

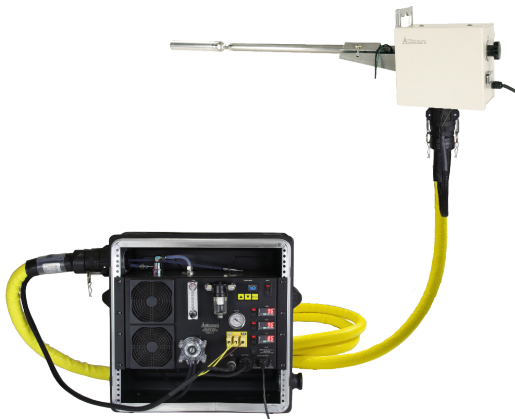
TEP-1610

Thermoelectric Portable Gas Cooler

The TEP-1610 Thermoelectric Portable Gas Cooler removes water vapor from process gas samples prior to gas analysis. The TEP-1610 has an aluminum block containing a single-pass stainless-steel condenser, a sample pump, a peristaltic pump for condensate removal, a coalescing filter, flow meter, and three auxiliary temperature controllers (probe, filter and heated sample line jumper). The rugged and lightweight design allows the chiller to be used on the sampling platform, close to the source.

The TEP-1610 is the perfect choice for your portable gas sampling system. We listened and we strive to deliver a fast response that is lightweight, portable, and rugged.

Gas Sampling Equipment for Instrumental Methods:



TEP-1610 Thermoelectric Gas Cooler shown in our 10U transport case.

The recommended system would include a heated probe and filter, a heated sample line, and a gas cooler.

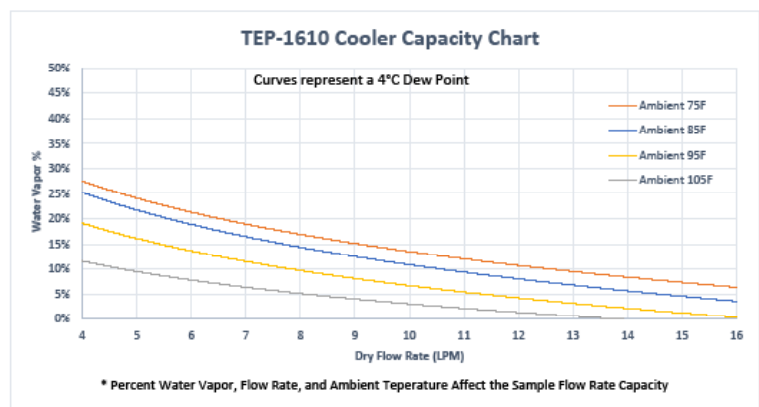
- Heated Sample Line - HSLB-□-□
- Heated Filter Assembly - SFA-2564
- IRM Probe - PC□-□□
- Pre-Filter - SFC-2590



TEP-1610 - Thermoelectric Portable Cooler, fits inside a 19-inch rack.

Features:

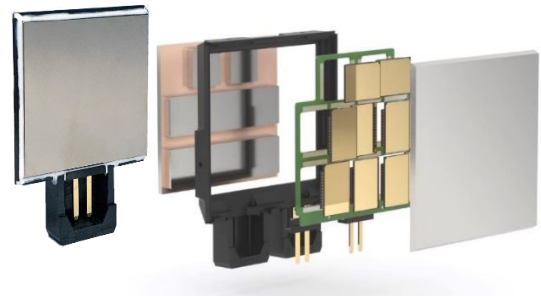
- Portable, compact, and lightweight
- Rugged solid-state thermoelectric module
- OLED display with power monitor
- Digital temperature controllers for probe, oven, and line
- IP-rated switching power supply
- Variable DC voltage PID controller for thermoelectric module
- Internal sample pump
- Peristaltic pump with rotameter



Pinnacle Cooling Technology

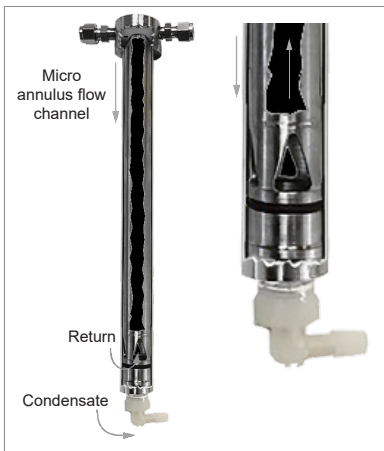
Water vapor is removed by cooling the sample gas to a constant dew point with the Apex Pinnacle Heat pump. The Pinnacle assembly in the TEP-1610 utilizes two thermoelectric modules, which operate on the Peltier effect.

The Pinnacle heat pump is housed in a rugged package that is easy to service and designed to withstand harsh environments.



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

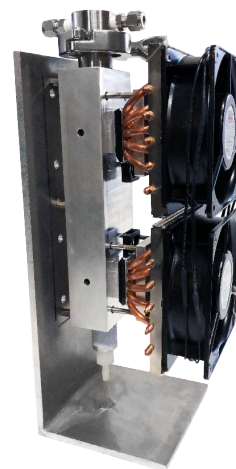
Stainless Steel Condenser



Stainless steel condenser assembly and airflow diagram

The condenser is fabricated from 316 stainless steel and can be treated with a variety of coatings: silicon, polyfluorinated, silane; polar or non-polar. The micro annular flow channel provides maximum condensation efficiency with minimum contact time. The single condenser setup improves response time.

Pinnacle Cooling Unit



Thermoelectric modules assembly

The Pinnacle heat pump unit includes a highly conductive aluminum block fitted with two rugged thermoelectric modules, a stainless-steel condenser, a high-efficiency heat exchanger, exhaust fan, and a PID temperature controller.

The heat pump uses an extremely reliable rugged solid-state thermoelectric module (TEC) and a low-resistance heat exchanger with a copper base and heat pipes with high thermal conductivity for removing heat from the hot side of the TEC and dispersing the heat to the surrounding environment via the exhaust fan.

TEP-1610 Specifications:

- **Refrigeration:** Pinnacle Heat Pump System: two 50-watt solid-state modules
- **Temperature display:** LED display +/- 0.1 °C/°F
- **Temperature control:** variable DC voltage controller, 3-button keypad
- **Cooling capacity:** 200 BTU per hour
- **Cold block:** insulated aluminum
- **Condenser:** stainless steel, reverse flow condensate separator: alloy 316 stainless steel, various coatings available, 1" OD x 10"
- **Condensate removal:** integrated peristaltic pump, 10 ml/min
- **Radiator:** two low-profile heat sinks with six 6-mm diameter U-tube heat-pipes, coated fins for corrosion resistance, 120-mm axial fans, with encapsulated motor and electronics
- **Rated flow rate:** 10 lpm at 10% moisture
- **Ambient operating temperature:** 32 to 104 °F (0 to 40 °C)
- **Auxiliary temperature controllers:** digital temperature controllers for probe, oven, and heated jumper; type-K thermocouple input
- **Sample pump:** KNF 828 diaphragm pump, 28 lpm free flow
- **Power:** Supply 120VAC/60 Hz 15 amps max. or 240VAC/50 Hz 10 amps max., IEC C-13 inlet
- **Dimensions:** 12.75"x19"x10.5" (32.4 cm x 48.3 cm x 26.7 cm)
- **Weight:** 25 lbs (11.4 kg)

