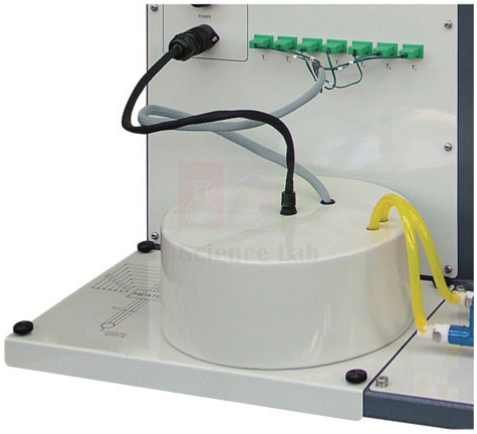
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Product Name :

Radial Heat Conduction Experiment

Product Code :

SLE/EA/25



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Description :

Radial Heat Conduction Experiment (Product Code: SLE/EA/25) is a teaching module used to study steady-state heat conduction outwards through a solid disc in engineering heat transfer laboratories. Mechanical engineering students use it to map the radial temperature profile, readby seven thermocouples set at equally spaced radii on a solid brass disc heated at its centre. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM manufacturer of engineering lab equipment in India, at its own factory in Ambala.

Specifications

Parameter	Detail
Test piece	Solid brass disc
Heat source	Electric heater at the centre of the disc
Heat sink	Circular cross-section cooling tube around the circumference of the disc
Temperature sensors	Seven thermocouples at equally spaced radii on the disc
Insulation	Around the disc, reducing heat loss by convection and radiation
Mounting	Base plate with a clear schematic of the experiment layout
Electrical connections	Heater and thermocouples plug into sockets on the Heat Transfer Experiments Base Unit
Cooling water	Cold water feed and drain for the heat sink, provided through the base unit
Product code	SLE/EA/25
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Radial Heat Conduction Experiment Used For?

Students turn on the cooling water flow through the rim tube, then adjust the heater power and wait until the disc reaches equilibrium. At steady state, the seven thermocouple readings give temperature against radius from the hot centre to the cooled edge. Because the heat spreads through an ever-larger circumference as the radius grows, the temperature does not fall in a straight line, and students compare their curve with the logarithmic profile that Fourier's law predicts for radial conduction.

Typical practicals include estimating the thermal conductivity of the brass from the heater power and the measured temperature gradient, then repeating the test at a second heater setting to check consistency. The insulation around the disc limits convection and radiation losses, so results should match simple radial conduction theory — a good check on careful technique. The module suits lab equipment for technical institutes, polytechnics and university heat transfer cours

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