The KRISTAL K600 hollow fiber ultrafiltration (UF) membranes are constructed of specially formulated hydrophilic polyethersulfone materials to provide outstanding flux rates with consistent and reliable filtration. The KRISTAL K600 membrane is manufactured using a proprietary process to produce a unique asymmetrical pore structure to provide enhanced filtration and withstand backwashing for prolonged service life. Each module is integrity tested at the factory to ensure filtration performance at system startup.

**High Flux Rate and Consistent, Reliable Filtration**

With KRISTAL K600, you’ll benefit from a robust membrane that delivers better permeate quality, higher permeate flux and throughput, and greater system recovery. The low pressure membrane operates with minimal attention, yet meets the strictest permeate quality requirements. Its simple, compact module design offers more membrane area per unit volume in a smaller footprint to lower your capital and installation costs.

**Global Experience**

KRISTAL K600 membranes are ideal for a wide range of applications including municipal water and wastewater, RO pretreatment and industrial wastewater. With numerous successful installations worldwide, you can count on KRISTAL K600 membranes to provide cost-effective solutions for your ultrafiltration needs.

**Applications**

**RO Pretreatment Filtration**
- Seawater desalination pretreatment
- RO and NF pretreatment for UPW streams

**Industrial Wastewater**
- Recycle industrial process wastewater
- Zero discharge of process waste streams

**Municipal Water & Wastewater**
- Removal of turbidity, bacteria, viruses and cysts
- Reduction of iron, manganese, organics and color
- Reclamation of wastewater

**Water Purification**
- Mobile water purification systems
**KRISTAL K600 Polyethersulfone Hollow Fiber Membranes**

### FEATURES

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethersulfone Ultrafiltration Membrane</td>
<td>Provides high flux, high permeate quality, excellent chemical compatibility and reliability</td>
</tr>
<tr>
<td>Circular Hollow Fiber Geometry</td>
<td>Greater filtration surface area improves flux rate and reduces membrane cleaning time</td>
</tr>
<tr>
<td>High Membrane Packing Density</td>
<td>Increases membrane area per unit volume for smaller footprint to reduce capital and installation costs</td>
</tr>
<tr>
<td>Low Operating Pressures</td>
<td>Reduces life cycle costs</td>
</tr>
<tr>
<td>Effective Backwashing and Air-Scour Cleaning</td>
<td>Maintains optimal operating performance and provides effective system recovery</td>
</tr>
</tbody>
</table>

### Module Specifications

**PRODUCT SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Membrane Chemistry</th>
<th>Proprietary Polyethersulfone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow Path</td>
<td>Outside to Inside</td>
</tr>
<tr>
<td>Nominal MWCO</td>
<td>60,000 Dalton</td>
</tr>
<tr>
<td>Membrane Surface Area</td>
<td>753 ft² (70 m²)</td>
</tr>
<tr>
<td>Fiber Dimensions, O/D/ID/Wall Thickness</td>
<td>0.045&quot; (1.15mm) / 0.024&quot; (0.6mm) / 0.011&quot; (0.27mm)</td>
</tr>
<tr>
<td>Module Nominal Dimensions, Diameter x Length</td>
<td>8.5&quot; (216mm) x 84&quot; (2130mm)</td>
</tr>
<tr>
<td>Housing Construction</td>
<td>PVC</td>
</tr>
<tr>
<td>Feed and Permeate / Reject Connections</td>
<td>1.5&quot; NPT Female / 1.0&quot; NPT Female</td>
</tr>
<tr>
<td>Shipping Weight</td>
<td>121 lbs (55 kg)</td>
</tr>
</tbody>
</table>

### PERFORMANCE

- **Initial Clean Water Flow Rate**: 39.5 gpm (9 m³/h) ±10% @14.5 psi (1 bar), 77°F (25°C)
- **Typical Process Feed Flow Rate**: 26 – 35 gpm (6 – 8 m³/h)
- **Typical Permeate Flow Rate**: 18 – 31 gpm (4 – 7 m³/h)
- **Typical E. Coli Reduction**: 5 – 6 log
- **Typical Filtrate Turbidity**: ≤ 0.1 NTU
- **Typical Filtrate SDI**: < 3
- **Typical TOC Reduction**: 15 – 20%

### OPERATING PARAMETERS

- **Maximum Operating Temperature**: 104°F (40°C)
- **pH Range – Operating**: 2 – 11
- **pH Range – Cleaning**: 2 – 12
- **Maximum Feed Pressure**: 37 psig (2.5 bar)
- **Transmembrane Pressure (TMP)**: 3 – 29 psi (0.2 – 2 bar)

KRISTAL membranes are manufactured under an ISO 9001:2000 certified Quality Management System.

**For more information**

Graver Technologies Customer Service: **1-800-249-1990**

E-mail us at info@gravertech.com

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