

XT Series Continuous Wave Solar Simulator

Product Description:

Light Assembly:

- Sends light from a continuous source, single lamp through a homogenizer and to the test platform.
- Spectral filtering can be achieved with a coarse filter.

Control Computer:

- PC-Based control computer for instrument control, data acquisition, diagnostic control, data manipulation and display.

Data Acquisition Unit:

- Performs data capture, buffering and data manipulation.
- Monitors and reports on current and voltage parameters.
- Provides an image of the light beam.

Features:

- Space for up to twelve (12) water-cooled vacuum chuck test platforms.
- The xy-stages can be controlled by a computer or manually.
- Provides for measurement of the I-V Curve on Terrestrial Solar Cells in up to 2cm x 2cm illuminated areas.
- Four (4) options of square illumination output area: .5cm, 1cm, 1.5cm and 2cm.
- Custom homogenizer sizes available
- Diagnostic stations provide images of the output profile, spectrum (optional) and UV/Pinhole measurements (optional).
- High pressure Xenon Lamp: 3000 Watt



XT-30 Solar Test Station

Benefits:

- System allows for testing Terrestrial Solar Cells at fluence levels between 625 and 1175 suns* with 1x1 cm homogenizer (unfiltered).
- Good uniformity over output area.
- Available data acquisition unit for I-V Curve measurements. (LabView based software).
- Fundamental spectral content is from a high pressure Xenon Lamp.
- Spectral content can be changed to simulate various terrestrial Air Mass Values.
- Well defined and repeatable intensity distribution from unfiltered system.

* with 1 sun defined as 900w/m²

The information contained on this sheet is for reference only. Specifications subject to change without notice. (REV. C 06/11)



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System Specifications:

Diagnostic Station Assembly:

- Spectrometers (optional): 300-1700nm, 200-2100nm and 250-2500nm available
- Pinhole spatial uniformity sensor station (optional)

Test Platform Assembly:

- Room for up to 12 water-cooled, vacuum chuck test stations
- Central, water-cooled Beam Dump

Concentrator Assembly:

- Coarse filter gets output near AM 1.5 (removable)
- Custom coarse filters available.
- Homogenizer output: 0.5, 1.0 (standard), 1.5 and 2.0 cm
- Douser Mirror to stop light exiting the cone for short periods of time.

Motorized Frame Assembly: 16"x22"x60" (40.6 x 55.8 x 152.4 cm) approximately

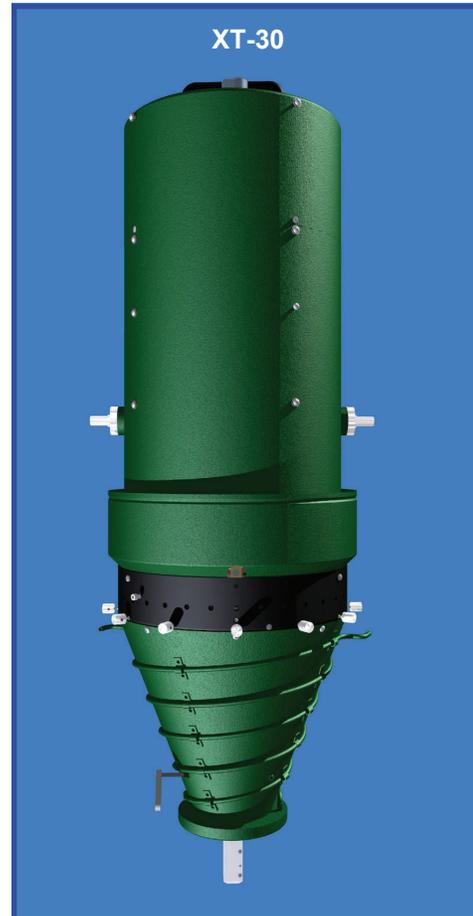
- XY-stage motion control with LabView based software provided (electronically with computer, or manually with joystick)
- Polycarbonate protective shield blocks UV light and reduces brightness transmission outside of test area.

Electronic Diagnostic Assembly:

- Data Acquisition and electronic load system allows measurements of I-V Curves (LabView based software provided).
- Four (4) quadrant measurement for true I_{sc} and V_{oc} crossing.

Xenon Arc Lamp:

- XT-30: 3,000 Watt Lamp



Systems Specifications, cont'd:

Output: (unfiltered)

- XT-30: 625 - 1175 Suns*

Included Water and Power:

- Power Supply
- 19" (48cm) Rack to hold electronics
- Thermocouples and reader to monitor temperature
- Water Chiller

* with 1 sun defined as 900w/m²

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