

► KHT-09 Heat Transfer through Lagged Pipe



Specifications:

- Pipes Length of Pipes – 1m (approx).
- M. S. Pipe inside – 5cm dia. approx, M. S. Pipe Middle – 10cm dia (approx).
- M. S. Pipe Outer – 10cm Control Panel consisting of
 - Voltmeter-0-200 Volts.,
 - Ammeter – 0 – 2 Amp.
 - Dimmer stat for heater, 0 - 230 Volts, 2 Amp.
 - Digital Temperature indicator, 0-300°C using Chromel-Allumel thermocouples, provided with cold junction

compensation. Nichrome cartridge heater of suitable capacity and length.

Range of Experiments:

- To determine heat flow rate through lagged pipe and compare it with the heater input for known values of thermal conductivity of lagging material.
- To determine thermal conductivity of lagging material by assuming input to be heat flow rate.
- To plot temperature distribution across lagging material.

► KHT-10 Stefan Boltzman Apparatus

Specifications:

- Hemisphere dia – 200 mm (approx).
- Jacket disc - 250 mm.
- Test disc size – 20 mm dia x 1.5mm thickness.
- Water tank of sufficient capacity with a 1.5 kw immersion heater. Control Panel comprises of :-
 - Supply for heater.
 - Digital temperature indicator 0-200°C using Chromel-Allumel thermocouples,

provided with cold junction compensation.
iii) Built in timer for temperature readings at 5 seconds interval.

Range of Experiments:

- Determination of Stefan – Boltzmann constant.
- Study of effect of hemisphere temperature on the constant.



► KHT-11 Shell and Tube Heat Exchanger



Specifications:

- Shell - Material - M. S.
 - Inner dia - 208mm
 - Thickness - 6mm
 - Length - 500mm
- Tubes - Material - Copper
 - I. D. - 13mm
 - O. D. - 16mm
 - Length of tubes - 500mm
 - Number of Tubes - 16
- Thermometers- 10-0- to 110°C - 2nos.
- Geysers - 230 V A. C. 3kw. - 1 nos.

Range of Experiments:

- Determination of heat transfer coefficient for inner and outer surface of tubes.
- Study of variation of heat transfer coefficient with the type of flow.