

Product Name :
Natural Convection Heat Transfer Apparatus

Product Code :
NEGEMG165



Description :

Natural Convection Heat Transfer Apparatus

The equipment is designed to determine heat transfer rate in natural convection. It consists of a vertical hollow copper tube with a heating coil evenly spaced inside it. It is assembled in a wooden box with a glass door. A number of thermocouples are fitted on the surface of the tube along its length; one thermocouple is used to record the ambient temperature of the surrounding.

The control panel consists of a dimmer stat to control the voltage supplied to the heating element. A Voltmeter, an ammeter, and a digital temperature indicator are also provided.

Detailed Operation & Maintenance Manual is provided along with the trainer.

Specifications :

- Test Pipe: Copper Pipe, Diameter 30 mm, Length of Pipe 500 mm
- Wooden Cabinet: Cabinet with glass door on front side for housing the pipe
- Heater: Rod Type Heater, Capacity 300 W, Supply 230 V AC
- Dimmer: Range 0-250 V AC, 2 A
- Digital Voltmeter: 0 – 500 V AC for Heater Load
- Digital Ammeter: 0 – 2 A AC for Heater Load
- Temperature Sensor: Type 'K' Thermocouples – 12 Nos.
- Temperature Indicator: 12 Channel Indicator with Selector Switch, Range 0-199.9 °
- Base Frame: Made of M.S. Square Tubes & Sheets, welded & powder coated for long life

Experimental Capabilities:

- To study phenomenon of Heat Transfer in Natural Convection.
- To determine the Heat Transfer Coefficient (h) in Natural Convection.
- Comparison of experimental results with theoretical values.

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