

Solar Concentrator Training System (SCTS)

The SCTS is a Solar Parabolic Trough Collector Based System consists of parabolic reflectors, absorber tube, dual axis sun tracker, piping, storage tanks and a heat exchanger. A control panel would control different devices and also measure the different parameters of the system. The system can be used to perform experiments in heat transfer, parabolic trough characteristics and heat loss at different parts of the system. The system is highly flexible – it can be used with different working fluids, different absorbing materials, different piping insulation thickness and different types of storage tanks. This gives a lot of scope for research in heat transfer and related fields. Wind speed variation and flow velocity are other parameters which can be changed to show their impact on heat transfer and heat loss.

Design

- Modular Design

Usability

- Can be used outdoors only.

Specifications

- Parabolic Trough Collector with Dual Axis Sun tracking facility, Two absorber tubes one for water heating and another for oil heating with heat exchanger setup.





Features

- Dual axis sun tracking.
- Two types of absorber tubes.
- Two types of Working Fluid
- Flexibility to change the working fluid
- Flexibility to change the absorber tube.
- Evaluation of different parameters (UL,FR and efficiency)with oil/ water as working fluid.
- Provision to vary the flow rate of fluid.
- Provision to change insulation thickness.
- An active measurement panel to measure inlet temperature, outlet temperature, plate temperature, flow of water and wind speed