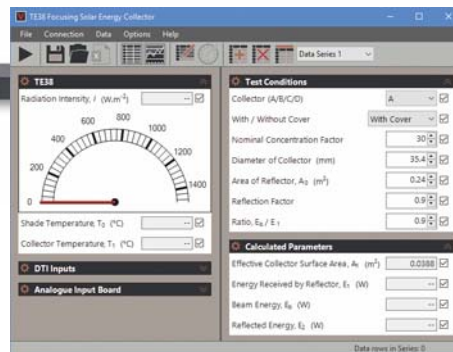


# FOCUSING SOLAR ENERGY COLLECTOR

**VDAS® TE38**

Illustrates the workings of a focusing solar energy collector and allows students to study its performance.

- Mobile, self-contained focusing solar energy collector specially designed for educational use
- Demonstrates principles, advantages and limitations of focusing solar energy collectors
- Includes four different sizes of collector for studies of different energy concentration ratios
- Removable transparent cover allows students to compare properties of shielded and unshielded collectors



SCREENSHOT OF THE OPTIONAL V DAS® SOFTWARE

## LEARNING OUTCOMES:

- Demonstrations of the performance, advantages and limitations of a focusing solar energy collector
- Understanding the effective use of the direct component of solar radiation
- Measurement of the efficiency of the collector with and without a transparent cover
- Measurement of the maximum possible energy collector temperature

A highly-polished stainless steel parabolic reflector, supported on trunnion bearings on a turntable. By adjusting the horizontal and vertical position of the reflector, students focus solar energy onto an energy collector. The energy collector is a brass cylinder with an embedded thermocouple that measures the cylinder temperature. To enable students to compare different concentration ratios, TecQuipment supplies four different sizes of energy collector. Also supplied is a removable transparent cover for the collector, so students can study the properties of shielded and unshielded collectors. Attached to the reflector carrier is a solarimeter (pyranometer) that measures the incident solar radiation.

## RECOMMENDED ANCILLARIES:

- Versatile Data Acquisition System – Bench-mounted version (VDAS-B) 299
- Stopwatch (SW1) 28

## ALTERNATIVE PRODUCTS:

- Photovoltaic Cells (TE4) 295
- Flat Plate Solar Thermal Energy Collector (TE39) 297