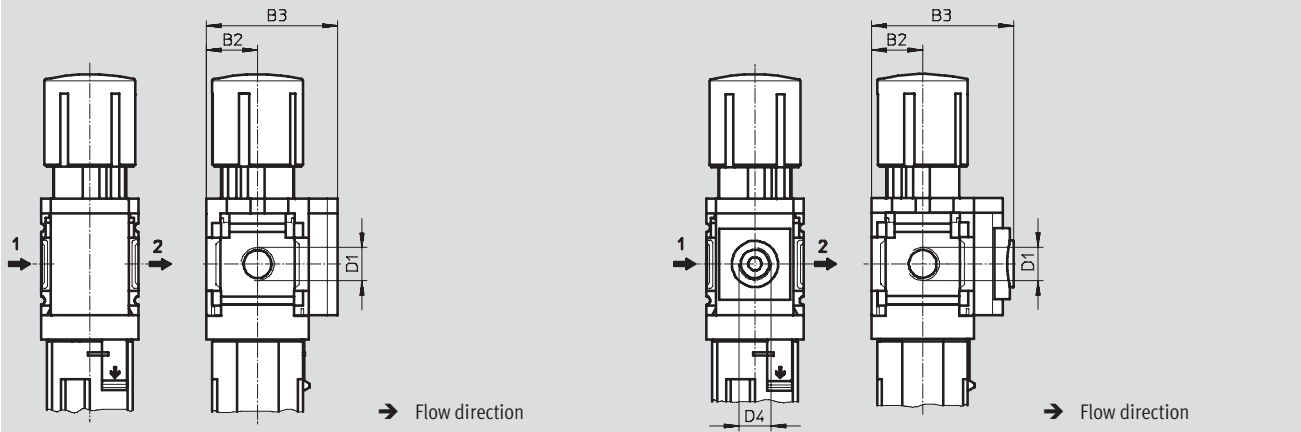
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Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Cover plate VS

Adapter plate A8/A4 for EN pressure gauge 1/8/1/4, without pressure gauge



| Type | B2 | B3 | D1 | D4 |
|--------------------|----|------|------|------|
| MS4-LFR-1/8-...-VS | 21 | 54 | G1/8 | - |
| MS4-LFR-1/4-...-VS | | | G1/4 | |
| MS4-LFR-1/8-...-A8 | 21 | 58.5 | G1/8 | G1/8 |
| MS4-LFR-1/4-...-A8 | | | G1/4 | |
| MS4-LFR-1/8-...-A4 | 21 | 58.5 | G1/8 | G1/4 |
| MS4-LFR-1/4-...-A4 | | | G1/4 | |
| MS6-LFR-1/4-...-VS | 31 | 76 | G1/4 | - |
| MS6-LFR-3/8-...-VS | | | G3/8 | |
| MS6-LFR-1/2-...-VS | | | G1/2 | |
| MS6-LFR-1/4-...-A4 | 31 | 78.5 | G1/4 | G1/4 |
| MS6-LFR-3/8-...-A4 | | | G3/8 | |
| MS6-LFR-1/2-...-A4 | | | G1/2 | |

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

New
Variant AD7 ... AD10

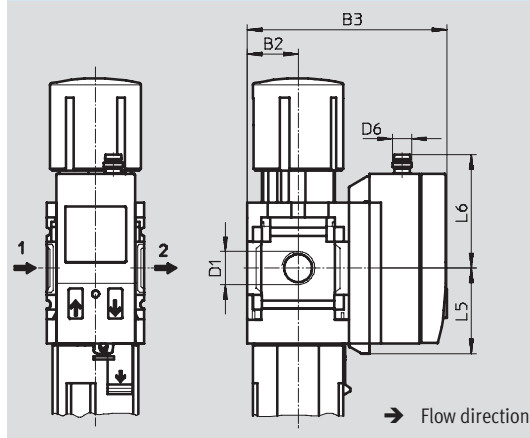
Filter regulators MS4/MS6-LFR, MS series

Technical data



Dimensions – Pressure gauge alternatives Download CAD data → www.festo.com

Pressure sensor with LCD display AD1 ... AD4 Technical data → Internet: [sde1](#)



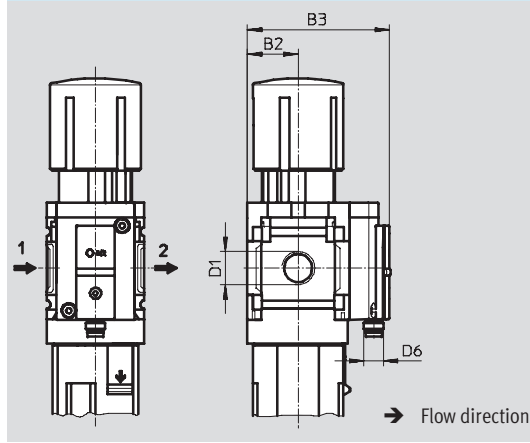
Variant AD1:
SDE1-D10-G2-MS-L-P1-M8 with 3-pin plug M8x1, 1 switching output PNP

Variant AD2:
SDE1-D10-G2-MS-L-N1-M8 with 3-pin plug M8x1, 1 switching output NPN

Variant AD3:
SDE1-D10-G2-MS-L-PI-M12 with 4-pin plug M12x1, 1 switching output PNP and 4 ... 20 mA analogue

Variant AD4:
SDE1-D10-G2-MS-L-NI-M12 with 4-pin plug M12x1, 1 switching output NPN and 4 ... 20 mA analogue

Pressure sensor without LCD display (operational status indicator only) AD7 ... AD10 Technical data → Internet: [sde5](#)



Variant AD7:
SDE5-D10-O-...-P-M8 with 3-pin plug M8x1, threshold value comparator, 1 switching output PNP, N/O contact

Variant AD8:
SDE5-D10-C-...-P-M8 with 3-pin plug M8x1, threshold value comparator, 1 switching output PNP, N/C contact

Variant AD9:
SDE5-D10-O3-...-P-M8 with 3-pin plug M8x1, window comparator, 1 switching output PNP, N/O contact

Variant AD10:
SDE5-D10-C3-...-P-M8 with 3-pin plug M8x1, window comparator, 1 switching output PNP, N/C contact

| Type | B2 | B3 | D1 | D6 | L5 | L6 |
|----------------------------------|----|------|------|-------|------|------|
| MS4-LFR-1/8-...-AD1/AD2 | 21 | 82.6 | G1/8 | M8x1 | 35.1 | 46.7 |
| MS4-LFR-1/4-...-AD1/AD2 | | | G1/4 | | | |
| MS4-LFR-1/8-...-AD3/AD4 | 21 | 82.6 | G1/8 | M12x1 | 35.1 | 55.8 |
| MS4-LFR-1/4-...-AD3/AD4 | | | G1/4 | | | |
| MS4-LFR-1/8-...-AD7/AD8/AD9/AD10 | 21 | 59.1 | G1/8 | M8x1 | - | - |
| MS4-LFR-1/4-...-AD7/AD8/AD9/AD10 | | | G1/4 | | | |
| MS6-LFR-1/4-...-AD1/AD2 | 31 | 103 | G1/4 | M8x1 | 35.1 | 46.7 |
| MS6-LFR-3/8-...-AD1/AD2 | | | G3/8 | | | |
| MS6-LFR-1/2-...-AD1/AD2 | | | G1/2 | | | |
| MS6-LFR-1/4-...-AD3/AD4 | 31 | 103 | G1/4 | M12x1 | 35.1 | 55.8 |
| MS6-LFR-3/8-...-AD3/AD4 | | | G3/8 | | | |
| MS6-LFR-1/2-...-AD3/AD4 | | | G1/2 | | | |
| MS6-LFR-1/4-...-AD7/AD8/AD9/AD10 | 31 | 79 | G1/4 | M8x1 | - | - |
| MS6-LFR-3/8-...-AD7/AD8/AD9/AD10 | | | G3/8 | | | |
| MS6-LFR-1/2-...-AD7/AD8/AD9/AD10 | | | G1/2 | | | |

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

Filter regulators MS4/MS6-LFR, MS series

Technical data

FESTO

Dimensions – Rotary knob

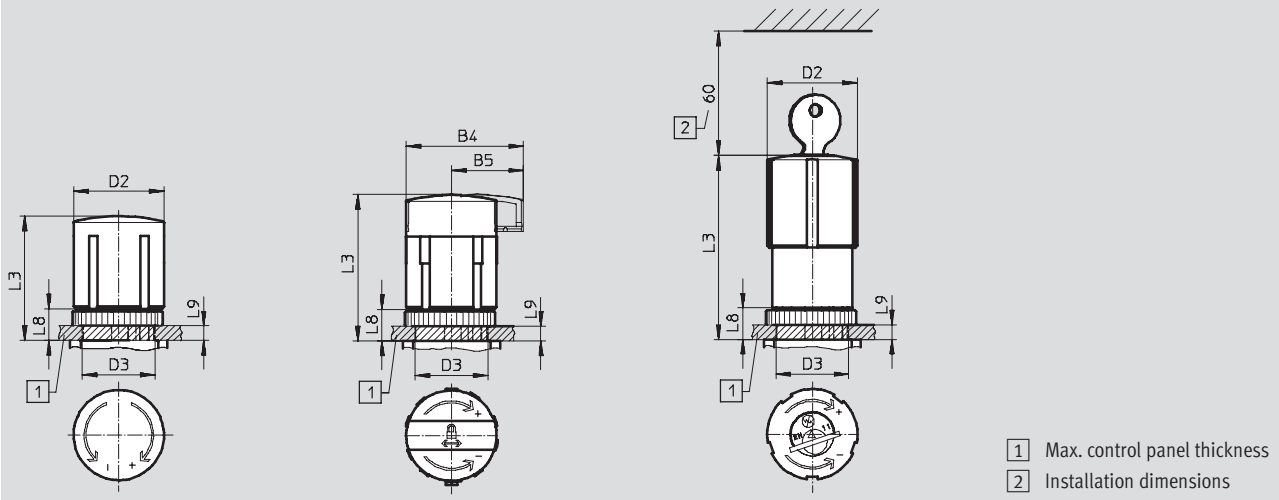
Download CAD data → www.festo.com

For installation into control panel

Standard rotary knob with detent

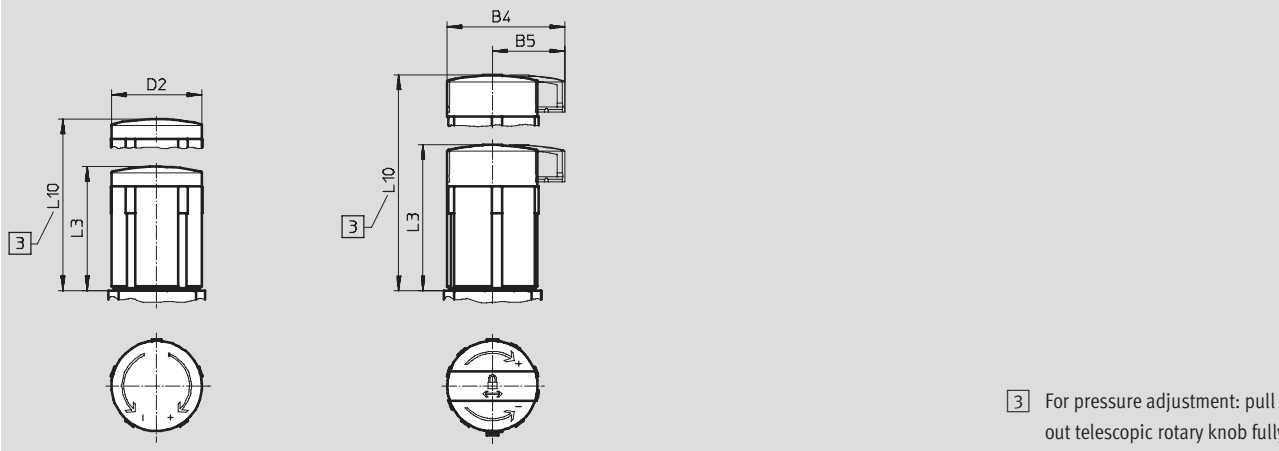
Standard rotary knob with detent,
lockable via accessories AS

Rotary knob with integrated lock
E11



Long rotary knob with detent LD

Long rotary knob with detent,
lockable via accessories LD-AS



| Type | B4 | B5 | D2 | D3 +1 | L3 | L8 | L9 | L10 |
|-------------------|------|------|------|----------|------|----|----|-------|
| MS4-LFR-... | - | - | 37.2 | 30 | 51.1 | 13 | 6 | - |
| MS4-LFR-...-AS | 48.3 | 29.7 | | | 60.2 | | | |
| MS4-LFR-...-E11 | - | - | | | 76 | | | |
| MS4-LFR-...-LD | - | - | 37.2 | - | 51.1 | - | - | 76.8 |
| MS4-LFR-...-LD-AS | 48.3 | 29.7 | | | 60.2 | | | 85.7 |
| MS6-LFR-... | - | - | 51 | 44 | 86 | 22 | 14 | - |
| MS6-LFR-...-AS | 64.4 | 39 | | | 95.5 | | | |
| MS6-LFR-...-E11 | - | - | | | 51.8 | | | |
| MS6-LFR-...-LD | - | - | 51 | - | 86 | - | - | 139 |
| MS6-LFR-...-LD-AS | 64.4 | 39 | | | 95.5 | | | 148.5 |

New
Variant AD7 ... AD10

Filter regulators MS4/MS6-LFR, MS series

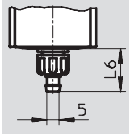
Technical data

FESTO

Dimensions – Condensate drain

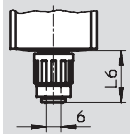
Download CAD data → www.festo.com

Manual rotary M



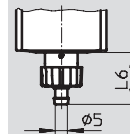
Barbed fitting for plastic tubing
PCN-4

Semi-automatic H



QS fitting for plastic tubing
PUN-6/PAN-6

Fully automatic V



Barbed fitting for plastic tubing
PCN-4

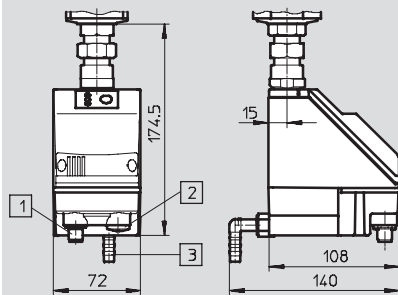
| Type | L6 |
|---------------------------|------|
| Plastic bowl guard | |
| MS4-LFR-...-M | 17.7 |
| MS6-LFR-...-M | 15.8 |
| Metal bowl | |
| MS4-LFR-...-M | 17.7 |
| MS6-LFR-...-M | 19 |

| Type | L6 |
|---------------------------|------|
| Plastic bowl guard | |
| MS4-LFR-...-H | 22.1 |
| MS6-LFR-...-H | 20.2 |
| Metal bowl | |
| MS4-LFR-...-H | 22.1 |
| MS6-LFR-...-H | 22.8 |

| Type | L6 |
|---------------------------|------|
| Plastic bowl guard | |
| MS4-LFR-...-V | 20.4 |
| MS6-LFR-...-V | 18.5 |
| Metal bowl | |
| MS4-LFR-...-V | 20.4 |
| MS6-LFR-...-V | 22 |

Fully automatic, electrically actuated E1 ... E4

Technical data → Internet: pwea



- 1 Variant E1
PWEA-AP-... with plug M12x1,
5-pin for NEBU-M12...-LE5
- 2 Variant E2/E3/E4
PWEA-AC-... with cable conduit
fitting Pg9
- 3 Connection 360° rotatable for
plastic tubing PUN-H-12x2-...

Filter regulators MS4/MS6-LFR, MS series

Technical data

FESTO

| Ordering data | | | | | | |
|--|------------------|-----------------|--------------------------|-----------------------------------|---------------------------|-----------------------------------|
| Pressure regulation range 0.3 ... 7 bar, integrated pressure gauge, display unit [bar], standard rotary knob with detent, lockable via accessories | | | | | | |
| Size | Condensate drain | Connection | Grade of filtration 5 µm | | Grade of filtration 40 µm | |
| | | | Part No. | Type | Part No. | Type |
| Plastic bowl guard | | | | | | |
| MS4 | Manual rotary | G $\frac{1}{8}$ | 529160 | MS4-LFR- $\frac{1}{8}$ -D6-CRM-AS | 529164 | MS4-LFR- $\frac{1}{8}$ -D6-ERM-AS |
| | | G $\frac{1}{4}$ | 529144 | MS4-LFR- $\frac{1}{4}$ -D6-CRM-AS | 529148 | MS4-LFR- $\frac{1}{4}$ -D6-ERM-AS |
| | Fully automatic | G $\frac{1}{8}$ | 529162 | MS4-LFR- $\frac{1}{8}$ -D6-CRV-AS | 529166 | MS4-LFR- $\frac{1}{8}$ -D6-ERV-AS |
| | | G $\frac{1}{4}$ | 529146 | MS4-LFR- $\frac{1}{4}$ -D6-CRV-AS | 529150 | MS4-LFR- $\frac{1}{4}$ -D6-ERV-AS |
| MS6 | Manual rotary | G $\frac{1}{4}$ | 529196 | MS6-LFR- $\frac{1}{4}$ -D6-CRM-AS | 529200 | MS6-LFR- $\frac{1}{4}$ -D6-ERM-AS |
| | | G $\frac{3}{8}$ | 529216 | MS6-LFR- $\frac{3}{8}$ -D6-CRM-AS | 529220 | MS6-LFR- $\frac{3}{8}$ -D6-ERM-AS |
| | | G $\frac{1}{2}$ | 529176 | MS6-LFR- $\frac{1}{2}$ -D6-CRM-AS | 529180 | MS6-LFR- $\frac{1}{2}$ -D6-ERM-AS |
| | Fully automatic | G $\frac{1}{4}$ | 529198 | MS6-LFR- $\frac{1}{4}$ -D6-CRV-AS | 529202 | MS6-LFR- $\frac{1}{4}$ -D6-ERV-AS |
| | | G $\frac{3}{8}$ | 529218 | MS6-LFR- $\frac{3}{8}$ -D6-CRV-AS | 529222 | MS6-LFR- $\frac{3}{8}$ -D6-ERV-AS |
| | | G $\frac{1}{2}$ | 529178 | MS6-LFR- $\frac{1}{2}$ -D6-CRV-AS | 529182 | MS6-LFR- $\frac{1}{2}$ -D6-ERV-AS |

| Ordering data | | | | | | |
|---|------------------|-----------------|--------------------------|-----------------------------------|---------------------------|-----------------------------------|
| Pressure regulation range 0.5 ... 12 bar, integrated pressure gauge, display unit [bar], standard rotary knob with detent, lockable via accessories | | | | | | |
| Size | Condensate drain | Connection | Grade of filtration 5 µm | | Grade of filtration 40 µm | |
| | | | Part No. | Type | Part No. | Type |
| Plastic bowl guard | | | | | | |
| MS4 | Manual rotary | G $\frac{1}{8}$ | 529168 | MS4-LFR- $\frac{1}{8}$ -D7-CRM-AS | 529172 | MS4-LFR- $\frac{1}{8}$ -D7-ERM-AS |
| | | G $\frac{1}{4}$ | 529152 | MS4-LFR- $\frac{1}{4}$ -D7-CRM-AS | 529156 | MS4-LFR- $\frac{1}{4}$ -D7-ERM-AS |
| | Fully automatic | G $\frac{1}{8}$ | 529170 | MS4-LFR- $\frac{1}{8}$ -D7-CRV-AS | 529174 | MS4-LFR- $\frac{1}{8}$ -D7-ERV-AS |
| | | G $\frac{1}{4}$ | 529154 | MS4-LFR- $\frac{1}{4}$ -D7-CRV-AS | 529158 | MS4-LFR- $\frac{1}{4}$ -D7-ERV-AS |
| MS6 | Manual rotary | G $\frac{1}{4}$ | 529204 | MS6-LFR- $\frac{1}{4}$ -D7-CRM-AS | 529208 | MS6-LFR- $\frac{1}{4}$ -D7-ERM-AS |
| | | G $\frac{3}{8}$ | 529224 | MS6-LFR- $\frac{3}{8}$ -D7-CRM-AS | 529228 | MS6-LFR- $\frac{3}{8}$ -D7-ERM-AS |
| | | G $\frac{1}{2}$ | 529184 | MS6-LFR- $\frac{1}{2}$ -D7-CRM-AS | 529188 | MS6-LFR- $\frac{1}{2}$ -D7-ERM-AS |
| | Fully automatic | G $\frac{1}{4}$ | 529206 | MS6-LFR- $\frac{1}{4}$ -D7-CRV-AS | 529210 | MS6-LFR- $\frac{1}{4}$ -D7-ERV-AS |
| | | G $\frac{3}{8}$ | 529226 | MS6-LFR- $\frac{3}{8}$ -D7-CRV-AS | 529230 | MS6-LFR- $\frac{3}{8}$ -D7-ERV-AS |
| | | G $\frac{1}{2}$ | 529186 | MS6-LFR- $\frac{1}{2}$ -D7-CRV-AS | 529190 | MS6-LFR- $\frac{1}{2}$ -D7-ERV-AS |

| Metal bowl | | | | | | |
|------------|-----------------|-----------------|--------|-----------------------------------|--------|-----------------------------------|
| MS4 | Manual rotary | G $\frac{1}{8}$ | 535702 | MS4-LFR- $\frac{1}{8}$ -D7-CUM-AS | 535708 | MS4-LFR- $\frac{1}{8}$ -D7-EUM-AS |
| | | G $\frac{1}{4}$ | 535718 | MS4-LFR- $\frac{1}{4}$ -D7-CUM-AS | 535724 | MS4-LFR- $\frac{1}{4}$ -D7-EUM-AS |
| | Fully automatic | G $\frac{1}{8}$ | 535704 | MS4-LFR- $\frac{1}{8}$ -D7-CUV-AS | 535706 | MS4-LFR- $\frac{1}{8}$ -D7-EUV-AS |
| | | G $\frac{1}{4}$ | 535720 | MS4-LFR- $\frac{1}{4}$ -D7-CUV-AS | 535722 | MS4-LFR- $\frac{1}{4}$ -D7-EUV-AS |
| MS6 | Manual rotary | G $\frac{1}{4}$ | 530342 | MS6-LFR- $\frac{1}{4}$ -D7-CUM-AS | 529212 | MS6-LFR- $\frac{1}{4}$ -D7-EUM-AS |
| | | G $\frac{3}{8}$ | 530346 | MS6-LFR- $\frac{3}{8}$ -D7-CUM-AS | 529232 | MS6-LFR- $\frac{3}{8}$ -D7-EUM-AS |
| | | G $\frac{1}{2}$ | 530338 | MS6-LFR- $\frac{1}{2}$ -D7-CUM-AS | 529192 | MS6-LFR- $\frac{1}{2}$ -D7-EUM-AS |
| | Fully automatic | G $\frac{1}{4}$ | 530344 | MS6-LFR- $\frac{1}{4}$ -D7-CUV-AS | 529214 | MS6-LFR- $\frac{1}{4}$ -D7-EUV-AS |
| | | G $\frac{3}{8}$ | 530348 | MS6-LFR- $\frac{3}{8}$ -D7-CUV-AS | 529234 | MS6-LFR- $\frac{3}{8}$ -D7-EUV-AS |
| | | G $\frac{1}{2}$ | 530340 | MS6-LFR- $\frac{1}{2}$ -D7-CUV-AS | 529194 | MS6-LFR- $\frac{1}{2}$ -D7-EUV-AS |

| Ordering data – Wearing parts kits | | |
|------------------------------------|----------|---------|
| Size | Part No. | Type |
| MS4 | 673647 | MS4-LFR |
| MS6 | 673648 | MS6-LFR |

New
Variant AD7 ... AD10

Filter regulators MS4/MS6-LFR, MS series

Ordering data – Modular products



| Mandatory data → | | | | | | | | |
|----------------------|--------|--------|----------|---|---------------------------|---------------------|--------|--------------------------|
| Module No. | Series | Size | Function | Connection size | Pressure regulation range | Grade of filtration | Bowl | Condensate drain |
| 526489 526490 | MS | 4 6 | LFR | 1/8, 1/4, 3/8, 1/2, AGA, AGB, AGC, AGD, AGE | D5 D6 D7 D8 | E C | R U | M H V E1 ... E4 |
| Order example | | | | | | | | |
| 526489 | MS | 4 | - LFR | - AGA | - D6 | - C | - R | - M |

| Ordering table | | | | | | | |
|----------------|---------------------------|---------------------------------------|-----------------------|---------------------|------|---------------|--|
| Grid dimension | [mm] | 40 | 62 | Condi- tions | Code | Enter code | |
| M | Module No. | 526489 | | 526490 | | | |
| | Series | Standard | | | MS | MS | |
| | Size | 4 | 6 | | ... | | |
| | Function | Filter regulator | | | -LFR | -LFR | |
| | Connection size | Thread G1/8 | - | | -1/8 | | |
| | | Thread G1/4 | Thread G1/4 | | -1/4 | | |
| | | - | Thread G3/8 | | -3/8 | | |
| | | - | Thread G1/2 | | -1/2 | | |
| | | Connecting plate G1/8 | - | | -AGA | | |
| | | Connecting plate G1/4 | Connecting plate G1/4 | | -AGB | | |
| | | Connecting plate G3/8 | Connecting plate G3/8 | | -AGC | | |
| | | - | Connecting plate G1/2 | | -AGD | | |
| | Pressure regulation range | 0.3 ... 4 bar | | | -D5 | | |
| | | 0.3 ... 7 bar | | | -D6 | | |
| | | 0.5 ... 12 bar | | | -D7 | | |
| | | - | 0.5 ... 16 bar | | -D8 | | |
| | Grade of filtration | 40 µm | | | -E | | |
| | | 5 µm | | | -C | | |
| | Bowl | Plastic bowl with plastic bowl guard | | | -R | | |
| | | Metal bowl | | | -U | | |
| | Condensate drain | Manual | | | -M | | |
| | | Semi-automatic (P1 max. 12 bar) | | 1 | -H | | |
| | | Fully automatic (P1 max. 12 bar) | | 1 | -V | | |
| | | External, fully automatic, electrical | - | 24 V DC, M12 | 2 | -E1 | |
| | | | - | 110 V AC, terminals | 2 | -E2 | |
| | | | - | 230 V AC, terminals | 2 | -E3 | |
| | | | - | 24 V DC, terminals | 2 | -E4 | |

1 H, V Not with pressure regulation range D8

2 E1 ... E4 Only with metal bowl U

Transfer order code

| | | | | | | | | | | | | |
|--|----|--|---|-----|---|--|---|--|---|--|---|--|
| | MS | | - | LFR | - | | - | | - | | - | |
|--|----|--|---|-----|---|--|---|--|---|--|---|--|

Filter regulators MS4/MS6-LFR, MS series

Ordering data – Modular products

FESTO

| Options | | | | | | |
|---|----------------------------------|-------------------|-------------|-------------|------------------------------|----------------------------|
| Pressure gauge alternatives | Alternative pressure gauge scale | Secondary venting | Rotary knob | Security | Type of mounting | Alternative flow direction |
| VS, A8, A4, RG, AD1 ... AD4, AD7 ... AD10 | PSI MPA | OS | LD | AS E11 | WR WP WPM WB WBM | Z |
| - A8 | - | - | - LD | - AS | - WPM | - Z |

| Ordering table | | | | | | | |
|-------------------------------|--|-----|----|-----------------|------|---------------|--|
| Grid dimension | [mm] | 40 | 62 | Condi- tions | Code | Enter code | |
| 0 Pressure gauge alternatives | Cover plate | | | | -VS | | |
| | Adapter plate for EN pressure gauge 1/8, without pressure gauge | | | | -A8 | | |
| | Adapter plate for EN pressure gauge 1/4, without pressure gauge | | | | -A4 | | |
| | Integrated pressure gauge, red-green scale | | | [4] | -RG | | |
| | Pressure sensor with display, plug M8, 1 switching output PNP, 3-pin | | | | [5] | -AD1 | |
| | Pressure sensor with display, plug M8, 1 switching output NPN, 3-pin | | | | [5] | -AD2 | |
| | Pressure sensor with display, plug M12, 1 switching output PNP, 4-pin, analogue output 4 ... 20 mA | | | | [5] | -AD3 | |
| | Pressure sensor with display, plug M12, 1 switching output NPN, 4-pin, analogue output 4 ... 20 mA | | | | [5] | -AD4 | |
| | Pressure sensor without display, plug M8, threshold value comparator, PNP, N/O contact | | | | [5] | -AD7 | |
| | Pressure sensor without display, plug M8, threshold value comparator, PNP, N/C contact | | | | [5] | -AD8 | |
| | Pressure sensor without display, plug M8, window comparator, PNP, N/O contact | | | | [5] | -AD9 | |
| | Pressure sensor without display, plug M8, window comparator, PNP, N/C contact | | | | [5] | -AD10 | |
| | Alternative pressure gauge scale | psi | | | [6] | -PSI | |
| MPa | | | | [6] | -MPA | | |
| Secondary venting | Without secondary venting | | | | -OS | | |
| Rotary knob | Long rotary knob | | | [7] | -LD | | |
| Security | Lockable via accessories | | | | -AS | | |
| | With integrated lock | | | | -E11 | | |
| Type of mounting | Mounting bracket with knurled nut for regulator head | | | [8] | -WR | | |
| | Mounting bracket | | | [9] | -WP | | |
| | Mounting bracket | | | [9] | -WPM | | |
| | Mounting bracket | | | | -WB | | |
| | Mounting bracket | | | | -WBM | | |
| Alternative flow direction | Flow direction from right to left | | | | -Z | | |

[4] **RG** Alternative pressure gauge scale PSI serves only as an auxiliary scale

[5] **AD1 ... AD4, AD7 ... AD10**
Measuring range max. 10 bar
Not with pressure regulation range D8

[6] **PSI, MPA** Not with pressure gauge alternatives VS, A8, A4, AD1 ... AD4, AD7 ... AD10

[7] **LD** Not with security E11

[8] **WR** Not with long rotary knob LD

[9] **WP, WPM** Only with connecting plate AGA, AGB, AGC, AGD or AGE

Transfer order code

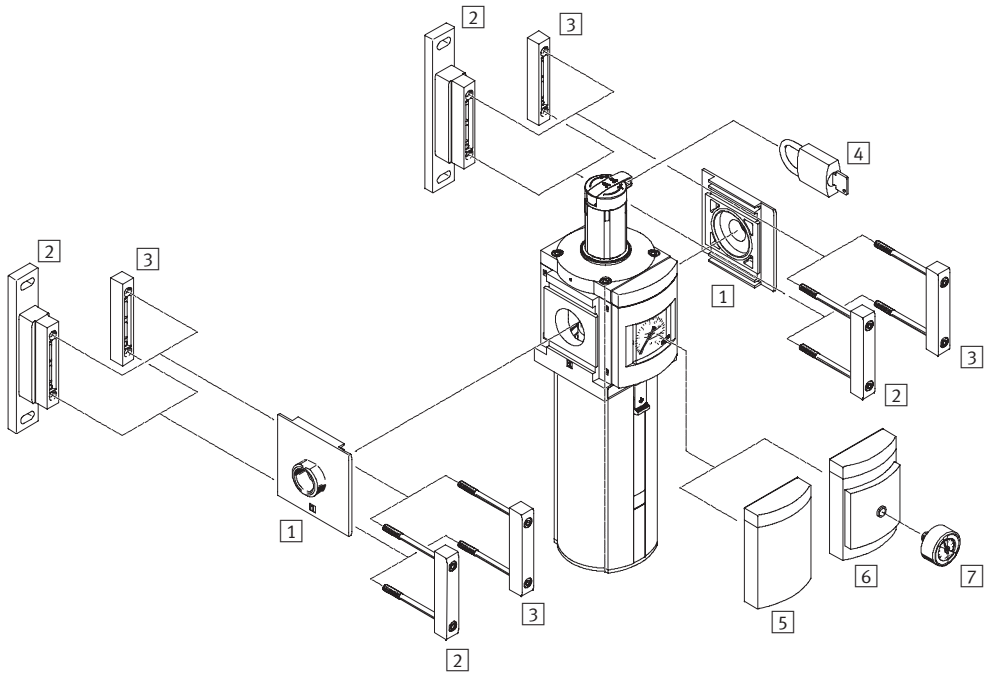
- [] - [] - [] - [] - [] - [] - []

Filter regulators MS12-LFR, MS series

Peripherals overview

FESTO

Filter regulators MS12-LFR



- Note

Additional accessories:

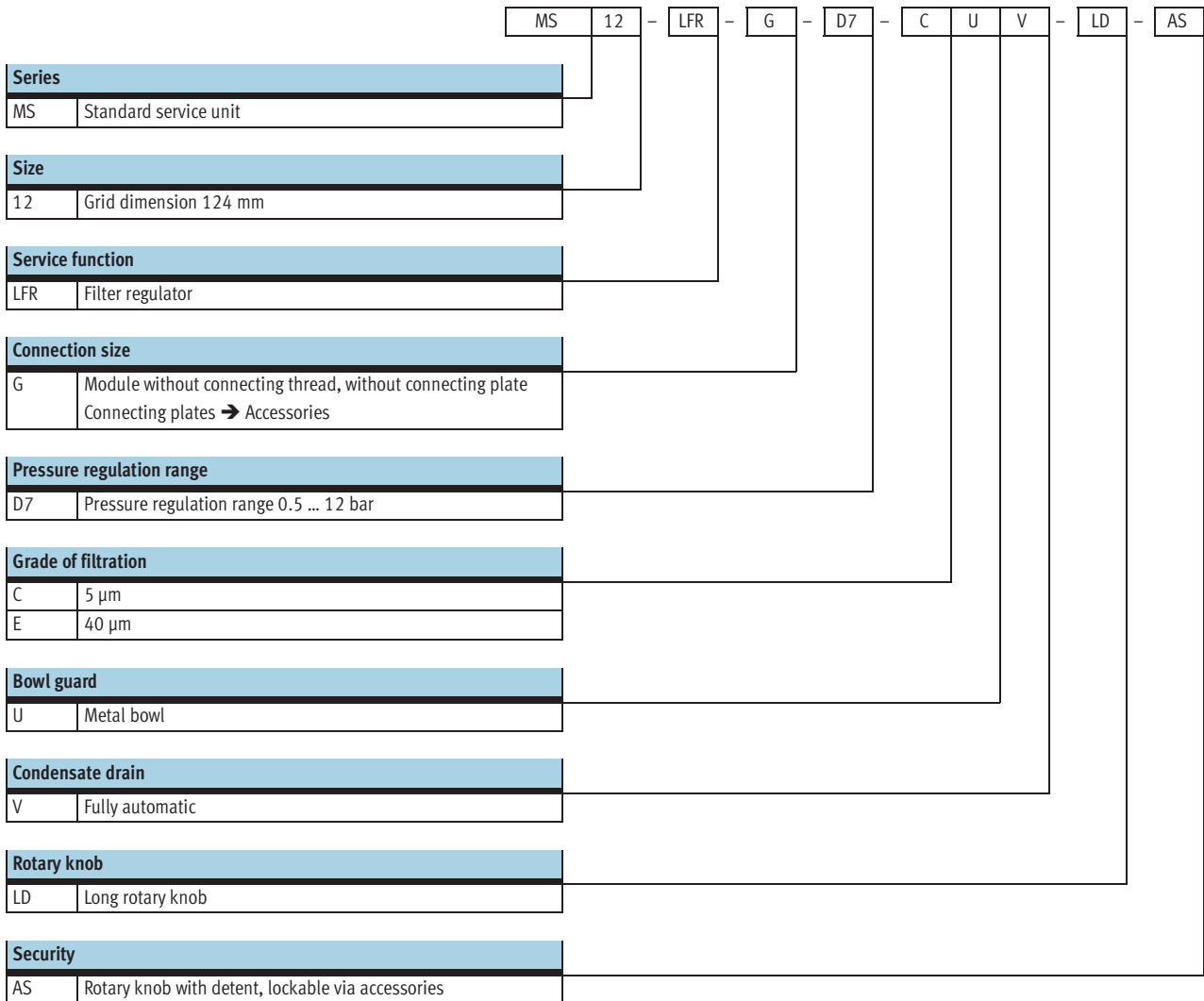
- Module connector for combination with size MS9 → Internet: armv

Mounting attachments and accessories

| | | → Page/Internet |
|---|---|-----------------|
| 1 | Connecting plate MS12-AG... | ms12-ag |
| 2 | Mounting bracket MS12-WP | ms12-wp |
| 3 | Module connector MS12-MV | ms12-mv |
| 4 | Padlock LRVS-D | 34 |
| 5 | Cover plate VS | 32 |
| 6 | Adapter for EN pressure gauge 1/4 A4 | 32 |
| 7 | Pressure gauge MA | 34 |

Filter regulators MS12-LFR, MS series

Type codes



Further variants can be ordered using the modular system → 32

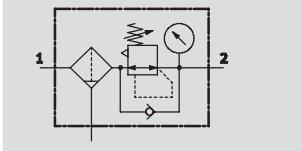
- Connecting plates
- Pressure regulation range
- Condensate drain
- Pressure gauge alternatives
- Alternative pressure gauge scale
- Security
- Type of mounting
- Alternative flow direction

Filter regulators MS12-LFR, MS series

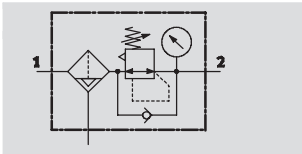
Technical data





FESTO

Function
Condensate drain
manual rotary
with pressure gauge



Condensate drain
fully automatic
with pressure gauge



-  - Flow rate
11,000 ... 17,000 l/min
-  - Temperature range
-10 ... +60 °C
-  - Input pressure
0.8 ... 20 bar
-  - www.festo.com

Wearing parts kits
→ 31



With this device, the filter and pressure regulator are combined into a single unit. The sintered filter with water separator removes contamination, pipe sinter, rust and condensate from the compressed air.

- Good control characteristics with low hysteresis and primary pressure compensation
- Good particle and condensate separation
- High flow rates
- Pilot actuated diaphragm regulator without intrinsic air consumption
- Three pressure regulation ranges: 0.3 ... 7 bar, 0.5 ... 12 bar and 0.5 ... 16 bar
- Pressure gauge connection for different fitting options
- Available with manual, fully automatic or fully automatic, electrically actuated condensate drain
- Regulator lock for protecting the values against adjustment
- Choice of filter cartridges: 5 µm or 40 µm
- New filter cartridges → 34

| General technical data | | G1 | G1¼ | G1½ | G2 |
|---|--|--|------------|-----|----|
| Pneumatic connection 1, 2 ¹⁾ | | | | | |
| Design | | Filter regulator with/without pressure gauge | | | |
| | | Sintered filter with centrifugal separation | | | |
| | | Pilot actuated diaphragm regulator | | | |
| Regulating function | | Output pressure constant, with primary pressure compensation, with secondary venting | | | |
| Type of mounting | | Via accessories | | | |
| | | In-line installation | | | |
| Assembly position | | Vertical ±5° | | | |
| Grade of filtration [µm] | | 5 (air purity class at the output 3.7.- to DIN ISO 8573-1) | | | |
| | | 40 (air purity class at the output 5.7.- to DIN ISO 8573-1) | | | |
| Bowl guard | | Metal bowl | | | |
| Condensate drain | | Manual rotary | | | |
| | | Fully automatic | | | |
| | | Fully automatic, electrical actuated | | | |
| Regulator lock | | Rotary knob with detent | | | |
| | | Rotary knob with detent, lockable via accessories | | | |
| | | Rotary knob with integrated lock | | | |
| Pressure regulation range | | D6 [bar] | 0.3 ... 7 | | |
| | | D7 [bar] | 0.5 ... 12 | | |
| | | D8 [bar] | 0.5 ... 16 | | |
| Max. hysteresis [bar] | | 0.4 | | | |
| Pressure indicator | | With pressure gauge | | | |
| Max. condensate volume [cm ³] | | 400 | | | |

1) Dependent on connecting plate selected, must be ordered separately as an accessory → Internet: ms12-ag
- Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Filter regulators MS12-LFR, MS series

Technical data

FESTO

| Standard nominal flow rate $q_{nN}^{1)}$ [l/min] | | | | |
|--|-------|--------|--------|--------|
| Pneumatic connection | G1 | G1¼ | G1½ | G2 |
| Grade of filtration | 5 µm | 11,000 | 11,500 | 12,000 |
| | 40 µm | 12,000 | 12,500 | 13,000 |
| | | | | 14,000 |
| | | | | 17,000 |

1) Dependent on connecting plate selected, must be ordered separately as an accessory → Internet: ms12-ag
measured at $p_1 = 10$ bar and $p_2 = 6$ bar, $\Delta p = 0.5$ bar

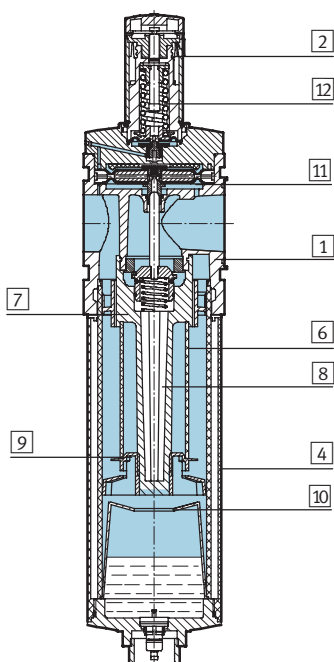
| Operating and environmental conditions | | | |
|--|---|----------------------|---|
| Condensate drain | Manual rotary M | Fully automatic V | Fully automatic, electrical actuated E1 ... E4 |
| Input pressure [bar] | 0.8 ... 20 | 2 ... 12 | 0.8 ... 16 |
| Operating medium | Compressed air, air quality class 5.7.- to DIN ISO 8573-1 | | |
| Ambient temperature [°C] | -10 ... +60 | +5 ... +60 | +1 ... +60 |
| Temperature of medium [°C] | -10 ... +60 | +5 ... +60 | +1 ... +60 |
| Storage temperature [°C] | -10 ... +60 | -10 ... +60 | +1 ... +60 |
| Corrosion resistance CRC ¹⁾ | 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.

| Weights [g] | | |
|--|-----------------------------|--------------------------|
| Rotary knob | Without integrated lock E11 | With integrated lock E11 |
| Filter regulator with metal bowl U | 7,000 | 7,300 |
| Filter regulator with metal bowl U and fully automatic, electrically actuated condensate drain E1 ... E4 | 7,700 | 8,000 |

Materials

Sectional view



| Filter regulator | | |
|------------------|--------------------------------------|-------------------------|
| 1 | Body | Die-cast aluminium |
| 2 | Rotary knob | Polyamide |
| | Rotary knob with integrated lock E11 | Aluminium |
| 4 | Metal bowl | Wrought aluminium alloy |
| 6 | Filter element | Sintered bronze |
| 7 | Spin disc | Polyacetate |
| 8 | Filter holder | Polyacetate |
| 9 | Separating plate | Polyacetate |
| 10 | Stabilising disc | Polyacetate |
| 11 | Diaphragm | Nitrile rubber |
| 12 | Spring | Steel |
| - | Seals | Nitrile rubber |

Filter regulators MS12-LFR, MS series

Technical data

FESTO

Standard flow rate q_n as a function of output pressure p_2

Grade of filtration 40 μm

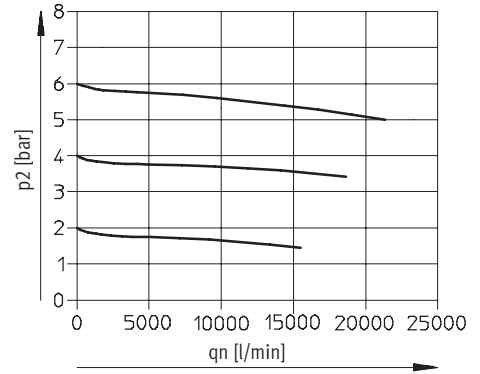
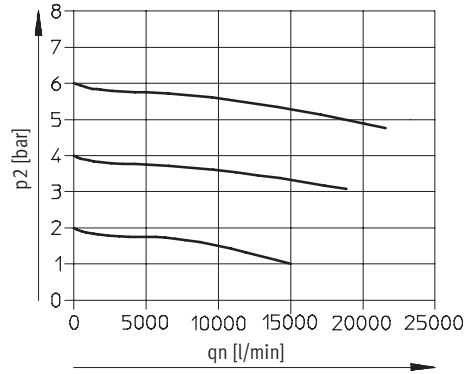
With connecting plate MS12-AGF

Pneumatic connection G1

With connecting plate MS12-AGG

Pneumatic connection G1¼

Primary pressure $p_1 = 10$ bar



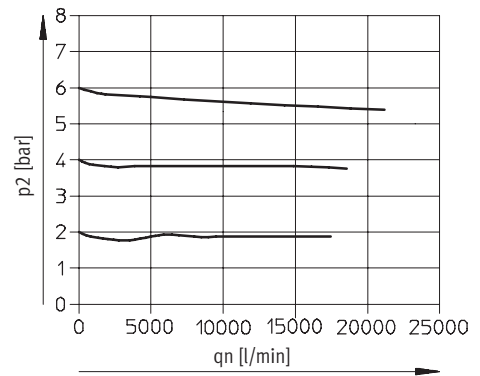
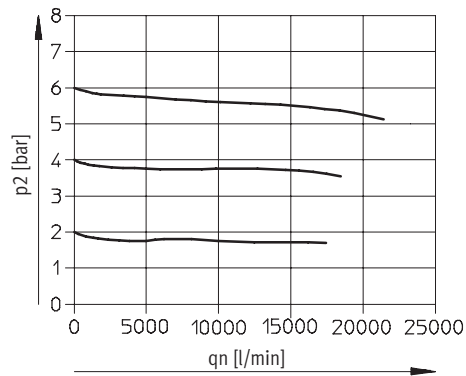
With connecting plate MS12-AGH

Pneumatic connection G1½

With connecting plate MS12-AGI

Pneumatic connection G2

Primary pressure $p_1 = 10$ bar



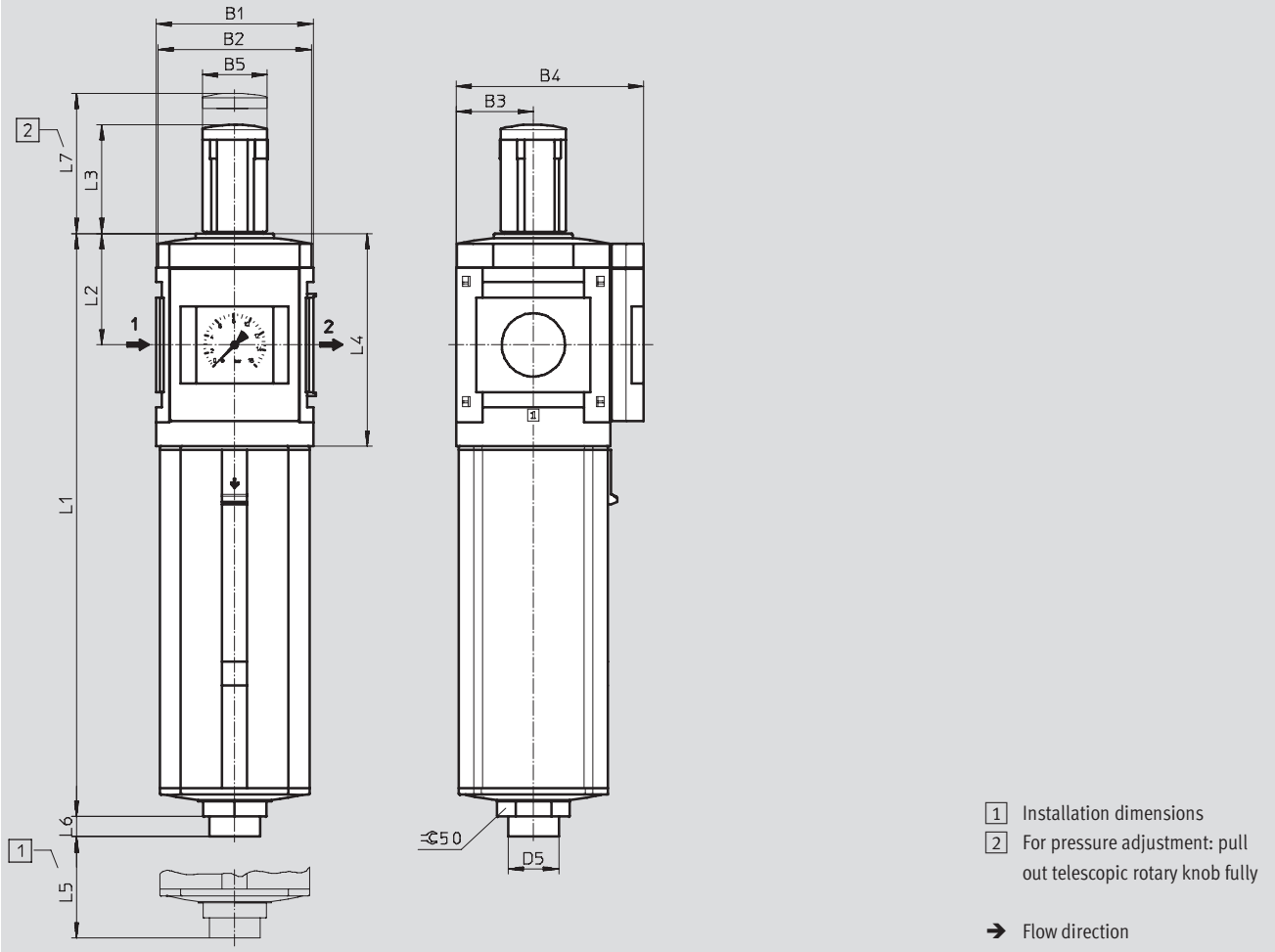
Filter regulators MS12-LFR, MS series

Technical data

Dimensions

Download CAD data → www.festo.com

Integrated pressure gauge, display unit [bar], long rotary knob with detent



| Type | B1 | B2 | B3 | B4 | B5 | D5 ∅ | L1 | L2 | L3 | L4 | L5 | L6 | L7 |
|----------------|-----|-----|----|-----|----|---------|-----|----|----|-----|-----|----|-----|
| MS12-LFR-...LD | 124 | 122 | 61 | 148 | 51 | 40 | 460 | 88 | 86 | 168 | 250 | 16 | 139 |

Filter regulators MS12-LFR, MS series

Technical data

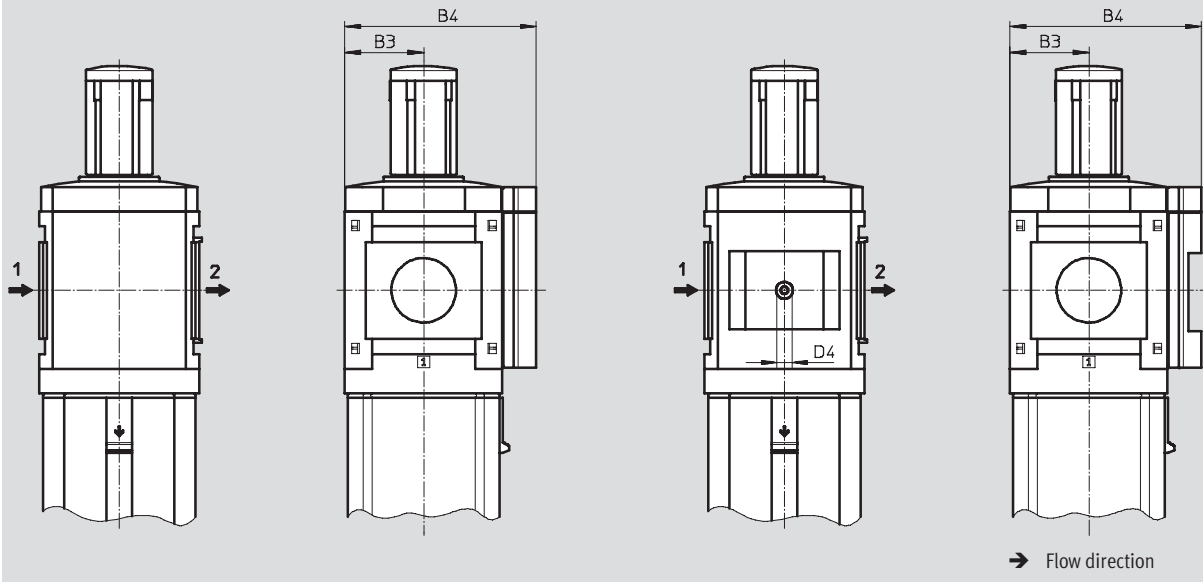
FESTO

Dimensions – Pressure gauge alternatives

Download CAD data → www.festo.com

Cover plate VS

Adapter A4 for EN pressure gauge 1/4, without pressure gauge



| Type | B3 | B4 | D4 |
|-----------------|----|-----|------|
| MS12-LFR-...-VS | 61 | 148 | – |
| MS12-LFR-...-A4 | 61 | 148 | G1/4 |

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

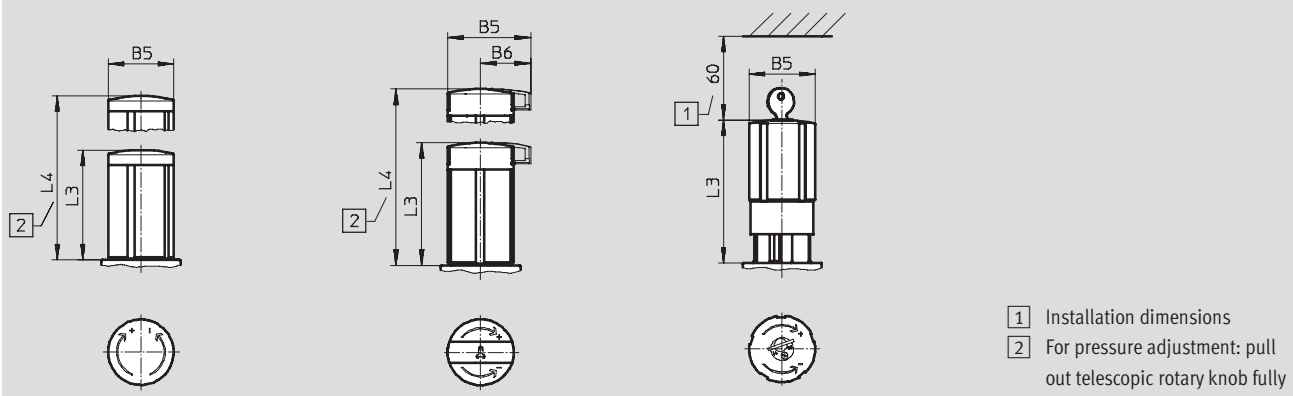
Dimensions – Rotary knob

Download CAD data → www.festo.com

Long rotary knob with detent LD

Long rotary knob with detent, lockable via accessories LD-AS

Rotary knob with integrated lock E11



| Type | B5 | B6 | L3 | L4 |
|--------------------|------|----|------|-------|
| MS12-LFR-...-LD | 51 | – | 86 | 139 |
| MS12-LFR-...-LD-AS | 64.4 | 39 | 95.5 | 148.5 |
| MS12-LFR-...-E11 | 51.8 | – | 112 | – |

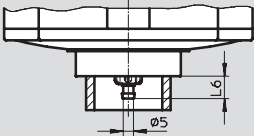
Filter regulators MS12-LFR, MS series

Technical data

FESTO

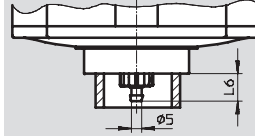
Dimensions – Condensate drain Download CAD data → www.festo.com

Manual rotary M



Barbed fitting for plastic tubing
PCN-4

Fully automatic V

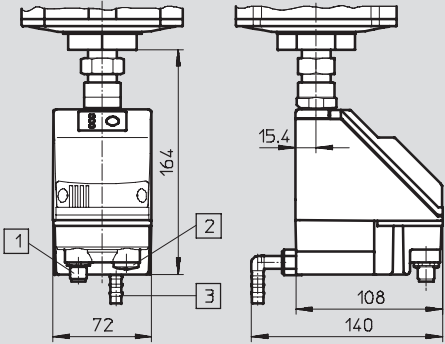


Barbed fitting for plastic tubing
PCN-4

| Type | L6 |
|----------------|----|
| MS12-LFR-...-M | 11 |

| Type | L6 |
|----------------|----|
| MS12-LFR-...-V | 13 |

Fully automatic, electrically actuated E1 ... E4 Technical data → Internet: [pwea](http://pwea.com)



- 1 Variant E1
PWEA-AP-... with M12x1 plug,
5-pin for SIM-M12-5GD-...
- 2 Variant E2/E3/E4
PWEA-AC-... with cable conduit
fitting Pg9
- 3 Connection 360° rotatable for
plastic tubing PUN-H-12x2-...

Ordering data

Pressure regulation range 0.5 ... 12 bar, metal bowl, integrated pressure gauge, display unit [bar], long rotary knob with detent, lockable via accessories

| Size | Condensate drain | Connection | Grade of filtration 5 µm | | Grade of filtration 40 µm | |
|------|------------------|-------------------------|--------------------------|-------------------------|---------------------------|-------------------------|
| | | | Part No. | Type | Part No. | Type |
| MS12 | fully automatic | G1 ... G2 ¹⁾ | 537150 | MS12-LFR-G-D7-CUV-LD-AS | 537149 | MS12-LFR-G-D7-EUV-LD-AS |

1) Connecting plate must be ordered separately as an accessory → Internet: ms12-ag
- | - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Ordering data – Wearing parts kits

| Size | Part No. | Type |
|------|----------|-------------|
| MS12 | 673586 | MS12-LR/LFR |

Filter regulators MS12-LFR, MS series

Ordering data – Modular products

M Mandatory data →

| Module No. | Series | Size | Function | Connection sizes | Pressure regulation range | Grade of filtration | Bowl |
|----------------------|--------|------|----------|-------------------------------|---------------------------|---------------------|------|
| 535022 | MS | 12 | LFR | AGF AGG AGH AGI G | D6 D7 D8 | E C | U |
| Order example | | | | | | | |
| 535022 | MS | 12 | - LFR | - AGF | - D6 | - C | - U |

Ordering table

| Grid dimension | [mm] | 124 | Condi- tions | Code | Enter code |
|---------------------------|--|-----|-----------------|------|---------------|
| M Module No. | 535022 | | | | |
| Series | Standard | | | MS | MS |
| Size | 12 | | | 12 | 12 |
| Function | Filter regulator | | | -LFR | -LFR |
| Connection sizes | Connecting plate G1 | | | -AGF | |
| | Connecting plate G1¼ | | | -AGG | |
| | Connecting plate G1½ | | | -AGH | |
| | Connecting plate G2 | | | -AGI | |
| | Module without connecting thread, without connecting plate | | | -G | |
| Pressure regulation range | 0.3 ... 7 bar | | | -D6 | |
| | 0.5 ... 12 bar | | | -D7 | |
| | 0.5 ... 16 bar | | | -D8 | |
| Grade of filtration | 40 µm | | | -E | |
| | 5 µm | | | -C | |
| ↓ Bowl | Metal bowl | | | -U | -U |

Transfer order code

| | | | | | | | | | | |
|--------|----|----|-------|---|--|---|--|---|--|-----|
| 535022 | MS | 12 | - LFR | - | | - | | - | | - U |
|--------|----|----|-------|---|--|---|--|---|--|-----|

Filter regulators MS12-LFR, MS series

Ordering data – Modular products

| | | | | | | |
|--------------------------------|------------------------------------|---|--------------------|-----------------|-------------------------|-----------------------------------|
| → M | | O Options | | | | |
| Condensate drain | Pressure gauge alternatives | Alternative pressure gauge scale | Rotary knob | Security | Type of mounting | Alternative flow direction |
| M V E1 E2 E3 E4 | VS A4 | PSI MPA | LD | AS E11 | WP | Z |
| - E1 | - | - | - LD | - AS | - WP | - Z |

| Ordering table | | | | | | |
|----------------|----------------------------------|---|-------------------|------|---------------|--|
| Grid dimension | [mm] | 124 | Condi- tions | Code | Enter code | |
| ↓ M | Condensate drain | Manual | | -M | | |
| | | Fully automatic (P1 max. 12 bar) | 1 | -V | | |
| | | External fully automatic condensate drain, electrical, 24 V DC, M12 | | -E1 | | |
| | | External fully automatic condensate drain, electrical, 110 V AC, terminal strip | | -E2 | | |
| | | External fully automatic condensate drain, electrical, 230 V AC, terminal strip | | -E3 | | |
| | | External fully automatic condensate drain, electrical, 24 V DC, terminal strip | | -E4 | | |
| O | Pressure gauge alternatives | Cover plate | | -VS | | |
| | | Adapter plate for EN pressure gauge 1/4, without pressure gauge | | -A4 | | |
| | Alternative pressure gauge scale | psi | 2 | -PSI | | |
| | | MPa | 2 | -MPA | | |
| | Rotary knob | Long rotary knob | 3 4 | -LD | | |
| | Security | Lockable via accessories | | -AS | | |
| | | With integrated lock | 3 | -E11 | | |
| | Type of mounting | Mounting bracket | 5 | -WP | | |
| | Alternative flow direction | Flow direction from right to left | | -Z | | |

- 1 V** Not with pressure regulation range D8
- 2 PSI, MPA** Not with pressure gauge alternatives VS, A4
- 3 LD, E11** Either rotary knob LD or security E11 must be selected
- 4 LD** Not with security E11
- 5 WP** Only with connecting plate AGF, AGG, AGH or AGI

Transfer order code

- - - - - - -

Filter regulators MS-LFR, MS series

Accessories

FESTO

Filter cartridges



| Ordering data | | | | |
|---------------|-----------------------------|----------|------------|--|
| Size | Grade of filtration [µm] | Part No. | Type | |
| MS4 | 5 | 534501 | MS4-LFP-C | |
| | 40 | 534502 | MS4-LFP-E | |
| MS6 | 5 | 534499 | MS6-LFP-C | |
| | 40 | 534500 | MS6-LFP-E | |
| MS12 | 5 | 537143 | MS12-LFP-C | |
| | 40 | 537144 | MS12-LFP-E | |

| Ordering data – Connecting cable NEBU-M8 | | | | Technical data → Internet: nebu | |
|--|-----------------------|-----------------|---------------------|---------------------------------|---------------------|
| | Electrical connection | Number of wires | Cable length [m] | Part No. | Type |
| | M8x1, straight socket | 3 | 2.5 | 541333 | NEBU-M8G3-K-2.5-LE3 |
| | | | 5 | 541334 | NEBU-M8G3-K-5-LE3 |
| | M8x1, angled socket | 3 | 2.5 | 541338 | NEBU-M8W3-K-2.5-LE3 |
| | | | 5 | 541341 | NEBU-M8W3-K-5-LE3 |

| Ordering data – Connecting cable NEBU-M12 | | | | Technical data → Internet: nebu | |
|---|------------------------|-----------------|---------------------|---------------------------------|----------------------|
| | Electrical connection | Number of wires | Cable length [m] | Part No. | Type |
| | M12x1, straight socket | 4 | 2.5 | 550326 | NEBU-M12G5-K-2.5-LE4 |
| | | | 5 | 541328 | NEBU-M12G5-K-5-LE4 |
| | M12x1, angled socket | 4 | 2.5 | 550325 | NEBU-M12W5-K-2.5-LE4 |
| | | | 5 | 541329 | NEBU-M12W5-K-5-LE4 |

| Ordering data – Pressure gauge MA | | | | | | | |
|-----------------------------------|---|----------------------|------------------|-----------|----------|--------------------------------|--|
| | Nominal size | Pneumatic connection | Indicating range | | Part No. | Type | |
| | | | [bar] | [psi] | | | |
| | Pressure gauge MA, DIN EN 837-1 | | | | | Technical data → Internet: ma | |
| | 40 | G $\frac{1}{4}$ | 0 ... 16 | 0 ... 232 | 183901 | MA-40-16-G $\frac{1}{4}$ -EN | |
| | Pressure gauge MA, DIN EN 837-1, with red-green range | | | | | Technical data → Internet: ma | |
| | 40 | R $\frac{1}{8}$ | 0 ... 16 | – | 525726 | MA-40-16-R $\frac{1}{8}$ -E-RG | |
| | 50 | R $\frac{1}{4}$ | 0 ... 16 | – | 525729 | MA-50-16-R $\frac{1}{4}$ -E-RG | |

| Ordering data – Padlock LRVS-D | | | |
|--------------------------------|------------|----------|--------|
| | Weight [g] | Part No. | Type |
| | 120 | 193786 | LRVS-D |