Description
The MF grade ALpHA® filter cartridge is manufactured using high quality components that are nontoxic and biologically inert.

Materials of Construction
All components of the ALpHA® 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:

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
<th>CFR Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media</td>
<td>Polypropylene</td>
<td>21, 177.1520</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>

Particle Ratings (Absolute) 10 µm

Typical Water Flow Rate 0.03 psi / gpm per 10" module (18.3 Lmin⁻¹ @ Δp 10 mbar)

Operating Characteristics
Operating temperature range: 32 °F to 180 °F (0 °C to 82 °C)
Maximum temperature rating: 180 °F @ 30 psid (82 °C @ Δp 2,1 bar)
Maximum operating pressure: 80 psid @ 100 °F (5,5 bar @ 38 °C)

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

Biological Safety
ALpHA® filters meet the requirements as specified in the current USP Class VI plastics, physicochemical, oxidizable substances, and cytotoxicity tests. Bacterial endotoxin levels in aqueous extracts of ALpHA® filters are less than 0.25 EU/mL, as determined using the Limulus amebocyte lysate (LAL) test. No binders, adhesives or surfactants are used in the construction of ALpHA® filters. Filters comply with Commission Regulation (EU) No 10/2011.

Quality Assurance
ALpHA® 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 ALpHA® filter is clearly marked with filter type and lot number.
### Ordering Guide

**Product**
- ALpHA® polypropylene microfiber media

**Filter Grade**
- MF

**Retention Rating**
- 10

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**O-ring Seal Material**
- B: Buna
- E: EPR
- P: Polyethylene (gasket only)
- 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**
- C1: SOE; -222 nO-Ring®, button cap end
- C2: SOE; -222 O-rings, button cap end
- C5: SOE; -226 nO-Ring®, button cap
- C6: SOE; -226 O-rings, button cap end
- F1: SOE; -222 nO-Ring®, fin end
- F2: SOE; -222 O-rings, fin end
- F5: SOE; -226 nO-Ring®, fin end
- F6: SOE; -226 O-rings, fin end
- GL: DOE; flat gaskets (20", 30", 40" length filters)
- GS: DOE; flat gaskets (9.75", 19.5", 29.25", 39" length filters)

**Cartridge Length**

<table>
<thead>
<tr>
<th>Cartridge Length</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cartridge Length</td>
<td>10&quot;</td>
<td>20&quot;</td>
<td>30&quot;</td>
<td>40&quot;</td>
<td>50&quot;</td>
</tr>
</tbody>
</table>

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*Additional information about ALpHA® filter products is available in the Green Docs document which is viewable at [https://www.meissner.com/downloads/alpha-gd008-2.1.pdf](https://www.meissner.com/downloads/alpha-gd008-2.1.pdf)*

*ALpHA is a registered trademark of Meissner Filtration Products.*