

Hydrosart[®] Ultrafiltration Cassettes

Protein Purification,
Concentration and
Diafiltration

Description

Hydrosart[®] Membrane is a stabilized cellulose based membrane that has been optimized for the biopharmaceutical industry. Hydrosart[®] is stable across a broad pH range, is extremely hydrophilic, making it non-protein binding and virtually non-fouling. Membrane regeneration, storage and depyrogenation can be accomplished by using NaOH even at elevated temperatures. Hydrosart[®] membrane also has better solvent resistance than Polyethersulfone and Cellulose Triacetate making it better suited to solvent based buffer applications. These features make Hydrosart[®] an ideal membrane for biological applications. Hydrosart[®] ultrafiltration cassettes are available in the following nominal molecular weight cutoffs: 2 kD | 5 kD | 10 kD | 30 kD | 100 kD | 300 kD



white silicone

Product Information

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.

Applications

Hydrosart® ultrafiltration membranes are designed for use in the biotechnological and pharmaceutical industries. They can be used for the following applications:

- Oligonucleotide
- Proteins
 - Albumin, even with 40% EtOH
 - Hemoglobin
- Coagulation factors
 - Factor VIII
 - Factor III
- Vaccines
 - Tetanus
 - Diphtheria
- Monoclonal antibodies

Feature	Benefit
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
Self sealing cassette	No gaskets needed
Silicone sealing compound	Low Extractables
Enlarged inlet and outlet holes	Lower system pressure drops

Technical Data

Specifications

Materials of construction	
Membrane	Hydrosart® (stabilized cellulose based membrane)
Gaskets	PVDF
Spacer	Polypropylene
Sealing compound	Silicone white

Pore Size | Retention Rate

Hydrosart® ultrafiltration cassettes are available in a choice of the following nominal molecular weight cut offs: 2 kD | 5 kD | 10 kD | 30 kD | 100 kD | 300 kD

Available Sizes

Sartorius crossflow cassettes are available in standard cassette size for pilot- | production scale and in Sartococon® Slice format for reduced volume handling.

Available Filter Holder

Sartorius crossflow cassettes are designed for Sartorius filter holders like Sartococon® Slice (0.1 m² cassettes only), Sartococon® 2 Plus, and different Sartoflow® holder.

Filtration Area

Filter area Sartococon® Cassette	0.6 m ²
Filter area Sartococon® Slice Cassette	0.1 m ²

Operating parameters

Feed pressure, P _m	58 psi 4 bar maximum
Operating temperature	50°C maximum, at 20°C
Max. air diffusion rates at P _m = 15 psi 1 bar	15 mL air/min for 0.6 m ² filter area 5 mL air/min for 0.1 m ² filter area
Cleaning	NaOH, 1 M, 40°C
Disinfection	NaOH, 1 M, 40°C, 30 min
Storage	NaOH, 0.1 M

Sterilization

NaOH, 1 M, 40°C, 30 min

Regulatory Compliance

All materials have passed the USP Biological Test. The filtrate meets or exceeds the currently valid USP and EP for sterile Water for Injection, with respect to particulate matter, extractable substances, oxidizable substances, pH dependent conductivity, Ammonia, Chloride, Sulfate, Calcium and Bacteria Endotoxins.

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 Stedim Biotech field engineer or our Goettingen-based Applications Department in Germany.

Technical References

Validation Guide
Publication No.: SPC5705-e

Directions for Use
(Sartocon® Cassettes and Sartocon® Slice Cassettes)
Publication No.: 1000035949

Average Dynamic Water Flux*

Nominal molecular weight cutoff [kD]	2 kD	5 kD	10 kD	30 kD	100 kD	300 kD
Permeate Flow Hydrosart® [L/h/m²]	10	18	50	136	370	860

* (Feed pressure, $P_{\text{feed}} = 29 \text{ psi} | 2.0 \text{ bar}$; Retentate pressure, $P_{\text{ret}} = 7.3 \text{ psi} | 0.5 \text{ bar}$; P_{mem} = open valve)

Retention Rates Hydrosart®

Substance	Approx. Mol. Wt.	2 kD	5 kD	10 kD	30 kD	100 kD	300 kD
Vitamin B12	1,200	≥88%	-	-	-	-	-
Inulin	5,000	-	>96%	-	-	-	-
Cytochrome C	12,400	-	-	>97.5%	-	-	-
Albumin	67,000	-	-	-	>97.5%	≤60%	-
γ Globulin	169,000	-	-	-	-	≥96%	-
Blue Dextran	500,000	-	-	-	-	-	<90%

Order Information

Available types and order numbers

Cut Off	Sartocon® Cassettes 0.6 m² Filter Area	Sartocon® Slice Cassettes 0.1 m² Filter Area
2 kD	302 144 19 06 E--SW*	305 144 19 01 E--SW*
5 kD	302 144 29 06 E--SW*	305 144 29 01 E--SW*
10 kD	302 144 39 06 E--SW*	305 144 39 01 E--SW*
30 kD	302 144 59 06 E--SW*	305 144 59 01 E--SW*
100 kD	302 144 68 06 E--SW*	305 144 68 01 E--SW*
300 kD	302 144 79 06 E--SW	305 144 79 01 E--SW


* For grey silicone cassettes material number ends with "...--SG"

Germany

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