

# Mass flow controller (MFC) VEFC-L-6-200-D31-G14-G14-MRM1

Part number: 8204587

**FESTO**



 General operating condition

## Data sheet

| Feature                             | Value                                                                                    |
|-------------------------------------|------------------------------------------------------------------------------------------|
| Degree of protection                | IP20                                                                                     |
| Flow rate control range             | 10 l/min ... 200 l/min                                                                   |
| Note on the flow rate control range | N2 equivalent, the specified dynamic and accuracy values apply to setpoint values >10%FS |
| Flow direction                      | Non-reversible                                                                           |
| Operating pressure                  | 0.6 MPa                                                                                  |
| Operating pressure                  | 6 bar                                                                                    |
| Overload pressure                   | 0.8 MPa                                                                                  |
| Overload pressure                   | 8 bar                                                                                    |
| Overload pressure                   | 116 psi                                                                                  |
| Burst pressure                      | 2.1 MPa                                                                                  |
| Burst pressure                      | 21 bar                                                                                   |
| Burst pressure                      | 305 psi                                                                                  |
| Inlet pressure 1                    | 0.1 MPa ... 0.7 MPa                                                                      |
| Inlet pressure 1                    | 1 bar ... 7 bar                                                                          |
| Inlet pressure 1                    | 14.5 psi ... 101.5 psi                                                                   |
| Output pressure 2                   | -0.1 MPa ... 0.35 MPa                                                                    |
| Output pressure 2                   | -1 bar ... 3.5 bar                                                                       |
| Output pressure 2                   | -14.5 psi ... 50.8 psi                                                                   |
| Suitability for vacuum              | Yes                                                                                      |
| Valve function                      | 2-way proportional flow control valve                                                    |
| Type of actuation                   | Electrical                                                                               |
| Pneumatic connection, port 1        | G1/4                                                                                     |
| Pneumatic connection, port 2        | G1/4                                                                                     |
| Total leakage                       | 0.6 l/h                                                                                  |
| Note on total leakage               | Standardised according to SEMI E16 tested with CDA                                       |
| Relative air humidity               | 5 - 85%<br>Non-condensing                                                                |
| Climatic category                   | 3K22 in accordance with EN 60721                                                         |
| Nominal altitude of use             | ≤ 2000 m NHN                                                                             |
| Operating medium                    | Compressed air to ISO 8573-1:2010 [7:4:4]<br>Inert gas                                   |
| Media temperature                   | 5 °C ... 50 °C                                                                           |
| Ambient temperature                 | 5 °C ... 50 °C                                                                           |
| Storage temperature                 | -20 °C ... 60 °C                                                                         |
| Nominal operating voltage DC        | 24 V                                                                                     |

| Feature                                              | Value                                                                                                                                                                                                                                                          |
|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operational voltage range DC                         | 24 V                                                                                                                                                                                                                                                           |
| Max. current consumption                             | 65 mA                                                                                                                                                                                                                                                          |
| Max. electrical power consumption                    | 1.6 W                                                                                                                                                                                                                                                          |
| Information on power consumption                     | Typical <1 W                                                                                                                                                                                                                                                   |
| Overvoltage category                                 | II                                                                                                                                                                                                                                                             |
| Residual ripple                                      | ± 10%                                                                                                                                                                                                                                                          |
| Electrical connection 1, function                    | Analogue output<br>Analogue input<br>Communication<br>Power supply                                                                                                                                                                                             |
| Electrical connection 1, connection type             | Plug                                                                                                                                                                                                                                                           |
| Electrical connection 1, connector system            | Sub-D                                                                                                                                                                                                                                                          |
| Electrical connection 1, number of connections/cores | 9                                                                                                                                                                                                                                                              |
| Setpoint value input                                 | 0 - 5 V<br>0 - 10 V<br>1 - 5 V<br>4 - 20 mA<br>Modbus® RTU                                                                                                                                                                                                     |
| Protection against direct and indirect contact       | PELV                                                                                                                                                                                                                                                           |
| Display type                                         | LED                                                                                                                                                                                                                                                            |
| Reverse polarity protection                          | For operating voltage                                                                                                                                                                                                                                          |
| Total accuracy                                       | 1.5 %FS                                                                                                                                                                                                                                                        |
| Reproducibility                                      | 0.2 %FS                                                                                                                                                                                                                                                        |
| Linearity                                            | 1.5 %FS                                                                                                                                                                                                                                                        |
| Hysteresis                                           | 0.15 %FS                                                                                                                                                                                                                                                       |
| Overshoot                                            | 2 %FS                                                                                                                                                                                                                                                          |
| Settling time                                        | 500 ms                                                                                                                                                                                                                                                         |
| Step response time                                   | 500 ms                                                                                                                                                                                                                                                         |
| Note on the measured variable                        | Dynamic characteristic values according to SEMI E17 with preset "fast".<br>The dead time, the step response and the settling time may increase when the setpoint is changed from a closed valve state or when the back pressure is above atmospheric pressure. |
| Product weight                                       | 250 g                                                                                                                                                                                                                                                          |
| Note on materials                                    | RoHS compliant                                                                                                                                                                                                                                                 |
| Dimensions (W x L x H)                               | 24 mm x 130 mm x 97 mm                                                                                                                                                                                                                                         |
| Instructions on use                                  | The product is suitable for industrial purposes only. Measures to eliminate radio interference may be required in residential areas.<br>For indoor use only                                                                                                    |
| Fire test material                                   | UL94 HB                                                                                                                                                                                                                                                        |
| Pollution degree                                     | 2                                                                                                                                                                                                                                                              |
| Approval                                             | RCM                                                                                                                                                                                                                                                            |
| 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 RoHS instructions                                                                                                                                                                                                                                        |
| KC mark                                              | KC-EMV                                                                                                                                                                                                                                                         |
| KC Approval No. EMC/Radio                            | FTO-KC-2024-1003                                                                                                                                                                                                                                               |
| LABS (PWIS) conformity                               | VDMA24364 zone III                                                                                                                                                                                                                                             |
| Suitability for the production of Li-ion batteries   | Suitable for battery production with reduced Cu/Zn/Ni values (F1a)                                                                                                                                                                                             |