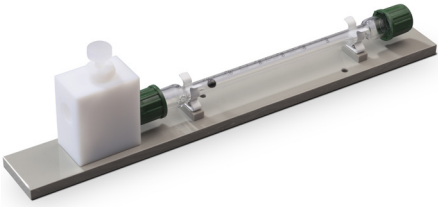


FM-10/100

Float-Type Flow Meter Series FM®

Versions FM-1, FM-10

Special Features

- **Available with different measuring ranges from 10 to 800 Nl/h air**
- **High chemical resistance**
- **For gases and liquids**
- **Easy dismantling and cleaning**
- **Also with high-precision needle valve**
- **Even for high sample gas and ambient temperatures up to 150 °C [302 °F] available**

Application

The M&C flow meters – type FM-1 and FM-10 – which are highly corrosion-resistant are used for controlling the flow in the case of aggressive gases and liquids. The measuring tube is delivered according to your specific operating data, e.g. medium, temperature, pressure.

Description

The FM-1 and FM-10 float-type flow meters consist of an upright glass tube conically widening inside towards the top, in which a floating ball can move freely up and down. The medium flows from the bottom to the top through the tube and lifts the floating body until there is a ring-shaped gap between the tube wall and the floating ball so that the forces acting on the body are in equilibrium. Each height position of the floating ball corresponds to a certain flow rate, which can then be read on a calibrated scale.

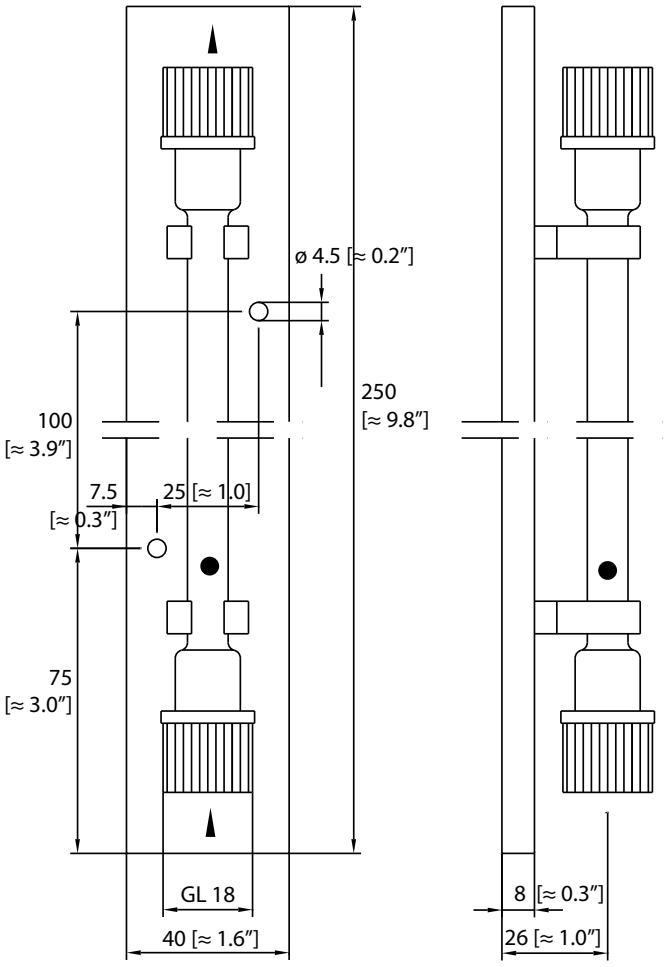
Sealing and connecting points have been reduced in design down to the inlet and outlet connections. All parts in contact with the medium are made of glass or PTFE.

The flow meters can be dismantled in a few simple steps and are therefore easy to clean. The FM-10 flow meter is supplied with a fine adjustment valve at the inlet for precise flow value adjustment.

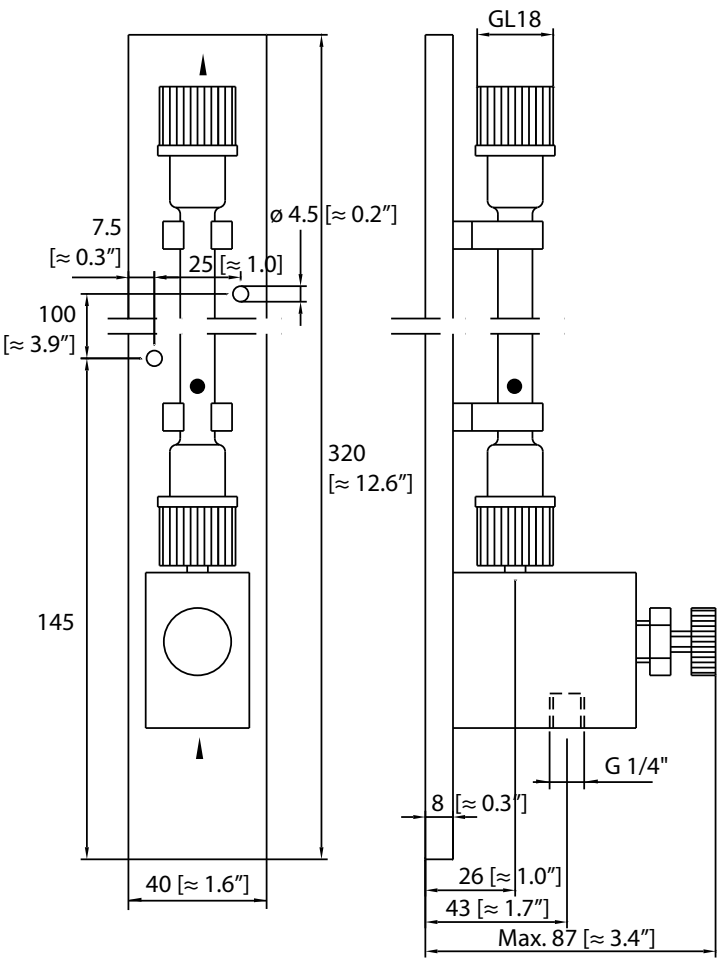
- For automatic flow monitoring, the optical control unit types FA... are used. Please see separate data sheets "Optical Bi-Stable Flow Alarm Sensors Series FA®", "Electronic Controller Series FA®" and "Optical Flow Monitoring Series FA®".
- For connecting the tubes, a special range of connecting fittings is available. Please see separate data sheet "Fittings for GL Glass Connections".

Dimensions

Flow meter FM-1



Flow meter with needle valve in the inlet FM-10



Dimensions in mm [Inches]

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Technical Data

Flow Meter	FM-1	FM-1-H	FM-10	FM-10-H
Needle valve in the inlet	No		Yes	
Standard max. measuring values calibrated at 1.2 bar; 20 °C [68 °F] for air in Nl/h:	Flow meter types on stock are underlined: 16 40 60 <u>100</u> <u>250</u> <u>500</u> <u>800</u>			
Standard max. measuring values calibrated at 1.2 bar; 20 °C [68 °F] for water in Nl/h:	2.5 5 12 25 40 60 100*			
Gas flow rate ...Nl/h air at 20 °C [68 °F]; 1.2 bar	Min. 0.8 to 8 Nl/h; max. 120 to 1200 Nl/h is possible			
Scale of measurement	10 : 1			
Accuracy class	2.5 %			
Scale	Length of the scale 100 mm, calibrated in Nl/h			
Pressure at 20 °C [68 °F]	Max. 4 bar g			
Sample temperature, max.	+80 °C [176 °F]	+150 °C [302 °F]	+80 °C [176 °F]	+150 °C [302 °F]
Ambient temperature, max.	+60 °C [140 °F]	+150 °C [302 °F]	+60 °C [140 °F]	+150 °C [302 °F]
Storage temperature	-25 to +80 °C [-13 to 176 °F]			
Sample gas connections, INLET	GL 18 - ø 6, standard (optionally: ø 8, ø 10)		G 1/4" i DIN ISO 228/1**	
Sample gas connections, OUTLET	GL 18 - ø 6, standard (optionally: ø 8, ø 10)		GL 18 - ø 6, standard (optionally: ø 8, ø 10)	
Method and position of mounting	Wall-mounting/vertical			
Materials of sample-contacting parts	Glass, PTFE		Glass, PTFE, PCTFE	Glass, PTFE, PEEK
Dimensions (H x W x D)	250 x 40 x 40 mm [≈ 9.8" x 1.6" x 1.6"]		320 x 40 x 84 mm [≈ 12.6" x 1.6" x 3.3"]	
Weight	130 g [≈ 0.3 lb]	280 g [≈ 0.6 lb]	300 g [≈ 0.7 lb]	440 g [≈ 1.0 lb]

* Floating ball out of Hastelloy® C (a registered trademark used by Haynes International, USA)
** The dimensions and designation of the screw-in threads correspond to the respective applicable standard. The tolerances of the thread standards are matched to metal threads and cannot be applied to plastic threads.

Part Numbers of the Flow Meter Types on Stock

Measuring range	FM-1	FM-1-H	FM-10	FM-10-H
Flow meter types on stock	Part No.	Part No.	Part No.	Part No.
10 - 100 Nl/h air	09F1000	09F1100	09F1500	09F1550
25 - 250 Nl/h air	09F1010		09F1510	
50 - 500 Nl/h air	09F1020		09F1520	
80 - 800 Nl/h air	09F1030		09F1530	
Option:	09F9000 for special measuring range and special calibration.			

If other versions are required, please order in detail, e.g. flow meter FM-1, 6-60 Nl/h air, 20 °C, 1.2 bar

Please note: Nl/h and Nl/min refer to the German standard DIN 1343 and are based on these standard conditions: 0 °C [32 °F], 1013 mbar.

Please specify in your order:

Measuring range: ... Nl/h;
Medium: ... ;
Pressure: ... bar;
Temperature: ... °C

E.g. flow meter FM-10; 7-70 Nl/h chlorine; 20 °C; 1.2 bar