



AIR-COOLED TCU Temperature Control Unit

Provides a closed loop of cooling water at controlled temperature



AIR-COOLED TEMPERATURE CONTROL UNIT

Features

- Cooling water at a precisely-controlled temperature with $\pm 1^\circ\text{F}$ (0.5°C) accuracy.
- The air-cooled TCU uses a fan type air-cooled condenser to reject heat from the refrigeration cycle

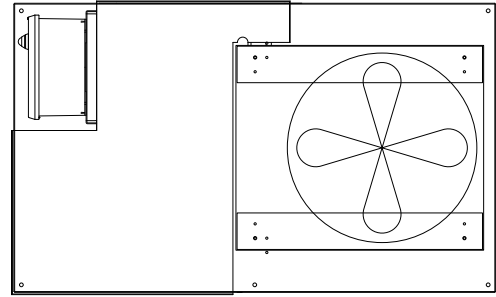
Description

Sentry temperature control unit (TCU) systems are pre-designed, pre-piped systems available in sizes from 3 to 15 tons, air or water-cooled. All components are easily accessible for service. Each Sentry TCU system is “run-in” under a range of heat loads. Measurements are taken of critical parameters and recorded for future reference.

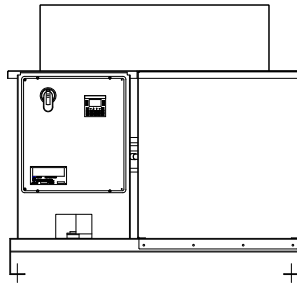
Nominal Capacity Model Number	3 Ton S03A		5 Ton S05A		7.5 Ton S07A		10 Ton S10A	
<i>Actual capacity is dependent on ambient air temperature. All sizes of Air-Cooled TCUs are rated to 95°F (35°C) ambient — Do not use if ambient temperature is above 95°F (35°C)!</i>								
Air Temperature	@85°F @29°C	@95°F @35°C	@85°F @29°C	@95°F @35°C	@85°F @29°C	@95°F @35°C	@85°F @29°C	@95°F @35°C
Cooling Capacity Btu/Hr (KW)	43,300 (12.7)	40,300 (11.8)	70,900 (20.8)	66,400 (19.5)	108,200 (31.7)	99,700 (29.2)	133,200 (39)	124,300 (36.4)
Heating Capacity Btu/Hr (KW)	12,990 (3.8)		21,270 (6.2)		32,460 (9.5)		39,960 (11.7)	
Chilled Water Flow GPM (LPM)	30 (114)		50 (189)		70 (265)		85 (322)	
Voltage (VAC)	460		460		460		460	
Power (kVA)	10.7		13.5		16.4		19.5	

AIR-COOLED TCU TECHNICAL DATA

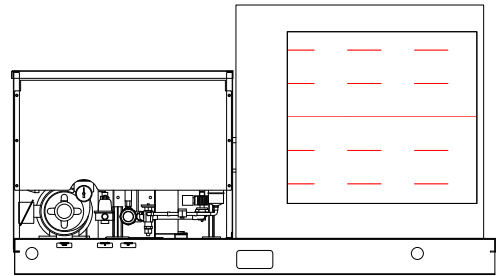
Size (Tons)	Dimensions W x L x H (Inches)	Dimensions W x L x H (mm)	Weight lbs.	Weight kg	Chilled Water Connections
3	48 x 80 x 44 3/4	1219 x 2032 x 1137	1400	635	2" NPT
5	48 x 80 x 44 3/4	1219 x 2032 x 1137	1400	635	2" NPT
7.5	48 x 80 x 44 3/4	1219 x 2032 x 1137	1500	680	2" NPT
10	48 x 92 x 44 3/4	1219 x 2237 x 1137	1700	771	2" NPT



TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW

SPECIFICATIONS

Refrigeration

- Hermetically-sealed scroll compressor
- Full factory refrigerant charge of HFC-407C (R-407C)
- Copper brazed 316L stainless steel evaporator and condenser
- Vertical discharge (side intake) air-cooled condenser with copper tubes, non-coated aluminum fins and a motor driven fan
- Hot gas bypass solenoid valve for temperature control
- Accessories include:
 - » Crankcase pressure regulating valve
 - » Sealed desiccant core filter-dryer
 - » Moisture and liquid indicator
 - » Externally adjustable thermostatic expansion valve
 - » Air-cooled condenser fan control relay

- Adjustable make-up water pressure reducing valve with built-in strainer
- Pressure relief valve set at 100 psig (7.0 bar)

PLC Controller

- Keypad control to run system or pump alone
- Microprocessor based PID temperature control
- Digital contact provided for remote system start
- Digital indication of:
 - » Chilled water outlet temperature
 - » Compressor suction and discharge pressures
- Troubleshooting screens including alarm history
- Alarm contacts for chilled water high temperature and low flow

Chilled Water

- Close-coupled centrifugal pump
- Pressure indicator at pump discharge
- Accurate to $\pm 1^{\circ}\text{F}$ ($\pm 0.5^{\circ}\text{C}$)

Electrical

- IP 65 / NEMA 4X enclosure with disconnect
- Available input power is 460 VAC / 60 Hz / 3 phase. Contact factory for other voltage requirements.

WARNING

It is solely the responsibility of the end-user, through its own analysis and testing, to select products and materials suitable for their specific application requirements, ensure they are properly installed, safely applied, properly maintained, and limit their use to their intended purpose. Improper selection, installation, or use may result in personal injury or property damage.



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