

# DATASHEET MV-402

## MASS-VIEW® MV-402

Mass Flow Regulator for gases with pressure compensation and integrated display

MASSFLOW-ONLINE PRODUCT



### Gas Mass Flow Regulators with pressure compensation and integrated display

MASS-VIEW® model MV-402 Mass Flow Regulators (MFRs) are suited for precise measurement and control 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 with integrated pressure compensation offers smooth and fine adjustment of the gas flow, even at varying upstream pressures.

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.

### Technische specificaties

#### Meet- / regelsysteem

|                                                                      |                                                                                                                                                                        |
|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flowbereik (tussenliggende bereiken beschikbaar)                     | min. 20...200 ml <sub>n</sub> /min<br>max. 20...2000 ml <sub>n</sub> /min<br>(based on N <sub>2</sub> )                                                                |
| Nauwkeurigheid (incl. lineariteit) (gebaseerd op actuele kalibratie) | ± 2% Rd for flow > 50% of max. capacity;<br>± (1% Rd + 0,5% FS) on lower flows                                                                                         |
| Herhaalbaarheid                                                      | < 0,2 % FS typical                                                                                                                                                     |
| Turndown ratio                                                       | up to 1 : 100                                                                                                                                                          |
| Bedrijfsdruk                                                         | 0 ... 10 bar(g) / 0 ... 150 psi(g)                                                                                                                                     |
| Druk coëfficiënt                                                     | ± 0,2% Rd/bar typical at Air                                                                                                                                           |
| Media                                                                | Non-hazardous gases; Helium excepted                                                                                                                                   |
| Vorgeïnstalleerde gassen                                             | Air, Ar, N <sub>2</sub> , O <sub>2</sub> , CO <sub>2</sub> , CH <sub>4</sub> , C <sub>3</sub> H <sub>8</sub> , N <sub>2</sub> O, CO and C <sub>4</sub> H <sub>10</sub> |
| Standaard kalibratie gas                                             | Air, other gases are converted using our Fluidat® conversion model which will introduce extra inaccuracy                                                               |
| Responstijd (sensor)                                                 | 2 sec.                                                                                                                                                                 |
| Bedrijfstemperatuur                                                  | 0 ... 50 °C (32 ... 122°F)                                                                                                                                             |
| Temperatuurcoëfficiënt                                               | Zero: <0,1% FS/°C, Span: <0,2% Rd/°C                                                                                                                                   |
| Lekdichtheid, naar buiten                                            | getest < 2 x 10 <sup>-9</sup> mbar l/s                                                                                                                                 |
| Standgevoeligheid                                                    | < 0,1 % FS                                                                                                                                                             |

## Mechanische delen

|                                                            |                                                                                     |
|------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Materiaal (onderdelen die in contact komen met het medium) | Meter: Aluminium;<br>Needle valve: SS316, Brass                                     |
| Testdruk                                                   | 21 bar(a) / 300 psi(a)                                                              |
| Min. ΔP                                                    | 1 bar(d)                                                                            |
| Max. ΔP                                                    | 7 bar (d)                                                                           |
| Procesaansluitingen                                        | G 1/4" BSPP female thread<br>(compression fittings optional)                        |
| Afdichtingen                                               | Viton®, PTFE, Fluorosint®, Buna N;<br>Controller membrane: fiber-reinforced nitrile |
| Gewicht                                                    | 1,4 kg                                                                              |
| Beschermingsgraad (behuizing)                              | IP40                                                                                |
| Regelnaauwkeurigheid                                       | < 0,5-1% Rd/bar                                                                     |

## Elektrische eigenschappen

|                               |                                                                     |
|-------------------------------|---------------------------------------------------------------------|
| Stroomvoorziening             | +15 ... 24 Vdc (+/- 10%)                                            |
| Max. stroomverbruik           | approx. 135 mA                                                      |
| Analoog signaal               | 0 ... 5 Vdc                                                         |
| Digitale communicatie         | RS232 / RS485 (Modbus RTU/ASCII)                                    |
| Min. en max. relais contacten | switching current 0,5 A, 24 Vdc,<br>one side grounded (0 Vdc power) |
| Elektrische aansluiting       | 8-pin RJ-45 modular jack                                            |

## Elektrische aansluiting

## Control valve options

## Externe actuatoropties die op de controller moeten worden aangesloten

## Ex-proof specificaties

## Goedkeuringen / certificaten

Technische specificaties kunnen zonder kennisgeving worden gewijzigd.

Voor technische maattekeningen en aansluitschema's bezoekt u de [productpagina](#) op onze [website](#)

## Related products



**MASS-VIEW® MV-102**

Min. flow 20...200  
mln/min  
Max. flow 20...2000  
mln/min  
Drukklasse 10 bar  
Helder, grafisch OLED  
display  
10 vooraf geïnstalleerde  
gassen



**MASS-VIEW® MV-302**

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



**MASS-VIEW® MV-401**

Min. flow 20...50  
mln/min  
Max. flow 20...200  
mln/min  
Pressure rating 10 bar  
Bright, graphical OLED  
display  
Pressure compensated  
valve



**MASS-VIEW® MV-404**

Min. flow 0,04...2 l/min  
Max. flow 0,2...20 l/min  
Pressure rating 10 bar  
Bright, graphical OLED  
display  
Pressure compensated  
valve