

Heat Transfer Lab

KHT-06 Heat Transfer In Natural Convection

Specifications:

- Enclosure size :
20 cm x 20 cm x 75 cm.
- Tube size (Test cylinder) 38mm (O. D.) x 50 cm Long
- Nichrome heater (Cartridge type)
- Control Panel Comprising of:
I) Voltmeter – 0 – 200 V
ii) Ammeter – 0 – 2 Amp
iii) Dimmerstat - 0 - 2Amp, 240V
iv) Digital Temperature Indicator 0-300°C Chromel - Allumel thermocouples provided with cold junction compensation.

Range of Experiments:

- To determine average surface heat transfer coefficient for a losing heat by forced convection.
- Comparison of heat transfer coefficient for different air flow rates & heat flow rates.
- To calculate Reynolds number and Nusselt number for each experimental condition.
- To plot surface temperature distribution along the length of pipe.



KHT-07 Emmissivity Measurement Apparatus



Specifications:

- Test plate & Reference plate size – 160mm dia.
- Enclosure with one side of Perspex sheet.
- Heater-200v, 400 watt, Nichrome wire type. Sandwiched between mica sheets.
- Control panel consisting of –
 - Voltmeter – 0 – 200 V ,
 - Ammeter – 0 – 2 Amp
 - D. P. D. T. Selector switches for voltmeter & ammeter.

- Digital Temperature indicator 0-300°C. Using Chromel - Alumel thermocouples provided.
- Dimmer stats for test plate and black plate.

Range of Experiments:

- Determination of Emissivity of non black Surface.
- Study of variation of Emissivity of test plate with respect to absolute temperature.

KHT-08 Heat Transfer through Composite Walls

Specifications:

- Slab size :
M.S.- 300mm x 25mm thick 2nos.
Press Wood - 300mm x 12mm thick 2nos.
Bakelite - 300 mm x 19 mm thick 2nos.
- Nichrome heater of suitable capacity.
- Control Panel comprising of –
 - i) Voltmeter 0 - 200 Volts
 - ii) Ammeter 0-2 Amps.
 - ii) Dimmer stat 0-230Volts, 2Amps.
- Digital temperature indicator 0-200°C using Chromel - Alumel thermocouples cold provided with cold junction compensation.
- Wooden cabinet of suitable size to accommodate the slab assembly with hand screw press.

