

**Product Name :**  
Heat Transfer In Natural Convection**Product Code :**  
ALABS-A104-356**Description :****Heat Transfer In Natural Convection**

- The setup consists of a brass tube fitted in a rectangular duct in a vertical position.
- The duct is open at the top and bottom, and forms an enclosure that serves the purpose of undisturbed surrounding.
- One side of the duct is fitted with a transparent acrylic window for visualization.
- An electric heating element is kept in the vertical tube that in turns heats the tube surface.
- The heat is lost from the tube to the surrounding air by natural convection.
- The temperature of the vertical tube is measure by temperature sensors and displayed by a Digital Temperature Indicator with multi channel switch.
- The heat input to the heater is measured by a Digital Ammeter and a Digital Voltmeter and is varied by a variac. The tube surface is polished to minimize the radiation losses.

**Experimentation:**

- To determine average heat transfer coefficient under natural convection

**Utilities required:**

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

**Technical Specifications:**

- Diameter: 38 mm (approx)
- Length: 500 mm (approx)
- Heater: Nichrome Wire
- Digital Voltmeter: 0-300 Volt
- Digital Ammeter: 0-2 Amp
- Variac: 0-230 V, 2 Amp
- Digital Temp.Indicator: 0-3000C, with multi-channel switch
- Temperature Sensors: RTD PT-100 type
- Instruction Manual: An english instruction manual will be provided along with the Apparatus



## **Equipments Exporters**

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