MV-302

MASS-VIEW® MV-302

Mass Flow Regulator for gases with integrated display

- Direct thermal mass flow measurement
- High accuracy
- 10 pre-installed gases
- Bright, graphical OLED display
- Digital or analog output; alarm and counter functions
- High precision needle valve

MASSFLOW-ONLINE PRODUCT

Gas Mass Flow Regulators with integrated display

MASS-VIEW® model MV-302 Mass Flow Regulators (MFRs) are suited for precise measurement of flow ranges between 20…200 ml_n/min and 20…2000 ml_n/min at operating pressures up to 10 bar(g). The MFR has an integrated graphical OLED display, clearly visible at wide angles, which allows reading of actual flow (value and a bar graph), total flow and type of gas. A high quality needle valve offers smooth and fine adjustment of the gas flow.

The display features easy set up via a user-friendly menu, using a 4-way navigation push button. The pre-installed gases eliminate the need to recalibrate for different gases and therefore reduce the cost of ownership. Additional features & functions include a variety of alarm and counter functions, an analog output signal, digital interfaces and two relay contacts.

The MASS-VIEW® series provides modern, novel and economical alternative to variable area meters (VA meters), also known as purge meters. Unlike conventional VA meters these new flow meters measure mass flow instead of volume flow.

Technical specifications

Measurement / control system

Flow range (intermediate ranges available)	min. 20…200 ml_n/min max. 20…2000 ml_n/min (based on N_2)
Accuracy (incl. linearity) (based on actual calibration)	± 2% Rd for flow > 50% of max. capacity; ± (1% Rd + 0,5% FS) on lower flows
Repeatability	< 0,2 % FS typical
Turndown ratio	up to 1 : 100
Operating pressure	0 … 10 bar(g) / 0 … 150 psi(g)
Pressure coefficient	± 0,2% Rd/bar typical at Air
Pre-installed gases	Air, Ar, N_2, O_2, CO_2, CH_4, C_3H_8, N_2O, CO and C_4H_{10}
Standard calibration gas	Air, other gases are converted using our Fluidat® conversion model which will introduce extra inaccuracy
Response time (sensor)	2 sec.
Operating temperature	0 … 50 °C (32 … 122°F)
Temperature coefficient	Zero: <0,1% FS/°C, Span: <0,2% Rd/°C
Leak integrity, outboard	tested < 2 x 10^{-9} mbar l/s He
Attitude sensitivity	< 0,1 % FS

Mechanical parts

Material (wetted parts)	Meter: Aluminium; Needle valve: SS316, Brass
Test pressure	21 bar(a) / 300 psi(a)
Process connections	G 1/4" BSPP female thread (compression fittings optional)
Seals	Viton®, PTFE, Fluorosint®, Buna N
Weight	0,7 kg
Ingress protection	IP40

Electrical properties

Power supply	+15 … 24 Vdc (+/- 10%)
Max. power consumption	approx. 135 mA
Analog output	0 … 5 Vdc
Digital communication	RS232 / RS485 (Modbus RTU/ASCII)
Min. and max. relay contacts	switching current 0,5 A, 24 Vdc, one side grounded (0 Vdc power)
Electrical connection	8-pin RJ-45 modular jack

Electrical connection

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

Related products

MASS-VIEW® MV-102

Min. flow 20...200 mln/min
Max. flow 20...2000 mln/min
Pressure rating 10 bar
Bright, graphical OLED display
10 pre-installed gases

MASS-VIEW® MV-392-H2

Min. flow 50...100 mln/min H2
Max. flow 50...1000 mln/min H2
Bright, graphical OLED display
High quality needle valve

MASS-VIEW® MV-392-HE

Min. flow 50...200 mln/min He
Max. flow 50...2000 mln/min He
Bright, graphical OLED display
High quality needle valve

MASS-VIEW® MV-402

Min. flow 20...200 mln/min
Max. flow 20...2000 mln/min
Pressure rating 10 bar
Bright, graphical OLED display
Pressure compensated valve

BRONKHORST HIGH-TECH B.V.

Nijverheidsstraat 1A

NL-7261 AK Ruurlo (NL)

Tel. +31 573 45 88 00

info@bronkhorst.com