

Sartocon[®] ECO

Hydrosart[®] Ultrafiltration Cassettes



Description

Hydrosart[®] high performance membrane is a stabilized cellulose based membrane that has been optimized for biopharmaceutical process applications.

Hydrosart[®] is:

- Stable across a broad pH range
- Virtually non-fouling
- Extremely hydrophilic
- Non-protein binding

Membrane cleaning, storage and depyrogenation can be accomplished by using NaOH even at elevated temperatures and concentrations. These features make Hydrosart[®] an ideal membrane for biological applications.

Applications

- Oligonucleotides
- Proteins e.g., Albumin, even with 40% EtOH
- Conventional vaccine processes as well as latest mRNA based vaccine processes
- Monoclonal antibody processes
- Antibody drug conjugate (ADC) processes

Product Profile

Hydrosart® is characterized by ultra-low protein adsorption, easy cleaning, higher yields, and long product life. Even with repeated use, Hydrosart® ultrafiltration membrane maintains its performance without fouling or loss of retention.

Feature	Benefits
Thin channel design	High mass transfer at low feed flow rates
Non protein binding	Easy to clean
Non adsorptive membrane	High product yield
Non fouling	High sustained flux
Broad pH and temperature range	Wide choices of cleaning and sanitizing agents
Self sealing cassette	No need for gaskets
Silicone sealing compound	Low extractables
Enlarged feed and retentate ports	Lower system pressure drops

Technical Data

Specifications

Materials of construction

Membrane	Hydrosart® (stabilized cellulose based membrane)
Integrated gasket	Polypropylene
Spacer	Polypropylene
Sealing compound	Silicone white

General details

MWCO	10 kDa 30 kDa 100 kDa 300 kDa	
Available Sizes	Standard cassette size and Sartocube® size for pilot- and production scale, and in Sartocon® Slice as well as Sartocon® Slice 200 format for reduced volume handling	
Available Filter Holders	Standard Sartorius filter holders like Sartocon® Slice, Sartocon® 2 Plus, and Sartoflow® 10 and 20 holders	
Filtration Area	Sartocon® Slice 200 ECO	200 cm ²
	Sartocon® Slice ECO	0.14 m ²
	Sartocon® ECO	0.7 m ²
	Sartocube® ECO	3.5 m ²

Operating parameters

Feed pressure, P _{in}	Max. 4 bar 58 psi
Operating temperature	Max. 50 °C
Max. air diffusion rates at 20 °C at P _{in} = 1 bar 15 psi	≤ 1.0 mL air/min for 200 cm ² filtration area ≤ 5.0 mL air/min for 0.14 m ² filtration area ≤ 15 mL air/min for 0.7 m ² filtration area ≤ 50 mL air/min for 3.5 m ² filtration area
Cleaning	NaOH, 1 M, 50 °C, 60 min
Disinfection	NaOH, 1 M, 40 °C, 30 min
Storage	NaOH, 0.1 M

Regulatory Compliance

All materials have passed the USP Biological Test and the in Vivo Biological reactivity test according to USP Plastic Class Test VI. The filtrate meets or exceeds the currently valid USP and EP for sterile Water for Injection, with respect to bacteria endotoxins, particulate matter, oxidizable substances, pH dependent conductivity, extractable substances such as ammonia, chloride, sulfate, calcium and nitrate.

Quality Control

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

Each filter complies with cGMP requirements for non-fibre-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 application specialist or our Goettingen-based applications department in Germany.

Technical References

Validation Guide
Publication No.: 2865254

Directions for Use
Publication No.: 2644904

Order Information

Available types and order numbers

MWCO	Sartocon® Slice 200 ECO 200 cm ² Filtration Area	Sartocon® Slice ECO 0.14 m ² Filtration Area	Sartocon® ECO 0.7 m ² Filtration Area	Sartocube® ECO 3.5 m ² Filtration Area
10 kDa	3M81443902E--SW	3M51443901E--SW	3M21443907E--SW	3M21443935E--BSW
30 kDa	3M81445902E--SW	3M51445901E--SW	3M21445907E--SW	3M21445935E--BSW
100 kDa	3M81446802E--SW	3M51446801E--SW	3M21446807E--SW	3M21446835E--BSW
300 kDa	3M81447902E--SW	3M51447901E--SW	3M21447907E--SW	3M21447935E--BSW

Average Dynamic Water Flux*

Molecular weight cut-off	10 kDa	30 kDa	100 kDa	300 kDa
Permeate Flow Hydrosart® (L/h/m ²)	45	100	380	625

* (Feed pressure, $P_{\text{feed}} = 2 \text{ bar} | 29 \text{ psi}$; Retentate pressure, $P_{\text{ret}} = 0.5 \text{ bar} | 7 \text{ psi}$; $P_{\text{filtrate}} = \text{open valve}$)

Retention Rates Hydrosart®


Substance	Approx. Mol. Wt.	10 kDa	30 kDa	100 kDa	300 kDa
Cytochrome C	12,400	≥ 97.5%	-	-	-
Albumin	67,000	-	≥ 97.5%	≤ 60%	-
γ-Globulin	169,000	-	-	≥ 96%	-
Blue Dextran	500,000	-	-	-	< 90%

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