



**CERTIFIED SOLAR COLLECTOR**

SUPPLIER:  
**Solar Tomorrow Inc.**  
 197 Banner Lane  
 King City, ONTARIO L7B 1H2 Canada

BRAND: Solar Tomorrow  
 MODEL: SIGU-0251  
 COLLECTOR TYPE: Glazed Flat Plate  
 CERTIFICATION #: 10001784  
 Original Certification: January 24, 2013  
 Expiration Date: December 18, 2024

The solar collector listed below has been evaluated by the Solar Rating & Certification Corporation™ (SRCC™) in accordance with SRCC OG-100, Operating Guidelines and Minimum Standards for Certifying Solar Collectors, and has been certified by the SRCC. This award of certification is subject to all terms and conditions of the Program Agreement and the documents incorporated therein by reference.

COLLECTOR THERMAL PERFORMANCE RATING							
Kilowatt-hours (thermal) Per Panel Per Day				Thousands of Btu Per Panel Per Day			
Climate -> Category (Ti-Ta)	High Radiation (6.3 kWh/m <sup>2</sup> .day)	Medium Radiation (4.7 kWh/m <sup>2</sup> .day)	Low Radiation (3.1 kWh/m <sup>2</sup> .day)	Climate -> Category (Ti-Ta)	High Radiation (2000 Btu/ft <sup>2</sup> .day)	Medium Radiation (1500 Btu/ft <sup>2</sup> .day)	Low Radiation (1000 Btu/ft <sup>2</sup> .day)
A (-5 °C)	9.4	7.1	4.8	A (-9 °F)	32.1	24.2	16.5
B (5 °C)	8.5	6.2	3.9	B (9 °F)	28.9	21.1	13.4
C (20 °C)	7.0	4.8	2.6	C (36 °F)	24.0	16.3	8.7
D (50 °C)	4.1	2.0	0.3	D (90 °F)	13.8	6.9	1.1
E (80 °C)	1.3	0.0	0.0	E (144 °F)	4.4	0.1	0.0

**A- Pool Heating (Warm Climate) B- Pool Heating (Cool Climate) C- Water Heating (Warm Climate)**  
**D- Space & Water Heating (Cool Climate) E- Commercial Hot Water & Cooling**

COLLECTOR SPECIFICATIONS					
<b>Gross Area:</b>	1.964 m <sup>2</sup>	21.14 ft <sup>2</sup>	<b>Dry Weight:</b>	63 kg	138 lb
<b>Net Aperture Area:</b>	1.862 m <sup>2</sup>	20.04 ft <sup>2</sup>	<b>Fluid Capacity:</b>	4.3 liter	1.1 gal
<b>Absorber Area:</b>	1.956 m <sup>2</sup>	21.05 ft <sup>2</sup>	<b>Test Pressure:</b>	1103 kPa	160 psi

TECHNICAL INFORMATION			Tested in accordance with: ISO 9806		
<b>ISO Efficiency Equation</b> [NOTE: Based on gross area and (P)=Ti-Ta]					
<b>SI UNITS:</b>	$\eta = 0.782 - 4.22300(P/G) - 0.02450(P^2/G)$		<b>Y Intercept:</b>	0.795	<b>Slope:</b> -5.719 W/m <sup>2</sup> .°C
<b>IP UNITS:</b>	$\eta = 0.782 - 0.74427(P/G) - 0.00240(P^2/G)$		<b>Y Intercept:</b>	0.795	<b>Slope:</b> -1.008 Btu/hr.ft <sup>2</sup> .°F

Incident Angle Modifier								Test Fluid:	
$\theta$	10	20	30	40	50	60	70	Water	
<b>K<sub>τα</sub></b>	1.00	0.99	0.97	0.93	0.88	0.78	0.58	<b>Test Mass Flow Rate:</b>	0.0223 kg/(s m <sup>2</sup> )    16.41 lb/(hr ft <sup>2</sup> )
<b>Impact Safety Rating: 11</b>									

REMARKS:

*Jein Higgins*

Technical Director



Print Date: January, 2013

© Solar Rating & Certification Corporation™

www.solar-rating.org ♦ 400 High Point Drive, Suite 400 ♦ Cocoa, Florida 32926 ♦ (321) 213-6037 ♦ Fax (321) 821-0910



### CERTIFIED SOLAR COLLECTOR

**SUPPLIER:**  
**Solar Tomorrow Inc.**  
 197 Banner Lane  
 King City, ONTARIO L7B 1H2 Canada

**BRAND:** Solar Tomorrow  
**MODEL:** SIGU-0251  
**COLLECTOR TYPE:** Glazed Flat Plate  
**CERTIFICATION #:** 10001784  
**Original Certification:** January 24, 2013  
**Expiration Date:** December 18, 2024

The solar collector listed below has been evaluated by the Solar Rating & Certification Corporation™ (SRCC™) in accordance with SRCC OG-100, Operating Guidelines and Minimum Standards for Certifying Solar Collectors, and has been certified by the SRCC. This award of certification is subject to all terms and conditions of the Program Agreement and the documents incorporated therein by reference.

ADDITIONAL INFORMATION ( <a href="#">click here to return to the rating page</a> )			
Test Lab:	Exova Canada, Inc.	Test Report Date:	December 18, 2012
Test Report Number:	12-06-S0019Rev1	Test conducted:	indoors

SOLAR COLLECTOR CONSTRUCTION DETAILS					
Gross Length:	2.033 m	Gross Width:	0.966 m	Gross Depth:	27.0 mm

COLLECTOR MATERIALS					
Outer Cover:	Glass sheet	Enclosure back:	Other	Back Insulation:	Foam, None
Inner Cover:	None	Enclosure side:	Aluminum	Side Insulation:	Fiber, Foam
Absorber Description:	Channel / Sheets		Flow Pattern:	Parallel/Harp	
Riser Tube:	Aluminium		Fin:	Aluminum	
Absorber Coating:	Moderately selective		Tube to fin connection	Laser Weld	

Glazing	Outer Cover	Inner Cover
Material:	Glass sheet	None
Surface Characteristics:	Smooth	
Thickness:	3.2 mm	N/A
Transmissivity:	High (equal to or greater than 90%)	
Length:	2.033 m	
Width:	0.966 m	
Tube Glazing to Header Enclosure Seal:	Other	

<b>ABSORBER:</b>		<b>Absorber Coating:</b>		Moderately selective	
<b>Header Material:</b>	Aluminum	<b>Header OD:</b>	31.0 mm	<b>Header Wall:</b>	2.0 mm
<b>Riser Tube Material:</b>	Aluminium	<b>Riser Tube OD:</b>	14.0 mm	<b>Riser Tube Wall Thickness:</b>	1.0 mm
<b>Fin Material:</b>	Aluminum	<b>Fin Thickness:</b>	4.00 mm		





<b>Flow Pattern:</b>	Parallel/Harp				
<b>Number of Riser Tubes:</b>	64	<b>Tube Spacing:</b>	13.0 mm	<b>Number of times each riser crosses the absorber:</b>	1
<b>Length of Flow Path:</b>	1.94 m	<b>Riser to Fin/Plate Bond:</b>	Laser Weld		

<b>INSULATION:</b>					
Location	Type	Thickness	Location	Type	Thickness
<b>Back – Top Layer:</b>	Foam	50.8 mm	<b>Sides – Inner Layer:</b>	Fiber	13.0 mm
<b>Back – Bottom Layer:</b>	None		<b>Sides – Outer Layer:</b>	Foam	32.0 mm
<b>Enclosure Fastening Methods:</b>	Other				

<b>Power Output per Collector(W)</b> [ Ti-Ta, G = 1000 W/m <sup>2</sup> ]					
0	10	30	50	70	
1536	1449	1244	1001	720	

<b>PRESSURE DROP</b>					
Flow	$\Delta P$		Flow	$\Delta P$	
ml/s	Pa		gpm	in H <sub>2</sub> O	
20	32.04		0.32	0.1	
50	182.54		0.79	0.7	
80	455.98		1.27	1.8	

