



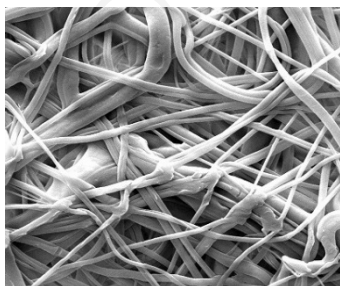
FHLP Filters

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 μm 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 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
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
Length	2"	5"	10"	20"	30"	40"
	5.08cm	12.7cm	25.4cm	50.8cm	76.2cm	101.6cm
Area	0.7 ft ²	1.8 ft ²	3.9 ft ²	7.8 ft ²	11.7 ft ²	15.6 ft ²
	0.1m ²	0.2m ²	0.36m ²	0.72m ²	1.09m ²	1.45m ²

Construction Materials

Filtration Media	Pleated High Loft Polypropylene Depth Media
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

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.

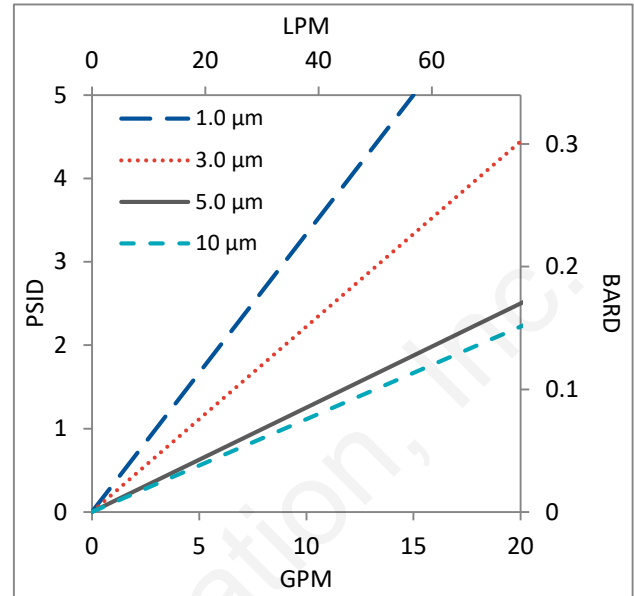
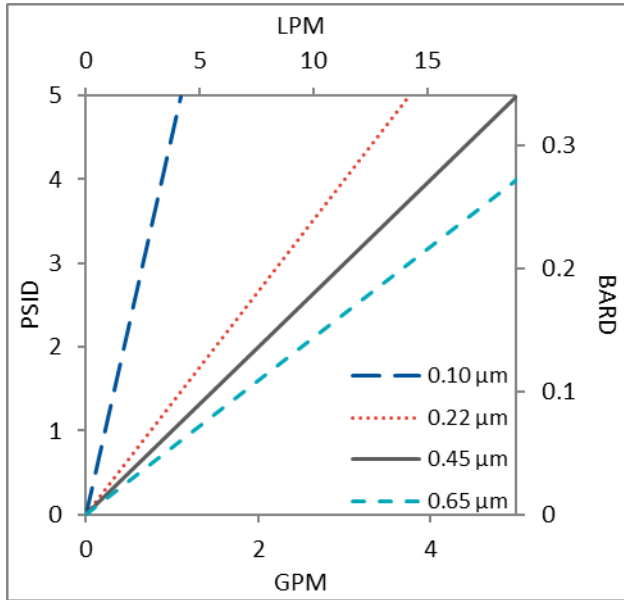
Non-Fiber Releasing

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

FDA and EC Compliance

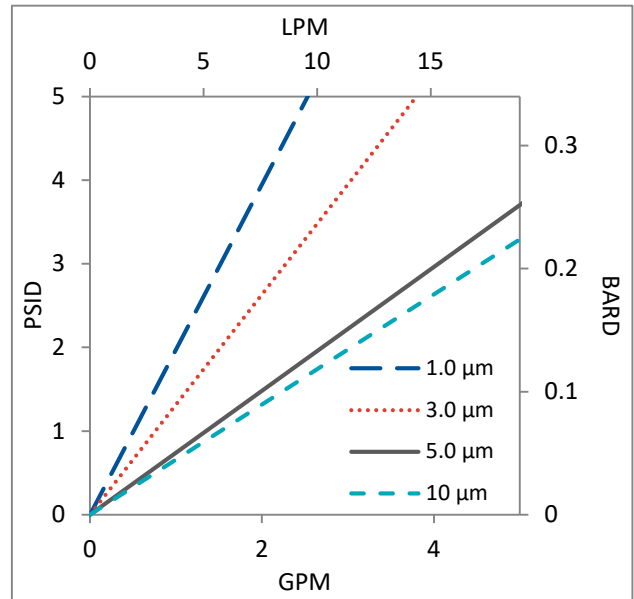
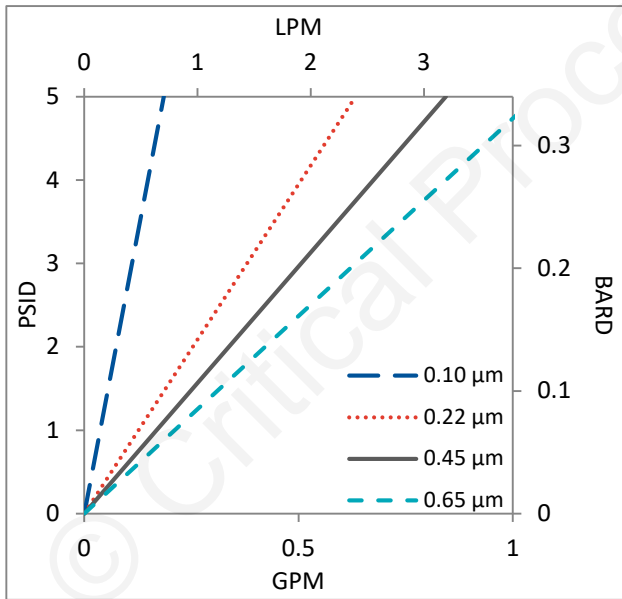
Materials meet the requirements listed by the FDA as appropriate for use in articles intended for repeated food contact as specified in Title 21 CFR sections 174.5, 177.1500, 177.1520, 177.1630, 177.2440, and 177.2600 as applicable. All materials used to make the filters are listed in European Commission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

Flow Rates for FHLF 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 FHLF 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.

FHLP 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

FHLP 000

Pore Size Code	SS Ring	Length	O-Ring/Gasket Code	End Cap Code*
-10 = 0.10 µm -20 = 0.22 µm -40 = 0.45 µm -60 = 0.65 µm 1-0 = 1.0 µm 3-0 = 3.0 µm 5-0 = 5.0 µm 10- = 10 µm	S = Ring N = No Ring	05 = 5 in. (12.7 cm) 97 = 9.75 in. (24.8 cm) 01 = 10 in. (25.4 cm) 19 = 19.5 in. (49.5 cm) 02 = 20 in. (50.8 cm) 29 = 29.25 in. (74.3 cm) 03 = 30 in. (76.2 cm) 04 = 40 in. (101.6 cm)	S = Silicone B = Buna V = Viton (or FKM) T = FEP Encapsulated Viton (or FKM) E = EP R = FEP Encapsulated Silicone	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

*Additional End Configurations are available

Capsule Filters

CP FHLP 000 -

Pore Size Code	Pre-Sterilized or Not	Length	Inlet	Outlet	Side Vent Options
-10 = 0.10 µm -20 = 0.22 µm -40 = 0.45 µm -60 = 0.65 µm 1-0 = 1.0 µm 3-0 = 3.0 µm 5-0 = 5.0 µm 10- = 10 µm	S = Pre-Sterilized G = Gamma Stable N = Not Sterilized	A = 2" B = 5" 1 = 10" 2 = 20" 3 = 30"	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)	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)	1 = Luer Lock 2 = 1/8" Bleed Valve 3 = 1/4" Bleed Valve

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 FHLPDS Rev C