

mini CORI-FLOW

# M13V14I

Low Flow Coriolis Mass Flow Controller, 0...2 kg/h



## Technical specifications

### Measurement & control

|                                     |                                                                                                                    |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Type of media                       | liquids                                                                                                            |
| Flow range                          | liquid: 0...2,000 g/h (nominal flow rate: 1,000 g/h)<br>full scale (FS) value is user-configurable (50...2000 g/h) |
| Accuracy                            | ±0.2% Rd<br>±5 kg/m <sup>3</sup> (density)                                                                         |
| Repeatability                       | ±0.05 % Rd ± ½ (ZS x 100/actual flow)%                                                                             |
| Turndown ratio                      | up to 1:50                                                                                                         |
| Settling time (in control, typical) | 1 sec.                                                                                                             |
| Zero point stability (ZS)           | < ±0.2 g/h                                                                                                         |
| Response time (sensor)              | ≤ 200 msec                                                                                                         |
| Operating temperature               | 0...70 °C                                                                                                          |
| Fluid temperature                   | 0...70 °C; for ATEX Cat.3, Zone 2 max. 50 °C                                                                       |
| Temperature sensitivity             | on zero: < 0.02 g/h/°C; on span: < 0.001% Rd/°C;<br>self heating (at zero flow): < 15 °C                           |
| Leak integrity, outboard            | < 2 x 10 <sup>-9</sup> mbar l/s He                                                                                 |
| Max. Kv-value                       | 2.4 x 10 <sup>-3</sup>                                                                                             |
| Mounting                            | any position                                                                                                       |
| Warm-up time                        | 30 minutes                                                                                                         |
| Storage/transport conditions        | 0...50 °C, max. 95 % RH (non-condensing)                                                                           |

### Approvals

|               |                             |
|---------------|-----------------------------|
| Marking       | CE, UKCA, RoHS, WEEE, REACH |
| Ex-Protection | ATEX Zone 2, KCs            |

### Mechanical specs

|                                |                                                                                 |
|--------------------------------|---------------------------------------------------------------------------------|
| Pressure rating (PN) - in barg | 100                                                                             |
| Ingress protection             | IP65                                                                            |
| Material wetted parts          | stainless steel 316L, Sandvik                                                   |
| Housing material               | stainless steel 430F                                                            |
| Sealing material               | FKM, FFKM or EPDM                                                               |
| Plunger material               | FKM, FFKM or EPDM                                                               |
| Sensor inner diameter          | single tube, DN 0.5                                                             |
| Process connections            | compression type or face seal (VCR/VCO) fittings, or Tri-Clamp flanges (welded) |
| Purge connection               | 1/8" OD compression type or 1/8" VCR                                            |
| Weight                         | 1.5 kg                                                                          |

### Electrical properties

|                       |                                                                        |
|-----------------------|------------------------------------------------------------------------|
| Power supply          | 15...24 Vdc ±10%                                                       |
| Power consumption     | 7 W typical at 24 V<br>for fieldbus: add 0.9 W                         |
| Analog output         | 0...5 (10) Vdc or 0 (4)...20 mA (sourcing)                             |
| Analog setpoint       | 0...5 (10) Vdc or 0 (4)...20 mA (sinking)                              |
| Digital communication | standard: RS232; option: DeviceNet™, PROFIBUS DP, Modbus RTU, FLOW-BUS |

### Electrical interfaces

|                                 |                      |
|---------------------------------|----------------------|
| Actuator output                 | 4-pin M8 (female)    |
| Power (main connector)          | 8-pin DIN (male)     |
| Function (instrument connector) | Analog, RS232        |
| PROFIBUS DP                     | 5-pin M12 B (female) |
| CANopen / DeviceNet             | 5-pin M12A (male)    |
| Modbus RTU/ASCII/FLOW-BUS       | 5-pin M12A (male)    |