

Delta T Systems Variable Speed Chillers

Technical Specifications for 40-60 ton Air Cooled and Water Cooled Chillers



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.

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 over cooling 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 (Optional)

The auto water makeup option 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.



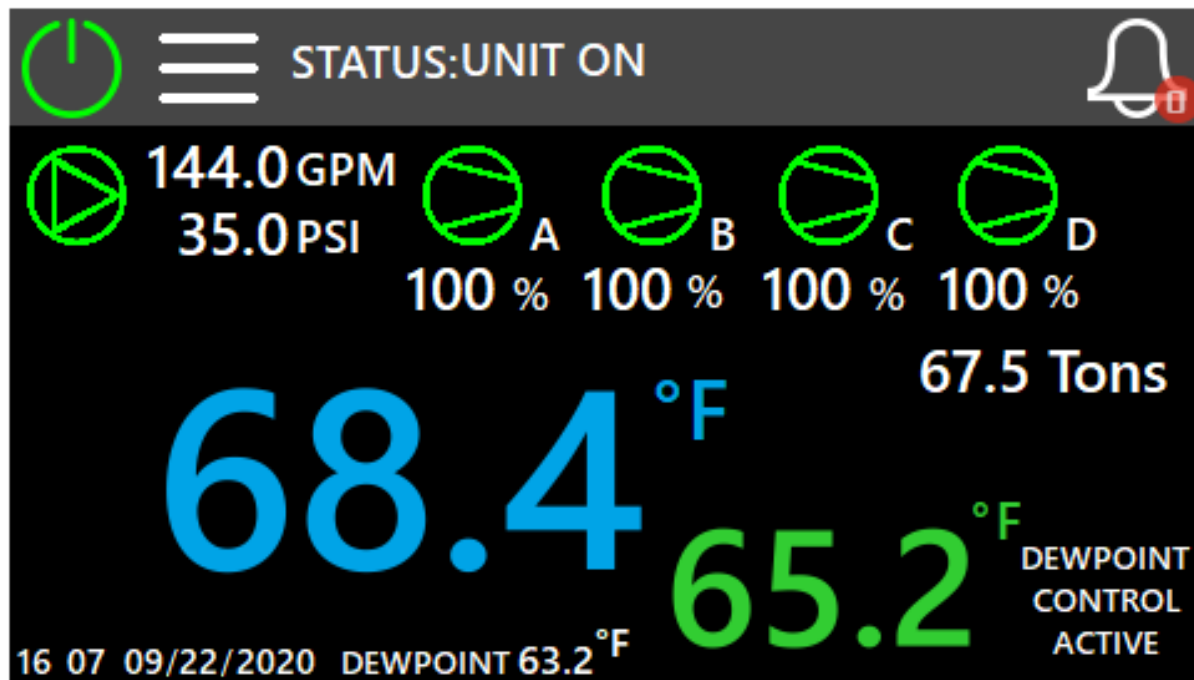
Standard Equipment Features

- 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 (Air cooled)
- Coaxial Condensers (2 to 10 ton) water cooled
- Cleanable shell and tube condensers (20 to 30 ton) water cooled
- 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
- Unit disconnect switch
- Lift off, removable panels
- 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



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
- Outdoor/Outdoor coastal
- Pump VFDs
- Dust Air Filter
- Medium and high pressure fans for ducted applications
- 50 Micron Full Flow Filter
- Remote Display
- Remote Access to Control
- UL 508a
- Stainless Steel
- SNMP, Modbus TCP/IP, BACnet Ethernet Communication
- Anti-drain back design
- Supply and return valves
- [More Upon Consultation](#)



Standard Touch Screen

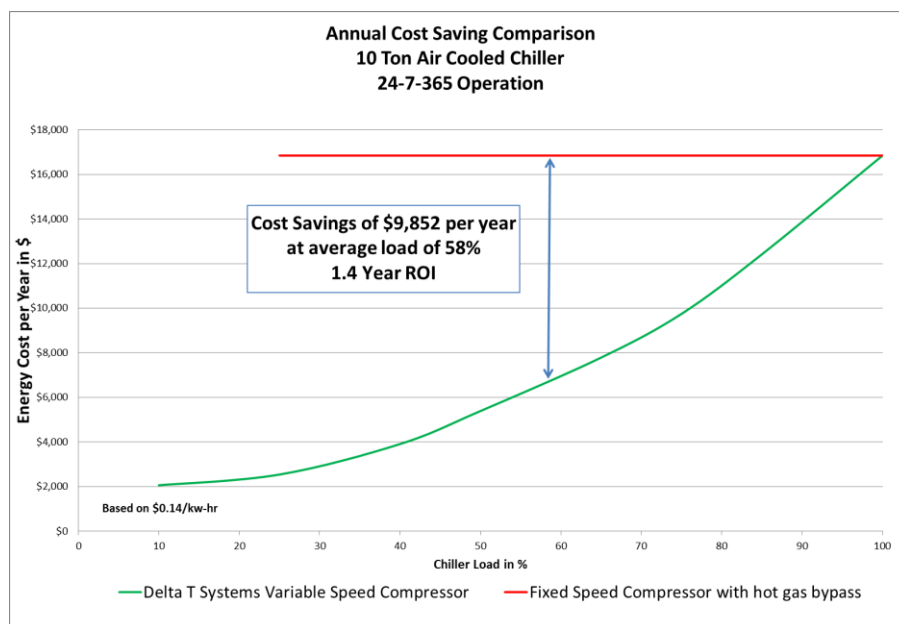
Above is the standard 4.3" touch screen. On the home page, the unit status, pump flow, pump pressure, pump status, compressor capacity, compressor status, time and date, dewpoint, alarm notifications, set point, and outlet temperature can easily be monitored.

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.





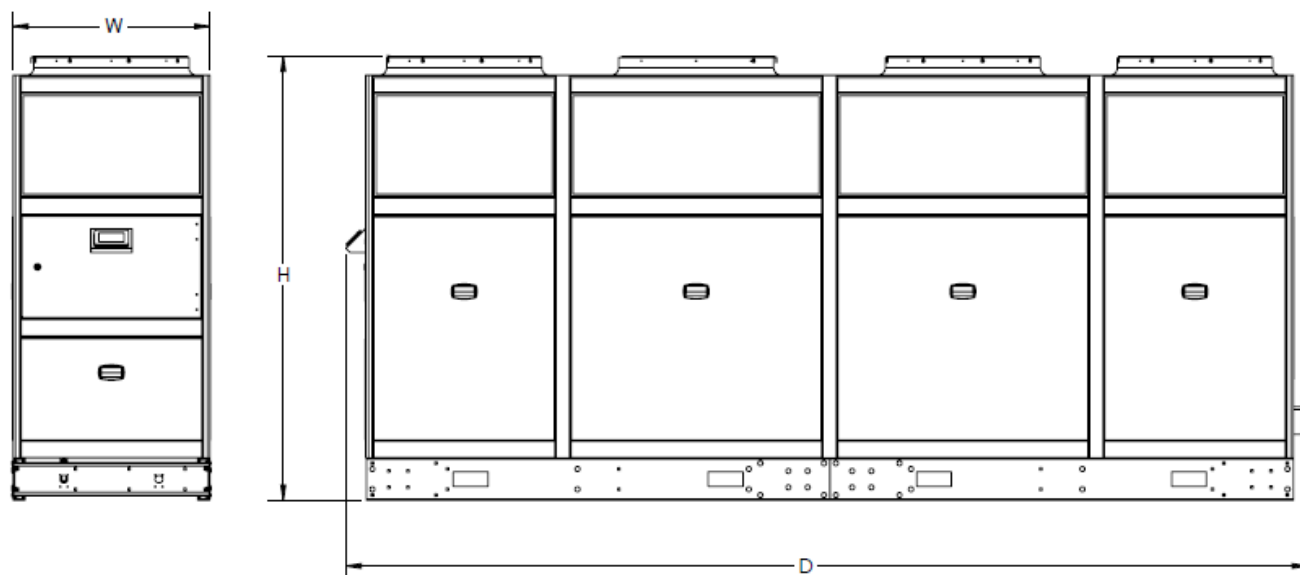
40 to 60 ton Air Cooled Chillers

Model	Maximum Capacity ¹ (BTUH)	Minimum Load (BTUH)	Condenser Air Flow (CFM)	Reservoir (Gallons)	Minimum Circuit Ampacity ²	Dimensions (in)			Shipping Weight (with crate) (lbs)
						Height ³	Width	Depth	
VSPA-040	562,944	48,016	26,276	135	86.6	76.625	34	166	1700
VSPA-050	672,248	60,040	38,904	135	109.3	76.625	34	166	1755
VSPA-060	750,384	72,012	38,904	135	125.9	84.00	34	166	1835

(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

Model	Maximum Capacity ¹ (BTUH)	Minimum Load (BTUH)	Condenser Water Flow (GPM)	Reservoir (Gallons)	Minimum Circuit Ampacity ²	Dimensions (in)			Shipping Weight (with crate) (lbs)
						Height ³	Width	Depth	
VSPW-040	610,323	20,415	120	130	74.5	73.375	34	120	1640
VSPW-050	767,328	25,511	150	130	101.7	73.375	34	120	1720
VSPW-060	856,548	30,600	180	130	118.3	73.375	34	120	1800

(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.

