

Product Name : Astra Scientific Heat Transfer Through Lagged Pipe With Data Acquisition	Product Code : HeatMassLab0012
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Description :

Astra Scientific Heat Transfer Through Lagged Pipe With Data Acquisition

Technical Specification :

The Offers basic experiments Heat conduction is one of the three basic forms of heat transfer. Kinetic energy is transferred between neighboring atoms or molecules. The heat transport is material-bound. This type of heat transfer is an irreversible process and transports heat from the higher energy level, i.e. higher absolute temperature, to the lower level with lower temperature. If the heat transport is maintained permanently by means of the supply of heat, this is called steady heat conduction. The most common application of heat conduction in engineering is in heat exchangers.

The experimental unit can be used to determine basic laws and characteristic variables of heat conduction in solid bodies by way of experiment. The experimental unit comprises a linear and a radial experimental setup, each equipped with a heating and cooling element. Different measuring objects with different heat transfer properties can be installed in the experimental setup for linear heat conduction. The experimental unit includes with a display and control unit.

Sensors record the temperatures at all relevant points. The measured

values are read from digital displays and can be transmitted simultaneously via USB directly to a PC, where they can be analyzed using the software included.

FEATURES:

- Linear heat conduction (plane wall)
 - o Determination of temperature profiles for different materials
 - o Determination of the temperature profile in case of a disturbance
 - o Determination of the thermal conductivity ?
- Radial heat conduction
 - o Determination of the temperature profile
 - o Determination of the thermal conductivity ?
 - o Useful for institutions, research laboratories & insulating powder manufactures
 - o Functions of the software: educational software, data acquisition, system operation

SPECIFICATION:

- Linear heat conduction
- 3 measuring objects, insulated

1x DxL: 25x30mm, steel

1x DxL: 15x30mm, brass

1x DxL: 25x30mm, brass

- Heater: 140W

Radial heat conduction

- Disc DxL: 110x4mm
- Heater in the center of the disc: 125W
- Cooling coil on the outer edge of the disc
- Measuring ranges

temperature: 2x 0...325°C

Heating power: 0...450W

- Required for Operation

230V, 50Hz, 1 phase

230V, 60Hz, 1 phase; 120V, 60Hz, 1 phase



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