



# Polyethersulfone Microfiltration Cassettes

Cell removal and mycoplasma reduction



## Description

### The Polyethersulfone Membrane

The polyethersulfone membrane (PESU) is a membrane polymer that is well established in the biotechnological and pharmaceutical industries. The PESU membrane is a stable polymer that features a broad pH and temperature range. Its wide temperature range makes it possible to sterilize the membrane by either steam or autoclaving. Membrane regeneration, storage and depyrogenation can be accomplished by using NaOH even at elevated temperatures. Because of these features, the PESU membrane is ideally suited for biotechnological applications. PESU cassettes are available in 0.1  $\mu\text{m}$ .

Polyethersulfone membranes are designed for applications in the biotechnological and pharmaceutical industries. They can be used to remove the following cells from liquids:

- mammalian cells
- clostridia
- yeasts
- salmonella
- mycoplasma reduction

## Product Profile

Polyethersulfone can withstand in-line steam sterilization without any loss of integrity or changes in membrane retention. Membrane retention is unaffected by repeated re-use.

Feature	Benefits
Low adsorption	Minimal loss of proteins
Low protein-binding	High product yield
Wide pH and a wide variety of temperature range	Chemicals can be used for the removal of foulants
High flow rates	Economical filtration runs
Self sealing cassette	No gaskets needed
Silicone sealing compound	No glue
Enlarged inlet and outlet holes	Lower pressure drop

## Specifications

### Materials of Construction

Membrane	Polyethersulfone
Gaskets	PVDF
Spacer	Polypropylene
Sealing compound	Silicone

### Pore Size | Retention Rate

PESU microfiltration cassettes are available in a choice of 0.1  $\mu\text{m}$  pore size.

### Available Sizes

Sartorius Crossflow Cassettes are available in **Standard Cassette** size for pilot- | production scale and in **Sartocon Slice** format for reduced volume handling.

### Available Filterholder

Sartorius Crossflow Cassettes are designed for Sartorius filter holders like SartoconSlice (0.1m<sup>2</sup> Cassettes only), Sartocon, Sartocon 2 Plus, Sartocon 3, and different Sartoflow holder.

### Filtration Area

Filter area Sartocon Cassette	0.6 m <sup>2</sup>
Filter area Sartocon Slice Cassette	0.1 m <sup>2</sup>

### Operating Parameters

Feed pressure, P <sub>in</sub>	58 psi   4 bar maximum
Operating temperature	50 °C maximum
pH stability	1-14
Air diffusion rates at P <sub>in</sub> = 15 psi   1 bar	15 ml air/min for 0.6 m <sup>2</sup> filter area 5 ml air/min for 0.1 m <sup>2</sup> filter area
Cleaning	NaOH Sodium hydroxide, 1M, max. 40 °C
Disinfection	NaOH, 1 M, max. 50 °C, 30 min
Storage	NaOH, 0.1 M

# Sartorius Crossflow Filter

## Sterilization

121°C, 30 min, steaming 121°C,  
40 min, autoclaving

## Regulatory Compliance

All materials have passed the current USP Biological Test. The filtrate meets or exceeds USP and EP requirements for Sterile Water for Injection with respect to total solids, oxidizable substances, particulate matter, ammonia, chloride, nitrate, sulfate and heavy metals.

## Quality Control

Each filter cassette is individually assigned a serial number, integrity tested and certified.

It complies with cGMP requirements for non-fiber-releasing filters and is filed under the Drug Master File Number DMF 5967 by the Food and Drug Administration, Washington, DC. Validation information is available upon request.

If you use holding devices from other suppliers, please contact our Applications Department. A different torque might be needed due to specific variations in design.

For further assistance, please contact your local Sartorius field engineer or our Goettingen- based Applications Department in Germany.

## Technical References:

Validation Guide  
Publication No.: SPC5701-e

Directions for Use (Sartocon Cassettes and Sartocon Slice Cassettes)  
Publication No.: SPC6001-a

## Typical flux for Water

Permeate*	1300 l/h/m <sup>2</sup>
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\* Feed pressure, P<sub>in</sub> = 29 psi | 2.0 bar; retentate pressure, P<sub>out</sub> = 7 psi | 0.5 bar

## Retention Coefficient

Marker	Retention (static conditions)
Mycoplasmen	LRV ≥ 7
Brevundimonas diminuta	LRV > 7

## Order Information:

Available types and Order Numbers

Type	Filter area	Pore size	Order No.
Sartocon Cassettes	0.6 m <sup>2</sup>	0.1 µm	302 154 58 06 W-SG
Sartocon Slice Cassettes	0.1 m <sup>2</sup>	0.1 µm	305 154 58 01 W-SG

Sartorius AG  
Weender Landstrasse 94-108  
37075 Goettingen, Germany

Phone +49.551.308.0  
Fax +49.551.308.3289  
www.sartorius.com

USA +1.631.2544249  
UK +44.1372.737100  
France +33.1.69192100  
Italy +39.055.634041  
Spain +34.91.3586100  
Japan +81.3.33293366

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