

**Product Name :**  
Free and Forced Convection

**Product Code :**  
ALABS-A104-319

ALTEC™

**Description :**

**Free and Forced Convection**

- A bench mounted unit specifically designed to demonstrate the phenomena of free and forced convection and to measure temperature profiles from three different heat transfer surfaces
- Comprises of a vertical air duct, with a transparent front for visibility mounted on a fan at the base of the duct, three heat transfer surfaces, airflow, and temperature probes
- Technical data is included for each of the three heat transfer surfaces, which will enable students and researchers to compare practical results with theoretical analysis for free and forced convection
- Three heat transfer surfaces supplied:

- a flat plate surface area 0.011m<sup>2</sup>

- pinned extended surface area 0.0525m<sup>2</sup>

- finned extended surface area 0.1414m<sup>2</sup>

- Vertical duct incorporates a transparent front wall allowing complete visualisation of the process and identification of the airflow and temperature sensors
- Each heat transfer surface is fitted with its own heater (240W) and thermocouples, to allow for easy interchange
- All heat transfer surfaces incorporate guards to allow safe use outside of the duct for performing free convection experiments

**Technical Details:**

This unit consists of a bench mounted vertical air duct positioned on the top of a centrifugal fan. The air duct incorporates an aperture positioned at the rear wall of the duct, into which three different types of heat transfer surfaces can be inserted. The three types of heat exchanger supplied are; flat plate, cylindrical pins and finned surface. The unit incorporates an electrical heating element, with positive thermal cut-out, and thermocouples for precise temperature measurement. The clamping mechanism ensures accurate alignment of the surface inside the duct.



## Equipments Exporters

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