Order Code : 20213501.1.9
Name : Heat Transfer In Natural Convection

HEAT TRANSFER IN NATURAL CONVECTION

INTRODUCTION

This This experimental set up is designed to study the Natural Convection phenomenon from a vertical cylinder. ' Heat Transfer In Natural Convection Apparatus consists of a brass tube with heater fitted in a rectangular duct in vertical fashion. One side of duct is made up of Perspex for visualisation. Electric heating element is kept in the brass tube. The temperature of the vertical tube is measured by seven thermocouples at seven points. Tube surface is polished to minimize the radiation losses.

FEATURES

1.Duct serves the purpose of undisturbed surrounding.
2.Digital temperature indicator Complete panelised instrument for electric input .
3.Seven thermocouples to obtain temperature distribution clearly.
4.Completely panelized instrument for electric input.

RANGE OF EXPERIMENTS

1. To determine average heat transfer coef Ficient.
2. To calculate and plot variation of local heat transfer coefficient along the length of the tube.

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.

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HEAT TRANSFER IN NATURAL CONVECTION

SPECIFICATIONS

1. Enclosure size:200 mm x 200 mm x 900 mm
2. Tube size (test cylinder) 25 mm diameter x 400 mm length
   Fin size as per your requirement .
3. Nichrome heater(cartridge type):400 watt
4. Digital Control Panel
   a) LCD Display.
   b) Thyristor based power control.
   c) Power Measurement using CT / PT
   d) PC interface on RS 232 / 485 **(Optional at Extra cost)**
   e) Data Acquisition and Calculation software - **(Optional at Extra cost)**
   f) RTD(PT 100) for temperature measurement .

INSTRUCTION MANUAL

A manual is supplied which gives details of the equipment procedure of experiments along with Sample calculations.

SERVICES REQUIRED

230 v A.C. single phase stabilized electric supply with earthing connection.
2 mt x 1.5 mt approximately

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