

H-6805

Temperature Measurement Bench

Purpose

The Hampden **Model H-6805** Temperature Measurement Bench is designed to allow students to determine the operating characteristics of temperature measuring devices. The student is able to measure the accuracy, response time, repeatability, hysteresis and other characteristics of a temperature measuring device. The unit can also be used to test temperature measuring devices against reference standards.

Description

The Hampden **Model H-6805** Temperature Measurement Bench is supplied with the following equipment:

Fluidized Sand Bath

This has a temperature range of 50-600°C (122-1112°F) with a temperature stability of $\pm 1^\circ\text{C}$ ($\pm 2^\circ\text{F}$). This unit is constructed of a stainless steel inner container with full diameter porous plate at bottom. Two inconel sheathed immersion heaters (750 watt) are located horizontally in the bath at a point just above the porous plate. The steel outer case is painted in heat resistant paint and insulated with 1" fiberglass insulation. Provided is a circuit breaker, pilot light, temperature control, burnout protection, and built-in pressure switch. This unit also requires an air pump with filter and regulator for operation at 20 kPa (3 psig). This unit uses aluminum oxide as the medium.

Ice Point Reference Chamber

This unit is a state-of-the-art thermoelectric refrigerator designed for calibration of temperature instruments and temperature sensors.

Temperature Reference Probes:

- 1- Type K
- 1- Type J, optional
- 1- Type T, optional
- 1- Type E, optional



Model H-6805 shown with optional models **H-6805-10**, **H-6805-20**, **H-6805-30**, **H-6805-40**, and **Model H-6805-50**
Dimensions: 52"H x 48"W x 30"D
Shipping Weight: 600 lbs

Temperature Measurement and Indication

This unit is equipped with a type K thermocouple setup, 100-ohm platinum RTD setup, millivoltmeter setup and two thermometers. Other temperature setups are available. Each thermocouple setup includes reference probe, general purpose probe, pair of panel jacks, two position selector switch, digital panel meter and extension cable.

This unit is supplied with operating instructions and Technical Reference Data.

Computer Data Logging

The addition of National Instruments analog I/O modules interfaced into a PC computer through the USB port allows the measurements to be logged via a PC computer. Templates for LabVIEW® control software are included. Computer and LabVIEW® control software are included.

Specify **Model H-6805-CDL**.

Optional Equipment

MODEL H-6805-10 Air Compressor and Pressure Regulator - An oil-less air compressor with self-lubricating carbon vanes to provide the proper air supply to the fluidized bath unit. Comes complete with a pressure regulator.

MODEL H-6805-20 Thermistor package - (see RTD measurement setup)

MODEL H-6805-30 Thermocouple type J package - (see type K setup)

MODEL H-6805-40 Thermocouple type T package - (see type K setup)

MODEL H-6805-50 Thermocouple type E package - (see type K setup)

All Hampden units are available for operation at any voltage or frequency

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