



GPS grade

*Polyethersulfone Membrane Media Filter Cartridges
Engineered and Manufactured for Cost Effective Filtration*

Critical Process Filtration, Inc. • One Chestnut Street • Nashua, NH 03060

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GPS general grade Polyethersulfone cartridges are designed for general purpose use wherever a cost effective membrane filter is required. Designed to hold the maximum amount of filter media that can be completely and effectively utilized in a cartridge, GPS filters lower the cost of filtration GPS cartridges are flushed with 17+ megohm-cm water to remove potential extraneous manufacturing debris. These cartridge modules are also individually tested for integrity. Priced below special purpose cartridges, GPS cartridges are still manufactured with the same careful attention to both quality and performance.

Construction Materials ¹

Filtration Media: Polyethersulfone
Filtration Media Support: Polypropylene
End Caps: Polypropylene
Center Core: Polypropylene
Outer Support Cage: Polypropylene
Sealing Method: Thermal Bonding
O-rings: ... Buna, Viton®, EP, Silicone, 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.

Maximum Operating Parameters

Forward Differential Pressure: 50 psi (3.4 bar) at 20°C.

Reverse Differential Pressure: 40 psi (2.7 bar) at 20°C.

Operating Temperature: 180°F (82°C) at 10 psid (0.69 bar) in water.

Recommended Change Out Pressure: 35 psid (2.4 bar)

Dimensions

Length: 5 to 40 inches (12.7 to 101.6 cm) nominal

Outside Diameter: 2.75 inches (7.0 cm) nominal

Filtration Area: 7.0 ft² (0.65 m²) Per 10" length

Sanitization / Sterilization

Filtered Hot Water: 194°F (90°C)

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 GPS cartridges are available from Critical Process Filtration, Inc.



Applications

Filtration of:

- Process Water
- DI Water
- Inks & Dyes
- Acids & Bases
- Soft Drinks
- Bottled Water
- Chemicals
- Cosmetics

Validation

GPS grade cartridges are validated using modified HIMA protocols.

Integrity Test Specifications

(water wetted membrane)

Pore Size	Bubble Point
0.03 µm	76 psi (5240 mbar), water
0.10 µm	60 psi (4137 mbar), water
0.22 µm	48 psi (3309 mbar), water
0.45 µm	30 psi (2068 mbar), water
0.65 µm	15 psi (1034 mbar), water
0.80 µm	7 psi (483 mbar), water
1.0 µm	4 psi (275 mbar), water
1.2 µm	3 psi (207 mbar), water

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	0.10 µm	0.22 µm	0.45 µm	0.65 µm	0.80 µm	1.0 µm	1.2 µm
GPM	1.5	2.5	4.5	7.0	8.3	9.0	9.5	9.8
LPM	5.67	9.46	17.03	26.49	31.41	34.06	35.96	37.09

Quality Standards

Our goal is to ensure our customers the greatest possible value for their filtration dollar. We achieve both low cost manufacture and high quality by employing state of the art manufacturing equipment. This computer-controlled equipment is highly automated, reducing hand operations that compromise quality. Each operation, including assembly, testing, cleaning, drying and packaging, is done in appropriately rated clean rooms. Critical Process Filtration manages an ISO 9000 facility that produces validated products to rigorous standards. Manufacturing is controlled using sophisticated MRP software that is networked to work stations in manufacturing centers and inspection points. During the manufacturing and inspection processes, data is collected “real time” from machinery and measuring instruments. This allows variable and attribute data to be quickly and easily analyzed to facilitate constant improvements in both quality and cost.

Total Performance

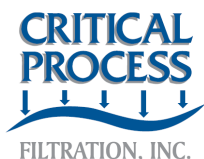
Critical Process Filtration, Inc. is a vertically integrated supplier of filtration products and services to industries in which filtration is considered to be a critical part of the manufacturing process. We manufacture a complete line of products to help you achieve all your filtration requirements from a single source.



Ordering Information

The cartridge catalog number is made up of several variable characters i.e. pore size, length, O-ring material, and end cap code. 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: GPS*10N00002T5.

GPS		000			
Pore size code *03 = 0.03 µm *10 = 0.10 µm *20 = 0.22 µm *40 = 0.45 µm *60 = 0.65 µm *80 = 0.80 µm 1*0 = 1.0 µm 1*2 = 1.2 µm	316 SS Ring S = Ring N = No Ring	Cartridge Length 05 = 4.875 inches (12.4 cm) 97 = 9.75 inches (24.6 cm) 01 = 10 inches (25.4 cm) 19 = 19.5 inches (49.5 cm) 02 = 20 inches (50.8 cm) 29 = 29.25 inches (74.3 cm) 03 = 30 inches (76.2 cm) 04 = 40 inches (101.6 cm)	O-ring code S = Silicone B = Buna V = Viton® T = Teflon® Encapsulated Viton® E = EP R = Teflon® Encapsulated Silicone	End cap code 0 = Flat Gasket, DOE 1 = Flat Gasket / Plug 2 = 2-222 O-ring / Plug 3 = 213/119 Internal O-ring DOE 4 = 213/119 Internal O-ring / Plug 5 = 2-222 O-ring / Flat 6 = 2-226 O-ring / Flat 7 = 020 O-ring / Plug 8 = 2-222 O-ring / Spear 9 = 2-226 O-ring / Spear 21 = 2-223 O-ring / Flat 22 = 2-223 O-ring / Spear 23 = 2-222 O-ring 3 Tab / Flat 24 = 2-222 O-ring 3 Tab / Spear	



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