

# GPS Cartridge Filters

PES Membrane



GPS Membrane Filter Cartridges are designed for general-service wherever a membrane filter is required. Designed to hold the maximum amount of filter media that can be effectively used in a cartridge, GPS filters lower the cost of filtration. GPS cartridges are flushed with high purity water to remove manufacturing debris.

## Construction Materials

<b>Filtration Media</b>	Asymmetric Polyethersulfone (PES) Membrane
<b>Media Support</b>	Polypropylene
<b>End Caps</b>	Polypropylene
<b>Center Core</b>	Polypropylene
<b>Outer Support Cage</b>	Polypropylene
<b>Sealing Method</b>	Thermal Bonding
<b>O-rings</b>	Buna, Viton® (or FKM), EP, Silicone, FEP Encapsulated Silicone, FEP Encapsulated Viton (or FKM)

## Dimensions

<b>Length</b>	5 to 40 in. (12.7 to 101.6 cm) nominal
<b>Outside Diameter</b>	2.75 in. (7.0 cm) nominal
<b>Filtration Area</b>	7.0 ft <sup>2</sup> (0.65 m <sup>2</sup> ) per 10 in. length

## Applications

- ◆ Process Water
- ◆ DI Water
- ◆ Inks and Dyes
- ◆ Chemicals
- ◆ Cosmetics

## Integrity Test Information

Representative samples from each manufacturing lot are tested for integrity to ensure consistent performance.

## Maximum Operating Parameters

<b>Differential Pressure</b>	
• Forward	50 psid (3.4 bard) at 20 °C (68 °F)
• Reverse	40 psid (2.7 bard) at 20 °C (68 °F)
<b>Operating Temperature</b>	82 °C (180 °F) at 10 psid (0.69 bard) in water
<b>Recommended Changeout Pressure</b>	35 psid (2.4 bard)

## Sanitization/Sterilization

<b>Filtered Hot Water</b>	90 °C (194 °F), 30 minutes, multiple cycles, max 3 psid forward flow
<b>Autoclave</b>	121 °C (250 °F), 30 min, multiple cycles
<b>In-line Steam</b>	135 °C (275 °F), 30 min, multiple cycles

For all elevated temperature procedures above, a stainless steel support ring is required.

### Chemical Sanitization

Performed using industry standard concentrations of hydrogen peroxide, paracetic acid, sodium hypochlorite and other selected chemicals.

## Total Performance

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

## FDA and EC Compliance

All Critical Process Filtration filters are designed to meet the FDA requirements for processing food and beverage products. The materials used to construct GWC filters are listed by the FDA as appropriate for use in articles intended for repeated food contact as specified in Title 21 CFR sections 174.5, 177.1500, 177.1520, 177.1630, 177.2440 and 177.2600 as appropriate. Membrane filters comply with Title 21 CFR sections 210.3 (b)(6) and 211.72, for non-fiber releasing filters. All materials used to make the filters are listed in European Commission Regulation EU/10/2011, Annex 1.

## Extractables

GPS filters generally exhibit low levels of non-volatile residues.

## Flow Rate

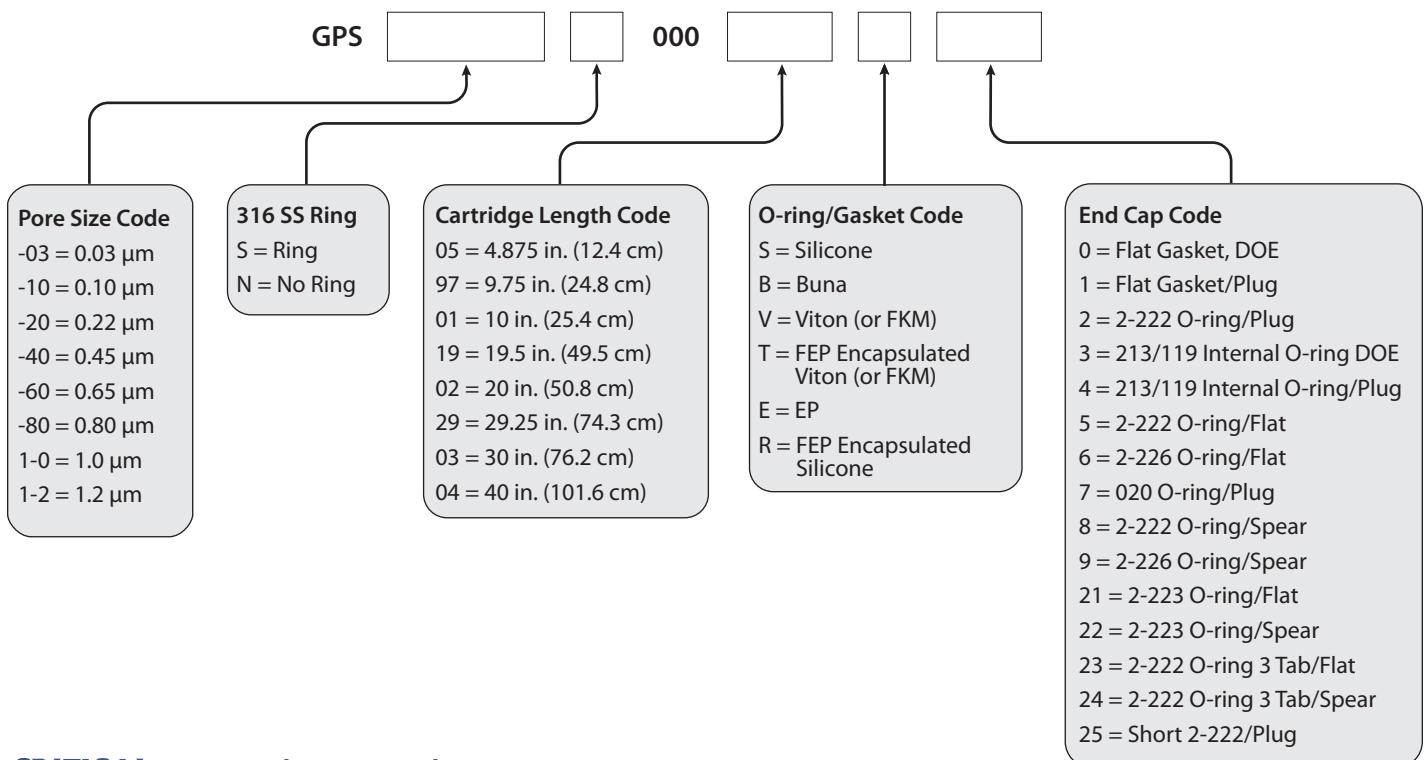
The Typical Flow Rates table represents typical water flow at a 1 psid (69 mbard) pressure differential across a single 10 in. cartridge element. The test fluid is water at ambient temperature. Extrapolation for housings with multiple elements and higher pressure drops is acceptable, but as flows increase the pressure drop of the housing becomes more apparent.

### Typical Flow Rates

Pore Size	0.03 $\mu\text{m}$	0.10 $\mu\text{m}$	0.22 $\mu\text{m}$	0.45 $\mu\text{m}$	0.65 $\mu\text{m}$	0.80 $\mu\text{m}$	1.0 $\mu\text{m}$	1.2 $\mu\text{m}$
<b>GPM</b>	1.5	2.5	4.5	7.0	8.3	9.0	9.5	9.8
<b>LPM</b>	5.67	9.46	17.03	26.49	31.41	34.06	35.96	37.09

## Ordering Information

Cartridge order numbers have several variables from pore size to end cap type. For example, Service Grade PES Membrane, 0.22 Micron Rating, No SS Support Ring, 20" Length, Silicone O-Rings, 213/119 Internal O-Ring/Plug End Cap Configuration = GPS-20N00002S4.



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