ThermalWorks

Thermal Storage Unit

The ThermalWorks PT-1000L fast response thermal storage unit is engineered to provide cooling to ride through thermal spikes that may occur with liquid cooled data center loads.

With a footprint four times smaller than traditional buffer tanks, the TSU is ideal for AI retrofits and space-constrained data centers where performance and resilience can't be compromised.

Standard Features

- Glycol/Water Storage Tank to store cold glycol when quick cooling is needed. Standard tank size is 270 gal [1000 L].
- The three-way valve modulates the amount of cold glycol blended with process/water to maintain the required process setpoint during thermal spikes. Space-efficient 270 gal / 1000 L storage included.
- First Stage Thermal Recharge Heat Exchanger uses site main water loop to cool water in the tank to approx. 65 ˚F [18.3 ˚C].
- Second Stage Thermal Recharge Heat Exchanger uses refrigerant to cool water/glycol to approx. 20 ˚F [-6.7 ˚C].
- Condensing Unit uses a small compressor to provide refrigerant for the second stage heat exchanger. First Stage Thermal Recharge Heat Exchanger cools glycol to approx. 65 ˚F [18.3 ˚C].
- Pump to circulate glycol and water through the tanks to recharge heat exchangers.
- Programmable Logic Controller (PLC) provides integrated controls from each Cooling Distribution Unit (CDU), which reduces the need for field integration.
- HMI display included, with support for BACnet, Modbus, etc.

Overall Dimensions, Weights, Electrical and Performance Ratings

MANUFACTURER'S DATA	Selection Manufacturer	ThermalWorks™
	Model No.	PT-1000L
NOMINAL COOLING STORAGE RIDE-THROUGH TIME*		90 Seconds
NOMINAL THERMAL RECHARGE TIME		4-6 Hours
REFRIGERANT TYPE		R448A
STORAGE TANK VOLUME		270 gal [1,000 L]
PRIMARY CIRCUIT (30% Propylene Glycol and water by volume typical)	Fluid Inlet	60-70 ˚F [16.5 - 21 ˚C]
	Fluid Outlet	80-90 ˚F [27.7 - 32.2 ˚C]
	Flow Rate (pressure independent)	9 gpm [34 l/min]
	Pressure Drop	5 - 10 psi [34.5 – 70 kPa]
	Design Pressure	150 psi [1,034 kPa]
SECONDARY CIRCUIT (25% Propylene Glycol and water by volume typical)	Fluid Inlet	95-113 ˚F [35 - 45 ˚C]
	Fluid Outlet	70-80 ˚F [21.1 - 27.7˚C]
	Flow Rate	200 - 400 gpm [750 - 1500 l/min]
	Pressure Drop	< 2 psi [14 kPa]
	Design Pressure	125 psi [862 kPa]
CONDENSING UNIT	Compressor Current	MCC 8.82A, LRA 25A
	Volts/Ph/Hz	415/400/3/50
POWER PANEL	Volts/Ph/Hz/A	415/400 VAC / 3 Ph / 50Hz / 9A
CONTROL PANEL	UPS Connections QTY	2
	UPS Volts/Ph/Hz/A	230 VAC/ 1 Ph / (50/60) Hz / 2A
COMMUNICATION		BACnet, Modbus
COMMUNICATION	Length x Width x Height	91.1 x 48.3 x 99.6 in [2,315 X 1,226 X 2,531 mm]
	Shipping Weight	1,200 lb [550 kg]
	Operating Weight	2,400 lb [1,100 kg]

The performance of the equipment is based on normal operation ±5%.