

Product Name :
Linear Heat Conduction**Product Code :**
ALABS-A143-004**Description :**

Linear Heat Conduction

Technical Specification :

Linear Heat Conduction

A small-scale accessory designed to introduce students to the principles of linear heat conduction, and to enable the thermal conductivity of various solid conductors and insulators to be measured.

Comprises a heating section, cooling section plus four intermediate section conductor samples and two insulator samples.

The heating section, cooling section and one of the intermediate sections are fitted with thermocouples (eight in total) evenly spread along the length of the assembled conduction path.

All sections are insulated to minimise errors due to heat loss.

Includes a water pressure regulator and a manual flow control valve.

Includes a water pressure regulator, an electronic proportioning solenoid valve to control the cooling water flow rate and a water flow meter.

Heater power variable up to 60 Watts.

Water flow rate variable up to 1.5l/min.

Heating and cooling sections, 25mm diameter.

The accessory is mounted on a PVC baseplate, which is designed to stand on the bench top and connect to the Heat Transfer Service Unit without the need for tools.

A comprehensive instruction manual is supplied.

Technical Details:

The accessory comprises a heating section and cooling section, which can be simply clamped together or clamped with interchangeable intermediate sections between them, as required. The temperature difference created by the application of heat to one end of the resulting wall and cooling at the other end results in the flow of heat linearly through the wall by conduction.

Thermocouples are positioned along both the heated sections at uniform intervals of 15mm to measure the temperature gradient along the sections.

A pressure regulator is incorporated to minimise the effect of fluctuations in the supply pressure.



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