

# HLP Filters

High Loft Pleated Polypropylene Depth Media



HLP cartridge and capsule filters are made using high-loft Polypropylene depth media. They are designed to efficiently filter highly loaded liquids including water, CMP slurries, chemicals and solvents. Pore sizes range from 0.10 to 10  $\mu\text{m}$  and available filter devices scale from laboratory to full production using identical materials to ensure consistent results.

HLP filters have superior retention of oversize particles for final product filtration or to protect downstream filters. With the capacity to remove large amounts of particulate and other contaminants, HLP filters provide long life and high throughput. Materials of construction have been specifically selected to minimize extractables.

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.

## Clarification & Prefiltration



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



HLP filters are recommended for clarification & prefiltration in:

- CMP Slurries
- Resists
- Acids & Bases
- Plating Solutions
- Fermentation Broths
- Buffers & Other Fluids
- Solvents
- Process Water



**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 (5.51 bard at 20 °C)
<b>Gases Operational Pressure</b>	N/A	60 psi at 68 °F (4.13 bar at 20 °C)
<b>Operating Temperature (water)</b>	180 °F at 30 psid (82 °C at 2.06 bard)	110 °F at 30 psid (43 °C at 2.06 bard)
<b>Forward Differential Pressure</b>	80 psid at 68 °F (5.51 bard at 20 °C) (Liquid and Gas)	Liquid - 80 psid at 68 °F (5.51 bard at 20 °C) Gas - 60 psi at 68 °F (4.13 bar at 20 °C)
<b>Reverse Differential Pressure</b>	50 psid at 68 °F (3.44 bard at 20 °C)	50 psid at 68 °F (3.44 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

	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 <sup>2</sup>	1.9 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>
	0.07m <sup>2</sup>	0.18m <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</b> Cartridges only	Buna, Viton® (or FKM), EPDM, Silicone, FEP Encapsulated Silicone, FEP Encapsulated Viton (or FKM)

## Extractables

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

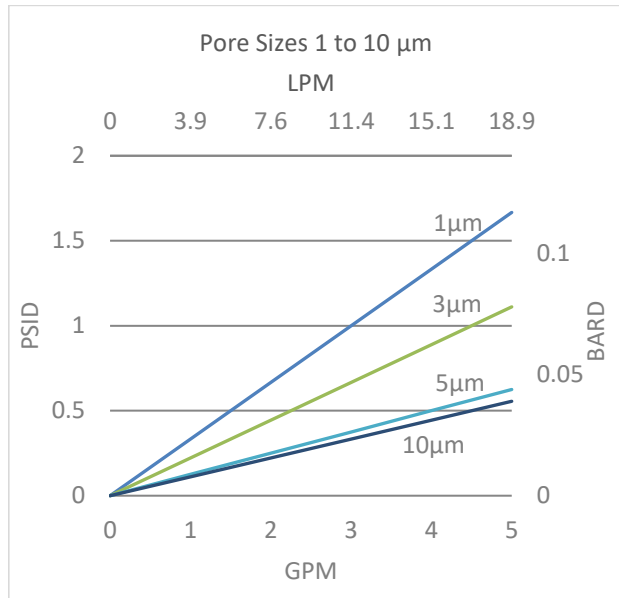
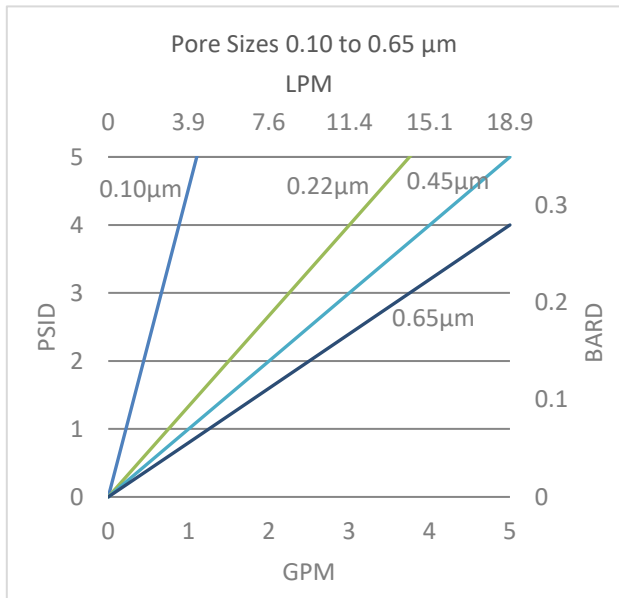
## TOC and Conductivity

HLP 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

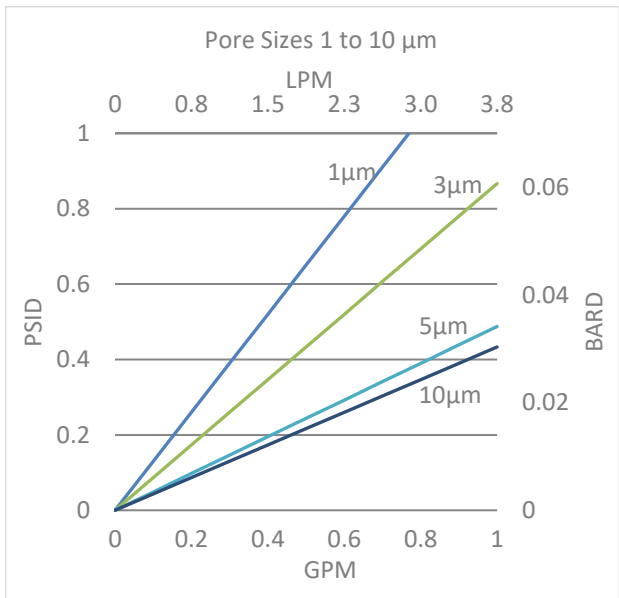
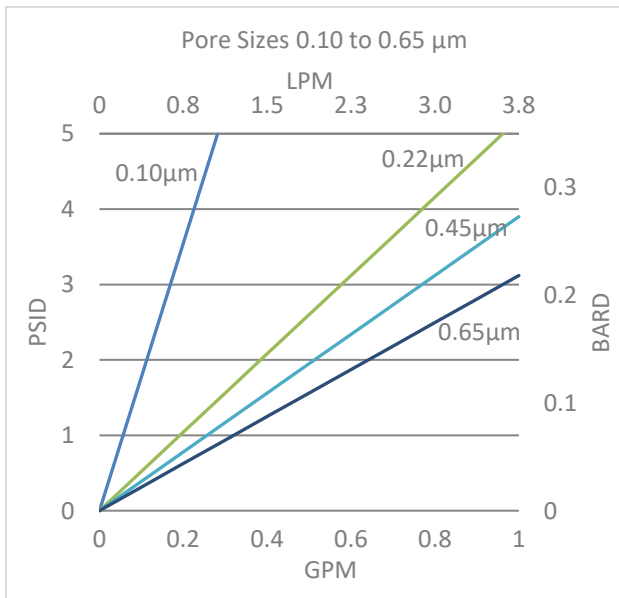
HLP filters comply with Title 21 CFR sections 210.3 (b)(6) and 211.72, for non-fiber releasing filters.

## Flow Rates for HLP Cartridges



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

## Flow Rates for HLP Capsules

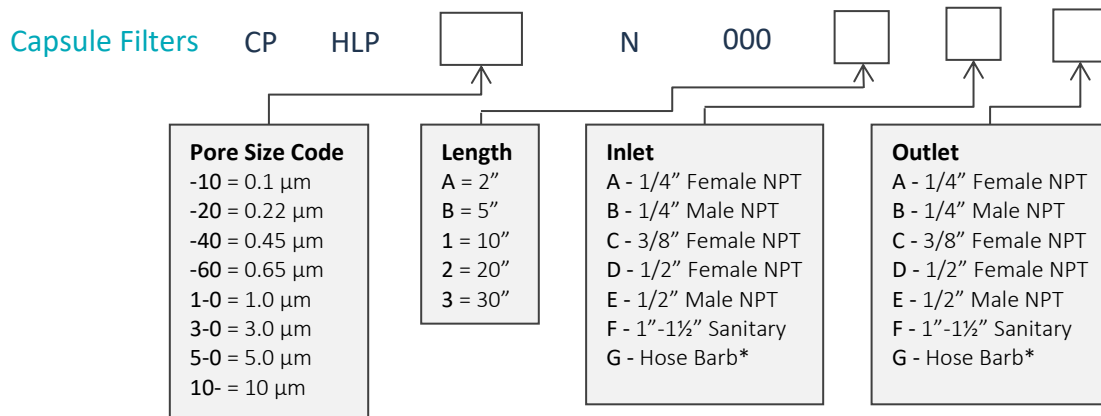
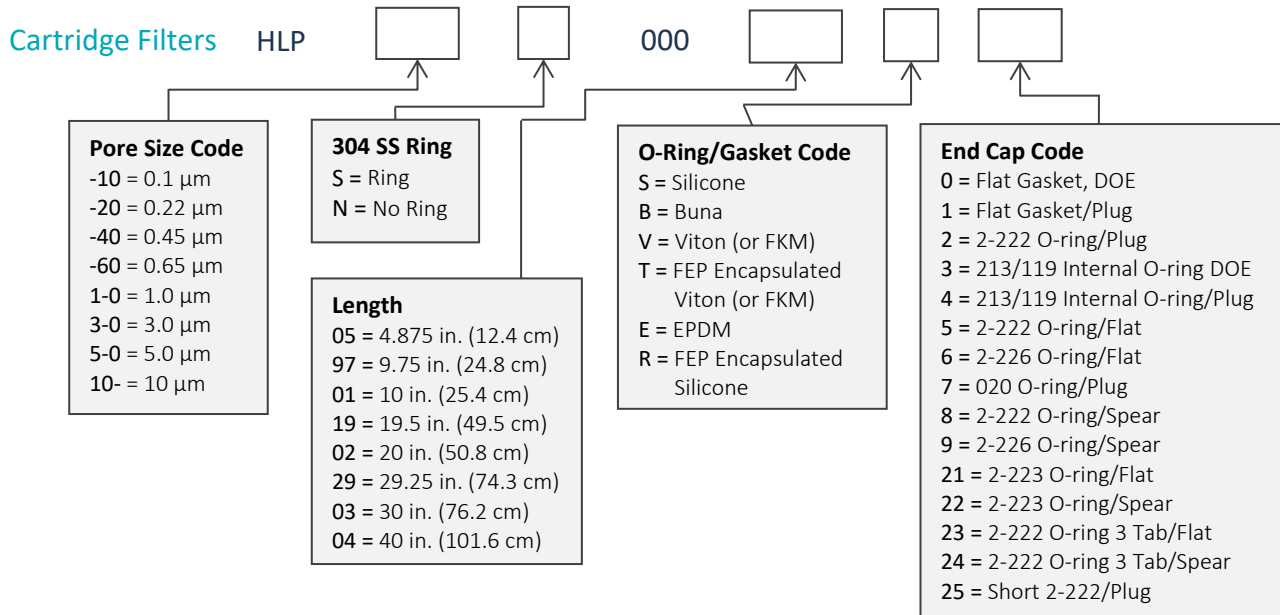


Flow rates for Capsule filters are per square foot of membrane area. The test fluid is water at ambient temperature. Flows are tested using a 2" capsule filter with 1/2" FNPT inlet and outlet ports. Rates will vary based on end configuration of the capsule.

## HLP Filters Ordering Information

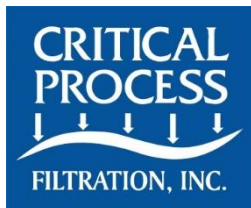
All Critical Process filters are configurable to meet customer specifications.  
Fill in the corresponding codes in the boxes below to build your Part Number.

To consult with one of our technical team members, request a quote or place an order:  
call (603) 880-4220 Ext. 106, or send an email to [sales@criticalprocess.com](mailto:sales@criticalprocess.com)



### 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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