

F-202BB

Mass Flow Controller for Gases, Standard & Straightforward



Technical specifications

Measurement & control

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|-------------------------------------|--|
| Type of media | Gases |
| Flow range | min. 1.4...70 I _n /min max. 4...200 I _n /min |
| Accuracy | ±1 % FS |
| Repeatability | <0.2 % RD |
| Turndown ratio | 1:50 (2...100%) |
| Settling time (in control, typical) | approx. 1 sec. |
| Control stability | < ±0.1 % FS (typical for 1 I _n /min N ₂) |
| Operating temperature | +10...+50°C |
| Temperature sensitivity | zero: < 0.1 % FS/°C; span: < 0.1 % Rd/°C |
| Leak integrity, outboard | tested < 2 x 10 ⁻⁹ mbar l/s He |
| Pressure sensitivity | <0.15 % Rd/bar at 4...10 bar(g); <0.25 % Rd/bar at 1...4 bar(g); <0.5 % Rd/bar at 0...1 bar(g) |
| Max. Kv-value | 0.035 ... 0.35 |
| Mounting | max. error at 90° off horizontal 0.2 % FS at 1 bar, typical N ₂ |
| Warm-up time | 30 min |
| Storage/transport conditions | 0...+50 °C, max. 95 % RH (non-condensing) |

Approvals

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|---------|-----------------------|
| Marking | CE, RoHS, WEEE, REACH |
|---------|-----------------------|

Mechanical specs

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|-----------------------|---|
| Pressure rating (PN) | 10 |
| Ingress protection | IP40 |
| Material wetted parts | Stainless Steel 316 or equivalent |
| Sealing material | standard: FKM/Viton®; option: FFKM/Kalrez® |
| Plunger material | standard: FFKM/Kalrez®, option FDA and USP Class VI approved FFKM/Kalrez® |
| Process connections | 1/4" BSPF female thread (RS) |
| Max. ΔP | 5 bar(d) |
| Weight | 2.3 kg |

Electrical properties

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|-----------------------|--|
| Power supply | +15...24 Vdc |
| Power consumption | 3.5 W typical at 24 V |
| Analog output | 0...5 (10) Vdc or 0 (4)...20 mA (sourcing) |
| Analog setpoint | 0...5 (10) Vdc or 0 (4)...20 mA (sinking) |
| Digital communication | RS232 or Modbus-RTU or -ASCII (RS485) |

Electrical interfaces

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|---------------------------------|-------------------------------------|
| Power (main connector) | 9-pin D-sub (male) |
| Function (instrument connector) | Analog, RS232, RS485 |
| Modbus RTU/ASCII/FLOW-BUS | 9-pin D-sub (male, main connection) |