

Hydrosart® Microfiltration Cassettes

Cell harvest and bacteria concentration



Description

The Hydrosart® Membrane

Hydrosart is a stabilized cellulose derivative membrane polymer that has been optimized for the biotechnological and pharmaceutical industries. The Hydrosart membrane is a stable polymer that features a broad pH and temperature range. Hydrosart is also extremely hydrophilic, making it non-protein-binding and virtually non-fouling. As a result, it has extremely high flux. Hydrosart's 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.

Applications

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

- Mammalian cells
CHO
BHK
- Bacteria
E. coli
Pasteurella
C. diphtheria
- Yeasts
- Cell lysates

Product Profile

Hydrosart has minimal adsorption of proteins, viruses, etc. Membrane retention is unaffected by repeated re-use. Hydrosart has been validated to withstand in-line steam sterilization without any loss of integrity or changes in membrane retention.

Feature	Benefits
Non-adsorptive	No loss of proteins, easy to clean, sustained flux
Non-protein-binding	High product yield
Wide pH and temperature range	More choices in sanitizing agents
High flow rates	Economical filtration runs
Steam-resistant polymer	Withstands repeated steam-sterilization cycles
Self sealing cassette	No gaskets needed
Silicone sealing compound	No glue
Enlarged inlet and outlet holes	Lower pressure drop

Because of these features, Hydrosart is ideal for biological applications.

Specifications

Materials of Construction

Membrane	Hydrosart (stabilized cellulose based membrane)
Gaskets	PVDF
Spacer	Polypropylene
Sealing compound	Silicone

Pore Size | Retention Rate

Hydrosart Microfilter Cassettes are available in a choice of 0.2 µm and 0.45 µm pore sizes.

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 Filter Holder

Sartorius Crossflow Cassettes are designed for Sartorius filter holders like SartoconSlice (0.1 m² Cassettes only), Sartocon, Sartocon 2 Plus, Sartocon 3, and different Sartoflow holder.

Filtration Area

Filter area Sartocon Cassette	0.6 m ²
Filter area Sartocon Slice Cassette	0.1 m ²

Operating Parameters

Feed pressure, P _{in}	58 psi 4 bar maximum
Operating temperature	50 °C maximum
pH stability	2–14
Air diffusion rates at P _{in} = 15 psi (1 bar)	50 ml air/min for 0.6 m ² filter area 15 ml air/min for 0.1 m ² filter area
Cleaning	P3 Ultrasil 11, 1%, pH 13, max. 50 °C, 30 min P3 Ultrasil 53, 1.5%, pH 8, 50 °C, 60 min P3 Ultrasil 62/60a, 1%, pH 6.5; max. 50 °C, 30 min Sodium hydroxide, 1 M; 40 °C, 60 min
Disinfection	NaOH, 1 M, max. 50 °C, 30 min
Storage	NaOH, 0.1 M

Sartorius Crossflow Filter

Sterilization

Sterilization 121°C, 30 min, steaming
121°C, 30 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.

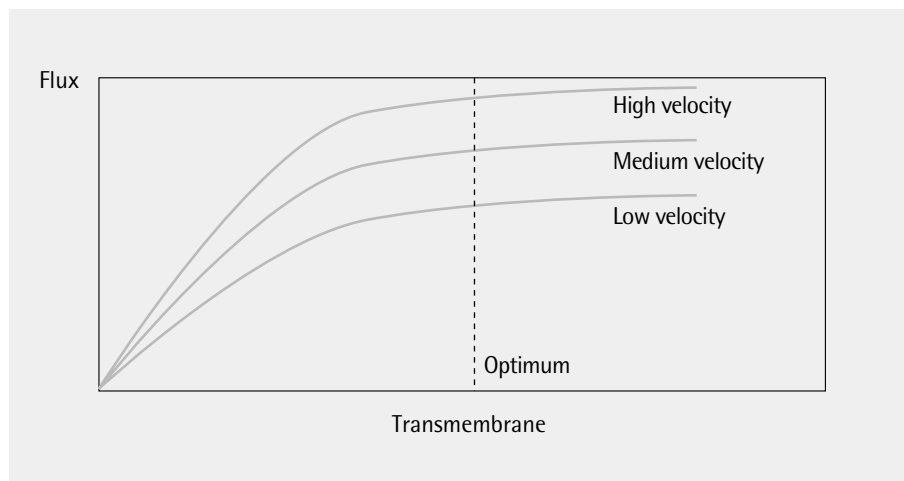
If you use holding devices from other suppliers, please contact our Applications Department. A different torque might be needed due to specific variations in design.

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



Effect of Transmembrane Pressure (TMP) and crossflow velocity on flux rates

Examples of Flux for Water

Pore size	Sartocon Cassettes 0.6 m ² filter area Permeate*	Sartocon Slice Cassettes 0.1 m ² filter area Permeate*
0.2 µm	2,100 l/h/m ²	1,350 l/h/m ²
0.45 µm	2,300 l/h/m ²	1,855 l/h/m ²

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

Order Information

Available types and Order Numbers

Type	Filter area	Pore size	Order No.
Sartocon Cassettes	0.6 m ²	0.2 µm	302 186 07 06 W-SG
Sartocon Cassettes	0.6 m ²	0.45 µm	302 186 06 06 W-SG
Sartocon Slice Cassettes	0.1 m ²	0.2 µm	305 186 07 01 W-SG
Sartocon Slice Cassettes	0.1 m ²	0.45 µm	305 186 06 01 W-SG

Retention Coefficient

Marker	Retention
Bacteria	>99%
Mammalian cells	>99%

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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