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Product Name :
Fluidisation And Fluid Bed Heat Transfer Unit

Product Code :
LBNY-0005-10200019



Description :

Fluidisation and Fluid Bed Heat Transfer Unit takes place within a transparent chamber and the range of bed material supplied can be rapidly changed. Alternative locally sourced bed materials and air distributors can be easily utilised for student project work. The objective of the Fluidisation and Fluid Bed Heat Transfer Unit is to investigate the gas flow through a fixed and fluidised bed and to measure the heat transfer rate and coefficients for comparison with convective heat transfer rates in air. Application of fluidised beds is more widespread in industry than is usually appreciated, covering such diverse fields as power generation to food processing.

Experimental Capabilities:

Measurement of air flow and pressure drop through a variety of granular materials, as packed and as fluidised beds.

Observation of the behaviour in a fluidised bed of a wide range of granular materials, from onset of fluidisation to entrainment.

Investigation of the effect of distributor design on bed behaviour.

Investigation of the effect of:

Depth of immersion particle size

Superficial velocity.

Technical Specification :

Digital Thermometer to indicate the temperatures of heater surface, air inlet and probe. Resolution 10C.

Manometer to measure pressure drop through bed.

The unit incorporates a glass chamber containing the bed material and an electric heater for heat transfer studies.

Fluidised Bed designed for educational studies and using air as the fluidising medium.
High quality glass reinforced plastic on which the following components are mounted:
Volt and Ammeter to indicate the heater power input. Ranges 0 to 250 V and 0 to 3 A.
Safety Features include fusing and earthing of all components and heater temperature controller.
Variable Transformer to vary the heater power input.
Flow Meters to measure air flow through bed. Range 0.15 to 3.5 litres/sec.



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