



### Features

Tesca Thermal Conductivity of Insulating Powder Apparatus consists of an insulating powder, which is enclosed in a cavity of two concentric spheres. The inner space of the inner sphere contains the mica heater. Input to the heater can be adjusted by the variable transformer. Theappings on the surfaces of the inner sphere and outer sphere are used to find out the temperature difference between the spheres. This enables to find out the conductivity of powder.

The Apparatus comes with heater, control panel and consists of digital voltmeter.

### Technical Specifications:

- Radius of the inner copper sphere,  $r_i$ : 50 mm
- Radius of the outer copper sphere,  $r_o$ : 100 mm
- Digital Voltmeter: 0-300V
- Digital Ammeter: 0- 2 Amps
- Temperature indicator 0 – 300 °C, with multi-channel switch
- Variable Auto-Transformer 0- 230 V @ 2Amps
- Heater coil – Strip heating element sandwiched between mica sheets – 200 watts
- Chromel alumel thermocouples – No. (1) to (4) – embedded on inner sphere to measure T
- Chromel alumel thermocouples – No. (5) to (10) – embedded on outer sphere to measure T
- Insulating powder – Asbestos magnesia commercially available powder and packed between the two spheres

### Experimental Capabilities

- Determination of thermal conductivity of insulating powder
- Comparison of thermal Conductivity of insulating powder at different temperatures

### Services Required

- Mains Power Supply 220/240V, 50Hz, Single phase
- Table for Set-up support.

Note: Specifications are subject to change.

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