



# FPD Filters

Pleated Polypropylene Depth Media



FPD cartridge and capsule filters are constructed with pleated Polypropylene depth media and designed to comply with all FDA requirements for the food industry. FPD filters are used for wine and beer clarification, as well as prefiltering water, food ingredients, cosmetics, chemicals, air and gases. 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 cartridges have low extractables that may affect the taste of the product or other characteristics such as foaming or brightness. FPD filters have 99.9% retention efficiency at the rated pore size and are designed for high throughput because of our unique graded density construction. This design also allows for filter cleaning and re-use in some applications.

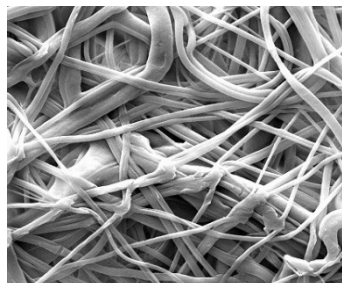
Critical Process provides unrivaled delivery times, technical consulting before purchasing, and very competitively priced high-performance products. Our comprehensive testing & analysis and validation services support your team whenever they need it. Your process experts partnering with our filtration experts is how we deliver your company's solution right the first time.

## Clarification & Prefiltration

### Particle Filtration



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



FPD filters are recommended for clarification & prefiltration in:

- Wine (clarification)
- Beer (clarification)
- Bottled Water
- Process Water
- Process Chemicals
- Air & Gases



**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)<br>(Liquid and Gas) | Liquid - 80 psid at 68 °F (5.52 bard at 20 °C)<br>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,<br>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 Cartridges only</b>                            | Buna, Viton® (or FKM), EPDM, Silicone, FEP Encapsulated Silicone, FEP Encapsulated Viton (or FKM) |

## Extractables

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

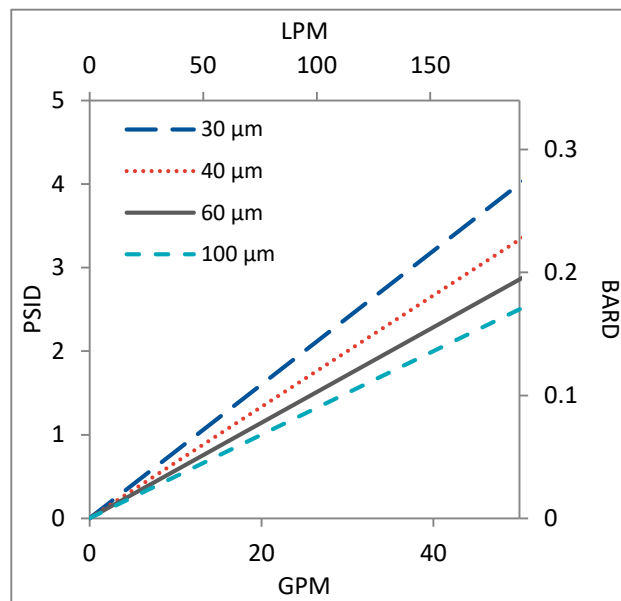
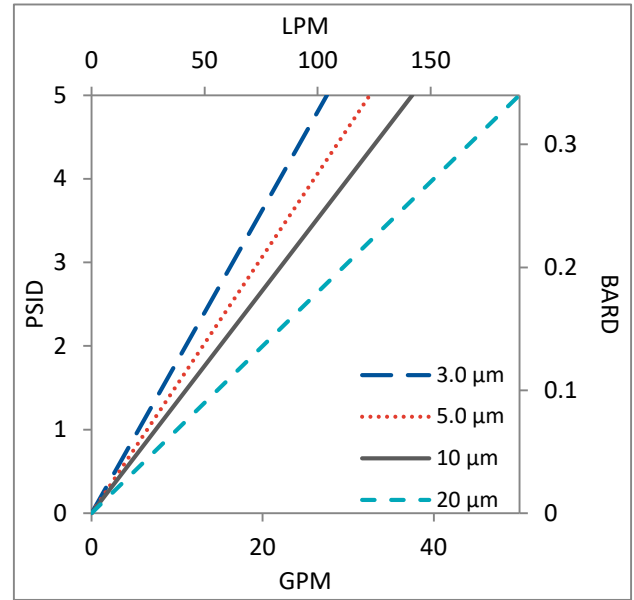
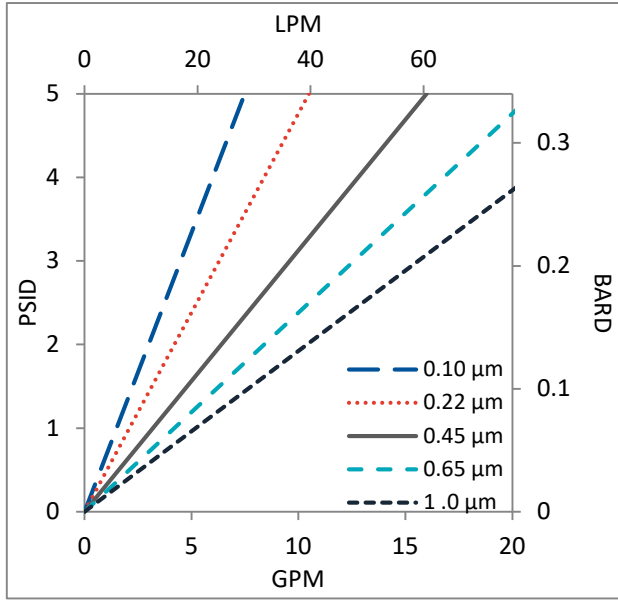
## Non-Fiber Releasing

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

## FDA and EC Compliance

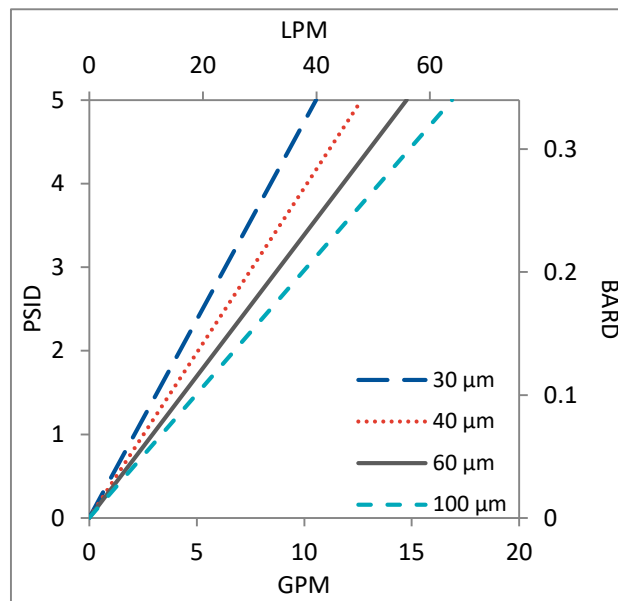
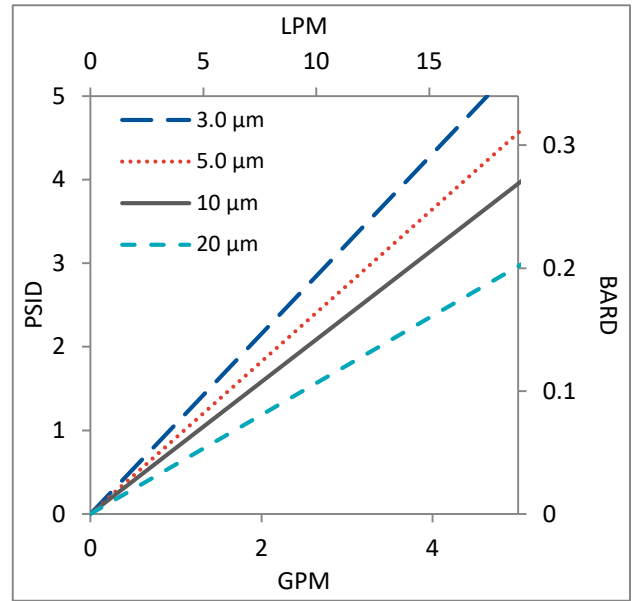
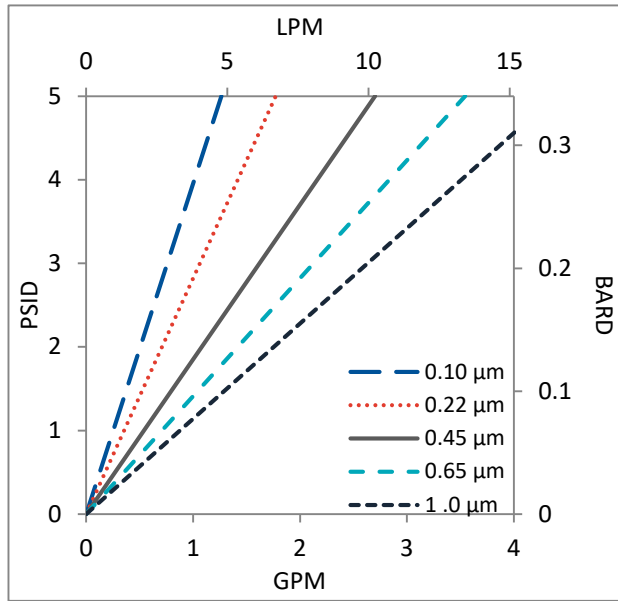
Materials meet the requirements listed by the FDA as appropriate for use in articles intended for repeated food contact as specified in Title 21 CFR sections 174.5, 177.1500, 177.1520, 177.1630, 177.2440, and 177.2600 as applicable. All materials used to make the filters are listed in European Commission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

## Flow Rates for FPD 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 FPD 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.

## FPD 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

FPD            000           

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

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

### Capsule Filters

CP    FPD            000                -       

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

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



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Data Sheet FPDDS Rev B