FCWPS cartridge and capsule filters are constructed with proprietary high capacity Polyethersulfone (PES) membranes, available in single or dual layers. Designed to comply with all FDA requirements for the food industry, they are used for reducing particles in critical clarification and filling processes found in beer, wine, water and juice production. Pore sizes range from 0.1 to 1.0 µm and filter sizes scale from laboratory to full production using identical materials to ensure consistent results.

Critical Process' FCWPS filters are hydrophilic and deliver high flow and throughput. Their low binding characteristics make them highly efficient, which is critical to protecting downstream filters from prefouling and extending the life of final filters.

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.

FCWPS filters are recommended for the filtration of:
- Wine
- Beer
- Clear Juices
- Bottled Water
- Process Water
- Clean-in-Place Solutions

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)
Maximum Operating Parameters

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

Sanitization & Sterilization

<table>
<thead>
<tr>
<th></th>
<th>CARTRIDGES</th>
<th>CARTRIDGES AND CAPSULES</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>
<td></td>
</tr>
<tr>
<td>Inline Steam*</td>
<td>275 °F (135 °C), 30 min, 25+ cycles</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Autoclave*</td>
<td>250 °F (121 °C), 30 min, 25+ cycles</td>
<td>250 °F (121 °C), 30 min, 25+ cycles</td>
<td></td>
</tr>
<tr>
<td>Chemical Sanitization</td>
<td>Performed using industry standard concentrations of hydrogen peroxide, peracetic acid, sodium hypochlorite and other selected chemicals.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Cartridge Filters – For all elevated temperature procedures above, a stainless-steel support ring is required.

Filtration Area (Nominal)

<table>
<thead>
<tr>
<th>Length</th>
<th>CAPSULES</th>
<th>CARTRIDGES AND CAPSULES</th>
<th>CARTRIDGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2”</td>
<td>5.08cm</td>
<td>12.7cm</td>
<td>25.4cm</td>
</tr>
<tr>
<td>5”</td>
<td>3.1 ft²</td>
<td>6.7 ft²</td>
<td>13.4 ft²</td>
</tr>
<tr>
<td>10”</td>
<td>0.11m²</td>
<td>0.29m²</td>
<td>0.62m²</td>
</tr>
<tr>
<td>20”</td>
<td>0.9 ft²</td>
<td>2.5 ft²</td>
<td>5.3 ft²</td>
</tr>
<tr>
<td>30”</td>
<td>0.08m²</td>
<td>0.23m²</td>
<td>0.49m²</td>
</tr>
<tr>
<td>40”</td>
<td>0.07m²</td>
<td>0.22m²</td>
<td>0.46m²</td>
</tr>
</tbody>
</table>

Extractables
FCWPS filters typically exhibit low levels of non-volatile residues.

Non-Fiber Releasing
FCWPS 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.

Construction Materials

<table>
<thead>
<tr>
<th>Filtration Media</th>
<th>Single or Dual Layer High Capacity PES 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>

Cartridges only
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.
FCWPS 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

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### Cartridge Filters

**Prefilter**

- **Pore Size Code**
  - Blank = no prefilter
  - -20 = 0.2 μm
  - -50 = 0.5 μm
  - -80 = 0.8 μm
  - 1-0 = 1.0 μm

**Final Layer**

- **Pore Size Code**
  - -10 = 0.1 μm
  - -20 = 0.2 μm
  - -50 = 0.5 μm
  - -80 = 0.8 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

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### Capsule Filters

**Prefilter**

- **Pore Size Code**
  - Blank = no prefilter
  - -20 = 0.2 μm
  - -50 = 0.5 μm
  - -80 = 0.8 μm
  - 1-0 = 1.0 μm

**Final Layer**

- **Pore Size Code**
  - -10 = 0.1 μm
  - -20 = 0.2 μm
  - -50 = 0.5 μm
  - -80 = 0.8 μm
  - 1-0 = 1.0 μm

**Pre-Sterilized or Not**

- **Pre-Sterilized**
- **Not Sterilized**

**Length**

- A = 2”
- B = 5”
- 1 = 10”
- 2 = 20”
- 3 = 30”

**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**

**End Cap Code**

- **1 = Luer Lock**
- **2 = Bleed Valve**

**O-Rings (Bleed Valve Only)**

- **S = Silicone**
- **E = EP**
- **V = Viton (or FKM)**
- **B = Buna**
- **K = FFKM**

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

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