



Life Sciences

USD 2293



# Supor<sup>®</sup> UEAV Filter Cartridges

For Extended Service Life and High Flow Rates



*Filtration. Separation. Solution.<sup>SM</sup>*

# Supor UEAV Filter Cartridges

## For Extended Service Life and High Flow Rates

High area 0.2 µm filter with bioburden and particle removal capability for extended service life and high flow rates in biologic fluids, cell culture media and buffers



New and advanced best-process technology, such as the **Pall Supor** UEAV range of filters, is more and more important to meet expectations.

**Pall Supor** UEAV filter cartridges incorporate a new hydrophilic and asymmetric machV technology polyethersulfone membrane for superior dirt load capacity for even finest particles combined with a broad pH compatibility.

Moreover, the patented Ultipleat® technology, with a narrow core and mechanically robust filter configuration, offers maximum membrane area and extended service life with the most complex biologic fluids, as well as very short processing times in case of high-volume buffers, cell culture media or supernatants.

The amalgamation of new and advanced design and construction concepts contribute to significantly higher service life and lower pressure drops in all kinds of biologic process applications.

In biotech, blood product, vaccine and buffer applications, these membrane and design benefits mean higher yield, higher process safety, less time, less handling and less cost.

### Quality and Bio-Safety (P Grades)

**Supor** UEAV high flow, long life cartridges have been specially designed and qualified for use in applications with buffers, as well as biologic and biotech fluids. The “P” Certificate meets and confirms pharmaceutical requirements on the effluent regarding:

#### Effluent Quality Tests

- Cleanliness per USP Particulates in injectables on Fiber-Releasing per 21 CFR
- Non-Pyrogenic per USP Bacterial Endotoxins (< 0.25 EU/mL)
- Meets total organic carbon (TOC) and conductivity per USP Purified Water, pH per USP Sterile Purified Water
- Meets pH-shift per USP Sterile Purified Water

#### Biological Tests

- Meets USP biological reactivity, *in vivo*, for Class VI 121°C plastics

The quality management system for manufacturing of **Supor** UEAV filter cartridges occurs in a controlled environment and in conformance with Certified Quality System ISO 9001.

Each filter is 100% integrity tested and fully traceable by individual marked lot and serial number.

# Supor UEAV Filter Cartridges

## Technical Specifications

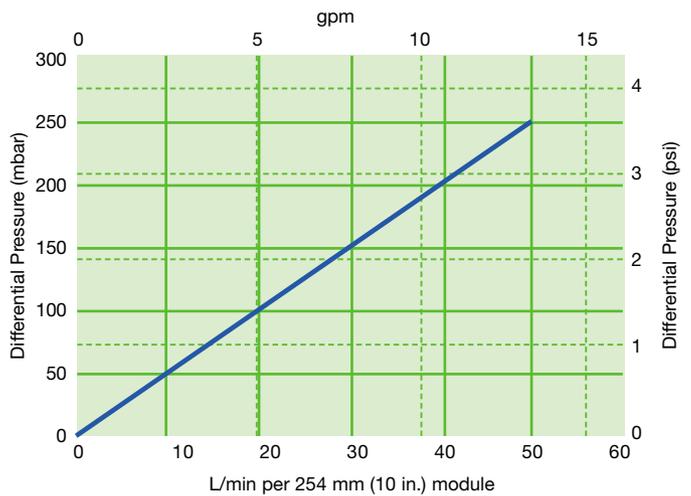
### Features

- **Ultipleat** filter cartridge configuration with crescent-shaped pleat structure and narrow diameter polypropylene core results in a higher membrane area within a compact membrane package
- **Supor** machV technology incorporates hydrophilic asymmetric polyethersulfone membrane
- Filters that pass the appropriate Forward Flow test have been shown in laboratory tests to typically provide titer reductions in excess of  $1 \times 10^6$  when challenged with aqueous suspensions of *Brevundimonas diminuta* (ATCC 19146)
- Cartridge integrity testable by Forward Flow test

### Benefits

- Smaller housings and fewer filter cartridges to be changed out for given flow and pressure drop requirements
- Fewer cartridges or capsules needed to maintain required flow
- Additional service life combined with minimum pressure drop when using the maximum number of filter cartridges per housing
- Exceptionally high flow rates and superior service life for processing large fluid volumes
- Excellent retention of microorganisms, for superior protection of final filters and downstream equipment such as tangential flow or chromatographic systems
- Polyethersulfone filter medium minimizes unspecific adsorption effects or unwanted enzyme activation as known from certain filter or fiber materials
- Broad pH compatibility allows the use of polyethersulfone membrane in a full range of biological fluids and buffers
- Bioburden reduction efficiency for processes with variable bioburden and critical applications with high flow requirements
- The Forward Flow test allows safe, easy and fast confirmation of filter integrity after steaming and filtration

Typical Liquid Flow Rates at 20°C (68°F)\*



\* For fluids at 1 cP viscosity. For other viscosities, divide flow rate by viscosity in cP. Determined on unused filters in laboratory testing.

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## Technical Specifications

### Materials of Construction

<b>Membrane</b>	Hydrophilic, asymmetric polyethersulfone (0.2 µm particulate rating)
<b>Drainage Layers</b>	Polypropylene
<b>End Cap and Cage</b>	Polypropylene
<b>Core</b>	Polypropylene
<b>Adapter</b>	Polypropylene with internal stainless steel reinforcing ring

### Effective Surface Area

<b>AB1UEAV7PH4</b>	Typically 1.06 m <sup>2</sup> (11.4 ft <sup>2</sup> )
<b>AB2UEAV7PH4</b>	Typically 2.12 m <sup>2</sup> (22.8 ft <sup>2</sup> )
<b>AB3UEAV7PH4</b>	Typically 3.18 m <sup>2</sup> (34.2 ft <sup>2</sup> )
<b>AB4UEAV7PH4</b>	Typically 4.24 m <sup>2</sup> (45.6 ft <sup>2</sup> )

### Typical Extractables per 254 mm (10 inch) module

≤ 50 mg in water at 20°C (68°F) after a 1 hour autoclave cycle and 4 hours extraction time

### Typical Cumulative Steam Life<sup>(1)</sup>

10 hours (1 hour cycles) at 125°C (257°F)

<sup>(1)</sup> The steam life and service life data were determined by testing under controlled laboratory conditions up to the time indicated. Actual operating conditions may affect the filter's long term resistance to steam sterilization and hot air service. Filters should be qualified for each process application.

### Maximum Forward Steaming Conditions

300 mbard Δp at 125°C (4.4 psid at 257°F)

### Maximum Temperature and Differential Pressure<sup>(2)</sup>

**Maximum forward differential pressures in compatible fluids are:**

5.5 bard at 40°C (80 psid at 104°F)

3.0 bard at 80°C (43 psid at 176°F)

<sup>(2)</sup> In compatible fluids which do not soften, swell, or adversely affect the filter or its materials of construction.

### Forward Flow Integrity Test Values<sup>(3)</sup>

With water wet cartridges and air as test gas ≤ 50 mL/min at 2060 mbar (30 psi). Preflush at 5 L/min per module for 10 minutes prior to Forward Flow testing.

<sup>(3)</sup> Please contact Pall for multi-element integrity test values. Values are for one 254 mm (10 inch) filter at 20°C (68°F).

### Ordering Information<sup>(4)</sup>

Pall Part Number: AB <input type="checkbox"/>		UEAV	<input type="checkbox"/>	P	<input type="checkbox"/>	
Code	Nominal Length	Code	Cartridge Style	Code	O-ring Material	
1	254 mm (10 inch)	2	Double O-ring with bayonet lock and flat end	H4	Silicone	
2	508 mm (20 inch)	7	Double O-ring with bayonet lock and finned end	J	EPR	
3	762 mm (30 inch)					
4	1016 mm (40 inch)					

<sup>(4)</sup> This is a guide to the part number structure only. For availability of specific options, please contact Pall or your local Pall distributor.



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