PALL Life Sciences

Sterile Acrodisc® Syringe Filters

Superior performance in a variety of sterile laboratory filtration applications

- Choose from a variety of membrane types, pore sizes, and effective filtration areas to meet your specific application requirements. Filter sizes accommodate sample volumes from < 2 to 200 mL.
- Pall products from our UpScale℠ Program simplify scale up and reduce validation; no need to change membrane materials during transitions to pilot or full-scale production.
- Improve throughput of viscous or particulate-laden solutions with built-in prefilter.

Product Selection

Consider Scaleability

Filters that contain consistent materials of construction provide greatly simplified filter qualification and easier transitions from R&D to pilot to full-scale production. The filters in Pall Corporation's UpScale Program incorporate scaleable membranes and materials of construction to assure consistent results, whether you are using syringe filters (less than 100 mL) or larger-capacity capsules and cartridges (up to 5000 L). The UpScale Program offers worldwide product availability and validation, troubleshooting, and technical support.

This icon indicates membranes and products that are scaleable and included in Pall's UpScale Program.

Consider Filtration Volume

The appropriate filter size is determined primarily by the volume being filtered. However, total throughput (capacity) of a filter depends on the characteristics of the fluid being filtered, such as the extent of microbial contamination, viscosity, and particulate load. For small-volume or expensive samples, hold-up volume (sample loss) can be a concern and a smaller filter should be used. The volume recommendations below are intended as a general guide in selecting the most appropriate filter.

Sample Volume (mL)	Filter Size (mm)	Typical Hold-up Volume (with air purge)
up to 10	13	< 28 µL
up to 100	25	< 70 µL
up to 150	32	< 100 µL
up to 200	37	< 100 µL
up to 3000	50	< 3 mL

Consider Fluid Characteristics

The characteristics of the fluid being filtered are extremely important when evaluating the membrane to be used for filtration. Pall Life Sciences offers sterile Acrodisc syringe filters in the following membrane types:

- **Fluorodyne® II Membrane**
  For high flow rates and low protein binding. Not recommended for use with some ethers.
- **Nylon Membrane**
  Used in our DMSO-Safe Acrodisc syringe filter.
- **Posidyne® Membrane**
  Enhances bioburden and pyrogen removal from aqueous solutions.
- **Supor® Membrane**
  For high throughputs, fast filtration, and low protein binding. Not recommended for use with some ketones.
- **Ultipor® Membrane**
  Provides broad solvent and chemical compatibility, and low extractables. Industry standard for pharmaceutical filtration.
- **Versapor® Membrane**
  Economical choice for clarification.

Sterile Acrodisc® Syringe Filters with Supor® Membrane

Universal life science membrane with low protein binding.

- Outstanding flow rate and throughput performance.
- The range of available filter sizes allows you to optimize filtration efficiency without compromising sterilization performance.

Applications

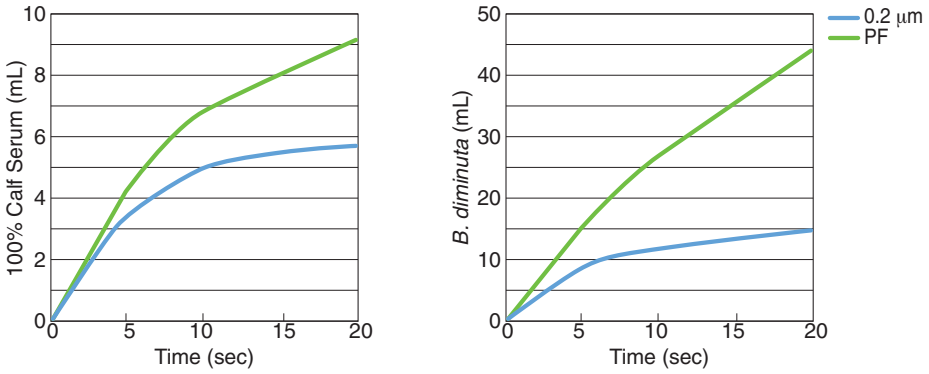
Use these high-performance filters for prefiltration/clarification of viscous solutions, and sterilization of buffers and culture media. Choose:

- 0.1 and 0.2 µm pore sizes provide sterilization of small volumes of buffers, culture media, and additives.
- Acrodisc PF and Serum Acrodisc syringe filters with unique built-in prefilter for increased throughput of viscous or particulate-laden solutions.
- 0.1 µm pore size filters for reduction of mycoplasma.
- 0.45, 0.8, 1.2 and 5 µm for prefiltration and/or clarification.

Performance

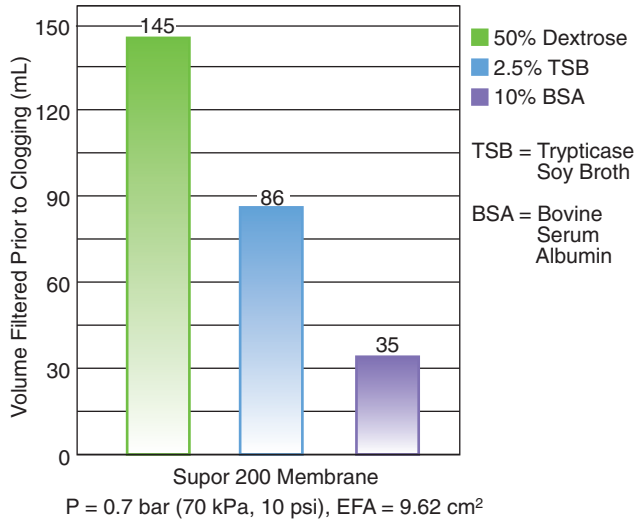
Acrodisc and Acrodisc PF Syringe Filters with Supor Membrane

Built-in prefilter enhances throughput of viscous, particulate-laden, or proteinaceous solutions.



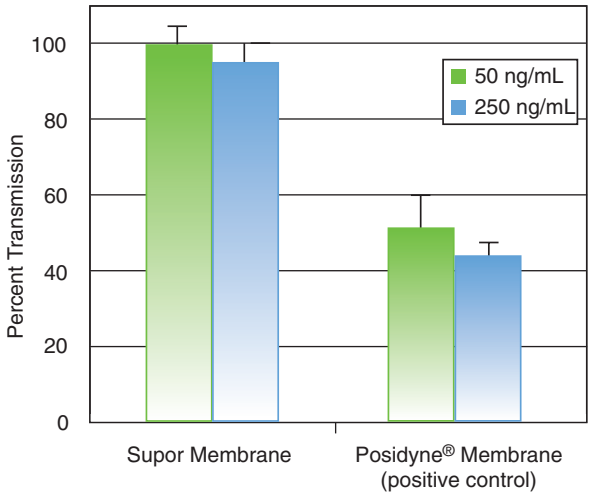
Acrodisc and Acrodisc PF syringe filters with 0.2 µm Supor membrane were challenged with calf serum and a bacterial culture (10^7 cfu/mL) at a constant pressure of 1.4 bar (140 kPa, 20 psi).

Membrane Filtration Throughput 0.2 µm Rated Membranes



P = 0.7 bar (70 kPa, 10 psi), EFA = 9.62 cm^2

^{125}I BSA Protein Transmission Through 25 mm Acrodisc Syringe Filters



Error bars indicate standard deviation, n=30

Specifications

Materials of Construction
Filter Media: Supor® membrane (hydrophilic polyethersulfone)
Serum Acrodisc® Prefilter Media: Binder-free borosilicate glass
Acrodisc Housing:
13 mm: Polypropylene
25 and 32 mm: Modified acrylic
37 mm: Polypropylene
Serum Acrodisc Housing: ABS

Effective Filtration Area
13 mm: 1.0 cm^2
25 mm: 2.8 cm^2
32 mm: 5.8 cm^2
37 mm: 7.5 cm^2

Inlet/Outlet Connections
Female luer lock inlet, male slip luer outlet

Typical Hold-up Volume
(with air purge)
13 mm: ≤ 28 µL
25 mm: ≤ 70 µL
32 and 37 mm: ≤ 100 µL

Maximum Operating Temperature
55 °C (131 °F)

Maximum Operating Pressure
5.2 bar (520 kPa, 75 psi)

Typical Water Flow Rate
mL/min at 3.1 bar (310 kPa, 45 psi)
0.1 µm, 25 mm: 35
0.1 µm, 32 mm: 100
0.2 µm, 13 mm: 22
0.2 µm, 25 mm: 175
0.2 µm, 32 mm: 490
0.45 µm, 13 mm: 35
0.45 µm, 25 mm: 300
0.45 µm, 32 mm: 700
0.8 µm, 13 mm: 150
0.8 µm, 25 mm: 700
0.8/0.2 µm, 25 mm: 145
0.8/0.2 µm, 32 mm: 440
1.2 µm, 32 mm: 1700
5 µm, 32 mm: 1750
GF/0.2 µm, 37 mm (Serum Acrodisc Filter): 425

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

Biological Safety
Passes United States Pharmacopeia (USP) Biological Reactivity Test, *In Vivo* <88>

Sterilization
Sterilized by gamma irradiation and individually packaged

Ordering Information

Acrodisc Syringe Filters with Supor Membrane (Sterile)

Part Number	Description	Packaging
4602	0.2 µm, 13 mm	75/pkg
4604	0.45 µm, 13 mm	75/pkg
4608	0.8 µm, 13 mm	75/pkg
4611	0.1 µm, 25 mm	50/pkg
4612	0.2 µm, 25 mm	50/pkg
4614	0.45 µm, 25 mm	50/pkg
4618	0.8 µm, 25 mm	50/pkg
4651	0.1 µm, 32 mm	50/pkg
4652	0.2 µm, 32 mm	50/pkg
4654	0.45 µm, 32 mm	50/pkg
4656	1.2 µm, 32 mm	50/pkg
4650	5 µm, 32 mm	50/pkg

Serum Acrodisc Syringe Filter (Sterile)

Part Number	Description	Packaging
4525	GF/0.2 µm, 37 mm	20/pkg

Acrodisc PF Syringe Filters (Sterile)

Part Number	Description	Packaging
4187	0.8/0.2 µm, 25 mm	50/pkg
4658	0.8/0.2 µm, 32 mm	50/pkg

Sterile Acrodisc® Syringe Filters - Ideal for Proof of Concept

Four membrane types, Fluorodyne® II, Supor®, Posidyne®, and Ultipor® membranes, assure compatibility with a wide range of fluids.

- Integrity testable (water bubble point).
- Simplify scale up and reduce validation.
- Bacterial retention tested to assure sterile filtrate. Laboratory filters containing the same materials of construction as larger-capacity capsules and cartridges.
- No need to change membrane materials during transition to pilot or full-scale production.

Applications

- Drug development studies
- Determination of product compatibility and recovery
- Preliminary filterability testing
- Small volume liquid sterilization

Specifications

Materials of Construction
Filter Media: Supor membrane (hydrophilic polyethersulfone), Ultipor membrane (amphoteric Nylon 6,6), Fluorodyne II membrane (hydrophilic polyvinylidene fluoride), Posidyne membrane (positively-charged Nylon 6,6)

Housing: Polypropylene

Effective Filtration Area
2.8 cm^2

Inlet/Outlet Connections
Female luer lock inlet, male slip luer outlet

Typical Hold-up Volume
(with air purge)
≤ 100 µL

Maximum Operating Temperature
60 °C (140 °F) at 2.1 bar (210 kPa, 30 psi)

Maximum Operating Pressure
5.4 bar (540 kPa, 80 psi) at ambient temperature

Typical Water Flow Rate
mL/min at 2.1 bar (210 kPa, 30 psi)
PN 4905: 130
PN 4906: 78
PN 4907: 130
PN 4908: 77

Recommended Integrity Test
Minimum Bubble Point – Water
PN 4905: 3.5 bar (350 kPa, 51 psi)
PN 4906: 3.2 bar (320 kPa, 46 psi)
PN 4907: 3.2 bar (320 kPa, 46 psi)
PN 4908: 3.2 bar (320 kPa, 46 psi)

Bacterial Retention
Lot samples retain 10^7 cfu/cm^2 of *B. diminuta* per modified ASTM F838-83

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

Biological Safety
Passes United States Pharmacopeia (USP) Biological Reactivity Test, *In Vivo* <88>

Sterilization
Sterilized by gamma irradiation and individually blister packed

Ordering Information

Acrodisc Syringe Filters (Sterile)

Part Number	Description	Packaging	Part Number	Description	Packaging
4905	0.8/0.2 µm Supor membrane, 25 mm	50/pkg	4907	0.2 µm Fluorodyne II membrane, 25 mm	50/pkg
4906	0.2 µm Ultipor membrane, 25 mm	50/pkg	4908	0.2 µm Posidyne membrane, 25 mm	50/pkg

Sterile Acrodisc® Syringe Filters with Versapor® Membrane

Ideal for clarification or prefiltration of virtually all aqueous samples.

- Variety of diameters and pore sizes to meet most aqueous sample filtration needs.
- Certified non-pyrogenic and biologically safe.

Applications

- The economical choice for prefiltration of viscous or particulate-laden samples, serum filtration, and dissolution testing.

Specifications

Materials of Construction
Filter Media: Versapor membrane (acrylic copolymer on a nonwoven support)
50 mm Prefilter Media: Binder-free borosilicate glass fiber
Housing: Modified acrylic

Effective Filtration Area
25 mm: 2.8 cm^2
50 mm: 19.6 cm^2

Inlet/Outlet Connections
25 mm: Female luer lock inlet, male slip luer outlet
50 mm: Stepped hose barb

Typical Hold-up Volume
(with air purge)
25 mm: < 50 µL
50 mm: ≤ 2 mL

Maximum Operating Temperature
25 mm: 55 °C (131 °F)
50 mm: 82 °C (180 °F)

Maximum Operating Pressure
25 mm: 5.2 bar (520 kPa, 75 psi)
50 mm: 4.1 bar (410 kPa, 60 psi)

Typical Water Flow Rate
mL/min at 3.1 bar (310 kPa, 45 psi)
0.8 µm, 25 mm: 600
1.2 µm, 25 mm: 660
5 µm, 25 mm: 970

mL/min at 1.0 bar (100 kPa, 15 psi)
GF/5 µm, 50 mm: 1700

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

Biological Safety
Passes United States Pharmacopeia (USP) Biological Reactivity Test, *In Vivo* <88>

Sterilization
Sterilized by gamma irradiation and individually packaged

Ordering Information

Acrodisc Syringe Filters with Versapor Membrane (Sterile)

Part Number	Description	Packaging
4188	0.8 µm, 25 mm	50/pkg
4190	1.2 µm, 25 mm	50/pkg
4199	5 µm, 25 mm	50/pkg

Acro 50A Device with Versapor Membrane (Sterile)

Part Number	Description	Packaging
4276	GF/5 µm, 50 mm	18/pkg

DMSO-Safe Sterile Acrodisc® Syringe Filter with Nylon Membrane

Polypropylene housing and nylon membrane are compatible with solutions containing DMSO.

Applications

- Ideal for sterilization of media used for cell cryopreservation.
- Offers broad chemical resistance to common solvents.

Specifications

Materials of Construction
Filter Media: Nylon
Housing: Polypropylene

Effective Filtration Area
2.8 cm^2

Inlet/Outlet Connections
Female luer lock inlet, male slip luer outlet

Typical Hold-up Volume
(with air purge)
≤ 50 µL

Maximum Operating Temperature
55 °C (131 °F)

Maximum Operating Pressure
6.2 bar (620 kPa, 90 psi)

Typical Water Flow Rate
60 mL/min at 2.1 bar (210 kPa, 30 psi)

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

Sterilization
Sterilized by ethylene oxide and individually blister packed

Ordering Information

DMSO-Safe Acrodisc Syringe Filter with Nylon Membrane (Sterile)

Part Number	Description	Packaging
4433	0.2 µm, 25 mm	50/pkg

Complementary Products

- Comprehensive line of Supor® and Versapor® membrane disc filters.
- Precise, high-performance centrifugal devices to process < 100 µL to 60 mL.
- Fast, sterile, AcroCap™ positive pressure device for volumes up to 3 liters.
- Efficient AcroPak™ 20 filters for volumes up to 5 liters.
- Innovative, sterile VacuCap® bottle-top filters for vacuum filtration of 100 mL to 5 liters.
- Capsules with Supor, Fluorodyne® II, and Versapor membranes for filtration of larger volumes.

Ordering Information

Non-sterile Acrodisc® Syringe Filters with Supor Membrane

Part Number	Description	Packaging
4506	0.2 µm, 25 mm	1000/pkg
4508	0.45 µm, 25 mm	1000/pkg
4509	0.8 µm, 25 mm	1000/pkg
4504	0.8/0.2 µm, 25 mm	1000/pkg
4655	0.2 µm, 32 mm	1000/pkg
4653	0.45 µm, 32 mm	1000/pkg
4659	0.8/0.2 µm, 32 mm	1000/pkg
4660	1.2 µm, 32 mm	1000/pkg
4661	1.2/0.45 µm, 32 mm	1000/pkg
4662	5 µm, 32 mm	1000/pkg

Non-sterile Acrodisc Syringe Filters with Versapor Membrane

Part Number	Description	Packaging
4473	0.45 µm, 4 mm	250/pkg, 750/cs
4459	0.8 µm, 13 mm	100/pkg, 300/cs
4487	0.45 µm, 25 mm	75/pkg, 300/cs
4189	0.8 µm, 25 mm	75/pkg, 300/cs
4568	0.8 µm, 25 mm	1000/pkg
4488	1.2 µm, 25 mm	75/pkg, 300/cs
4489	5 µm, 25 mm	75/pkg, 300/cs

Non-sterile Acro® 50A Devices with Versapor Membrane

Part Number	Description	Packaging
4264	GF/5 µm, 50 mm	18/pkg
4592	GF/5 µm, 50 mm	100/pkg

The UpScale℠ Program

Pall Corporation has the most comprehensive family of scaleable filtration products that simplify validations and ease transitions from R&D to pilot to full-scale production. Look for these scaleable products with Supor, Fluorodyne II, Posidyne®, and Ultipor® membranes:

- Membrane disc filters
- Acrodisc syringe filters with polypropylene housings
- AcroPak 20 filters for processing up to 5 liters
- AcroPak 200 capsules for processing 5 to 20 liters
- AcroPak 400 and 800 capsules for processing volumes over 10 liters
- Process-scale capsules and cartridges from Pall Life Sciences

PALL Life Sciences

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6/07, PDF, GN07.1640 PN33175