# DATASHEET MV-302

# MASS-VIEW® MV-302

Mass Flow Regulator for gases with integrated display

MASSFLOW-ONLINE PRODUCT



# Gas Mass Flow Regulators with integrated display

MASS-VIEW<sup>\*</sup> model MV-302 Mass Flow Regulators (MFRs) are suited for precise measurement of flow ranges between 20...200 ml<sub>n</sub>/min and 20...2000 ml<sub>n</sub>/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<sup>®</sup> 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

min. 20200 ml <sub>n</sub> /min max. 202000 ml <sub>n</sub> /min (based on $N_2$ )
$\pm$ 2% Rd for flow > 50% of max. capacity; $\pm$ (1% Rd + 0,5% FS) on lower flows
< 0,2 % FS typical
up to 1 : 100
0 10 bar(g) / 0 150 psi(g)
± 0,2% Rd/bar typical at Air
Air, Ar, $N_2$ , $O_2$ , $CO_2$ , $CH_4$ , $C_3H_8$ , $N_2O$ , $CO$ and $C_4H_{10}$
Air, other gases are converted using our Fluidat® conversion model which will introduce extra inaccuracy
2 sec.
0 50 °C (32 122°F)
Zero: <0,1% FS/°C, Span: <0,2% Rd/°C
tested < 2 x 10 <sup>-9</sup> mbar I/s He
< 0,1 % FS

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



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Bronkhorst High-Tech designs and manufactures innovative instruments and subsystems for low-flow measurement and control for use in laboratories, machinery and industry. Driven by a strong sense of sustainability and with many years of experience, we offer an extensive range of (mass) flow meters and controllers for gases and liquids, based on thermal, Coriolis and ultrasonic measuring principles. Our global sales and service network provides local support in more than 40 countries. Discover Bronkhorst<sup>®</sup>!