The efficient treatment of waste water

The circulation pump continuously feeds the waste water from the sump of the evaporator to the top of the falling-film evaporator/condenser. From there, a film of waste water flows down the tube walls and evaporates. Within the tubes, the amount of steam increases continually, thus boosting the flow speed. This turbulent flow provides optimal heat transfer and ensures the self-cleaning effect. Any waste water left flows back into the evaporator sump. Entrained water droplets and aerosols are retained before the rotary blower by a multi-stage centrifugal separator and flow back into the evaporator sump. The vapour, compressed by the rotary blower, condenses on the shell side, transferring heat to the evaporating waste water on the tubes side. The hot distillate flows through the pre-heater/heat exchanger and again heat is transferred to the inflowing waste water.

Technical features

- Very well suited for foaming waste waters
- Foam destruction due to high flow rate
- High and constant flow rate prevents deposits in the tube bundle
- Lower energy consumption due to closed heat circuit
- Interior is divided into hot and cold zones; prolonging operating life
- Effective automatic CIP provides high availability
- Compactly constructed machine with optimum accessibility
- Processing is carried out by the state-of-the-art and very user friendly PLC
- Optional with “Best Dest” technology for best quality of the distillate
- Various materials available for construction
Technical data

<table>
<thead>
<tr>
<th>Type of plant</th>
<th>P 30</th>
<th>P 40</th>
<th>P 60</th>
<th>P 80</th>
<th>P 100</th>
<th>P 120</th>
<th>P 160</th>
<th>P 200</th>
<th>P 240</th>
<th>P 300</th>
<th>P 350</th>
<th>P 400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity per year [m³]*</td>
<td>180</td>
<td>240</td>
<td>360</td>
<td>540</td>
<td>720</td>
<td>960</td>
<td>1200</td>
<td>1440</td>
<td>1800</td>
<td>2100</td>
<td>2400</td>
<td></td>
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<tr>
<td>Installed power [kW]</td>
<td>9</td>
<td>10</td>
<td>17</td>
<td>22</td>
<td>27</td>
<td>32</td>
<td>36</td>
<td>45</td>
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<tr>
<td>Weight transportation/operation approx. ca. [kg]</td>
<td>1790x920x2180</td>
<td>2160x1280x2320</td>
<td>2346x1548x2499</td>
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<td>Dimensions L x W x H [mm]</td>
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<tr>
<td>Energy consumption [kWh/m³]</td>
<td>~ 80 - 90</td>
<td>~ 75 - 85</td>
<td>~ 65 - 75</td>
<td>~ 60 - 70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>~ 55 - 65</td>
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</tbody>
</table>

* These data are based on city water and can differ due to different types of waste water.

Flow diagram

Treatment of waste water such as
- Rinse and active baths from surface treatment
- Emulsions (coolants and lubricants)
- Washing and cleaning waste waters
- Waste water with release agents
- Rinse water from crack detection systems
- Penetrants
- Galvanic waste waters

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