Delta T Systems Variable Speed Chillers
Technical Specifications for 40-60 ton Air Cooled and Water Cooled Chillers

What Sets Delta T Systems’ Chillers Apart?

Variable Speed Compressor
The compressors used in all Delta T Systems chillers have a variable speed, brushless DC motor. This allows the chiller to operate anywhere between 10% and 100% of its rated capacity. When less cooling is required, the compressor will adjust to prevent overcooling or wasting energy. This results in an energy savings of 30% to 50% of initial investment.

Variable Speed Fan Motors
The fan motors used in Delta T Systems air-cooled chillers are also variable speed. The RPM of variable speed fan motors will vary depending on the cooling load required. The speed will adjust to match the compressor load requirements, which also leads to large energy savings.

State of the Art Control
Carel is the leader in HVAC and process temperature controls. They have developed a Delta T Systems specific control program that allows us to utilize the variable speed technology, along with numerous sensors, to operate the chiller at its most efficient point. These advanced controls make Delta T’s chillers industry 4.0 ready, and even have optional remote connectivity.

Microchannel Condenser Coils
An air-cooled Delta T Systems chiller uses a microchannel coil as its condenser. The use of small channels means there is a larger amount of surface area for heat transfer. The more area available, the more efficient the heat exchanger will be.

Auto Water Makeup
The auto water makeup feature ensures the chiller tank will always have the correct amount of water, even if some is lost through various processes. Every tank has a tank level sensor. When the tank level is low the controller will open the auto water makeup solenoid and allow the water source to fill the tank.

Brazed Plate Evaporator
The evaporator in all Delta T Systems chillers is a copper brazed plate heat exchanger. It’s non-ferrous, meaning it will not rust over time.

Dew Point Control
Our chillers are widely used in many highly controlled environments. With dew point control, the process water temperature and ambient temperature and humidity are considered, and the water is cooled to a point that will not produce “sweating”. Sweating is when machines begin to have water condense on their outer surfaces.

Electronic Expansion Valve
The electronic expansion valve has an electronic actuator that allows the valve to have extremely small graduations. This allows the valve to meter the refrigerant to the exact amount required for the cooling load.
# Standard Equipment Features

- Microprocessor-Based PID Controller
- 4.3 Inch Touch Screen Display
- Hermetically Sealed Variable Speed Compressor
- Variable Speed Condenser Fan
- Electronic Expansion Valve
- Microchannel Aluminum Condenser Coils
- Refrigerant Suction and Discharge Pressure Transducers
- Refrigerant Suction and Discharge Temperature Sensors
- Stainless Steel Brazed Plate Evaporator
- Non-ferrous Chilled Water Piping
- Cleanable Evaporator Inlet Strainer
- Cleanable Condenser Inlet Air Filters
- Automatic Water Bypass Solenoid
- Digital Flow Readout
- % Capacity Readout
- Digital Tank Level Readout
- Digital Pump Pressure Readout
- To Process Pressure Readout
- Low Flow Indication
- Dirty Strainer Indication
- Compressor Protection Alarms
- High and Low Temperature Alarms
- Tank Level Alarms
- Faulty Probe Alarms
- Warnings and Adaptive Control
- Remote Alarm Output

# Optional Features

- Auto Water Make-Up
- Alarm Horn
- Alarm Strobe
- Mounting Feet In Lieu of Casters
- No pump, no tank
- Pump, no tank
- Ship loose pump, no tank
- 50 Micron Full Flow Filter
- Remote Display
- Remote Access to Control
- UL 508a
- Stainless Steel
- SNMP, Modbus TCP/IP, BACnet Ethernet Communication
- More Upon Consultation

# Remote Features

- Remote Start/Stop Input
- 24 V Controls
- Phase Monitor
- Finger Safe Electrical Components
- Motor Protection
- Fused Transformer Protection on both Primary & Secondary Sides
- NEMA 12 Electrical Enclosure & Wiring in Conformance with NEC
- Industry 4.0 Ready
Standard Touch Screen
Above is the standard 4.3” touch screen. On the home page, the unit status, pump flow, pump pressure, pump status, compressor capacity, compressor status, time and date, dewpoint, alarm notifications, set point, and outlet temperature can easily be monitored.

Energy Savings
Major energy savings can be seen due to the variable compressor technology, variable speed condenser fan, larger evaporator heat transfer surface, and advanced electronic expansion valve technology. A sophisticated control algorithm allows all these components to work together and result in the maximum possible savings.

Warranty
Delta T chillers are warranted to be free of defects in material and workmanship for one year after purchase date. Also, expendable parts are covered for 90 days.
### 40 to 60 ton Air Cooled Chillers

<table>
<thead>
<tr>
<th>Model</th>
<th>Maximum Capacity$^1$ (BTUH)</th>
<th>Minimum Load (BTUH)</th>
<th>Condenser Air Flow (CFM)</th>
<th>Reservoir (Gallons)</th>
<th>Minimum Circuit Ampacity$^2$</th>
<th>Dimensions (in)</th>
<th>Shipping Weight (with crate) (lbs)</th>
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</thead>
<tbody>
<tr>
<td>VSPA-040</td>
<td>562,944</td>
<td>48,016</td>
<td>26,276</td>
<td>135</td>
<td>73.0</td>
<td>Height: 76.625</td>
<td>34 166 1700</td>
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<tr>
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<td>84.00</td>
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</tbody>
</table>

(1) Capacity based on 50 °F LWT, 95 °F ambient, maximum speed  
(2) MCA based on standard pump option. Will change with different pumps.  
(3) Add approximately 6” for optional alarm horn and strobe.
40 to 60 ton Water Cooled Chillers

<table>
<thead>
<tr>
<th>Model</th>
<th>Maximum Capacity (BTUH)</th>
<th>Minimum Load (BTUH)</th>
<th>Condenser Water Flow (GPM)</th>
<th>Reservoir (Gallons)</th>
<th>Minimum Circuit Ampacity</th>
<th>Dimensions (in)</th>
<th>Shipping Weight (with crate) (lbs)</th>
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<tr>
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<td>73.375</td>
<td>34 120 1800</td>
</tr>
</tbody>
</table>

(1) Capacity based on 50 °F LWT, 85 °F condenser inlet water, maximum speed
(2) MCA based on standard pump option. Will change with different pumps.
(3) Add approximately 6” for optional alarm horn and strobe.