



SUPPLIER: Chromagen

Chromagen - Solar Energy Systems Sha'ar Ha'amakim, 36588 Israel

www.chromagen.biz
In Accordance with:

SRCC Standard 100-2008-02

BRAND: Chromagen

MODEL:

COLLECTOR TYPE: Glazed Flat Plate

CR-140-A-P

CERTIFICATION #: 2009061E

Original Certification: February 02, 2010

Expiration Date: June 06, 2021

The solar collector listed below has been evaluated by the Solar Rating & Certification Corporation™ (SRCC™), an ISO/IEC 17065 accredited and EPA recognized Certification Body, 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. This document must be reproduced in its entirety.

	COLLECTOR THERMAL PERFORMANCE RATING									
	Kilowatt-hours (th	ermal) Per Panel Per [Day		Thousands of	Btu Per Panel Per Day				
Climate ->	High Radiation	Medium Radiation	Low Radiation	Climate ->	High Radiation	Medium Radiation	Low Radiation			
Category (Ti-Ta)	(6.3 kWh/m².day)	(4.7 kWh/m².day)	(3.1 kWh/m².day)	Category (Ti-Ta)	(2000 Btu/ft².day)	(1500 Btu/ft².day)	(1000 Btu/ft².day)			
A (-5 °C)	15.7	11.9	8.0	A (-9 °F)	53.6	40.4	27.4			
B (5 °C)	14.1	10.3	6.4	B (9 °F)	48.2	35.0	22.0			
C (20 °C)	11.8	8.0	4.2	C (36 °F)	40.1	27.2	14.4			
D (50 °C)	7.3	3.8	0.8	D (90 °F)	24.9	13.1	2.9			
E (80 °C)	3.3	0.6	0.0	E (144 °F)	11.2	2.1	0.0			

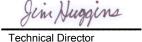
A- Pool Heating (Warm Climate)
 B- Pool Heating (Cool Climate)
 C- Water Heating (Warm Climate)
 D- Space & Water Heating (Cool Climate)
 E- Commercial Hot Water & Cooling

COLLECTOR SPECIFICATIONS							
Gross Area: 3.708 m² 39.91 ft² Dry Weight: 67 kg 148 lb							
Net Aperture Area:	3.383 m²	36.41 ft²	Fluid Capacity:	6.3 liter	1.7 gal		
Absorber Area:	0.000 m²	0.00 ft ²	Test Pressure:	1103 kPa	160 psi		

TECHNICAL INFO	RMATION	Tested in accordance with: ISO 9806:1994					
ISO Efficiency Equ	ation [NOTE: Based on gross area and (P)=Ti-Ta]						
SI UNITS:	η= 0.736 - 3.88320(P/G) - 0.01349(P²/G)	Y Intercept:	0.742	Slope:	-4.691 W/m².°C		
IP UNITS:	P UNITS: η= 0.736 - 0.68438(P/G) - 0.00132(P²/G)		0.742	Slope:	-0.827 Btu/hr.ft².°F		

Incident Angle Modifier							Test Fluid:	Water			
θ	10	20	30	40	50	60	70	Test Mass Flow Rate:	0.0200 kg/(s m²)	14.77 lb/(hr ft²)	
Κτα	1.00	0.98	0.95	0.90	0.81	0.63	0.15	Impact Safety Rating:			

REMARKS:









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ADDITIONAL INFORMATION (click here to return to the rating page)							
Test Lab: Test Date: June 06, 2009							
Test Report Number: 07-08-0892-1 Test Location: indoors							

SOLAR COLLECTOR	SOLAR COLLECTOR CONSTRUCTION DETAILS						
Gross Length:	3.090 m	Gross Width:	1.200 m	Gross Depth:	97.000 mm		

COLLECTOR MATERIALS								
Outer Cover:	Glass	sheet	Enclosure back:	Aluminum	Back Insula	ation:	, Foam	
Inner Cover:	No	ne	Enclosure side:	Aluminum	Side Insula	ition:	Foam, None	
Absorber Description:				Flow Pattern:	_			
Riser Tube: Copper		Copper	Fin:					
Absorber Coating:		Non-selective	Tube to fin connection					

GLAZING	Outer Cover	Inner Cover		
Material:	Glass sheet	None		
Surface Characteristics:				
Thickness:	3.0 mm	N/A		
Transmissivity:				
Length:	0.000 m			
Width:	1.040 m			
Tube Glazing to Header Enclosure Seal:	EPDM gasket			

ABSORBER:			Absorber Coating:		Non-selective	
Header Material:		Header OD:		Header Wall:		
Riser Tube Material:	Copper	Riser Tube OD:		Riser Tube Wall Thickness:		
Fin Material:		Fin Thickness:	0.50 mm			







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Flow Pattern:				
Number of Riser Tubes:	0	Tube Spacing:	Number of times each riser crosses the absorber:	0
Length of Flow Path:	0.00 m	Riser to Fin/Plate Bond:		

INSULATION:								
Location	Ту	ре	Thickness	Location	Туре	Thickness		
Back - Top Layer:				Sides – Inner Layer:	Foam			
Back - Bottom Layer:	Foam			Sides – Outer Layer:	None			
Enclosure Fastening Methods: Mechanical Forming								

Power Output per Collector([Ti-Ta, G = 1000 W/m²]	Power Output per Collector(W) [Ti-Ta, G = 1000 W/m²]							
0	0 10 30 50 70							

PRESSURE DROP			
Flow	ΔΡ	Flow	ΔΡ
ml/s	Pa	gpm	in H₂0
20		0.32	
50		0.79	
80		1.27	

