High Capacity Pleated Filter Cartridges With Microfiberglass Media

- Unique Microfiberglass Media Provides Exceptional Dirt Holding Capacity For Longer Service Life
- 304 Stainless Steel Center Core and End Caps Available for High Temperature Applications
- Small Diameter Fibers Ensure High Flow Rates at Low Pressure Drops
- Economical Alternative to Stringwound Cartridges
- Available in Retention Ratings of 0.2 to 50 microns (µm)
- Protective Netting is Color-Coded for Easy Identification of Micron Ratings
- End Configurations to Fit Most Housings
- Core Material Options for Different Temperature Compatibility

Performance Specifications

Filter Grade (90% Retention Rating by ASTM F-795 Test):
0.2, 0.45, 1, 3, 10, 30, 50 µm (nominally rated)

Recommended Change Out Differential Pressure:
35 psid (2.4 bard)

Maximum Differential Pressure:
Polypropylene Hardware:
75 psid (5.2 bard) @ 68°F (20°C)
40 psid (2.8 bard) @ 150°F (65°C)
304 Stainless Steel Hardware:
75 psid (5.1 bard) @ 250°F (121°C)

Sterilization:
All Duo-Fine E Series cartridges may be autoclaved for 30 minutes at 250°F (121°C) under no end load conditions. Cartridges with 304 stainless steel core and end caps may be steamed in-line at 250°F (121°C) for up to one hour. Do not reverse flow under steam conditions, damage to the filter may occur.

Product Specifications

Materials of Construction:
Filter Media:
50 µm: Spunbonded Polyester
All Other Grades: Borosilicate Microfiberglass with Acrylic Binder
Support Material: Spunbonded Polyester
Netting: Polypropylene or 304 Stainless Steel²
Hardware: Polypropylene or 304 Stainless Steel²
Sealing: Thermal Bond
Gaskets/O-rings: Silicone Elastomer, Buna N, Viton³ A, Nordel, FEP Encapsulated Silicone, Expanded PTFE, White Buna N, White Silicone

Dimensions (nominal):
Outside Diameter: 2 ¾” (6.6 cm)
Lengths: 4” (10.2 cm), 9 ¾” (24.8 cm), 10” (25.4 cm), 19 ¾” (49.5 cm), 20” (50.8 cm), 29 ¾” (74.3 cm), 30” (76.2 cm), 39” (99.1 cm), 40” (102 cm)

Color Code Chart For Duo-Fine E Series

<table>
<thead>
<tr>
<th>Netting Color</th>
<th>Micron Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>0.2</td>
</tr>
<tr>
<td>Yellow</td>
<td>0.45</td>
</tr>
<tr>
<td>White</td>
<td>1</td>
</tr>
<tr>
<td>Blue</td>
<td>3</td>
</tr>
<tr>
<td>Red</td>
<td>10</td>
</tr>
<tr>
<td>Purple</td>
<td>30</td>
</tr>
<tr>
<td>Orange</td>
<td>50</td>
</tr>
</tbody>
</table>

Particle Retention (µm)

<table>
<thead>
<tr>
<th>Cartridge Designation</th>
<th>Liquid Service (by ASTM F-795 Test)</th>
<th>Gas Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90% Efficiency</td>
<td>&gt;99.9% Efficiency</td>
</tr>
<tr>
<td>DFN 0.2</td>
<td>0.2</td>
<td>1.0</td>
</tr>
<tr>
<td>DFN 0.45</td>
<td>0.45</td>
<td>2.0</td>
</tr>
<tr>
<td>DFN 1</td>
<td>1.0</td>
<td>4.0</td>
</tr>
<tr>
<td>DFN 3</td>
<td>3.0</td>
<td>10.0</td>
</tr>
<tr>
<td>DFN 10</td>
<td>10.0</td>
<td>18.0</td>
</tr>
<tr>
<td>DFN 30</td>
<td>30.0</td>
<td>45.0</td>
</tr>
<tr>
<td>DFN 50</td>
<td>50.0</td>
<td>75.0</td>
</tr>
</tbody>
</table>

¹ - Provided that the maximum differential pressure is not exceeded based on temperature limits defined above.
² - 304 stainless steel end caps are epoxy bonded.
³ - Registered trademark of DuPont Dow Elastomers.
Duo-Fine E Series filter cartridges have been extensively laboratory and field tested to determine removal efficiencies in the most stringent of operating conditions.

The removal rating of any filtration device will depend, to some extent, on the conditions under which it is used or tested. The test results will be influenced by the nature of the fluid, its viscosity, the flow rate, the type of contaminant and the temperature. The absolute ratings given above represent the diameter of the largest hard spherical particle that will pass through the filter under normal operating conditions. Contact Pall for a complete description of Pall’s test procedures.

The DOP test measures the ability of the filter to capture fine droplets in air or gas. The retentions given above represent the removal efficiencies with respect to an aerosol dispersion of 0.3 µm Dioctyl Phthalate (DOP) particles.

**Part Numbers/Ordering Information**

DFN - (e.g., DFN 0.2–10UN–M3B–BLK)

<table>
<thead>
<tr>
<th>Code</th>
<th>Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td>Polypropylene</td>
</tr>
<tr>
<td>0.45</td>
<td>304 Stainless Steel</td>
</tr>
</tbody>
</table>

**Core Materials**

- U: Polypropylene
- A: 304 Stainless Steel

**Gasket/O-ring Materials**

- S: Silicone
- N: Buna N
- E: Nordel
- V: Viton A
- T: FEP Encapsulated Silicone (O-rings)
- M: White Silicone
- W: White Buna N (gaskets)
- X: No O-ring required (M2 style only)
- T: Expanded PTFE (gaskets)

**Code**

- 0.2: 0.2 µm
- 0.45: 0.45 µm
- 1: 1 µm
- 3: 3 µm
- 10: 10 µm
- 30: 30 µm
- 50: 50 µm

**Cartridge Lengths (nominal)**

- 4: 4"
- 9.75: 9.75"
- 10: 10"
- 19.5: 19.5"
- 20: 20"
- 29.25: 29.25"
- 30: 30"
- 39: 39"
- 40: 40"

**End Configurations**

- Blank: DOE with elastomer gasket seals & end caps
- 1X: DOE, 1" (2.54 cm) extended core
- M2: SOE flat closed end, fits housings with 020 O-ring post (polypropylene hardware only)
- M3: SOE flat closed end, external 222 O-rings (retrofits other manufacturers’ Code 0)
- M5: DOE internal 120 O-rings (retrofits other manufacturers’ Code 6)
- M6: SOE flat closed end, external 226 O-rings (retrofits other manufacturers’ Code 7)
- M7: SOE fin end, external 226 O-rings (retrofits other manufacturers’ Code 5)
- M8: SOE fin end, external 220 O-rings (retrofits other manufacturers’ Code 7)
- M10: DOE, internal O-rings (fits other manufacturers’ housings)
- M11: SOE flat closed end, internal 120 O-ring (retrofits other manufacturers’ X style)

**Code**

- Blank: DOE with elastomer gasket seals & end caps
- 1X: DOE, 1" (2.54 cm) extended core
- M2: SOE flat closed end, fits housings with 020 O-ring post (polypropylene hardware only)
- M3: SOE flat closed end, external 222 O-rings (retrofits other manufacturers’ Code 0)
- M5: DOE internal 120 O-rings (retrofits other manufacturers’ Code 6)
- M6: SOE flat closed end, external 226 O-rings (retrofits other manufacturers’ Code 7)
- M7: SOE fin end, external 226 O-rings (retrofits other manufacturers’ Code 5)
- M8: SOE fin end, external 220 O-rings (retrofits other manufacturers’ Code 7)
- M10: DOE, internal O-rings (fits other manufacturers’ housings)
- M11: SOE flat closed end, internal 120 O-ring (retrofits other manufacturers’ X style)

**Code**

- Blank: Sample Bubble Tested
- B: 100% Bubble Test

**Packaging**

- Blank: Standard Packaging
- -BLK: Bulk Packaging

**Typical Flow vs. Differential Pressure for Application Sizing**

Flow rate is per 10" (25.4 cm) cartridge. For liquids other than water, multiply differential pressure by fluid viscosity (cP).

Pall Corporation has offices and plants throughout the world in locations including: Argentina, Australia, Austria, Belgium, Brazil, Canada, China, France, Germany, India, Indonesia, Ireland, Italy, Japan, Korea, Malaysia, Mexico, the Netherlands, New Zealand, Norway, Poland, Puerto Rico, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, United Kingdom, United States, and Venezuela. Distributors are located in all major industrial areas of the world.

Lenntech info@lenntech.com www.lenntech.com Tel. +31-15-261.09.00 Fax. +31-15-261.62.89

Lenntech

© Copyright 2005, Pall Corporation. Pall, Duo-Fine and Duo-Fine are trademarks of Pall Corporation. © Indicates a Pall trademark registered in the USA. Filtration. Separation. Solution.® is a service mark of Pall Corporation.