

## VacuCap® and VacuCap PF Bottle-top Filter Devices

### Innovative bottle-top filters for fast, easy vacuum filtration of 100 mL to 5 liters of aqueous solutions

- Filter faster. Supor® membrane provides high flow rates for viscous solutions.
- Match filter to sample volume by choosing from two available sizes.
- Maximize throughput of hard-to-filter solutions with VacuCap PF devices with a built-in prefilter.
- No need to constantly refill upper fluid reservoir. Draws directly from the mixing reservoir.
- Eliminate the possibility of contamination from transfer steps. Filters directly into the desired container.
- Reduce mycoplasma with 0.1 µm pore size.
- Patented, small design accepts a wide variety of collection vessel sizes and reduces waste and storage space.



- Available with tubing attached to each device (TA version) for maximum convenience.

### Applications

Media preparation for cell culture applications can be a tedious process, depending on the volume and viscosity of the material to be filtered. The sterile VacuCap bottle-top filter was engineered for this purpose. VacuCap PF devices, designed with a built-in prefilter, use the ingenuity of the standard VacuCap device, and increase its throughput performance with serum-containing media or other viscous solutions. Other applications including buffers requiring 0.2 µm filtration will also see the speed and throughput benefits of VacuCap PF devices when encountering high particle load in a solution.



**HRMalytic** +61(0)3 9762 2034  
**ECHnology** Pty Ltd

**Australian Distributors**  
Importers & Manufacturers  
www.chromtech.net.au

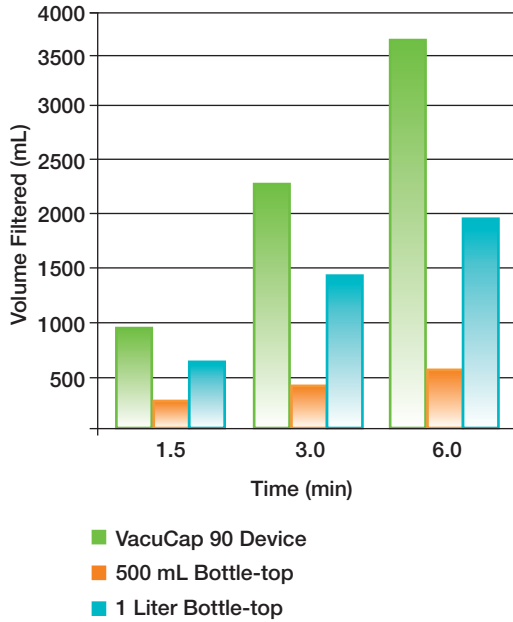
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Website NEW : [www.chromalytic.com.au](http://www.chromalytic.com.au) E-mail : [info@chromtech.net.au](mailto:info@chromtech.net.au) Tel: 03 9762 2034 . . . in AUSTRALIA

**Performance**

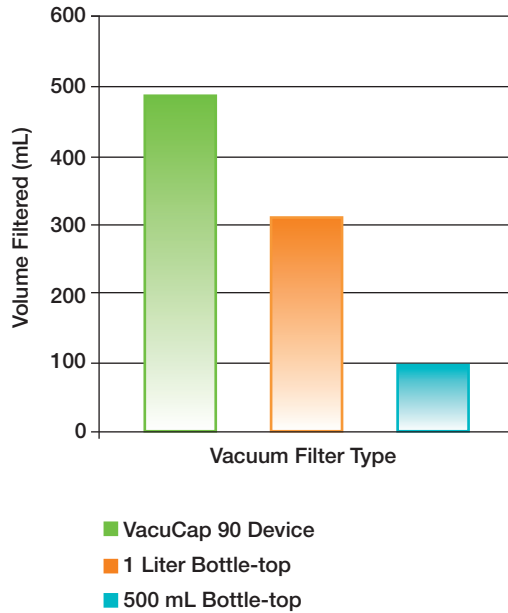
**VacuCap® 90 Device Filtration Efficiency**

(RPMI 1640 + 10% Newborn Calf Serum)



**VacuCap 90 Device Filtration Capacity**

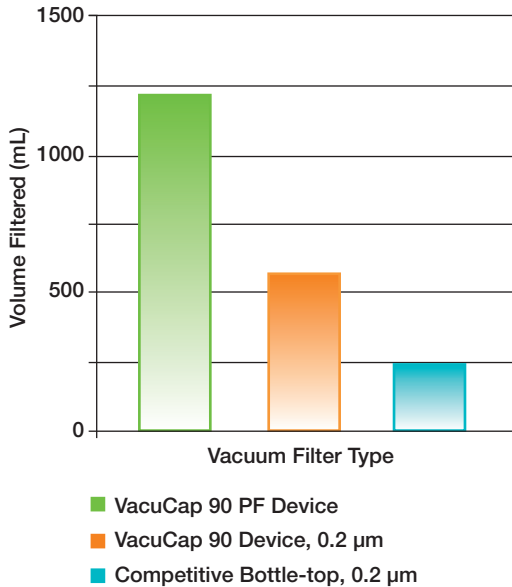
(100% Newborn Calf Serum)



VacuCap 90 (0.2 µm) filter device performance as compared to that of competitive vacuum filter units with 0.2 µm Cellulose Acetate membrane. Filtration conducted at 21 °C (70 °F) and 38 cm Hg (15 in. Hg) vacuum. Volumes reflect a filtration time of five minutes.

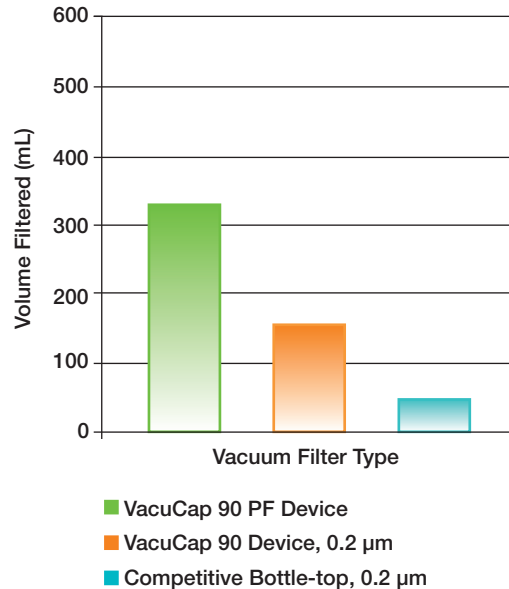
**VacuCap 90 PF Device Filtration Efficiency**

(RPMI + 10% Calf Serum)



**VacuCap 90 PF Device Filtration Capacity**

(100% Calf Serum)



Filtration conducted at 21 °C (70 °F), 50 cm Hg (20 in. Hg) vacuum, five minute filtration time. Actual results may vary depending upon type and concentration of serum, liquid temperature, and applied vacuum.

## Instructions



1. Connect the feed tubing to the port marked "INLET" on the VacuCap® device. Place the opposite end of the tubing in the unfiltered fluid to be drawn.



2. Connect the vacuum tubing to the port marked "VACUUM" on the VacuCap device. Refer to product insert for safety precautions.



3. While holding the VacuCap device securely onto the filtrate container, start the vacuum. The VacuCap device will seal securely to the container top and fluid will be drawn.



4. When filtration is complete, switch off the vacuum pump allowing the vacuum inside the receiving container to dissipate. Refer to the product insert for complete instructions.

### Receiving Bottle

VacuCap 60 Devices: Can be used on receptacles with openings ranging from 2-5 cm (0.8-1.9 in.).

VacuCap 90 Devices: Can be used on receptacles with openings ranging from 2-6.5 cm (0.8-2.5 in.).

Always use sterile bottles that are designed to be used with a vacuum. We strongly recommend a safety shield during vacuum procedures.

## Specifications

### Materials of Construction

Filter Media: Supor® membrane (hydrophilic polyethersulfone)  
Housing: Modified acrylic  
Membrane Support Material: Polyester  
Sinker Material: Glass-filled polyurethane elastomer  
Inlet Tubing: Polyvinyl chloride (PVC) medical-grade tubing  
Gasket Seal Material: Polyethylene

### Effective Filtration Area

VacuCap 60 Devices: 30 cm<sup>2</sup>  
VacuCap 90 Devices: 60 cm<sup>2</sup>

### Typical Throughput

(RPMI + 10% newborn calf serum)  
VacuCap 60 Devices, 0.2 µm: 1 L  
VacuCap 90 Devices, 0.2 µm: 5 L  
(RPMI + 10% calf serum)  
VacuCap 60 PF Devices: 500 mL  
VacuCap 90 PF Devices: 1 L

### Typical Water Flow Rate

mL/min at 25.4 cm (10 in.) Hg

VacuCap 60 Devices	VacuCap 90 Devices
0.1 µm: 50	0.1 µm: 100
0.2 µm: 200	0.2 µm: 400
0.45 µm: 280	0.45 µm: 560
PF: 200	PF: 400

### Typical Hold-up Volume

3.4 mL

### Maximum Operating Temperature

55° C (131 °F)

### Maximum Vacuum

63.5 cm (25 in.) Hg

### Endotoxin

< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test

### Biological Safety

Passes USP Biological Reactivity Test, *In Vivo* <88>

### Sterilization

Sterilized by gamma irradiation and individually bagged

## Ordering Information

### VacuCap® 60 Bottle-top Filter Devices

Part Number	Pore Size	Diameter	Packaging
4631	0.1 µm	60 mm	10/pkg
4632	0.2 µm	60 mm	10/pkg
4634	0.45 µm	60 mm	10/pkg
TA4632*	0.2 µm	60 mm	10/pkg
4638	PF (0.8/0.2 µm)	60 mm	10/pkg

### VacuCap 90 Bottle-top Filter Devices

Part Number	Pore Size	Diameter	Packaging
4621	0.1 µm	90 mm	10/pkg
4622	0.2 µm	90 mm	10/pkg
TA4622*	0.2 µm	90 mm	10/pkg
4624	0.45 µm	90 mm	10/pkg
TA4624*	0.45 µm	90 mm	10/pkg
4628	PF (0.8/0.2 µm)	90 mm	10/pkg

### Accessories

Part Number	Description	Packaging
4623	Feedline accessory kit	1/pkg

\*"TA" products come with individual attached tubing for each filter device.  
Standard products come with one piece of tubing per 10 filter devices.

## Complementary Products

### AcroPak™ 200 Capsule with Supor® Membrane

Part Number	Description	Packaging
12941	0.8/0.2 µm, sterile, with filling bell, 200 cm <sup>2</sup> EFA	3/pkg

### AcroPak 500 Capsules with Supor Membrane

Part Number	Description	Packaging
12991	0.8/0.2 µm, sterile, 500 cm <sup>2</sup> EFA	1/pkg
12993	0.8/0.45 µm, sterile 500 cm <sup>2</sup> EFA	1/pkg

Supor membrane is a patented hydrophilic polyether-sulfone membrane that delivers high throughputs and fast filtration, requiring fewer filter changes that saves you time and money. It is low protein binding and has extensive drug compatibility, making it well suited for critical applications.

Supor membrane discs and devices are available in a range of pore sizes and configurations that process from 5 mL to 100 liters. Many of these devices scale up directly to larger-capacity capsules and cartridges.



# VacuCap® and VacuCap PF

## Bottle-top Filter Devices

### introduction

Media preparation for cell culture applications can be a tedious process, depending on the volume and viscosity of the material to be filtered. The sterile VacuCap bottle-top filter was engineered for this purpose. The VacuCap PF device, designed with built-in prefilter, uses the ingenuity of the standard VacuCap device, and increases its throughput performance with serum-containing media or other viscous solutions. Other applications requiring 0.2 µm filtration will also see the throughput benefits of VacuCap PF device when encountering high particle load in a solution.

### certification

Pall Life Sciences certifies the enclosed disposable filters are:

1. Sterile, non-pyrogenic, and non-cytotoxic
2. Sterilized by gamma irradiation
3. Biologically safe according to USP Class VI-121 °C Plastics Tests
4. Manufactured in accordance with current Good Manufacturing Practices
5. In compliance with published product specifications

Paul Bischer, Quality Assurance Manager

### product profile

Product No.	Description	Pore size	Packaging
4621	VacuCap 90 device	0.1 µm	10/pkg
4622	VacuCap 90 device	0.2 µm	10/pkg
4624	VacuCap 90 device	0.45 µm	10/pkg
TA4622*	VacuCap 90 device	0.2 µm	10/pkg
4628	VacuCap PF 90 device	0.8/0.2 µm	10/pkg
4631	VacuCap 60 device	0.1 µm	10/pkg
4632	VacuCap 60 device	0.2 µm	10/pkg
4634	VacuCap 60 device	0.45 µm	10/pkg
TA4632*	VacuCap 60 device	0.2 µm	10/pkg
4638	VacuCap 60 device	0.8/0.2 µm	10/pkg

\* TA products come with individual attached tubing and sinker.

### specifications

#### Materials of Construction

Filter Media: Supor® membrane (hydrophilic polyethersulfone)

Membrane Support Material: Polyester

Housing: Modified acrylic

Inlet Tubing: Polyvinyl chloride (PVC) medical-grade tubing

#### Effective Filtration Area

VacuCap 60 Device: 30 cm<sup>2</sup>

VacuCap 90 Device: 60 cm<sup>2</sup>

#### Maximum Operating Temperature

55 °C (131 °F)

#### Maximum Operating Vacuum

63.5 cm Hg (25 in. Hg)

#### Typical Water Flow Rates

VacuCap 60 Device:

0.1 µm: 50 mL/min at 25.4 cm Hg (10 in. Hg)

0.2 µm: 200 mL/min at 25.4 cm Hg (10 in. Hg)

0.45 µm: 280 mL/min at 25.4 cm Hg (10 in. Hg)

PF: 200 mL/min at 25.4 cm Hg (10 in. Hg)

VacuCap 90 Device:

0.1 µm: 100 mL/min at 25.4 cm Hg (10 in. Hg)

0.2 µm: 400 mL/min at 25.4 cm Hg (10 in. Hg)

0.45 µm: 560 mL/min at 25.4 cm Hg (10 in. Hg)

PF: 400 mL/min at 25.4 cm Hg (10 in. Hg)

#### Endotoxin Level

< 0.25 EU/mL using Limulus Amebocyte Lysate (LAL) test

#### Biological Safety

Passes USP Class VI-121 °C Plastics Tests

#### Sterilization

Sterilized by gamma irradiation

### guidelines

1. Do not autoclave.
2. When removing the VacuCap device from the package, be careful to keep the product upright in order to maintain the sterility of the downstream side of the device.
3. Certain tubing may be quite heavy, tending either to tip the VacuCap device and receiving bottle over, or to break the seal between the VacuCap device and the receiving bottle. For best results, we recommend holding the tubing and/or the VacuCap device stationary with the use of a ring stand clamp. Use of hose clamps at connectors is not recommended as this will add weight and may also pull the VacuCap device off the bottle top.
4. Please be sure to use a receiving bottle with a volume equal to or greater than that of the vessel you are drawing from. This will prevent the auto shut-off mechanism from permanently preventing continued use of the device.

**SAFETY PRECAUTIONS:** There is danger of implosion or breakage of glass or plastic containers, especially those having a capacity greater than 4 liters, in vacuum applications.

#### To reduce the possibility of implosion and breakage:

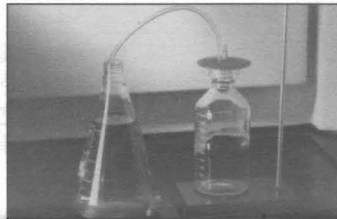
- DO NOT use a glass or plastic container that is not designed for use in vacuum applications.
- DO NOT use a container that is checked, cracked, or scratched.
- DO NOT use if the container is clamped; this could stress and/or weaken the container.
- DO NOT use if the container and filter can tip over; use a ring stand to support the vacuum tubing attached to the VacuCap filter device.
- ALWAYS use safety equipment including protective eyewear in any vacuum application.
- ALWAYS follow good laboratory safety practices.
- ALWAYS use with appropriate size container.
- ALWAYS consult the container's manufacturer to determine its fitness for use in vacuum applications.



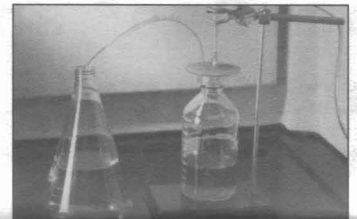
## instructions



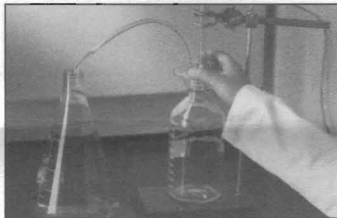
1. VacuCap® filter is removed from the sterile packing and placed on the receiving bottle with gasket seated on the rim of the receiving bottle.\*



2. The feeding tubing is connected to the port marked "INLET" on the top of the VacuCap filter. The opposite end of the feed tubing is placed in the vessel from which the unfiltered fluid will be drawn.



3. Vacuum tubing is connected to the port marked "VACUUM" on the top of the VacuCap filter. Refer to the front page of the product insert for safety precautions.



4. To begin filtration, the vacuum is started while holding the VacuCap filter securely onto the filtrate container. When sufficient vacuum is created, the VacuCap filter will seal securely to the container top and fluid will be drawn into the filtrate container.



5. When filtration is complete, the vacuum pump is switched off and the vacuum inside the receiving container is allowed to dissipate. Remove inlet tubing to stop liquid flow. Remove vacuum tubing to release vacuum.

### Lab Tip

Very viscous solutions, such as serum-containing culture media, may prematurely clog the VacuCap filter. If the VacuCap filter clogs before the entire batch can be filtered, try the new VacuCap PF filter.

\*Always use sterile bottles that are designed to be used with a vacuum. We strongly recommend a safety shield during vacuum procedures.