

ultrabev® P-PF-BEV

The membrane filter specially developed for applications within the food and beverage industry.

Product description:

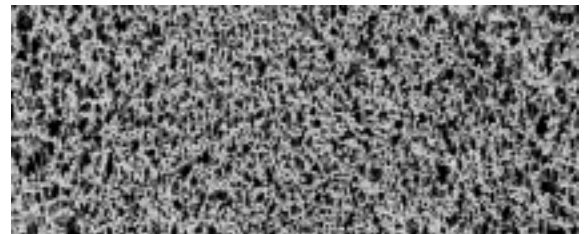
The ultrabev® membrane filter is a polyethersulfone membrane in a polypropylene casing.

The filter media polyethersulfone is inherently hydrophilic and distinguishes itself by having an asymmetrically designed pore structure. The pore size steadily decreases towards the center of the medium.

Features:

All components meet the FDA requirements for the contact with food in accordance with CFR (Code of Federal Regulations) Title 21. ultrabev® has passed the USP XX Class VI tests for plastics. The filter element is manufactured in accordance with the cGMP requirements (current Good Manufacturer Practice), has no migration of filter media, is non-fiber releasing and is thermally welded without the use of binders or other chemical additives.

The ultrabev® P-PF-BEV – for sterile filtration and bacteria reduction of liquids with the lowest possible differential pressure



SEM of the ultrabev® membrane

Applications:

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

- **Beverage industry**
 - Mineral water
 - Soft drinks (Cola, juices, etc.)
 - Wine
 - Beer
 - Yeast reduction
- **Water**
 - Sterile water
 - Mixing or blending water
 - Rinsing or cleaning water

Technical alterations reserved (Date 10/00)

ultrabev® P-PF-BEV

Features:	Benefits:
Absolute ratings of 0.2 µm, 0.45 µm	Precise particle retention at rated level, meets bacterial validation per HIMA standards
Highly porous asymmetric membrane	Higher flow rate, greater through-put, extended service life
Extremely high flow rates at low pressure	Allows faster processing times, smaller filtration systems, reduced operating costs
Permanently hydrophilic membrane	Inherently water solent in aqueous solutions without use of additives, surface active agents or post-treatments
Fully integrity testable in water	Assurance of product integrity and effectiveness in operation
High thermal and hydrolytic stability	Reliable integrity under severe process conditions, withstands prolonged exposure to high temperature water without breakdown, shedding or loss of integrity
Resistant to oxidizing agents	Compatible with chemical sanitization methods
Rugged thermal bonded construction	Compatible with autoclave and in-line steam sterilization, withstands multiple sterilizations
Biologically inert and non-toxic	Meets FDA requirements for food contact, passed USP Class VI biological tests for plastics
Highly passive to protein absorption	Low protein binding, minimizes valuable product adsorption, increase yield
100% integrity tested during manufacture	Assured product reliability and consistency

Technical data

Materials:

Membrane:	Polyethersulfone
Upstream support:	Polypropylene
Downstream support:	Polypropylene
Outer guard:	Polypropylene
Endcaps:	Polypropylene
O-Rings:	EPDM

Absolute retention rates:

0.2 µm, 0.45 µm

Filtration surface:

7.3 ft² per 10" element (10/30)

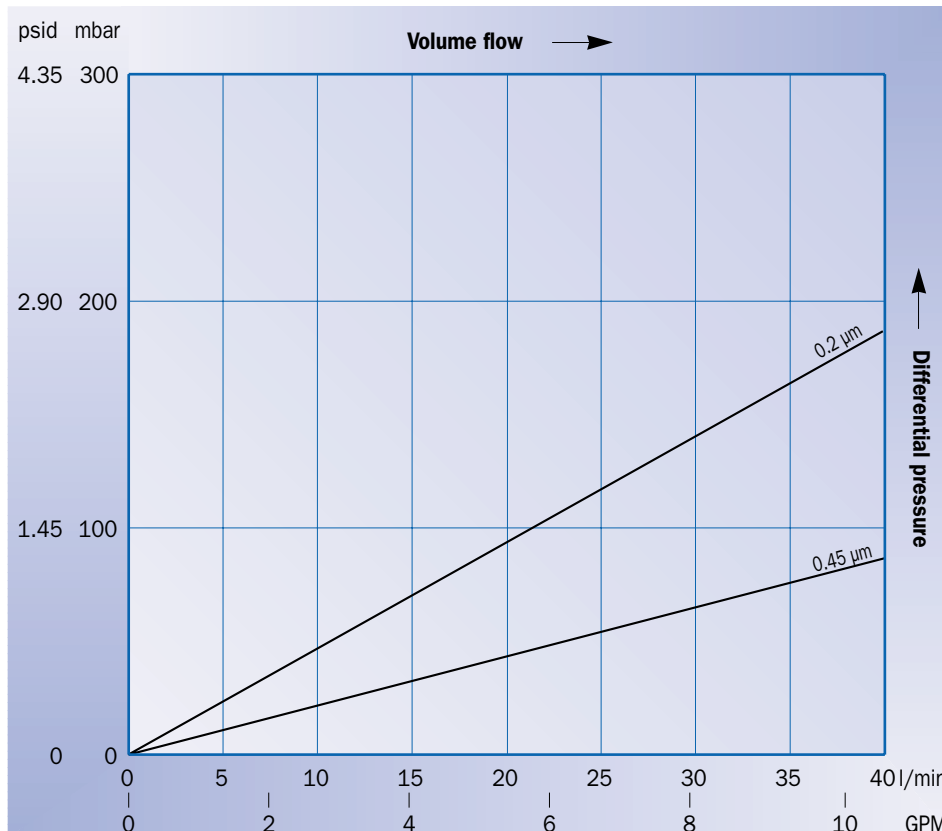
Bacterial retention:

HIMA challenge per ASTM
 0.2 µm Brevundimonas diminuta
 0.45 µm Serratia marcescens

Integrity testing (wetting agent water):

Pore size	Bubble point
0.2 µm	44 psi
0.45 µm	32 psi

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



Sterilization:

- In-line sterilization with slow speed saturated steam 250°F–275°F for 30–60 minutes
 - Autoclave 260°F for 30 minutes
- ultrasulfomem® filter elements are capable of repeated sterilization cycles – without loss of integrity

Maximum differential pressure:

Operating temp. [°F]	Differential pressure [psid]
100	80
150	60
180	30

Dimensions:

Diameter: 2³/₄"
 Length: 10", 20", 30" or 40"

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