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Product Name :
Temperature Measuring Apparatus

Product Code :
LBNY-0005-11200084



Description :

An electrical heating element is fitted into the block, the electrical supply provided from a variable transformer with front panel control so that the rate of heating and final temperature can be controlled as desired. Temperature Measuring Bench is designed to demonstrate a number of commonly used methods of temperature measurement, and provides the means for calibration and accuracy comparisons of the different methods. Hence, suitable measuring devices can be found for particular applications. The main unit comprises a bench mounting console which contains the hot water bath, furnace, ice bath, a digital resistance thermometer/thermocouple instrument, digital NiCr/NiA1 thermocouple instrument and power supplies. The hot water bath comprises a Dewar flask whose lid is fitted with a combined heater stirrer unit, low water cut out to provide boiling water reference at 760 mm Hg barometric pressure. Features are provided so that a number of faults commonly occurring in thermocouple systems can be demonstrated. In addition the unit may be used to provide a temperature measuring facility for use with other experiments. The furnace comprises a brass block with holes drilled to accept a glass thermometer, resistance thermometer and thermo-couple. An over temperature thermostat is set to limit the maximum temperature to 250°C. The heater unit incorporates an adjustable thermostatic temperature control and over-temperature cut-out.

Technical Specification :

Experimental Capability:

- Demonstrates common faults occurring in thermocouple systems
- Allows investigation into basic thermocouple laws and their applications
- Demonstrates common methods of temperature measurement
- Compares accuracy and method of calibration
- Conduction errors

Lead errors
Dynamic response
Errors associated with incorrect applications
Can be used as a service facility for other experiments.



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