

# FHLP Filters

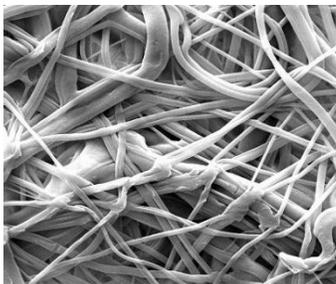
High Loft Pleated Polypropylene Depth Media



FHLP cartridge and capsule filters are made using high-loft Polypropylene depth media and comply with all FDA requirements for the food industry. They are designed to efficiently filter liquids with a high particle load to provide longer life and greater throughput where standard Polypropylene depth filters could experience premature fouling. Pore sizes range from 0.10 to 10  $\mu\text{m}$  and filter sizes scale from laboratory to full production using identical materials to ensure consistent results.

These filters have low extractables to avoid affecting taste and other product characteristics such as foaming or brightness. FHLP filters have 99.9% retention efficiency at the rated pore size, and provide superior throughput because of our unique thicker high-loft layer.

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.



FHLP filters are recommended for clarification & prefiltration in:

- Wine
- Beer
- Clear Juices
- Bottled Water
- Liquid Sugars
- Oils

## 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) (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)
<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"
Area	5.08cm	12.7cm	25.4cm	50.8cm	76.2cm	101.6cm
	0.7 ft <sup>2</sup>	1.8 ft <sup>2</sup>	3.9 ft <sup>2</sup>	7.8 ft <sup>2</sup>	11.7 ft <sup>2</sup>	15.6 ft <sup>2</sup>
	0.1m <sup>2</sup>	0.2m <sup>2</sup>	0.36m <sup>2</sup>	0.72m <sup>2</sup>	1.09m <sup>2</sup>	1.45m <sup>2</sup>

## Construction Materials

<b>Filtration Media</b>	Pleated High Loft Polypropylene Depth Media
<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)

## Extractables

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

## TOC and Conductivity

FHLP filters conform with TOC and water conductivity standards for SEMI Standard F75-1102, with TOC standards of USP <643> and the water conductivity standards of USP <645> after an appropriate flush with purified water.

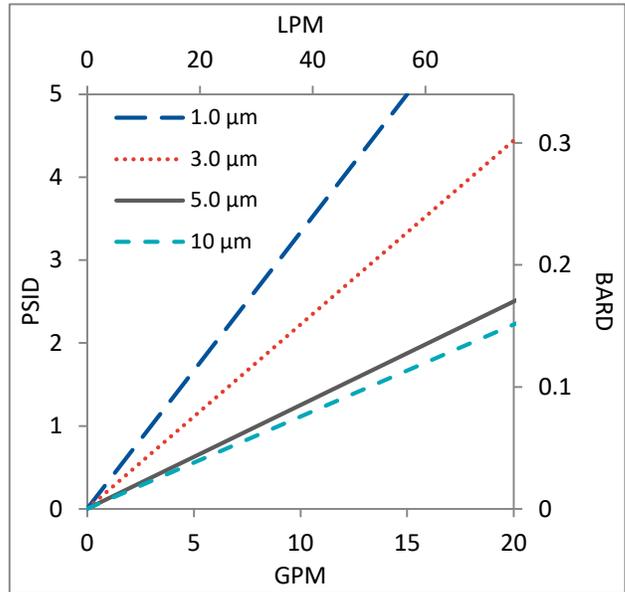
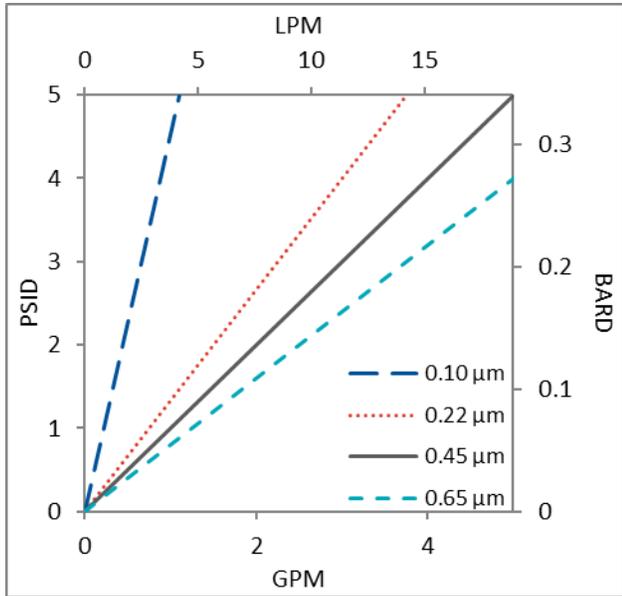
## Non-Fiber Releasing

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

## FDA and EC Compliance

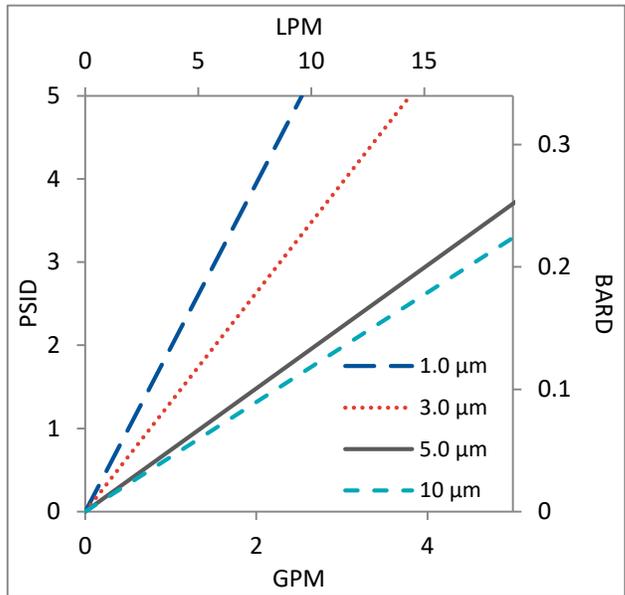
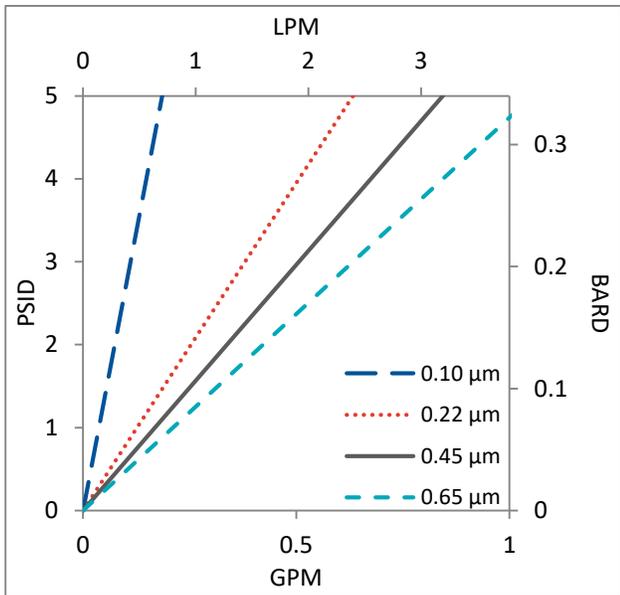
Materials meet the requirements listed by the FDA as appropriate for use in articles intended for repeated food contact as specified in Title 21 CFR sections 174.5, 177.1500, 177.1520, 177.1630, 177.2440, and 177.2600 as applicable. All materials used to make the filters are listed in European Commission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

## Flow Rates for FHP 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 FHP Capsules by Pore Size



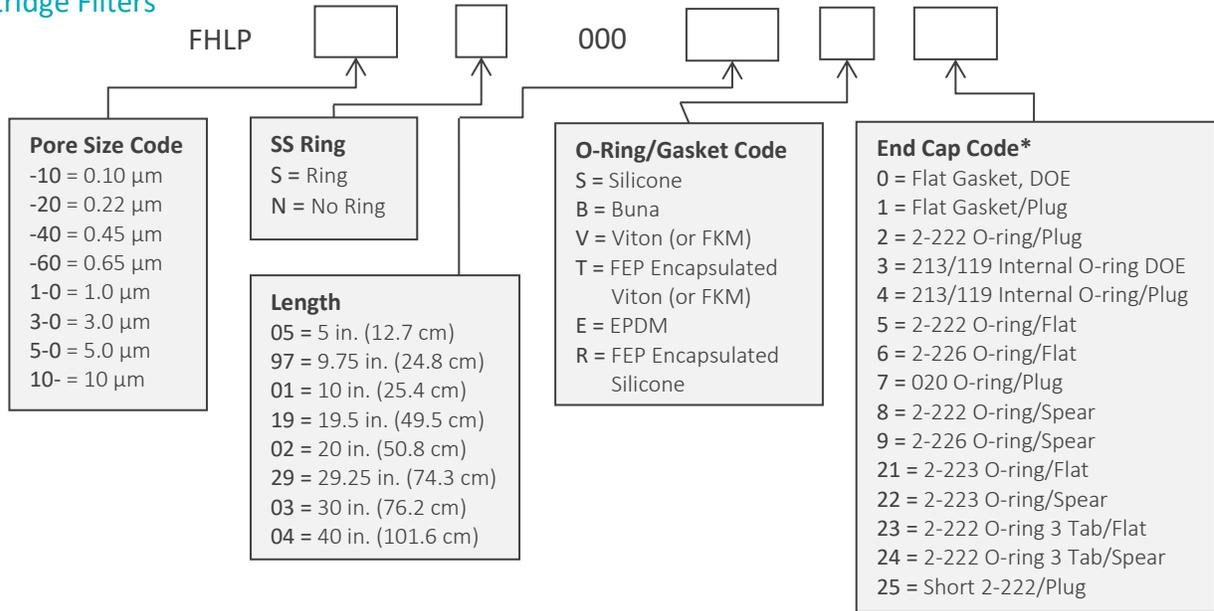
Flow rates for Capsule filters are per square foot of membrane area. The test fluid is water at ambient temperature. Flows are tested using a 2" capsule filter with 1/2" FNPT inlet and outlet ports. Rates will vary based on end configuration of the capsule.

## FHLP 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.

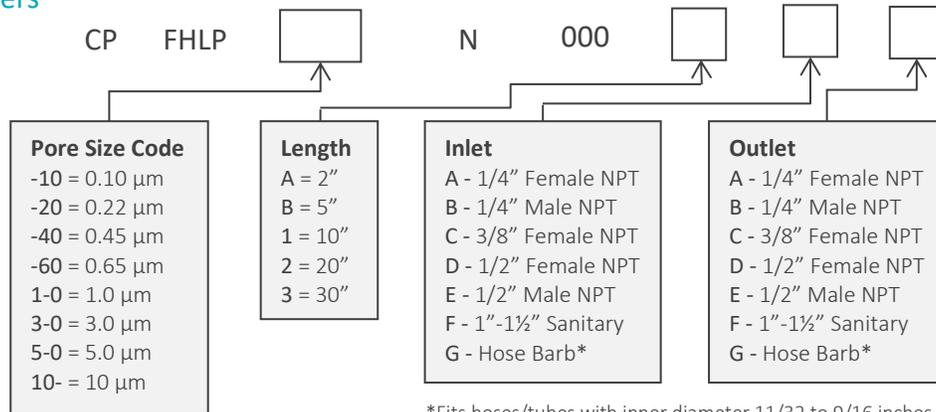
To consult with one of our technical team members, request a quote or place an order:  
call (603) 880-4420 Ext. 106, or send an email to [sales@criticalprocess.com](mailto:sales@criticalprocess.com)

### Cartridge Filters



\*Additional End Configurations are available

### Capsule Filters



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

### Housings

CPF offers Model CSH sanitary housings and Model CIH industrial housings in Single-Round (Inline and T-Style) and Multi-Round configurations. Contact us or visit our website for more information.



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Data Sheet FHLPS Rev-