



☰ SOLAR LIGHT SOURCE

TE39A

Light bank allowing for weather-independent solar experiments on demand. Designed to be used with TecQuipment's Flat Plate Solar Thermal Energy Collector (TE39).



KEY FEATURES

- Designed to work with TecQuipment's Flat Plate Solar Thermal Energy Collector (TE39)
- Allows the solar experiments to be carried out in the lab (requires no outside space)
- Allows repeatability of experiments
- Seven rows of three infrared industrial heat lamps (21 in total)
- Quiet operation as the vertical box is vented at the top and bottom to use natural convection for cooling
- Can be used with other equipment requiring quantifiable amounts of light



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DESCRIPTION

The TE39a is a dedicated ancillary unit designed to work alongside TecQuipment's Flat Plate Solar Thermal Energy Collector (TE39).

This powerful light source enables the user to simulate sunlight on demand and conduct solar experiments, regardless of the season or weather, allowing flexible scheduling. It produces a strong, warm light beam capable of heating water in the TE39 solar collector from a distance of up to two meters.

It is designed to stand beside the TE39 and provide a controlled, consistent and direct source of light onto the solar collector surface. By supplying its own reliable light, the TE39a allows the TE39 to be operated and studied without the need for natural sunlight, making it ideal for indoor laboratory environments, or locations where sunlight is inconsistent or unavailable. This controlled light source ensures that experiments can be accurately repeated under identical conditions, removing the variation that comes with dependence on the weather or time of day.

The Solar Light Source (TE39a) features an array of seven rows of three infrared industrial heat lamps, providing a total of 21 lamps. Each row is individually controlled via switches located at the rear of the unit, allowing students to create multiple combinations of illumination levels. This flexibility makes it possible to investigate how the solar collector performs under varying radiant intensities, simulating different sunlight conditions.

In addition, the distance between the TE39a light source and the TE39 collector can be adjusted, enabling students to study how the system's thermal efficiency responds to changes in spacing. This provides further opportunities for exploring fundamental solar energy principles such as irradiance, heat transfer and collector performance under controlled laboratory conditions.

ANCILLARY FOR

- Flat Plate Solar Thermal Energy Collector (TE39)

STANDARD FEATURES

- Supplied with a comprehensive user guide
- Five-year warranty
- Manufactured in accordance with the latest European Union directives
- ISO9001 certified manufacturer

LEARNING OUTCOMES

Enables the TE39 to be used without direct sunlight to study:

- The performance and efficiency of a solar energy collector
- How to determine losses in the system

OPERATING CONDITIONS

OPERATING ENVIRONMENT:

A well ventilated laboratory

STORAGE TEMPERATURE RANGE:

-25°C to +55°C (when packed for transport).

OPERATING TEMPERATURE RANGE:

+5°C to +40°C

OPERATING RELATIVE HUMIDITY RANGE:

80% at temperatures < 31°C decreasing linearly to 50% at 40°C.

SPECIFICATIONS

TecQuipment is committed to a programme of continuous improvement; hence we reserve the right to alter the design and product specification without prior notice.

NETT DIMENSIONS AND WEIGHTS:

906 mm wide x 1750 mm high x 946 mm deep and 75 kg (with lamps fitted)

TOTAL PACKED DIMENSIONS AND WEIGHT:

1.93 m³ and 80 kg

ESSENTIAL SERVICES

ELECTRICAL SUPPLY (SPECIFY ON ORDER):

Three phase, 380 to 440 VAC, 50/60 Hz, 20 A

OR

Three phase, 220 to 240 VAC, 50/60 Hz 32 A