

Water separators MS-LWS, MS series

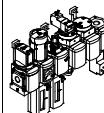
FESTO



Water separators MS-LWS, MS series

Product range overview – MS series service units

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| 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.../AQ... | | D2 | D4 | D5 | D6 | D7 | D8 | A | B | C | E | |
| Service unit combinations | | | | | | | | | | | | | | |
| 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 | - | - | - | ■ | ■ | - | - | - | ■ | ■ |
| | | 9 | - | | | | | | | | | | | |
| | | 12 | - | | | | | | | | | | | |
| Service unit combinations (further variants can be ordered using the configurator → Internet: msb4, msb6 or msb9) | | | | | | | | | | | | | | |
| MSB |  | 4 | G1/4 | G1/8, G1/4, G3/8 | - | - | - | ■ | ■ | - | - | - | ■ | ■ |
| | | 6 | G1/2 | G1/4, G3/8, G1/2, G3/4 | - | - | - | ■ | ■ | - | - | - | ■ | ■ |
| | | 9 | - | | | | | | | | | | | |
| | | 12 | - | | | | | | | | | | | |
| Individual devices | | | | | | | | | | | | | | |
| Filter regulators 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 | - | - | ■ | ■ | ■ | - | - | - | ■ | ■ |
| | | 9 | G3/4, G1 | G1/2, G3/4, G1, G11/4, G11/2 | - | - | ■ | ■ | ■ | ■ | - | - | ■ | ■ |
| | | 12 | - | G1, G11/4, G11/2, G2 | - | - | - | ■ | ■ | ■ | - | - | ■ | ■ |
| Filters 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 | - | - | - | - | - | - | - | - | ■ | ■ |
| | | 9 | G3/4, G1 | G1/2, G3/4, G1, G11/4, G11/2 | - | - | - | - | - | - | - | - | ■ | ■ |
| | | 12 | - | G1, G11/4, G11/2, G2 | - | - | - | - | - | - | - | - | ■ | ■ |
| Fine and micro filters 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 | - | - | - | - | - | - | ■ | ■ | - | - |
| | | 9 | G3/4, G1 | G1/2, G3/4, G1, G11/4, G11/2 | - | - | - | - | - | - | ■ | ■ | - | - |
| | | 12 | - | G1, G11/4, G11/2, G2 | - | - | - | - | - | - | ■ | ■ | - | - |
| Activated carbon filters 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 | - | - | - | - | - | - | - | - | - | - |
| | | 9 | G3/4, G1 | G1/2, G3/4, G1, G11/4, G11/2 | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | G1, G11/4, G11/2, G2 | - | - | - | - | - | - | - | - | - | - |
| Water separators MS-LWS |  | 4 | - | | | | | | | | | | | |
| | | 6 | G1/4, G3/8, G1/2 | G1/4, G3/8, G1/2, G3/4 | - | - | - | - | - | - | - | - | - | - |
| | | 9 | G3/4, G1 | G1/2, G3/4, G1, G11/4, G11/2 | - | - | - | - | - | - | - | - | - | - |
| | | 12 | - | G1, G11/4, G11/2, G2 | - | - | - | - | - | - | - | - | - | - |

Water separators MS-LWS, MS series

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Product range overview – MS series service units

| Type | Size | Bowl guard | | Condensate drains | | | | Pressure indicator | | | | Security | | 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 G ¹ / ₈ | Adapter plate for EN pressure gauge G ¹ / ₄ | Pressure sensor | Rotary knob with detent, lockable via accessories | Rotary knob with integrated lock | Silencer | Flow direction from right to left | | |
| Code | | R | U | M | H | V | E... | VS | AG | A8 | A4 | AD... | AS | E11 | S | Z | | |
| Service unit combinations | | | | | | | | | | | | | | | | | | |
| 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 | ■ | ■ | ■ | ■ | ■ | ■ | – | ■ | ■ | ■ | ■ | ■ | ■ | ■ | – | ■ | ms4-lfr |
| | 6 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | – | ■ | ■ | ■ | ■ | ■ | – | ■ | ms6-lfr |
| | 9 | – | ■ | ■ | ■ | ■ | ■ | ■ | ■ | – | ■ | ■ | ■ | ■ | ■ | – | ■ | ms9-lfr |
| | 12 | – | ■ | ■ | ■ | – | ■ | ■ | ■ | – | ■ | – | ■ | ■ | ■ | – | ■ | ms12-lfr |
| Filters MS-LF | 4 | ■ | ■ | ■ | ■ | ■ | ■ | – | – | – | – | – | – | – | – | – | ■ | ms4-lf |
| | 6 | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | – | – | – | – | – | – | – | ■ | ms6-lf |
| | 9 | – | ■ | ■ | ■ | ■ | ■ | ■ | ■ | – | – | – | – | – | – | – | ■ | ms9-lf |
| | 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 | – | ■ | – | – | ■ | ■ | – | – | – | – | – | – | – | – | – | ■ | 8 |
| | 9 | – | ■ | – | – | ■ | ■ | – | – | – | – | – | – | – | – | – | ■ | 16 |
| | 12 | – | ■ | – | – | – | ■ | ■ | – | – | – | – | – | – | – | – | ■ | 24 |

Water separators MS-LWS, MS series

Product range overview – MS series service units

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| Type | Size | Pneumatic connection in housing | Connecting plate | Pressure regulation range [bar] | | | | | | Supply voltage | | | |
|---|-------------|---------------------------------|------------------|---------------------------------|-------------|----------|----------|-----------|-----------|--|---|---|---|
| | | | | 0.05 ... | 0.05 2.5 | 0.1 4 | 0.3 7 | 0.1 12 | 0.5 16 | 24 VDC, connection pattern to EN 175301. | 24 VDC, connection M12 to IEC 61076-2-101 | 110 VAC, connection pattern to EN 175301. | 230 VAC, connection pattern to EN 175301. |
| Code | AG.../AQ... | | | 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 | G3/4, G1 | G1/2, G3/4, G1, G11/4, G11/2 | - | - | ■ | ■ | ■ | ■ | - | - | - |
| | | 12 | - | G1, G11/4, G11/2, 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 | G3/4, G1 | G1/2, G3/4, G1, G11/4, G11/2 | - | - | - | - | - | - | - | - | - |
| | | 12 | - | G1, G11/4, G11/2, G2 | - | - | - | - | - | - | - | - | - |
| On-off valves, manually actuated 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 | G3/4, G1 | G1/2, G3/4, G1, G11/4, G11/2 | - | - | - | - | - | - | - | - | - |
| | | 12 | - | G1, G11/4, G11/2, G2 | - | - | - | - | - | - | - | - | - |
| On-off valves, electrically actuated 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 | G3/4, G1 | G1/2, G3/4, G1, G11/4, G11/2 | - | - | - | - | - | ■ | ■ | ■ | ■ |
| | | 12 | - | G1, G11/4, G11/2, G2 | - | - | - | - | - | ■ | ■ | ■ | ■ |
| Soft-start valves, pneumatically actuated 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, G11/4, G11/2, G2 | - | - | - | - | - | - | - | - | - |
| Soft-start valves, electrically actuated 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, G11/4, G11/2, G2 | - | - | - | - | - | ■ | ■ | ■ | ■ |

Water separators MS-LWS, MS series

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Product range overview – MS series service units

| Type | Size | Bowl guard | | Pressure indicator | | | | | Security | | 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 G ¹ / ₈ | Adapter plate for EN pressure gauge G ¹ / ₄ | Pressure sensor | Rotary knob with detent, lockable via accessories | Rotary knob with integrated lock | Silencer | Flow direction from right to left | |
| Code | | R | U | VS | AG | A8 | A4 | AD... | AS | E11 | S | Z | |
| Individual devices | | | | | | | | | | | | | |
| Pressure regulators MS-LR | 4 | – | – | ■ | ■ | ■ | ■ | ■ | ■ | ■ | – | ■ | ms4-lr |
| | 6 | – | – | ■ | ■ | – | ■ | ■ | ■ | ■ | – | ■ | ms6-lr |
| | 9 | – | – | ■ | ■ | – | ■ | ■ | ■ | ■ | – | ■ | ms9-lr |
| | 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-lrbp |
| | 9 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 12 | – | – | – | – | – | – | – | – | – | – | – | – |
| Electrical pressure regulators MS-LRE | 4 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 6 | – | – | ■ | ■ | – | ■ | – | – | – | – | ■ | ms6-lre |
| | 9 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 12 | – | – | – | – | – | – | – | – | – | – | – | – |
| Lubricators MS-LOE | 4 | ■ | ■ | – | – | – | – | – | – | – | – | ■ | ms4-loe |
| | 6 | ■ | ■ | – | – | – | – | – | – | – | – | ■ | ms6-loe |
| | 9 | – | ■ | – | – | – | – | – | – | – | – | ■ | ms9-loe |
| | 12 | – | ■ | – | – | – | – | – | – | – | – | ■ | ms12-loe |
| On-off valves, manually actuated MS-EM(1) | 4 | – | – | ■ | ■ | ■ | ■ | ■ | ■ | – | – | ■ | ms4-em1 |
| | 6 | – | – | ■ | ■ | – | ■ | ■ | ■ | – | – | ■ | ms6-em1 |
| | 9 | – | – | ■ | ■ | – | ■ | – | – | – | – | ■ | ms9-em |
| | 12 | – | – | ■ | ■ | – | ■ | – | – | – | – | ■ | ms12-em |
| On-off valves, electrically actuated MS-EE | 4 | – | – | ■ | ■ | ■ | ■ | ■ | ■ | – | – | ■ | ms4-ee |
| | 6 | – | – | ■ | ■ | – | ■ | ■ | ■ | – | – | ■ | ms6-ee |
| | 9 | – | – | ■ | ■ | – | ■ | ■ | ■ | – | – | ■ | ms9-ee |
| | 12 | – | – | ■ | ■ | – | ■ | – | – | – | – | ■ | ms12-ee |
| Soft-start valves, pneumatically actuated MS-DL | 4 | – | – | ■ | ■ | ■ | ■ | ■ | ■ | – | – | ■ | ms4-dl |
| | 6 | – | – | ■ | ■ | – | ■ | ■ | ■ | – | – | ■ | ms6-dl |
| | 9 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 12 | – | – | ■ | ■ | – | ■ | – | – | – | – | ■ | ms12-dl |
| Soft-start valves, electrically actuated MS-DE | 4 | – | – | ■ | ■ | ■ | ■ | ■ | ■ | – | – | ■ | ms4-de |
| | 6 | – | – | ■ | ■ | – | ■ | ■ | ■ | – | – | ■ | ms6-de |
| | 9 | – | – | – | – | – | – | – | – | – | – | – | – |
| | 12 | – | – | ■ | ■ | – | ■ | – | – | – | – | ■ | ms12-de |

Water separators MS-LWS, MS series

Product range overview – MS series service units

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| Type | Size | Pneumatic connection in housing | Connecting plate | Performance Level | | | Supply voltage | | | | | |
|---|---|---------------------------------|------------------|------------------------------|-----------------------|--|-----------------------|--|--|---|---|---|
| | | | | Category 1, 1-channel | Category 3, 2-channel | Category 4, 2-channel with self-monitoring | 24 V DC, Sub-D, 9-pin | 24 V DC, connection pattern to EN 175301 | 24 V DC, connection pattern to IEC 61076-2-101 | 110/230 V AC, connection pattern to EN 175301 | 22 ... 31.6 V DC, connection M12, AS-i Safety at Work | |
| Code | | AG.../AQ... | | C | D | E | 10V24 | 10V24/V24 | 10V24P | V110/V230 | ASIS | |
| Individual devices | | | | | | | | | | | | |
| Soft start and exhaust valves MS-SV-C |  | 4 | – | | | | | | | | | |
| | | 6 | G1/2 | G1/4, G3/8, G1/2, G3/4 | ■ | – | – | – | ■ | ■ | – | – |
| | | 9 | G3/4, G1 | G1/2, G3/4, G1, G11/4, G11/2 | ■ | – | – | – | ■ | ■ | ■ | – |
| | | 12 | – | | | | | | | | | |
| Soft start and exhaust valves MS-SV-D |  | 4 | – | | | | | | | | | |
| | | 6 | G1/2 | G1/4, G3/8, G1/2, G3/4 | – | ■ | – | – | ■ | ■ | – | – |
| | | 9 | – | | | | | | | | | |
| | | 12 | – | | | | | | | | | |
| Soft start and exhaust valves MS-SV-E |  | 4 | – | | | | | | | | | |
| | | 6 | G1/2 | G1/4, G3/8, G1/2, G3/4 | – | – | ■ | ■ | – | – | – | ■ |
| | | 9 | – | | | | | | | | | |
| | | 12 | – | | | | | | | | | |
| 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 | G3/4, G1 | G1/2, G3/4, G1, G11/4, G11/2 | – | – | – | – | – | – | – | – |
| | | 12 | – | G1, G11/4, G11/2, G2 | – | – | – | – | – | – | – | – |
| Distributor blocks MS-FRM-FRZ |  | 4 | G1/4 | – | – | – | – | – | – | – | – | – |
| | | 6 | G1/2 | – | – | – | – | – | – | – | – | – |
| | | 9 | – | | | | | | | | | |
| | | 12 | – | | | | | | | | | |
| Flow sensors SFAM |  | 4 | – | | | | | | | | | |
| | | 6 | G1/2 | G1/2 | – | – | – | – | – | – | – | – |
| | | 9 | – | G1, G11/2 | – | – | – | – | – | – | – | – |
| | | 12 | – | | | | | | | | | |

Water separators MS-LWS, MS series

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Product range overview – MS series service units

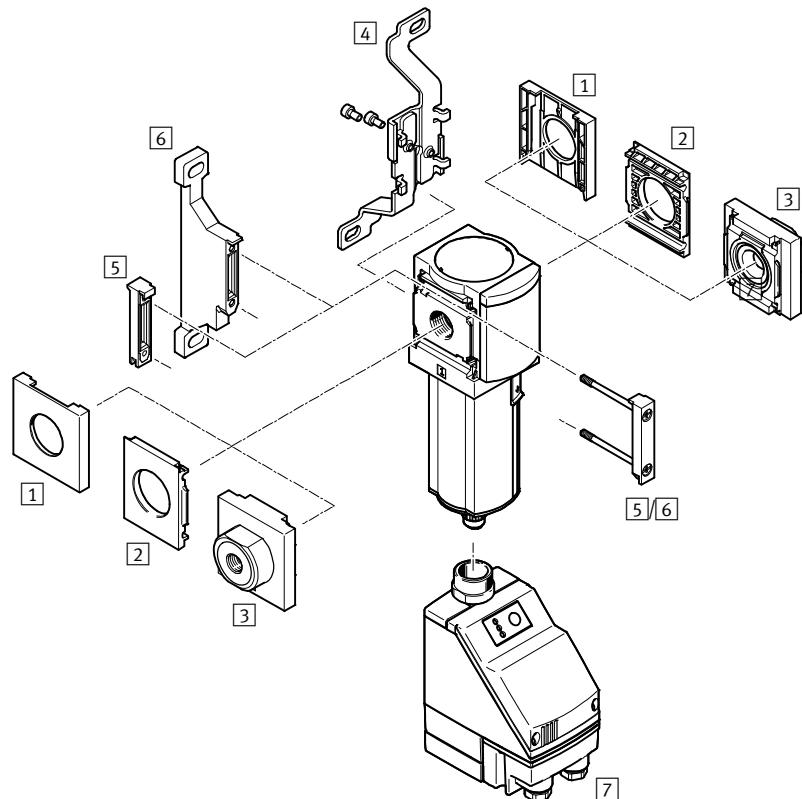
| Type | Size | Bowl guard | | Pressure indicator | | | | | Switch output | | Options | | ➔ Page/ Internet |
|---------------------------|------|---|------------|---|------------------------------|--|--|-----------------|---|--|----------|------------------------------------|---------------------|
| | | Plastic bowl with plastic bowl guard | Metal bowl | Cover plate (without pressure gauge) | Integrated MS pressure gauge | Adapter plate for EN pressure gauge G ¹ / ₈ | Adapter plate for EN pressure gauge G ¹ / ₄ | Pressure sensor | 2x PNP or NPN, 1 analogue output 4 ... 20 mA | 2x PNP or NPN, 1 analogue output 0 ... 10 V | Silencer | Flow direction from right to left: | |
| Code | | R | U | VS | AG | A8 | A4 | AD... | 2SA | 2SV | S | Z/R | |
| Individual devices | | | | | | | | | | | | | |
| MS-SV-C | 4 | – | | | | | | | | | | | – |
| | 6 | – | – | ■ | ■ | – | ■ | ■ | – | – | ■ | ■ | ms6-sv |
| | 9 | – | – | ■ | ■ | – | ■ | ■ | – | – | ■ | ■ | ms9-sv |
| | 12 | – | | | | | | | | | | | – |
| MS-SV-D | 4 | – | | | | | | | | | | | – |
| | 6 | – | – | ■ | ■ | – | ■ | ■ | – | – | ■ | ■ | ms6-sv |
| | 9 | – | | | | | | | | | | | – |
| | 12 | – | | | | | | | | | | | – |
| MS-SV-E | 4 | – | | | | | | | | | | | – |
| | 6 | – | – | ■ | ■ | – | ■ | ■ | – | – | ■ | ■ | ms6-sv |
| | 9 | – | | | | | | | | | | | – |
| | 12 | – | | | | | | | | | | | – |
| MS-LDM1 | 4 | – | ■ | – | – | – | – | – | – | – | ■ | | ms4-ldm1 |
| | 6 | – | ■ | – | – | – | – | – | – | – | ■ | | ms6-ldm1 |
| | 9 | – | | | | | | | | | | | – |
| | 12 | – | | | | | | | | | | | – |
| MS-FRM | 4 | – | – | ■ | ■ | ■ | ■ | ■ | – | – | ■ | | ms4-frm |
| | 6 | – | – | ■ | ■ | – | ■ | ■ | – | – | ■ | | ms6-frm |
| | 9 | – | – | ■ | ■ | – | ■ | ■ | – | – | ■ | | ms9-frm |
| | 12 | – | – | ■ | – | – | – | – | – | – | – | | ms12-frm |
| MS-FRM-FRZ | 4 | – | – | – | – | – | – | – | – | – | ■ | | ms4-frm |
| | 6 | – | – | – | – | – | – | – | – | – | ■ | | ms6-frm |
| | 9 | – | | | | | | | | | | | – |
| | 12 | – | | | | | | | | | | | – |
| SFAM | 4 | – | | | | | | | | | | | – |
| | 6 | – | – | – | – | – | – | – | ■ | ■ | – | ■ | sfam-62 |
| | 9 | – | – | – | – | – | – | – | ■ | ■ | – | ■ | sfam-90 |
| | 12 | – | | | | | | | | | | | – |

Water separators MS6-LWS, MS series

Peripherals overview

FESTO

Water separator MS6-LWS



- - Note

Additional accessories:

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

Mounting attachments and accessories

| | Individual device | | Combination | | ➔ Page/Internet |
|---|--------------------------|-----------------------|--------------------------|-----------------------|-----------------|
| | Without connecting plate | With connecting plate | Without connecting plate | With connecting plate | |
| [1] Cover cap MS6-END | ■ | - | ■ | - | ms6-end |
| [2] Mounting plate MS6-AEND | ■ ¹⁾ | - | ■ ¹⁾ | - | ms6-aend |
| [3] Connecting plate-SET MS6-AG... Connecting plate-SET MS6-AQ... | - | ■ ¹⁾ | - | ■ ¹⁾ | ms6-ag |
| [4] Mounting bracket MS6-WB | ■ | ■ | - | - | ms6-wb |
| [5] Module connector MS6-MV | - | ■ | ■ | ■ | ms6-mv |
| [6] Mounting bracket MS6-WP Mounting bracket (not illustrated) MS6-WPB/WPE/WPM | ■ | ■ | ■ | ■ | ms6-wp |
| [7] Fully automatic, electrically actuated condensate drain E2/E3/E4 | ■ | ■ | ■ | ■ | 15 |

1) Module connector MS6-MV [5] or mounting bracket MS6-WP/WPB/WPE/WPM [6] is required for mounting.

Water separators MS6-LWS, MS series

FESTO

Type codes

| | | | | | | | | | |
|-----------------------------|--------------------------|---|-----|---|-----|---|---|---|---|
| MS | 6 | - | LWS | - | 1/4 | - | U | - | V |
| Series | | | | | | | | | |
| MS | Standard service unit | | | | | | | | |
| Size | | | | | | | | | |
| 6 | Grid dimension 62 mm | | | | | | | | |
| Service function | | | | | | | | | |
| LWS | Water separator | | | | | | | | |
| Pneumatic connection | | | | | | | | | |
| 1/4 | Female thread G1/4 | | | | | | | | |
| 3/8 | Female thread G3/8 | | | | | | | | |
| 1/2 | Female thread G1/2 | | | | | | | | |
| Bowl guard | | | | | | | | | |
| U | Integrated as metal bowl | | | | | | | | |
| Condensate drain | | | | | | | | | |
| V | Fully automatic | | | | | | | | |

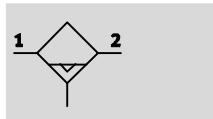
Further variants can be ordered using the modular system → 15

- Pneumatic connection
- Condensate drain
- Type of mounting
- EU certification
- UL certification
- Flow direction

Water separators MS6-LWS, MS series

Technical data

Condensate drain,
fully automatic



- - Flow rate
2,400 ... 3,800 l/min
- - Temperature range
+1 ... +60 °C
- - Operating pressure
0.8 ... 16 bar
- - www.festo.com



The maintenance-free water separator removes condensate from the compressed air.

- Constantly high condensate separation (99%) up to the maximum flow rate
- Metal bowl
- Available with fully automatic or fully automatic, electrically actuated condensate drain
- Optional device variant EX4 for use in potentially explosive areas in zones 1, 2, 21 and 22

| General technical data | |
|-------------------------------------|--|
| Size | MS6 |
| Pneumatic connection 1, 2 | |
| Female thread | G1/4, G3/8 or G1/2 |
| Connecting plate AG... | G1/4, G3/8, G1/2 or G3/4 |
| Connecting plate AQ... | NPT1/4, NPT3/8, NPT1/2 or NPT3/4 |
| Constructional design | Centrifugal separator |
| Type of mounting | Via accessories In-line installation |
| Mounting position | Vertical ±5° |
| Air purity class at the output | Compressed air in accordance with ISO 8573-1:2010 [7:7:4] (with variant E2, E3 or E4: [-:7:4]) |
| Bowl guard | Integrated as metal bowl |
| Condensate drain | Fully automatic Fully automatic, electrically actuated |
| Degree of condensate separation [%] | 99 |
| Max. condensate volume [ml] | 38 |

Note: This product conforms to ISO 1179-1 and to ISO 228-1

| Standard nominal flow rate qnN ¹⁾ | | | |
|--|-------------|-------------|-------------|
| Size | MS6 | G3/8/NPT3/8 | G1/2/NPT1/2 |
| Pneumatic connection | G1/4/NPT1/4 | | |
| qnN | [l/min] | 2,400 | 3,500 |
| | | | 3,800 |

1) Measured at p1 = 6 bar and Δp = 1 bar

Water separators MS6-LWS, MS series

FESTO

Technical data

| Operating and environmental conditions | | |
|--|---|--|
| Condensate drain | Fully automatic V | Fully automatic, electrical E2/E3/E4 |
| Size | MS6 | MS6 |
| Operating pressure [bar] | 2 ... 12 (2 ... 10) ¹⁾ | 0.8 ... 16 (0.8 ... 10) ¹⁾ |
| Operating medium | Compressed air in accordance with ISO 8573-1:2010 [7:-:-] Inert gases | Compressed air in accordance with ISO 8573-1:2010 [-:-:-] |
| Ambient temperature [°C] | +5 ... +60 | +1 ... +60 |
| Temperature of medium [°C] | +5 ... +60 | +1 ... +60 |
| Storage temperature [°C] | -10 ... +60 | +1 ... +60 |
| Corrosion resistance class CRC ²⁾ | 2 | |
| UL certification | cULus recognized (OL) | |

1) Value in brackets applies to MS6-LWS with UL certification.

2) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

ATEX

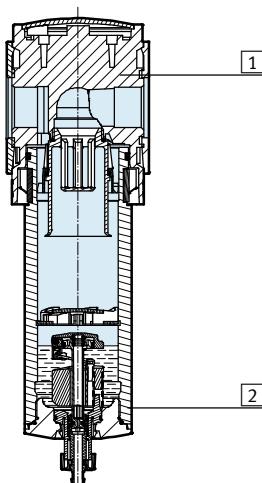
| | |
|---|---|
| EU certification | EX4 |
| ATEX category gas | II 2G |
| Ex-ignition protection type gas | c T6 X |
| ATEX category dust | II 2D |
| Ex-ignition protection type dust | c 60 °C X |
| ATEX ambient temperature | +5 °C ≤ Ta ≤ +60 °C |
| CE mark (see declaration of conformity) | To EU Explosion Protection Directive (ATEX) |

Weight [g]

| | |
|---|-------|
| Size | MS6 |
| Water separator | 820 |
| Water separator with fully automatic, electrically actuated condensate drain E2/E3/E4 | 1,800 |

Materials

Sectional view



Water separator

| | |
|-------------------|---|
| [1] Housing | Die-cast aluminium |
| [2] Bowl | Wrought aluminium alloy |
| Inspection window | PA |
| - Seals | NBR |
| Note on materials | RoHS-compliant (not with variant E2, E3 or E4) Free of copper and PTFE |

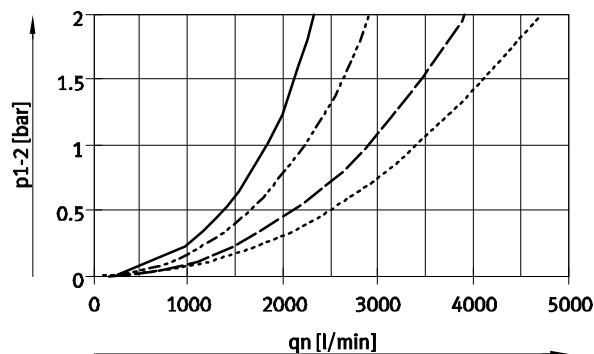
Water separators MS6-LWS, MS series

Technical data

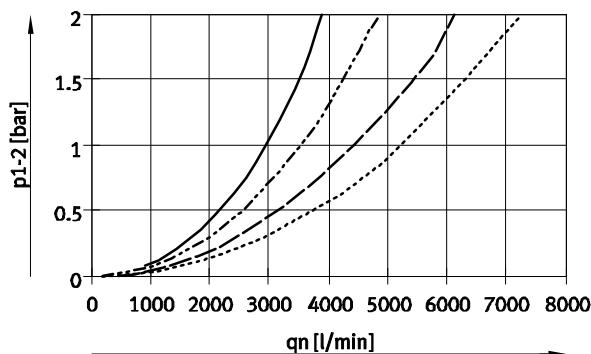
FESTO

Standard flow rate q_n as a function of differential pressure p_{1-2}

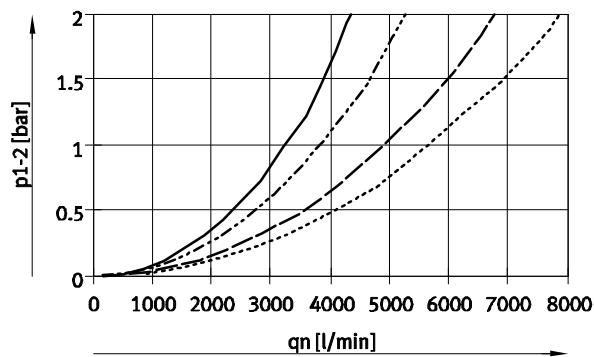
Pneumatic connection G $1\frac{1}{4}$ /NPT $1\frac{1}{4}$



Pneumatic connection G $3\frac{1}{8}$ /NPT $3\frac{1}{8}$



Pneumatic connection G $1\frac{1}{2}$ /NPT $1\frac{1}{2}$



- 4 bar
- - - 6 bar
- · - 10 bar
- · - - 14 bar

Water separators MS6-LWS, MS series

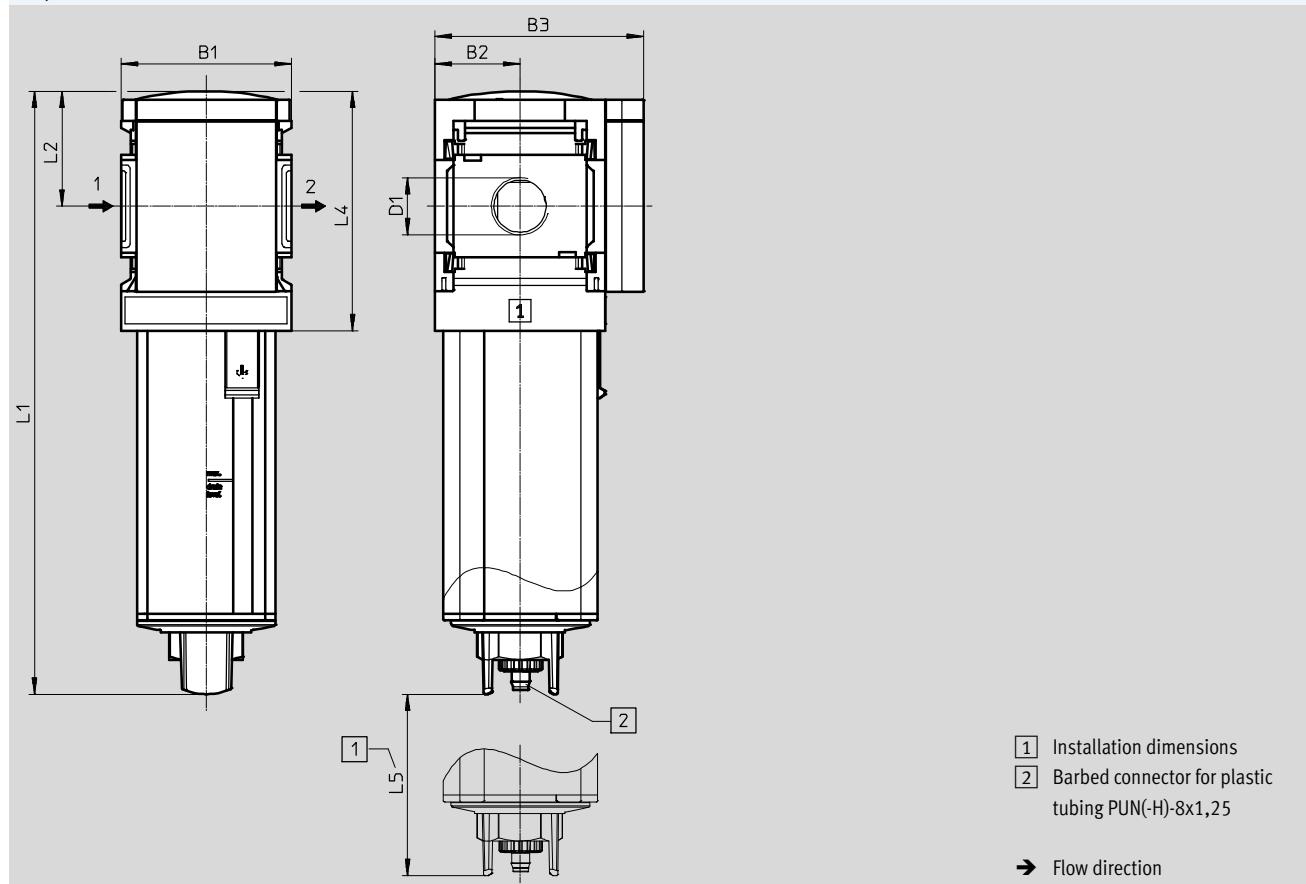
FESTO

Technical data

Dimensions – Basic version

Fully automatic condensate drain V

Download CAD data ➔ www.festo.com



| Type | B1 | B2 | B3 | D1 | L1 | L2 | L4 | L5 |
|-------------------|----|----|----|-------------------|-----|----|----|----|
| MS6-LWS-1/4-...-V | | | | G ₁ /4 | | | | |
| MS6-LWS-3/8-...-V | 62 | 31 | 76 | G ₃ /8 | 220 | 42 | 88 | 64 |
| MS6-LWS-1/2-...-V | | | | G ₁ /2 | | | | |

• Note: This product conforms to ISO 1179-1 and to ISO 228-1

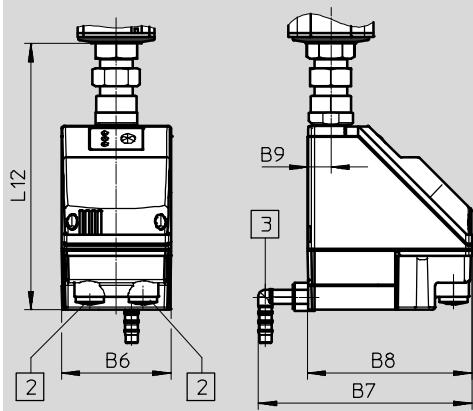
Water separators MS6-LWS, MS series

Technical data

FESTO

Dimensions – Condensate drain

Fully automatic, electrically actuated E2/E3/E4



Download CAD data ➔ www.festo.com

Technical data ➔ Internet: pwea

Condensate drain PWEA:

- [2] Electrical connection: Screw terminal PG9
- [3] Connection 360° rotatable for plastic tubing PUN-H-12x2

| Type | B6 | B7 | B8 | B9 | L12 |
|-----------------------|----|-----|-----|----|-------|
| MS6-LWS-....-E2/E3/E4 | 72 | 140 | 108 | 15 | 174.5 |

Ordering data

Size | Condensate drain | Connection | Part No. | Type

Integrated as metal bowl

| | | | | |
|-----|-----------------|------|---------------|------------------------|
| MS6 | Fully automatic | G1/4 | 564868 | MS6-LWS-1/4-U-V |
| | | G3/8 | 564869 | MS6-LWS-3/8-U-V |
| | | G1/2 | 564870 | MS6-LWS-1/2-U-V |

Water separators MS6-LWS, MS series

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Ordering data – Modular products

| Ordering table | | | Condi- | Code | Enter |
|--|---|---------|--------|-------------|-------|
| Grid dimension | [mm] | 62 | tions | | code |
| M Module No. | 564858 | | | | |
| Series | Standard | | | MS | MS |
| Size | 6 | | | 6 | 6 |
| Function | Water separator | | | -LWS | -LWS |
| Pneumatic connection | | | | | |
| Female thread G ¹ / ₄ | | [1] | | -1/4 | |
| Female thread G ³ / ₈ | | [1] | | -3/8 | |
| Female thread G ¹ / ₂ | | [1] | | -1/2 | |
| Connecting plate G ¹ / ₄ | | | | -AGB | |
| Connecting plate G ³ / ₈ | | | | -AGC | |
| Connecting plate G ¹ / ₂ | | | | -AGD | |
| Connecting plate G ³ / ₄ | | | | -AGE | |
| Connecting plate NPT ¹ / ₄ | | [1] | | -AQN | |
| Connecting plate NPT ³ / ₈ | | [1] | | -AQP | |
| Connecting plate NPT ¹ / ₂ | | [1] | | -AQR | |
| Connecting plate NPT ³ / ₄ | | [1] | | -AQS | |
| Bowl guard | Metal bowl | | | -U | -U |
| Condensate drain | Fully automatic (P1 max. 12 bar) | | | -V | |
| External, fully automatic, electric | 110 V AC, terminals (P1 max. 16 bar) | [1] | | -E2 | |
| | 230 V AC, terminals (P1 max. 16 bar) | [1] | | -E3 | |
| | 24 V DC, terminals (P1 max. 16 bar) | [1] | | -E4 | |
| O Type of mounting | | | | | |
| | Mounting bracket standard design | [2] | | -WP | |
| | Mounting bracket for attaching the service units | [1] [2] | | -WPM | |
| | Mounting bracket centrally at rear (wall mounting top and bottom), connecting plates not required | | | -WB | |
| EU certification | II 2GD to EU Explosion Protection Directive (ATEX) | | | -EX4 | |
| UL certification | cULus, ordinary location for Canada and USA | | | -UL1 | |
| Flow direction | Flow direction from right to left | | | -Z | |

[1] 1/4, 3/8, 1/2, AQN, AQP, AQR, E2, E3, E4, WPM

Not with EU certification EX4

[2] **WP, WPM** Only with connecting plate AGB, AGC, AGD, AGE, AQN, AQP, AQR or AQS.

M Mandatory data

O Options

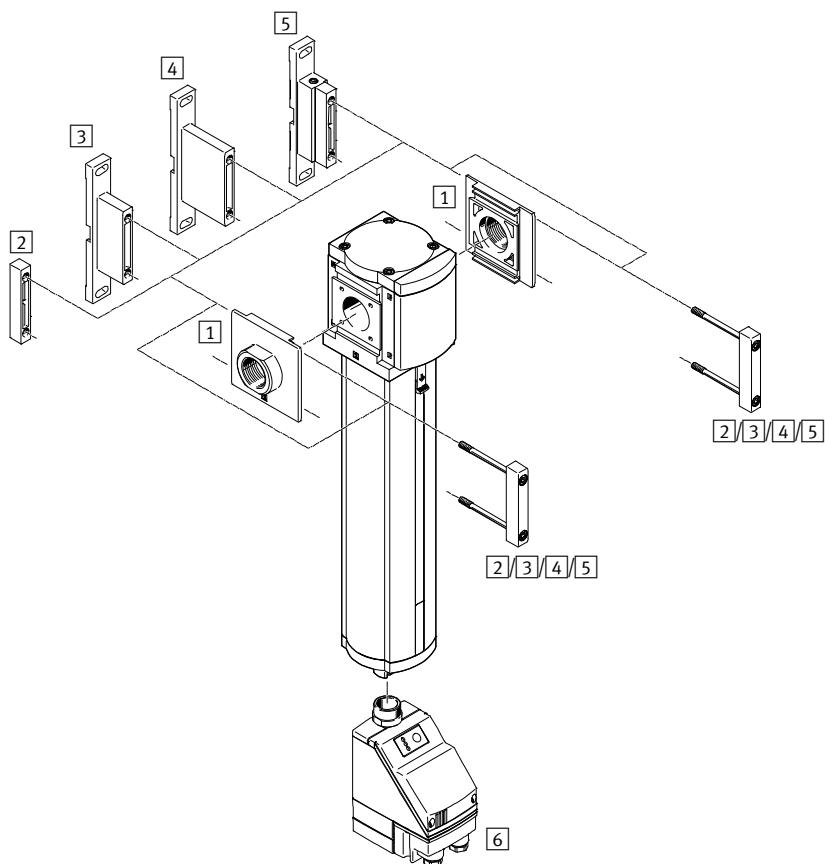
Transfer order code

564858 **MS** 6 - LWS - - - - - - - -

Water separators MS9-LWS, MS series

Peripherals overview

FESTO



- - Note

Additional accessories:

- Module connector for combinations with size MS6, MS9 or MS12
- ➔ Internet: rmv, armv

Mounting attachments and accessories

| | Individual device | | | Combination | ➔ Page/ Internet | |
|-----|--|-----------------------------------|------------------------------|--|---------------------|--|
| | With female thread | With connecting plate AG.../AQ... | | Module without connect- ing thread, without connecting plate G | | |
| | | Without EU certification EX4 | With EU certification EX4 | | | |
| [1] | Connecting plate-SET MS9-AG... | - | ■ | ■ | ■ | |
| | Connecting plate-SET MS9-AQ... | - | ■ | - | ■ | |
| [2] | Module connector MS9-MV | - | - | - | ■ | |
| [3] | Mounting bracket MS9-WP | ■ | ■ | ■ | ■ | |
| [4] | Mounting bracket MS9-WPB | ■ | ■ | ■ | ■ | |
| [5] | Mounting bracket MS9-WPM | ■ | ■ | - | ■ | |
| [6] | Condensate drain, fully automatic, electrically actuated E2/E3/E4 | ■ | ■ | - | ■ | |
| | | | | | 23 | |

Water separators MS9-LWS, MS series

FESTO

Type codes

| | | | | | |
|-----------------------------|--|-----|---|---|---|
| MS | 9 | LWS | G | U | V |
| Series | | | | | |
| MS | Standard service unit | | | | |
| Size | | | | | |
| 9 | Grid dimension 90 mm | | | | |
| Service function | | | | | |
| LWS | Water separator | | | | |
| Pneumatic connection | | | | | |
| G | Module without connecting thread, without connecting plate | | | | |
| Bowl guard | | | | | |
| U | Integrated as metal bowl | | | | |
| Condensate drain | | | | | |
| V | Fully automatic | | | | |

Additional variants can be ordered using the modular product system → 23

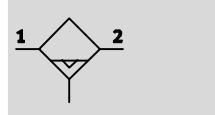
- Pneumatic connection
- Condensate drain
- Type of mounting
- EU certification
- UL certification
- Flow direction

Water separators MS9-LWS, MS series

Technical data

FESTO

Condensate drain,
fully automatic



- - Flow rate
12,000 ... 15,000 l/min
- - Temperature range
+1 ... +60 °C
- - Operating pressure
0.8 ... 16 bar



The water separator removes
condensate from the compressed air.

- Constantly high condensate separation (99%) up to the maximum flow rate
- Metal bowl
- Available with fully automatic or fully automatic, electrically actuated condensate drain
- Optional device variant EX4 for use in potentially explosive areas in zones 1, 2, 21 and 22

| General technical data | |
|--|--|
| Size | MS9 |
| Pneumatic connection 1, 2 | |
| Female thread | G $\frac{3}{4}$, G1, NPT $\frac{3}{4}$ or NPT1 |
| Connecting plate AG... | G $\frac{1}{2}$, G $\frac{3}{4}$, G1, G $\frac{1}{4}$ or G $\frac{1}{2}$ |
| Connecting plate AQ... | NPT $\frac{1}{2}$, NPT $\frac{3}{4}$, NPT1, NPT $\frac{1}{4}$ or NPT $\frac{1}{2}$ |
| Module without connecting thread/plate G | – |
| Design | Centrifugal separator |
| Type of mounting | Via accessories |
| | In-line installation |
| Mounting position | Vertical $\pm 5^\circ$ |
| Air purity class at the output | Compressed air in accordance with ISO 8573-1:2010 [-:7:4] |
| Bowl guard | Integrated as metal bowl |
| Condensate drain | Fully automatic |
| | Fully automatic, electrically actuated |
| Degree of condensate separation [%] | 99 |
| Max. condensate volume [ml] | 220 |

Note: This product conforms to ISO 1179-1 and to ISO 228-1

| Standard nominal flow rate qnN ¹⁾ [l/min] | | | |
|--|------------------------------------|-------------------|--|
| Pneumatic connection | G $\frac{3}{4}$ /NPT $\frac{3}{4}$ | G1/NPT1 | Module without connecting thread, without connecting plate G |
| qnN | [l/min] | 12,000 $\pm 15\%$ | 15,000 $\pm 15\%$ |

1) Measured at p₁ = 6 bar and Δp = 1 bar

Water separators MS9-LWS, MS series

FESTO

Technical data

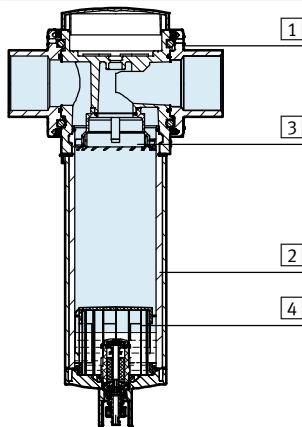
| Operating and environmental conditions | | |
|--|---|--|
| Condensate drain | Fully automatic V | Fully automatic, electrically actuated E2/E3/E4 |
| Operating pressure [bar] | 2 ... 12 | 0.8 ... 16 |
| Operating medium | Compressed air in accordance with ISO 8573-1:2010 [-:-:-] | |
| Ambient temperature [°C] | +5 ... +60 | +1 ... +60 |
| Temperature of medium [°C] | +5 ... +60 | +1 ... +60 |
| Storage temperature [°C] | +5 ... +60 | +1 ... +60 |
| Corrosion resistance class CRC ¹⁾ | 2 | |
| Certification (variant UL1) | cULus recognized (OL) | |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

| ATEX | |
|---|---|
| EU certification | EX4 |
| ATEX category gas | II 2G |
| Ex-ignition protection type gas | c T6 X |
| ATEX category dust | II 2D |
| Ex-ignition protection type dust | c 60 °C X |
| ATEX ambient temperature | +5 °C ≤ Ta ≤ +60 °C |
| CE mark (see declaration of conformity) | To EU Explosion Protection Directive (ATEX) |

| Weight [g] | |
|--|-------|
| Water separator | 2,000 |
| Water separator with condensate drain, fully automatic, electrically actuated E2/E3/E4 | 2,400 |

| Materials | |
|---|--|
| Sectional view | |
|  | Water separator |
| [1] | Housing |
| [2] | Bowl |
| [3] | Inspection window |
| [4] | Spin disc |
| – | Isolating disc |
| – | Cover |
| – | Connecting plate, module connector, mounting bracket |
| – | Seals |
| Note on materials | |
| RoHS-compliant (not with variant E2, E3 or E4) | |

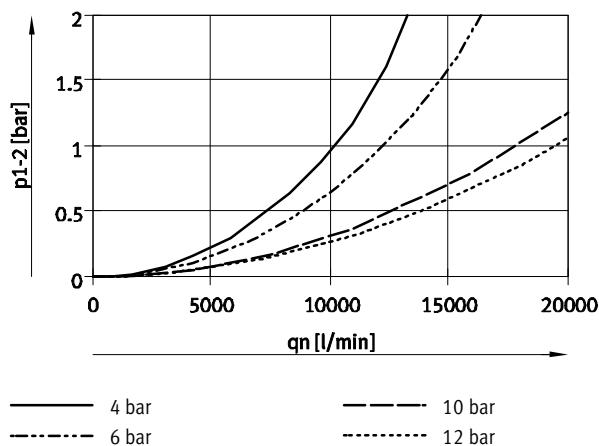
Water separators MS9-LWS, MS series

Technical data

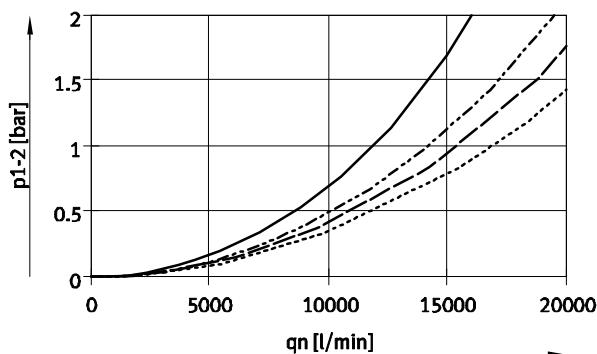
FESTO

Standard flow rate q_n as a function of differential pressure Δp_{1-2}

Pneumatic connection G3/4/NPT3/4



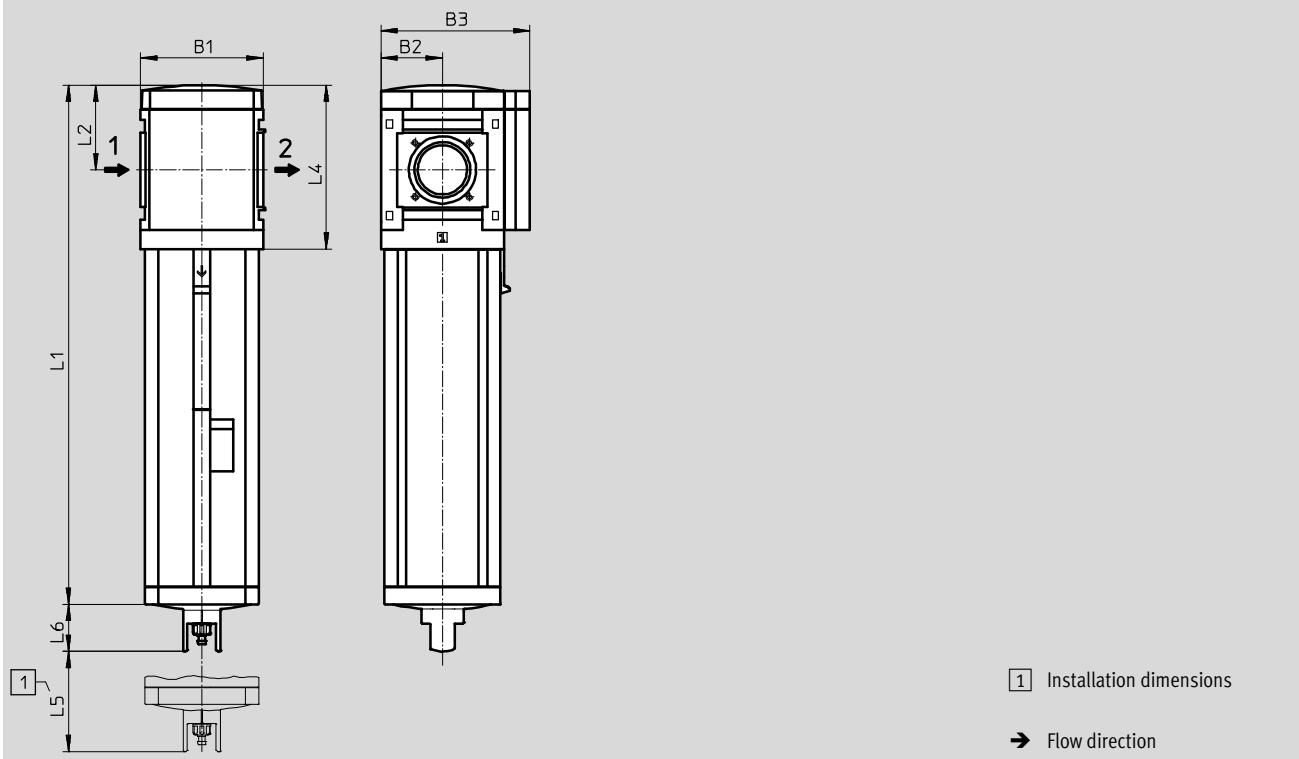
Pneumatic connection G1/NPT1



Dimensions – Basic version

Module without connecting thread, without connecting plate G, fully automatic condensate drain V

Download CAD data → www.festo.com



| Type | B1 | B2 | B3 | L1 | L2 | L4 | L5 | L6 |
|-----------|----|----|-----|-------|----|-----|----|------|
| MS9-LWS-G | 90 | 45 | 109 | 310.5 | 62 | 120 | 50 | 34.5 |

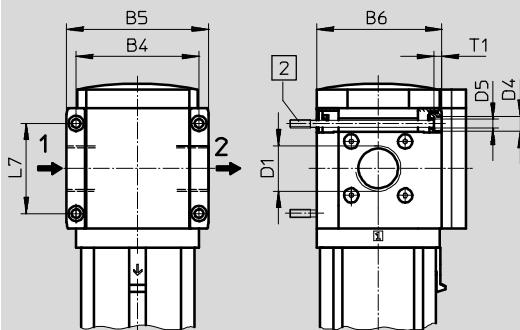
Water separators MS9-LWS, MS series

FESTO

Technical data

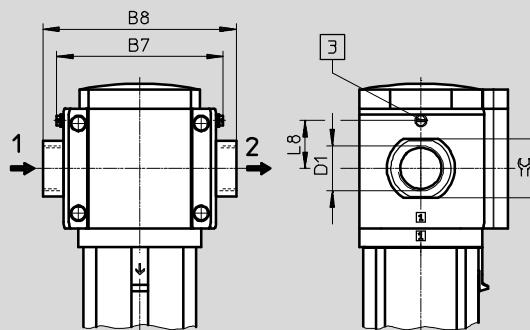
Dimensions – Connecting thread/connecting plate

With female thread



[2] Mounting screw M6xmin.90 to DIN 912 (not included in the scope of delivery) for wall mounting without mounting bracket

With connecting plate AG.../AQ...



[3] Earthing screw M4x8 (only with MS9...-EX4)

Download CAD data ➔ www.festo.com

➔ Flow direction

| Type | B4 | B5 | B6 | B7 | | B8 | D1 | D4 | D5 | L7 | L8 | T1 | =C |
|--------------|----|-----|------|-----|-----|-----|--------------------------------------|----|-----|----|-----|----|----|
| | | | | EX4 | | | | | | | EX4 | | |
| MS9-LWS-3/4 | 90 | 104 | 91.5 | – | – | – | G $\frac{3}{4}$ | 11 | 6.5 | 66 | – | 6 | – |
| MS9-LWS-1 | | | | | | | G1 | | | | | | |
| MS9-LWS-AGD | – | – | – | 112 | 122 | 132 | G $\frac{1}{2}$ | – | – | 35 | – | 30 | 36 |
| MS9-LWS-AGE | | | | | | 132 | G $\frac{3}{4}$ | | | | | | |
| MS9-LWS-AGF | | | | | | 142 | G1 | | | | | | |
| MS9-LWS-AGG | | | | | | 162 | G $1\frac{1}{4}$ | | | | | | |
| MS9-LWS-AGH | | | | | | 176 | G $1\frac{1}{2}$ | | | | | | |
| MS9-LWS-N3/4 | 90 | 104 | 91.5 | – | – | – | NPT $\frac{3}{4}$ -14 | 11 | 6.5 | 66 | – | 6 | – |
| MS9-LWS-N1 | | | | | | | NPT1-11 $\frac{1}{2}$ | | | | | | |
| MS9-LWS-AQR | – | – | – | 112 | 122 | 132 | NPT $\frac{1}{2}$ -14 | – | – | 35 | – | 30 | 36 |
| MS9-LWS-AQS | | | | | | 132 | NPT $\frac{3}{4}$ -14 | | | | | | |
| MS9-LWS-AQT | | | | | | 142 | NPT1-11 $\frac{1}{2}$ | | | | | | |
| MS9-LWS-AQU | | | | | | 162 | NPT1 $\frac{1}{4}$ -11 $\frac{1}{2}$ | | | | | | |
| MS9-LWS-AQV | | | | | | 176 | NPT1 $\frac{1}{2}$ -11 $\frac{1}{2}$ | | | | | | |

Note: This product conforms to ISO 1179-1 and to ISO 228-1

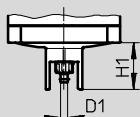
Water separators MS9-LWS, MS series

Technical data

FESTO

Dimensions – Condensate drain

Fully automatic V

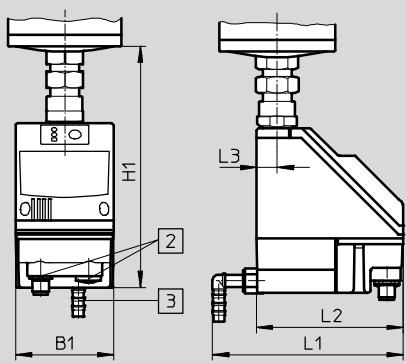


Barbed connector for plastic tubing
PUN(-H)-8x1,25

Download CAD data → www.festo.com

Fully automatic, electrically actuated E2/E3/E4

Technical data → Internet: pwea



Condensate drain PWEA:

- [2] Electrical connection: Screw terminal PG9
- [3] Connection 360° rotatable for plastic tubing PUN-H-12x2

| Type | B1 | D1 | H1 | L1 | L2 | L3 |
|----------------------|----|-----|------|-----|-----|----|
| MS9-LWS-...-V | – | 5.6 | 34.5 | – | – | – |
| MS9-LWS-...-E2/E3/E4 | 72 | – | 178 | 140 | 108 | 15 |

Ordering data

| Size | Condensate drain | Connection | Part No. | Type |
|------|------------------|------------|----------|---------------|
| MS9 | Fully automatic | – | 571468 | MS9-LWS-G-U-V |

Water separators MS9-LWS, MS series

FESTO

Ordering data – Modular products

| Ordering table | | | Condi- | Code | |
|--|--|--------|--------|--------------|------------|
| Grid dimension | [mm] | 90 | tions | | Enter code |
| M Module No. | 567857 | | | | |
| Series | Standard | | | MS | MS |
| Size | 9 | | | 9 | 9 |
| Function | Water separator | | | -LWS | -LWS |
| Pneumatic connection | | | | | |
| Female thread G ³ / ₄ | | [1] | | -3/4 | |
| Female thread G1 | | [1] | | -1 | |
| Connecting plate G ₁ / ₂ | | | | -AGD | |
| Connecting plate G ³ / ₄ | | | | -AGE | |
| Connecting plate G1 | | | | -AGF | |
| Connecting plate G ₁ / ₄ | | | | -AGG | |
| Connecting plate G ₁ / ₂ | | | | -AGH | |
| Female thread NPT ³ / ₄ | | [1] | | -N3/4 | |
| Female thread NPT1 | | [1] | | -N1 | |
| Connecting plate NPT ₁ / ₂ | | [1] | | -AQR | |
| Connecting plate NPT ³ / ₄ | | [1] | | -AQS | |
| Connecting plate NPT1 | | [1] | | -AQT | |
| Connecting plate NPT ₁ / ₄ | | [1] | | -AQU | |
| Connecting plate NPT ₁ / ₂ | | [1] | | -AQV | |
| Module without connecting thread, without connecting plate | | [1] | | -G | |
| Bowl | Metal bowl | | | -U | -U |
| Condensate drain | Fully automatic (P1 max. 12 bar) | | | -V | |
| External, fully automatic, electric | 110 V AC, terminals (P1 max. 16 bar) | [1] | | -E2 | |
| | 230 V AC, terminals (P1 max. 16 bar) | [1] | | -E3 | |
| | 24 V DC, terminals (P1 max. 16 bar) | [1] | | -E4 | |
| O Type of mounting | Mounting bracket standard design | [2] | | -WP | |
| | Mounting bracket for attaching the service units | [1][2] | | -WPM | |
| | Mounting bracket for large wall gap | [2] | | -WPB | |
| EU certification | II 2GD to EU Explosion Protection Directive (ATEX) | | | -EX4 | |
| UL certification | cULus, ordinary location for Canada and USA | | | -UL1 | |
| Flow direction | Flow direction from right to left | | | -Z | |

[1] 3/4, 1, N3/4, N1, AQR, AQS, AQT, AQU, AQV, G, E2, E3, E4, WPM

Not with EU certification EX4

[2] WP, WPM, WPB

Not with pneumatic connection G

M Mandatory data

O Options

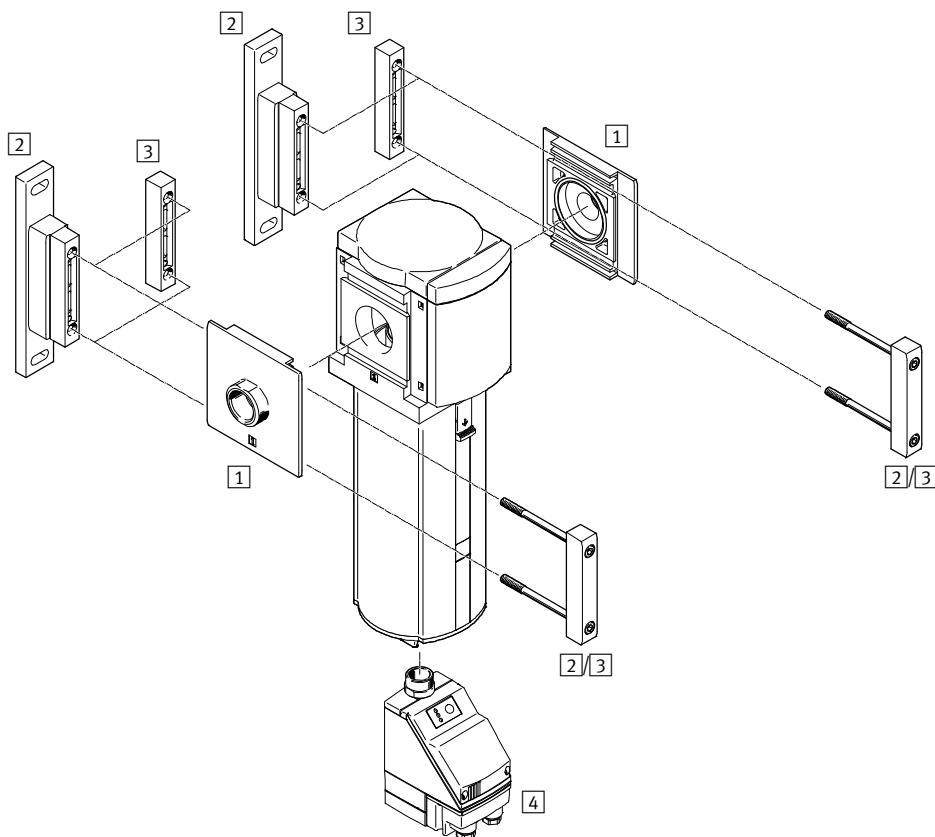
Transfer order code

567857 **MS** **9** - **LWS** - - **U** - - - - - - -

Water separators MS12-LWS, MS series

Peripherals overview

FESTO



- - Note

Additional accessories:

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

| Mounting attachments and accessories | | ➔ Page/Internet |
|--------------------------------------|---|-----------------|
| [1] | Connecting plate-SET MS12-AG... | ms12-ag |
| | Connecting plate-SET MS12-AQ... | ms12-aq |
| [2] | Mounting bracket MS12-WP | ms12-wp |
| [3] | Module connector MS12-MV | ms12-mv |
| [4] | Fully automatic, electrically actuated condensate drain E2/E3/E4 | 30 |

Water separators MS12-LWS, MS series

FESTO

Type codes

| | | | | | | | | | |
|-----------------------------|--|---|-----|---|---|---|---|---|---|
| MS | 12 | - | LWS | - | G | - | U | - | V |
| Series | | | | | | | | | |
| MS | Standard service unit | | | | | | | | |
| Size | | | | | | | | | |
| 12 | Grid dimension 124 mm | | | | | | | | |
| Service function | | | | | | | | | |
| LWS | Water separator | | | | | | | | |
| Pneumatic connection | | | | | | | | | |
| G | Module without connecting thread, without connecting plate | | | | | | | | |
| Bowl guard | | | | | | | | | |
| U | Integrated as metal bowl | | | | | | | | |
| Condensate drain | | | | | | | | | |
| V | Fully automatic | | | | | | | | |

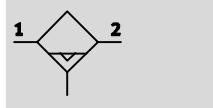
Additional variants can be ordered using the modular product system → 30

- Pneumatic connection
- Condensate drain
- Type of mounting
- Flow direction

Water separators MS12-LWS, MS series

Technical data

Condensate drain,
fully automatic



- - Flow rate
25,000 l/min
- - Temperature range
+1 ... +60 °C
- - Operating pressure
0.8 ... 16 bar



The water separator removes
condensate from the compressed air.

- Constantly high condensate separation (99%) up to the maximum flow rate
- Metal bowl
- Available with fully automatic or
fully automatic, electrically
actuated condensate drain

General technical data

| | | |
|---|---|--|
| Pneumatic connection 1, 2 | | |
| Connecting plate AG... | G1, G1 1/4, G1 1/2 or G2 | |
| Connecting plate AQ... | NPT1, NPT1 1/4, NPT1 1/2 or NPT2 | |
| Module without connecting thread/plate G | – | |
| Design | Centrifugal separator | |
| Type of mounting | Via accessories In-line installation | |
| Mounting position | Vertical ±5° | |
| Air purity class at the output | Compressed air to ISO 8573-1:2010 [-:7:4] | |
| Bowl guard | Integrated as metal bowl | |
| Condensate drain | Fully automatic Fully automatic, electrically actuated | |
| Degree of condensate separation [%] | 99 | |
| Max. condensate volume [ml] | 400 | |

Note: This product conforms to ISO 1179-1 and to ISO 228-1

Flow rates

| | | |
|---|---------|-------------|
| Standard nominal flow rate q _{nN} ¹⁾ | [l/min] | 25,000 ±15% |
| Max. standard flow rate q _{n max.} | [l/min] | 40,000 ±15% |

1) Measured at p₁ = 6 bar and Δp = 0.5 bar

Water separators MS12-LWS, MS series

FESTO

Technical data

Operating and environmental conditions

| | | |
|--|---|--|
| Condensate drain | Fully automatic V | Fully automatic, electrically actuated E2/E3/E4 |
| Operating pressure [bar] | 2 ... 12 | 0.8 ... 16 |
| Operating medium | Compressed air to ISO 8573-1:2010 [-:-:-] | |
| Ambient temperature [°C] | +5 ... +60 | +1 ... +60 |
| Temperature of medium [°C] | +5 ... +60 | +1 ... +60 |
| Storage temperature [°C] | +5 ... +60 | +1 ... +60 |
| Corrosion resistance class CRC ¹⁾ | 2 | |

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

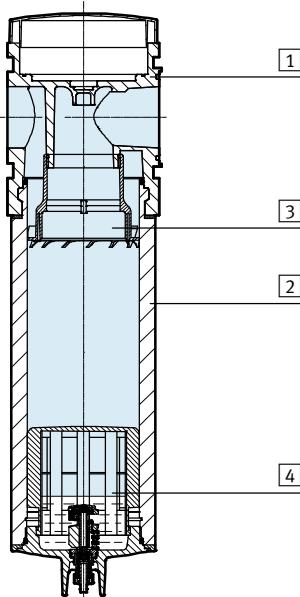
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Weight [g]

| | |
|---|-------|
| Water separator | 6,300 |
| Water separator with fully automatic, electrically actuated condensate drain E2/E3/E4 | 7,000 |
| Accessories | |
| Connecting plate AG... | 1,300 |
| Mounting bracket WP | 700 |

Materials

Sectional view



Water separator

| | |
|--|--|
| [1] Housing | Die-cast aluminium |
| [2] Bowl Inspection window | Wrought aluminium alloy PA |
| [3] Spin disc | POM |
| [4] Separating plate | POM |
| - Cover | PA reinforced |
| - Connecting plate, module connector, mounting bracket | Die-cast aluminium |
| - Seals | Nitrile rubber |
| Note on materials | RoHS-compliant (not with variant E2, E3 or E4) |

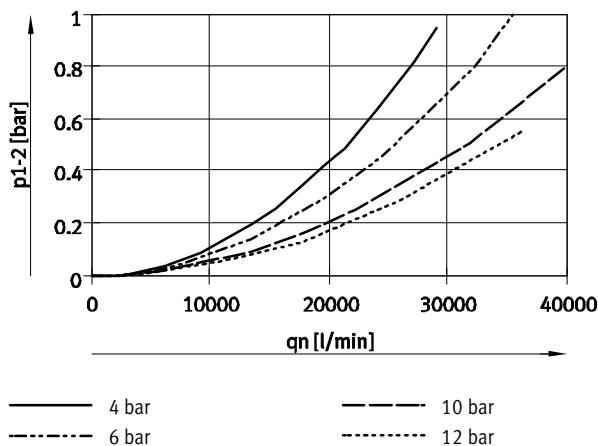
Water separators MS12-LWS, MS series

Technical data

FESTO

Standard flow rate q_n as a function of differential pressure Δp_{1-2}

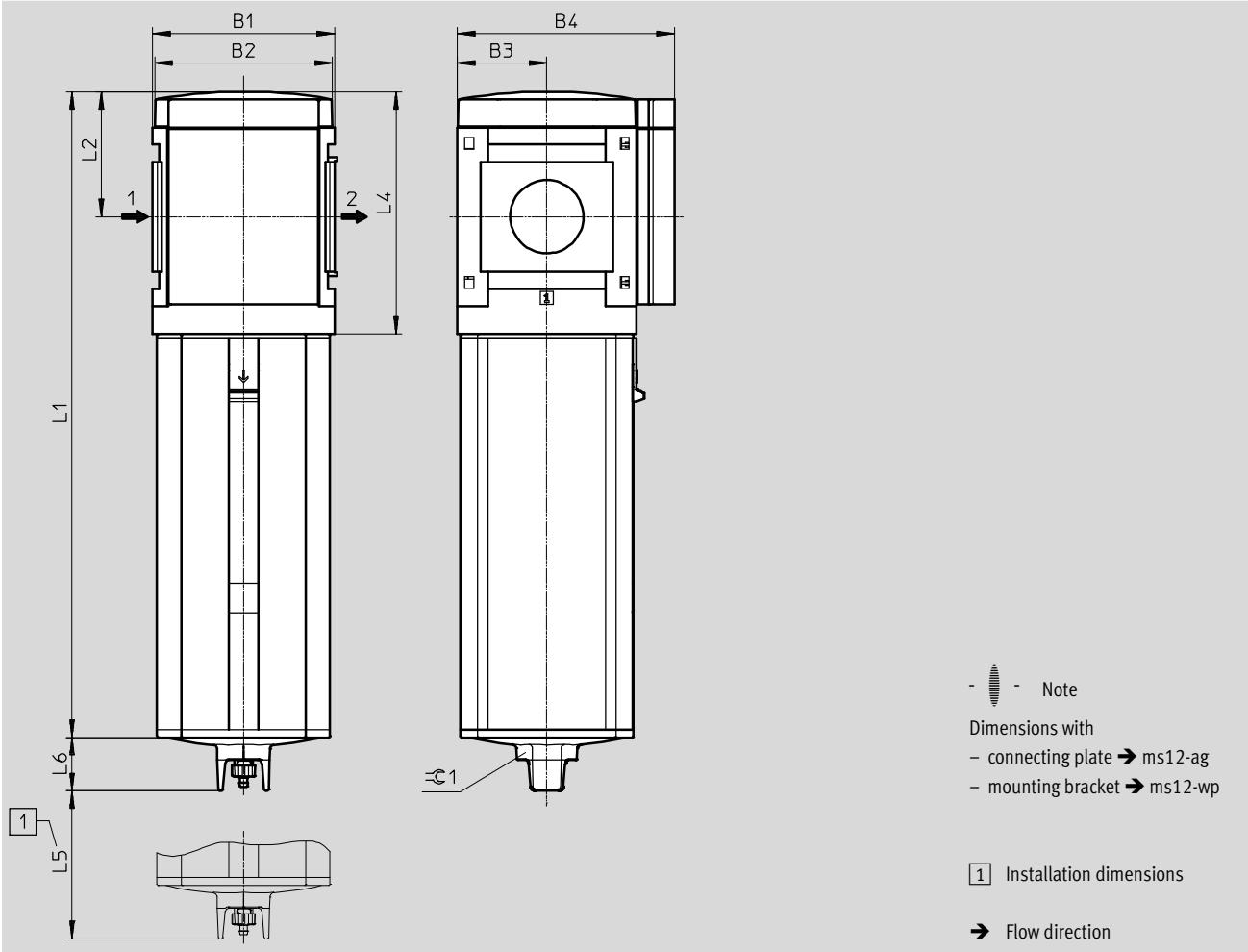
Pneumatic connection G1½/G2/NPT1½/NPT2



Dimensions – Basic version

Module without connecting thread, without connecting plate G, fully automatic condensate drain V

Download CAD data → www.festo.com



| Type | B1 | B2 | B3 | B4 | L1 | L2 | L4 | L5 | L6 | =C1 |
|------------|-----|-----|----|-----|-----|----|-----|----|----|-----|
| MS12-LWS-G | 124 | 122 | 61 | 148 | 441 | 85 | 165 | 60 | 36 | 36 |

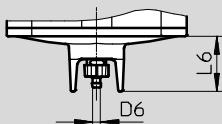
Water separators MS12-LWS, MS series

FESTO

Technical data

Dimensions – Condensate drain

Fully automatic V

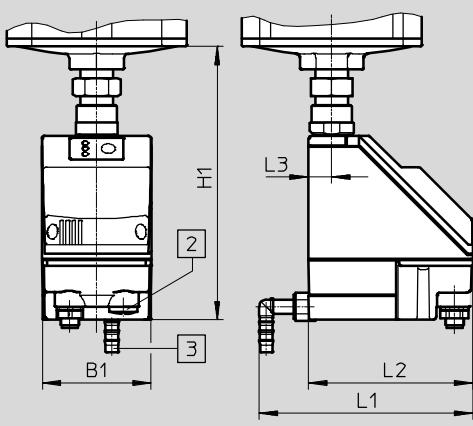


Barbed fitting for plastic tubing
PUN(-H)-8x1,25

Download CAD data → www.festo.com

Fully automatic, electrically actuated E2/E3/E4

Technical data → Internet: pwea



Condensate drain PWEA:

- [2] Electrical connection:
Screw terminal PG9
- [3] Connection 360° rotatable for
plastic tubing PUN-H-12x2

| Type | B1 | D6 | H1 | L1 | L2 | L3 | L6 |
|-----------------------|----|-----|-----|-----|-----|----|----|
| MS12-LWS-...-V | – | 5.6 | – | – | – | – | 36 |
| MS12-LWS-...-E2/E3/E4 | 72 | – | 179 | 140 | 108 | 15 | – |

Ordering data

| Size | Condensate drain | Connection | Part No. | Type |
|------|------------------|------------|----------|----------------|
| MS12 | Fully automatic | – | 8005550 | MS12-LWS-G-U-V |

Water separators MS12-LWS, MS series

Ordering data – Modular products

FESTO

| Ordering table | | Conditions | Code | Enter code |
|-----------------------------|--|------------|-------------|------------|
| Grid dimension | [mm] | 124 | | |
| [M] Module No. | 569827 | | | |
| Series | Standard | | MS | MS |
| Size | 12 | | 12 | 12 |
| Function | Water separator | | -LWS | -LWS |
| Pneumatic connection | Connecting plate G1 | | -AGF | |
| | Connecting plate G1¼ | | -AGG | |
| | Connecting plate G1½ | | -AGH | |
| | Connecting plate G2 | | -AGI | |
| | Connecting plate NPT1 | | -AQT | |
| | Connecting plate NPT1¼ | | -AQU | |
| | Connecting plate NPT1½ | | -AQV | |
| | Connecting plate NPT2 | | -AQW | |
| | Module without connecting thread, without connecting plate | [1] | -G | |
| Bowl | Metal bowl | | -U | -U |
| Condensate drain | Fully automatic (P1 max. 12 bar) | | -V | |
| | External, fully automatic, electric | | -E2 | |
| | 110 V AC, terminals (P1 max. 16 bar) | | -E3 | |
| | 230 V AC, terminals (P1 max. 16 bar) | | -E4 | |
| | 24 V DC, terminals (P1 max. 16 bar) | | | |
| [O] Type of mounting | Mounting bracket standard design | [2] | -WP | |
| Flow direction | Flow direction from right to left | | -Z | |

[1] G Not with mounting type WP.

[2] WP Only with connecting plate AGF, AGG, AGH, AGI, AQT, AQU, AQV or AQW.

[M] Mandatory data

[O] Options

Transfer order code

569827 **MS** **12** - **LWS** - - **U** - - -