



## FREE and FORCED CONVECTION FROM FLAT, PINNED and FINNED PLATES

H352D



Year 1  
study

### Description

The accessory includes three plates with integral heaters and temperature sensors that are each designed to fit the aperture in the Cross Flow Heat Exchanger H352 duct. A heated flat plate with surface thermocouple may be directly compared with a similar pinned plate and finned plate also fitted with a surface thermocouple. In addition to expand understanding of the heat transfer enhancement from extended surfaces, the pinned and finned plates each have three thermocouples arranged at intervals along a fin and a pin. Each of the plates plug directly into the Cross Flow Heat Exchanger H352 instrumentation console and this allows measurement of the low voltage power supplied to the heater and the surface temperatures. The instrumentation console also limits the active element surface temperature to approximately 100°C.

### 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

- To Demonstrate the Relationship Between Power Input and Surface Temperature in Free Convection.
- To Demonstrate the Relationship Between Power Input and Surface Temperature in Forced Convection.
- To Demonstrate the use of Extended Surfaces to Improve Heat Transfer From the Surface.
- To Determine the Temperature Distribution Along an Extended Surface.

**Technical Specification**

- Flat Plate HE: 100W heater mat, aluminium plate
- Pinned Plate HE: 100W heater mat; aluminium plate with 25 pins.
- Finned Plate HE: 100W heater mat, finned aluminium plate.

**Essential Ancillaries**

- H352

**Recommended Ancillaries**

- H352A
- H352B
- H352C
- H352E
- H352F
- H352G

**What's in the Box?**

- 1 x H352D
- Instruction manual
- Packing List
- Test Sheet

**You might also like**

- H352A
- H352B
- H352C
- H352E
- H352F
- H352G

**Weights & Dimensions**

- Weight: 6.5 kg
- Length: 210mm
- Width: 80mm
- Height: 200mm

**Essential Services**

- H352

**Ordering information**

To order this product, please call PA Hilton quoting the following code:  
H352D

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