

Automatic Dual-Axis Tracking Solar Dish with Stirling Engine

GREENBMG's Automatic Dual-Axis Tracking Solar Dish with a Stirling Engine is aimed at the educational market. This product is suitable for demonstrations to students at schools from the elementary to the university level



Pain Points in Renewable Energy Training

At present, the main sources of renewable energy training are websites and printed materials, which are theoretical and not 'hands-on'.

Our bench-scale product allows for a live demonstration by an instructor with the direct participation of students

Features and Design

- Tracks sun movement from sunrise to sunset
- A concave mirror focuses the sunlight and heats the air
- Can provide 1 kWh hour of energy per sunny day (enough to power a classroom's lights)
- MODES:
 - manual
 - remote
 - automatic
- Works indoors and outdoors
- Includes: Brochure, operating manual, and datasheet

How It Works

This product works to show the different stages of conversion from thermal energy to mechanical energy:

- The sun's energy is concentrated by means of the reflecting off-center dish
- The Stirling engine, placed at the focal point, then converts this concentrated heat into mechanical energy and rotates a flywheel
- Finally, the flywheel rotates a generator to produce electricity



This is suitable for ages 12+ with parental supervision. Can be used outdoors, but must keep away from any precipitation.

Specifications of Automatic Dual-Axis Tracker Solar Dish with a Stirling Engine

Parameter	Value
Sun tracker	Horizontal: 0-360°, precision 0.5° Vertical: -10 – 85°, precision 0.2°
Minimum energy flux for the engine operation	35000 Lux
Dish dimensions (mm)	57 cm, large diameter 52 cm, small diameter Focal point: 280 mm from the lower edge

Learning Goals

GREENBMG's Dual-Axis Solar Tracker with Stirling Engine trains students in:

- solar tracking
- solar energy capture
- conversion of solar energy into electrical and mechanical energy
- Global issues:
 - atmospheric and climatic changes
- Shifts in rain patterns
- Changes in solar energy intensity through the day and year

About Us

GREENBMG specializes in the development of concentrated solar energy technology applications. The goal of the projects and services offered by the company is to greatly reduce the need for expensive solar panels by using tracking mirrors which concentrate the sun's energy.