



Laboratory

Supor® EKV Membrane Filters



For cost-effective filtration of buffers, tissue culture media, and many other biological fluids

- ▶ **Disposable** – Reduces labor costs associated with assembling, cleaning, and testing stainless steel filter holders.
- ▶ **Flexible** – Encapsulated format for ease of use.
- ▶ **Extended life** – Built-in MachV asymmetric prefilter layer for maximum flow and throughput performance.
- ▶ **Simplified scale-up** – Membrane and housing materials are identical to those used in larger-volume capsules and cartridges from Pall Life Sciences.
- ▶ **Low adsorption and high chemical compatibility** – Featuring hydrophilic polyethersulfone membrane for high compatibility over the entire pH range and low protein binding.
- ▶ **Presterilized** – Using gamma irradiation, products are presterilized, non-pyrogenic, and non-cytotoxic (with the exception of 47 mm disc filters).
- ▶ **Inherently hydrophilic** – Easily wet for reliable integrity testing.
- ▶ **Patented Ultipleat® technology** – Offers large effective filtration and superior flow rates on AcroPak™ 400, 800 and 1500 capsules.
- ▶ **Tested** – Passes United States Pharmacopeia (USP) Biological Reactivity Test, *In Vivo* <88>. Assessed during manufacture to ensure product integrity.

Filtration. Separation. Solution.™

Pall Products Featuring Supor EKV Membrane Filters —

Designed to meet your specific application needs



47 mm Disc Filters

- ▶ High throughput
- ▶ Low protein binding
- ▶ Fast flow rates

Applications

Suitable for sterile filtration of a wide range of fluids, including:

- ▶ Buffers
- ▶ Biological fluids
- ▶ Cell culture media
- ▶ Ophthalmic products



AcroPak 20 Filters

- ▶ Designed to add convenience to small- and medium-volume filtration
- ▶ Generates twice the effective filtration area and double the throughput/flow rate of conventional metal 47 mm reusable filter holders
- ▶ Disposable for reduced labor
- ▶ Significantly reduces the cost of repeat testing when scaling up your filtration system

Applications

- ▶ Ideal for filtering aqueous solutions, cell culture media, and serum
- ▶ Small- to medium-volume sterile filtration, typically up to 1 liter
- ▶ Suitable for use with fluids containing dilute proteins, preservatives, or other critical components
- ▶ Sterile filtration of media and buffers



25 mm Acrodisc® Syringe Filters

- ▶ Universal life science membrane with low protein binding to minimize sample loss
- ▶ Superior flow rates and higher throughputs than similar devices
- ▶ Sterilized by gamma irradiation to eliminate potential contamination by EtO residuals

Applications

- ▶ Small-volume applications (such as liquid sterilization and determination of product compatibility and recovery)
- ▶ Ideal for typical process volume up to 100 mL



AcroPak 200 Capsules

- ▶ High filtration area and compact size are ideal for upscale trials
- ▶ Minimal hold-up volume
- ▶ Good wettability for reliable integrity test
- ▶ United States Pharmacopeia (USP) Biological Reactivity Test, *In Vivo* <88>
- ▶ Sealed membrane and housing uses fusion technology to eliminate potential extractables
- ▶ Gamma sterilized, non-pyrogenic, and provided with a removable filling bell (except sanitary flange option)
- ▶ Hydrophilic polyethersulfone membrane for low adsorption and wide chemical compatibility
- ▶ Very high flow rates and consistently higher total solution throughputs due to superior porosity over other membranes

Applications

- ▶ Designed to quickly process difficult-to-filter solutions within 5-21 liters, such as serum, serum-supplemented culture media, and ascites fluid
- ▶ Ideal in situations where rapid filtration or short processing times are essential

AcroPak 400, 800 and 1500 Capsules

- ▶ Encapsulated format for higher flexibility, minimized cleaning, and low installation costs
- ▶ Minimal hold-up volume
- ▶ Hydrophilic polyethersulfone membrane for low adsorption and wide chemical compatibility
- ▶ Good wettability for a reliable integrity test
- ▶ Patented Ultipleat technology for high area and good flow rates
- ▶ Built-in MachV asymmetric prefilter layer for long-life and low filtration costs

Applications

Suitable for sterile filtration of a wide range of fluids, including:

- ▶ Buffers
- ▶ Biological fluids
- ▶ Cell culture media
- ▶ Ophthalmic products

Supor EKV Membrane Products —

High performance filtration for a variety of processes



	47 mm Disc Filters with Supor EKV Membrane	25 mm Acrodisc Syringe Filters with Supor EKV Membrane	AcroPak 20 Filters with Supor EKV Membrane
Specifications			
Filter Media	Supor EKV membrane (hydrophilic polyethersulfone)	Supor EKV membrane (hydrophilic polyethersulfone)	Supor EKV membrane (hydrophilic polyethersulfone)
Housing, Vent Plug, and Support Material	—	Polypropylene	Polypropylene
Filling Bell	—	—	Polycarbonate
Sealing Technology	—	—	Thermal bonding without adhesives
Pore Size	0.2 µm	0.2 µm	0.2 µm
Effective Filtration Area	9.6 cm ² (1.4 in. ²) (dependent on holder)	2.8 cm ²	20 cm ²
Dimensions	—	Length: 21 mm (0.8 in.) Diameter: 29 mm (1.2 in.)	Length: 83 mm (3.3 in.) Diameter: 67 mm (2.7 in.)
Inlet/Outlet Connections	—	Female luer lock inlet, male slip luer outlet	Stepped hose barbs, 6.4-12.7 mm (1/4-1/2 in.) diameter with female slip luer ID in the hose barb
Typical Hold-up Volume (with Air Purge)	—	< 100 µL	< 2.5 mL
Maximum Operating Temperature*	—	60 °C (140 °F) at 2.1 bar (210 kPa, 30 psi)	60 °C (140 °F) at 1.0 bar (100 kPa, 15 psi)
Maximum Operating Pressure*	—	5.4 bar (540 kPa, 80 psi) at ambient temperature	4.1 bar (410 kPa, 60 psi) at 21-24 °C (70-75 °F)
Recommended Integrity Test Minimum Bubble Point (Water)	—	≥ 3.32 bar (332 kPa, 48 psi)	≥ 3.32 bar (332 kPa, 48 psi)
Typical Water Flow Rate	—	—	—
Bacterial Retention	—	Lot samples retain a minimum of 10 ⁷ cfu/cm ² of <i>B. diminuta</i> per modified ASTM F838, current revision	Lot samples retain a minimum of 10 ⁷ cfu/cm ² of <i>B. diminuta</i> per modified ASTM F838, current revision
Endotoxin Level	—	< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test	< 0.25 EU/mL using Limulus Amoebocyte Lysate (LAL) test
Biological Safety	—	Passes United States Pharmacopeia (USP) Biological Reactivity Test, <i>In Vivo</i> <88>	Passes United States Pharmacopeia (USP) Biological Reactivity Test, <i>In Vivo</i> <88>
Sterilization	—	Sterilized by gamma irradiation and individually packaged	Sterilized by gamma irradiation or sold non-sterile; if desired, autoclave once at 125 °C (257 °F) for 60 minutes; water wet capsule prior to autoclaving

*In compatible fluids which do not soften, swell or adversely affect the filter or its materials of construction.



AcroPak 200 Capsules with Supor EKV Membrane

Supor EKV membrane (hydrophilic polyethersulfone)

Polypropylene

Polycarbonate

*No filling bell on sanitary option

Thermal bonding without adhesives

0.2 µm

220 cm²

Housing Length

12094: 10.5 cm (4.1 in.)

12095: 7.3 cm (2.9 in.)

Housing Diameter

5.3 cm (2.1 in.) without vent

6.7 cm (2.6 in.) with vent

12094: 6.4-12.7 mm (1/4-1/2 in.) stepped hose barb inlet and outlet
12095: 13 mm (1/2 in.) sanitary flange inlet and outlet

< 6 mL

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

4.1 bar (410 kPa, 60 psi) at ambient temperature

≥ 3.32 bar (332 kPa, 48 psi)

350 mL/min/0.1 bar (241 mL/min/psi)

Lot samples retain a minimum of 10⁷ cfu/cm² of *B. diminuta* per modified ASTM F838, current revision

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

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

Sterilized by gamma irradiation and individually packaged; if desired, autoclave once prior to use at 131 °C (268 °F) for 30 minutes; water wet capsule prior to autoclaving



AcroPak 400 Capsules with Supor EKV Membrane

Supor EKV membrane (hydrophilic polyethersulfone)

Polypropylene

Polycarbonate

*No filling bell on sanitary flange option

Thermal bonding without adhesives

0.2 µm

375 cm²

Housing Length

12460: 11.7 cm (4.6 in.)

12461: 15.7 cm (6.2 in.)

Housing Diameter (including valves)

9.4 cm (3.7 in.)

12460: 25-38 mm (1-1.5 in.) sanitary flange inlet/outlet connection
12461: 13 mm (1/2 in.) hose barb inlet/outlet connection

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40 °C (104 °F) at 4.0 bar (400 kPa, 58 psi)

5.2 bar (520 kPa, 75 psi) at 20 °C (68 °F)

≥ 3.32 bar (332 kPa, 48 psi)

700 mL/min/0.1 bar (483 mL/min/psi)

Lot samples retain a minimum of 10⁷ cfu/cm² of *B. diminuta* per modified ASTM F838, current revision

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

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

Sterilized by gamma irradiation and individually packaged



AcroPak 800 Capsules with Supor EKV Membrane

Supor EKV membrane (hydrophilic polyethersulfone)

Polypropylene

Polycarbonate

*No filling bell on sanitary flange option

Thermal bonding without adhesives

0.2 µm

750 cm²

Housing Length

12463: 15.7 cm (6.2 in.)

12464: 19.7 cm (7.7 in.)

Housing Diameter (including valves)

9.4 cm (3.7 in.)

12463: 25-38 mm (1-1.5 in.) sanitary flange inlet/outlet connection
12464: 13 mm (1/2 in.) hose barb inlet/outlet connection

–

40 °C (104 °F) at 4.0 bar (400 kPa, 58 psi)

5.2 bar (520 kPa, 75 psi) at 20 °C (68 °F)

≥ 3.32 bar (332 kPa, 48 psi)

1.5 L/min/0.1 bar (1.0 L/min/psi)

Lot samples retain a minimum of 10⁷ cfu/cm² of *B. diminuta* per modified ASTM F838, current revision

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

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

Sterilized by gamma irradiation and individually packaged



AcroPak 1500 Capsules with Supor EKV Membrane

Supor EKV membrane (hydrophilic polyethersulfone)

Polypropylene

Polycarbonate

*No filling bell on either option

Thermal bonding without adhesives

0.2 µm

1500 cm²

Housing Length

12466: 17.4 cm (6.8 in.)

12467: 21.0 cm (8.3 in.)

Housing Diameter (including valves)

10.5 cm (4.1 in.)

12466: 25-38 mm (1-1.5 in.) sanitary flange inlet/outlet connection
12467: 13 mm (1/2 in.) hose barb inlet/outlet connection

–

40 °C (104 °F) at 4.0 bar (400 kPa, 58 psi)

5.2 bar (520 kPa, 75 psi) at 20 °C (68 °F)

≥ 3.32 bar (332 kPa, 48 psi)

3.2 L/min/0.1 bar (2.2 L/min/psi)

Lot samples retain a minimum of 10⁷ cfu/cm² of *B. diminuta* per modified ASTM F838, current revision

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

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

Sterilized by gamma irradiation and individually packaged

Ordering Information

Part Number	Description	Pkg	Part Number	Description	Pkg
61309	Supor EKV membrane, 47 mm disc filter	5/pkg	12461	AcroPak 400 Capsule with Supor EKV membrane, 0.2 µm, 13 mm (1/2 in.) hose barb inlet/outlet connection with filling bell on outlet	1/pkg
4902	Acrodisc Syringe Filter with Supor EKV membrane, 0.2 µm, 25 mm	50/pkg	12463	AcroPak 800 Capsule with Supor EKV membrane, 0.2 µm, 38 mm (1.5 in.) sanitary flange inlet/outlet connection	1/pkg
12246	AcroPak 20 Filter with Supor EKV membrane, 0.2 µm, non-sterile	3/pkg	12464	AcroPak 800 Capsule with Supor EKV membrane, 0.2 µm, 13 mm (1/2 in.) hose barb inlet/outlet connection with filling bell on outlet	1/pkg
12247	AcroPak 20 Filter with Supor EKV membrane, 0.2 µm, sterilized	3/pkg	12466	AcroPak 1500 Capsule with Supor EKV membrane, 0.2 µm, 38 mm (1.5 in.) sanitary flange inlet/outlet connection	1/pkg
12094	AcroPak 200 Capsule with Supor EKV membrane, 0.2 µm, tapered hose barb inlet/tapered hose barb outlet with filling bell	3/pkg	12467	AcroPak 1500 Capsule with Supor EKV membrane, 0.2 µm, 13 mm (1/2 in.) hose barb inlet/outlet connection	1/pkg
12095	AcroPak 200 Capsule with Supor EKV membrane, 0.2 µm, 13 mm (1/2 in.) sanitary flange inlet/outlet connection	3/pkg			
12460	AcroPak 400 Capsule with Supor EKV membrane, 0.2 µm, 1.5 in. sanitary flange inlet/outlet connection	1/pkg			

Pall's UpScaleSM Program

From drug discovery and basic research, through process development and production, Pall Life Sciences is the single source for all of your filtration and separation needs. Our UpScale program provides you with the scalable filtration products and support you need to bring new products to market faster. From syringe filters to product scale, UpScale products incorporate the same membranes and identical materials of construction. UpScale direct flow filtration products include Acrodisc syringe filters and AcroPak capsules. These products use the same membranes in larger or smaller effective filtration areas.



Laboratory

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