DATASHEET IQF-200C

IQ+FLOW IQF-200C MFC

Micro Fluidic Mass Flow Controller for Gases



MEMS based Mass Flow Controller for Gases, for OEM Applications

Bronkhorst® IQ+FLOW® model IQF-200C Mass Flow Controllers (MFCs) are suited for precise control of dry, clean, non-corrosive, non-explosive gases. The ultra compact MFC has a chip-based (MEMS) thermal mass flow sensor and is suited for flow ranges between 0,2…10 ml_n/min and 0,1…5 l_n/min N_2-equivalent at operating pressures between vacuum and 10 bar(g). Communication with the devices can be either in analog mode or digital over RS232 or RS485.

The ultra compact IQ+FLOW instruments are typically recommended for integration in analytical and medical equipment.

Technical specifications

Measurement / control system

Flow range (intermediate ranges available)	min. 0,2…10 ml_n/min max. 0,1…5 l_n/min (based on N_2)
Accuracy (incl. linearity) (based on actual calibration)	< ±1,5% RD + ±0,5% FS (Based on calibration with actual gas, at ambient temperature and at customer specified inlet pressure. Horizontal mounting position.)
Repeatability	for flows < 20 ml_n/min: < ±0.5% FS; for flows > 20 ml_n/min: < ±0,5% RD
Turndown ratio	1:50 (2…100%)
Operating pressure	0 … 10 bar g
Fluids	Dry, clean, non-corrosive gases. Standard calibration gases Air, N_2, Ar, He, CO_2 and H_2. Other dry, clean, non-corrosive gases on request (O_2, CO, …)
Multi fluid capability	Storage of max. 8 calibration curves
Settling time (in control, typical)	t98% down to 300 msec, 700 msec typical
Operating temperature	5 … 50 °C
Temperature sensitivity	span: 0,2% RD/°C; zero: 0,01 ml_n/min/°C
Max. Kv-value	2,37 x 10^{-3}
Leak integrity, outboard	< 1 x 10^{-8} mbar·l/s He
Attitude sensitivity	max. error at 90° off horizontal 0,5 ml_n/min at 1 bar, typical N_2

Mechanical parts

Material (wetted parts)	aluminium, Si, SiOx, epoxy; option: stainless steel body (SS316L)
Process connections	optional: 10-32 UNF threaded internal nut with 1/16" ferrule (SS316 or Peek); 1/16" or 1/8" OD compression type
Seals	standard: Viton®; other on request
Weight	120 g (Aluminium) / 180 g (SS316L)
Ingress protection	IP40
Max. differential pressure across control valve	9 bar dif.

Electrical properties

Readout sample time	2 msec
Power supply	+ 15 … 24 Vdc
Max. power consumption	100 mA
Analog output	0…5 (10) Vdc or 0 (4)…20 mA (sourcing output)
Digital communication	RS232, RS485 (Modbus-RTU/ASCII or FLOW-BUS)

Electrical connection

Power/Analog/RS232/RS485	RJ45 modular jack

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

デジタル表示設定システム

明瞭、広角の1.8" TFTディスプレイ

4つのボタンによるユーザーフレンドリーな操作



PIPS SERIES

プラグイン電源 PiPS

ラボ用および一般工業用

交換可能な主電源用プラグ(欧州、英国、米国(日本向け)、豪州、IEC)

Related products



IQ+FLOW IQF-100C MFM

Min. flow 0...10 mln/min
Max. flow 0...5 ln/min

Pressure rating 10 bar

Ultra compact

MEMS technology



IQ+FLOW IQFD-100C DOWNPORTED MFM

Min. flow 0...10 mln/min
Max. flow 0...5 ln/min

Pressure rating 10 bar

Ultra compact (MEMS technology)

Top-mount construction



IQ+FLOW IQFD-200C DOWNPORTED MFC

Min. flow 0...10 mln/min
Max. flow 0...5 ln/min

Pressure rating 10 bar

Ultra compact (MEMS technology)

Top-mount construction



IQ+FLOW IQP-500C

Min. pressure 0,01...0,5 bar
Max. pressure 0,2...10 bar

Ultra compact

MEMS technology

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