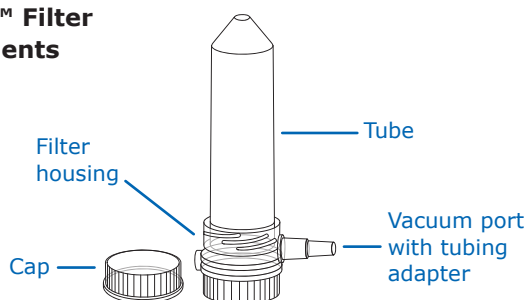## User Guide

Milliflip™ Filter

MFHV00025

For research use only.

Non-sterile. Single-Use Only.

Introduction

The Milliflip™ filter is a disposable, non-sterile filtration device used in the pre-filtration and clarification of water, buffers and aqueous solutions.

Milliflip™ Filter Components

WARNING: This device is not rated for pressure-driven filtration and may cause damage or injury if you apply pressure.

Chemical Compatibility

Milliflip™ filters are compatible with most aqueous solutions including:

- Aqueous buffers
- Clorox® bleach (5% solution)
- Water

Many factors such as variability in temperature, concentrations, and duration of exposure affect the chemical compatibility of filtration devices. Test your solution before use.

For more information go to SigmaAldrich.com/FilterChemicalCompatibility.

CAUTION: Perform filter binding analysis before filtering very dilute proteins, hormones, or solutions.

Materials Required (not provided)

- Vacuum source (with tubing)
- Standard 50 mL tubes come in two thread types: "single-lead" and "double-lead". Milliflip™ filters are compatible only with double-lead threaded tubes. These tubes have two leads, 180° from each other, that wind around the tube from the top. See Product Ordering.

  CAUTION: Leakage may occur if the Milliflip™ filter is attached to a single-lead tube.

Specifications

Materials of Construction

Milliflip™ Filter Housing	Acrylic
Membrane, type HV	Durapore® Hydrophilic Polyvinylidene Fluoride (PVDF)
Pore Size	0.45 µm
Tube	Polypropylene
Adapter	Polyethylene
Vent matrix	Ultra-high-molecular-weight polyethylene
Vacuum port matrix	Cellulose acetate
Tube stand (1 per box)	Styrene
Effective filtration area	6.7 cm^2 (1.04 in^2)
Capacity	50 mL
Storage temperature limits	4 °C to 45 °C (39 °F to 113 °F)

MilliporeSigma

How to Use the Milliflip™ Filter

CAUTION: If the tube has separated or loosened, re-attach tube to filter housing nearest vacuum port and secure tightly.

1. Place the sample to be filtered into a 50 mL threaded sample tube. If using a funnel, see How to Use the Milliflip™ Filter with a 50 mL Funnel.

   CAUTION: Do not filter more than 50 mL of solution through a Milliflip™ filter; solution may leak into the vacuum source and cause damage.

2. Screw the Milliflip™ filter into the top, open end of the sample tube.
   Secure it tightly.

3. Flip over the assembly so that the sample tube is above the Milliflip™ filter. Place the complete assembly into a tube base, rack, or tray.
   CAUTION: Be sure to keep the assembly in an upright position while filtering to ensure proper filtration.

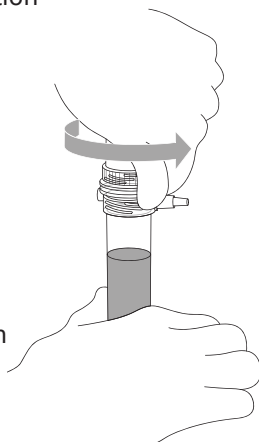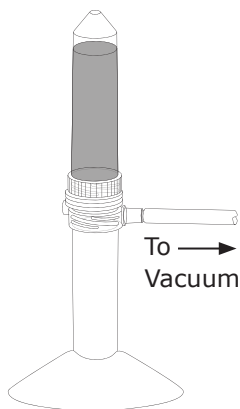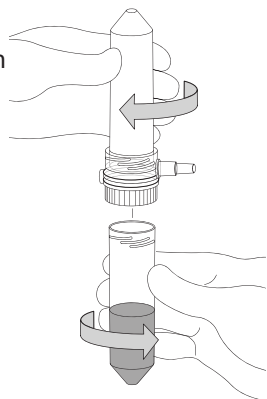4. Attach a regulated vacuum source to the vacuum port on the side of the Milliflip™ filter.
   - The universal tubing adapter (provided) fits most vacuum hoses.
   - Use a 1 L vacuum filtering side-arm flask with stopper and Millex®-FG$_{50}$ vent filter.
     WARNING: Wear eye protection whenever using glass or plastic vessels under partial vacuum.

5. Turn on the vacuum source to draw the solution through the membrane into the empty sample tube at the base.
   NOTE: If you use a water aspirator as the vacuum source, use a check-valve or in-line catch flask to prevent accidentally drawing water into the receiving bottle.

6. Disconnect the vacuum source when filtration ends. Unscrew the Milliflip™ filter, along with the empty tube, and dispose of according to all applicable international, federal, state, and local regulations.

7. Cap the tube containing the filtered sample.

To ⟶ Vacuum

How to Use the Milliflip™ Filter with a 50 mL Funnel

With some applications, foaming may occur during filtration. To prevent this, use a 50 mL funnel accessory that screws into the top of the Milliflip™ filter. See Product Ordering for a list of manufacturers and other products.

1. Screw the funnel into the top of the Milliflip™ filter and place the complete assembly into a tube base, rack, or tray.

2. Pour the sample to be filtered into the funnel.

3. Attach a regulated vacuum source to the vacuum port on the side of the Milliflip™ filter.
   - The universal tubing adapter (provided) fits most vacuum hoses.
   - Use a 1 L vacuum filtering side-arm flask with stopper and Millex®-FG$_{50}$ vent filter.

   WARNING: Wear eye protection whenever using glass or plastic vessels under partial vacuum.

4. Turn on vacuum source to draw the solution through the membrane into the empty sample tube at the base.

5. Disconnect the vacuum source when filtration ends. Unscrew the unit, along with the empty funnel, and dispose appropriately. Cap the tube containing the filtered sample.

To ⟶ Vacuum
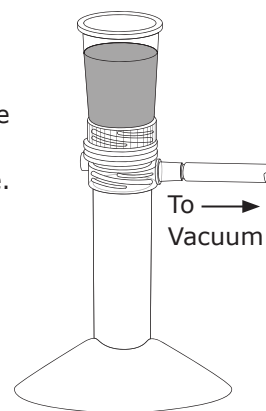
Product Ordering

Purchase products online at SigmaAldrich.com.

Description	Pore Size	Membrane	Qty	Catalogue No.
Non-Sterile Filters				
Milliflip™-HV filter with cap	0.45 µm	Durapore® Hydrophilic Polyvinylidene Fluoride (PVDF)	25/pk	MFHV00025
Millex®-FG$_{50}$ filter, for vacuum line protection	0.2 µm	Fluoropore™ Hydrophobic Polytetrafluoroethylene (PTFE)	10/pk	SLFG05010

Additional Items

Description	Qty	Catalogue No.
Funnel		
Steriflip® funnel attachment, 50 mL, non-sterile	25/pk	SC50FL025
Vacuum/pressure pump		
115V, 60 Hz	1	WP6111560
220V, 50 Hz	1	WP6122050
100V, 50/60 Hz	1	WP6110060
Filtering Flasks		
Millipore® Vacuum Filtering Side-Arm Flask (1 L)	1	XX1014705
Threaded Side-Arm with Quick Vacuum Disconnect (1 L)	1	XX1514706
Stoppers		
No. 8, 9.5 mm (3/8 in.) hole, Silicone with Parylene Coating	5/pk	XX2014718
No. 8, Perforated, Silicone with Parylene Coating	5/pk	XX1014708
Double-Threaded 50 mL Tubes by Manufacturer		
BD Falcon™	352070, 352098	
Fisherbrand®	05-539-6, 05-539-7, 05-539-8, 05-539-9,	
Greiner®	210261, 210270, 227261, 227270	
Iwaki®	2341-050	
Nunc™	334959, 334940	
Perfector Scientific	2650	

Notice

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