

Sartocon® Single-Use Cassettes

Protein purification, concentration and diafiltration



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 Profile

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

Feature

New Filter-Cassette in each production run

Single use

Alcohol | Glycerol storage

Consistent performance

Self sealing cassette

Silicone sealing internal | external

Optimized Cassette construction

Benefits

Reproducibility
 - Consistent process economics
 "Ready to use | easy to use conditions"
 - High Target Protein rejection
 "Consistent Yield"
 - Sustained Performance (Lot-to-Lot)
 - Batch-to-Batch Consistency
 "Always out of the box performance"

Eliminate cleaning Validation Reduced down time

Consistently low TOC limits

Minimal processing time

No gaskets required

No glue
 No Polyurethane extractables

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 cassettes are available in a choice of the following nominal molecular weight cut offs: 1k, 5k, 8k, 10k, 30k, 50k, 100k (also available as Polysulfone), 300k

Available Sizes

Sartorius Sartocon® Single-Use Crossflow Cassettes are available in **Standard Cassette** format size for pilot- | production scale.

Available Filterholder

Sartorius Sartocon® Single-Use Crossflow Cassettes are designed for Sartorius filter holders like Sartocon, Sartocon 2 Plus, Sartocon 3, and different Sartoflow holder.

Filtration Area

Filter area
 Sartocon Cassette 0.7 m²

Operating Parameters

Feed pressure, P _{in}	58 psi 4 bar maximum
Operating temperature	50 °C maximum
Air diffusion rates at P _{in} = 15 psi 1 bar	1 k-300 k: 50 ml air/min for 0.7 m ² filter area 15 ml air/min for 0.1 m ² filter area

Sartorius Crossflow Filter

Sterilization

only 30 K | 100 K | 300 K, 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 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
Publication No.: SPC6001-a

Order Information

Available types and Order Numbers

Cutoff	Sartocon® Single-Use Cassettes, 0.7 m ² filter area
1 k	3021460907E--SUD
5 k	3021462907E--SUD
8 k	3021463407E--SUD
10 k	3021463907E--SUD
30 k	3021465907E--SUD
50 k	3021465007E--SUD
100 k*	3021466907E--SUD
100 k	3021466807E--SUD
300 k	3021467907E--SUD

* Polysulfone

Retention Rates Polyethersulfone

Substance	Approx. Mol. wt	1k	5 k	8 k	10 k	30 k	50 k	100 k	300 k
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 <60*	-
Albumin	67.000	-	-	-	>95	-	-	-	-
g-Globulin	169.000	-	-	-	-	-	>99	>98 >99*	<70
Dextran	2,000.000	-	-	-	-	-	-	-	>95

* Polysulfone

Typical Water Flux Release Data

Cutoff	Sartocon® Single-Use Cassettes 0.7 m ² filter area [l/h]
1 k	9
5 k	21
8 k	125
10 k	160
30 k	280
50 k	460
100 k PESU PSU	530
300 k	630

*(Feed pressure, P_{in} = 22 psi | 1.5 bar; Retentate pressure, P_{out} = closed valve; P_{Filtrate} = open valve)

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