FPVWL Filters provide a broad range of single layer, hydrophilic, high capacity polyvinylidene fluoride (PVDF) cartridge and capsule filters used for the bacteria control and clarification/prefiltration in aqueous liquids. Pore sizes range from 0.22 to 1.0 µm and the filter devices scale from laboratory to full production using identical materials to ensure consistent results.

The hydrophilic PVDF filters are ideal for filtering aggressive aqueous solutions for bacteria/bioburden control applications. FPVWL filters deliver high flow and throughput with the broad chemical compatibility of a fluoropolymer.

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.

PVDF is the recommended media for bioburden control in:
- Wine
- Beer
- Clear Juices
- Bottled Water
- Aseptically Packaged Liquids

Bioburden Control
Clarification & Prefiltration

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)
Critical Process Filtration, Inc.

Maximum Operating Parameters

<table>
<thead>
<tr>
<th></th>
<th>CARTRIDGES</th>
<th>CAPSULES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid Operational Pressure</td>
<td>N/A</td>
<td>80 psi at 68 °F (5.52 bar at 20 °C)</td>
</tr>
<tr>
<td>Gases Operational Pressure</td>
<td>N/A</td>
<td>60 psi at 68 °F (4.14 bar at 20 °C)</td>
</tr>
<tr>
<td>Operating Temperature (water)</td>
<td>180 °F at 30 psid (82 °C at 2.07 bar)</td>
<td>110 °F at 30 psid (43 °C at 2.07 bar)</td>
</tr>
<tr>
<td>Forward Differential Pressure</td>
<td>80 psid at 68 °F (5.52 bar at 20 °C)</td>
<td>Liquid - 80 psid at 68 °F (5.52 bar at 20 °C)</td>
</tr>
<tr>
<td>Reverse Differential Pressure</td>
<td>50 psid at 68 °F (3.45 bar at 20 °C)</td>
<td>50 psid at 68 °F (3.45 bar at 20 °C)</td>
</tr>
<tr>
<td>Recommended Changeout Pressure</td>
<td>35 psid (2.41 bard)</td>
<td>35 psid (2.41 bard)</td>
</tr>
</tbody>
</table>

Sanitization & Sterilization

<table>
<thead>
<tr>
<th></th>
<th>CARTRIDGES</th>
<th>CAPSULES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Filtered Hot Water*</td>
<td>90 °C (194 °F), 30 minutes, multiple cycles, max 3 psid forward flow</td>
<td>N/A</td>
</tr>
<tr>
<td>Inline Steam*</td>
<td>275 °F (135 °C), 30 min, 25+ cycles</td>
<td>N/A</td>
</tr>
<tr>
<td>Autoclave*</td>
<td>250 °F (121 °C), 30 min, 25+ cycles</td>
<td>250 °F (121 °C), 30 min, 5+ cycles</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th></th>
<th>CAPSULES</th>
<th>CARTRIDGES AND CAPSULES</th>
<th>CARTRIDGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>2”</td>
<td>5”</td>
<td>10”</td>
</tr>
<tr>
<td></td>
<td>5.08cm</td>
<td>12.7cm</td>
<td>25.4cm</td>
</tr>
<tr>
<td>Area</td>
<td>1.0 ft²</td>
<td>2.8 ft²</td>
<td>6.0 ft²</td>
</tr>
<tr>
<td></td>
<td>0.09m²</td>
<td>0.26m²</td>
<td>0.56m²</td>
</tr>
</tbody>
</table>

Construction Materials

<table>
<thead>
<tr>
<th></th>
<th>Hydrophilic High Capacity Polyvinylidene Flouride (PVDF) Membrane with polyester support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media Support</td>
<td>Polypropylene</td>
</tr>
<tr>
<td>End Caps, Center Core, Outer Support Cage, Capsule Housing</td>
<td>Polypropylene</td>
</tr>
<tr>
<td>Sealing Method</td>
<td>Thermal Bonding</td>
</tr>
<tr>
<td>O-Rings/Gaskets</td>
<td>Buna, Viton® (or FKM), EPDM, Silicone, FEP Encapsulated Silicone, FEP Encapsulated Viton (or FKM)</td>
</tr>
</tbody>
</table>

Extractables

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

Non-Fiber Releasing

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

FDA and EC 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. All materials used to make the filters are listed in European Commission Regulation EU/10/2011, Annex 1.
Flow rates for Cartridge filters are per 10-inch length. The test fluid is water at ambient temperature.

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.
FPVWL 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

FPVWL

Pore Size Code
-20 = 0.22 μm
-40 = 0.45 μm
-60 = 0.65 μm
-80 = 0.80 μm
1-0 = 1.0 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
2 = 2-222 O-ring/Plug
4 = 213/119 Internal O-ring/Plug
5 = 2-222 O-ring/Flat
6 = 2-226 O-ring/Flat
8 = 2-222 O-ring/Spear
9 = 2-226 O-ring/Spear

*Additional end configurations available

Capsule Filters

CP

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

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

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

Side Vent Options
1 = Luer Lock
2 = Bleed Valve
O-Rings (Bleed Valves Only)
S = Silicone
E = EP
V = Viton
B = Buna
K = FFKM

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

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Data Sheet FPVWLDS Rev C