HYDRAsub®-MBR

Membrane Bio Reactor vs Conventional Activated Sludge systems:

MBR is a hybrid wastewater treatment technology that combines biological treatment by activated sludge and physical treatment by membrane filtration. Compared to conventional activated sludge treatment, MBR and particularly HYDRAsub® produces high quality permeate water suitable for RO treatment and reduces drastically footprint by elimination of sedimentation tank and operation at higher MLSS.

Key Applications

- **Domestic waste water:**
  - Municipalities
  - Hotels, apartment complexes
  - Grey waters

- **Industrial waste water:**
  - Food and Beverage Industry - Beer, Dairy, etc.
  - Automobile Industry
  - Oil Refineries
  - Chemical Industry

Key Features

- **High operating flux** -> Minimized membrane area -> Lower CAPEX and OPEX.
- **Lower footprint** : Energy savings cage design with reduced height -> Minimized energy consumption.
- **Simple operating process**: No backwash, membrane cleaned with air scouring.
- **Durable construction**: Supported PVDF hollow fiber, highly resistant to chlorine.

HYDRAsub® product offering:

HYDRAsub® modules are comprised of PVDF hollow fiber elements, permeate adaptors, stainless steel cages (SS304 or SS316) and a unique air diffuser design. The modules are available in a wide range of sizes from 15 to 2400 m² membrane area, covering all ranges of flow.

HYDRAsub® elements can be provided in two formats:

- **HYDRAsub technology**: elements size of 25 m² using a microfiltration fiber with a pore size of 0.4 µm
- **HYDRAsubMAX technology**: elements size of 40 m² using an ultrafiltration fiber with a pore size of 0.05 µm
Module portfolio with HYDRAsub® and HYDRAsubMAX® elements:

<table>
<thead>
<tr>
<th>Module</th>
<th>Technology</th>
<th>Element</th>
<th>Membrane area (m²)</th>
<th>Module typical flow - Sewage (m³/day)</th>
<th>Module typical flow - Industrial (m³/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSM125-ES to HSM1500-ES</td>
<td>HYDRAsub®</td>
<td>HSE25</td>
<td>125 to 1500</td>
<td>90 to 1080</td>
<td>60 to 720</td>
</tr>
<tr>
<td>HSM200-ES to HSM2400-ES</td>
<td>HYDRAsubMAX®</td>
<td>HSME40</td>
<td>200 to 2400</td>
<td>150 to 1750</td>
<td>100 to 1200</td>
</tr>
</tbody>
</table>

HYDRAsub® modules are available in following sizes: HSM125-ES, HSM250-ES, HSM375-ES, HSM500-ES, HSM750-ES, HSM1000-ES and HSM1500-ES.

HYDRAsubMAX® modules are available in following sizes: HSMM200-ES, HSMM400-ES, HSMM600-ES, HSMM800-ES, HSMM1200-ES, HSMM1600-ES and HSMM2400-ES.

For containerized compact systems, Shorter elements HSE15 are available

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<th>Element</th>
<th>Membrane area (m²)</th>
<th>Typical flow - Sewage (m³/day)</th>
<th>Typical flow - Industrial (m³/day)</th>
<th>Module height (mm)</th>
<th>Module width (mm)</th>
<th>Module length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSM15-ES to HSM75-ES</td>
<td>HYDRAsub®</td>
<td>HSE15</td>
<td>15 to 75</td>
<td>10 to 55</td>
<td>5 to 40</td>
<td>1722</td>
<td>461</td>
<td>1473</td>
</tr>
</tbody>
</table>

More than 360 references along with MRC for sewage and industrial application including 45 MLD and 25 MLD plants in Singapore and Mexico.

Solutions You Need.

Technologies You Trust!

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