



# DELTA T SYSTEMS

The True Measure of Temperature Control

## Delta T Systems Heat/Cool Combo Units

Technical Specifications for single and dual circuit combo units



### 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

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.



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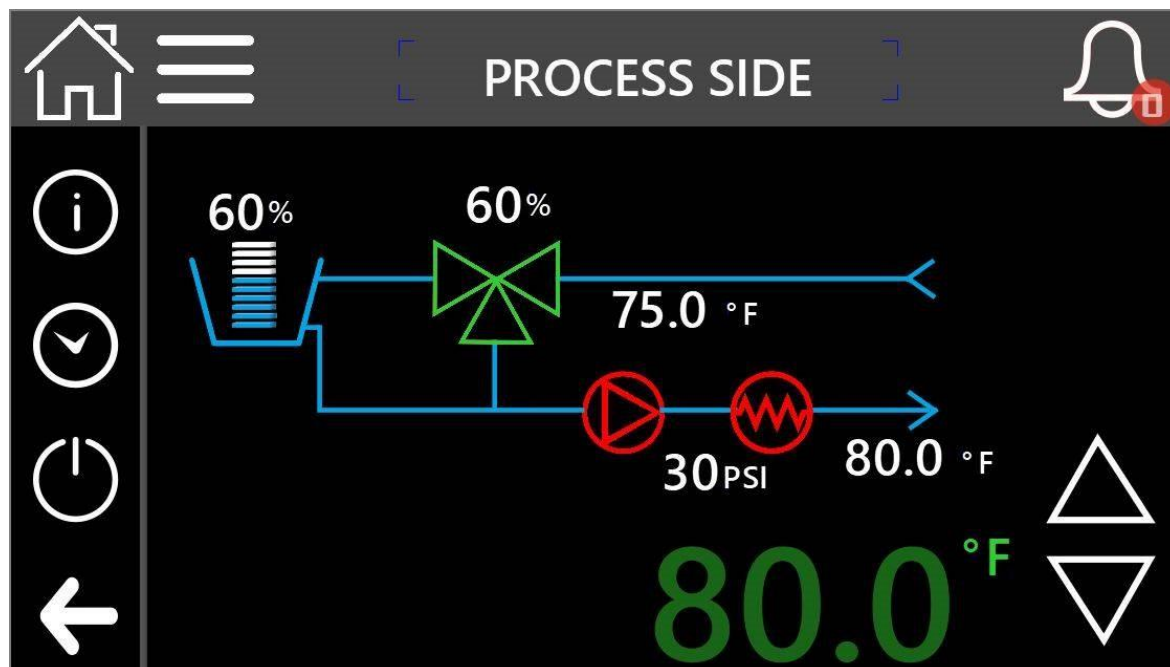
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## Standard Equipment Features

- 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
- 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
- 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

- Remote display
- Outdoor construction
- Overhead piping kit
- Mounting feet in lieu of casters
- No pump, no tank
- Pump, no tank
- Ship loose pump, no tank
- Auto water make-up
- 50 micron side stream filter (factory installed)
- 50 micron full flow filter (factory installed)
- High Operating Temp Option for 180F
- Alarm horn
- Alarm strobe
- Remote alarm contacts
- Remote access to control
- UL 508a
- SNMP, Modbus TCP/IP, BACnet Ethernet Communication



#### 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.



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## Single Zone Heat/Cool Unit

Model <sup>5</sup>	Maximum Capacity <sup>1</sup> (BTUH)	Minimum Load (BTUH)	Condenser Air Flow (CFM)	Reservoir (Gallons)	Minimum Circuit Ampacity <sup>2</sup>	Heating Capacity (kW)	Dimensions (in)			Shipping Weight (with crate) (lbs)
							Height <sup>3</sup>	Width	Depth	
VSPA1-001-XX	15,570	1,217	667	12	9.2	4.5, 9	52	20	30	455
VSPA1-002-XX	28,406	2,402	1,341	12	9	4.5, 9	52	20	34	485
VSPA1-003-XX	48,672	3,603	1,937	12	12	4.5, 9	52	20	34	510
VSPA1-005-XX	65,653	6,001	3,317	25	17.1	9, 12, 18, 24, 36	75	34	46	755
VSPA1-008-XX	88,969	9,005	4,541	25	17	9, 12, 18, 24, 36	75	34	46	810
VSPA1-010-XX	138,205	12,004	6,569	40	26	9, 12, 18, 24, 36	75	34	46	915
VSPA1-015-XX	182,712	18,003	9,726	40	33	9, 12, 18, 24, 36	85	34	46	925
VSPA1-020-XX	276,674	24,008	13,138	70	45	9, 12, 18, 24, 36	75	34	95	1,690
VSPA1-025-XX	326,125	30,020	19,452	70	47	9, 12, 18, 24, 36	75	34	95	1,805
VSPA1-030-XX	365,425	36,006	19,452	70	58	9, 12, 18, 24, 36	86	34	95	1,885

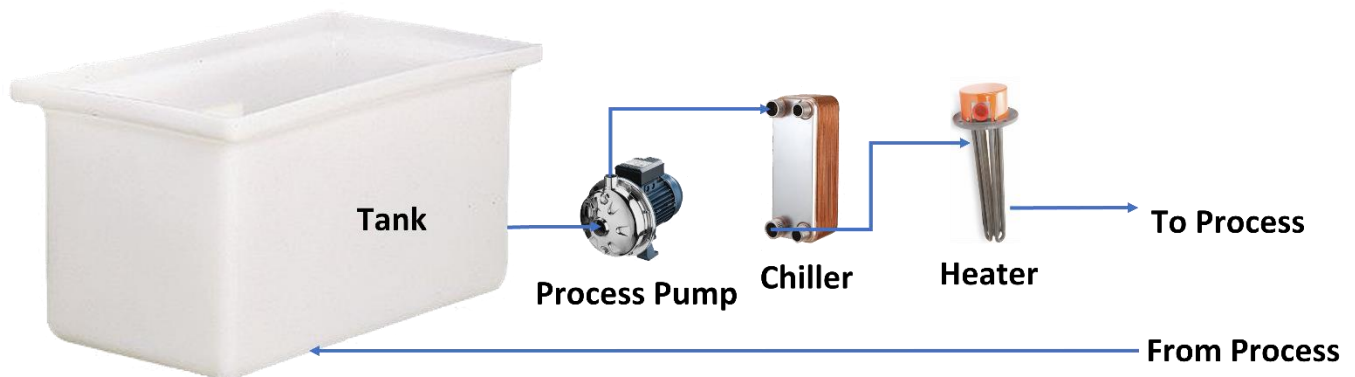
(1) Capacity based on 50 °F LWT, 85 °F condenser inlet water, maximum speed

(2) MCA based on standard pump option and smallest heater. Will change with different pumps and heaters.

(3) Add approximately 6" for optional alarm horn and strobe.

(4) Shipping weight based on standard pump options and smallest heating capacity.

(5) "XX" placeholder for heating capacity, i.e. "12" for 12kW



## Dual Zone Heat/Cool Unit

Model <sup>5</sup>	Maximum Capacity <sup>1</sup> (BTUH)	Minimum Load (BTUH)	Condenser Air Flow (CFM)	Reservoir (Gallons)	Minimum Circuit Ampacity <sup>2</sup>	Heating Capacity (kW)	Dimensions (in)			Shipping Weight (with crate) (lbs)
							Height <sup>3</sup>	Width	Depth	
VSPA2-005-XX	65,653	6,001	3,317	25	27.9	9, 12, 18, 24, 36	64	34	46	775
VSPA2-008-XX	88,969	9,005	4,541	25	30	9, 12, 18, 24, 36	75	34	46	829
VSPA2-010-XX	138,205	12,004	6,569	40	43	9, 12, 18, 24, 36	75	34	46	943
VSPA2-015-XX	182,712	18,003	9,726	40	50.6	9, 12, 18, 24, 36	85	34	46	953
VSPA2-020-XX	276,674	24,008	13,138	70	65	9, 12, 18, 24, 36	75	34	95	1,740
VSPA2-025-XX	326,125	30,020	19,452	70	67	9, 12, 18, 24, 36	75	34	95	1,855
VSPA2-030-XX	365,425	36,006	19,452	70	77	9, 12, 18, 24, 36	86	34	95	1,935

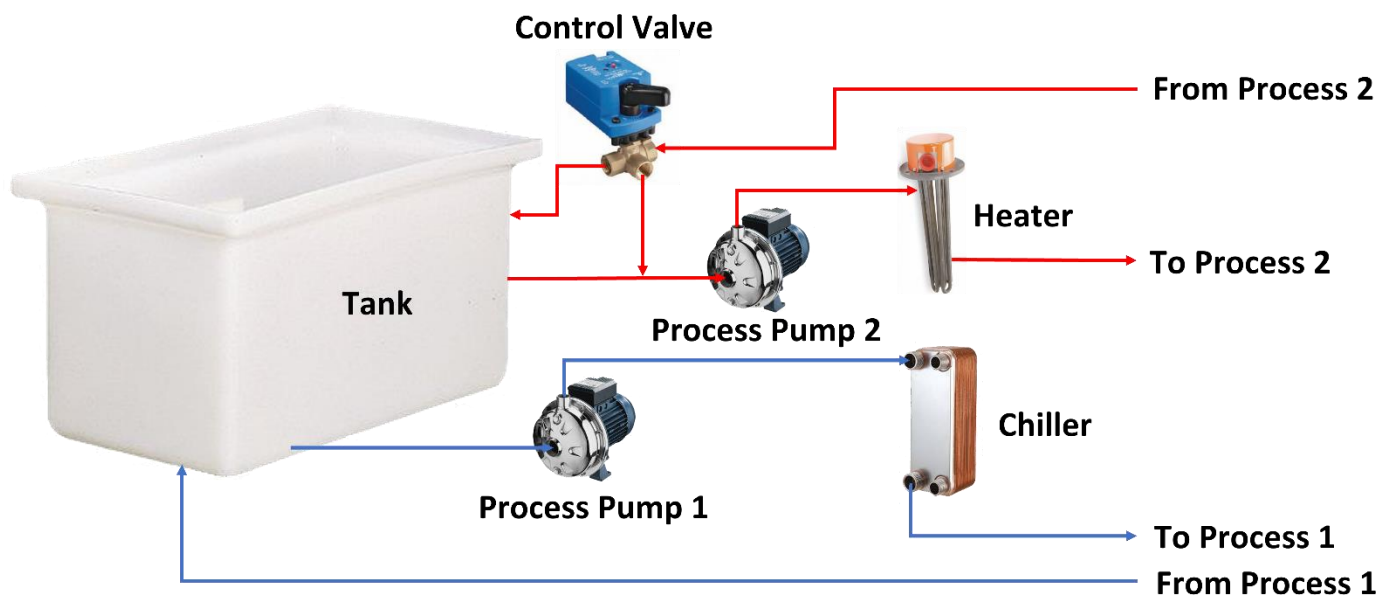
(1) Capacity based on 50 °F LWT, 85 °F condenser inlet water, maximum speed

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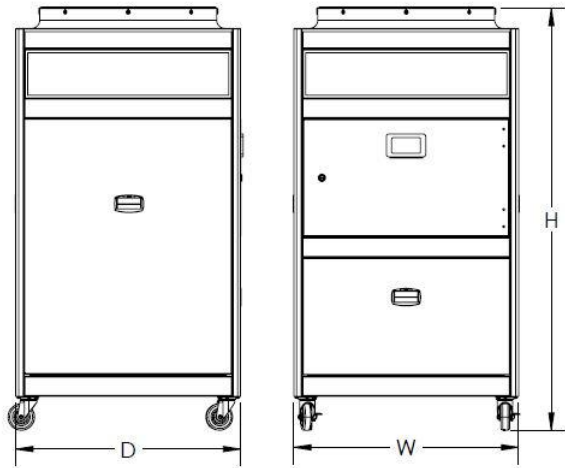
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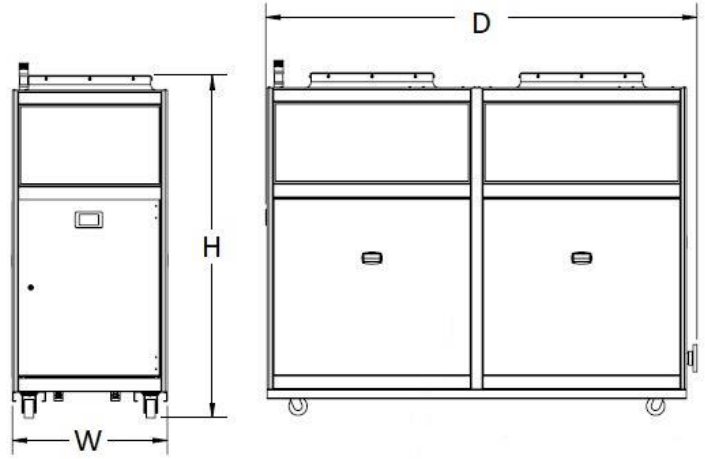


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VSPA1-001-VSPH1-015



VSPA1-020-VSPAH1030

Single and dual zone units fit into the same cabinet