Laboratory

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SolVac® Filter Holder

Magnetic filter holder simplifies clean-up and degassing of mobile phase solvents and other solutions

- Sample volume is not limited by size of collection vessels used with bottle-top filters.
- Versatile design. Fits most HPLC bottles, flasks, and containers, and eliminates added steps of washing flasks and transferring mobile phase solvents from flask to reservoir.
- Draws directly from HPLC solvent bottle. Less likely to spill aggressive solvents than glass funnels or disposable cups.
- Durable plastic construction. Less likely to break than glass funnels, assemblies, or pick-up adaptors.
- Patented magnetic seal is reliable and leak proof. Eliminates the possibility of membrane shifting or tearing which can occur with aluminum clamps or threaded holders.
- Reusable, chemically resistant polypropylene construction. Resistant to common HPLC mobile phase solvents such as methanol, acetonitrile, and tetrahydrofuran.
- Unlimited membrane selection. Accepts 47 mm disc filters with choice of membrane based on the type of solvent or solution being filtered.



Applications

Use the SolVac filter holder to remove contaminating particulate and degas mobile phase solvents. Easily permits the filtration of up to 4 liters of mobile phase solvent at once without the need to continuously refill a filter funnel. Place the SolVac filter holder on a receiving vessel rated for vacuum applications, connect to a vacuum source, place the inlet tube into the solvent to be filtered, and begin filtration.

Durable polypropylene construction provides chemical compatibility for common HPLC mobile phase solvents such as methanol, acetonitrile, and tetrahydrofuran. All filter holder surfaces that come into direct contact with your mobile phase are polypropylene. In addition, the durable plastic construction means the device will not shatter if accidentally dropped, which can occur with glass funnels, assemblies, or pick-up adaptors.

Specifications

Materials of Construction

Upper Housing, Housing Base:
Polypropylene

Feedline Tubing:
Ultra chemical-resistant Tygon◆,
4.8 mm (3/16 in.) ID

Thumb Clamp:
Celcon◆ plastic

Feedline Sinker:
PTFE

Vacuum Port Adaptor, Membrane Seal Gasket, and Seal Gasket:
Polyethylene

Effective Filtration Area
10.2 cm^2

Filter Size
Accepts 47 mm filter

Inlet/Outlet Connections
Tapered inlet accepts 3.2 - 6.4 mm (1/8 - 1/4 in.) ID tubing; outlet seals to bottles with openings 17.8 - 48.3 mm (0.7 - 1.9 in.) OD

Vacuum Port Adaptor
4.8 - 7.9 mm (3/16 - 5/16 in.) tapered hose barb

Maximum Vacuum
64 cm Hg (25 in. Hg) at 25 °C

Operating Temperature
Ambient; not to exceed 38 °C (100 °F); not autoclavable

Chemical Compatibility
500 mL of each of the following HPLC-grade solvents—water, acetonitrile, methanol, tetrahydrofuran, hexane, and NMP—were filtered through a new SolVac filter holder. Three-milliliter aliquots from each filtrate were tested for extractable materials under common HPLC conditions. None of the chromatograms exhibited any trace of extractables leached from the SolVac filter holder to the final filtrate.

How to Use



1. Place base on the receiving vessel with gasket seal seated on the rim of the vessel.* Place the membrane on the clean, dry filter support. If using wwPTFE turn on vacuum to remove potential curling and seat the filter disc.



2. Attach inlet feedline tubing to the tapered inlet on the upper housing. Place upper housing onto housing base to securely seal the membrane.



3. While holding filter housing assembly on receiving vessel, attach vacuum tubing from vacuum source to the vacuum port adaptor located on the side of the housing base.



4. Place feedline tubing into solvent to be filtered. Be sure sinker is located well below the surface of the solvent, preferably on the bottom of the vessel. Place the thumb clamp just above the solvent bottle and close it.



5. Apply vacuum while firmly holding the SolVac filter housing, applying even pressure to both sides, onto the receiving vessel until full vacuum is drawn. When the required vacuum is achieved and the system is "charged," open the thumb clamp to start the filtration. Continue to filter until all of the solvent is drawn through or the receiving vessel is full.
NOTE: To stop the filtration at any time, close the thumb clamp. After closing the thumb clamp it is possible to change the reservoir vessel.

** Always use a safety-coated receiving vessel that is less than 4 L and rated for vacuum applications. Failure to do so may result in implosion of the receiving vessel and potential injury to the user.*

Recommendations for Optimum Performance

- Always begin filtration using a dry membrane and a clean, dry support base to prevent airlock, which can decrease or prevent liquid flow.

  PTFE , wwPTFE and Supported Membranes. Certain membranes such as supported membranes and fibrous media (e.g. PTFE and glass fiber) may not seal well in the SolVac filter holder due to the rigidity of the membrane or media surface. This may result in reduced flow rate. To correct this occurrence, place a membrane seal gasket on top of the membrane prior to final assembly of the filter holder. Make sure that you save these gaskets once you are done with your filtration so that you can use them in the future.

  wwPTFE membranes: To ensure that the membrane is seated properly within the SolVac, turn the vacuum source on to draw the membrane to the lower half of the housing and prevent curvature within the device before closing the upper half of the housing.

  Membranes. Once membranes are wetted with fluid, they do not allow air to pass through them. Because of this, it is critical that the PTFE sinker is on the bottom of the reservoir you are filtering from to minimize the potential to draw air into the filter holder prior to completing filtration.

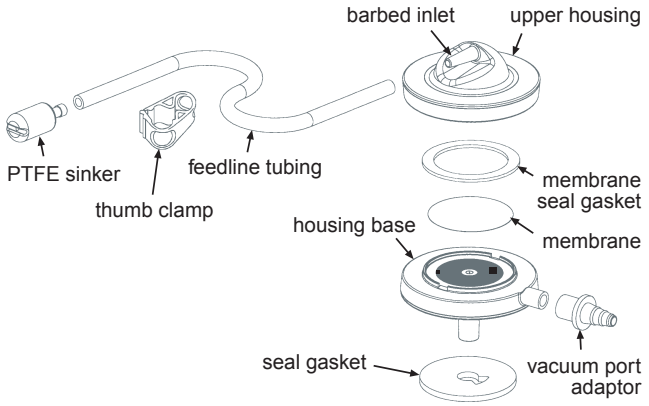
- Always be sure sinker and feedline remain below the surface of the solvent to prevent air from getting into the feedline and creating an airlock.
- Use a receiving vessel that is of equal or greater volume than the vessel containing the mobile phase solvent to be filtered. Always monitor the filtration process to prevent overflow.
- For optimum performance use vacuum pressure of 51 - 64 cm (20 - 25 in.) Hg.
- Conventional lab vacuum pumps such as Pall Laboratory vacuum pumps are ideal for use with the SolVac filter holder.

Recommendations for Cleaning

The SolVac filter holder is made of durable polypropylene and can be cleaned in the same manner as glassware, or by rinsing an empty holder with the solvent to be filtered. After discarding the rinse fluid, be sure to dry the membrane support prior to placing the membrane into the holder. Do not autoclave.

Order Information

Part Number	Description	Pkg
4020	SolVac filter holder with 61 cm (2 ft.) feedline tubing, sinker, vacuum port adaptor, thumb clamp, 2 membrane seal gaskets, and 2 seal gaskets	1/pkg
4022	122 cm (4 ft.) replacement feedline tubing	1/pkg
4023	Replacement seal gaskets	10/pkg
4025	Membrane seal gasket kit	10/pkg
4026	Sinker replacement kit	2/pkg
4028	Clamp replacement kit	2/pkg



Complementary Products

Mobile Phase Membrane Disc Filters

Part Number	Description	Application	Pore Size	Pkg
60539	wwPTFE (water wettable PTFE), 47 mm	Recommended for use with organics and aqueous liquids	0.2 µm	50/pkg
60548	wwPTFE (water wettable PTFE), 47 mm	Recommended for use with organics and aqueous liquids	0.45 µm	50/pkg
66143	TF-200 (PTFE), 47 mm	Recommended for use with all organic liquids	0.2 µm	100/pkg
66149	TF-450 (PTFE), 47 mm	Recommended for use with all organic liquids	0.45 µm	100/pkg
66155	TF-1000 (PTFE), 47 mm	Recommended for use with all organic liquids	1 µm	100/pkg
66602	Nylaflo™ (nylon), 47 mm	Not recommended for use with acidic solutions	0.2 µm	100/pkg
66608	Nylaflo (nylon), 47 mm	Not recommended for use with acidic solutions	0.45 µm	100/pkg
60301	Supor® 200 (polyethersulfone), 47 mm, plain	Not recommended for use with ketones	0.2 µm	100/pkg
60173	Supor 450 (polyethersulfone), 47 mm, plain	Not recommended for use with ketones	0.45 µm	100/pkg

Vacushield™ Vent Device**

Part Number	Description	Pkg
4402	0.45 µm, 50 mm	3/pkg

***Recommended to protect valve and pump components from damage when filtering aqueous solutions*

Stainless Steel Forceps

Part Number	Description	Pkg
51147	Stainless steel forceps, black	1/pkg
4690	Stainless steel forceps, multi-colored	3/pkg

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