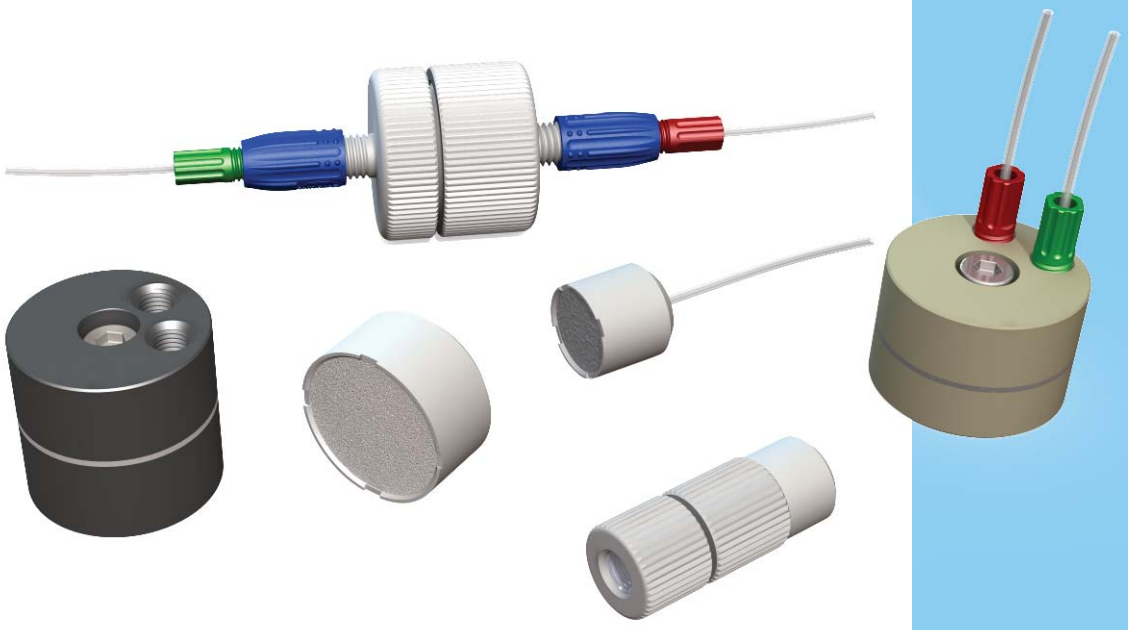
Omnifit

Bubble Traps & Filters



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Filtration & De-Bubbling Guide

MEDIA FILTRATION

If you need to ensure that your solvents are free from particulate matter, some form of filtration will be needed. Omnifit® offers both reservoir (bottom of bottle) and in-line filter units for the removal of particulates.

Reservoir filters

A reservoir filter can remove particulates from the solvent that may otherwise damage expensive hardware. It can also hold your tubing in place at the bottom of the bottle. Omnifit® reservoir filters are made from biocompatible PTFE and have slots in the body that allow the filter to sit on the bottom of the bottle allowing removal of virtually all the liquid. Two sizes are available to fit GL45 and GL32 or 38-430 bottles.

In-line filters

An in-line filter placed upstream of any detection instrumentation can be used as a means to trap particles released through normal wear of any pump seals. Without an in-line filter, these particles could be flushed through the system resulting in damage and contamination. Omnifit® in-line filters are available with 25 micron or 100 micron filters.

SPARGING

Filter bubblers or sparging filters can be used either as reservoir filters or in sparging applications. As a sparging filter, they are used to disperse sparging gas into very fine bubbles for minimal solvent disturbance and maximum sparging efficiency. Omnifit® filter bubblers are made from stainless steel or PTFE and are suitable for most solvents. The PTFE version is ideal for applications where biological activity is critical and could be negatively impacted by the use of metals in the fluid path.

DE-BUBBLING

Dissolved gasses can result in bubble formation in pumps or detectors. Even after de-gassing solvents, bubbles may still form. The Omnifit® bubble trap is used in-line to trap any bubbles which have come out of solution. Located between the reservoir and the pump, the Bubble Trap catches and retains air bubbles from the solvent before they get to the pump.

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Plastics

ETFE = ethylene tetrafluoroethylene
PTFE = polytetrafluoroethylene
PEEK™ = polyetheretherketone
PP = polypropylene
PC = polycarbonate
PCTFE = polychlorotrifluoroethylene

Trademarks

RESERVOIR FILTERS AND BUBBLERS

Bottom-of-bottle filters and spargers for simple, effective solvent filtration

- Push-fit onto ⅛" OD tube
- Inert, all-PTFE filter units with 10µm porosity filters
- PTFE or stainless steel bubblers

Bottom-of-bottle filters

All-PTFE construction enables the filters to be used with the harshest chemicals. The filter units have slots in the body to enable virtually all liquid to be removed from the bottle, minimizing waste. 10µm porosity PTFE filters ensure even the smallest particulates are removed from the solvent supply.

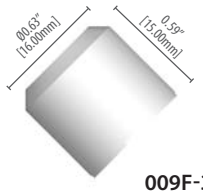
Filter spargers (bubblers)

PTFE or stainless steel elements are suitable for filtration or sparging applications.

Materials

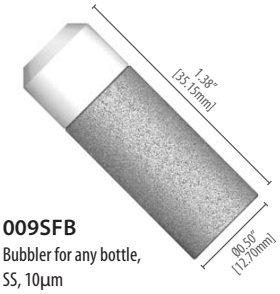
Component	Body	Filter
009F-32	PTFE	10µm PTFE
009F-45	PTFE	10µm PTFE
009SFB	PTFE	10µm SS

Ordering information



009F-32
Filter for GL32 bottle, PTFE, 10µm

009F-45
Filter for GL45 bottle, PTFE, 10µm



009SFB
Bubbler for any bottle, SS, 10µm

BOTTOM-OF-BOTTLE FILTERS

PART NUMBER	DESCRIPTION	QTY
009F-32	Bottom-of-bottle filter for GL32 /38-430 bottle	ea
009F-45	Bottom-of-bottle filter for GL45 bottle	ea
009FE-32	Replacement filters for 009F-32	20pk
009FE-45	Replacement filters for 009F-45	20pk

FILTER BUBBLERS

009SFB	Stainless steel filter bubbler	ea

IN-LINE FILTERS

Inert microporous filters remove particulates and protect solenoid valves and sensitive instruments

- Inert flow path with all-PTFE wetted parts
- Simple filter replacement
- Fluid distribution pattern for optimum filtration
- Easy installation in-line

These all-PTFE in-line filter units offer a highly inert flow path suitable for applications involving aggressive and high-purity fluids. The filters ensure that particullates are removed from the medium, protecting downstream instrumentation from particulate damage. PTFE solenoid valves for example, are inherently susceptible to damage from particulates.

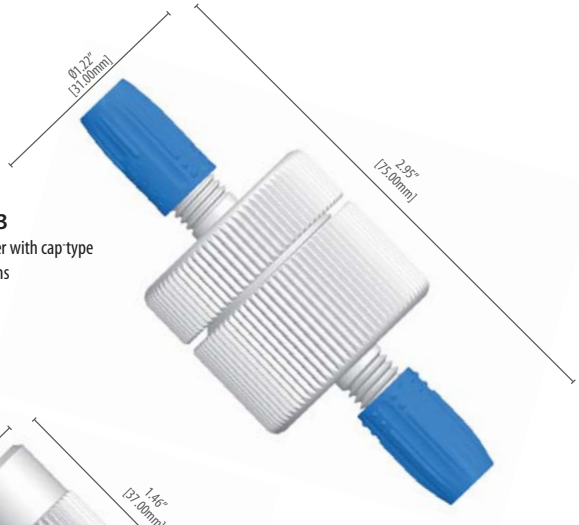
Each filter unit comprises an all-PTFE housing which holds a removable PTFE filter. The filter element can be easily and economically replaced. A distribution pattern machined into the filter housing ensures that liquid is spread across the entire filter surface, giving maximum usage of the filter area. This distribution pattern is present on both sides of the filter housing, meaning that the filters are bi-directional with either port able to act as the inlet. However, once installed, flow direction should not be reversed, as contamination may result.

INLINE FILTERS

PART NUMBER	FILTER MATERIAL	POROSITY	CONNECTION 1	CONNECTION 2	QTY
003303	PTFE	50µm	Omnifit® cap	Omnifit® cap	ea
003305	PTFE	20µm	¼•28 F	¼•28 F	ea

SPARE FILTERS

003303F50	Spare filters for 003303 (50µm)	20
003305F	Spare filters for 003305 (20µm)	20
003305F50	Spare filters for 003305 (50µm)	20



003303
In-line filter with cap-type connections

003305
In-line filter with ¼•28 F connections

BUBBLE TRAP & HIGH FLOW BUBBLE TRAP

Effective, in-line removal of bubbles, with or without vacuum assistance

- Effective removal of bubbles from aqueous solutions
- Up to 6 ml/min flow rate or 60 ml/min under vacuum
- Quick, in-line connection with minimal maintenance

Operation

The Omnifit® Bubble Trap and High-Flow Bubble Trap effectively remove bubbles* from aqueous solutions. The units are connected in-line, downstream of a pump, using ¼"-28 UNF threaded fittings, such as Omni-Lok™. When a fluid containing bubbles flows through the unit, aqueous fluid is retained while bubbles are forced through a micro-porous, hydrophobic membrane (PTFE). The membrane function depends on its hydrophobicity, therefore the units are only suitable for use in aqueous systems and NOT with organic solvents.

The High Flow trap has a vacuum port on the atmosphere side. When a vacuum is applied, the pressure differential between the system and atmosphere sides increases, causing bubbles to be sucked out of the liquid, and permitting increased liquid flow. The trap will also operate as a stand-alone unit without a vacuum pump.

Flow rate & pressure rating

Maximum flow rate depends on the amount of bubbles in the liquid. Typical operating range is 0.5 - 2.0ml/min, but up to 6ml/min can be achieved if few bubbles are present in the liquid. Up to 60ml/min can be achieved for the high-flow trap when a vacuum line is used.

Both units are pressure rated up to 30psi positive pressure on the system side. De-bubbling is effected under positive pressure. It is not possible to pull liquid through the unit under vacuum as this would introduce bubbles into the fluid. If the system back-pressure is insufficient for the unit to function, a length of tube can be fitted on the outlet side to create more back-pressure.

Maintenance

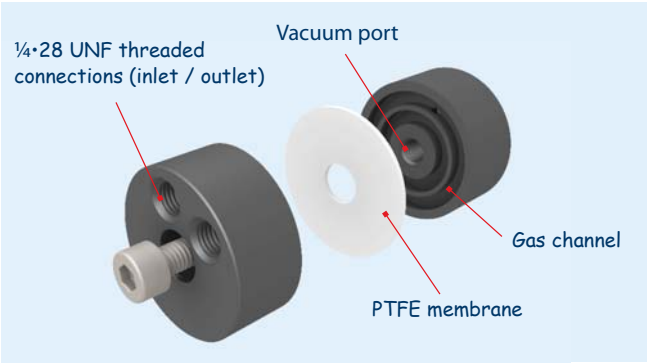
Membrane lifetime strongly depends on the kind of fluid used. For pure water, the lifetime may be several months or years. Buffer solutions reduce lifetime and it is advisable to flush the unit with de-ionized/distilled water after use to prevent salt crystals forming.

Ordering information

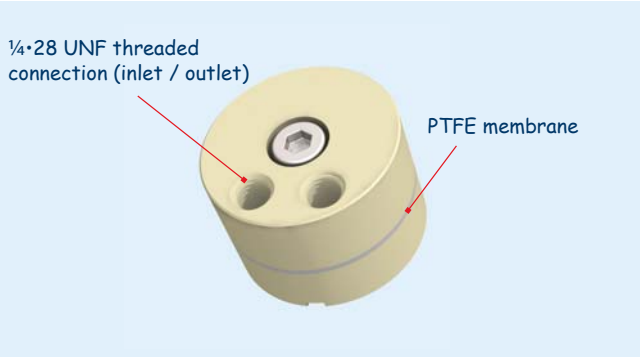
BUBBLE TRAPS

PART NUMBER	DESCRIPTION	QTY
006BT	Bubble trap	ea
006BTM	Replacement filter elements for standard trap	5
006BT-HF	High flow bubble trap	ea
006BT-HFM	Replacement filter elements for high flow trap	5

HIGH FLOW BUBBLE TRAP



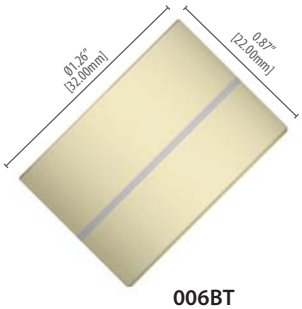
STANDARD BUBBLE TRAP



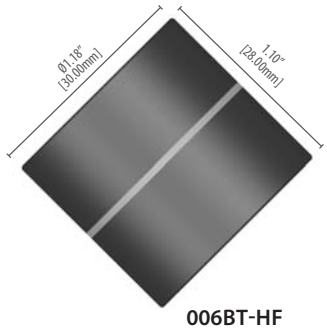
Materials

Part #	Body
006BT	PEEK™
006BT-HF	PVC

Dimensions



006BT
Bubble Trap



006BT-HF
High Flow Bubble Trap

* Note: the bubble traps do not remove dissolved gases

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