

FCWPS Filters

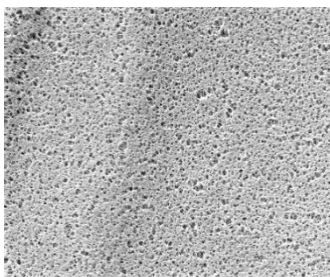
High Capacity PES Membrane



FCWPS cartridge and capsule filters are constructed with proprietary high capacity Polyethersulfone (PES) membranes, available in single or dual layers. Designed to comply with all FDA requirements for the food industry, they are used for reducing particles in critical clarification and filling processes found in beer, wine, water and juice production. Pore sizes range from 0.1 to 1.0 μm and filter sizes scale from laboratory to full production using identical materials to ensure consistent results.

Critical Process' FCWPS filters are hydrophilic and deliver high flow and throughput. Their low binding characteristics make them highly efficient, which is critical to protecting downstream filters from pre-fouling and extending the life of final filters.

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.



FCWPS filters are recommended for the filtration of:

- Wine
- Beer
- Clear Juices
- Bottled Water
- Process Water
- Clean-in-Place Solutions

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

Sanitization & Sterilization

Filtered Hot Water*	90 °C (194 °F), 30 minutes, multiple cycles, max 3 psid forward flow	N/A
Inline Steam*	275 °F (135 °C), 30 min, 25+ cycles	N/A
Autoclave*	250 °F (121 °C), 30 min, 25+ cycles	250 °F (121 °C), 30 min, 25+ cycles
Chemical Sanitization	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
Area – Single Layer	1.1 ft ²	3.1 ft ²	6.7 ft ²	13.4 ft ²	20.1 ft ²	26.8 ft ²
	0.11m ²	0.29m ²	0.62m ²	1.24m ²	1.86m ²	2.48m ²
Area – Dual Layer	0.9 ft ²	2.5 ft ²	5.3 ft ²	10.6 ft ²	15.9 ft ²	21.2 ft ²
	0.08m ²	0.23m ²	0.49m ²	0.98m ²	1.47m ²	1.96m ²

Construction Materials

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

Extractables

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

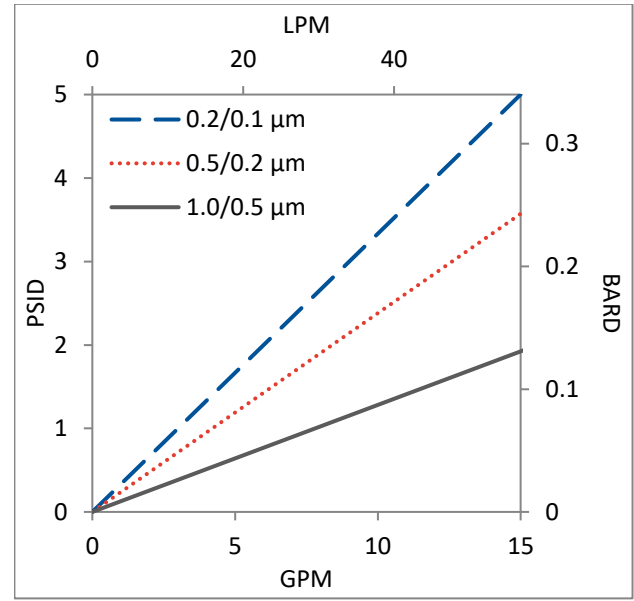
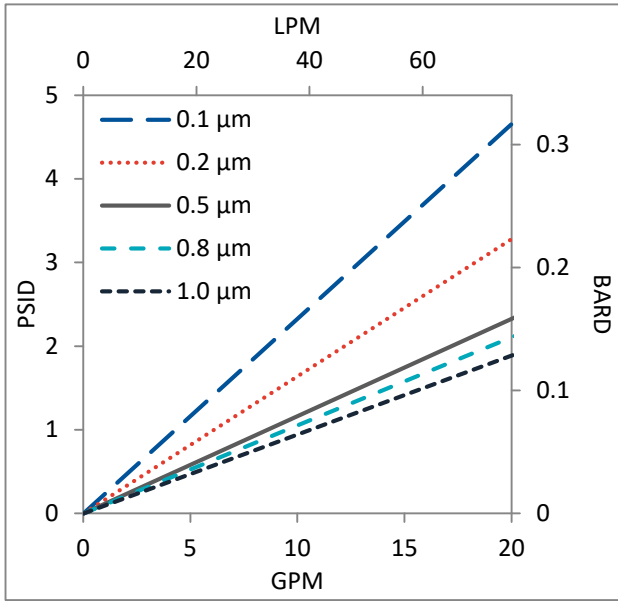
Non-Fiber Releasing

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

FDA and EC Compliance

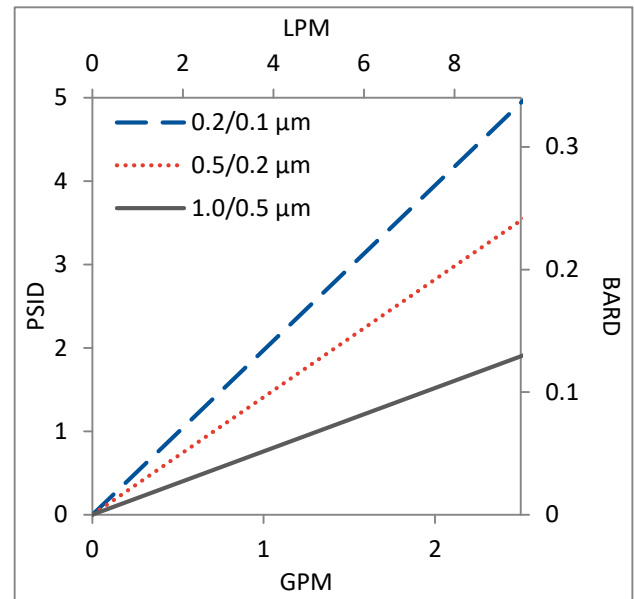
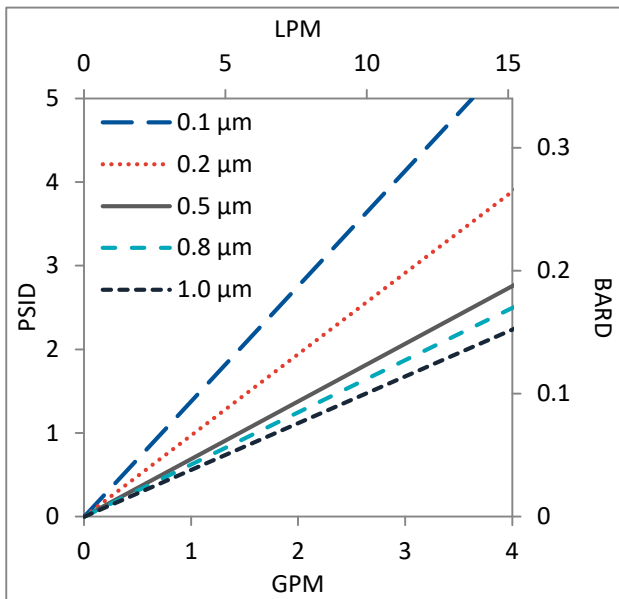
Materials meet the requirements listed by the FDA as appropriate for use in articles intended for repeated food contact as specified in Title 21 CFR sections 174.5, 177.1500, 177.1520, 177.1630, 177.2440, and 177.2600 as applicable. All materials used to make the filters are listed in European Commission Regulation EU/10/2011, Annex 1.

Flow Rates for FCWPS 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 FCWPS Capsules by Pore Size



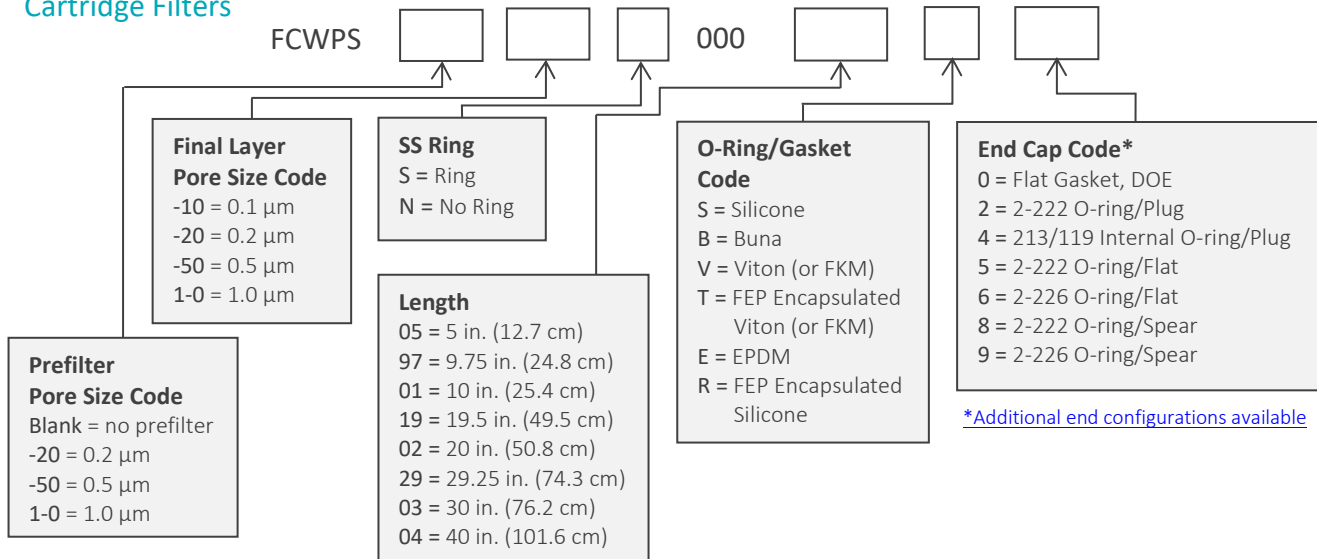
Flow rates for Capsule filters are tested using a 2" capsule filter with 1" sanitary inlet and outlet ports. The test fluid is water at ambient temperature. Flow rates for larger capsules will scale with filtration area. Rates will vary based on end configuration of the capsule.

FCWPS Filters Ordering Information

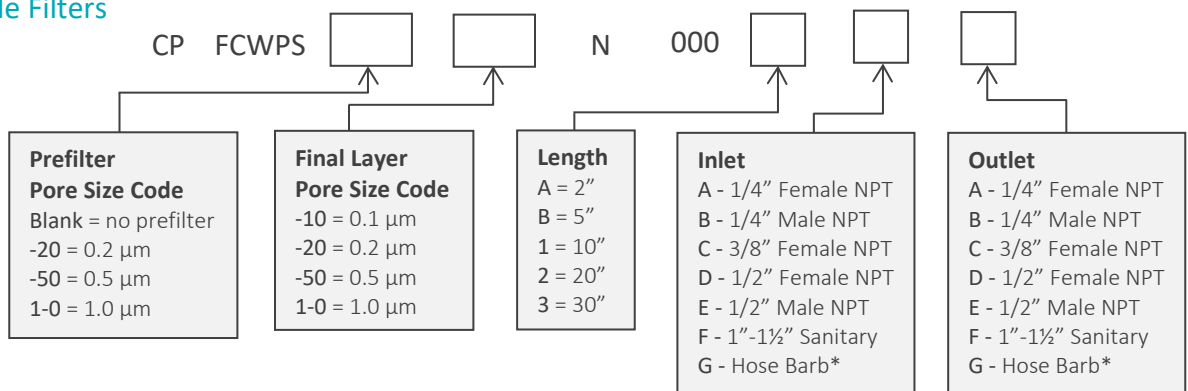
All Critical Process filters are configurable to meet customer specifications.
Fill in the corresponding codes in the boxes below to build your Part Number.

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

Cartridge Filters



Capsule Filters



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

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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Data Sheet FCWPSDS Rev-