



PROPOR TFF reusable hollow fibre filters provide maximum process performance and high product yield through the use of advanced low fouling modified PES membrane technology, while also allowing for more efficient post-use module cleaning.

High flux, low fouling and low binding modified PES hollow fibre membrane technology offers consistent and fully scalable performance in a broad range of applications.

PROPOR TFF reusable filters are also completely caustic stable, allowing the filter to be repeatedly cleaned, sanitized and stored throughout the duration of a long service life without risk to product integrity.

Features and Benefits

- High flux, low fouling modified PES membrane for exceptional performance
- Self-contained hollow fibre filters - no hardware, no installation
- 100% integrity tested
- Robust, caustic-stable materials of construction allow repeated chemical cleaning, sanitization and storage cycles

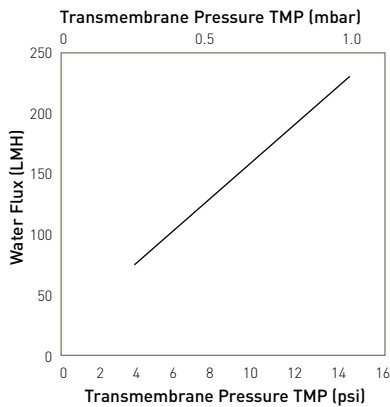
PROPOR TFF reusable

- tangential flow filtration
- modified polyethersulphone hollow fibre cartridges

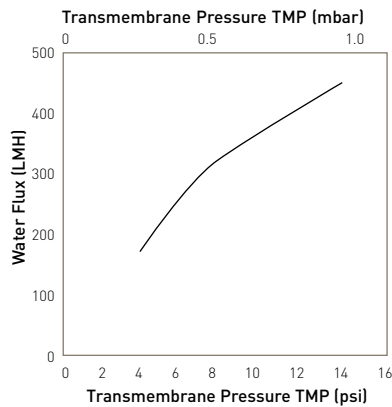


Note: PROPOR is a registered trademarks of Parker Hannifin Corporation.

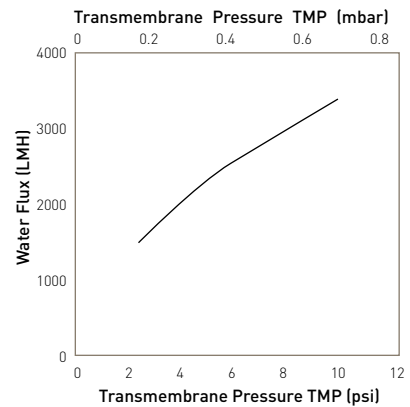
Performance Characteristics



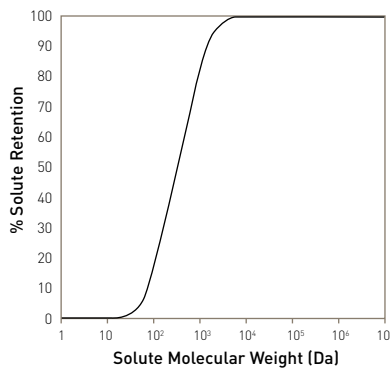
Clean water flux for a 12" PilotPlus
30K MWCO, 1.0mm ID



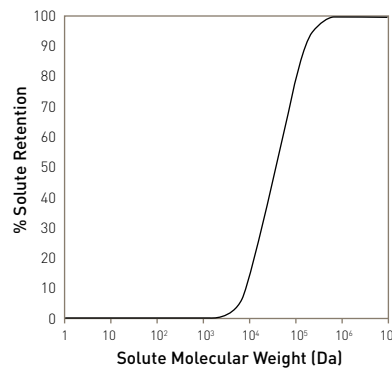
Clean water flux for a 12" PilotPlus
300K MWCO, 1.0mm ID



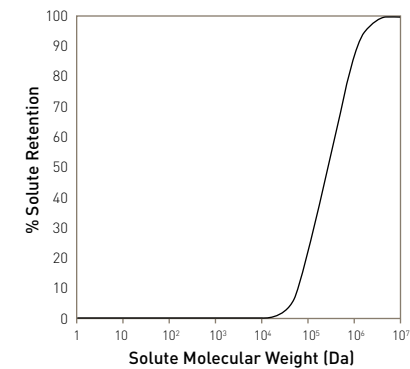
Clean water flux for a 12" PilotPlus
0.2 micron, 1.0mm ID



30K MWCO membrane solute retention



300K MWCO membrane solute retention



0.2 micron membrane solute retention

Typical Batch Sizes & Flow Rates by Product Format

Cartridge Type	12 inch Fibre Length		24 inch Fibre Length		41 inch Fibre length	
	Recommended Batch Volume (L)	Recommended Permeate Flow Rate (L / h)	Recommended Batch Volume (L)	Recommended Permeate Flow Rate (L / h)	Recommended Batch Volume (L)	Recommended Permeate Flow Rate (L / h)
Lab	0.01 to 0.08	up to 0.05	0.01 to 0.125	up to 0.1	N/A	N/A
LabPlus	0.01 to 0.25	up to 0.125	0.05 to 0.4	up to 0.25	N/A	N/A
LabMax	0.15 to 0.75	up to 0.4	0.25 to 1.5	up to 0.8	0.3 to 3.0	up to 1.5
Pilot	0.4 to 2.0	up to 1.4	0.7 to 4.0	up to 2.5	1.0 to 8.0	up to 5.0
PilotPlus	1.0 to 6.0	up to 3.0	2.0 to 12.0	up to 6.0	3.0 to 25.0	up to 12.0
Production	25.0 to 100.0	up to 30.0	50.0 to 250.0	up to 70.0	100.0 to 500.0	up to 150.0
ProductionMax	N/A	N/A	100.0 to 500.0	100.0 to 500.0	300.0 to 1000.0	300.0 to 1000.0

Specifications

Materials of Construction

- Membrane: Modified polyethersulphone (PES)
- Internal Screens: Polypropylene
- Encapsulant: FDA compliant urethane
- Housing: White polysulphone

Sanitization and Storage

All PROPOR TFF reusable hollow fibre filters are supplied containing sodium azide preservative solution. Together with the glycerin humectant contained within the membrane, this solution should be flushed from the filter prior to use.

The filters can be cleaned and sanitized, using sodium hydroxide solution (NaOH) at concentrations of up to 0.5M, and stored in 0.1M NaOH solution. Please refer to the product validation guide and standard operating procedure for specific guidance.

Compliance / Biological Safety

All materials of construction meet USP Class VI and Physiochemical Test For Plastics standards, and are compliant with FDA 21CFR parts 175 – 177 as relevant to the appropriate material type.

Quality Standards

All materials used in the construction of Parker domnick hunter hollow fibre filters are 100% lot traceable.

All membrane lots are tested to ensure conformity with retention, permeability and water-flux specifications. All finished filters are tested for clean water flux, and cartridge / fibre integrity post manufacture.

Shelf-Life

Under recommended conditions (refer to product validation guide) unused PROPOR TFF filters can be stored for a period of up to 24 months following the date of manufacture without affecting product performance.

Product Dimensions & Membrane Area

Cartridge Type	Number of Fibres*	12 inch Fibre Length		24 inch Fibre Length		41 inch Fibre length	
		EFA (cm ²)	Nominal Module Dimensions (dia. x length) (mm)	EFA (cm ²)	Nominal Module Dimensions (dia. x length) (mm)	EFA (cm ²)	Nominal Module Dimensions (dia. x length) (mm)
Lab	2 or 4	17 cm ²	9 x 300	36 cm ²	9 x 600	N/A	N/A
LabPlus	6 or 12	52 cm ²	9 x 300	107 cm ²	9 x 600	N/A	N/A
LabMax	18 or 36	155 cm ²	13 x 312	320 cm ²	13 x 605	580 cm ²	13 x 1062
Pilot	54 or 108	444 cm ²	33 x 311	940 cm ²	33 x 597	0.17 m ²	33 x 1061
PilotPlus	160 or 320	0.13 m ²	33 x 305	0.20 m ²	33 x 597	0.50 m ²	33 x 1054
Production	1600 or 3200	1.25 m ²	89 x 381	2.72 m ²	89 x 673	5.00 m ²	89 x 1130
ProductionMax	3200 or 6400	N/A	N/A	5.00 m ²	117 x 724	10.00 m ²	117 x 1181

* Dictated by fibre lumen diameter (1.0 mm / 0.5 mm).

Recommended Operating Conditions

Membrane Type	Maximum Feed Pressure		Maximum Transmembrane Pressure (TMP)		Maximum Temperature		pH Range
	barg	psig	barg	psig	° C	° F	
5K - 100K MWCO	2.76	40	2.41	35	60	140	2 to 13.5
300K - 500K MWCO	2.07	30	1.72	25	50	122	2 to 13.5
750K MWCO	1.72	25	1.38	20	50	122	2 to 13.5
0.1 µm	1.38	20	1.03	15	40	104	2 to 13.5
0.2 µm	1.03	15	0.69	10	40	104	2 to 13.5
0.45 µm	1.03	15	0.69	10	40	104	2 to 13.5

Ordering Information

TFFR		-			-				
Code Length (Nominal)*	Code NMWC* / Micron Rating	Code Diameter	Code Cartridge Type	Connector Type			Code Pack Quantity*		
1 12 inch 304.8 mm	003 3 kDa	10 1 mm	LA Lab	LL Luer Lock	Luer Lock	LabPlus	1 1		
2 24 inch 609.6 mm	005 5 kDa	05 0.5 mm	LP LabPlus	05 1/2 inch TC	3/16 inch Barbed Hose	LabMax	6 6		
3 41 inch 1041.4 mm	010 10 kDa		LX LabMax	07 3/4 inch TC	3/8 inch Barbed Hose	Pilot			
	030 30 kDa		PL Pilot	15 1 1/2 inch TC	1/2 inch TC / 1 inch TC	PilotPlus/			
	050 50 kDa		PP PilotPlus			Production			
	100 100 kDa		PR Production			ProductionMax			
	300 300 kDa		PM ProductionMax			Production			
	500 500 kDa			20 2 inch TC	1 1/2 inch TC				
	750 750 kDa			30 3 inch TC	1 inch TC				
	910 0.1 µm								
	920 0.2 µm								
	945 0.45 µm								