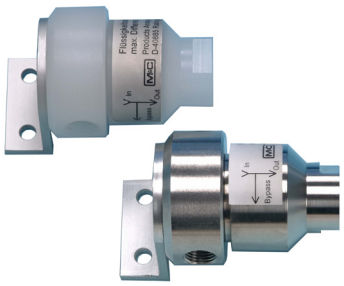

LB-1PV, LB-1SS

Liquid stop LB-1PV and LB-1SS

for protecting gas analysers and gas-phase chromatographs against liquids

Special Features

- **Sure protection against liquid inrush**
- **Reliable removal of liquid coming through**
- **Also suitable for high pressures**
- **Available in stainless steel and PVDF**
- **Easy change of the hydrophobic protective membrane**
- **With wall mounting holder**

Application

The M&C liquid-stop LB-1.. is suitable for protecting analysers against inrush of liquids out of the gas conditioning unit which is mounted before the analyser. This avoids major damages of the analyser.

The most useful position of the liquid stop LB-1.. is behind the gas conditioning unit, directly before the flowmeter of the analyser.

Changing the membrane is easy to handle. The optimum positioning of the sealing O-rings guarantees always a sure sealing of both housing parts.

The filter inlet and outlet can be turned by 180° on the wall mounting holder so that a flexible adaption to local circumstances is possible during mountage.

Description

The hydrophobic protective membrane of the liquid-stop LB-1.. is placed between the two parts of the housing which are screwed together. It is lined with a porous glass filter frit in order to secure stable proportions.

The pore sizes of the protective membrane are designed in such a way that gas molecules and steam can pass through but liquid molecules are retained.

The gas inlet and outlet are positioned in an horizontal line inside the housing. The liquid outlet shows downwards when being mounted.

Due to the horizontal flow direction of the gases and because possible liquids are draining off on the protective membrane due to its gravity, the leaking through of liquids to the analyser is avoided.

Eventually occuring liquid can be let off via a peristaltic pump SR25.1, separator and automatic liquid drain ADS-SS or a condensate vessel TG1 (dip tank). The LB-1 has got a respective connection possibility.

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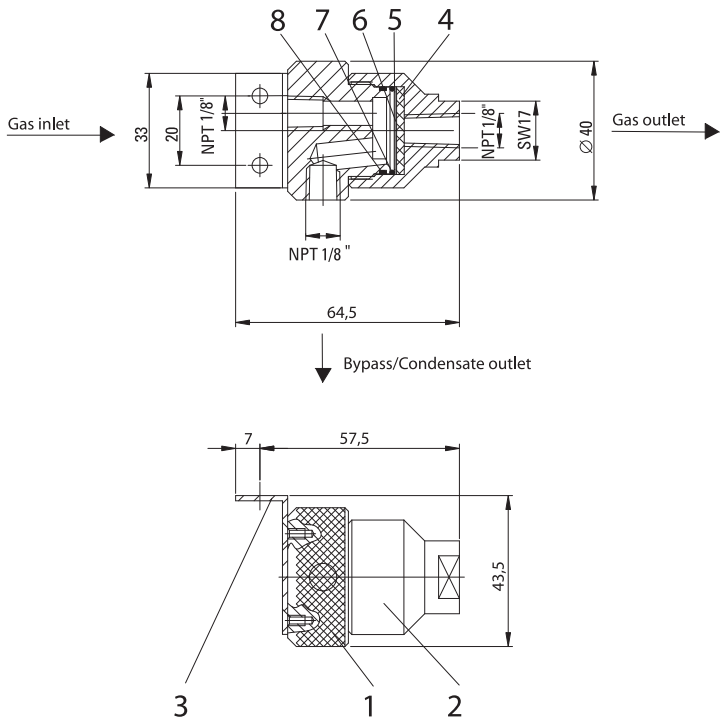
Dimensions



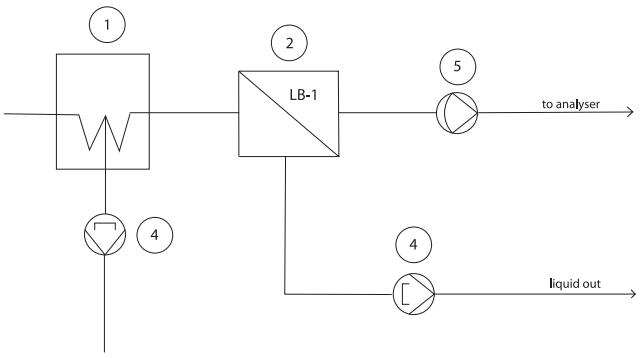
1 Upper part of housing
2 Lower part of housing
3 Holding angle
4 Glass filter frit
5 Hydrophobic protective membrane
6 Flat ring of Teflon
7 O-ring FPM
8 O-ring FPM

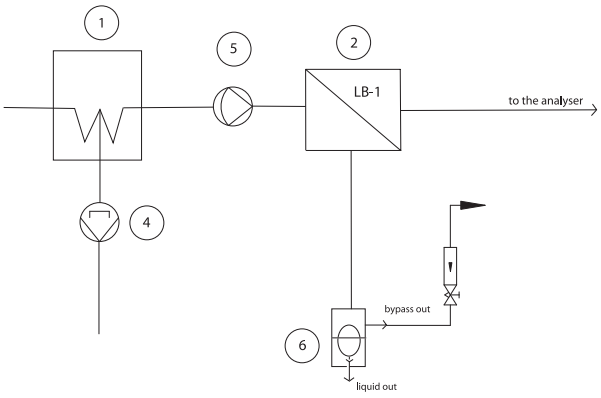
Dimensions in mm

Technical Data

Liquid-stop	LB-1PV	LB-1SS
Part No.	03F4005	03F4000
Gas flow	Max. 200 Nl/h	
Gas pressure	0.3 - 2 bar abs. ΔP max. 0.5 bar	0.3 - 10 bar abs. ΔP max. 0.5 bar
Differential pressure with clean protection membrane, medium air, 20 °C [68 °F]	50 100 mbar 100 200 Nl/h	
Temperature sample gas	Max. +80 °C [176 °F]	Max. +100 °C [212 °F]
Ambient temperature	0 °C to +60 °C [32 to 140 °F]	
Storage temperature	-25 °C to +80 °C [~-13 to 176 °F]	
Stagnant space	4 ml	
Material of gas bearing parts	PVDF, FPM, PTFE, Polyester, glass	SS316Ti, FPM, PTFE, Polyester, glass
Membrane Characteristic (AATCC 118-1989ASTM)	Oil rating 6	
Sample gas / drain connections	NPT 1/8"i DIN ISO 228/1	
Mounting / weight	Wall mounting / approx. 0.3 kg [0.66 lb]	

Examples for application





1 Gas cooler
2 Liquid-stop LB-1
4 Liquid drain with peristaltic pump SR25.1
5 Gas sample pump
6 Seperator and automatic liquid drain ADS-SS

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Connection of the gas sample line

The connections (3 x 1/8"NPT i) for the gas sample lines are marked on the type plate and in the above drawing. They are executed with respective screw fittings (see also data sheet 11.6) which are screwed gastight into the LB-1 with the aid of PTFE tape.

Changing the protection membrane

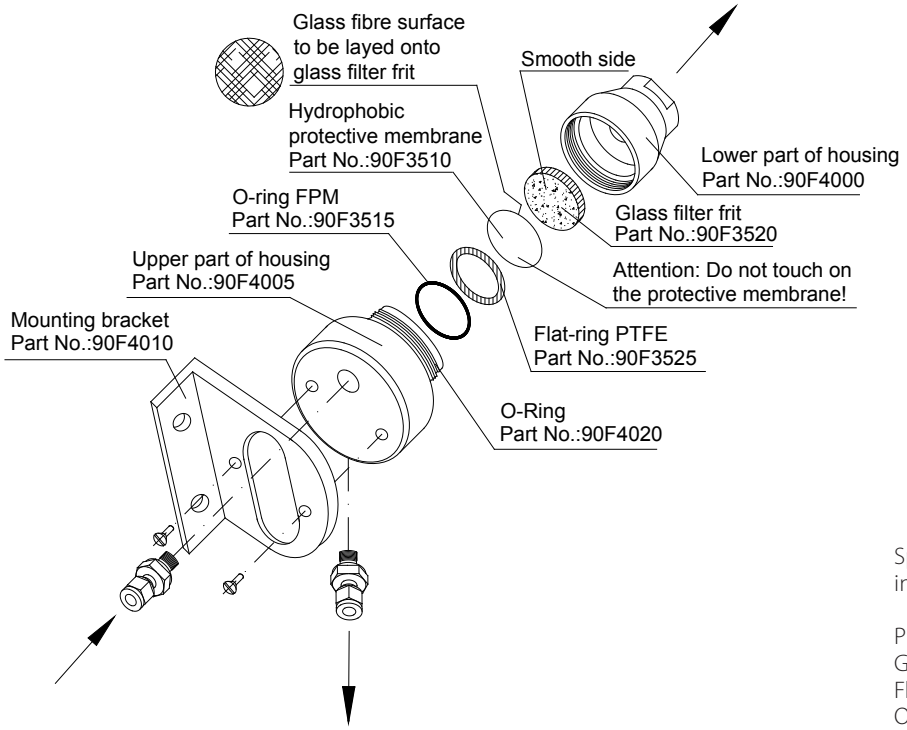
In case the hydrophobic protection membrane is dirty or overflowed so that the required flowrate is too short, it is advisable to exchange the protective membrane incl. glass frit, PTFE flat ring and Viton O-ring (set I of spare parts, Part-No. 90F3530).

In case of interruption of the flow, the system has to be checked immediately!
During mountage attention must be paid to absolute cleanliness because impurities may impair the function of the LB-1!
By touching the surface with your hand, the protection membrane will be destroyed!

Aggressive condensate possible. Wear safety glasses and protective clothes!

For changing the protective membrane, unscrew the lower part of the liquid stop with the aid of an open-jawed spanner SW17. After this, take out the O-rings and the glass frit, clean the housing parts and remount the LB-1 as shown below.

For a perfect function it is necessary that the protective membrane is positioned with its surface with fibre glass structure onto the flat side of the glass frit! When changing the O-ring on the upper part of the LB-1 (Part-No. 90F4020), it is important to draw up and not to roll up the O-ring. This way, a twisting and a respective leakage are avoided.



Spare part set I Part No. 90F4030
including:

Protective membrane Part No. 90F3510
Glass filter frit Part No. 90F3520
Flat-ring PTFE Part No. 90F3525
O-ring FPM Part No. 90F3515
O-ring FPM Part No. 90F4020

Recommended spare parts

Part No.	Description
90F4020	FPM O-ring for upper part LB-1
90F3515	FPM O-ring for CLF-5, CG-2 und LB-1
90F3525	PTFE flat ring for CLF-5 and LB-1
90F3510	Hydrophobic protective membrane for CLF-5 and LB-1
90F3520	Glass filter frit for CLF-5 and LB-1
90F4030	Spare part set LB-1 consisting of glass filter frit, protective membrane, flat ring PTFE, O-rings FPM