



## THERMAL CONDUCTIVITY of LIQUID and GASES MODULE H112H



Year 1  
study

### Description

A small scale bench top accessory designed to allow experimental investigation of the thermal conductivity of liquids and gases. The unit is designed specifically for teaching purposes. The unit comprises a heated plug and water cooled jacket with a small radial clearance in which gas or liquid samples may be tested. The thin laminar film prevents natural convection in the fluid under test. The temperatures either side of the sample under test are recorded by integral thermocouple sensors. The unit is calibrated using air, in order to account for incidental heat losses and is suitable for determining the thermal conductivity of viscous non-corrosive liquids such as oils, glycerine etc. and non-flammable gases. The unit may be readily dismantled for cleaning and is re-assembled with a single bolt and replaceable O ring seals. Heat input is both measured and controlled by the Heat Transfer Service Unit H112 which also provides instrumentation for measurement of the temperatures on either side of the sample under test.

### Related Laws/Applications

- Mechanical Engineering
- Nuclear Engineering
- Chemical Engineering
- Control and Instrumentation
- Plant and Process Engineering
- Building Services
- Engineering Physics
- Refrigeration
- Marine Engineering

### Learning capabilities

- Calibration of the unit to establish the effect of incidental heat transfers.
- Determination of the thermal conductivity of any suitable gas or liquid compatible with the materials of construction.

**Technical Specification**

- Plug: Ø39mm
- Plug effective length: 110mm
- Radial Clearance: 0.3mm (nominal)

**Essential Ancillaries**

- H112

**What's in the Box?**

- 1 x H112H
- 1 x Stand
- 1 x Storage Case
- 1 x Spare Tubing
- 1 x Tool set
- Instruction manual
- Packing List
- Test sheet

**Weights & Dimensions**

- Weight: 1 kg
- Length: 180mm
- Width: 100mm
- Height: 80mm

**Essential Services**

- H112

**Ordering information**

To order this product, please call PA Hilton quoting the following code:  
H112H

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COUNTRY OF ORIGIN - UK WARRANTY PERIOD - 5 YEARS