

HT-007. HEAT TRANSFER IN NATURAL CONVECTION



RANGE OF EXPERIMENTS TO BE CARRIED OUT :

1. To study the temperature distribution along the length of a vertical pipe in natural convection.
2. To calculate Gr, Pr & Nu number in natural convection.
3. To determine the surface heat transfer coefficient for a vertical tube losing heat by natural convection.
4. The experiments can be conducted at various values of input & calculation can be made accordingly.

TECHNICAL DESCRIPTION :

The apparatus consists of a brass tube fitted in a duct in vertical fashion. The duct is open at the top & bottom & forms an enclosure & serves the purpose of undisturbed surrounding. One side of the duct is made up of Perspex for visualization. An electric heating element is kept in the vertical tube. The temperature of the vertical tube is measured by thermocouples. Auto transformer is provided for varying the input to the heater & measurement of input is carried out by a voltmeter, ammeter

DIMENSIONS AND WEIGHT :

Size :1.5 m.(L)x 1.0 m(W) X 0.7m (H) , Table Top

Weight :Approx. 55 Kg

SERVICE REQUIRED :

230 v Ac Supply 50 Hz

SCOPE OF DELIVERY:

1. Experimental Setup
2. Instructional Manual

OPTIONAL FACILITY: Data logging Facility