

## Filter Data Sheet

### *FPS<sup>grade</sup> Polyethersulfone Membrane Media Filter Cartridges developed for the special needs of the food and beverage industry*

**Dist. by: H.R. Peterson Co. - 814 Prior Ave. No. - St. Paul, MN 55104**  
**Telephone: 651-646-4529 Toll Free: 1-800-646-4505 Fax: 651-646-8792**

FPS cartridges have been designed to comply with all FDA requirements for the food industry. Polyethersulfone is low protein binding and therefore a good choice for fermented beverage filtrations. FPS cartridges are rinsed with 17+ megohm-cm water to ensure that no manufacturing debris remains downstream to contaminate your product. This washing also ensures that all extractables which may effect the taste of the product are removed. Cartridges are designed to give maximum throughput and handle cleaning and sanitization protocols well. Each cartridge module is individually tested to ensure integrity and is absolute at the rated pore size.

#### Flow Rate

The following table represents typical water flow at a one psi (69 mbar) pressure differential across a single 10 inch cartridge element. The test fluid is water at ambient temperature. Extrapolation for housings with multiple elements and higher pressure drops is acceptable, but as flows increase the pressure drop of the housing becomes more apparent.

Pore Size	0.03 µm	0.1 µm	0.22 µm	0.45 µm	0.65 µm
GPM	1.5	2.5	4.5	7.0	8.3

#### Dimensions

**Length:** .....10 to 40 inches (25.4 to 101.6 cm.) nominal  
**Outside Diameter:** .....2.75 inches (7.0 cm.) nominal

#### Maximum Differential Pressures

**Forward:** ..... 50 psi (3.4 bar) at 20°C.  
**Reverse:** ..... 40 psi (2.7 bar) at 20°C.

#### Ordering Information

The cartridge catalog number is made up of several variable characters i.e. pore size, end cap code, length, and O-ring material. For example: a 0.45 µm, 20 inch (50.8 cm.) long cartridge with 2-222, Silicone O-rings, no spear (flat top) and no 316 SS Ring would be designated as: FPS\*40N00002S5.

FPS	□ □ □	□	0000	□	□	□
	<u>Pore size code</u> <b>*03</b> - 0.03 µm <b>*10</b> - 0.10 µm <b>*20</b> - 0.22 µm <b>*40</b> - 0.45 µm <b>*60</b> - 0.65 µm	<u>316 SS Ring</u> <b>S</b> = Ring <b>N</b> = No Ring	<u>Cartridge Length</u> <b>1</b> = 10 inches (25.4 cm) <b>2</b> = 20 inches (50.8 cm) <b>3</b> = 30 inches (76.2 cm) <b>4</b> = 40 inches (101.6 cm)	<u>O-ring code</u> <b>S</b> - Silicone <b>B</b> - Buna <b>V</b> - Viton <b>T</b> - Teflon® Encapsulated Viton <b>E</b> - EPR <b>R</b> - Teflon® Encapsulated Silicone	<u>End cap code</u> <b>0</b> - Flat Gasket, double open end <b>5</b> - 2-222 O-ring <b>7</b> - 020 O-ring <b>8</b> - 2-222 O-ring with Spear <b>9</b> - 2-226 O-ring with Spear	

#### Construction Materials<sup>1</sup>

**Filtration Media:** .....Polyethersulfone  
**Filtration Media Support:** .....Polypropylene  
**End Caps:** .....Polypropylene  
**Center Core:** .....  
 Polypropylene  
**Outer support Cage:** .....Polypropylene  
**O-rings:** Buna, Viton, Silicone, EPR, Teflon®  
 Encapsulated Silicone, Teflon® Encapsulated Viton

<sup>1</sup>All materials of construction are FDA accepted. Final assemblies have been validated to pass USP class 6 Toxicology extractable tests, oxidizable substances for plastics, endotoxin level and other quality tests.

#### Sterilization/Sanitization

**Filtered hot water:** .....90°C  
**Autoclave:** .....127°C, 30 min, multiple cycles  
**In-line Steam:** .....135°C, 30 min, multiple cycles

**Chemical Sanitization:**..... Industry standard concentrations of hydrogen peroxide, paracetic acid, sodium hypochlorite and other selected chemicals. Sanitization protocols designed to extend the useful life of FPS cartridges are available from Critical Process Filtration®

#### Integrity Test Specifications (per 10 inch length) (water wetted membrane)

Pore Size	Air Diffusion Rate
<b>0.03 µm</b>	≤ 30 cc/min at 60 psi (4137 mbar)
<b>0.1 µm</b>	≤ 30 cc/min at 48 psi (3307 mbar)
<b>0.22 µm</b>	≤ 30 cc/min at 35 psi (2412 mbar)
<b>0.45 µm</b>	≤ 30 cc/min at 20 psi (1378 mbar)
<b>0.65 µm</b>	≤ 30 cc/min at 15 psi (1044 mbar)