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Product Name :

Flat Plate Solar Thermal Energy Collector

Product Code :

SLE/ESA/06



Description :

Flat Plate Solar Thermal Energy Collector (Product Code: SLE/ESA/06) is a water-heatingsolar collector on a hinged mobile frame, used to show how flat plate collectors work and tomeasure their efficiency and heat losses in engineering and energy laboratories. Cold mainswater flows through a glazed, insulated absorber panel while a flow transducer and solarimeterrecord flow rate and incoming radiation. It is manufactured by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM, at its own factory in Ambala, India.

Key Details

Parameter	Detail
Principle	Flat plate solar energy collector heating cold mains water with sunlight
Collector construction	Purpose designed and built panel enclosed in a box with a clear cover
Absorber	Thin sheet metal absorber backed by riser tubes
Rear insulation	Insulating material to reduce heat loss to the rear
Water circuit	Cold mains water in; heated water returns to a pump that mixes it with incoming cold water
Outlet control	Pressure sensitive valve lets heated water leave at the same rate as cold water enters
Flow measurement	Flow transducer measures water flow rate
Radiation measurement	Solarimeter (or pyranometer) measures incident radiation
Frame	Sturdy mobile frame with a hinge to adjust the collector angle
Experiments	Efficiency and heat losses of a flat plate solar energy collector
Product code	SLE/ESA/06
Manufacturer	Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM
Country of origin	India (made in Ambala, Haryana)

What Is the Flat Plate Solar Collector Used For?

Flat plate collectors are the familiar rooftop solar water heaters, and this unit lets students study one under controlled conditions. Sunlight passing through the clear cover heats the sheet metal absorber, the riser tubes carry that heat into the water, and insulation behind the panel limits losses to the rear. The solarimeter shows how much energy arrives and the flow transducer how much water passes, forming the basis for working out efficiency and heat losses.

Adjusting the hinged frame changes the collector angle, so groups can compare performance at different tilts relative to the sun. The pump and pressure sensitive valve keep water moving stead the same practi