**Specifications**

**Absolute Micron Rating**
- 0.05, 0.1, 0.2, 0.45, 0.7 and 1.0 micron

**Filtration Area**
- 10" Filter Cartridge
  - 0.05, 0.1 & 0.2 um: 1 m² (10.8 ft²)
  - 0.45 um: 0.85 m² (9.2 ft²)
  - 0.7 & 1.0 um: 0.7 m² (7.6 ft²)

Note: For double layer of 0.05, 0.1, 0.2 & 0.45 micron, filtration area: 0.7 m² (7.6 ft²)

**Nominal Length**
- 125, 250, 500, 750, 1000 mm or 127, 254, 508, 762, 1016 mm

**Nominal Inner/Outer Diameter (ID/OD)**
- Standard: 30/68 mm or BB: 28/114 mm

Note: 28mm inner diameter is available upon request.

**Media Material**
1. HB: Hydrophobic Expanded PTFE membrane (For gases applications)
2. HL: Hydrophilic Expanded PTFE membrane (For liquid applications)

**Supporting Material**
- Pure Polypropylene & Polyethylene Microfiber or PTFE

**Inner Core, Cage and End Adaptor Material**
1. Standard: High Strength Pure Polypropylene
2. RPG: Reinforced Polypropylene With Glass
3. HPE: High Density Polyethylene
4. PTFE: PTFE

**Sealing Technique**
- Thermal Bonding

**End Style**
1. DOE: Double Opened End
2. SOE: Single Opened End
3. S2C: SOE, 222 O-Ring With Closed End
4. S2F: SOE, 222 O-Ring With Finned End
5. S6C: SOE, 226 O-Ring With Closed End
6. S6F: SOE, 226 O-Ring With Finned End

Note: Extended adaptor for SOE filter cartridge is available upon request.

**Gasket and O-Ring Material**
1. Standard: EPDM
2. V: Viton
3. S: Silicone
4. T: Teflon
5. FEP: Teflon Encapsulated Viton

**Operating Conditions**

**Max. Forward Differential Pressure**
- 2.1 Bar (30 PSI) at 95°C, 4.8 Bar (70 PSI) at 25°C

**Max. Reverse Differential Pressure**
- 3.4 Bar (50 PSI) at 25°C

**Max. Operating Temperature**
- 90°C at 2.1 Bar (30 PSI)

**Change Out Differential Pressure**
- 2.4 Bar (35 PSID)

---

**Descriptions**

PTFE membrane cartridge filters are made of GORETEX® expanded Polytetrafluoro-Ethylene (ePTFE) media manufactured by DUPONT and supported with 100% pure Polypropylene material parts.

Inert Teflon and PP construction provides excellent chemical compatibility.

Expanded hydrophobic with high void volume properties of PTFE provides superior flow rate, low pressure drops and great retention capability. Make it the ideal choice for broad range of liquid and bulk air filtrations.

All parts are thermally welded without surfactants, additives and binders eliminate extractable.

3-Dimensional bonded continuous fibrils provide fixed pore structure. Eliminates shedding and particles unloading.

Excellent retention capability of micro-fine particles and bacteria (In specific pore sizes).

100% integrity tested to ensure product consistency.

PTFE is pre-rinsed with 18MΩ-cm D.I. water (Optional).

Available in a wide range of absolute pore size of 0.05, 0.1, 0.2, 0.45, 0.7 and 1 micron

Manufacture in Class 10K clean room environment minimizes contamination.

Comply with FDA Code Of Federal Regulation Title 21 for food and beverage use.

Meet USP Class VI-121°C Plastic reactivity test for Biosafety.

Removal rating of >99.9999% at 0.03 um particles.

A guaranteed quality product (ISO 9001 certified).

Cartridges will be rinsed-up to 18 MΩ-cm D.I. water with a
**STERILIZATION AND SANITIZATION METHODS**

**Chemicals**
Peracetic acid, chlorinated alkaline products, bleach, sulfur dioxide (SO₂) and hydrogen peroxide at typical sanitization temperatures and concentrations.

**Autoclave**
125 °C (257°F) for 30-45 minutes at maximum differential pressure of 7 PSI (0.5 Bar).

**In-line Stream**
140 °C (284°F) for 45-60 minutes at 2 PSID (0.14 Bar) ΔP.

**Hot Water**
88 °C (190°F) at 5 PSI (0.3 Bar) up to 50 minutes.

*KAREI-PTFE* can be subjected to multiple sterilization cycles while maintain its integrity.

**TYPICAL APPLICATIONS**

<table>
<thead>
<tr>
<th>Chemicals Industries</th>
<th>Process Gases</th>
<th>Food &amp; Beverage Industries</th>
<th>Pharmaceutical Industries</th>
</tr>
</thead>
</table>

**INTEGRITY TEST – MINIMUM BUBBLE POINT (IPA)**

<table>
<thead>
<tr>
<th>Micron</th>
<th>BAR</th>
<th>PSIG</th>
<th>Log Retention Value Of Bacteria</th>
<th>Bacteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05</td>
<td>&gt;2.4</td>
<td>&gt;35</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>0.1</td>
<td>&gt;1.7</td>
<td>&gt;25</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>0.2</td>
<td>&gt;1.4</td>
<td>&gt;20</td>
<td>≥7</td>
<td>Brevundimonas Diminuta</td>
</tr>
<tr>
<td>0.45</td>
<td>&gt;0.6</td>
<td>&gt;9</td>
<td>≥7</td>
<td>Serratia Marcescens</td>
</tr>
<tr>
<td>0.7</td>
<td>&gt;0.4</td>
<td>&gt;6</td>
<td>≥7</td>
<td>Sacch. Cerevisiae</td>
</tr>
<tr>
<td>1.2</td>
<td>&gt;0.3</td>
<td>&gt;5.5</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### CHEMICAL COMPATIBILITY GUIDE

#### Acids
- Acetic Acid, Glacial
- Acetic Acid, 90%
- Acetic Acid, 30%
- Boric Acid
- Hydrochloric Acid, Conc.
- Hydrochloric Acid, 6N
- Hydrofluoric Acid, 6N
- Nitric Acid, Conc.
- Phosphoric Acid, Conc.
- Sulfuric Acid, Conc.
- Sulfuric Acid, 6N.

#### Bases
- Ammonium Hydroxide, 3N.
- Ammonium Hydroxide, 6N.
- Potassium Hydroxide, 3N.
- Sodium Hydroxide, 3N.
- Sodium Hydroxide, 6N.
- Ammonium Hydroxide, 3N.

#### Alcohols
- Amyl
- Benzyl
- Butyl
- Ethyl
- Isopropyl
- Methyl
- Amyl Acetate
- Butyl Acetate
- Cellulose Acetate
- Ethyl Acetate
- Isopropyl Acetate
- Methyl Acetate
- Diethyl Ether
- Dipropyl Ether
- Dioxane
- Tetrahydrofuran

#### Esters
- Methyl Acetate
- Diethyl Ether
- Dipropyl Ether
- Dioxane

#### Ethers
- Tetrahydrofuran

#### Glycol
- Ethylene Glycol
- Glycerine
- Propylene Glycol

#### Hydrocarbons
- Benzene
- Toluene
- Xylene
- Carbon Tetrachloride
- Chloroform
- Freon TF
- Methylene Chlorine
- Tetrachloroethylene (Perchloroethylene)
- Trichloroethylene

#### Ketones
- Acetone
- Cyclohexanone
- Methyl Ethyl Ketone
- Methyl Isobutyl Ketone
- Lubrication Oil
- Cottonseed Oil
- Peanut Oil
- Sesame oil
- White Petroleum
- Lanolin

#### Oils
- Dimethyl Formamide
- Dimethyl Sulfoxide
- Formaldehyde
- Gasoline
- Phenol Liquid
- Pyridine
- Turpentine
- Nickel Sulfate
- Pentane
- Helium
- Hydrogen
- Ozone
- Methane
- Nitrogen

#### Gases
- Methane
- Ozone
- Nitrogen

<table>
<thead>
<tr>
<th>R –Recommended</th>
<th>LR –Limited Recommended</th>
<th>NR –Not Recommended</th>
</tr>
</thead>
</table>

This chemical compatibility table is intended for use as a guide only. Recommendations are based upon static condition of 48 hours at 25°C and 1.0 atmosphere pressure.

### ORDERING GUIDE: KAREI-PTFE-(A)-(B)-(C)-(D)-(E)-(F)

<table>
<thead>
<tr>
<th>(A)</th>
<th>MICRON</th>
<th>005=0.05, 01=0.1, 02=0.2, 04=0.45, 07=0.7, 1=1 um</th>
</tr>
</thead>
<tbody>
<tr>
<td>(B)</td>
<td>TYPE</td>
<td>HB=Hydrophobic membrane, HL=Hydrophilic membrane</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HLA=ALL PTFE Filter Cartridge</td>
</tr>
<tr>
<td>(C)</td>
<td>LENGTH</td>
<td>125, 250, 500, 750, 1000 or 127, 254, 508, 762, 1016 mm</td>
</tr>
<tr>
<td>(D)</td>
<td>END STYLE</td>
<td>None=Double Opened End (DOE)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S2C=222 &amp; Closed End, S2F=222 &amp; Finned End, S6C=226 &amp; Closed End, S6F=226 &amp; Finned End</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note: For SOE with extended adaptor, please include the code of ‘EX’.</td>
</tr>
<tr>
<td>(E)</td>
<td>GASKET/</td>
<td>None=EPDM, V=Viton, S=Silicone, T=Teflon, FEP=Teflon Encapsulated Viton</td>
</tr>
<tr>
<td>O-RING MATERIAL</td>
<td>Note: For SOE with stainless steel reinforcement ring, please include the code of ‘R’.</td>
<td></td>
</tr>
<tr>
<td>(F)</td>
<td>PARTS MATERIAL</td>
<td>None=Polypropylene, RPG=Reinforced PP With Glass, HPE=High Density PE</td>
</tr>
</tbody>
</table>

**EXAMPLE:**
1) KAREI-PTFE-01HB-250-DOE (PTFE, 0.1 um, Hydrophobic PTFE, 250mm, DOE, EPDM Gasket, P.P. parts material)
2) KAREI-PTFE-02HLA-508-S2C (PTFE, 0.2 um, ALL PTFE filter cartridge, 508mm, SOE, 222 Teflon O-Ring, Closed end)
3) KAREI-PTFE-01HL-250-S2C-EX-VR-RPG (PTFE, 0.1 um, Hydrophilic PTFE for liquid application, 250mm, SOE, 222 Viton O-Ring with extended adaptor and stainless steel reinforcement ring, Closed end, Reinforced P.P. with glass parts material)

**Note:** We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for results obtained by the applications. Users are advised to make their own testing under actual condition to determine the safety and suitability of each product or product combination for their own purposes and applications. Buyers and users assume all responsibility for liability performance or damage. We reserve the entire right to modify the information without prior notice due to continuous R & D.