

mini CORI-FLOW

# XM13

Ex-Proof Coriolis Mass Flow Meter / Controller, 0...2 kg/h



## Technical specifications

### Measurement & control

|                                     |                                                                                                                                                                         |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Type of media                       | liquids and gases                                                                                                                                                       |
| Flow range                          | liquid: 0...2000 g/h (nominal flow rate: 1000 g/h)<br>gas: 0...26.6 l <sub>N</sub> /min (N <sub>2</sub> )<br>full scale (FS) value is user-configurable (50...2000 g/h) |
| Accuracy                            | ±0.2 % Rd (liquids)<br>±0.5 % Rd (gases)<br>±5 kg/m <sup>3</sup> (density)                                                                                              |
| Repeatability                       | ±0.05 % Rd ± ½ (ZS x 100/actual flow)%                                                                                                                                  |
| Turndown ratio                      | up to 1:100                                                                                                                                                             |
| Settling time (in control, typical) | 1 sec. (typical)                                                                                                                                                        |
| Zero point stability (ZS)           | < ±0.2 g/h                                                                                                                                                              |
| Response time (sensor)              | ≤ 200 msec                                                                                                                                                              |
| Operating temperature               | 0...55 °C                                                                                                                                                               |
| Fluid temperature                   | 0...70 °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                       | 2.3 x 10 <sup>-3</sup> for XM13+C2X-XC or C2X-XB<br>(connection through the Ex-barrier)<br>t.b.d. RC200 valve with Ex d TEIP11 I/P converter                            |
| 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 1, IECEx Zone 1, TIIS/JP Ex, ATEX Zone 2, IECEx Zone 2 |

### Mechanical specs

|                                |                                                                       |
|--------------------------------|-----------------------------------------------------------------------|
| Pressure rating (PN) - in barg | 138                                                                   |
| Ingress protection             | IP66                                                                  |
| Material wetted parts          | stainless steel 316L                                                  |
| Housing material               | aluminium AL Si7Mg03 and stainless steel 1.4301 (304) / 1.4404 (316L) |
| Sealing material               | metal only (in fluid path)                                            |
| Sensor inner diameter          | single tube, DN 0.5                                                   |
| Process connections            | 1/8" OD compression type (welded) fittings;<br>other on request       |
| Weight                         | 12.5 kg                                                               |

### Electrical properties

|                       |                                                                                            |
|-----------------------|--------------------------------------------------------------------------------------------|
| Power supply          | 15...24 Vdc ±10%                                                                           |
| Power consumption     | meter: 2.5 W typical at 24 V<br>controller: 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™,<br>PROFIBUS DP, Modbus RTU, FLOW-BUS                  |

### Electrical interfaces

|                                 |                   |
|---------------------------------|-------------------|
| Actuator output                 | 4-pin M8 (female) |
| Power (main connector)          | Screw terminals   |
| Function (instrument connector) | Analog, RS232     |
| PROFIBUS DP                     | Screw terminals   |
| CANopen / DeviceNet             | Screw terminals   |
| Modbus RTU/ASCII/FLOW-BUS       | Screw terminals   |