

# FPD Cartridge Filters

## Pleated Polypropylene Depth Media



FPD Pleated Depth Filter Cartridges have been designed to comply with all FDA requirements for the food industry. These cartridges have been rinsed with high purity (18+ megohm-cm) water to ensure that manufacturing debris will not contaminate your product. This washing also ensures that extractables that may affect the taste of the product or other characteristics such as foaming or brightness are removed. FPD Cartridges have 99.9% retention efficiency at the rated pore size and are designed to give maximum throughput because of our unique graded density construction. This design also allows for filter cleaning and re-use in some applications.

### Construction Materials

<b>Filtration Media</b>	Pleated Polypropylene Depth Media
<b>Media Support</b>	Polypropylene
<b>End Caps</b>	Polypropylene
<b>Center Core</b>	Polypropylene
<b>Outer Support Cage</b>	Polypropylene
<b>Sealing Method</b>	Thermal Bonding
<b>O-rings</b>	Buna, Viton® (or FKM), EP, Silicone, FEP Encapsulated Silicone, FEP Encapsulated Viton (or FKM)

### Total Performance

Critical Process Filtration, Inc. is a vertically integrated manufacturer of filtration products to industries in which filtration is considered a critical part of the manufacturing process. We supply a complete line of products and services to help you cost effectively satisfy all your filtration requirements from a single source.

### Applications

- ◆ Wine (clarification)
- ◆ Soft Drinks
- ◆ Cosmetics
- ◆ Process Chemicals
- ◆ Beer (clarification)
- ◆ Bottled Water
- ◆ Process Water
- ◆ Air and Gases

### Dimensions

<b>Length</b>	5 to 40 in. (12.7 to 101.6 cm) nominal
<b>Outside Diameter</b>	2.75 in. (7.0 cm) nominal
<b>Filtration Area</b>	5.8 ft <sup>2</sup> (0.54 m <sup>2</sup> ) per 10 in. length (Average - area varies with media thickness and porosity)

### Integrity Test Information

Representative sample cartridges are factory tested for integrity before shipment. Field duplication of these tests is not practical because of the absence of commercial portable testing equipment.

### Maximum Operating Parameters

<b>Differential Pressure</b>	
• Forward	50 psid (3.4 bard) at 20 °C (68 °F)
• Reverse	40 psid (2.7 bard) at 20 °C (68 °F)
<b>Operating Temperature</b>	82 °C (180 °F) at 10 psid (0.69 bard) in water
<b>Recommended Changeout Pressure</b>	35 psid (2.4 bard)

### Sanitization/Sterilization

<b>Filtered Hot Water</b>	90 °C (194 °F), 30 minutes, multiple cycles, max 3 psid forward flow
<b>Autoclave</b>	121 °C (250 °F), 30 min, multiple cycles
<b>In-line Steam</b>	135 °C (275 °F), 30 min, multiple cycles

For all elevated temperature procedures above, a stainless steel support ring is required.

### Chemical Sanitization

Carried out using industry standard concentrations of hydrogen peroxide, paracetic acid, sodium hypochlorite, and other selected chemicals.

## FDA and EC Compliance

All Critical Process Filtration cartridge filters are designed to meet the FDA requirements for processing food and beverage products. The materials used to construct food & beverage grade filters are 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 appropriate. FPD filters comply with Title 21 CFR sections 210.3 (b)(6) and 211.72, for non-fiber releasing filters. All materials used to make the filters are listed in European Commission Regulation EU/10/2011, Annex 1.

## Flow Rate

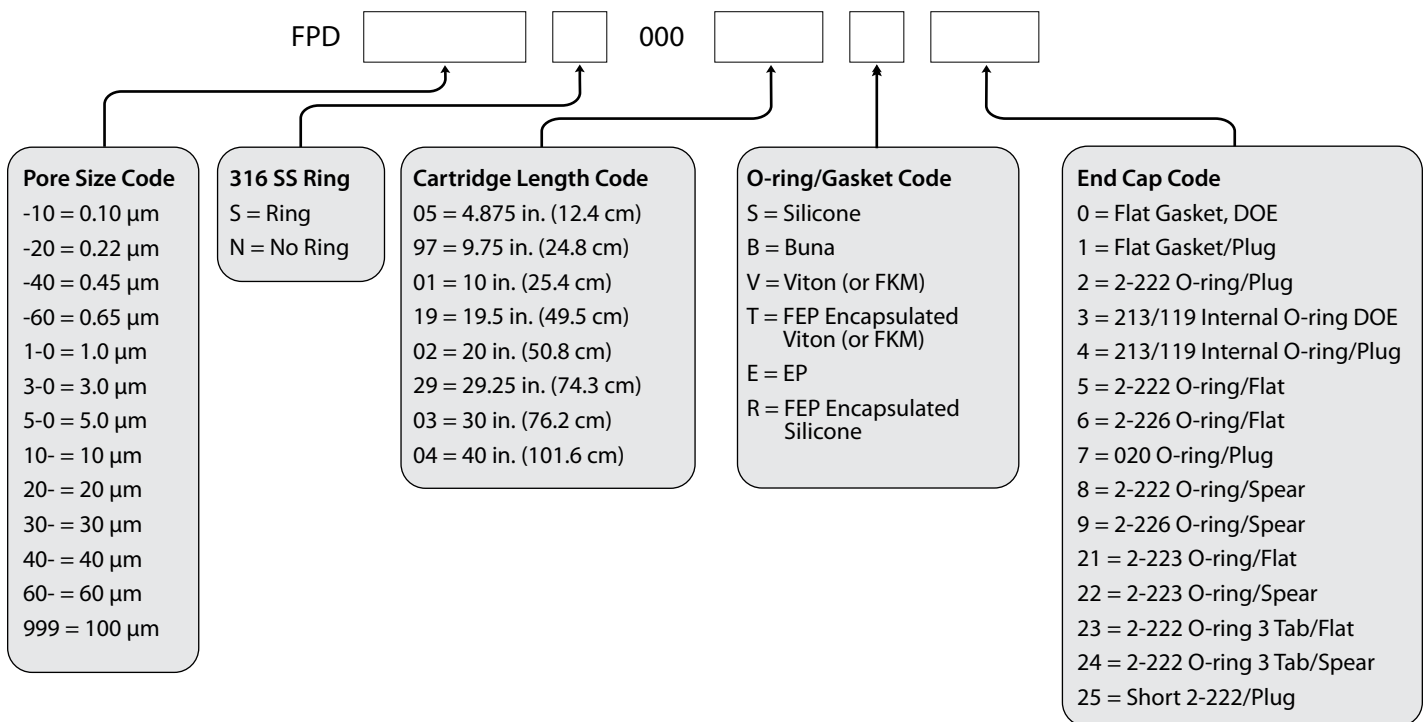
The Typical Flow Rates table represents typical water flow at ambient temperature and a 1 psid (69 mbard) pressure differential across a single 10 in. cartridge element. Extrapolation for housings with multiple elements and higher pressure drops is acceptable, but as flows increase the pressure drop of the housing becomes more apparent.

### Typical Flow Rates

Pore Size	0.10 µm	0.22 µm	0.45 µm	0.65 µm	1.0 µm	3.0 µm	5.0 µm	10 µm	20 µm	30 µm	40 µm	60 µm	100 µm
<b>GPM</b>	1.0	3.0	5.0	6.0	8.0	12	16	18	> 20	> 20	> 20	> 20	> 20
<b>LPM</b>	3.79	11.35	18.92	22.71	30.28	45.42	60.56	68.13	> 75.70	> 75.70	> 75.70	> 75.70	> 75.70

## Ordering Information

Cartridge order numbers have several variables from pore size to end cap type. For example, Food & Beverage Grade Pleated Polypropylene Depth Media, 0.22 Micron Rating, No SS Support Ring, 20" Length, Silicone O-Rings, 2-226/Spear End Cap Configuration = FPD-20N00002S9.



## Extractables

Food & beverage grade filters typically exhibit low levels of non-volatile residues.

## Quality Assurance and Standards

Our goal is to ensure our customers the greatest possible value for their filtration dollar. Our state of the art manufacturing facility and quality management system both meet ISO 9001:2008 standards. Each operation from assembly and test to cleaning, drying, and packaging is done in appropriately rated clean rooms. A sophisticated MRP system collects and processes real time data from manufacturing centers and inspection points. This allows variable and attribute data to be quickly and easily analyzed driving constant improvements in both quality and cost.

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