

Cellulose Triacetate Ultrafiltration Cassettes

Protein purification, concentration and diafiltration



Description

Cellulose Triacetate Membrane

The cellulose triacetate membrane is a membrane polymer that is well established in the biotechnological and pharmaceutical industries. The cellulose triacetate membrane is extremely hydrophilic, making it virtually non-protein-binding. These features make cellulose triacetate membranes ideally suited for biotechnological applications. Cassettes with cellulose triacetate membranes are available in a choice of the following nominal molecular weight cutoffs:

- 5 k
- 10 k
- 20 k

Applications

Cellulose triacetate membranes are designed for use in the biotechnological and pharmaceutical industries. For example, these membranes can be used to separate or concentrate the following from liquids:

- Blood fractions
- Enzymes
- Proteins
- Peptides
- Antibodies

Product Profile

The cellulose triacetate membrane shows minimal adsorption of proteins, viruses, etc. Membrane retention is unaffected by repeated re-use. The cellulose triacetate membrane can be re-used without any loss of integrity or performance.

Feature	Benefits
Non-adsorptive	No loss of proteins, easy to clean, sustained flux
Non-protein binding	High product yield
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	Cellulose triacetate
Gaskets	Polyester
Spacer	Polypropylene
Sealing compound	Silicone

Pore Size | Retention Rate

CTA ultrafiltration cassettes are available in a choice of the following nominal molecular weight cut offs: 5 k, 10 k, 20 k

Available Sizes

Sartorius Crossflow Cassettes are available in **Standard Cassette** size for pilot- | production scale.

Available Filter Holder

Sartorius Crossflow Cassettes are designed for Sartorius filter holder like Sartocoon, Sartocoon 2 Plus, Sartocoon 3, and different Sartoflow holder.

Filtration Area

Filter area Sartocoon Cassette 0.7 m²

Operating Parameters

Feed pressure, P _{in}	58 psi 4 bar maximum
Operating temperature	50 °C maximum
pH stability	4–8
Air diffusion rates at P _{in} = 15 psi 1 bar	15 ml air/min for 0.7 m ² filter area
Cleaning	P3 Ultrasil 53, 1,5%, pH 8; 35 °C; Sodium tetraborate (5g/l) + citric acid, free of tensides and proteases (2.5 g/l), pH 8; 40 °C Calgonit CMR™ (1%), pH 4; 40 °C
Disinfection	Formaldehyde, 2–3%, 20–30 °C, 30 min Sodium azide, 0.1%, 20–30 °C, 15 min
Storage	Formaldehyd 2–3% Sodium disulfite, 0.1%, pH 4 Ethanol, 20%

Sartorius Crossflow Filter

Sterilization

2–3% formaldehyde, 20 °C, 30 min

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

Examples of Flux for Water

	5 k	10 k	20 k
Permeate*	12 l/h/m ²	57 l/h/m ²	200 l/h/m ²

* (Feed pressure, P_{in} = 29 psi | 2.0 bar; Retentate pressure, P_{out} = 7 psi | 0.5 bar; Permeate= Valve open)

Retention Coefficient

Marker	5 k	10 k	20 k
Inulin	>80%		
Cytochrome C	>99%	>90%	<75%
Myoglobin		>95%	>85%
Albumin		>99%	>99%

Order Information

Available types and Order Numbers

Cut off	Order No.
5 k	302 145 29 07 E-SG
10 k	302 145 39 07 E-SG
20 k	302 145 49 07 E-SG

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