

**Product Name :**  
HEAT TRANSFORMER THROUGH LAGGED PIPE

**Product Code :**  
TRANSFORMER0004



### Description :

HEAT TRANSFORMER THROUGH LAGGED PIPE

### Technical Specification :

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 annular between the cylinders compactly. Temperature Sensors are fixed 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. By varying the heat input rates, wide range of experiments can be performed.

#### Experiments

- To estimate the actual rate of heat transfer through the composite cylinders from the measured interface temperature of the known value of thermal conductivity of the best insulating material.
- To determine the effective thermal conductivity of the composite cylinders
- To determine the theoretical temperature profile within the composite cylinders

#### Utilities Required

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

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