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**Product Name :**

Focusing Solar Energy Collector

**Product Code :**

SLE/ESA/05



Science Lab
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## Description :

**Focusing Solar Energy Collector** (Product Code: SLE/ESA/05) is a parabolic-reflector solar concentrator on a mobile frame, used to demonstrate the principles, advantages and limits of focusing solar energy in engineering and renewable energy teaching labs. Students aim a polished stainless steel reflector at the sun and measure how hot copper collectors of four sizes become. It is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, an OEM manufacturer, at its own factory in Ambala, India.

### Key Details

| Parameter | Detail |
|---|---|
| Design | Focusing solar energy collector on a mobile frame, specially designed for educational use |
| Reflector | Highly polished stainless steel parabolic reflector |
| Reflector mounting | Trunnion bearings on a turntable; horizontal and vertical position adjustable |
| Energy collector | Copper cylinder with an embedded thermocouple that measures cylinder temperature |
| Collector sizes | Four different sizes supplied, for comparing concentration ratios |
| Radiation measurement | Solarimeter attached to the reflector carrier measures incident solar radiation |
| Ambient reference | Extra thermocouple measures ambient temperature |
| Collector cover | Removable transparent cover for shielded and unshielded collector studies |
| Product code | SLE/ESA/05 |
| Manufacturer | Jain Scientific Equipments Pvt Ltd (ScienceLab) — OEM |
| Country of origin | India (made in Ambala, Haryana) |

### What Is the Focusing Solar Collector Used For?

Concentrating collectors reach higher temperatures than flat panels because a large reflector area focuses sunlight onto a small absorber. With this apparatus, students follow the sun by turning the reflector on its turntable and tilting it on its trunnions until the focus falls on the copper collector, then log collector temperature against ambient temperature and the solarimeter's incident radiation reading.

Changing between the four collector sizes alters the concentration ratio, so groups can relate absorber size to the temperature reached; repeating a run with and without the transparent cover shows how a shielded collector behaves compared with an open one. The mobile frame makes it easy to take the unit outdoors on a clear day. Keep hands and eyes away from the focal point, where

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