

EX-FLOW

# F-216AX

Ex-Protected Mass Flow Controller for High Gas Flow



## Technical specifications

### Measurement & control

|                              |                                                                                             |
|------------------------------|---------------------------------------------------------------------------------------------|
| Type of media                | Gases                                                                                       |
| Flow range                   | min. 0.4...20 m <sup>3</sup> <sub>n</sub> /h<br>max. 4...200 m <sup>3</sup> <sub>n</sub> /h |
| Accuracy                     | ±1% FS (incl. linearity, based on actual calibration)                                       |
| Repeatability                | < ±0.2% Rd                                                                                  |
| Turndown ratio               | 1:50 (2...100%)                                                                             |
| Control stability            | ≤ ±0.1% FS typical                                                                          |
| Operating temperature        | EX-FLOW sensor: -10...+70°C; XB-coil: -40...+65°C XC-coil: -40...+65°C                      |
| Temperature sensitivity      | zero: < ±0.05% FS/°C; span: < ±0.05% Rd/°C                                                  |
| Leak integrity, outboard     | tested < 2 x 10 <sup>-9</sup> mbar l/s He                                                   |
| Max. Kv-value                | 0.15 ... 1.5                                                                                |
| Mounting                     | max. error at 90° off horizontal 0,2% at 1 bar, typical N2                                  |
| 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, ATEX Zone 2, IECEx Zone 1, IECEx Zone 2, TIIS/JP Ex, KCs |

### Mechanical specs

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Pressure rating (PN) - in barg | 100                                               |
| Ingress protection             | IP65                                              |
| Material wetted parts          | stainless steel 316L or comparable                |
| Housing material               | anodized aluminum                                 |
| Sealing material               | standard: FKM/Viton®; options: EPDM, FFKM/Kalrez® |
| Process connections            | Compression type or face seal (VCR/VCO) couplings |
| Min. ΔP                        | 2 bar(d)                                          |
| Max. ΔP                        | 20 bar(d)                                         |

### Electrical properties

|                 |                                                                                                                                  |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------|
| Analog output   | 15...20 mA (linear). Additional power supply and readout unit required                                                           |
| Analog setpoint | For MFC, additional power supply, readout and control unit required                                                              |
| Coils           | XB-coil - Coil voltage max. 28 V/110 mA; 295 Ohm at 20°C<br>XC-coil - Coil voltage max. 24 V; 65 Ohm at 20°C, Pmax = 9 W at 20°C |

### Electrical interfaces

|                                 |                                          |
|---------------------------------|------------------------------------------|
| Function (instrument connector) | Analog                                   |
| Measuring head                  | Terminal connection, cable gland M16x1,5 |