Energy Usage for BioCord™ versus a Competitor

Background...

A wastewater lagoon treatment plant was looking at options to upgrade the capacity of the lagoon to handle a higher flow and the growing town. After considering several options, the choice was between Bishop BioCordTM Reactors and a Competitor’s attached growth system. In the end, BioCordTM was chosen as the best option for multiple reasons, including lower capital cost as well as lower operating and maintenance costs.

<table>
<thead>
<tr>
<th>Energy Usage</th>
<th>Bishop Water</th>
<th>Competitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of units</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td>HP of each unit</td>
<td>3/4</td>
<td>50</td>
</tr>
<tr>
<td>Total HP</td>
<td>19.5</td>
<td>100</td>
</tr>
<tr>
<td>Total kW</td>
<td>14.54</td>
<td>74.57</td>
</tr>
<tr>
<td>Cost* for one year</td>
<td>$16,558.15</td>
<td>$84,920.32</td>
</tr>
</tbody>
</table>

*Cost assumes $0.13/kWh

Differences in Design...

While Bishop BioCord TM Reactors and the Competitor’s product are both attached growth systems, they are utilized very differently. While the Reactors can be placed in-situ in a lagoon, the competitor’s product needs a separate containment area that needs to be built. Bishop Water uses fine bubble aeration on all their Reactors as this ensures higher oxygen transfer efficiency. While large blowers are quite common, Bishop Water uses individual air compressors. These need less maintenance than large blowers, offer redundancy in case of mechanical problems, and use much less energy. Air compressors offer higher air pressure, which can be maintained over longer distances, while air blowers lose their pressure.