User Guide

Stericup® and Steritop®

Filtration and Storage Systems

For research use only.

Introduction

Stericup® and Steritop® systems are filter funnel products for use in the sterile vacuum filtration of aqueous solutions such as tissue culture media and biological fluids. The systems are designed to maximize flow and reduce foaming and protein denaturation. The Stericup® system has a quick release connection and includes a receiver flask (bottle) with cap. The Steritop® system has a standard threaded connection and does not include a bottle. Stericup® and Steritop® systems are sterile and non-pyrogenic.

Usage Guidelines

- Choose a Stericup® or Steritop® system with a capacity large enough to accommodate the volume of fluid being filtered. Systems are available in 150, 250, 500, or 1,000 milliliter (mL) capacities.
- Perform binding studies before you filter very dilute biological solutions.
- To avoid clogging the membrane when filtering a particulate-laden solution, place a glass fiber prefilter (Cat. No. AP2007500) on top of the membrane filter in the funnel.
- To ensure safe use, always follow good laboratory practices and review the following warnings.

WARNINGS

- Do not use these systems in direct patient care applications or diagnostic procedures; they were designed for laboratory use only.
- Stericup® and Steritop® systems are for single use only; do not reuse.
- Do not autoclave or expose to temperatures greater than 50 °C (122 °F), as this may damage the product.
- To avoid possible injury from implosion during vacuum filtration:
  - Always use appropriate protective safety equipment and protective eye wear during vacuum filtration.
  - Use only glass or plastic bottles designed for vacuum applications. For the Steritop® filter funnel, use a sterilized 33 or 45 mm threaded glass or plastic receiver bottle **no larger than** 2 liters.
  - Do not use a bottle that is chipped, scratched, or cracked.
  - Do not exceed 700 mmHg differential vacuum at 25 °C.
- Perforations in the receiver cap bag will not prevent contamination. Once the outer bag is opened, keep the receiver cap bag in a sterile area to ensure sterility.
- When using infectious or hazardous materials, follow the required regulations and procedures for disposal.

Chemical Compatibility

The Steritop® and Stericup® systems are compatible with most aqueous solutions. For chemical compatibility information, go to SigmaAldrich.com/FilterChemicalCompatibility.

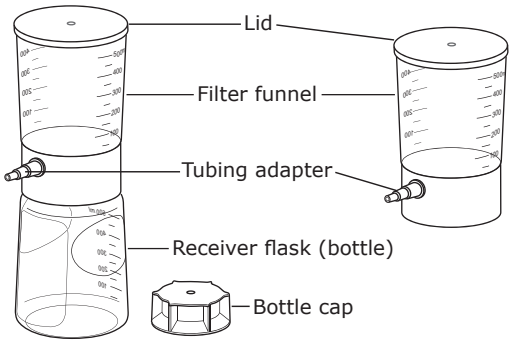
Materials Required

- Vacuum source
- Vacuum tubing
- Glass fiber prefilters and pipettes (if necessary)
- Vacuum-safe threaded glass or plastic receiver bottle (for Steritop® systems)

Components

Stericup® System

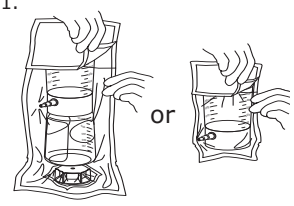
Steritop® System



Stericup® and Steritop® systems come in different sizes to handle different sample capacities; the system components are the same except for capacity.

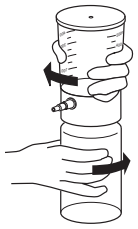
How to Use the Stericup® and Steritop® Systems

1.



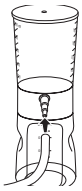
Open the Stericup® or Steritop® bag by pulling on the overhanging portion of Tyvek® paper. The Stericup® filter funnel is packaged fully tightened onto the bottle and requires no further tightening.

2.



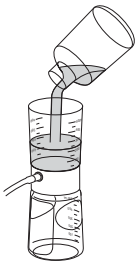
If using the Steritop® filter funnel, screw it onto the top of a glass or plastic receiver bottle with a 33 or 45 mm neck size.*

3.



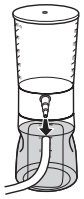
Attach one end of the vacuum tubing to the system and other end to vacuum source. If using a prefilter, remove funnel filter lid and center prefilter on top of the membrane with the edge inserted under the rounded tab. Wet the prefilter to keep it in place.

4.



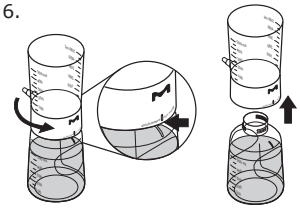
Remove lid (if not already removed) and pour sample into funnel. Replace lid, if desired, and apply vacuum until filtration is complete.

5.



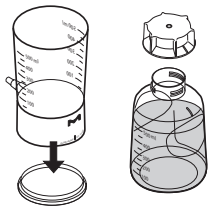
Turn off vacuum and remove tubing, then remove funnel.* This prevents potential contaminants from entering the receiver bottle.

6.



Unscrew filter funnel.* For the Stericup® system, turn filter funnel 1/4 turn so that the funnel indicator is aligned with the bottle indicator, and lift the funnel off. For the Steritop® system, unscrew the funnel from the bottle until it can be lifted off.

7.



To contain residual fluid in funnel, place it on the funnel lid.* For the Stericup® system, screw the cap onto the receiver bottle until it clicks into sealed position (cap and bottle indicators will align). For the Steritop® system, screw appropriate cap onto bottle.

*To keep system sterile, use aseptic technique.

Storage Conditions

You can successfully freeze and store many aqueous solutions (such as culture media) in Stericup® bottles at temperatures up to -20 °C (-4 °F). It is strongly recommended that you run a sample stability trial under your actual storage conditions prior to using Stericup® bottles for frozen storage.

Specifications

Component	Specification
Funnel/Receiver capacity	150 mL/150 mL, 250 mL/250 mL, 500 mL/500 mL, 500 mL/1,000 mL, 1,000 mL/1,000 mL
Membrane pore size	0.10 µm, 0.22 µm, 0.45 µm
Membrane diameter	73 mm
Sterility	Sterile
Funnel, receiver, funnel cover	Polystyrene
Bottle cap, tubing connector	Polyethylene
Filter membrane	Durapore® polyvinylidene fluoride (PVDF) membrane, or Express PLUS® polyethersulfone (PES) membrane
Vacuum port matrix	Cellulose acetate
Temperature limit	50 °C (122 °F)
Pressure limit	700 mmHg differential vacuum at 25 °C (77 °F)

Product Ordering

Purchase products online at SigmaAldrich.com.

Products with an asterisk (*) have been tested for use in stem cell research applications. To determine their effects on mouse stem cell growth and differentiation, three lots of Stericup®-GP devices were used to filter media with Leukemia Inhibitory Factor (LIF). Once filtered with LIF Protein, this media was used to passage mouse stem cells five times to verify that Stericup®-GP filtration did not impact pluripotency of mouse stem cells.

Stericup® and Steritop® systems are shipped in quantities of 12 per box.

Stericup® Filtration Systems

Stericup® Filtration Systems combine a filter with a receiver flask and cap for processing and storage.

Description	Membrane/Application	Pore Size (µm)	Funnel Capacity (mL)	Receiver Bottle (mL)	Cat. No.
Stericup®-GP Quick Release Filter	Millipore Express® PLUS (PES)/fast filtration of tissue culture media and buffers	0.22	150	150	S2GPU01RE
			250	250	S2GPU02RE
			500	500	S2GPU05RE
			500	1000	S2GPU10RE
			1000	1000	S2GPU11RE
Stericup®-HV Quick Release Filter	Durapore® (PVDF)/filtration of high value biomolecules, lowest protein binding	0.45	150	150	S2HVU01RE
			250	250	S2HVU02RE
			500	500	S2HVU05RE
			1000	1000	S2HVU11RE
Stericup®-VP Quick Release Filter	Millipore Express® (PES)/removal of *mycoplasma**	0.1	250	250	S2VPU02RE
			1000	1000	S2VPU11RE
Stericup®-GV Quick Release Filter	Durapore® (PVDF)/filtration of high value biomolecules, lowest protein binding	0.22	150	150	S2GVU01RE
			250	250	S2GVU02RE
			500	500	S2GVU05RE
			500	1000	S2GVU10RE
			1000	1000	S2GVU11RE

Steritop® Bottle-Top Filters

Steritop® bottle-top filter can be used on bottles with 33 mm or 45 mm thread.

Description	Membrane/Application	Pore Size (µm)	Funnel Capacity (mL)	Thread Size (mm)	Cat. No.
Steritop®-GP Filter	Millipore Express® PLUS (PES)/fast filtration of tissue culture media and buffers	0.22	150	45	S2GPT01RE
			250	45	S2GPT02RE
			500	45	S2GPT05RE
			1000	45	S2GPT10RE
Steritop®-GP Filter	Millipore Express® PLUS (PES)/filtration of high value biomolecules, lowest protein binding	0.22	150	33	SCGPS01RE
			250	33	SCGPS02RE
			500	33	SCGPS05RE
Steritop®-GV Filter	Durapore® (PVDF)/filtration of high value biomolecules, lowest protein binding	0.22	500	45	S2GVT05RE
Steritop®-VP Filter	Millipore Express® (PES)/removal of *mycoplasma**	0.1	1000	45	S2VPT10RE

* 0.10 µm pore size is designed to enhance maximum filtration of tissue culture media but it is not a guarantee of complete mycoplasma removal.

Receiver Bottles

	Receiver Bottle (mL)	Thread Size (mm)	Cat. No.
Click Seal Receiver Bottles and Caps	250	45	S200B02RE
	500	45	S200B05RE
	1000	45	S200B10RE

Accessories

Description	Size	Qty	Catalogue No.
Glass fiber prefilters	75 mm	100/pk	AP2007500
Silicone rubber tubing, 3/16 in. (4.8 mm) ID, with adapter	4.5 ft (1.4 m)	1/pk	XX7100004
Vacuum/Pressure Pump			
115 V, 60 Hz	N/A	1/pk	WP6111560
100 V, 50/60 Hz	N/A	1/pk	WP6110060
220 V, 50 Hz	N/A	1/pk	WP6122050

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