

Passage of Common Molecules for Ultrafiltration

SepraPor® Product Information

SepraPor® is Meissner's Tangential Flow Filtration (TFF) product line with hollow fiber (HF) membranes. SepraPor® is designed to meet the critical needs of biopharmaceutical processes and is available in microfiltration and ultrafiltration pore sizes. They are validated for both single-use and multiuse sterilization cycles offering performance, versatility, and process flexibility.

SepraPor® Ultrafiltration Membranes

SepraPor® ultrafiltration Molecular Weight Cut-Offs (MWCOs) are the most robustly characterized ultrafiltration membranes in the industry, utilizing a minimum of 3 MW markers to classify the retention properties of SepraPor® ultrafiltration membranes. This improves lot-to-lot repeatability, providing end users with more consistent membranes and lowering process variance.

The membrane and filters are compatible with gamma irradiation for single-use applications and validated steam sterilization for multi-use operation. After steam sterilization, passage remains unchanged and filter

integrity is preserved, enabling effective re-use. **Figure 1** confirms this for 100 kDa filters, which remain within the allocated passage band.

In addition to robust MWCO characterization, retention data for commonly used reference molecules are presented for all SepraPor® ultrafiltration pore sizes. These results provide practical comparison points that enable end users to relate membrane behavior to their target molecules, anticipate passage or rejection, and make more confident selections during screening and scale-up.

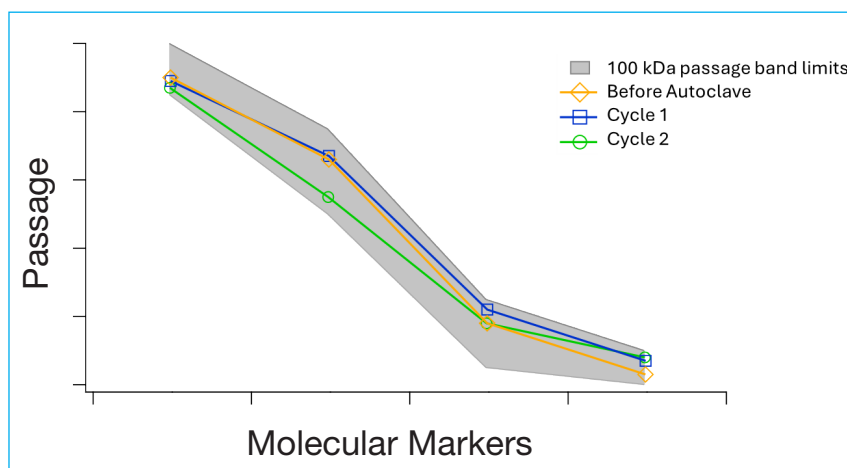


Figure 1. Passage profiles for 100 kDa SepraPor® filters before and after autoclave.

Rejection Coefficient – Membrane Characterization

MWCO/kDa	Typical Rejection/%						
	Vitamin B12 1.2 kDa	Inulin 5 kDa	Cytochrome C 12.4 kDa	BSA 67 kDa	BgG 170 kDa	Dextran 500 500 kDa	Dextran 2M 2,000 kDa
10	< 5	< 35	40 – 65				
30		< 10	< 40	> 90			
50			< 35	> 90	> 95	> 65	
100				30 – 65	> 90	< 50	> 60
300					> 85	< 30	50 – 75
500					> 50	< 20	< 5
750					< 50		< 5

SepraPor® Filter Construction

The polysulfone membrane, polysulfone housing and ports, and high temperature epoxy encapsulation together ensure the chemical and thermal robustness required for bioprocessing. SepraPor® filters operate across broad pH and temperature ranges, withstand repeated cleaning cycles, and support long-term storage.

Operating Parameters

Parameter	Value
Feed Pressure (max)	75 psi
TMP (max)*	60 psi
Operating Temperature	5 – 60 °C
Air Diffusion Rate (30 psi)	≤ 32.3 ml/min/m ²
pH Stability	2 – 13
Cleaning/Disinfection	NaOH 1 M, 40 °C
Storage	NaOH 0.1 M

* max TMP is temperature dependent

Materials of Construction

Filter Component	Material
Membrane	Polysulfone
Housing	Polysulfone
Permeate/Retentate Ports	Polysulfone
Netting	Polypropylene
Encapsulation	Epoxy

Regulatory Compliance

All product contact materials of SepraPor® filters have passed the current USP <87> Biological Test and Cytotoxicity Test. All materials are BSE and TSE free. Validation guide and additional USP <665> documentation is available upon request. Our green document is available for download online on our website.

Choose SepraPor® for your demanding applications

The SepraPor® product line is suitable for the most demanding tangential flow filtration applications. Ultrafiltration filters have a range of effective surface areas from 13 cm² to 2.1 m² and are available in ultrafiltration ratings of 10 kDa to 750 kDa. SepraPor® filters can be sterilized via irradiation, autoclave, steam-in-place, and chemical sanitization methods.

Learn How SepraPor® Can Help You

We welcome customer collaborations to continuously develop the best products and membranes in the industry.

For more information about SepraPor® filters, please visit www.meissner.com/seprapor.

