

# Proportional-Druckregelventil VPPE-3-1-1/8-2-MR-E1-F1A

Part number: 8168527

**FESTO**



## Data sheet

| Feature                                               | Value                                                                                                                                                                                                                          |
|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal size, supply                                  | 5 mm                                                                                                                                                                                                                           |
| Nominal size, exhaust                                 | 2.5 mm                                                                                                                                                                                                                         |
| Variants                                              | Metals with copper, zinc or nickel by mass as main constituent are excluded from use. Exceptions are nickel in steel, chemically nickel-plated surfaces, printed circuit boards, cables, electrical plug connectors and coils. |
| Type of actuation                                     | Electric                                                                                                                                                                                                                       |
| Sealing principle                                     | Soft                                                                                                                                                                                                                           |
| Mounting position                                     | optional<br>Preferably vertical                                                                                                                                                                                                |
| Design                                                | Piloted diaphragm regulator                                                                                                                                                                                                    |
| Short circuit current rating                          | For all electrical connections                                                                                                                                                                                                 |
| Setpoint value input                                  | Digital                                                                                                                                                                                                                        |
| Safety instructions                                   | Safety position VPPE: if the power supply cable is interrupted, output pressure is maintained unregulated.                                                                                                                     |
| Reverse polarity protection                           | For all electrical connections                                                                                                                                                                                                 |
| Type of reset                                         | Mechanical spring                                                                                                                                                                                                              |
| Type of piloting                                      | Pilot actuated                                                                                                                                                                                                                 |
| Valve function                                        | 3-way proportional pressure regulator                                                                                                                                                                                          |
| Display type                                          | LED indicator<br>3-digit                                                                                                                                                                                                       |
| Pressure regulation range                             | 0.002 MPa...0.2 MPa<br>0.02 bar...2 bar                                                                                                                                                                                        |
| Value range MPa                                       | 0 bit...200 bit                                                                                                                                                                                                                |
| Value range bar                                       | 0 bit...2000 bit                                                                                                                                                                                                               |
| Value range psi                                       | 0 bit...290 bit                                                                                                                                                                                                                |
| Inlet pressure 1                                      | 3 bar...4 bar<br>0.3 MPa...0.4 MPa                                                                                                                                                                                             |
| Max. pressure hysteresis                              | 0.002 MPa<br>0.02 bar<br>0.29 psi                                                                                                                                                                                              |
| Standard nominal flow rate (standardised to DIN 1343) | 310 l/min                                                                                                                                                                                                                      |
| Operational voltage range DC                          | 21.6 V...26.4 V                                                                                                                                                                                                                |
| Max. current consumption                              | 160 mA                                                                                                                                                                                                                         |

| Feature                                            | Value                                                              |
|----------------------------------------------------|--------------------------------------------------------------------|
| Duty cycle                                         | 100%                                                               |
| Max. electrical power consumption                  | 4.2 W                                                              |
| Protocol                                           | Modbus® RTU                                                        |
| Residual ripple                                    | 10 %                                                               |
| Operating medium                                   | Compressed air to ISO 8573-1:2010 [7:4:4]<br>Inert gases           |
| Note on operating and pilot medium                 | Lubricated operation not possible                                  |
| Approval                                           | RCM trademark<br>c UL us listed (OL)                               |
| 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                                                         |
| Corrosion resistance class CRC                     | 2 - Moderate corrosion stress                                      |
| LABS (PWIS) conformity                             | VDMA24364-B2-L                                                     |
| Suitability for the production of Li-ion batteries | Suitable for battery production with reduced Cu/Zn/Ni values (F1a) |
| Media temperature                                  | 10 °C...50 °C                                                      |
| Degree of protection                               | IP65                                                               |
| Ambient temperature                                | 0 °C...60 °C                                                       |
| Product weight                                     | 390 g                                                              |
| Linearity                                          | 1 %FS                                                              |
| Hysteresis                                         | 1 %FS                                                              |
| Reproducibility                                    | 1 %FS                                                              |
| Total accuracy                                     | 1.5%FS                                                             |
| Temperature coefficient                            | 0.04 %/K                                                           |
| Electrical connection                              | 5-pin<br>M12<br>Plugs                                              |
| Type of serial interface                           | RS485-A                                                            |
| Type of mounting                                   | With through-hole                                                  |
| Pneumatic connection, port 1                       | G1/8                                                               |
| Pneumatic connection, port 2                       | G1/8                                                               |
| Pneumatic connection, port 3                       | G1/8                                                               |
| Note on materials                                  | RoHS-compliant                                                     |
| Material housing                                   | Aluminium, powder-coated                                           |