

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.

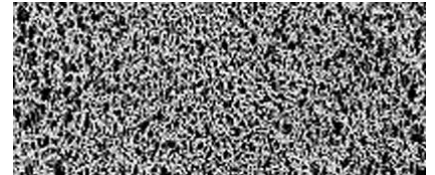
Features:

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

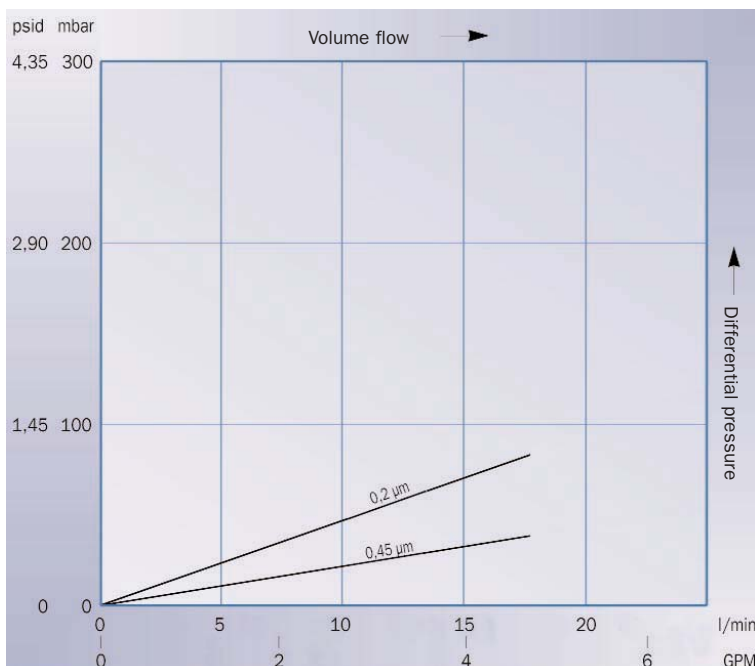
Water

- Sterile water
- Mixing or blending water
- Rinsing or cleaning water

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 differential pressure | Allows faster processing times, smaller filtration systems, reduced operating costs |
| Permanently hydrophilic membrane | Inherently water soluble in aqueous solutions without use of additives, surface active agents or post-treatments |
| Contains no binders, adhesives or other extraneous materials | Extremely low extractables. No taste change of the filtrate |
| Fully integrity testable in water | Assurance of product integrity and effectiveness in operation |
| High thermal and hydrolytic stability | Reliable integrity under severe process conditions, with stands prolonged exposure to high temperature water without breakdown, shedding or loss of integrity |
| Resistant to oxidizing agents | Compatible with chemical sanitization methods |
| 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 |

Flow rate of a 10" P-PF-BEV element – water (1 bar, 20°C)



| 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: |
|--|
| 0.67 m ² per 10" (250 mm) element |

| Bacterial retention: |
|--------------------------------------|
| HIMA challenge per ASTM |
| 0.2 µm <i>Brevundimonas Diminuta</i> |
| 0.45 µm <i>Serratia marcescens</i> |

| Integrity testing wetting agent: | |
|----------------------------------|---------------------|
| Pore size | Bubble point |
| 0.2 µm | ≥ 3,0 bar |
| 0.45 µm | ≥ 2,2 bar |

| Sterilization |
|---|
| In-line sterilization with saturated steam: 125°C (1.5 bar) for 60 minutes |
| Autoclave: 125°C for 30 minutes |
| Ultrabev filter elements are capable of repeated sterilization cycles – without loss of integrity |

| Maximum differential pressure: | |
|--------------------------------------|---------------------------------------|
| Operating temperature [°C] | Differential pressure [bar] |
| 35 | 5,5 |
| 65 | 4,0 |
| 80 | 2,0 |

| Dimensions: |
|---|
| Diameter: 70 mm |
| Length: 10", 20", 30" or 40" 250 mm, 500 mm, 750 mm or 1.000 mm (nominal) |