

TEC-4000Hg

Thermoelectric Gas Cooler

The Apex Instruments TEC-4000Hg Thermoelectric Gas Cooler removes moisture and gas and is designed to be used with the STM-12B Mercury Sorbent Trap Monitoring Systems for PS-12B.

The TEC-4000Hg is mounted in a 19" cabinet with the XC-6000 and provides a robust, closed, and dual-channel gas conditioning system that collects condensate in sample bottles and delivers dry, acid-free gas to the meter console.

Features:

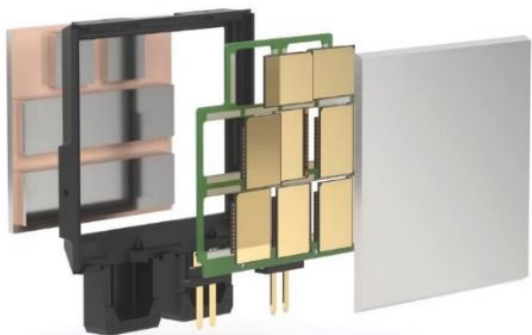
- Maintenance-free design with no moving components (other than the fan)
- No peristaltic pump leaks
- No compressor or refrigerant
- Corrosion-resistant construction
- Digital temperature controller heated sample line (jumper)
- Power bar indicator, monitors power usage
- Low-resistance heat exchanger with copper base and heat pipes with high thermal conductivity



TEC-4000Hg (front view)



TEC-4000Hg (back view)



Simple, proven thermoelectric technology.

Pinnacle Cooling Unit

The TEC-4000Hg uses our state-of-the-art Pinnacle Heat Pump for chilling the sample gas to remove moisture from the sample. The Pinnacle solid-state heat pump is housed in a rugged package that is easy to service and designed to withstand harsh manufacturing environments.

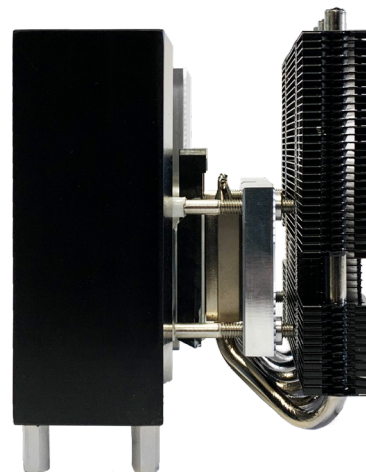
- Extremely reliable solid-state heat pump with long life span
- Low-resistance heat exchanger with copper base and heat pipes with high thermal conductivity

Pinnacle Cooling Technology

The TEC-4000Hg includes a chilled aluminum block containing two stainless steel condensers, a Pinnacle heat pump unit, and a temperature controller.

Moisture is removed by condensation through the reduction of the dew point, which happens when the gas is cooled so that the water vapor is less than 1% by volume. Water vapor and acid gases are condensed to prevent corrosion in the system.

The Pinnacle heat pump unit includes the condenser aluminum block, heat exchanger, thermoelectric module, and a fan.



Pinnacle Heat Pump unit

Specifications:

Refrigeration: Thermoelectric heat pump: 50-watt solid-state module

Temperature display: OLED display +/- 0.1 °C/°F

Temperature control: Variable direct current with PID control, 3-button keypad

Cooling capacity: 100 BTU/hr

Cold block: Insulated aluminum

Condenser: Reverse flow condensate separator, C276 alloy, 1"x7" dimensions, 4" active cooling zone

Condensate removal: Gravity bottle, 10 ml/min

Heat exchanger: Low-profile heatsink with six 6-mm diameter U-tube heat-pipes, coated fins for corrosion resistance, 120-mm axial fan, with encapsulated motor and electronics

Rated flow rate: 2 lpm at 30% moisture per channel

Ambient operating temperature: 32 to 104 °F. (0 to 40 °C)

Auxiliary temperature controller: Digital temperature controller for heated jumper, type-K thermocouple input

Power: Supply 120V AC/60 Hz 15 amps max. or 240VAC 50 Hz 10 amps max., IEC C-13 inlet

Dimensions: 17"x7"x17" (43.2 cm x 27.8 cm x 43.2 cm)

Weight: 22 lbs. (10 kg)

For maximum performance, the thermoelectric module is coupled with a highly efficient heat exchanger for removing the heat from the hot-side of the module to the ambient air. The heat exchanger includes a copper base fitted with six U-tube heat pipes with coated fins and a high-volume corrosion-resistant fan.

We chose the Phononic thermoelectric modules because we believe that they offer the most advanced and innovative thermoelectric modules on the market.

Sorbent Modules

1/4-inch fittings both on bottom

Empty	SCM-11
Pre-filled	SCM-11A
Empty	SCM-18
Pre-Filled	SCM-18A

