

Product Name :

Heat Transfer Through Lagged Pipe for engineering schools

Product Code :

HTL002

Description :

Heat Transfer Through Lagged Pipe, technical teaching equipment for engineering

The setup is designed and fabricated to study lagging phenomenon in case of pipes. It consists of three concentric pipes of small thickness as compared to diameter and are arranged concentrically, and closed with the help of two discs. Two different insulating materials fill the annuli between the cylinders. Temperature Sensors are fitted to measure the temperature of pipe walls for radial outward heat flow measurement. Inside the inner pipe, a Nichrome wire heater is placed axially. Heat input to the heater is given through a variac and measured by Digital Voltmeter and Digital Ammeter.

EXPERIMENTATION:

Ø To

estimate the actual rate of heat transfer through the composite cylinders from the measured interface temperature of the two insulating materials with known thermal conductivities. Ø To determine the effective thermal conductivity of the composite cylinder. Ø To compare the theoretical temperature profile within the composite cylinders, with that of observed profile

UTILITIES REQUIRED :

- Electricity Supply : 1 Phase, 220 V AC, 2 Amp.
- Table for set-up support.

TECHNICAL DETAILS :

G.I. Pipe Inner : 5 cm dia. Approx.

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- G.I. pipe middle : 10 cm dia. Approx.
- G.I. Pipe outer : 15 cm dia. Approx.
- Length of Pipes : 60 cm Approx.
- Heater : Nichrome Wire
- Digital Voltmeter : 0-300 Volt.
- Digital Ammeter : 0-2 Amp.

Technical Specification :

Heat Transfer Through Lagged Pipe

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