Ceramic UF for Reclaimed Water Applications

ItN is the founder of Ceramic Flat Membrane with 18 years’ R&D experience in nano-coating technology and manufacturing ceramic membranes which provides the best filtration technology for Wastewater Reuse plants. Wastewater treatment plants are facing more and more challenges to upgrade the water quality to meet global water standards and regulations for indirect potable reuse (IPR) as aquifer recharge, non-potable reuse, like irrigation and direct potable reuse (DPR) in drought periods in water scarcity regions.

The Ceramic UF technology has plenty of advantages in Wastewater Reuse applications:

1. Effective removal of all TSS, virus, bacteria, pathogens, micro pollutants.
2. Flexible membrane tower layout, stainless steel membrane frame and pipe work, suitable for ATEX certifications.
3. Smaller footprint (Compare to Polymer UF).
4. High flux (300 – 500 LMH)
5. High recovery rate (more than 98%)
Typical Process Reclaimed Water Plant

Operation Parameters

**Membrane Material**
- Al₂O₃ Nano-coating

**Flow Path**
- Outside-in

**Temperature**
- 5-60°C

**Flux**
- 300 - 500 LMH

**Recovery Rate**
- ≥ 98%

**Cycle of Cleaning in Place (CIP)**
- 6-9 months

**Life time**
- > 20 years

**Effluent TSS, Virus, Bacteria**
- < 1 ppm

**Effluent COD, BOD**
- > 99% removal

Ceramic UF Data Sheet

<table>
<thead>
<tr>
<th>No.</th>
<th>Item</th>
<th>FCT-40-U</th>
<th>FCT-64-U</th>
<th>FC-R160-U</th>
<th>FCR-224-U</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No. of Filtration Towers</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>No. of Modules per Tower</td>
<td>10</td>
<td>16</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>Total Filtration Area [m²]</td>
<td>40</td>
<td>64</td>
<td>160</td>
<td>224</td>
</tr>
<tr>
<td>4</td>
<td>Capacity [m³/d]</td>
<td>280-430</td>
<td>460-690</td>
<td>1150-1720</td>
<td>1610-2410</td>
</tr>
<tr>
<td>5</td>
<td>Length [mm]</td>
<td>624</td>
<td>624</td>
<td>2350</td>
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<tr>
<td>6</td>
<td>Width [mm]</td>
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<td>638</td>
<td>732</td>
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<tr>
<td>7</td>
<td>Height [mm]</td>
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<td>2970</td>
<td>1910</td>
<td>2470</td>
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<tr>
<td>8</td>
<td>Total Weight [kg]</td>
<td>350</td>
<td>530</td>
<td>1750</td>
<td>2250</td>
</tr>
</tbody>
</table>

Note: ItN specialists have broad expertise and experience ranging from planning, engineering, construction, investment and operations of projects. If you need any help, please contact us.