The hydrophobic, liquid-rated sterilizing grade Ultradyne® TTM0.2 PTFE filter cartridge includes an upstream prefiltration layer of PP and provides the added benefit of certification that meets the critical demands of the pharmaceutical, biotechnology and related industries.

**Materials of Construction**
All components of the Ultradyne® filter cartridge are either animal free or in compliance with EMEA/410/01 Rev. 3 (EDQM 5.2.8 07/2011:50208), and US Code of Federal Regulations 9 CFR 94.18 and 21 CFR 189.5. These materials are listed for food contact use in the Code of Federal Regulations (CFR), Title 21, as below:

- **Prefilter media:** Polypropylene CFR Title 21, 177.1520
- **Membrane:** Polytetrafluoroethylene CFR Title 21, 177.1550
- **Upstream support:** Polypropylene CFR Title 21, 177.1520
- **Downstream support:** Polypropylene CFR Title 21, 177.1520
- **Outer guard:** Polypropylene CFR Title 21, 177.1520
- **Core:** Polypropylene CFR Title 21, 177.1520
- **End caps:** Polypropylene CFR Title 21, 177.1520
- **O-rings:** Typically Silicone CFR Title 21, 177.2600
- **Sealing method:** Thermal bonding

**Pore Size**
0.2 μm

**Minimum Bubble Point**
16 psi (1,1 bar), 60% IPA / 40% water, air
16 psi (1,1 bar), 70% IPA / 30% water, nitrogen

**Maximum Diffusion Rate**
10 mL/min at 10 psig (0,7 bar), 60% IPA, per 10” (25 cm)

**Operating Characteristics**

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Pressure</th>
<th>Flow Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 °F @ 80 psid</td>
<td>150 °F @ 60 psid</td>
<td>180 °F @ 30 psid</td>
</tr>
<tr>
<td>(38 °C @ Δp 5,5 bar)</td>
<td>(66 °C @ Δp 4,1 bar)</td>
<td>(82 °C @ Δp 2,1 bar)</td>
</tr>
</tbody>
</table>

**Bacterial Retention**
>10⁷ per cm² removal of *Brevundimonas diminuta* per ASTM F838-05

**Sterilization**
- Autoclave: 121 to 135 °C (15 to 30 psi, 1 to 2 bar), 30 to 60 min, ≥ 3 cycles
- Steam in place: 121 to 135 °C (15 to 30 psi, 1 to 2 bar), 30 to 60 min, ≥ 3 cycles

**Biological Safety**
Ultradyne® filters meet the requirements as specified in the current USP Class VI plastics, cytotoxicity, and pyrogenicity tests. No binders, adhesives or surfactants are used in the construction of Ultradyne® filters. Filters comply with Commission Regulation (EU) No 10/2011.

**Quality Assurance**
Each Ultradyne® TTM0.2 filter is supplied with a Certificate of Quality verifying the high standards and superior performance of the product. Ultradyne® filters comply with the Food and Drug Administration Code of Federal Regulations, Title 21, Parts 210 and 211. Product is manufactured and packaged in a cleanroom facility that, through voluntary compliance, meets or exceeds FDA Good Manufacturing Practice Standards. To ensure product reliability, Meissner’s Quality Assurance staff continually audits the manufacturing process for conformance to its Quality Management System. Each Ultradyne® filter is integrity tested during manufacture and is clearly marked with filter type and lot number.
### Ordering Guide

<table>
<thead>
<tr>
<th>TTM</th>
<th>0.2</th>
<th>1</th>
<th>C2</th>
<th>R</th>
<th>S</th>
</tr>
</thead>
</table>

**O-ring Seal Material**
- B: Buna
- E: EPR
- S: Silicone
- T: Teflon® over Silicone
- V: Viton®
- X: Teflon® over Viton®

**Reinforcement Ring Option**
- (blank): Standard, no reinforcement ring
- R: Reinforcement ring required for autoclave/SIP applications

**Cartridge Configuration**
- C2: SOE, 222 O-rings, button cap end
- C6: SOE, 226 O-rings, button cap end
- F2: SOE, 222 O-rings, fin end
- F6: SOE, 226 O-rings, fin end

* See Green Docs for other configurations

**Cartridge Length**

<table>
<thead>
<tr>
<th>Cartridge Length</th>
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<tbody>
<tr>
<td>1</td>
</tr>
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</table>

**Product**

<table>
<thead>
<tr>
<th>Product</th>
<th>Filter Grade</th>
<th>Retention Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultradyne® hydrophobic PTFE membrane</td>
<td>TTM</td>
<td>0.2</td>
</tr>
</tbody>
</table>


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