

Sartocon[®] Q Hydrosart[®] 30 kDa mAb

Fast and Efficient Monoclonal
Antibody Processing



Product Information

The Sartocon[®] Q Hydrosart[®] 30 kDa mAb is a new tangential flow filtration (TFF) cassette, specifically optimized for fast and efficient monoclonal antibody processing.

This cassette type integrates seamlessly into our current portfolio, positioned between the existing ECO-screen and E-screen with its innovative new screen design. It combines the proven features of our current products and membrane designs, ensuring optimal performance and reliability.

Features and Benefits

- **Enhanced efficiency:** The new cassette design enables 30% higher flux rates while supporting higher final concentrations.
- **Reliable processing:** Maintaining consistent performance after cleaning, storage, and depyrogenation.
- **Robust scalability:** Fully scalable from development to large-scale manufacturing.

Overview

Relevant Applications

- mAb processes

Relevant Process Steps

- Concentration | ultrafiltration (UF) and diafiltration (DF) of mAb solutions.

Description

The new Sartocan® Q Hydrosart® 30 kDa mAb cassette, specifically optimized for fast and efficient mAb processing combines an optimized membrane with a new screen type.

The Hydrosart® 30 kDa mAb high-performance membrane has been meticulously designed for mAb applications based on the well-established stabilized cellulose based Hydrosart® membrane technology.

Its key features include:

- Stable across a broad pH range
- Virtually non-fouling
- Extremely hydrophilic
- Non-protein binding
- High yield
- High sustained flux
- Long product life cycle
- Easy cleaning

Even with repeated use, Hydrosart® ultrafiltration membranes maintain their performance without fouling or loss of retention.

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

The new Sartocan® Q cassette features an advanced new screen type (Q-Screen, Table 1), enabling higher final antibody concentrations at viable flow rates.

Its key features include:

- Medium channel design allowing high mass transfer at low feed flow rates
- Self-sealing design, eliminating the need for gaskets
- Low extractables due to silicone sealing compound
- Lower system pressure drops due to enlarged feed and retentate ports

Table 1: *The New Sartocan® Q Cassette Features an Advanced New Screen Type*

Screen Type	Possible Final Concentrations [g/L]	Max. Viscosity [cP]
ECO-Screen	up to 120	3
Q-Screen	up to 180	30
E-Screen	>180	>30

Technical Specifications

Membrane	Hydrosart® (stabilized cellulose-based membrane)
Gasket spacer	Polysulfone
Turbulence promoter	Polypropylene
Sealing compound	Silicone white

Pore Size | Retention Rate

Sartocon® Q Hydrosart® 30 kDa mAb ultrafiltration cassette is available in 30 kDa nominal molecular weight cut off.

Available Sizes

Sartorius TFF cassettes are available in multiple size formats, covering standard cassette size for pilot | production scale and Sartocube® for large-scale production. For small-scale production or small pilot runs, Sartocon® Slice formats are the optimal size, and Sartocon® Slice 200 or Sartocon® Slice 100* are ideal for reduced volume handling during development.

Filtration Area

Product Name	Filtration Area
Sartocube® Q Hydrosart® 30kDa mAb	3.09 m ²
Sartocon® Q Hydrosart® 30kDa mAb	0.63 m ²
Sartocon® Q Slice Hydrosart® 30kDa mAb	0.13 m ²
Sartocon® Q Slice 200 Hydrosart® 30kDa mAb	172 cm ²
Sartocon® Q Slice 100* Hydrosart® 30kDa mAb	86 cm ²

Sartorius offers a variety of filter holders tailored to the number of cassettes used. If you use holding devices from other suppliers, please contact our applications department. A different torque might be required due to specific variations in design.

Operating Parameters

Operating Parameter	Value
Feed pressure, P _{in}	58 psi / 4 bar maximum at 20 °C
Operating temperature	50 °C maximum, 20 °C standard

Maximal Air Diffusion Rate at P_{in} = 15 psi | 1 bar

Product Name	Value [mL air/min]
Sartocube® Q Hydrosart® 30kDa mAb	≤ 50
Sartocon® Q Hydrosart® 30kDa mAb	≤ 15
Sartocon® Q Slice Hydrosart® 30kDa mAb	≤ 5
Sartocon® Q Slice 200 Hydrosart® 30kDa mAb	≤ 1
Sartocon® Q Slice 100* Hydrosart® 30kDa mAb	≤ 1

*Coming soon

Cleaning and Storage Conditions

Cleaning	NaOH, 1 M, 40 °C
Disinfection	NaOH, 1 M, 40 °C, 30 min
Storage	NaOH, 0.1 M

Average Dynamic Water Flux*

Nominal molecular weight cutoff (kDa)	30
Permeate flow Hydrosart® L/h/m ²	250

*Feed pressure, P_{in} = 29 psi | 2 bar; Retentate pressure, P_{out/retentate} = 7 psi | 0.5 bar; P_{Filtrate/Permeate} = open valve

Retention Rate Hydrosart®

Substance	Approx. Mol. Wt.	30 kDa
Albumin	67,000	≥ 90%
γ-Globulin	169,000	≥ 99%

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 bacterial endotoxins, particulate matter, oxidizable substances, NVR, pH, conductivity, and extractable substances such as ammonium, chloride, sulfate, calcium, and nitrate.

Quality Control

Each filter cassette is individually assigned a serial number, integrity tested, and certified. Validation information is available upon request. For further assistance, please contact your local application specialist or our Göttingen-based applications department in Germany.

Ordering Information

Type	Filter Area	Cut Off	Order Number
Sarocube® Q Hydrosart® 30kDa mAb	3.09 m ²	30 kDa	3021446030Q--BSW
Sartocon® Q Hydrosart® 30kDa mAb	0.63 m ²	30 kDa	3021446006Q--SW
Sartocon® Q Slice Hydrosart® 30kDa mAb	0.13 m ²	30 kDa	3051446001Q--SW
Sartocon® Q Slice 200 Hydrosart® 30kDa mAb	172 cm ²	30 kDa	3081446002Q--SW
Sartocon® Q Slice 100* Hydrosart® 30kDa mAb	86 cm ²	30 kDa	3091446086Q--SW*

*Coming soon

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