Ultradyne®

1.0 μm TM-grade Small Filter Cartridge (L Model)

Description
The Ultradyne® TM1.0 small filter cartridge is a hydrophobic PTFE membrane filter offering maximum chemical compatibility with minimal extractables in a wide range of fluids and applications. The filter is optimized for controlling contaminants in demanding applications and provides reliable removal of particles from aggressive liquids, including strong acids and bases, and organic solvents.

Materials of Construction
All components of the Ultradyne® filter cartridge are either animal component free or in compliance with EMEA/410/01 Rev. 3 (EDQM 5.2.807/2011:50208), 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:

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
<th>CFR Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membrane</td>
<td>Polytetrafluoroethylene (PTFE)</td>
<td>21, 177.1550</td>
</tr>
<tr>
<td>Upstream support</td>
<td>Polypropylene</td>
<td>21, 177.1520</td>
</tr>
<tr>
<td>Downstream support</td>
<td>Polypropylene</td>
<td>21, 177.1520</td>
</tr>
<tr>
<td>Outer guard</td>
<td>Polypropylene</td>
<td>21, 177.1520</td>
</tr>
<tr>
<td>Core</td>
<td>Polypropylene</td>
<td>21, 177.1520</td>
</tr>
<tr>
<td>End caps</td>
<td>Polypropylene</td>
<td>21, 177.1520</td>
</tr>
<tr>
<td>O-rings</td>
<td>Typically Silicone</td>
<td>21, 177.2600</td>
</tr>
<tr>
<td>Sealing method</td>
<td>Thermal bonding</td>
<td></td>
</tr>
</tbody>
</table>

Pore Size
1.0 μm

Minimum Bubble Point
4 psi (0.27 bar), 60% IPA/40% water

Typical Air Flow
53.8 scfm/psid per 5” (66.3 Nm³ h⁻¹ at Δp 50 mbar per 13 cm)

Typical Water Flow
0.19 psid/gpm per 5” (2.89 L/min at Δp 10 mbar per 13 cm)

Operating Characteristics
Operating temperature range: 32 °F to 100 °F (0 °C to 38 °C)
Maximum temperature rating: 180 °F @ 30 psid (82 °C @ 2.1 bar)
Maximum operating pressure: 80 psid @ 100 °F (5.5 bar @ 38 °C)
Maximum reverse pressure: 15 psid @ 100 °F (1.0 bar @ 38 °C)

Sterilization
Autoclave: 121°C to 135 °C (15 to 30 psi, 1 to 2 bar), 30 to 60 minutes, ≥ 3 cycles.
Steam-in-place (SIP): 121 °C to 135 °C (15 to 30 psi, 1 to 2 bar), 30 to 60 minutes, ≥ 3 cycles.
Irradiation is not recommended.

Biological Safety
Ultradyne® filters meet the requirements as specified in the current USP <88> Class VI plastics, <87> cytotoxicity and pyrogenicity tests. No binders, adhesives, or surfactants are used in its construction. Filters comply with Commission Regulation (EU) No 10/2011.

Quality Assurance
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 clearly marked with filter type and lot number.
Ordering Guide

Model
Small Flow Element (SFE) L

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 only for the 222 and 226 adapter when autoclaving or steam sterilizing

Cartridge Configuration
- P: SOE, internal 116 O-ring, button cap end
- 2: SOE, 222 O-rings, button cap end
- 6: SOE, 226 O-rings, button cap end
- SK: SOE, Skirt-flange adapter (reinforcement or O-ring not required)
- L: 116 O-ring with Mini Lock

Cartridge Length
- 2: 2.5" (7 cm)
- 5: 5.0" (13 cm)

Product | Grade | Pore Size
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Ultradyne® hydrophobic PTFE membrane | TM | 1.0 µm

Additional information about this filter product is available in the Ultradyn Green Docs document at www.meissner.com/green-docs.

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