



# BCWPS Filters

High Capacity PES Membrane

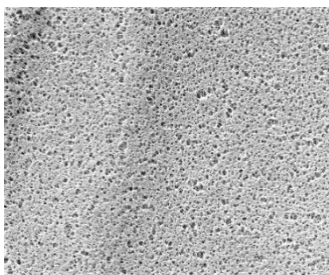


BCWPS cartridge and capsule filters are constructed with a proprietary high capacity Polyethersulfone (PES) membrane and are available in single or dual layers. They are used for reducing particles in critical aqueous liquids and prefiltration in multiple applications. Pore sizes range from 0.1 to 1.0  $\mu\text{m}$  and filter sizes scale from laboratory to full production using identical materials to ensure consistent results.

BCWPS hydrophilic filters have a high contaminant holding capacity. They are utilized in clarifying and prefiltering products with high proteins and preservatives. The filter's low binding characteristics make them highly efficient, which is critical to protecting downstream filters from premature fouling and extending the life of final filters.

The BCWPS filter delivers high flow and throughput across a wide pH range. BCWPS capsules are available pre-sterilized.

Critical Process provides unrivaled delivery times, technical consulting before purchasing, and very competitively priced high-performance products. Our comprehensive testing & analysis and validation services support your team whenever they need it. Your process experts partnering with our filtration experts is how we deliver your company's solution right the first time.



BCWPS is the recommended media for clarification and prefiltration in:

- SVPs & LVPs
- Diagnostics
- Buffers
- WFI, Water Purification
- Vaccines
- Ophthalmics

## Clarification & Prefiltration



**CARTRIDGES – Nominal Dimensions**  
Length: 5 to 40 in. (12.7 to 101.6 cm)  
Outside Diameter: 2.75 in. (7.0 cm)



**CAPSULES – Nominal Dimensions**  
Length: 2 to 30 in. (5.1 to 76.2 cm)  
Outside Diameter: 3.50 in. (8.9 cm)

## Maximum Operating Parameters

	CARTRIDGES	CAPSULES
<b>Liquid Operational Pressure</b>	N/A	80 psi at 68 °F (5.52 bard at 20 °C)
<b>Gases Operational Pressure</b>	N/A	60 psi at 68 °F (4.14 bar at 20 °C)
<b>Operating Temperature (water)</b>	180 °F at 30 psid (82 °C at 2.07 bard)	110 °F at 30 psid (43 °C at 2.07 bard)
<b>Forward Differential Pressure</b>	80 psid at 68 °F (5.52 bard at 20 °C)	80 psid at 68 °F (5.52 bard at 20 °C)
<b>Reverse Differential Pressure</b>	50 psid at 68 °F (3.45 bard at 20 °C)	50 psid at 68 °F (3.45 bard at 20 °C)
<b>Recommended Changeout Pressure</b>	35 psid (2.41 bard)	35 psid (2.41 bard)

## Sanitization & Sterilization

<b>Filtered Hot Water*</b>	90 °C (194 °F), 30 minutes, multiple cycles, max 3 psid forward flow	N/A
<b>Inline Steam*</b>	275 °F (135 °C), 30 min, 25+ cycles	N/A
<b>Autoclave*</b>	250 °F (121 °C), 30 min, 25+ cycles	250 °F (121 °C), 30 min, 5+ cycles
<b>Chemical Sanitization</b>	Performed using industry standard concentrations of hydrogen peroxide, peracetic acid, sodium hypochlorite and other selected chemicals.	

\*Cartridge Filters – For all elevated temperature procedures above, a stainless-steel support ring is required.

## Filtration Area (Nominal)

	CAPSULES	CARTRIDGES AND CAPSULES				CARTRIDGES
	2"	5"	10"	20"	30"	40"
Length	5.08cm	12.7cm	25.4cm	50.8cm	76.2cm	101.6cm
	1.1 ft <sup>2</sup>	3.1 ft <sup>2</sup>	6.7 ft <sup>2</sup>	13.4 ft <sup>2</sup>	20.1 ft <sup>2</sup>	26.8 ft <sup>2</sup>
Area – Single Layer	0.11m <sup>2</sup>	0.29m <sup>2</sup>	0.62m <sup>2</sup>	1.24m <sup>2</sup>	1.86m <sup>2</sup>	2.48m <sup>2</sup>
	0.9 ft <sup>2</sup>	2.5 ft <sup>2</sup>	5.3 ft <sup>2</sup>	10.6 ft <sup>2</sup>	15.9 ft <sup>2</sup>	21.2 ft <sup>2</sup>
Area – Dual Layer	0.08m <sup>2</sup>	0.23m <sup>2</sup>	0.49m <sup>2</sup>	0.98m <sup>2</sup>	1.47m <sup>2</sup>	1.96m <sup>2</sup>

## Construction Materials

<b>Filtration Media</b>	Single or Dual Layer High Capacity PES Membrane with Polyester Support
<b>Media Support</b>	Polypropylene
<b>End Caps, Center Core, Outer Support Cage, Capsule Housing</b>	Polypropylene
<b>Sealing Method</b>	Thermal Bonding
<b>O-Rings/Gaskets Cartridges only</b>	Buna, Viton® (or FKM), EPDM, Silicone, FEP Encapsulated Silicone, FEP Encapsulated Viton (or FKM)

## Endotoxins

The levels of bacterial endotoxins in aqueous extracts from BCWPS filters are below current USP limits as specified for water for injection.

## Extractables

BCWPS filters typically exhibit low levels of non-volatile residues.

## TOC and Conductivity

BCWPS filters conform with TOC standards of USP <643> and the water conductivity standards of USP <645> after an appropriate flush with purified water.

## Toxicity Compliance

Materials used to construct BCWPS filters are non-toxic and meet the requirements for the MEM Elution Cytotoxicity Test and the requirements for Biological Reactivity Tests in the current version of the United States Pharmacopeia (USP) for Class VI - 121 °C Plastics.

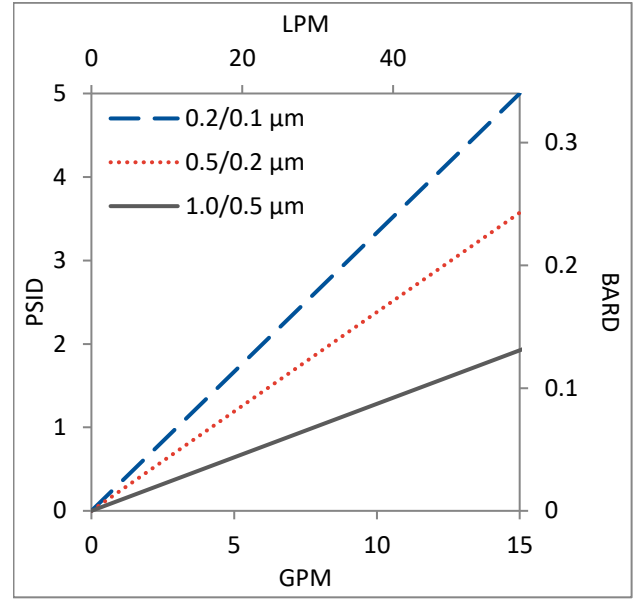
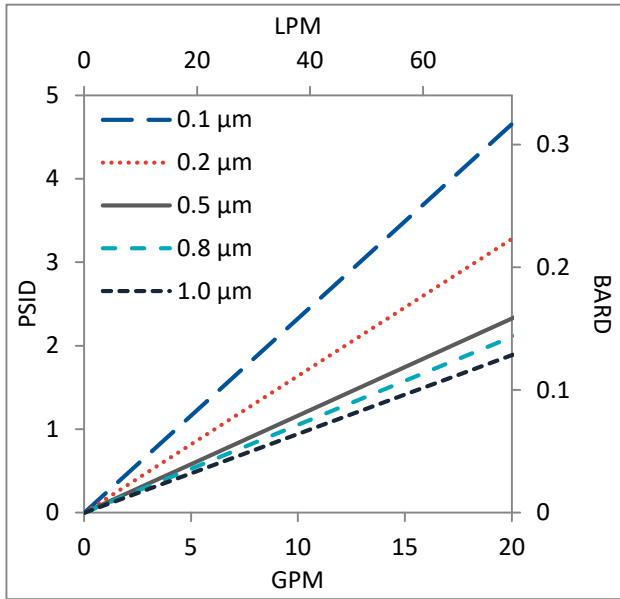
## Non-Fiber Releasing

BCWPS filters comply with Title 21 CFR sections 210.3 (b)(6) and 211.72, for non-fiber releasing filters.

## FDA Compliance

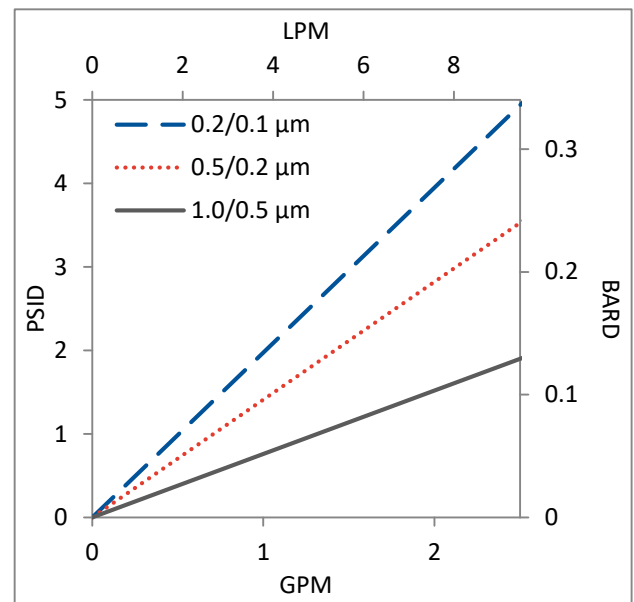
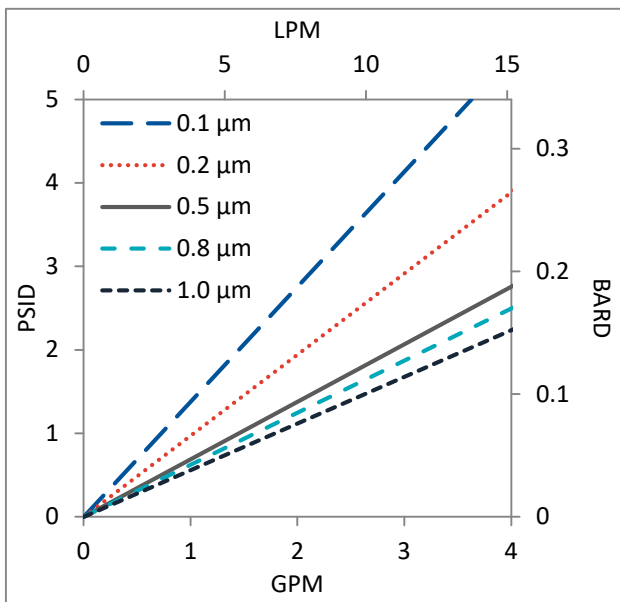
Materials meet the requirements listed by the FDA as appropriate for use in articles intended for repeated food contact as specified in Title 21 CFR sections 174.5, 177.1500, 177.1520, 177.1630, 177.2440, and 177.2600 as applicable.

## Flow Rates for BCWPS Cartridges by Pore Size



Flow rates for Cartridge filters are per 10-inch length. The test fluid is water at ambient temperature.

## Flow Rates for BCWPS Capsules by Pore Size



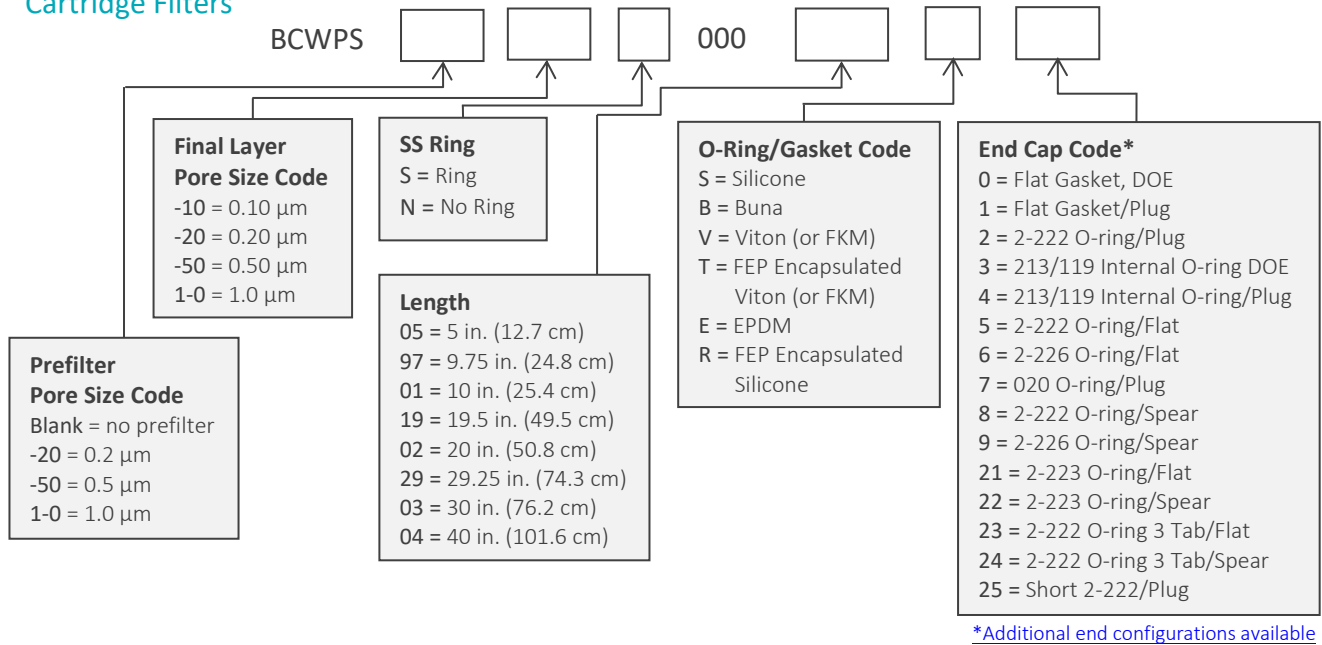
Flow rates for Capsule filters are tested using a 2" capsule filter with 1" sanitary inlet and outlet ports. The test fluid is water at ambient temperature. Flow rates for larger capsules will scale with filtration area. Rates will vary based on end configuration of the capsule.

## BCWPS Filters Ordering Information

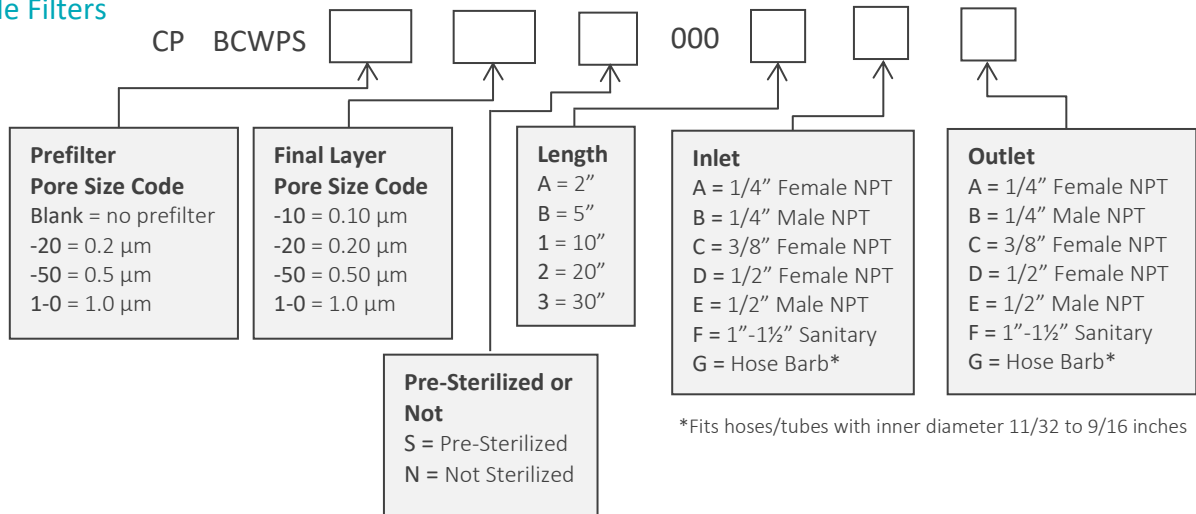
All Critical Process filters are configurable to meet customer specifications.  
Fill in the corresponding codes in the boxes below to build your Part Number.

To consult with one of our technical team members, request a quote or place an order:  
call (603) 880-4420 Ext. 106, or send an email to [sales@criticalprocess.com](mailto:sales@criticalprocess.com)

### Cartridge Filters



### Capsule Filters



### Housings

CPF offers Model CSH sanitary housings in Single-Round (Inline and T-Style) and Multi-Round (3, 6, 8, 12 and 21-round) configurations.



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