

D-6383-BJ-1INCH

MASS-STREAM D-6383/BJ-1 MFC

Direct Thermal Mass Flow Controller for Gases, IP65 protected

- Proven direct inline CTA sensor (no bypass)
- Compact, rugged design (IP65, dust and waterproof)
- Combination of flowmeter with various control valve options
- Less sensitivity to humidity or dirt
- Optional with integrated TFT display



IP65 Mass Flow Controllers for high flow rates of gases

Bronkhorst® model D-6383/BJ-1" Mass Flow Controllers (MFCs) are suited for precise measurement of flow ranges between 10...500 l/min and 100...5000 l/min at operating pressures between vacuum and 16 bar (g). The MFC consists of a proven inline thermal (CTA) mass flow sensor, a precise control valve and a microprocessor based pc-board with signal and fieldbus conversion. As a function of a setpoint value, the flow controller swiftly adjusts the desired flow rate. The instrument is IP65 compliant and can optionally be equipped with a modern, multi-functional and multi-colour display, with operator buttons on the instrument.

The digital MASS-STREAM™ series is characterized by a high degree of signal integrity and, as an option, up to 8 calibration curves of different gases and process conditions can be memorized in the instrument. In addition to the standard RS232 output the instruments also offer analog I/O. As an option, an on-board interface can be mounted to provide CANopen®, DeviceNet™, EtherCAT®, PROFIBUS DP, PROFINET, Modbus RTU, ASCII or TCP/IP, EtherNet/IP, POWERLINK or FLOW-BUS protocols.

Technical specifications

Measurement / control system

Flow range (intermediate ranges available)	min. 10...500 I _N /min max. 100...5000 I _N /min (based on N ₂)
Accuracy (incl. linearity) (based on actual calibration)	± 1.0% RD plus ± 0.5% FS (at calibration conditions)
Repeatability	< 0,2 % FS
Turndown ratio	up to 1:30
Type of gases	almost all gases, compatible with chosen materials
Response time (sensor)	approx. 0,9 sec.
Control stability	< 0,2 % FS typical
Operating temperature	0 ... 50 °C
Temperature sensitivity	± 0,2% Rd/°C (Air)
Pressure sensitivity	±0,3% Rd/bar typical (Air)
Max. Kv-value	2,8 / 4,4 (remain position)
Leak integrity, outboard	tested < 2 x 10 ⁻⁸ mbar l/s He
Attitude sensitivity	at 90° deviation from horizontal max. error 0,2 % at 1 bar typical N ₂
Warm-up time	30 min. for optimum accuracy, within 30 seconds for accuracy ±4% FS

Mechanical parts

Sensor	Stainless steel SS 316 (AISI 316L)
Pressure rating (PN)	10 bar g for instrument body in aluminium, 16 bar g for instrument body in stainless steel SS 316
Process connections	G1" / compression type couplings
Seals	standard: Viton®; option: EPDM
Ingress protection	IP65 (if applicable IP54 for motor driven valve)
Instrument body	Aluminium AL 50ST/51ST (anodised) or stainless steel SS 316; if applicable: Brass body of motor driven valve
Sieves and rings	Teflon or stainless steel SS 316

Electrical properties

Power supply	+24 Vdc ±10%			
Max. power consumption	Supply 24 V	Basic consumption 260 mA	Add. for fieldbus 50 mA	Add. for display 20 mA
Analog output	0...5 (10) Vdc or 0 (4)...20 mA (sourcing output)			
Digital communication	standard: RS232 options: PROFIBUS DP, PROFINET, CANopen®, DeviceNet™, Modbus RTU or FLOW-BUS			

Electrical connection

Analog/RS232	8 DIN (male);
PROFIBUS DP	bus: 5-pin M12 (female); power: 8 DIN (male)
CANopen® / DeviceNet™	5-pin M12 (male)
FLOW-BUS/Modbus-RTU/ASCII	5-pin M12 (male)
PROFINET	bus: 2 x 5-pin M12 (female) (in/out); power: 8 DIN (male);

Technical specifications subject to change without notice.

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

Recommended accessories



PIPS SERIES

Plug-in Power Supply

For lab-style or industrial devices
Interchangeable plugs (Euro, UK, USA,
Australian, IEC) for mains connection

Related products



MASS-STREAM D-6380 MFM

Min. flow 10...500 l/min

Max. flow 50...5000 l/min

Pressure rating up to 20 bar

Rugged sensor and housing (IP65)

Optional integrated TFT display



BRONKHORST USA LLC

57 South Commerce Way

Suite 120

USA - Bethlehem, PA 18017

Tel. +1-610-866-6750

sales@bronkhorstusa.com