

# MV-196-H2

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## MASS-VIEW® MV-196-H2

Hydrogen Flow Meter with integrated display

- Direct thermal mass flow measurement
- High accuracy
- Bright, graphical OLED display
- Digital or analog output
- Alarm and counter functions

MASSFLOW-ONLINE PRODUCT



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## Hydrogen Mass Flow Meters with integrated display

MASS-VIEW® model MV-196-H2 Direct Thermal Mass Flow Meters (MFMs) are suited for precise measurement of flow ranges between 0,2...10 l<sub>n</sub>/min and 1...100 l<sub>n</sub>/min hydrogen at operating pressures up to 10 bar(g). The MFM 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.

The display features easy set up via a user-friendly menu, using a 4-way navigation push button. 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.

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## Technical specifications

## Measurement / control system

Flow range (intermediate ranges available) min. 0,2...10 I<sub>n</sub>/min  
max. 1...100 I<sub>n</sub>/min  
(based on H<sub>2</sub>)

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

Standard calibration gas H<sub>2</sub>

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<sup>-9</sup> mbar l/s He

Attitude sensitivity < 0,1 % FS

## Mechanical parts

Material (wetted parts)	Aluminium
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Test pressure	21 bar(a) / 300 psi(a)
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Process connections	G 1/4" BSPP female thread (compression fittings optional)
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Seals	Viton®
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Weight	0,7 kg
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Ingress protection	IP40
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## Electrical properties

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

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### **Control valve options**

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### **External actuator options to be connected to the controller**

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### **Ex-proof specifications**

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### **Approvals / certificates**

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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-106**

Min. flow 0,4...20 l/min  
Max. flow 2...200 l/min  
Pressure rating 10 bar  
Bright, graphical OLED display  
10 pre-installed gases



**MASS-VIEW® MV-396-H2**

Min. flow 0,2...10 l/min H2  
Max. flow 1...100 l/min H2  
Bright, graphical OLED display  
High quality needle valve



**MASS-VIEW® MV-194-H2**

Min. flow 0,1...1 l/min H2  
Max. flow 0,1...10 l/min H2  
Bright, graphical OLED display  
Electr. output, alarm and counter



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