PPD cartridge and capsule filters are constructed with pleated Polypropylene depth media for prefiltering critical pharmaceutical and healthcare liquids including water, chemicals and solvents. Pore sizes range from 0.10 to 100 µm and filter sizes scale from laboratory to full production using identical materials to ensure consistent results.

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

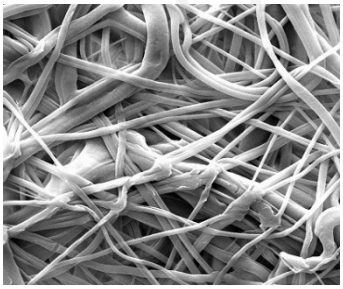
Critical Process provides unrivaled delivery times, technical consulting before purchasing, and very competitively priced high-performance products. Our comprehensive testing & analysis and validation services support your team whenever they need it. Your process experts partnering with our filtration 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)

CAPSULES – Nominal Dimensions
Length: 2 to 30 in. (5.1 to 76.2 cm)
Outside Diameter: 3.50 in. (8.9 cm)



PPD filters are recommended for clarification & prefiltration in:

- Chemicals
- Intermediates
- Buffers
- WFI, Water Purification
- Medications
- Ophthalmics
- Diagnostics
- Device Cleaning

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	1.1 ft^2	2.9 ft^2	6.24 ft^2	12.48 ft^2	18.72 ft^2	24.96 ft^2
	0.10m^2	0.27m^2	0.58m^2	1.16m^2	1.74m^2	2.32m^2

Construction Materials

Filtration Media	Pleated 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)

Endotoxins

The levels of bacterial endotoxins in aqueous extracts from PPD filters are below current USP limits as specified for water for injection.

Extractables

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

TOC and Conductivity

PPD filters conform with TOC standards of USP <643> and the water conductivity standards of USP <645> after an appropriate flush with purified water.

Toxicity Compliance

Materials used to construct PPD filters are non-toxic and meet the requirements for the MEM Elution Cytotoxicity Test and the requirements for Biological Reactivity Tests in the current version of the United States Pharmacopeia (USP) for Class VI - 121 °C Plastics.

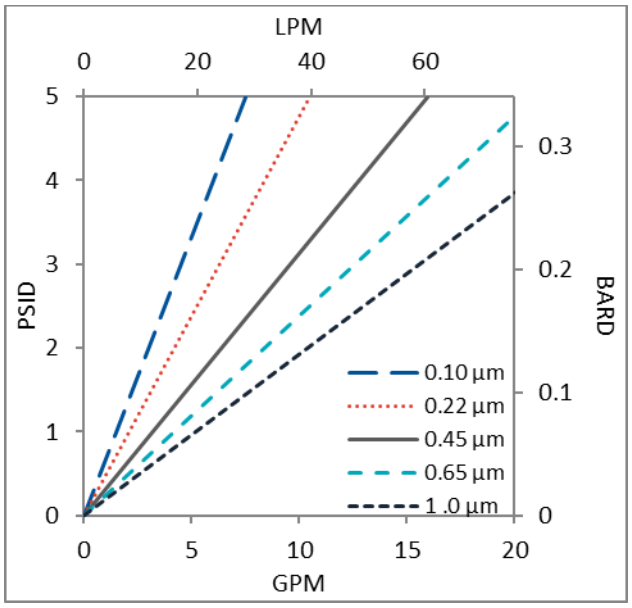
Non-Fiber Releasing

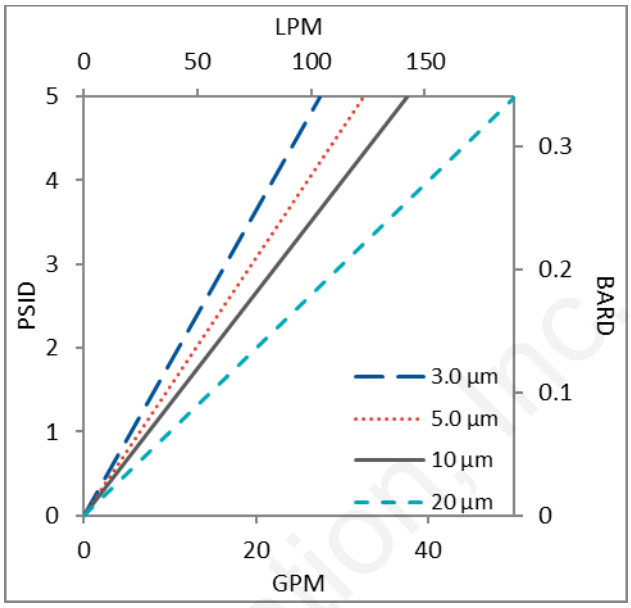
PPD filters comply with Title 21 CFR sections 210.3 (b)(6) and 211.72, for non-fiber releasing filters.

FDA 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.

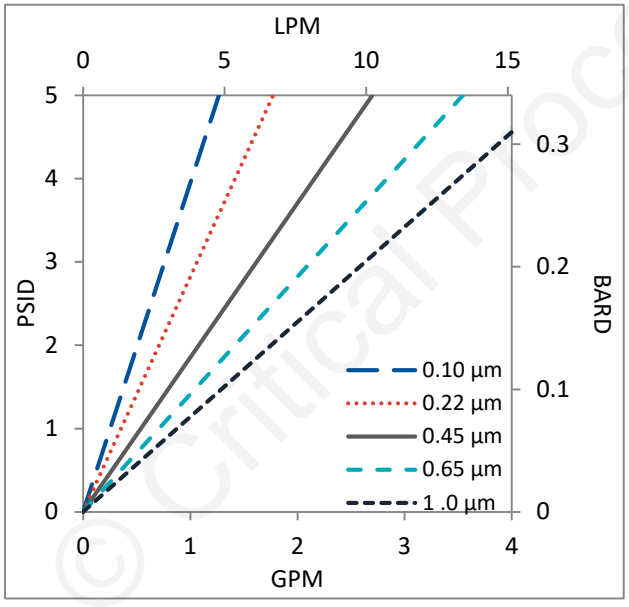
Flow Rates for PPD Cartridges by Pore Size

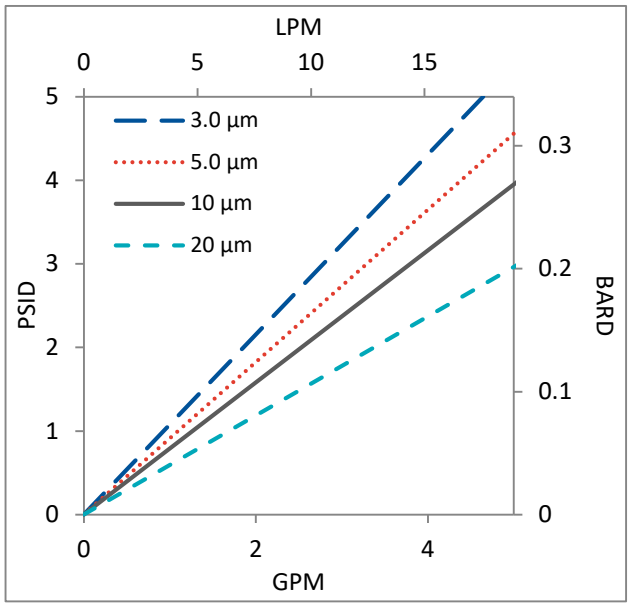




Flow rates for Cartridge filters are per 10-inch length. The test fluid is water at ambient temperature.

Flow Rates for PPD 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.

PPD 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

PPD [ ] [ ] 000 [ ] [ ] [ ]

Pore Size 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
20- = 20 µm
30- = 30 µm
40- = 40 µm
60- = 60 µm
999 = 100 µm

SS Ring
S = Ring
N = No Ring

Length
05 = 5 in. (12.7 cm)
97 = 9.75 in. (24.8 cm)
01 = 10 in. (25.4 cm)
02 = 20 in. (50.8 cm)
03 = 30 in. (76.2 cm)
04 = 40 in. (101.6 cm)

O-Ring/Gasket Code
S = Silicone
B = Buna
V = Viton (or FKM)
T = FEP Encapsulated Viton (or FKM)
E = EP
R = FEP Encapsulated Silicone

End Cap Code*
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 Available

Capsule Filters

CP PPD [ ] [ ] 000 [ ] [ ] [ ] - [ ] [ ]

Pore Size 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
20- = 20 µm
30- = 30 µm
40- = 40 µm
60- = 60 µm
999 = 100 µm

Pre-Sterilized or Not
S = Pre-Sterilized
G = Gamma Stable
N = Not Sterilized

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

Length
A = 2”
B = 5”
1 = 10”
2 = 20”
3 = 30”

Inlet
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 ½” Sanitary with side vent
I = ½” Single Stepped Barb with side vent
J = ¾” 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)

Outlet
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 ½” Sanitary with side vent
I = ½” Single Stepped Barb with side vent
IB = ½” Single Stepped Barb with filling bell and side vent
J = ¾” 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)

Side Vent Options
1 = Luer Lock
2 = 1/8” Bleed Valve
3 = ¼” Bleed Valve

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

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