PPD Capsule Filters

Pleated Polypropylene Depth Media

CRITICAL PROCESS FILTRATION, INC.

Pharmaceutical Grade

Protect critical membrane filters downstream

Wide range of high efficiency retention ratings

High capacity for long life

Prefiltration of bulk chemicals, water, LVPs, SVPs, buffers, solvents

Applications

- Bulk Pharmaceutical Chemicals
- Buffers and Other Media
- LVPs and SVPs
- Diagnostics
- Biologicals
- Ophthalmics
- Water

PPD capsules are made with polypropylene microfiber media. Designed with the optimal filtration area, the filters remove large amounts of particulate and other contaminants. PPD capsules protect critical membrane filters downstream by removing 99.9% of contaminants at the rated pore size.

Specific applications for PPD capsule filters include pre-filtration of bulk pharmaceutical chemicals, water, buffers, solvents, alcohols and other liquids. PPD capsules also protect membrane filters in filling applications for SVPs, LVPs, diagnostics, ophthalmics, biologicals and other products.

Polypropylene exhibits broad chemical compatibility, so it is particularly suited for the filtration of chemicals and solvents used in drug making processes. PPD capsule elements are integrity tested during manufacture and are flushed to assure cleanliness in critical process applications.

PPD Capsule Filters - Filtration Area*

Media	Capsule Length				
	2″	5″	10″	20″	30″
Pleated Polypropylene Depth	1.0 ft^2 (0.093m^2)	2.8 ft^2 (0.260m^2)	5.8 ft^2 (0.539m^2)	11.6 ft^2 (1.078m^2)	17.4 ft^2 (1.617m^2)

*Average – Filtration area varies with media thickness and porosity.

Flow Rate / Filtration Area

The following table represents typical water flow at a one psi (69 mbar) pressure differential across a single 2 inch capsule with 1.0 ft^2 (0.093 m^2) of media with 1/2″ FNPT ports. The test fluid is water at ambient temperature. Higher pressure drops are acceptable, but as flows increase the pressure drop of the housing becomes more apparent.

Pore Size	0.10 µm	0.22 µm	0.45 µm	0.65 µm	1 µm	3 µm	5 µm	10 µm	20 µm	30 µm	40 µm	60 µm	100 µm
GPM	0.20	0.60	1.0	1.2	1.6	2.4	3.2	3.6	4.0	>4.0	>4.0	>4.0	>4.0
LPM	0.76	2.27	3.78	4.54	6.05	9.08	12.11	13.62	15.14	>15.14	>15.14	>15.14	>15.14

* For approximate flow rates for 5″ through 30″ capsules, refer to the appropriate cartridge data sheet

Construction Materials

Housing	Polypropylene
Filtration Media	Pleated Polypropylene Depth Media
Media Support	Polypropylene
End Caps	Polypropylene
Center Core	Polypropylene
Outer Support Cage	Polypropylene
Sealing Method	Thermal Bonding

Maximum Operating Parameters

Liquid Operational Pressure	80 psi (5.5 bar) at 20 °C (68 °F)
Gases Operational Pressure	60 psi (4.1 bar) at 20 °C (68 °F)
Operating Temperature	43 °C (110 °F) at 30 psi (2.1 bar) in water
Forward Differential Pressure	50 psid (3.4 bard) at 20 °C (68 °F)
Reverse Differential Pressure	40 psid (2.7 bard) at 20 °C (68 °F)
Recommended Changeout Pressure	35 psid (2.4 bard)

Integrity Test Information

Each capsule assembly is integrity tested before release. Field duplication of these tests is not practical because of the absence of commercial portable testing equipment.

Sanitization/Sterilization

Autoclave.....250° F (121° C), 30 min, 5+ cycles
Chemical Sanitization.....Industry standard concentrations of hydrogen peroxide, paracetic acid, sodium hypochlorite and other selected chemicals.
Note.....PPD capsules are not to be used in steam.

USP Biosafety and FDA Compliance

The materials used to construct pharmaceutical grade PPD capsule 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. In addition, the 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 appropriate. PPD capsule filters comply with Title 21 CFR sections 210.3 (b)(6) and 211.72, for non-fiber releasing filters. The levels of bacterial endotoxins in aqueous extracts from pharmaceutical grade capsule filters are below current USP limits as specified for water for injection.

Extractables

PPD capsules are rinsed with high purity water to remove manufacturing debris and extractable substances. Pharmaceutical grade filters typically exhibit low levels of non-volatile residues.

Quality Assurance and Standards

Critical Process Filtration uses state of the art computer controlled equipment to consistently produce high quality products as well as significantly reduce hand operations that can compromise quality. All manufacturing and testing is continuously monitored in real time so that data can be quickly and easily analyzed to facilitate improvements in both quality and cost.

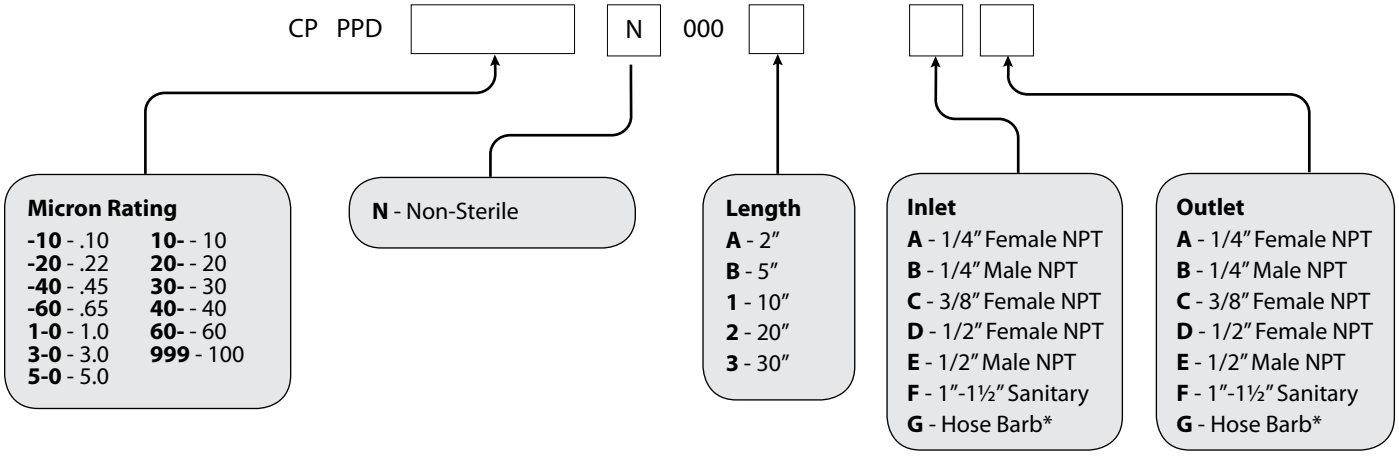
The Critical Process Filtration manufacturing and quality systems meet rigorous ISO 9001:2008 standards. Each operation, including assembly, testing, cleaning, drying and packaging, is done in an appropriately rated clean room. Manufacturing is controlled using a sophisticated manufacturing system that networks work stations, manufacturing centers and inspection points. During the manufacturing and inspection processes, data is collected in real time to allow continuous quality monitoring and full traceability of all materials and processes.

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.

Ordering Information

Capsule order number example: Pharmaceutical Grade Pleated Polypropylene Depth Media, 0.22 Micron Rating, Non-Sterile, 10" Length, Sanitary Inlet, Sanitary Outlet = CPPPD-20N0001FF.



Hose Barb Diameter Ranges*

	Minimum	Maximum
Outer Diameters	11/32" (8.6mm)	9/16" (14.0mm)
Inner Diameters	5/32" (4.0mm)	13/32" (10.5mm)

Request a QUOTE from your area representative

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