

DATASHEET F-130MX

EX-FLOW F-130MX

High-Pressure Mass Flow Meter for Gases, Ex-Protected Style



Intrinsically Safe Gas Mass Flow Meters for low flow rates

Bronkhorst® EX-FLOW Mass Flow Meters (MFMs) are suited for precise gas flow measurement in ATEX Zone 1 hazardous areas. The MFM should be connected to a power supply with galvanic isolation / preamplifier / readout system (located in the safe zone). See Bronkhorst® [E-8000 Series](#).

EX-FLOW model F-130MX covers flow ranges from 0,15...7,5 ml_n/min up to 0,19...9,5 ml_n/min (N₂-equivalent) at operating pressures up to 400 bar.

The intrinsically safe measuring head of the flow meter is tested according to ATEX 114 Directive 2014/34/EU and approved under EC-Type Examination Number: KEMA 01ATEX1172, protection II 2 G Ex ib IIC T4 Gb.

Other certifications: IECEx (IECEx DEK14.0060) and TIIS (検・第TC21584号).

Technical specifications

Measurement / control system

| | |
|--|--|
| Flow range (intermediate ranges available) | min. 0,15...7,5 ml _n /min max. 0,2...10 ml _n /min (based on N ₂) |
| Accuracy (incl. linearity) (based on actual calibration) | ± 1 % FS |
| Repeatability | < 0,2 % RD |
| Turndown ratio | 1:50 (2...100%) |
| Operating temperature | -10 ... +70 °C |
| Temperature sensitivity | zero: < 0.05% FS/°C; span: < 0.05% Rd/°C |
| Pressure sensitivity | < 0,1% Rd/bar typical N ₂ ; |
| Leak integrity, outboard | tested < 2 x 10 ⁻⁹ mbar l/s He |
| Attitude sensitivity | max. error at 90° off horizontal 0,2% FS at 1 bar, typical N ₂ |
| Warm-up time | 30 min. for optimum accuracy 2 min. for accuracy ± 2% FS |

Mechanical parts

| | |
|-------------------------|--|
| Material (wetted parts) | Stainless steel 316L or comparable |
| Pressure rating (PN) | 400 bar abs |
| Process connections | compression type or face seal (VCR/VCO) couplings |
| Seals | standard: FKM/Viton®; options: EPDM, FFKM/Kalrez® |
| Ingress protection | IP65 |

Electrical properties

| | |
|---|---|
| Output signal | 15 ... 20 mA (linear) Terminal connection, cable gland M16x1,5 |
| I/O signals via PS/Readout (located in safe area) | analog: 0...5 Vdc, 0...10 Vdc, 0...20 mA, 4...20 mA; digital: RS232, PROFIBUS DP, DeviceNet™, Modbus RTU or ASCII, PROFINET, EtherCAT®, FLOW-BUS |

Electrical connection

| | |
|-------------------------|--|
| Ex-proof measuring head | Terminal connection, cable gland M16x1,5 |
|-------------------------|--|

Control valve options

External actuator options to be connected to the controller

Ex-proof specifications

Approvals / certificates

Technical specifications subject to change without notice.

For dimensional drawings and hook-up diagrams please visit the [product page](#) on our [website](#)

Recommended accessories



E-8000 SERIES

Digital Readout / Control Systems

Bright, wide angle, 1.8" display (TFT technology)
User friendly operation, menu driven with 4 push buttons

Related products



EX-FLOW F-131MX

Flow ranges from 0,3... 15 mIn/min up to 0,4...20 In/min
Pressure rating 400 bar
ATEX approval Cat.2, Zone 1
Rugged IP65 construction



EX-FLOW F-230MX

Min. flow 0,2...10 mIn/min
Max. flow 10...500 mIn/min
Pressure / ΔP up to 350 bar
ATEX approval Cat.2, Zone 1
Rugged IP65 construction

