

Supor™ EX

ECV MEMBRANE FILTER CARTRIDGES

Supor™ EX grade ECV filters incorporate high capacity, high flow rate 0.2 µm sterilizing-grade filter media validated for the retention of *Brevundamonas diminuta* (ATCC 19146) at a challenge level of 10⁷ colony-forming units (CFU) per cm² membrane. A unique polyethersulfone (PES) membrane pairing combined with laid-over pleat geometry and narrow core design, ensures rapid filtration of cell harvest material, process intermediates, growth media, buffers, and final bulk biological process fluids. Supor EX grade ECV filter media also delivers optimized efficiency with viscous fluids incorporating hyaluronic acid, carboxymethyl cellulose (CMC), or hydroxypropyl cellulose (HPC).

Typical applications include:

- Growth media
- Clarification post-cell harvest
- Buffers
- Process intermediates
- Final bulk processing of biological process fluids



Fig 1. Supor EX grade ECV membrane filter cartridges.

Features and benefits

Features	Benefits
Asymmetric dual-layer polyethersulfone membrane	Well suited for filtration of cell harvest material, process intermediates, growth media, buffers and final bulk biological process fluids
Laid-over pleat filter construction with narrow core design	Increases available area for high cartridges throughputs
2D data matrix marked	Allows full electronic traceability using a barcode reader

Specifications

Materials of construction

Membrane	Dual-layer polyethersulfone membrane
Support and drainage layers	Polypropylene
Core, end caps, fin, adapter	Polypropylene
Cage	Polypropylene with TiO ₂ whitener ⁽¹⁾
O-rings	Silicone elastomer
Sealing technology	Thermal bonding without adhesives

⁽¹⁾ TiO₂ is an insoluble inorganic mineral filler that does not contribute to organic extractables.

Operating parameters ⁽²⁾

Maximum differential pressure (forward direction)	5.0 bar (72.5 psi) at 40°C 3.0 bar (43.5 psi) at 80°C
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⁽²⁾ In compatible fluids which do not soften, swell or adversely affect the filter or its materials of construction.

Sterilization

Autoclave	5 × 60-min cycles at 125°C
<i>In situ</i> steam ⁽³⁾	5 × 60-min cycles at 125°C 1 × 60-min cycle at 135°C

⁽³⁾ Maximum differential pressure 300 mbar in forward direction

Typical non volatile residue (NVR) extractables in water at 20°C ⁽⁴⁾

< 150 mg NVR after 24 h extraction (per 254 mm [10 in.] cartridge)

⁽⁴⁾ Tested on elements without pre-flushing after 1 × 60-min autoclave cycle at 125°C

Nominal effective filtration area (EFA) and clean water flow rates

Nominal length	EFA	Clean water flow at 100 mbar (1.5 psi) DP
125 mm (5 in.)	0.52 m ² (5.6 ft ²)	8.5 L/min
254 mm (10 in.)	1.04 m ² (11.2 ft ²)	17 L/min
508 mm (20 in.)	2.08 m ² (22.4 ft ²)	34 L/min
762 mm (30 in.)	3.12 m ² (33.6 ft ²)	51 L/min

Integrity test values (air test gas, water wet) ⁽⁵⁾

Maximum allowable forward flow	21 mL/min at 2760 mbar (40 psi)
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⁽⁵⁾ Values for 254 mm (10 in.) cartridge at 20°C. Contact us for multi-element integrity test values for other filter sizes, or other fluid values and recommended test procedures.

Product	Nominal length	Product code
Supor EX grade ECV membrane filter cartridge Code 7 double O-ring (silicone elastomer), bayonet lock ⁽⁶⁾ and flat top	125 mm (5 in.)	AB05UECV2PH4
Supor EX grade ECV membrane filter cartridge Code 7 double O-ring (silicone elastomer), bayonet lock ⁽⁶⁾ and fin	254 mm (10 in.) 508 mm (20 in.) 762 mm (30 in.)	AB1UECV7PH4 AB2UECV7PH4 AB3UECV7PH4

⁽⁶⁾ Please contact us for availability of product with alternative adapter fittings and O-ring materials.

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CY41397-15Dec23-DF

