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Product Name :	**Product Code :**
Thermal Conductivity of Metal Rod	NLAB-TECHNICALAB24005

Description :

Thermal Conductivity of Metal Rod

Technical Specification :

The experimental set up consists of metal bar, one end of which is heated by an electric heater while the other end of the bar projects inside the cooling water jacket. A cylindrical shell filled with insulating material surrounds the middle portion of the bar. The temperature of the bar is measured at different sections. Heat Input to the heater is given through variac. By varying the heat input rates, data can be obtained. Water at constant rate is circulated through the jacket and its flow rate and temperature rise is noted.

EXPERIMENTATION:

To plot the temperature distribution along the length of Bar.

To determine the thermal conductivity of given bar at various temperatures.

UTILITIES REQUIRED:

Continuous Water supply @2LPM at 0.5 Bar

Floor Drain.

Electricity Supply: 1 Phase, 220 V AC, 2 Amp.

Table for set-up support.

Stop Watch

TECHNICAL DETAILS:

Metal Bar

Material: Copper

Length: 400 mm (approx.)

Diameter: 25 mmInsulating shell

Length: 250 mm

Diameter : 200 mm Cooling Water Jacket

Length: 75 mm

Diameter : 100 mm

Heater:Nichrome Wire.

Water Flow measurement: By Measuring cylinder

Control panel comprising of Digital Voltmeter: 0-300 Volt.

Variac: 0-230 V, 2 Amps.

Digital Temp.Indicator: 0-199.90C, with multi-channel switch,

Temperature Sensors: RTD PT-100 type.

With standard make on/off switch, Mains Indicator etc.

The whole setup is mounted on a powder coated base plate.

Instruction Manual : An ENGLISH instruction manual will be provided along with the Apparatus

Naugralabequipments

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