HIGH-EFFICIENCY WATER FILTRATION SYSTEMS FOR HVAC & HEAT TRANSFER SYSTEMS

HIGH EFFICIENCY CROSS-FLOW MICROSAND FILTRATION SYSTEM

VORTISAND®
Sonitec-Vortisand, the worldwide leader in cross-flow microsand filtration, is bringing forward its new generation of filters designed for higher flow applications: the H2F. Based on the original Vortisand® process, this new pressure filter is the result of an intensive R&D program combining many different fields of expertise such as fluid dynamic modeling, geological engineering and water treatment specialists. This patent pending technology is now available under different models.

**WHY CHOOSE THE H2F VORTISAND®?**

**Higher flow - Smaller footprint**

Our R&D investments have allowed us to fully benefit from the crossflow concept and optimize the media bed depth. By doing so, our engineers have been able to implement the Vortisand® process within a horizontal vessel, and provide the ultimate filter technology. The new H2F horizontal design is capable of achieving a flow of 1,200 gpm with just a 36-inch vessel offering unequalled performance and value. Indeed, with our new low profile H2F design, we are able to stack our filters reducing footprint by up to 85% compared to a typical multimedia filter without compromising the water quality.

Since the speed is 5 times faster than traditional filters at 24gpm/ft² (60m/h) while supplying a higher water quality than any other media filter - it’s now possible to achieve a surface filtration that is 5 times smaller and, as a result, a highly compact footprint is now possible for large applications. No other filter can claim to achieve this level of efficiency in such a reduced space. The H2F’s unique design opens the door to new methods that have never been possible with vertical nor horizontal pressurized filter systems. The H2F’s shallow design makes it possible to stack vessels and decrease even more the necessary footprint on applications requiring many vessels.

Furthermore, H2F uses the media more effectively than deep bed filters which are substantially heavier. Compared to MM filters the H2F weight is up to 10 times lighter.

**Lower cost of operation**

Key features of the H2F:

- Uses 50% less water during backwash compared to MM filters.
- In cooling system applications, up to 20% energy savings are generated by preventing the formation of sediment and insulating bio-film layers, leading to greater heat-exchanger efficiency.
- Significant improvement of the chemical treatment’s effectiveness, by reducing the total suspended solids (TSS) found in cooling water systems.
- Fewer vessels means fewer parts required and lower maintenance costs.

**The perfect filter for high water quality applications**

Because of its high efficiency and its optimized active microsand bed, the H2F is perfectly suited for process waters such as pre-treatment of RO membranes, water recovery, rain harvesting, irrigation, data centers, district cooling and large industrial cooling towers.

*Shown in available FRP vessel with FiberSleek™ smooth finish*
WHAT IS VORTISAND® CROSS-FLOW MICRO SAND FILTRATION TECHNOLOGY?

- Patent pending injector technology introduces water into the filter vessel that creates a cross-flow condition without disturbing the media bed.

- Water flows parallel to the top layer of microsand which allows for particles to be captured in the filter without clogging the top layer of media.

- Particles are trapped in and above the microsand and are removed using an automatic backwash cycle.

Results: Up to 5 times faster filtration and up to 50 times smaller (down to submicron) particles captured when compared to other filtration systems.

TYPICAL APPLICATIONS

Side Stream filtration with a booster pump

Side Stream filtration with existing circulating pump

Side Stream filtration of basin with recirculating pump

Systems can be designed to suit your specific application. Please contact us for more information. www.sonitec.com
H2F VORTISAND® - MODELS

<table>
<thead>
<tr>
<th>Model selected</th>
<th>Filtration flowrate (gpm, m³/h)</th>
<th>Space required (w x l x h)</th>
<th>Pump motor (hp)</th>
<th>Inlet/outlet (in/mm)</th>
<th>Drain size (in/mm)</th>
<th>Weight* (approx.) (lbs/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2F-300</td>
<td>350 / 79.5</td>
<td>5' x 9' x 6' / 1.5m x 2.7m x 1.8m</td>
<td>10</td>
<td>4&quot;/102</td>
<td>2&quot;/50</td>
<td>3,000/1360</td>
</tr>
<tr>
<td>H2F-600</td>
<td>600 / 136</td>
<td>7' x 10' x 6' / 2.1m x 3m x 1.8m</td>
<td>15</td>
<td>6&quot;/150</td>
<td>3&quot;/80</td>
<td>5,500/2500</td>
</tr>
<tr>
<td>H2F-1200</td>
<td>1200 / 272</td>
<td>6' x 21' x 6' / 1.8m x 6.4m x 1.8m</td>
<td>20</td>
<td>8&quot;/200</td>
<td>4&quot;/100</td>
<td>11,000/5000</td>
</tr>
</tbody>
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Units can be stacked for a smaller footprint. Total height when stacked: 8ft (2.4m)
A flowrate between 300 -15,000 gpm or above can be achieved with any combination of above filters. Your filtration flowrate depends on the application, please contact us for more information.

*For steel and stainless steel vessels. Lighter options available upon request