

# Sun 2000 High Output Solar Simulators

## 50 x 50 mm Illuminated Field Systems



Abet Technologies Model 11014 Sun 2000 High Output 50 x 50 mm Solar Simulator.

### Innovative and Complete

The Abet Gen II optical design dramatically increases the percentage of photons reaching the work plane.

All electronics are packaged in the lamp house - no clutter of high power cables to deal with. A digital shutter timer allowing both manual and external control is included with every unit.

Standard maintenance, lamp or filter replacement, does not require any tools.

Locking indicator dials on all the system controls provide for a reproducible and stable setup.

### High Output Power

For those requiring multiple sun output, the 11014 will provide more than 10 suns ( $10,000\text{W}/\text{m}^2$ ) for the 50 x 50 mm illuminated field.

### Clean Cooling

Any dust or dirt particles introduced into an optical system can degrade system performance and shorten the life of critical optical components. Sun 2000 sources utilize a HEPA filtered cooling fan to extend the life of the delicate optical components.

- Multiple Sun Output
- Class A Spectral Match
- DC Xe Arc Lamp
- Gen II Optics for High Efficiency Illumination
- Extra Long Working Distance
- Digital Shutter Timer Included

### Adaptable

Abet Technologies offers a number of spectral and field size options to match your application. The Sun 2000 family standard offerings range from 50x50 mm to 400x400 mm 1 sun or more uniformly illuminated field versions for Photovoltaic and UV applications. The Model 11014 50 x 50 mm 550W Solar Simulator provides three times the output of the Model 11000 50 x 50 mm solar simulator.

The compact design of the systems, combined with the long working distance optics, leaves the space below these instruments wide open for any sample positioning or testing equipment. Unit mounting options allow suspension from above, leaving the space below totally free if needed.

Up-pointing and horizontal output direction models are also available.

Long working distances allow easy interface to vacuum boxes.

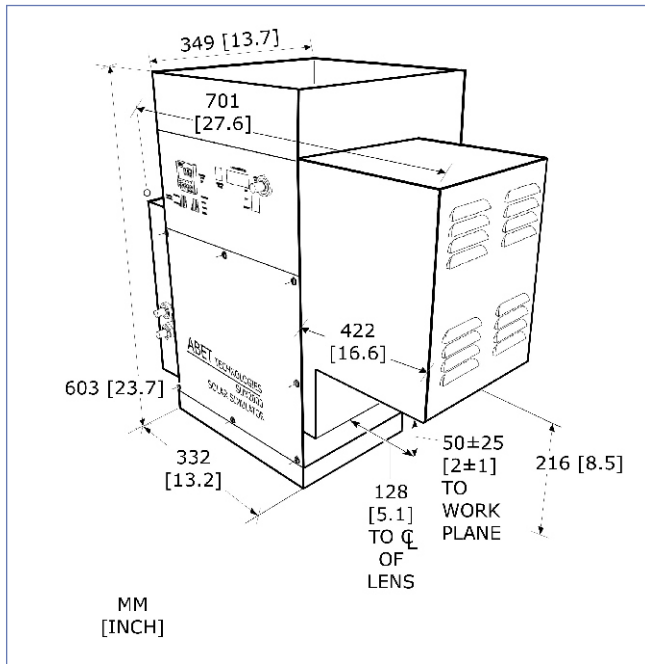
Beyond the standard AM 1.5 and AM 0 filters many other filters are offered to fine tune the spectral characteristics of the source for your particular application.

## Model 11014 Specifications

Illuminated Area.....up to 50 x 50 mm  
 Nominal working distance.....50-200 mm  
 Irradiance range .....up to 11 suns  
 Uniformity of irradiance.....<5%  
 AM 1.5 G spectral match\*.....Class A  
 Temporal Instability.....<2%  
 Ozone free arc lamp ..... 550 W  
 Typical lamp life .....1500 hours  
 HEPA filtered cooling fan included  
 Built-in electronic shutter with digital timer included  
 Built-in arc lamp supply included  
 115/240 VAC, 50/60 Hz, 10 A max

\*with 11056 1.5 G AM filter

*Abet Technologies regularly continue to upgrade our products, therefore all specifications are subject to change without notice.*



Dimensional diagram of the Abet Technologies model 11014 High Output Solar Simulator

Abet Technologies offers an expanding line of ASTM, IEC and JIS standards compliant products for solar cell PV-IV testing, steady state solar simulators, test stations, software, calibrated reference cells and a selection of electronic loads for low and high current cells.

Visit [www.abet-technologies.com](http://www.abet-technologies.com) or contact us at [sales@abet-technologies.com](mailto:sales@abet-technologies.com).

## Ordering Information

**Model 11014 does not include a filter - please choose one of the filters below to match your test needs.**

**Model 11014 uses a UV exposure limiting borosilicate glass lens for operator safety. For UV requiring applications, e.g. AM0 systems, order the fused silica condenser based 11014-2 model.**

**The 11063 Atmospheric Absorption Filter when used with the 11014-2 Solar Simulator causes UV output to mimic UV radiation distribution on Earth please ask for details.**

**For just UV needs, 280-400 nm, please review the Abet UV Solar Simulators specification sheets.**

- 11014** Full Spectrum Solar Simulator, 50 x 50 mm
- 11054** AM 0 filter, 2 x 2 in.
- 11056** AM 1.5 G filter, 2 x 2 in.
- 11057** AM 1 D filter, 3 in. diameter
- 11058** AM 1.5 D filter, 2 x 2 in.
- 11059** AM 2 D filter, 3 in. Diameter
- 11063** Atmospheric Absorption Filter
- 13021** Replacement 550 W lamp
- 11051** Replacement HEPA filter