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Product Name : Solar Energy Demonstration Apparatus	**Product Code :** LBNY-0005-1730002

Description :

A heat exchanger coil is built into the reservoir such that the water temperature within the reservoir can be controlled by allowing cooler mains water to flow through the heat exchanger coil. This experiment includes a shallow heat collection tray approximately 1.2 m by 1m, the base of which is fitted with removable heat capture material. Water is pumped through the heat transfer plate, on the tray, and is returned to an insulated reservoir mounted on the base of the unit The water is continuously re-circulated through the transfer plate so that the temperature in the reservoir gradually builds up. An inclinometer to indicate the degree of tilt is available as an optional extra. This material assists in the heat transfer process. The heat capture and transfer plate is itself covered by a sheet of flat plate glass, which captures the radiation and reflects light back to the heat.

Features:
Temperature measurement at eight points
Removable solar radiation mat
Extendable tray angles and hence flow rates
USB data logger and PC
Ability to tilt base continuously by +10º and -10º to the horizontal
Horizontal rotation of basin through 180º
Variable angle of incidence of sunlight on the absorbing pad
Non corrosive materials used in all critical areas
Variable thermal insulation material mounted horizontally on a rigid steel stand.

Technical Specification :

Experimental Capability:

Measures output and efficiency against solar energy input
Investigate the effects of varying the inclination of the absorption surface and the flow rate of the water
To perform a heat balance for the overall system
Effect of insulation thickness
Effect of different absorbent surfaces
Effect of ambient temperature, wind velocity and the effect of cooling the glass cover.

Laboratory Instrument India