



# EPD Filters

Pleated Polypropylene Depth Media

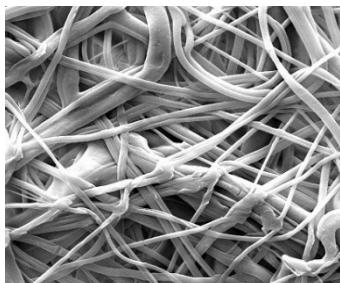


EPD cartridge and capsule filters are constructed with pleated Polypropylene Depth Media for prefiltering critical process liquids including water, chemicals and solvents. EPD products are designed to meet the needs of the electronics and high-purity chemical industries. Pore sizes range from 0.10 to 100  $\mu\text{m}$  and filter sizes scale from laboratory to full production using identical materials to ensure consistent results.

These filters have superior retention and protect downstream filters and processes by removing large amounts of particulate and other contaminants. EPD filters are rated at 99.9% efficiency at the indicated pore size. Designed for high capacity and long life, the EPD is a very cost-effective filter.

EPD filters are pulse power flushed until the rinse effluent reaches 18+ Megohm-cm and less than 3ppb TOC.

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.



EPD filters are recommended for fine particle removal in:

- Ultrapure DI Water
- Chemicals
- Acids & Bases
- Plating Solutions
- Etch Baths
- Solvents

## Fine Particle Removal



### 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"
	5.08cm	12.7cm	25.4cm	50.8cm	76.2cm	101.6cm
Area	1.1 ft <sup>2</sup>	2.9 ft <sup>2</sup>	6.24 ft <sup>2</sup>	12.48 ft <sup>2</sup>	18.72 ft <sup>2</sup>	24.96 ft <sup>2</sup>
	0.10m <sup>2</sup>	0.27m <sup>2</sup>	0.58m <sup>2</sup>	1.16m <sup>2</sup>	1.74m <sup>2</sup>	2.32m <sup>2</sup>

## Construction Materials

<b>Filtration Media</b>	Pleated 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

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

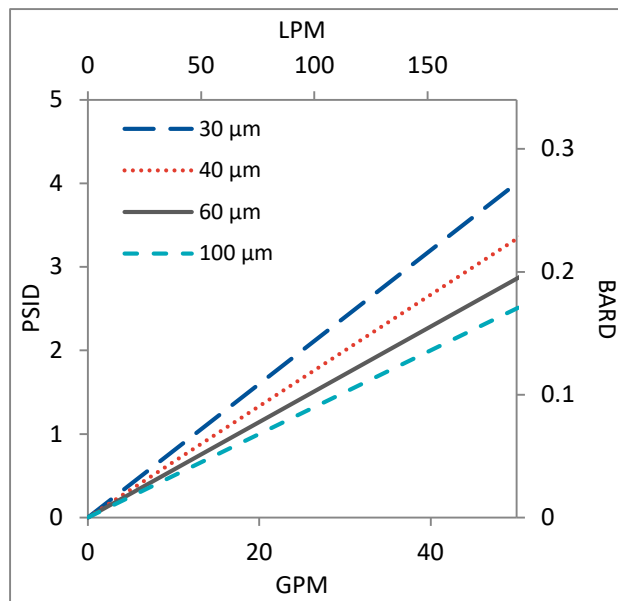
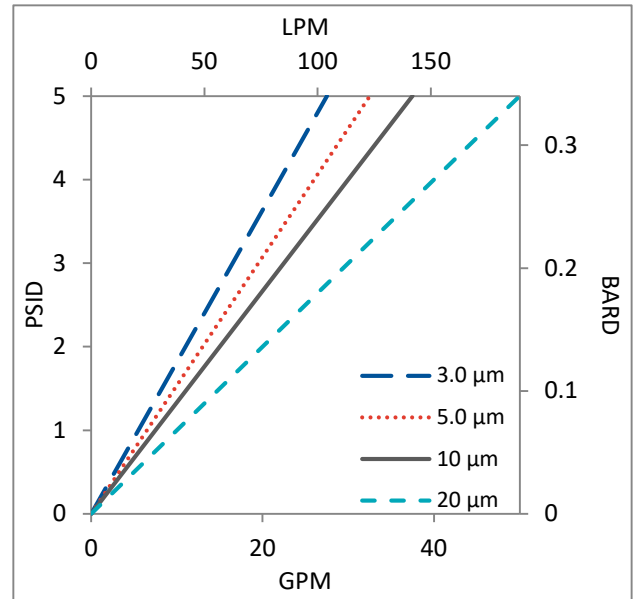
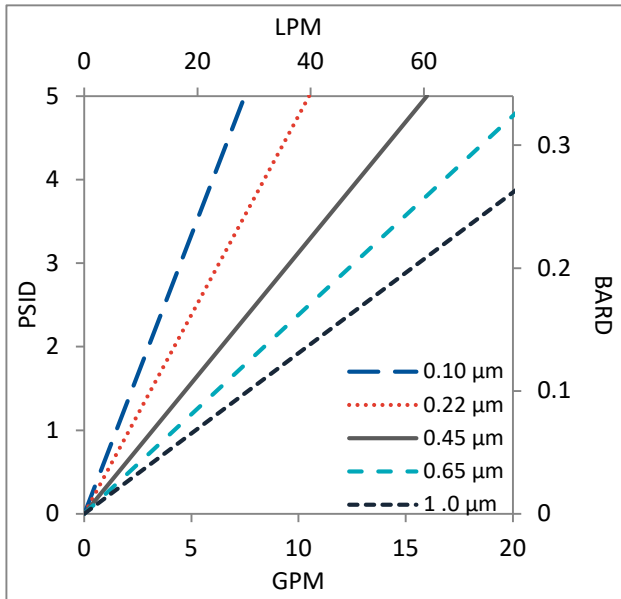
## TOC and Conductivity

EPD filter water effluent conforms with the TOC and water conductivity standards of SEMI Standard F63 after an appropriate flush with ultrapure water.

## Non-Fiber Releasing

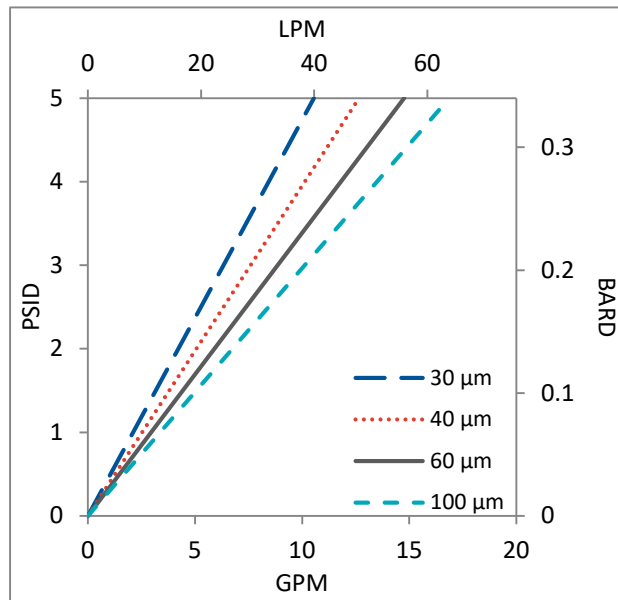
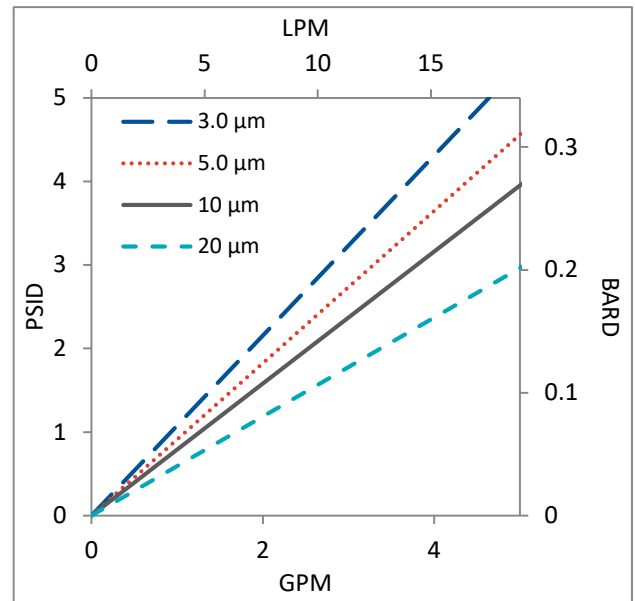
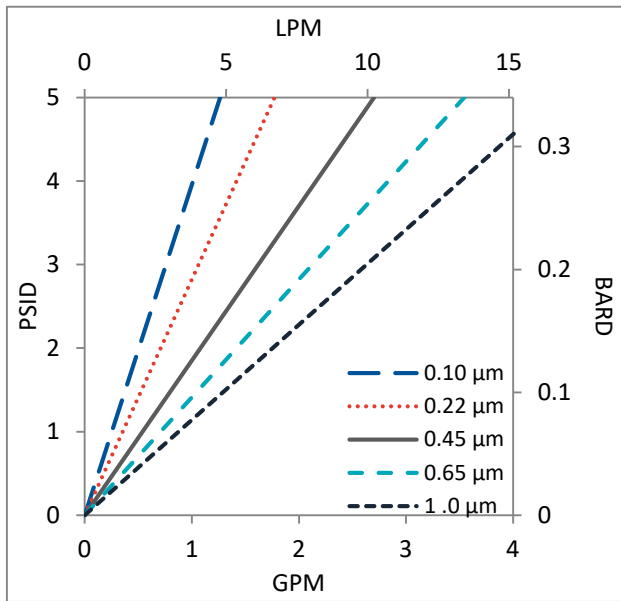
EPD filters comply with Title 21 CFR sections 210.3 (b)(6) and 211.72, for non-fiber releasing filters.

## Flow Rates for EPD 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 EPD 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.

## EPD 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

EPD   000

Pore Size Code	SS Ring	Length	O-Ring/Gasket Code	End Cap Code*
-10 = 0.10 µm	S = Ring	05 = 5 in. (12.7 cm)	S = Silicone	0 = Flat Gasket, DOE
-20 = 0.22 µm	N = No Ring	97 = 9.75 in. (24.8 cm)	B = Buna	2 = 2-222 O-ring/Plug
-40 = 0.45 µm		01 = 10 in. (25.4 cm)	V = Viton (or FKM)	4 = 213/119 Internal O-ring/Plug
-60 = 0.65 µm		19 = 19.5 in. (49.5 cm)	T = FEP Encapsulated	5 = 2-222 O-ring/Flat
1-0 = 1.0 µm		02 = 20 in. (50.8 cm)	Viton (or FKM)	6 = 2-226 O-ring/Flat
3-0 = 3.0 µm		29 = 29.25 in. (74.3 cm)	E = EP	8 = 2-222 O-ring/Spear
5-0 = 5.0 µm		03 = 30 in. (76.2 cm)	R = FEP Encapsulated	9 = 2-226 O-ring/Spear
10- = 10 µm		04 = 40 in. (101.6 cm)	Silicone	
20- = 20 µm				
30- = 30 µm				
40- = 40 µm				
60- = 60 µm				
999 = 100 µm				

[\\*Additional end configurations available](#)

### Capsule Filters

CP EPD   000    -

Pore Size Code	Pre-Sterilized or Not	Length	Inlet	Outlet	Side Vent Options
-10 = 0.10 µm	S = Pre-Sterilized	A = 2"	A = 1/4" Female NPT	A = 1/4" Female NPT	1 = Luer Lock
-20 = 0.22 µm	G = Gamma Stable	B = 5"	B = 1/4" Male NPT	B = 1/4" Male NPT	2 = 1/8" Bleed Valve
-40 = 0.45 µm	N = Not Sterilized	1 = 10"	C = 3/8" Female NPT	C = 3/8" Female NPT	3 = 1/4" Bleed Valve
-60 = 0.65 µm		2 = 20"	D = 1/2" Female NPT	D = 1/2" Female NPT	
1-0 = 1.0 µm		3 = 30"	E = 1/2" Male NPT	E = 1/2" Male NPT	
3-0 = 3.0 µm			F = 1" Sanitary	F = 1" Sanitary	
5-0 = 5.0 µm			G = Hose Barb*	G = Hose Barb*	
10- = 10 µm			H = 1 1/2" Sanitary with side vent	H = 1 1/2" Sanitary with side vent	
20- = 20 µm			I = 1/2" Single Stepped Barb with side vent	I = 1/2" Single Stepped Barb with side vent	
30- = 30 µm			J = 3/4" Single Step Barb with Side Vent	IB = 1/2" Single Stepped Barb with filling bell and side vent	
40- = 40 µm			Y = 3/8" Compression (JACO®) (Top Luer lock vent only)	J = 3/4" Single Step Barb with Side Vent	
60- = 60 µm			Z = 6mm Quick Disconnect (Top Luer lock vent only)	Y = 3/8" Compression (JACO®) (Top Luer lock vent only)	
999 = 100 µm				Z = 6mm Quick Disconnect (Top Luer lock vent only)	

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

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



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Data Sheet EPDDS Rev B