WME
WATER COOLED CHILLERS - CENTRIFUGAL COMPRESSOR WITH MAGNETIC BEARINGS

**WME - Magnitude**

The newest member of the McQuay Magnitude™ Chiller family (Model WME) takes Frictionless Centrifugal Chillers to a new level. Building on the outstanding success of Magnitude model WMC, the newest frictionless centrifugal chiller capitalizes on our 50 years of experience designing and manufacturing centrifugal compressor chillers.

**Characteristics:**
- State-of-the-art magnetic bearing compressor
- Unit-mounted Variable Frequency Drive
- Positive pressure design
- Extremely low vibrations levels
- Hermetically sealed direct-drive motor
- User-friendly MicroTech™ controls
- R-134a refrigerant
- AHRI certification

**Benefit Summary:**
- Lowest Energy Consumption due to highest full and part load in its range
- Low operation and maintenance costs
- VFD provides method of reducing the motor starting inrush current and reduces power input at the part load operation. An additional benefit of a VFD is improved power factors
- Positive pressure, oil-free design eliminates performance degradation due to non-condensables
- Increased Reliability
- R-134a refrigerant (Zero Ozone Depletion Potential)
- Smart controls and quiet

**Technology:**

Cutting-edge magnetic bearing technology enables outstanding energy efficiency and reliable, long-life frictionless operation. The Magnitude chiller’s exceptional efficiency is due to the direct drive magnetic bearing compressor technology. This design eliminates the friction inherent in traditional centrifugal compressors that can reduce efficiency. A digitally-controlled magnetic bearing system replaces conventional lubricated bearings. The direct drive motor eliminates the need for a lubricated gear box and associated power losses. The frictionless compressor shaft is the compressor's only moving component, and it levitates on a magnetic cushion. Sensors at each magnetic bearing provide real-time feedback to the bearing control system.
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TECHNICAL DATA WME - cooling only

<table>
<thead>
<tr>
<th>WME</th>
<th>500S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling Capacity (MIN÷MAX) kW</td>
<td>1400-2000</td>
</tr>
<tr>
<td>EER up to °C</td>
<td>6.5</td>
</tr>
<tr>
<td>ESEER up to °C</td>
<td>10.3</td>
</tr>
<tr>
<td>Sound Pressure Levels dBA</td>
<td>79</td>
</tr>
<tr>
<td>Compressor Type</td>
<td>Frictionless Centrifugal Compressor with Magnetic Bearings</td>
</tr>
<tr>
<td>Capacity Control Type</td>
<td>Variable Speed Centrifugal Compressor</td>
</tr>
<tr>
<td>Refrigerant Type</td>
<td>R-134a</td>
</tr>
<tr>
<td>N. of circuits No.</td>
<td>1</td>
</tr>
<tr>
<td>Evaporator Type</td>
<td>Shell&amp;Tube - Flooded</td>
</tr>
<tr>
<td>Pressure drop kPa</td>
<td>38</td>
</tr>
<tr>
<td>Water Connections Size mm</td>
<td>250</td>
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<tr>
<td>Condenser Type</td>
<td>Shell&amp;Tube - Flooded</td>
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<tr>
<td>Pressure drop kPa</td>
<td>34</td>
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<tr>
<td>Water Connections Size mm</td>
<td>300</td>
</tr>
<tr>
<td>Standard Voltage V/ph/Hz</td>
<td>400 V / 3ph / 50 Hz</td>
</tr>
</tbody>
</table>

SELECTION SOFTWARE:
Since a Frictionless Centrifugal Chiller, at fixed evaporator and condenser water conditions, can provide different Cooling Capacity, EER, sound level, etc. depending on the speed of rotation, a dedicated selection tool is available to make unit selections and calculate the Performance Data (EER and Part load data) in specific working conditions.

NOTES:
1. Indicated intervals are related to full load Cooling Capacity at standard conditions: 12/7°C evaporator water temperature and 30/35°C condenser water temperature
2. For dual compressor units the minimum capacity is related to the conditions with only one compressor running
3. Indicated EER is the maximum at standard conditions (see also note 1)
4. Indicated ESEER is the maximum with full load at standard conditions (see also note 1)
5. Sound pressure related to maximum Cooling Capacity at standard conditions, according to ISO 3744 at 1m and free field semispherical conditions
6. Pressure drop values are related to maximum Cooling Capacity at standard conditions

<table>
<thead>
<tr>
<th>Weight and dimensions</th>
<th>500S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping weight kg</td>
<td>935</td>
</tr>
<tr>
<td>Operating weight kg</td>
<td>9285</td>
</tr>
<tr>
<td>(A) Length mm</td>
<td>4250</td>
</tr>
<tr>
<td>(B) Width</td>
<td>1950</td>
</tr>
<tr>
<td>(C) Height mm</td>
<td>2400</td>
</tr>
</tbody>
</table>

aircool / McQuay reserves the right to make changes in design and construction at anytime without notice