

# Product Group Wash Bottles & Humidifiers.

Product Category Gas Conditioning.





FP-BF

## Humidifier Series FP®

Version FP-BF

### Special Features

- Easy change of absorbents
- Refillable with a variety of absorbents
- Condition of liquid visible from outside
- Also for keeping the pressure constant upstream the analyzer
- Optimum humidifying effect
- Low stagnant space
- Wall-mounting bracket
- Various materials available
- Different glass body sizes on request

### Application

For the zero point calibration of analyzers that are water vapor cross-sensitive, the humidifier vessel FP-BF is used to humidify the N<sub>2</sub> zero gas upstream of the gas cooler in order to take water vapor cross-sensitivity errors into account accordingly. The zero gas, like the sample gas, is then saturated with water vapor for example, at +5 °C [41 °F].

Test gases with water-soluble components must not be passed via the humidifier vessel.

### Description

The M&C humidifier vessel FP-BF features components from the universal filter range and has the same function as the wash bottle FP-W, but the glass body F-120G or F-120G-D with a smaller volume of just 70 ml is used.

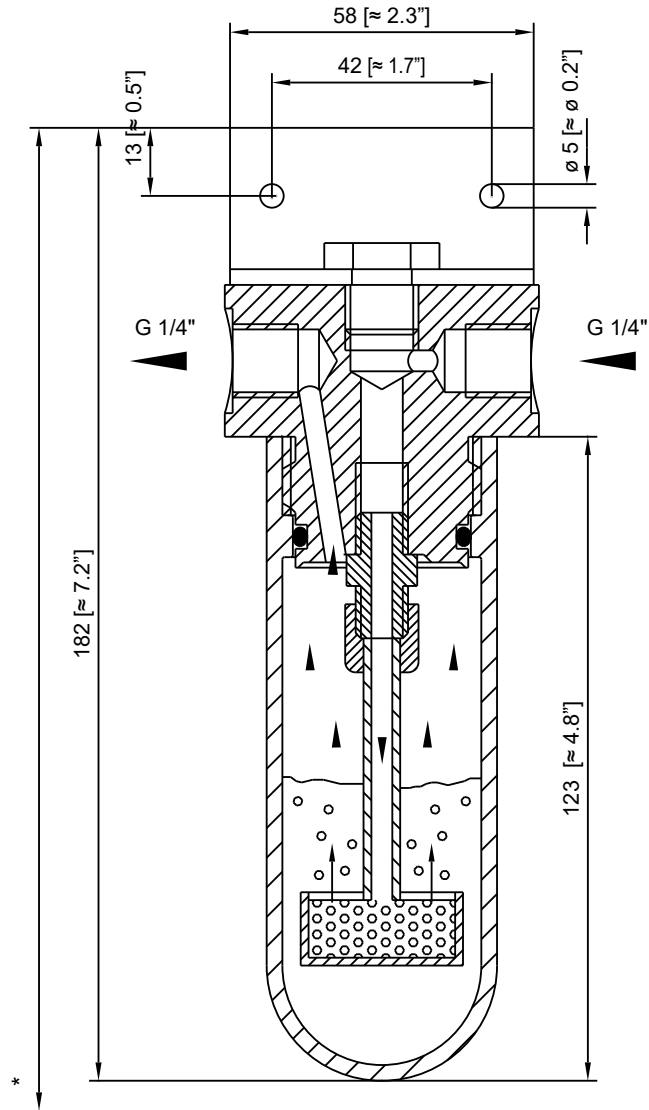
A bubbler ensures optimum humidification of the N<sub>2</sub> zero gas. Without having to open the humidifier vessel, the filling level can be assessed from the outside. No tools are required for refilling. The optimum positioning of the O-ring always ensures a secure sealing between the humidifier vessel body and the humidifier vessel head.

The humidifier can be rotated 180° at the wall-mounting bracket. This allows a flexible adaptation of the in- and outlet to local conditions.

For special applications, the FP-BF-GL25 can be provided with a GL 25-12 connection at the bottom of the glass body.

Overpressure at the outlet or under pressure at the inlet of the humidifier must be avoided. Otherwise the liquid will be displaced to the inlet of the wash bottle.

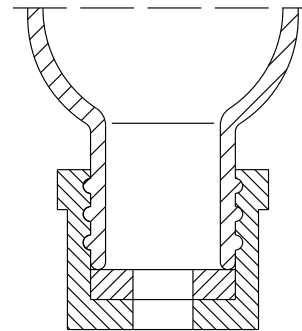
Humidifier FP-BF



\* constructional size 290 [≈ 11.4"]

Dimensions in mm [Inches]

Humidifier FP-BF-GL 25 partial view of glass body with GL 25-12 connector at the bottom



GL 18-6 connector with sealing ring for 6 mm tube

Technical Data

Humidifier	FP-BF	FP-BF-GL25
Part No.	03F5700	03F5750
Sample-contacting parts: head part, connector, tube, o-ring, bubbler, glass body	PVDF FKM, glass	
Contents approx.	70 ml	
Flow rate	Max. 100 NI/h	
Operating temperature	-20 to +80 °C [-4 to 176 °F]	
Storage temperature	-30 bis +110 °C [-22 to 230 °F]	
Operating pressure max.	5 bar abs. at 20 °C [68 °F]	2 bar abs./5 bar abs. with GL connection adapter
Method of mounting	Wall-mounting, position of mounting vertical	
Absorption material	Standard scope of supply without absorption material	
Connection	G 1/4" female DIN ISO 228/1*	G 1/4" female, GL 25-12
Weight	0.3 kg [≈ 2.2 lbs]	

\* 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.

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



FP-W

## Wash Bottle Series FP®

Versions FP-W and FT-W

### Special Features

- Refillable with a variety of absorbents
- Easy change of absorbents
- Condition of liquid visible from outside
- Also for keeping the pressure constant upstream the analyzer
- Wall-mounting

### Application

The wash bottles FP-W and FT-W are used wherever individual components are to be washed out of a sample gas.

A further application is to maintain a constant pressure upstream of an analyzer by establishing a constant differential pressure with regard to the atmosphere by using the second inlet. The admission pressure depends on the liquid level in the wash bottle and is maximum 10 mbar.

### Description

The M&C wash bottles FP-W and FT-W feature components from our universal filter range.

The gas passes a bubbler that ensures an optimum outwashing effect. The glass filter body enables the examination of the absorbent without dismantling the wash bottle. No tools are required for changing the absorbent. The optimum position of the O-ring guarantees the tightness between body and head of the wash bottle.

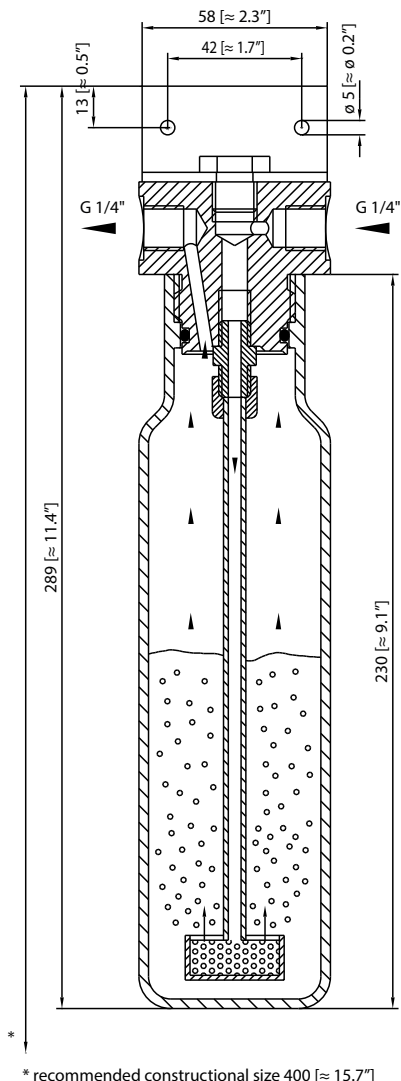
The wash bottle can be rotated about 180° at the wall-mounting bracket. This allows a flexible adaptation of the in- and outlet to local conditions.

The wash bottle FP-W is also available with an optional GL 18-6 connector at the bottom of the glass body.

To avoid clogging of the bubbler, liquid and particle separation should be arranged upstream of the wash bottle.

Overpressure at the outlet or underpressure at the inlet of the wash bottle must be avoided. Otherwise, the liquid will be displaced to the inlet of the wash bottle.

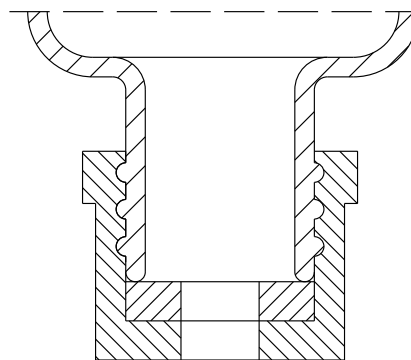
Wash bottle FP-W, FT-W



\* recommended constructional size 400 [≈ 15.7"]

Dimensions in mm [Inches]

Wash bottle FP-W-GL18, partial view of glass body with GL18-6 connector at the bottom



GL18-6-connector with sealing ring for 6-mm-tube

Technical Data

Wash bottle	FP-W	FP-W-GL18	FT-W
Part number	03F5300	03F5500	03F5400
Sample-contacting parts: head part, connector, tube, o-ring, bubbler, glass body	PVDF FKM Glass		PTFE PTFE, FEP Glass
Contents approx.	0.4 l [≈ 0.1 gal]		
Flow rate	Max. 250 NI/h [4.2 LPM]		
Operating temperature	-20 to +80 °C [-4 to 176 °F]		-20 to +100 °C [-4 to 212 °F]
Storage temperature	-30 to +110 °C [-22 to 230 °F]		-20 to +180 °C [-4 to 356 °F]
Operating pressure	Max. 1 bar, at 20 °C [68 °F]		
Method of mounting	Wall-mounting with mounting bracket, mounting position vertical		
Absorption material	Standard scope of supply without absorption material		
Connection	G 1/4" female, DIN ISO 228/1*	G 1/4" female, GL 18-6	G 1/4" female, DIN ISO 228/1*
Weight	0.4 kg [≈ 0.9 lb]		

\* 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.

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