

Filter Data Sheet

PPS^{grade} Polyethersulfone Membrane Media Filter Cartridges developed for the special needs of the pharmaceutical 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

PPS grade Polyethersulfone cartridges are designed to be used as sterilizing grade cartridges for the pharmaceutical industry. The PPS membrane utilized in these cartridges is optimized for retention so that it need not be double layered for extra security. Polyethersulfone cartridges see broad service in sterile fill applications in SVPs and biological products. Polyethersulfone is particularly suited for the filtration of products whose constituents, such as preservatives, can adsorb to the media. The lower binding characteristics of Polyethersulfone make it a good choice for filtration of valuable protein solutions such as vaccines and other biologicals.

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 0.10 µm, 20 inch (50.8 cm.) long cartridge with 2-222, Teflon® Encapsulated Viton O-rings, no spear (flat top) and no 316 SS Ring would be designated as: PPS*10N00002T5.

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

Construction Materials¹

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

¹All 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 PPS® cartridges are available from Critical Process Filtration®.

Integrity Test Specifications

(water wetted membrane)

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