

# PGD Filters

Pleated Fiberglass Depth Media



PGD cartridge and capsule filters are constructed with **fiberglass depth media** for clarification and prefiltration of aqueous liquids. Pore sizes range from 0.22 to 5.0  $\mu\text{m}$  and filter sizes scale from laboratory to full production using identical materials to ensure consistent results.

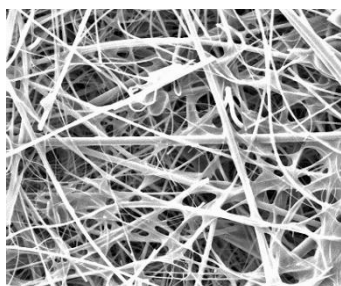
PGD Depth Filter Cartridges are designed to meet FDA requirements and are manufactured to ensure fiber free effluent. They are rated at 99% retention at the rated pore size. PGD filters offer the benefits of high flow rates, high contaminant holding capacity as well as excellent retention. These hydrophilic, high capacity filters are used in pre-filter applications as well as final filter applications where the goal is bioburden reduction and not sterile product. PGD capsules are available pre-sterilized.

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



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



PGD filters are recommended for clarification & prefiltration in:

- Intermediates
- Buffers & Growth Media
- Bulk Pharmaceutical Chemicals
- LVPs & SVPs
- WFI, Water Purification



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 (5.51 bard at 20 °C)  |
| <b>Gases Operational Pressure</b>     | N/A   | 60 psi at 68 °F (4.13 bar at 20 °C)   |
| <b>Operating Temperature (water)</b>  | 180 °F at 30 psid (82 °C at 2.06 bard)                    | 110 °F at 30 psid (43 °C at 2.06 bard)  |
| <b>Forward Differential Pressure</b>  | 80 psid at 68 °F (5.51 bard at 20 °C)<br>(Liquid and Gas) | Liquid - 80 psid at 68 °F (5.51 bard at 20 °C)<br>Gas - 60 psi at 68 °F (4.13 bar at 20 °C) |
| <b>Reverse Differential Pressure</b>  | 50 psid at 68 °F (3.44 bard at 20 °C)                     | 50 psid at 68 °F (3.44 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, 5+ 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

|        | CAPSULES            | CARTRIDGES AND CAPSULES |                     |                      |                      |                      | CARTRIDGES |
|--------|---------------------|-------------------------|---------------------|----------------------|----------------------|----------------------|------------|
|        | 2"                  | 5"                      | 10"                 | 20"                  | 30"                  | 40"                  |            |
| Length | 5.08cm              | 12.7cm                  | 25.4cm              | 50.8cm               | 76.2cm               | 101.6cm              |            |
| Area   | 0.8 ft <sup>2</sup> | 2.3 ft <sup>2</sup>     | 5.0 ft <sup>2</sup> | 10.0 ft <sup>2</sup> | 15.0 ft <sup>2</sup> | 20.0 ft <sup>2</sup> |            |
|        | 0.08m <sup>2</sup>  | 0.22m <sup>2</sup>      | 0.46m <sup>2</sup>  | 0.92m <sup>2</sup>   | 1.38m <sup>2</sup>   | 1.84m <sup>2</sup>   |            |

## Construction Materials

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|                         |                                |
|-------------------------|--------------------------------|
| <b>Filtration Media</b> | Pleated Fiberglass Depth Media |
|-------------------------|--------------------------------|

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|                      |               |
|----------------------|---------------|
| <b>Media Support</b> | Polypropylene |
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|   |               |
|---|---------------|
| <b>End Caps, Center Core, Outer Support Cage, Capsule Housing</b> | Polypropylene |
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|                       |                 |
|-----------------------|-----------------|
| <b>Sealing Method</b> | Thermal Bonding |
|-----------------------|-----------------|

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|  |   |
|--|---|
| <b>O-Rings/Gaskets Cartridges only</b> | Buna, Viton® (or FKM), EPDM, Silicone, FEP Encapsulated Silicone, FEP Encapsulated Viton (or FKM) |
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## Endotoxins

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

## Extractables

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

## TOC and Conductivity

PGD 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 PGD 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.

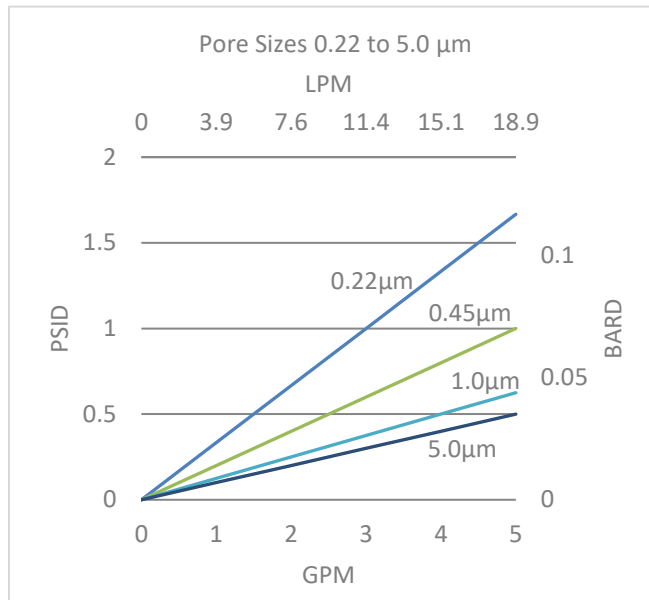
## Non-Fiber Releasing

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

## FDA Compliance

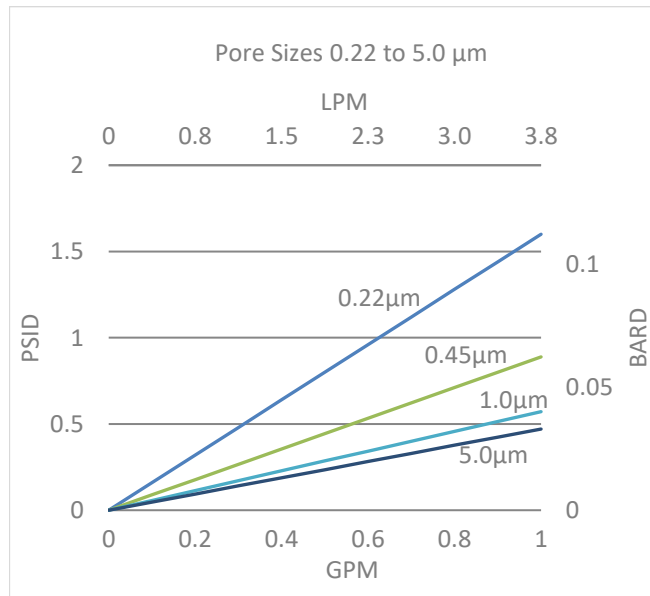
Materials meet the requirements listed by the FDA as appropriate for use in articles intended for repeated food contact as specified in Title 21 CFR sections 174.5, 177.1500, 177.1520, 177.1630, 177.2440, and 177.2600 as applicable.

## Flow Rates for PGD Cartridges



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

## Flow Rates for PGD Capsules

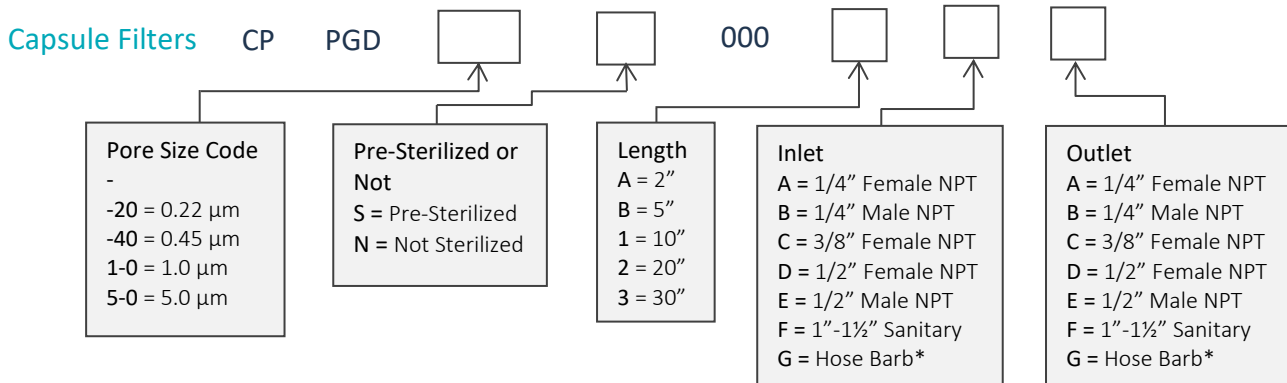
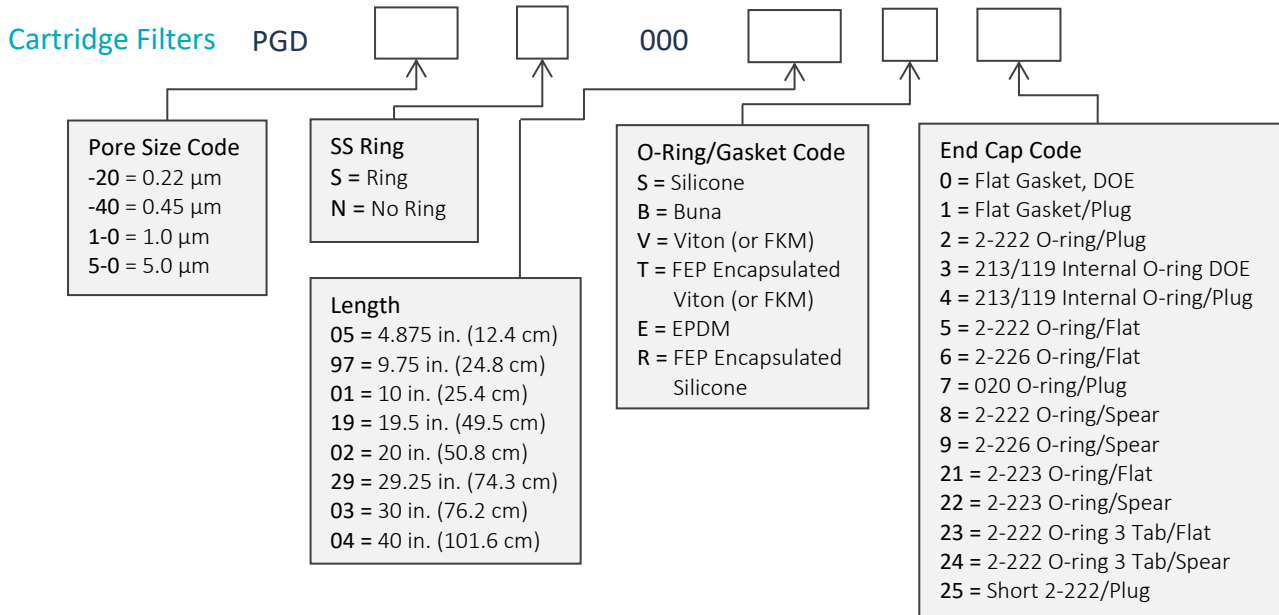


Flow rates for Capsule filters are per square foot of membrane area. The test fluid is water at ambient temperature. Flows are tested using a 2" capsule filter with 1/2" FNPT inlet and outlet ports. Rates will vary based on end configuration of the capsule.

## PGD Filters Ordering Information

All Critical Process filters are configurable to meet customer specifications.  
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) 880-4220 Ext. 106, or send an email to [sales@criticalprocess.com](mailto:sales@criticalprocess.com)



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

### Housings

CPF offers Model CSH sanitary housings in Single-Round (Inline and T-Style) and Multi-Round (3, 6, 8, 12 and 21-round) configurations.



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Data Sheet PGDDS0919 Rev-