Product Code . JL-HTINC-7376

Heat Transfer In Natural Convection

Description

Heat Transfer In Natural Convection

The setup consists of a brass tube fitted in a rectangular duct in a vertical fashion.

The duct is open at the top and bottom, and forms an enclosure and serves the purpose of undisturbed surrounding.

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.

One side of the duct is fitted with a transparent good quality Acrylic window for visualization.

The temperature of the vertical tube is measure by Temperature Sensors and displayed by a Digital Temperature Indicator with multi-channel switch.

The tube surface is polished to minimize the radiation losses.

The heat input to the heater is measured by a Digital Ammeter and a Digital Voltmeter and is varied by a variac.

Experiment:

To determine average heat transfer coefficient.

Utilities Required.

Table for set-up support.

Electricity Supply: I Phase, 220 V AC, 2 Amp.