



ESPOR BS sterilizing grade filter features a microbially retentive polyethersulphone membrane for fast, reliable and cost-effective sterile filtration for beverage industry.

Specially designed as a beverage grade cartridge, ESPOR BS utilizes an advanced PES membrane configured to provide high flow and cost-effective performance. The membrane has an asymmetric pore structure which provides graded filtration throughout its depth, resulting in increased capacity to hold contaminants.

Componentry has been selected to maximize mechanical strength chemical compatibility enabling the filter to withstand repeated chemical cleaning and sterilization.

#### Features and Benefits

- Enhanced bacterial retention
- High flow rate
- high contaminant loading capacity
- Repeatedly integrity testable
- Easily integrity tested in-situ
- Repeatedly sterilizable
- Cost-effective
- Very low extraction
- Excellent chemical compatibility

#### Applications

- Bottled Water
- Food & Beverages
- Microbial stabilization

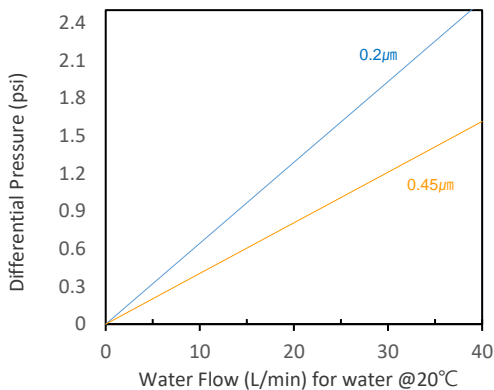
## ESPOR BS PES Filter Cartridges

- Liquid Filters
- Polyethersulfone Membrane



### Performance Characteristics

Water Flow vs. Differential Pressure



10inch(250mm) Cartridge

## Specifications

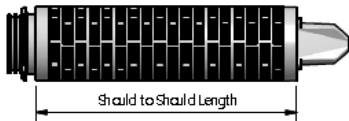
### Materials of Construction

■ Main Media :	Polyethersulfone
■ Upstream Support:	Polyester
■ Downstream Support:	Polyester
■ Inner Core:	Polypropylene
■ Outer Cage:	Polypropylene
■ End Caps:	Nylon
■ 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

0.56sqm / 10" cartridge

### Cleaning and Sterilization

ESPOR BS 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

0.2, 0.45µm

### Bacterial Retention

0.2µm, > 10<sup>7</sup> cfu/cm<sup>2</sup> *Brevundimonas diminuta*  
 0.45µm, > 10<sup>7</sup> cfu/cm<sup>2</sup> *Serratia marcescens*  
 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.

0.2µm, < 16cc/min at 2.4bar  
 0.45µm, < 16cc/min at 1.7bar

### Cleanliness

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

## Ordering Information

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<b>Nominal Length</b>	<b>Micron Rating</b>	<b>Endcaps</b>	<b>Seals</b>	
1 : 10" (250mm) 2 : 20" (500mm) 3 : 30" (750mm) 4 : 40" (1000mm)	02 : 0.2micron 04 : 0.45micron	C : 226INS/FIN D : 222/FIN E : 222/FLAT F : 226INS/FLAT	S : Silicone E : EPDM	