

Product Name :
Forced Convection Apparatus

Product Code :
NEGEMG166



Description :

Forced Convection Apparatus

The **Forced Convection Apparatus** is designed to determine heat transfer rate in forced convection. It consists of horizontal copper tube heated by an electric heater. Number of thermocouples are fitted on the surface of the tube along its length. The test pipe is housed inside a steel pipe. A blower provides forced convection of air by blowing the air at high velocity to cause turbulent flow. Flow rate of blower is measured by orifice plate & U Tube Manometer. The control panel consists of a dimmers stat to control the voltage supplied to the heating element. A Voltmeter, an ammeter and a digital temperature indicator are also provided.

Specifications:

- Test Pipe: Copper Pipe, Diameter 30 mm, Length of Pipe 500 mm

- Electric Heater: Capacity 300 W, Supply 230 V AC
- Air Blower: Centrifugal Blower, 230 V AC
- Orifice Plate: For Air Flow measurement
- Manometer: U tube manometer, 0-300 mm WC
- Dimmer: Range 0-250 V AC, 2 A
- Digital Voltmeter: Range 0-500 V AC
- Digital Ammeter: Range 0-2 A AC
- Temperature Sensors: Type 'K' Thermocouples – 12 Nos
- Temperature Indicator: 12 Channel Indicator with Selector Switch, Range 0-199.9 °
- Frame: Made of M.S. Square Tubes & Sheets, Welded & Powder coated

Experimental Capabilities:

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

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