

MASS-STREAM

# D-6473/BJ-1/2

Direct Thermal Mass Flow Controller for Gases, IP65  
protected



## Technical specifications

### Measurement & control

|                                     |                                                                                       |
|-------------------------------------|---------------------------------------------------------------------------------------|
| Type of media                       | almost all gases and gas-mixes, compatible with chosen materials                      |
| Flow range                          | min. 2...100 l <sub>n</sub> /min<br>max. 20...1000 l <sub>n</sub> /min                |
| Accuracy                            | ±1.0% Rd plus ±0.5% FS<br>(FS relates to the instrument max FS)                       |
| Repeatability                       | < ±0.2% FS                                                                            |
| Turndown ratio                      | up to 1:30                                                                            |
| Multi fluid capability              | up to 8 calibration curves                                                            |
| Settling time (in control, typical) | < 5 sec.                                                                              |
| Control stability                   | < 0.2% FS typical                                                                     |
| Response time (sensor)              | approx. 0.9 seconds                                                                   |
| Operating temperature               | 0...+50°C                                                                             |
| Temperature sensitivity             | ±0.1% Rd/°C (Air)                                                                     |
| Leak integrity, outboard            | < 2 x 10 <sup>-8</sup> mbar l/s He<br>< 2 x 10 <sup>-6</sup> mbar l/s He (D-6471/DR3) |
| Pressure sensitivity                | < ±0.3% Rd / bar typical (Air)                                                        |
| Max. Kv-value                       | 1.1 / 3.4 (remain position)                                                           |
| Mounting                            | at 90° deviation from horizontal max. error 0.2% at 1 bar typical N2                  |
| Warm-up time                        | 30 minutes                                                                            |
| Storage/transport conditions        | 0...+50°C, max. 95% RH (non-condensing)                                               |

### Approvals

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

### Mechanical specs

|                                |                                                                                                   |
|--------------------------------|---------------------------------------------------------------------------------------------------|
| Pressure rating (PN) - in barg | 16                                                                                                |
| Ingress protection             | IP65                                                                                              |
| Material wetted parts          | Aluminum EN AW-6082-T6 (non-anodised) or stainless steel SS316; Body of motor driven valve: Brass |
| Sealing material               | standard: FKM/Viton®; option: EPDM                                                                |
| Process connections            | G1/2" (ISO1179-1 cavity) / compression type couplings                                             |
| Max. ΔP                        | 16 bar(d)                                                                                         |
| Weight                         | Aluminum: 3.3 kg; Stainless steel: 4.4 kg                                                         |

### Electrical properties

|                       |                                                                                                                                                    |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Power supply          | +15...24 Vdc ± 10 %                                                                                                                                |
| Power consumption     | 3.5 W typical at 24 V<br>for fieldbus: add + 0.9 W<br>for display: add + 0.5 W                                                                     |
| 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 | standard: RS232 options: CANopen®, DeviceNet™, EtherCAT®, PROFIBUS DP, PROFINET, Modbus (RTU, ASCII or TCP/IP), EtherNet/IP, POWERLINK or FLOW-BUS |

### Electrical interfaces

|                                                             |                        |
|-------------------------------------------------------------|------------------------|
| Power (main connector)                                      | 8-pin DIN (male)       |
| Function (instrument connector)                             | Analog, RS232, RS485   |
| PROFIBUS DP                                                 | 8-pin M12B (female)    |
| CANopen / DeviceNet                                         | 5-pin M12A (male)      |
| Modbus RTU/ASCII/FLOW-BUS                                   | 5-pin M12A (male)      |
| Modbus TCP / EtherNet/IP / EtherCAT® / PROFINET / POWERLINK | 2x 4 pin M12D (female) |