



# AIR-COOLED TEMPERATURE CONTROL UNIT

## SENQA Series

*Provides controlled temperature coolant for secondary coolers*



AIR-COOLED TCU

### Features

- Cooling water at a precisely-controlled temperature with  $\pm 1^{\circ}\text{F}$  ( $0.5^{\circ}\text{C}$ ) accuracy.
- Self-contained with all necessary controls, pumping and refrigeration systems.
- The air-cooled TCU uses a fan type air-cooled condenser to reject heat from the refrigeration cycle.
- Optional heater for additional warming capacity for subcooled samples.
- Local display provides quick operational snapshot.

### Description

A temperature control unit (TCU) provides controlled temperature water (coolant) to a group of secondary sample coolers in order to ensure closely controlled sample temperatures.

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

Model: SENQA	A03	A05	A08	A10	A15
Cooling Capacity <sup>1</sup> BTU/hr (kw)	3 Ton 36,000 (10.6)	5 Ton 60,000 (17.6)	8 Ton 96,000 (28.1)	10 Ton 120,000 (35.1)	15 Ton 180,000 (52.7)
Chilled Water Flowrate gpm (lpm)	30 (114)	50 (189)	80 (303)	100 (379)	150 (568)
Std Heating Capacity BTU/hr (kw)	10,800 (3.2)	18,000 (5.3)	28,800 (8.4)	36,000 (10.6)	54,000 (15.8)
MCA @ 460 VAC 60 Hz	17.6	19.8	30.7	35.5	56.7
Aux. Heater BTU/hr (kw)	30,000 (9)	30,000 (9)	30,000 (9)	40,000 (12)	60,000 (18)

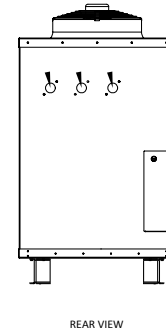
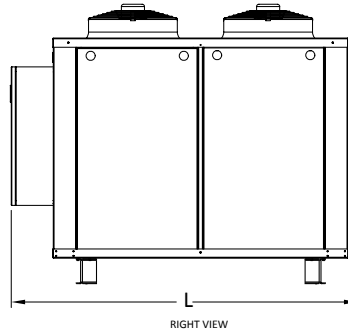
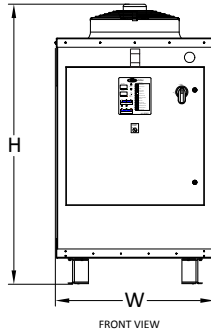
<sup>1</sup>Cooling capacity based upon 110°F (43°C) ambient air and 76°F (24°C) coolant setpoint, 60 Hz power.

<sup>2</sup>MCA = Minimum Circuit Ampacity; used for main power wire sizing (not including Aux. Heater).

<sup>3</sup>Cooling and heating capacity is reduced about 17% for 50 Hz power.

## AIR-COOLED TCU TECHNICAL DATA

Size (Tons)	Dimensions L x W x H (Inches)	Dimensions L x W x H (mm)	Weight lbs.	Weight kg	Chilled Water Connections
A03	48 x 35 x 61	1219 x 889 x 1549	720	327	2" NPT
A05	48 x 35 x 61	1219 x 889 x 1549	720	327	2" NPT
A08	75 x 35 x 61	1905 x 889 x 1549	1195	542	2½" NPT
A10	75 x 35 x 61	1905 x 889 x 1549	1195	542	2½" NPT
A15	88 x 41 x 93	2235 x 1041 x 2362	3200	1451	3" NPT



## SPECIFICATIONS

### Refrigeration

- Hermetically-sealed scroll compressor
- Full factory refrigerant charge of HFC-410A
- Copper brazed 316L stainless steel evaporator
- Hot gas bypass control valve for temperature control
- Crankcase heater
- Sealed desiccant core filter-dryer
- Moisture and liquid indicator
- Thermostatic expansion valve

### Chilled Water

- Stainless steel TEFC close-coupled centrifugal pump
- Pressure indicator at pump discharge
- Accurate to  $\pm 1^\circ\text{F}$  ( $\pm 0.5^\circ\text{C}$ )
- Adjustable make-up water pressure reducing valve
- Pressure relief valve to protect pump and evaporator

### 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
- Clear display of operational warnings and alarms
- General fault alarm contact for remote indicator

### Electrical

- NEMA 1 enclosure with disconnect
- 460 VAC / 60 Hz / 3 phase (standard)  
Alternates available:
  - » 230 VAC / 60 Hz / 3 phase
  - » 575 VAC / 60 Hz / 3 phase
  - » 208 VAC / 60 Hz / 3 phase
  - » 380 VAC / 50 Hz / 3 phase

### Options

- High air temperature (110-120°F)
- Outdoor installation (NEMA 4)
- CE
- Remote condenser
- Internal electric heater for additional warming of sub-cooled samples

#### ⚠ 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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