

# ultrapolymem® P-PF-PP

**The membrane for the filtration of solvents, alcohols, chemicals and gases**

## Product description:

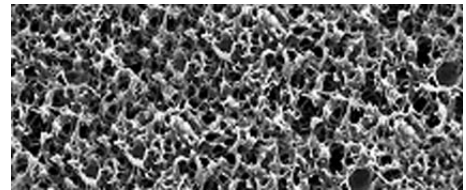
The ultrapolymem® filter is a pleated polypropylene membrane filter, constructed of 100% pure polypropylene. It provides maximum durability against chemicals in critical processes. The filter media, polypropylene, is inherently hydrophobic, with a highly porous membrane structure. Therefore, a consistently high porosity and particle removal is guaranteed throughout its entire service life. For this reason the filter is especially suitable for the filtration of compressed gases, fermentation of gases, technical gases, tank ventilation and for solvents. ultrapolymem® offers a cost effective alternative to a PTFE membrane with similar performance and durability range against chemicals.

## Features:

All components fulfill the FDA requirements for the contact with food in accordance with CFR (Code of Federal Regulations) Title 21. ultrapolymem® filter elements have passed the toxicological tests according to USP XX Class VI for plastics. In particular, the requirements of the chemical, biological, cosmetic, electronic and the pharmaceutical industries are fulfilled. The membrane is manufactured in accordance with the cGMP requirements (current Good Manufacturer Practice), is non-fiber releasing and is thermally welded without the use of binders or other chemical additives.

The ultrapolymem® P-PF-PP, the membrane filter 100% from polypropylene, the cost effective alternative to PTFE

SEM of the ultrapolymem® membrane



## Applications:

The ultrapolymem® membrane is designed and developed for the following applications:

Acids

- Bases
- Alcohols
- Solvents
- Etchants
- Photoresists
- Photolithographical solutions

For the filtration of aqueous solutions, the ultrapolymem® membrane must be mixed with a liquid of lower surface tension e.g. IPA. Due to the inherently hydrophobic filter media, the ultrapolymem® membrane is also suitable for the filtration of gases in such as:

- Compressed air
- CO<sub>2</sub>
- Fermentation gases
- Technical gases
- Tank ventilation

Technical alterations reserved (Date 03/03)

Features:	Benefits:
All-polypropylene construction	Wide durability against chemicals, permits use in broad range of fluids and applications
Absolute ratings of 0.04, 0.1 and 0.2 µm	Precise particle retention at rated level, 0.2 µm meets bacterial validation acc. to HIMA/ASTM standards
Unique polypropylene membrane	High flow rates, long service life, cost effective alternative to PTFE membranes
Inherently hydrophobic	Natural barrier to water without the use of additives or surface modifying agents which can leach or wash out
Rugged thermal bonded construction	Reliable integrity under severe process conditions withstands multiple sterilizations
Contains no binders or adhesives	Wide solvent compatibility, extremely low extractables
Fully integrity testable	Assurance of product integrity and effectiveness in operation
100% integrity tested by factory	Assured product reliability and consistency
Biologically inert and non-toxic	Meets FDA requirements for food contact, passed UPS Class VI biological tests for plastics.

Filtration surface:
0.6 m <sup>2</sup> per 10" element (250 mm)

Integrity testing: (wetting agent Isopropylalcohol [IPA])	
Pore size	Bubble point
0.04 µm	1.8 bar, 26 psi
0.1 µm	1.5 bar, 22 psi
0.2 µm	0.6 bar, 9 psi

Sterilization:
In-line sterilization with slow speed saturated steam 121°C – 135°C (250°F – 275°F) for 30–60 minutes Autoclave 125°C (260°F) for 30 minutes ultrapolymem® filter elements are capable of repeated sterilization cycles – without loss of integrity

Maximum differential pressure:			
Operating temp.		Differential pressure	
[°C]	[°F]	[bar]	[psid]
35	100	5.5	80
65	150	4.0	60
80	180	2.0	30

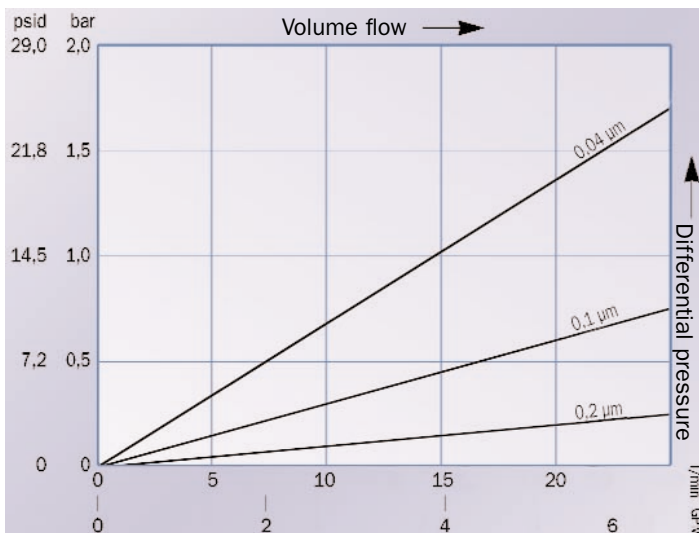
Materials:	
Membrane:	Polypropylene
Upstream support:	Polypropylene
Downstream support:	Polypropylene
Outer guard:	Polypropylene
Endcaps:	Polypropylene
O-Rings:	Silicone, Buna N, EPDM or Viton

Absolute retention rates:
0.04 µm, 0.1 µm, 0.2 µm

Bacterial retention:
HIMA challenge per ASTM 0.2 µm Pseudomonas diminuta

Dimensions:	
Diameter:	70 mm (2¾")
Length:	5", 10", 20", 30" or 40"; 125 mm, 250 mm, 500 mm, 750 mm or 1.000 mm (nominal)

Flow rate of a 10" P-PF-PP element – water



Flow rate of a 10" P-PF-PP element – air

