

DATASHEET F-107DX

EX-FLOW F-107DX

Ex-Protected Mass Flow Meter for High Gas Flow



Intrinsically Safe Gas Mass Flow Meters for high flow rates

Bronkhorst® EX-FLOW Mass Flow Meters (MFM) 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-107DX covers flow ranges from 3,6...180 m³_n/h up to 36...1800 m³_n/h (N₂-equivalent) at operating pressures up to 40 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), TIIS (検・第TC21584号) and KCs = Ex ib IIC T4.

Technical specifications

Measurement / control system

Flow range (intermediate ranges available)	min. 3,6...180 m ³ _n /h max. 36...1800 m ³ _n /h (based on N ₂)
Accuracy (incl. linearity) (based on actual calibration)	± 1 % FS up to 1100 m ³ _n /h N ₂ -equivalent; for higher flows please contact factory
Repeatability	< 0,2 % RD
Turndown ratio	1:50 (2...100%)
Time constant	5 sec.
Control stability	≤ ± 0,1 % FS typical
Operating temperature	-10 ... +70 °C
Temperature sensitivity	zero: < 0,05% FS/°C; span: < 0,05% Rd/°C
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)	40 bar abs

Mechanical parts

Process connections	Flanged type, according to DIN DN100 or ANSI 4"
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
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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-107CX

Flow ranges from 2...
100 m³n/h up to 20...
1000 m³n/h
Pressure rating up to 40
bar
ATEX approval Cat.2,
Zone 1
Rugged IP65
construction



EX-FLOW F-106DX

Flow ranges from 3,6...
180 m³n/h up to 36...
1800 m³n/h
Pressure rating up to 40
bar
ATEX approval Cat.2,
Zone 1
Rugged IP65
construction



EX-FLOW F-106EX

Flow ranges from 8...
400 m³n/h up to 80...
4000 m³n/h
Pressure rating up to 40
bar
ATEX approval Cat.2,
Zone 1
Rugged IP65
construction