

# Sartocon<sup>®</sup> Single-Use Cassettes

Protein Purification,  
Concentration and  
Diafiltration Cell Removal



## 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 some of the membrane by either steam or autoclaving. Because of these features, the PESU membrane is ideally suited for biotechnological applications.

Polyethersulfone membranes are designed for single-use applications use in the biotechnological and pharmaceutical industries.

They can be used for the following applications:

- IgG
- Blood factors
- Enzymes
- Peptides

## Product Information

The polyethersulfone membrane in Sartococon® Single-Use Cassettes has minimal adsorption of proteins, viruses, etc. Membrane retention is unaffected by always out-of-the-box performance. Some PESU ultrafiltration | microfiltration cassettes have been validated to withstand in-line steam sterilization without any loss or changes in membrane retention.

Feature	Benefits
New filter-cassette in each production run	Reproducibility <ul style="list-style-type: none"> <li>▪ Consistent process economics "Ready to use   easy to use conditions"</li> <li>▪ High target protein rejection "Consistent yield"</li> <li>▪ Sustained performance (lot-to-lot)</li> <li>▪ Batch-to-batch consistency "Always out-of-the-box performance"</li> </ul>
Single use	Eliminate cleaning Validation reduced down time
Alcohol   Glycerol storage	Consistently low TOC limits
Consistent performance	Minimal processing time
Self-sealing cassette	No gaskets required
Silicone sealing internal   external	No glue No polyurethane extractables
Optimized cassette construction	Lower pressure drop across the cassette

## Specifications

Materials of Construction	
Membrane	Polyethersulfone
Gaskets	PVDF
Spacer	Polypropylene
Sealing compound	Silicone

## Pore Size | Retention Rate

PESU ultrafiltration and microfiltration cassettes are available in a choice of the following ultrafilters with nominal molecular weight cut-offs: 1 kD, 5 kD, 8 kD, 10 kD, 30 kD, 50 kD, 100 kD, 300 kD and microfilters with a pore size of 0.1 µm.

## Available Sizes

Sartorius Sartococon® Single-Use Crossflow Cassettes are available in standard cassette format size for pilot | production scale.

## Available Filter Holder

Sartorius Sartococon® Single-Use Crossflow Cassettes are designed for Sartorius filter holders like Sartococon®, Sartococon® 2 Plus, and different Sartoflow® holders.

## Filtration Area

Filter area	
Sartococon® Cassette	0.7 m <sup>2</sup> UF 0.6 m <sup>2</sup> MF

## Operating Parameter

Feed pressure, P <sub>m</sub>	58 psi   4 bar maximum
Operating temperature	50°C maximum
Air diffusion rates at P <sub>m</sub> = 15 psi   1 bar	Ultrafilters: 1 kD-300 kD: 50 ml 50 ml air/min for 0.7 m <sup>2</sup> filter area   Microfilters: 15 ml air/min for 0.6 m <sup>2</sup> filter area

## Sterilization

Only 30 kD | 100 kD | 300 kD and 0.1 µm,  
121°C, 30 min, steaming;  
121°C, 110 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 on 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  
Publication No.: SPC6001-a

## Order Information

Available types and order numbers

Cut-off	Pore size	Sartocon® Single-Use Cassettes filter area 0.7 m <sup>2</sup>	Sartocon® Single-Use Cassettes filter area 0.6 m <sup>2</sup>
5 kD		3021462907E--SUD	
8 kD		3021463407E--SUD	
10 kD		3021463907E--SUD	
30 kD		3021465907E--SUD	
50 kD		3021465007E--SUD	
100 kD		3021466807E--SUD	
300 kD		3021467907E--SUD	
	0.1 µm		3021545806W--SUD

## Retention Rates Polyethersulfone Ultrafilter

Substance	Approx. Mol. wt	1 kD	5 kD	8 kD	10 kD	30 kD	50 kD	100 kD	300 kD
Vitamin B12	1.200	>70	>50	<45	-	-	-	-	-
Inulin	5.000	>85	>70	-	-	-	-	-	-
Cytochrome C	12.400	-	>99	>99	>95	>60	-	-	-
Myoglobin	17.000	-	-	-	>99	>98	>95	<80	-
Albumin	67.000	-	-	-	>95	-	-	-	-
γ-Globulin	169.000	-	-	-	-	-	>99	>98	<70
Dextran	2.000.000	-	-	-	-	-	-	-	>95

## Retention Coefficient Polyethersulfone Microfilter

Marker	Retention (static conditions)
Mycoplasma	LRV > 7
Brevundimonas diminuta	LRV > 7

## Typical Water Flux Release Data

Cut-off	Pore size	Sartocon® Single-Use Cassettes [l/h]
1 kD		9
5 kD		21
8 kD		125
10 kD		160
30 kD		280
50 kD		460
100 kD		530
300 kD		630
	0.1 μm	850


\* (Feed pressure, P<sub>in</sub> = 22 psi | 1.5 bar; Retentate pressure, P<sub>out</sub> = closed valve; P<sub>filtrate</sub> = open valve)

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Specifications subject to change without notice.

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DIR No.: 2722110-000-00 | Order No.: 85030-521-14 | Status: 04 | 16 | 2021