

**Technical Description:**

The apparatus is designed to determine thermal conductivity of different building materials like brick, concrete or any metal. The apparatus consists of a heater at the bottom (plate made of copper or brass). Then there is cooling plate at the top of the section (cooling plate made of aluminum) and it requires continuous supply of water. In between heating and cooling plate, sample of building material can be placed. The cross section of the sample has to be of fixed dimension as per the design but the thickness can be varied within certain limits. An arrangement is given to move the cooling plate up and down, hence resulting in allowing samples of different thickness to be tested. The cooling plate removes heat through one end of the building material and bottom plate is continuously heated, hence creating a heat flux which ensures the heat flows only in one direction hence minimizing the error. Temperature is measured across the bottom heated layer and top cooling plate. The complete assembly is properly insulated.

LEARNING OBJECTS/EXPERIMENTATION:

- Determination of thermal conductivity of SOLID.

REQUIREMENT FOR OPERATION:

- Electricity Supply: 1 Phase, 220 V AC, 2 Amp.
- Table for set-up support.

TECHNICAL SPECIFICATION:

- Heating Plate: Made of copper or brass with Electric heater: 500W max., Plate size: 200 X 200mm max (can be varied as per requirement)

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



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- Cooling Plate: Made of aluminum, with cold water inlet and outlet supply, Plate size: 200 X 200mm max (can be varied as per requirement)
- Specimen to be tested is placed in such a way that it gets sandwiched between two heat flux sensors/plates.
- Lifting arrangement: Handwheel to lift the plate.
- Insulation: Ceramic Wool.

Control Panel:

- Standard make on/off switch, Mains Indicator etc.

Scope of Delivery:

- 1 Self-contained "THERMAL CONDUCTIVITY OF SOLID" Apparatus.
- 1 Instruction Manual consisting of experimental procedures, block diagram etc.

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