

Hydrosart® Ultrafiltration Cassettes

Protein Purification,
Concentration and
Diafiltration



grey silicone

Description

The Hydrosart® Membrane

Hydrosart® is a stabilized cellulose based membrane that has been optimized for the biotechnological and pharmaceutical industry. The Hydrosart® membrane is a stable polymer that features a broad pH range. Hydrosart® is also extremely hydrophilic, making it non-protein binding, virtually nonfoul, and has extremely high flux.

Membrane regeneration, storage and depyrogenation can be accomplished by using NaOH even at elevated temperatures. 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.

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

Product Information

Hydrosart® shows minimal adsorption of proteins, viruses, etc. Membrane retention is unaffected by repeated use.

The Hydrosart® ultrafiltration membrane can be re-used without any less cleaning, loss of integrity or performance.

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
Self sealing cassette	No gaskets needed
Silicone sealing compound	No glue
Enlarged inlet and outlet hole	Lower pressure drop

Better solvent resistance than Polyethersulfone and Cellulose Triacetate

Technical Data

Specifications

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

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

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 Sartocon® Slice (0.1 m² cassettes only), Sartocon®, Sartocon® 2 Plus, and different Sartoflow® holders.

Filtration Area

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

Operating Parameters	
Feed pressure, P _n	58 psi 4 bar maximum
Operating temperature	50 °C maximum, at 20 °C
Max. air diffusion rates at P _n = 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

2 kD | 5 kD | 30 kD | 100 kD, 121 °C, 30 min.,
steaming; 121 °C, 110 min, autoclaving

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 on 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.: SPC5701-e

Directions for Use (Sartocon® Cassettes and
Sartocon® Slice Cassettes)
Publication No.: SPC6032

Average Dynamic Water Flux*

Nominal molecular weight cutoff (kD)	2 kD	5 kD	10 kD	30 kD	100 kD
Permeate Flow Hydrosart® l/h/m ²	10	25	60	170	550

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

Retention Rates Hydrosart®

Substance	Approx. Mol. Wt.	2 kD	5 kD	10 kD	30 kD	100 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%

Order Information

Available types and order numbers


Type	Filter Area	Cut Off	Order No.
Sartocon® Cassettes	0.6 m ²	2 kD	302 144 19 06 E--SG
Sartocon® Cassettes	0.6 m ²	5 kD	302 144 29 06 E--SG
Sartocon® Cassettes	0.6 m ²	10 kD	302 144 39 06 E--SG
Sartocon® Cassettes	0.6 m ²	30 kD	302 144 59 06 E--SG
Sartocon® Cassettes	0.6 m ²	100 kD	302 144 68 06 E--SG
Sartocon® Slice Cassettes	0.1 m ²	2 kD	305 144 19 01 E--SG
Sartocon® Slice Cassettes	0.1 m ²	5 kD	305 144 29 01 E--SG
Sartocon® Slice Cassettes	0.1 m ²	10 kD	305 144 39 01 E--SG
Sartocon® Slice Cassettes	0.1 m ²	30 kD	305 144 59 01 E--SG
Sartocon® Slice Cassettes	0.1 m ²	100 kD	305 144 68 01 E--SG

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