



ESPOR BR PES Filter Cartridges

- Liquid Filters
- Polyethersulfone Membrane

ESPOR BR beer filters protect the unique characteristics of beer by removing yeast and other spoilage organisms to ensure microbial stability during cold stabilization.

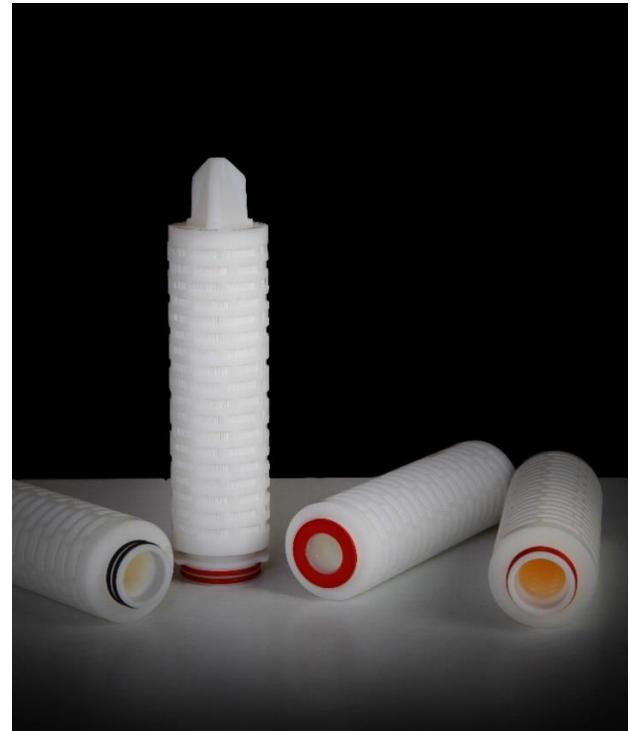
The inert and highly asymmetric PES membrane provides validated microbial retention to typical spoilage organisms, whilst protecting the beer's organoleptic qualities to preserve a fresh taste and a long shelf-life once packaged.

The incorporation of an active prefilter layer, combined with an increased filtration area provides high beer flow rates, greater resistance to blockage and maximized service lifetime.

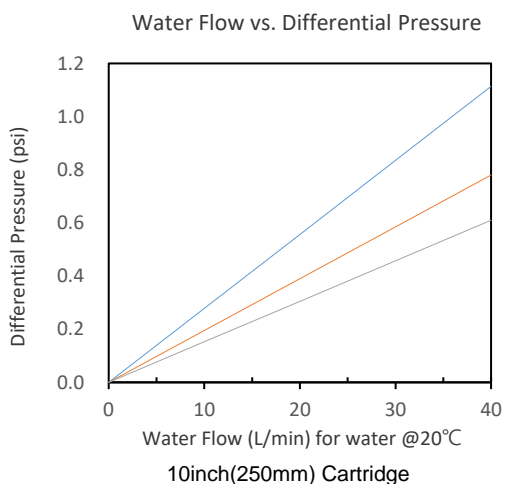
ESPOR BR filters have been designed to provide the optimum solution to beer stabilization by providing increased process control with maximized operational efficiency.

Features and Benefits

- Validated retention to spoilage organisms
- Inert materials of construction
- Easily integrity tested in-situ
- Integral depth prefiltration layer
- High filtration area (0.8m² / 10" cartridge)
- Optimised PES membrane structure
- Ensures effective microbial stabilization of beer
- Preserves the organoleptic qualities of the beer
- Assured filtration performance
- Increased throughput to blockage
- Maximised operational efficiency
- Maximum throughput to blockage



Performance Characteristics



Specifications

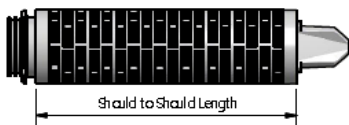
Materials of Construction

| | |
|---------------------------|----------------------|
| ■ Main Media : | Polyethersulfone |
| ■ Prefilter Media : | Polypropylene |
| ■ Upstream Support: | Polypropylene |
| ■ Downstream Support: | Polypropylene |
| ■ Inner Core: | Polypropylene |
| ■ Outer Cage: | Polypropylene |
| ■ End Caps: | Polypropylene |
| ■ End Cap Insert*: | 316L Stainless Steel |
| * Available in 226 endcap | |
| ■ Standard o-rings: | Silicone |

Nominal Dimensions

| | |
|-------------------------------|--------------------------|
| Outside Diameter : | 71.5mm |
| Inner Diameter : | DOE(27.0mm), SOE(31.0mm) |
| S-S Length of 10" Cartridge : | 237.5mm |
| S-S Length of 20" Cartridge : | 485.0mm |
| S-S Length of 30" Cartridge : | 732.5mm |
| S-S Length of 40" Cartridge : | 980.0mm |

* S-S Length



Recommended Operation Conditions

| |
|--|
| Up to 70°C continuous operating temperature and higher short-term temperature during CIP to the following limits : |
| 5.0 bard (72.5psid) @ 20°C |
| 4.0 bard (58.0psid) @ 40°C |
| 3.0 bard (43.5psid) @ 60°C |
| 2.0 bard (29.0psid) @ 80°C |
| 1.0 bard (14.5psid) @ 90°C |
| 0.3 bard (4.0psid) @ >100°C (steam) |

Recommended Change out Pressure

2.4 bard (35psid)

Effective Filtration Area

0.67sqm / 10" cartridge

Cleaning and Sterilization

ESPOR BR can be repeatedly steam sterilized in situ or autoclaved at up to 130°C (226°F). They can be sanitized with hot water at up to 85°C (185°F) and are compatible with a wide range of chemicals.

Food Contact Compliance

All materials of construction are FDA listed and conform to the relevant requirements of 21 CFR Part 177.

Biological Safety

All materials of construction conform to the relevant requirements of USP Class VI-121 °C Plastics.

Filtration Rating

0.45, 0.65, 1 μ m

Bacterial Retention of 0.45 μ m

| | |
|------------------------------|-----------------------------------|
| ■ Saccharomyces cerevisiae | >10 ⁷ /cm ² |
| ■ Brettanomyces bruxellensis | >10 ⁷ /cm ² |
| ■ Lactobacillus brevis | >10 ⁷ /cm ² |
| ■ Lactobacillus lindneri | >10 ⁷ /cm ² |
| ■ Pediococcus damnosus | >10 ⁷ /cm ² |

Carried out to methods specified in ASTM F838-05

Integrity Test Data

All filters are flushed with pharmaceutical grade purified water and integrity tested to the following limits. < 26.9cc/min at 1.24bar

| | |
|------------------|--------------------------------|
| ■ 0.45 μ m : | <26.9ml/min per 10" at 1.24bar |
| ■ 0.65 μ m : | <21ml/min per 10" at 0.8bar |
| ■ 1 μ m : | <21ml/min per 10" at 0.6bar |

Cleanliness

TOC (USP 643) : <500ppb
 Conductivity (USP 645) : <1.3uS/cm
 Endotoxin (USP85) : <0.25EU/ml

Ordering Information

| | | | |
|---|--|--|--------------------------|
| E S B R - | | - | A |
| | | | |
| Nominal Length | Micron Rating | Endcaps | Seals |
| 1 : 10" (250mm) 2 : 20" (500mm) 3 : 30" (750mm) 4 : 40" (1000mm) | 04 : 0.45micron 06 : 0.65micron 10 : 1micron | C : 226INS/FIN D : 222/FIN E : 222/FLAT F : 226INS/FLAT | S : Silicone E : EPDM |

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