

Study of Thermal Conduction

DESCRIPTION

- This unit is delivered complete with instrumentation and includes a technical and instruction manual.
- This unit is designed for the study of radial and linear conduction.
- The equipment can be used at different levels and in various fields of study.



SUGGESTED APPLICATIONS

Study of thermal exchanges by conduction.

Study of linear and radial conduction laws.

Determination of the thermal conductivity of different materials.

Study of contact surface resistance and variation.

Determine temperature gradients according to different transfer rates.

Study of the influence of a conductive paste added between the samples and the hot water source.

The thermal conduction unit is made up of :

- Aluminium profiled chassis equipped to study linear conduction and radial conduction with cold water circulation.
- An electric console which regulates the power supplied to the heating elements, and acts as the analog/numerical interface for the temperature probes in the unit. An RS 232 output is provided to allow for the observation of temperature readings in real time while the heat transfer is occurring.
- Linear conduction module
 - Transmitting Ø 25 mm metal cylinder of heat, isolated from outside, equipped with three temperature sensors distributed linearly
 - Receiving metal cylinder of heat, isolated from outside, equipped with three temperature sensors. This element is cooled by cold water circulation
 - Cylindrical sample of different materials (Ø 25 brass, Ø 25 stainless steel, Ø 15 brass), isolated from the environment, equipped with three temperature probes spaced linearly. Samples can be quickly removed by activating a spring-loaded clamping lever. This module makes it possible to study the influence of the nature of materials and the surface contact between the elements on the transmission of heat.
- Radial Conduction study Module
Consists of a metallic disk heated inside the centre, isolated from the environment, equipped with six temperature probes spaced linearly on its radius and periphery (cooled by cold water circulation) which allow checking heat spreading.

UTILITIES

Electricity : 230 V single-phase - 50/60 Hz
Water : 3 L/min

DIMENSIONS

Length : 700 mm - Width : 700 mm - Height : 600 mm