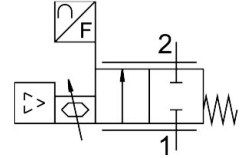


# Mass Flow Controller (MFC)

## VEMD-L-6-60-200-D9-G14-5YMPM1D-VA

FESTO

Part number: 8163830



[PDF](#) General operating condition

### Data sheet

| Feature                                               | Value                                                                                                                                                                                                                                                         |
|-------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Size                                                  | 100                                                                                                                                                                                                                                                           |
| Symbol                                                | 00995693                                                                                                                                                                                                                                                      |
| Degree of protection                                  | IP40                                                                                                                                                                                                                                                          |
| Standard nominal flow rate (standardised to DIN 1343) | 200 l/min                                                                                                                                                                                                                                                     |
| Flow rate control range                               | 4 l/min ... 200 l/min                                                                                                                                                                                                                                         |
| Flow direction                                        | Non-reversible                                                                                                                                                                                                                                                |
| Nominal operating pressure                            | 0.3 MPa                                                                                                                                                                                                                                                       |
| Nominal operating pressure                            | 3 bar                                                                                                                                                                                                                                                         |
| Nominal operating pressure                            | 43.5 psi                                                                                                                                                                                                                                                      |
| Operating pressure                                    | 0.1 MPa ... 0.6 MPa                                                                                                                                                                                                                                           |
| Operating pressure                                    | 1 bar ... 6 bar                                                                                                                                                                                                                                               |
| Note on operating pressure                            | For input pressures above 4 bar and low flow rates: Do not use components that reflect pressure waves in the pneumatic laminar flow inlet. The reflection of pressure waves can cause vibrations in the system and deviations in the accuracy of the product. |
| Overload pressure                                     | 0.8 MPa                                                                                                                                                                                                                                                       |
| Overload pressure                                     | 8 bar                                                                                                                                                                                                                                                         |
| Overload pressure                                     | 116 psi                                                                                                                                                                                                                                                       |
| Burst pressure                                        | 1.8 MPa                                                                                                                                                                                                                                                       |
| Burst pressure                                        | 18 bar                                                                                                                                                                                                                                                        |
| Burst pressure                                        | 261 psi                                                                                                                                                                                                                                                       |
| Accuracy of flow rate                                 | ± (1.3% read + 0.7% FS)                                                                                                                                                                                                                                       |
| Note on accuracy of flow rate                         | In the range 2%..100% FS, reference conditions: 23°C ambient temperature and temperature of medium, medium: compressed air ISO 8573-1:2010 [6:4:1], with push-in fitting QS-G1/4-8                                                                            |
| Repetition accuracy of flow rate                      | ± (0.1% read + 0.1% FS)                                                                                                                                                                                                                                       |
| Maximum permissible leakage                           | 0.6 l/h                                                                                                                                                                                                                                                       |
| Valve function                                        | 2-way proportional flow control valve                                                                                                                                                                                                                         |
| Nominal size                                          | 6 mm                                                                                                                                                                                                                                                          |
| Type of actuation                                     | Electric                                                                                                                                                                                                                                                      |
| Pneumatic connection, port 1                          | Female thread G1/4                                                                                                                                                                                                                                            |
| Pneumatic connection, port 2                          | Female thread G1/4                                                                                                                                                                                                                                            |
| Typical precision flow rate value                     | ± (0.6 % read + 0.5 %FS)                                                                                                                                                                                                                                      |
| Environmental conditions                              | Not suitable for use in an environment enriched with oxygen to IEC 60601-1<br>Cleanest possible ambient air<br>Dry                                                                                                                                            |

| Feature                                              | Value                                                                                             |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Nominal altitude of use                              | ≤ 2000 m ASL (≥ 79.5 kPa)                                                                         |
| Max. installation height                             | 2000 m                                                                                            |
| Operating medium                                     | Argon<br>Compressed air to ISO 8573-1:2010 [6:4:1]<br>Carbon dioxide<br>Oxygen<br>Nitrogen        |
| Note on operating and pilot medium                   | Lubricated operation not possible<br>Maximum particle size 10 µm                                  |
| Relative air humidity                                | 0 - 90%<br>Non-condensing                                                                         |
| Pressure dew point                                   | -20 °C                                                                                            |
| Duty cycle                                           | 100%                                                                                              |
| Media temperature                                    | 5 °C ... 40 °C                                                                                    |
| Ambient temperature                                  | 5 °C ... 40 °C                                                                                    |
| Storage temperature                                  | -20 °C ... 70 °C                                                                                  |
| Nominal operating voltage DC                         | 24 V                                                                                              |
| Operational voltage range DC                         | 12 V ... 24 V                                                                                     |
| Max. electrical power consumption                    | 8.5 W                                                                                             |
| Electrical connection 1, function                    | Communication                                                                                     |
| Electrical connection 1, connection type             | Socket                                                                                            |
| Electrical connection 1, connector system            | RJ45                                                                                              |
| Electrical connection 1, number of connections/cores | 8                                                                                                 |
| Electrical connection 2, function                    | Analogue input<br>Communication<br>Power supply                                                   |
| Electrical connection 2, connection type             | Plugs                                                                                             |
| Electrical connection 2, connector system            | Sub-D                                                                                             |
| Electrical connection 2, number of connections/cores | 9                                                                                                 |
| Setpoint value                                       | 4 - 20 mA<br>0 - 10 V<br>1 - 5 V<br>Modbus®                                                       |
| Diagnostic function                                  | Display via LED                                                                                   |
| Display type                                         | LED<br>TFT colour                                                                                 |
| Signal range analogue input                          | 0 - 10 V<br>4 - 20 mA<br>1 - 5 V                                                                  |
| Signal range analogue output                         | 0 - 10 V<br>1 - 5 V<br>4 - 20 mA                                                                  |
| Reverse polarity protection                          | For operating voltage connections                                                                 |
| Product weight                                       | 630 g                                                                                             |
| Material in contact with the medium                  | PFPE grease with anorganic thickeners<br>Silicon<br>Silicon nitride<br>High-alloy stainless steel |
| Material seals                                       | EPDM<br>FPM                                                                                       |
| Material housing                                     | Anodised aluminium<br>PA-reinforced<br>PC<br>POM                                                  |
| Note on materials                                    | RoHS-compliant                                                                                    |
| Dimensions (W x L x H)                               | 116 mm x 38 mm x 124 mm                                                                           |

| Feature                                      | Value                                                                                                                                                   |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type of mounting                             | Direct mounting via through-hole<br>Mounting plate, attached with screws<br>On H-rail via accessories<br>Screw-clamped<br>Via through-hole for M4 screw |
| Mounting position                            | optional                                                                                                                                                |
| Approval                                     | C-Tick<br>RCM trademark<br>c UL us listed (OL)                                                                                                          |
| Conforms to standard                         | IEC 61010-1<br>ISO 15001                                                                                                                                |
| KC mark                                      | KC-EMV                                                                                                                                                  |
| CE mark (see declaration of conformity)      | To EU EMC Directive<br>In accordance with EU RoHS Directive                                                                                             |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC<br>To UK RoHS instructions                                                                                                   |
| Certificate issuing authority                | UL E322346                                                                                                                                              |
| LABS (PWIS) conformity                       | VDMA24364 zone III                                                                                                                                      |
| Oxygen suitability according to standard     | ASTM G 63<br>ASTM G 93<br>ASTM G 94<br>CGA G 4.1<br>EIGA IGC 33/06/E<br>ISO 15001                                                                       |