

D-6361A-002BI

MASS-STREAM D-6361A/002BI MFC

Direct Thermal Mass Flow Controller for Gases, IP65 protected

- Proven direct inline CTA sensor (no bypass)
- Compact, rugged design (IP65, dust and waterproof)
- Less sensitivity to humidity or dirt
- Optional with integrated TFT display
- Very good price-performance ratio



Compact IP65 Mass Flow Controllers for medium flow rates of gases

Bronkhorst® model D-6361A/002BI Mass Flow Controllers (MFCs) are suited for precise measurement of flow ranges between 1...50 l/min and 10...500 l/min at operating pressures between vacuum and 20 bar. 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™, PROFIBUS DP, PROFINET, Modbus RTU or FLOW-BUS (other on request) protocols.

Technical specifications

Measurement / control system

Flow range (intermediate ranges available) min. 1...50 I_n/min
max. 10...500 I_n/min
(based on N₂)

Accuracy (incl. linearity) (based on actual calibration) ± 1,0 % RD plus ± 0.5% FS (at calibration conditions)

Repeatability < 0,2 % FS

Turndown ratio 1:50

Type of gases almost all gases, compatible with chosen materials

Response time (sensor) approx. 0,9 sec.

Settling time (in control, typical) plus approx. 2 sec.

Control stability < 0,2 % FS typical

Operating temperature 10 ... 50 °C

Temperature sensitivity ± 0,2% Rd/°C (Air)

Pressure sensitivity ± 0,3% Rd/bar typical (Air)

Max. Kv-value 0,035 ... 0,35

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 N₂

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) | 20 bar g |
| Max. ΔP | 5 bar d |
| Process connections | G1/2" / compression type or face seal (VCR/VCO) couplings |
| Seals | standard: Viton®; options: EPDM, Kalrez® (FFKM), FDA and USP Class VI approved compounds |
| Ingress protection | IP65 |
| Instrument body | Stainless steel SS 316 |
| Sieves and rings | Teflon or stainless steel SS 316 |

Electrical properties

Power supply +15 ... 24 Vdc \pm 10%

| Max. power consumption | Supply | Basic model | Add. for fieldbus | Add. for display |
|------------------------|--------|-------------|-------------------|------------------|
| | 15 V | 300 mA | 80 mA | 30 mA |
| | 24 V | 200 mA | 50 mA | 20 mA |

Analog output 0...5 (10) Vdc or 0 (4)...20 mA (sourcing output)

Digital communication standard: RS232
options: CANopen[®], DeviceNet[™], PROFIBUS DP, PROFINET, Modbus RTU or FLOW-BUS (other on request)

Electrical connection

Analog/RS232 8 DIN (male);

PROFIBUS DP bus: 5-pin M12 (female);
power: 8 DIN (male)

CANopen[®] / DeviceNet[™] 5-pin M12 (male)

Modbus RTU / FLOW-BUS 5-pin M12 (male)

Modbus TCP / EtherNet/IP /
POWERLINK bus: 2 x 5-pin M12 (female) (in/out);
power: 8 DIN (male);

EtherCAT[®] / PROFINET bus: 2 x 5-pin M12 (female) (in/out);
power: 8 DIN (male)

Control valve options

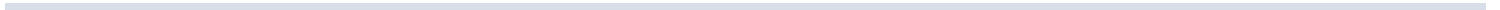
External actuator options to be connected to the controller

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



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-6361/002BI MFC

Min. flow 0,4...20 l/min
Max. flow 4...200 l/min
Pressure rating up to 20 bar
Rugged sensor and housing (IP65)
Optional integrated TFT display



MASS-STREAM D-6360 MFM

Min. flow 0,4...20 l/min
Max. flow 2...200 l/min
Pressure rating up to 20 bar
Rugged sensor and housing (IP65)
Optional integrated TFT display



MASS-STREAM D-6361/FAS MFC

Min. flow 0,4...20 l/min
Max. flow 4...200 l/min
Pressure rating up to 7 bar
Rugged sensor and housing (IP65)
Optional integrated TFT display



BRONKHORST HIGH-TECH B.V.

Nijverheidsstraat 1A
NL-7261 AK Ruurlo (NL)
Tel. [+31 573 45 88 00](tel:+31573458800)
info@bronkhorst.com

