



# SENTRY TCU WATER-COOLED SAMPLE CHILLER

## Sample Chillers

### SAMPLE CONDITIONING

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. The Sentry® TCU water-cooled sample chillers are pre-designed, pre-piped packages available in sizes from 3 to 15 tons.

#### MODELS

SENQW03 | SENQW05 | SENQW08 | SENQW10 | SENQW15

#### BENEFITS

With the Sentry TCU water-cooled sample chillers, all components are easily accessible for service. Each undergoes a factory run-in under a range of heat loads. Measurements are taken of critical parameters and recorded for future reference.

#### FEATURES

- Cools 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
- NEMA 1 enclosure with disconnect
- Wide condenser cooling water temperature range:  $55^{\circ}\text{F}$  to  $105^{\circ}\text{F}$  ( $13^{\circ}\text{C}$  to  $41^{\circ}\text{C}$ ); options available as low as  $30^{\circ}\text{F}$  ( $-1^{\circ}\text{C}$ ) or as high as  $115^{\circ}\text{F}$  ( $46^{\circ}\text{C}$ )  
Local display provides quick operational snapshot

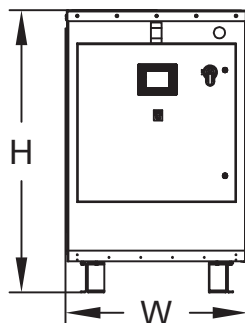
#### SPECIFICATIONS

- 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
- Electrical
  - NEMA 1 enclosure with disconnect
  - 460 Vac / 60 Hz / 3 phase (standard)
- 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
- Options
  - Higher condenser cooling water temperature range:  $60^{\circ}\text{F}$  to  $115^{\circ}\text{F}$  ( $15^{\circ}\text{C}$  to  $46^{\circ}\text{C}$ )
  - Lower condenser cooling water range:  $30^{\circ}\text{F}$  to  $105^{\circ}\text{F}$  ( $-1^{\circ}\text{C}$  to  $41^{\circ}\text{C}$ )
  - Internal electric heater for additional warming of sub-cooled samples
  - Outdoor service (NEMA 4)
  - CE

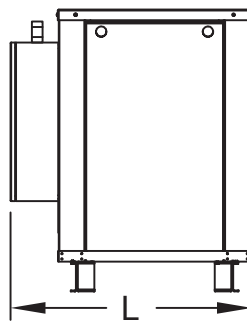


Sample. Monitor. Measure.  
**SENTRY**  
Any Application. Anywhere.

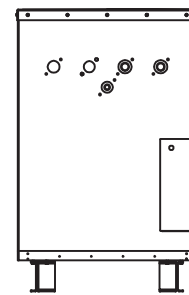
size (tons)	dimensions L x W x H (in)	dimensions L x W x H (mm)	weight lb	weight kg	condenser water connections	chilled water connections
W03	48 x 35 x 54	1219 x 889 x 1372	720	327	1½ in. NPT	2 in. NPT
W05	48 x 35 x 54	1219 x 889 x 1372	720	327	1½ in. NPT	2 in. NPT
W08	75 x 35 x 54	1905 x 889 x 1372	1195	542	1½ in. NPT	2½ in. NPT
W10	75 x 35 x 54	1905 x 889 x 1372	1195	542	1½ in. NPT	2½ in. NPT
W15	75 x 35 x 54	1905 x 889 x 1372	1315	597	1½ in. NPT	3 in. NPT



Front View



Right View



Rear View

**SPECIFICATIONS**

Model: SENQW		W03	W05	W08	W10	W15
		3 ton	5 ton	8 Ton	10 ton	15 ton
cooling capacity <sup>1</sup>	Btu/hr (kW)	36,000 (10.6)	60,000 (17.6)	96,000 (28.1)	120,000 (35.1)	180,000 (52.7)
chilled water flowrate	gpm (L/min)	30 (114)	50 (189)	80 (303)	100 (379)	150 (568)
pump horsepower	60 hz	2	3	5	7.5	10
	50 hz	2	3	3	5	7.5
standard 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)
condenser water flow rate	gpm (L/min)	11 (42)	17 (64)	24 (91)	36 (136)	48 (182)
condenser water press drop	psi (bar)	6 (0.4)	6 (0.4)	8 (0.6)	7 (0.5)	8 (0.6)
minimum circuit ampacity 460 VAC/60 Hz/3-phase (standard)		13.9	18.1	27.2	32.1	52.1
auxiliary 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 105°F (41°C) condenser water and 76°F (24°C) coolant setpoint, 60 Hz power.

**Note:** Cooling and heating capacity is reduced about 17% for 50 Hz power.

[sentry-equip.com](http://sentry-equip.com)

966 Blue Ribbon Circle North, Oconomowoc, WI 53066 U.S.A. | +1-262-567-7256 | [sales@sentry-equip.com](mailto:sales@sentry-equip.com)



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S-SW-SPS-00125-15 08-20

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