



## BCWPS Filters

High Capacity PES Membrane  
with Optional Prefilter

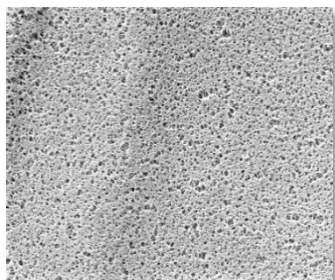


BCWPS cartridge and capsule filters are CPF's proprietary, high-capacity clarification and prefiltration solutions for particle retention in aqueous fluids. Their retention capacity exceeds that of traditional depth filters and is the better choice for fluids with heavy contamination. BCWPS filters deliver high flow and throughput across a wide pH range. The filters' low binding characteristics are an important feature when filtering fluids with high proteins and preservatives.

The BCWPS filters consist of a single layer of Polyethersulfone (PES) membrane. For very high particle loads, an optional prefilter made of the same membrane can be integrated. To achieve targeted results, you choose the pore sizes of each layer. Final layer pore size options range from 0.1 to 1.0  $\mu\text{m}$ , and prefilter pore size options range from 0.2 to 1.0  $\mu\text{m}$

When multiple prefiltration steps are required in your process, the BCWPS dual layer option acts as two prefilters in one device, which reduces the amount of housings needed in your filtration train. CPF filter devices scale from laboratory to full production using identical materials to ensure consistent results. BCWPS capsule filters 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, 25+ 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
Length	2"	5"	10"	20"	30"	40"
	5.08cm	12.7cm	25.4cm	50.8cm	76.2cm	101.6cm
Area – Single Layer	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>
	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>
Area – Dual Layer	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>
	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</b> Cartridges only	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.

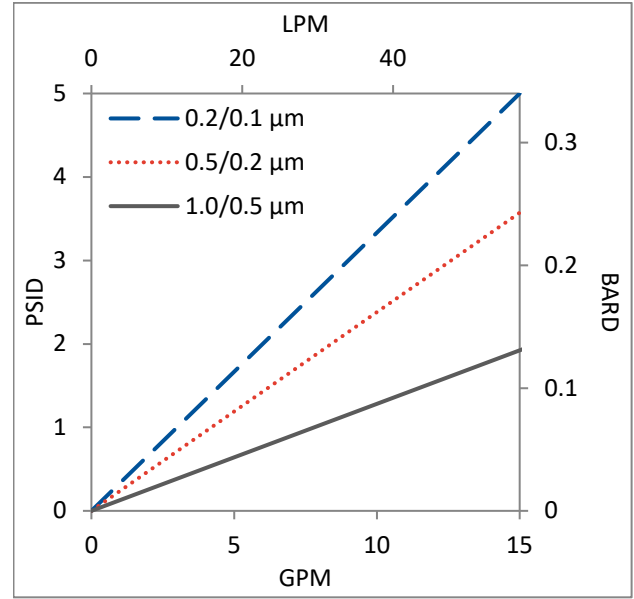
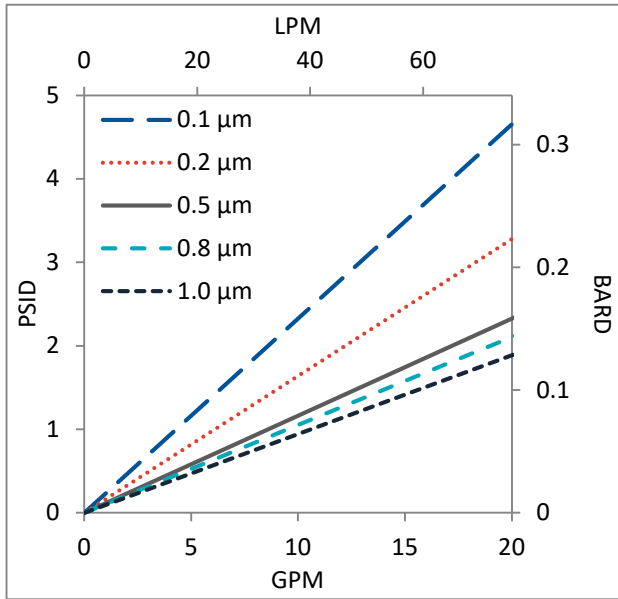
## Non-Fiber Releasing

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

## FDA Compliance

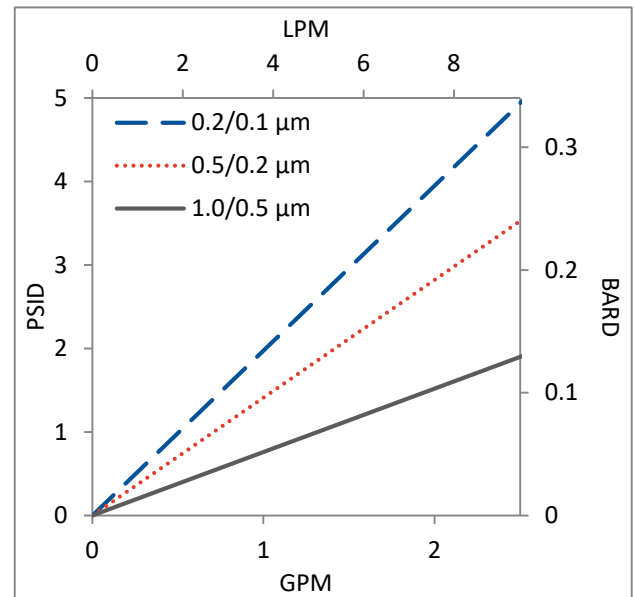
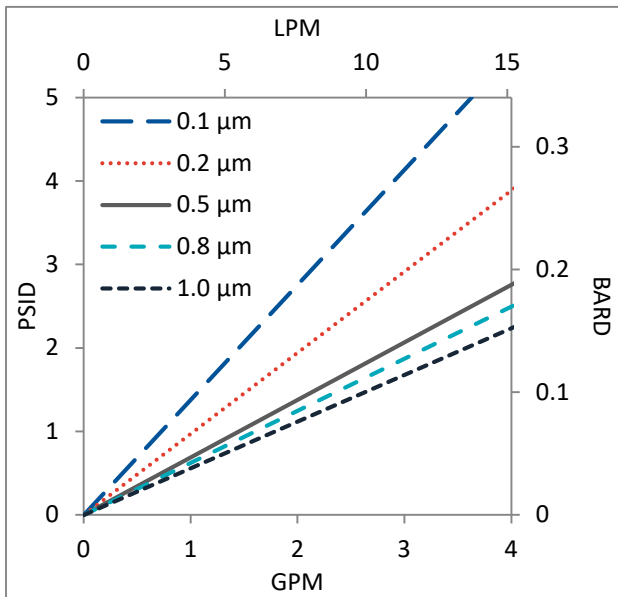
Materials meet the requirements listed by the FDA as appropriate for use in articles intended for repeated food contact as specified in Title 21 CFR sections 174.5, 177.1500, 177.1520, 177.1630, 177.2440, and 177.2600 as applicable.

## 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

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 or [contact us here](#).

### Cartridge Filters

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<b>Prefilter</b> <b>Pore Size Code</b> Blank = no prefilter -20 = 0.2 µm -50 = 0.5 µm -80 = 0.8 µm 1-0 = 1.0 µm	<b>SS Ring</b> S = Ring N = No Ring	<b>Length</b> 05 = 5 in. (12.7 cm) 97 = 9.75 in. (24.8 cm) 01 = 10 in. (25.4 cm) 02 = 20 in. (50.8 cm) 03 = 30 in. (76.2 cm) 04 = 40 in. (101.6 cm)	<b>O-Ring/Gasket Code</b> S = Silicone B = Buna V = Viton (or FKM) T = FEP Encapsulated Viton (or FKM) E = EP R = FEP Encapsulated Silicone	<b>End Cap Code*</b> 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 25 = Short 2-222/Plug
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\*Additional end configurations available

### Capsule Filters

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<b>Prefilter</b> <b>Pore Size Code</b> Blank = no prefilter -20 = 0.2 µm -50 = 0.5 µm -80 = 0.8 µm 1-0 = 1.0 µm	<b>Final Layer</b> <b>Pore Size Code</b> -10 = 0.1 µm -20 = 0.2 µm -50 = 0.5 µm -80 = 0.8 µm 1-0 = 1.0 µm	<b>Length</b> A = 2" B = 5" 1 = 10" 2 = 20" 3 = 30"	<b>Inlet</b> A = 1/4" Female NPT B = 1/4" Male NPT C = 3/8" Female NPT D = 1/2" Female NPT E = 1/2" Male NPT F = 1" Sanitary G = Hose Barb* H = 1 1/2" Sanitary with side vent I = 1/2" Single Stepped Barb with side vent J = 3/4" Single Step Barb with Side Vent Y = 3/8" Compression (JACO®) (Top Luer lock vent only) Z = 6mm Quick Disconnect (Top Luer lock vent only)	<b>Outlet</b> A = 1/4" Female NPT B = 1/4" Male NPT C = 3/8" Female NPT D = 1/2" Female NPT E = 1/2" Male NPT F = 1" Sanitary G = Hose Barb* H = 1 1/2" Sanitary with side vent I = 1/2" Single Stepped Barb with side vent IB = 1/2" Single Stepped Barb with filling bell and side vent J = 3/4" Single Step Barb with Side Vent Y = 3/8" Compression (JACO®) (Top Luer lock vent only) Z = 6mm Quick Disconnect (Top Luer lock vent only)	<b>Side Vent Options</b> 1 = Luer Lock 2 = 1/8" Bleed Valve 3 = 1/4" Bleed Valve
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**Pre-Sterilized or Not**  
S = Pre-Sterilized  
G = Gamma Stable  
N = Not Sterilized

**O-Rings (Bleed Valves Only)**  
S = Silicone  
E = EP  
V = Viton  
B = Buna  
K = FFKM

\*Fits hoses/tubes with inner diameter 11/32 to 9/16 inches



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Data Sheet BCWPSDS Rev D