HA Series
Water Chillers

GENERAL INFORMATION

Hardface Alloys Chillers are designed for closed-loop thermal spraying and welding gun cooling applications. The chillers use a large capacity water storage tank to cool the process using an all copper heat exchanger for efficient heat transfer.

Non-corrosive, contaminate-free plumbing materials are used to guarantee minimal maintenance and long service life of internal components. They come standard with an all bronze or stainless steel pump and a large stainless steel reservoir with submerged copper coils to effectively perform the cooling function 24 hrs-a-day, 7 days-a-week.

Gun water temperature is maintained by a PLC controlled system. Desired to-process water temperature is selected via electronic remote control box with monitoring gauges indicating water pressure, to-process water temperature and from-process water temperature. In addition to safety indicators, the remote control box and main control panel feature the power on-off switches.

Our Chillers are ideal for all thermal spray and welding applications. The simple, durable, and easy to use design make them the most cost-effective solution for all your gun cooling needs on the market today.

FEATURES

- Large Stainless Steel Reservoir
- All Copper Heat Exchanger
- Over-Sized Condenser
- Electronic Remote Control with 25’ cable
- Electronic Control Panel
- Automatic Water Level Control
- TwinPak-Power Cooling
- Bronze or Stainless Steel Coolant Pump

BENEFITS

- Contaminant-Free System
- Cycle On and Off With Varied Load Demands. No Hot Gas Bypass
- Excellent Heat Transfer
- Meets National BTU Standards
- Easy To Use Controls
- Refrigeration Load is Split Between Two Independent Systems
- Corrosion Resistant Pump
### SPECIFICATIONS

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>PTA</th>
<th>PLASMA</th>
<th>PLASMA</th>
<th>HVOF</th>
<th>HVOF</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYSTEM</td>
<td>Linde &amp; Starweld</td>
<td>3M</td>
<td>ELECTROLETH 5310</td>
<td>Diamond Jet Jet-Kote Top Gun</td>
<td>SUPERCoat HVR3 P35000</td>
</tr>
<tr>
<td>CHILLER MODEL NUMBER</td>
<td>750AC</td>
<td>1001AC</td>
<td>2000AC</td>
<td>2500AC</td>
<td></td>
</tr>
<tr>
<td>CAPACITY</td>
<td>1.5 ton</td>
<td>7.5 ton</td>
<td>10 ton</td>
<td>20 ton</td>
<td>25 ton</td>
</tr>
<tr>
<td>BTU PER HOUR</td>
<td>18,000</td>
<td>90,000</td>
<td>120,000</td>
<td>240,000</td>
<td>300,000</td>
</tr>
<tr>
<td>FLUID RESERVOIR CAPACITY</td>
<td>20 gallons</td>
<td>60 gallons</td>
<td>100 gallons</td>
<td>145 gallons</td>
<td>145 gallons</td>
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<tr>
<td>WEIGHT</td>
<td>454 lbs</td>
<td>1100 lbs</td>
<td>1500 lbs</td>
<td>3000 lbs</td>
<td>3500 lbs</td>
</tr>
<tr>
<td>VOLTAGE</td>
<td>230/3 or 460/3</td>
<td>230/3 or 460/3</td>
<td>230/3 or 460/3</td>
<td>460/3</td>
<td>460/3</td>
</tr>
<tr>
<td>AMPERAGE</td>
<td>11.0 - 6.0</td>
<td>40.0 - 19.6</td>
<td>46.0 - 23.0</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>FLUID CIRCULATING PUMP</td>
<td>1/2 hp</td>
<td>1/2 hp</td>
<td>1/2 hp</td>
<td>1/2 hp</td>
<td>1/2 hp</td>
</tr>
<tr>
<td>FLUID PUMP/GPM</td>
<td>20@24.8 psi</td>
<td>12@250 psi</td>
<td>10@250 psi</td>
<td>15@100 psi</td>
<td>15@100 psi</td>
</tr>
<tr>
<td>CABINET SIZE</td>
<td>32.5” x 26.5” x 34.25”</td>
<td>60” x 32” x 46”</td>
<td>68” x 34” x 51”</td>
<td>92.25” x 38” x 75”</td>
<td>92.25” x 38” x 75”</td>
</tr>
</tbody>
</table>

**BTU** = Constant (weight of water) x GPM x Temperature Differential
Multiply the fluid flow (GPM) by 500. Multiply the result by the temperature differential or rise (return water temperature minus the input or supply water temperature). Divide the result by 12,000 and you now have your required rating.

**Example:**

\[
\begin{align*}
\text{Example:} & \quad 500 \times 24 \times 200 = 240,000 \\
\text{Constant (weight of water)} & \quad \text{GPM (gallons per minute)} \\
\text{Temperature Differential (or rise)} & \quad \text{Required BTU’s per hour} \\
\text{Each 12,000 BTU’s requires 1 Ton of Cooling} & \quad \text{(This equipment requires a 5 ton capacity)}
\end{align*}
\]

**IMPORTANT:** NOT ALL CHILLERS ARE RATED THE SAME.
When comparing load ratings in the chillers be sure to check if they are rated at the National ARI standard of 44°F chilled outlet water, 95°F ambient air temperature.

Custom Chillers Available for Specialty Applications.

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