Argonide’s NanoCeram-DP™ Series Pleated Filter Cartridges offer two pleated layers of our patented electropositive-charged filter media, providing a unique combination of high efficiency, capacity, flow rate for particulate adsorption while maintaining a low pressure drop.

A combination of a thermally-bonded blend of microglas fibers & cellulose infused with nanoalumina fibers in a non-woven matrix creates an electropositively-charged depth filter media. When assembled into a pleated cartridge, the NanoCeram-DP™ filter offers an ultra-high level of filtration efficiency because of the extra bed-depth of the two layers of electropositive filter media.

These cartridges are available in four (4) versions: standard, powder activated carbon (PAC w/ Agion), and two hybrid filters both of which incorporate an activated carbon block as the center core with one using standard NanoCeram media and the other using NanoCeram PAC-AG media as a pleated layer surrounding the carbon block.

Features
- Effective at high & low pH and in the presence of salt
- Pleated construction yields high flow rates
- Available in standard DOE configurations
- Provides optical clarification to fluids
- Manufactured with strict quality control
- All DP Components are manufactured with materials that meet FDA requirements 21CFR177.1520 for direct food contact applications.

Applications
- Make Up Water (particulate, microbial control)
- Polishing Filters (carbon fines, emulsified oil removal)
- RO Prefiltration (SDI reduction)
- Process Water (turbidity, particulate, colloidal suspensions)
- Waste Water (biologicals, proteins, dyes)
- Cooling Towers, Chill Water Loops (iron removal)
- Clarifying Filtration of Cell Cultures

Media Retention Characteristics
- >99.99% Efficiency at 0.2 microns (latex spheres)
- >3 LRV Cyst Retention
- >6 LRV Virus Retention
- >7.5 LRV E. coli Retention
- >99.95% Endotoxin Removal (235 to <0.12 EU/ml @ 10 mL/cm²/min)
- <0.01 NTU until Terminal ΔP (35 psid) using A2 Fine Test Dust
Materials of Construction

Media:
- NanoCeram® Media
- NanoCeram® PAC-AG Media

Support:
- Polypropylene, Hot Melt

Gaskets:
- EPDM

Operating Conditions

Temperature:
- 39-180°F (4-82°C)

pH Range:
- 5.0 to 10

Maximum Operating Pressure:

Ordering Information

Part No: P2.5-5DP / PAC2.5-5DPAG
- Dimensions: 2.8 x 4.85” x 7.1 x 12.32 cm
- Suggested Flow Rate: 1 gpm / 3.8 lpm
- Maximum Flow Rate: 2.5 gpm / 10 lpm

Part No: P2.5-10DP / PAC2.5-10DPAG
- Dimensions: 2.8 x 9.75” x 7.1 x 24.77 cm
- Suggested Flow Rate: 2 gpm / 7.5 lpm
- Maximum Flow Rate: 5 gpm / 19 lpm

Part No: P2.5-20DP / PAC2.5-20DPAG
- Dimensions: 2.8 x 20” x 7.1 x 50.8 cm
- Suggested Flow Rate: 4 gpm / 15 lpm
- Maximum Flow Rate: 10 gpm / 38 lpm

Part No: P4.5-10DP / PAC4.5-10DPAG
- Dimensions: 4.5 x 9.75” x 11.43 x 24.77 cm
- Suggested Flow Rate: 4.6 gpm / 17 lpm
- Maximum Flow Rate: 12 gpm / 45 lpm

Part No: P4.5-20DP / PAC4.5-20DPAG
- Dimensions: 4.5 x 20” x 11.43 x 50.8 cm
- Suggested Flow Rate: 10 gpm / 38 lpm
- Maximum Flow Rate: 25 gpm / 45 lpm

WATER FLOW RATE vs Differential Pressure

Flow Rate vs Differential Pressure

Virus (MS2) and Bacterial (E. coli) Retention Testing

Testing was conducted on NanoCeram-DP cartridges for the purpose of determining the retention of the MS2 Virus and E. coli bacteria.

Twenty-five liters of the MS2 or the E. coli suspension were passed through a cartridge at 4 gpm @ 7 psid.

<table>
<thead>
<tr>
<th>Test</th>
<th>Flow Rate GPM</th>
<th>MS2 Inlet Concentration PFU/mL</th>
<th>MS2 Removal LRV</th>
<th>E. Coli input Concentration CFU/mL</th>
<th>E. Coli Removal LRV</th>
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<tbody>
<tr>
<td>1</td>
<td>4</td>
<td>1.1x10^6</td>
<td>&gt;6</td>
<td>1.8 x 10^6</td>
<td>7.6</td>
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<tr>
<td>2</td>
<td>4</td>
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<td>1.8 x 10^6</td>
<td>7.5</td>
</tr>
</tbody>
</table>

1) Plaque Forming Units  2) Log Reduction Value   3) Colony Forming Units