



## FULLY REFLECTIVE SOLAR SIMULATORS SS0.5K / SS1.0K / SS1.6K / SS2.5K



### Features

- Class AAA solar simulators
- Xenon short arc lamp
- Fully reflective optical system
- No chromatic aberration
- A variety of available filters
- Modular design
- Many optional components

### Applications

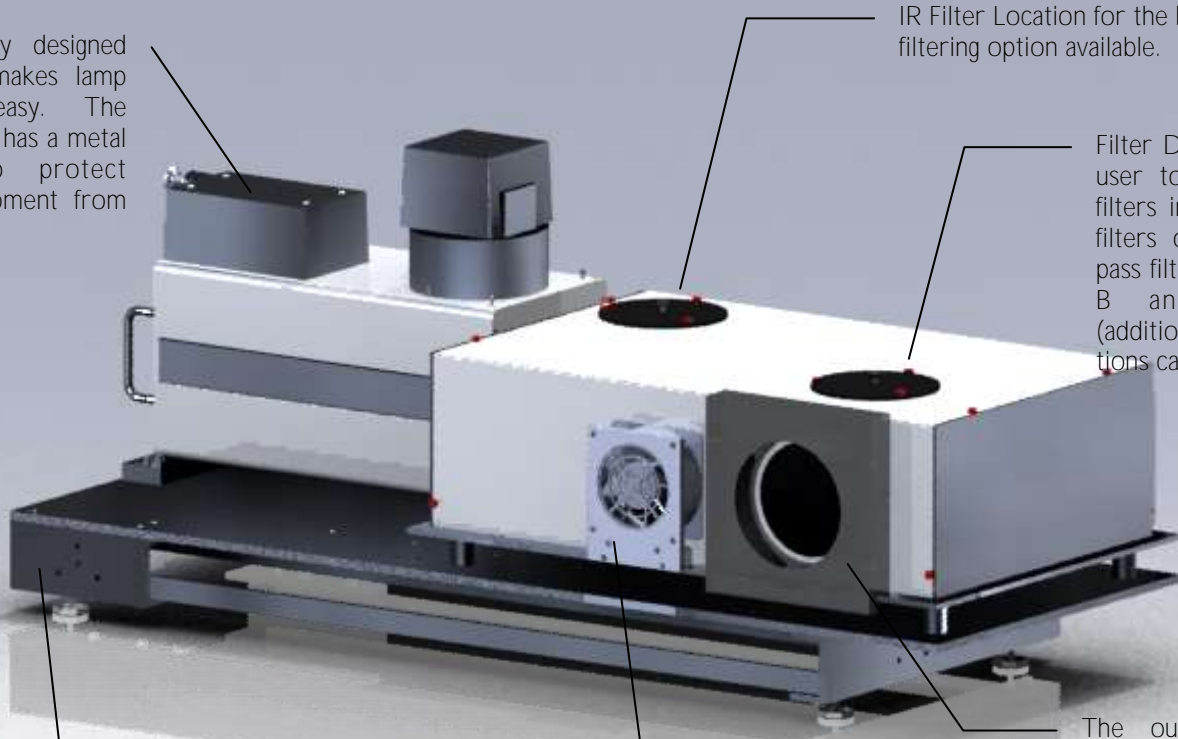
- Photovoltaic testing
- Exposure testing
- Light bleaching
- High UV tests



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The modularly designed lamp house makes lamp replacement easy. The built-in ignitor has a metal casing to protect external equipment from EMI.



IR Filter Location for the best IR filtering option available.

Filter Drawer allows the user to stack up to 2 filters including air mass filters or specific band-pass filters such as UVA/ B and C filters. (additional filter positions can be added.)

Brackets for optional mounting of the SS series solar simulators to allow integration into your custom application.

The air cooled beam homogenizer and lamp house extends the system lifetime protecting your investment.

The output mounting flange allows for various optional accessories for beam direction or filtering options.

Sciencetech manufactures four high powered versions of Class AAA fully reflective solar simulators.

**Sciencetech's proprietary fully reflective** design uses metal coated mirrors and passes the whole spectrum, no compromise. This is a distinct advantage over refractive based systems that are limited by the properties of the transparent material used



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### NON-UNIFORMITY

Part No.	Model No.	Class A Target Diameters (cm)*			Class B Target Diameters (cm)		
		1 Sun	0.5 Sun	2 Sun	1 Sun	0.5 Sun	2 Sun
165-9002	SS0.5kW	7.5	12.4	6.3	9	15	7.5
165-9001	SS1kW	12.7	18	8.9	15	21.5	10.5
165-9007	SS1.6kW	16.0	22.6	11.2	20	27	13.5
165-9008	SS2.5kW	20.3	28.7	14.2	24	34	17

\*Target diameters are specified for AM1.5G SUNS, for other power levels the maximum achievable target size will be different.

### SPECTRAL MATCH

Range (nm)	ASTM AM 1.5G	Sciencetech FRSS AM 1.5G	ASTM AM 0	Sciencetech FRSS AM 0	< ± 25% of Standard
300-400			8.0%	7.3%	PASS
400-500	18.40%	21.81%	16.4%	17.7%	PASS
500-600	19.90%	20.65%	16.3%	17.0%	PASS
600-700	18.40%	17.81%	13.9%	14.1%	PASS
700-800	14.90%	13.00%	11.2%	10.5%	PASS
800-900	12.50%	11.00%	9.0%	9.2%	PASS
900-1100	15.90%	15.73%	13.1%	14.0%	PASS
1100-1400			12.2%	10.2%	PASS

### TECHNICAL SPECIFICATIONS

Collimation Angle (± degrees)	3
Typical Power Output (mW/cm <sup>2</sup> ) (at target )	100
Uniformity	<2%
Uniformity Classification	A (ASTM E927-05)
Temporal Instability	<2%
Temporal Instability Classification	A (ASTM E927-05)
Spectral Match	See table
Spectral Match Classification	A (ASTM E927-05)
Working Distance (cm)	Depends on model
Lamp Power Requirements	500-2.5kW
Line Regulation Requirement	0.01%



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# FULLY REFLECTIVE SOLAR SIMULATORS

## SS0.5K / SS1.0K / SS1.6K / SS2.5K

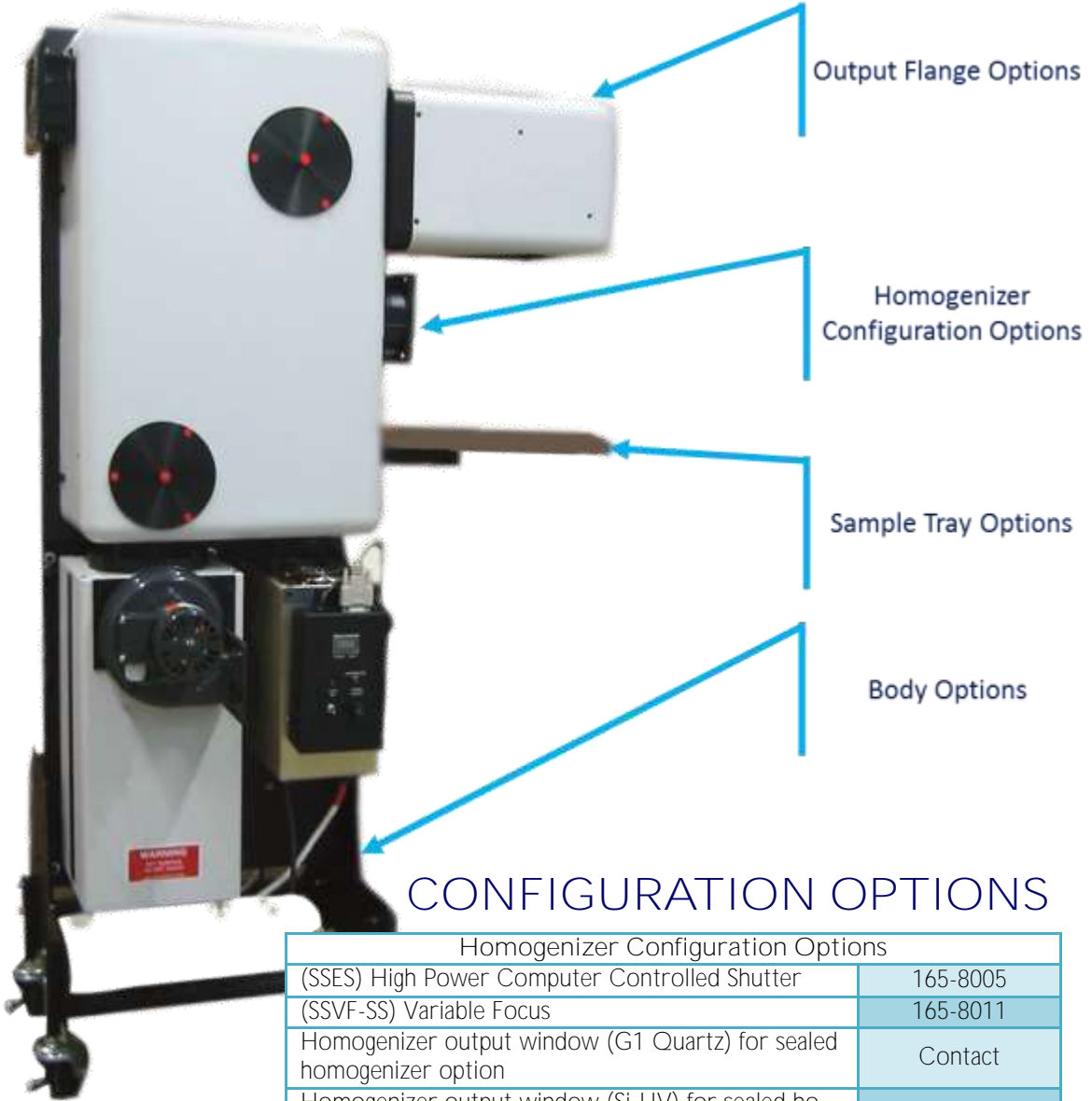
Sciencetech's fully reflective solar simulators can be configured to suite your requirements.

The homogenizer can be customized to include a computer controllable shutter, or a variable focus option that lets you position the uniform plane at different working distances from the output of the simulator.

Numerous filtering options are available. Some filter options are added to the beam line through the built in filter drawer. Other filtering options require the addition of a beam turning filter holder.

A range of solar cell chucks with options such as vacuum clamps, thermoelectric or water cooling, micropositioners as well as complete IV testing software and hardware are also available.

The SS0.5k through SS1.6k models can be mounted on a vertical stand for downward facing operation. Note that the SS2.5k model must be mounted on a table for downward facing operation.



### CONFIGURATION OPTIONS

Homogenizer Configuration Options	
(SSES) High Power Computer Controlled Shutter	165-8005
(SSVF-SS) Variable Focus	165-8011
Homogenizer output window (G1 Quartz) for sealed homogenizer option	Contact
Homogenizer output window (Si-UV) for sealed homogenizer option	Contact
Output Flange Options	
(CTBT-SS) Beam turning mirror	165-8018
(CTBT-RF) Dichroic beam turning assembly	165-8034
Body Options	
(BASE-SS) Base assembly for vertical stand	165-8030
(BASE-SS-ROLL) Solar simulator base assembly with casters	165-8048
Sample Tray Options	
(SAMP-STD) Standard solar simulator sample plate and clamp assembly	165-9006
A range of solar cell chucks and sample cooling and holding accessories are available	<a href="#">Browse chucks</a>
Complete Package Options	
(DFS-SS) Downward facing stand package for SS0.5-1.6k simulators. (Includes CTBT-SS, BASE-SS and SAMP-STD).	160-8016
(DFS-2.5SS) Downward facing stand package for SS2.5k.	165-8050

# SCIENCETECH

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# FULLY REFLECTIVE SOLAR SIMULATORS

## SS0.5K / SS1.0K / SS1.6K / SS2.5K

### FILTER OPTIONS

Each Sciencetech fully reflective solar simulator includes and FH-SS filter tray. The FH-SS filter tray holds up to 2 filters and is located in the simulator's beam homogenizer. An additional two filter slots can be added by adding product (FH-SS-ADD) to your order.

Item Number	Description
Filter Holder	
FT-75-3	3" filter holder for SS style filters, 2.5mm thick max

#### Spectral Filters - near 0 degree incidence - 3" diameter, mounted in FT filter mount

MF-34-FT-3	75mm Mesh 34% Neutral Density Filter with Holder
MF-49-FT-3	75mm Mesh 49% Neutral Density Filter with Holder
MF-71-FT-3	75mm Mesh 71% Neutral Density Filter with Holder
HPF-BB-NIR-FT-3	Hot Mirror for UV Applications
HPF-LP-VIS-FT-3	Visible longpass filter
HPF-LP-NIR-FT-3	Infrared longpass filter
HPF-BB-VIS-FT-3	Visible blocking filter
HPF-LP-UVA-FT-3	UVA longpass filter
HPF-BB-UVB-FT-3	UVB band blocking filter
HPF-BP-VIS-FT-3	Visible bandpass filter, 0 Deg
HPF-LP-420-FT-3	420nm longpass filter

#### Air mass filters - near 0 degree incidence

AM0-FT-3	Air Mass AM0 Filter for SS Series Solar (Standard Range)*
AM1.0D-FT-3	Air Mass AM1.0D Filter for SS Series Solar (Standard Range)
AM1.5G-FT-3	Air Mass AM1.5G Filter for SS Series Solar (Standard Range)
AM1.5D-FT-3	Air Mass AM1.5D Filter for SS Series Solar (Standard Range)
AM2.0D-FT-3	Air Mass AM2.0D Filter for SS Series Solar (Standard Range)

\*Using AM0 filter reduces the target size achievable for 1 sun class A

#### Homogenizer IR Water filter

100-8018	IR Water Filter, 3" Stainless Steel, Fused Silica Windows
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#### beam turning filters - 45 degree - used with CTBT-RF

640-8004	Pass VIS, Block UV,IR - CTBT option
640-8008	Pass IR, Block UV Block VIS
640-8011	Pass UVA+B, Bk VIS+IR - CTBT option



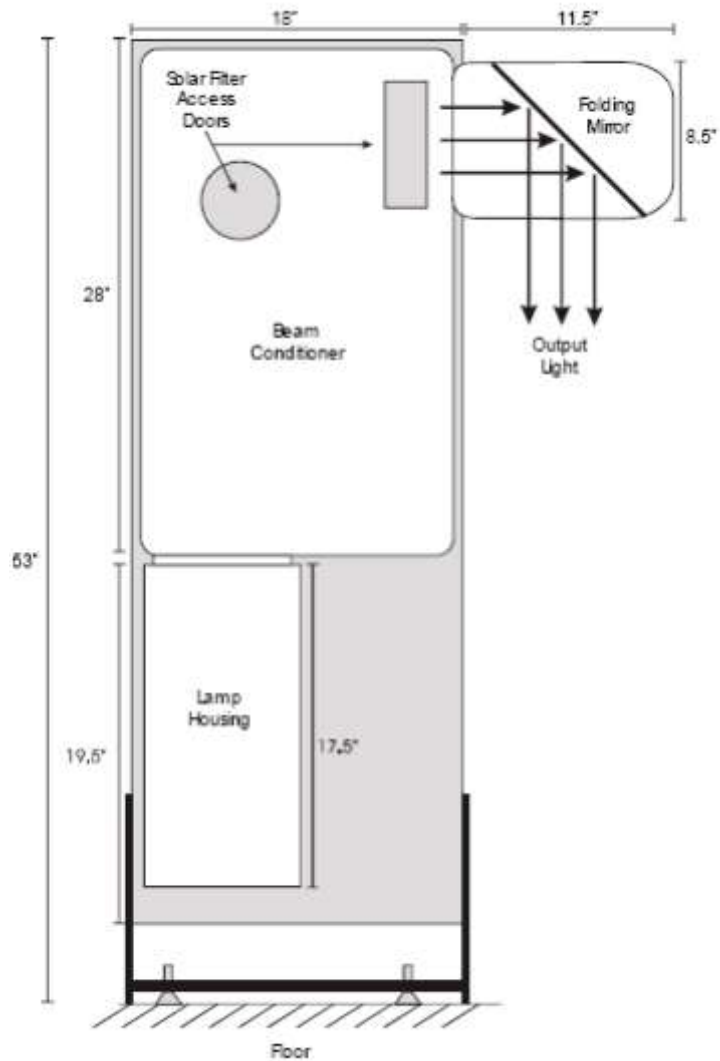
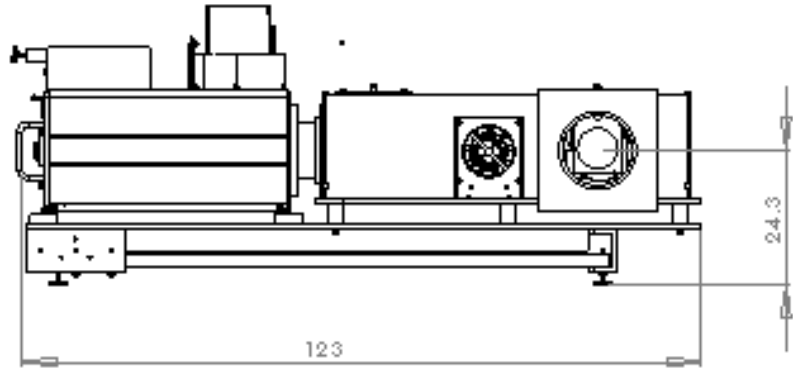
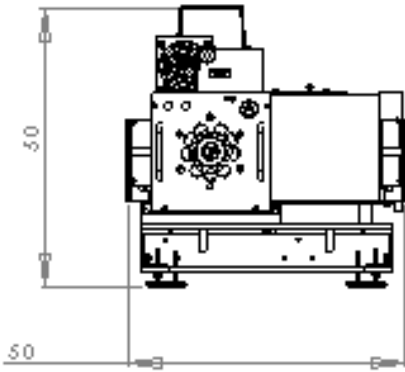
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CONTACT US FOR A QUOTE  
OR  
TO TELL US ABOUT YOUR  
CUSTOM APPLICATION

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DIMENSIONS (CM)      SS0.5K / SS1.0K / SS1.6K



FULLY REFLECTIVE SOLAR SIMULATORS  
SS0.5K / SS1.0K / SS1.6K / SS2.5K

DIMENSIONS (CM) SS2.5K (MOUNTED ON DFS-2.5SS)

