



CERTIFIED SOLAR COLLECTOR

SUPPLIER:
EnerWorks, Inc.
 969 Juliana Drive
 Woodstock, ON N4V 1C1 Canada
 www.enerworks.com

BRAND: Commercial Collector
 MODEL: COL-4X8-NL-SG1-SH10US
 COLLECTOR TYPE: Glazed Flat Plate
 CERTIFICATION #: 2006006A
 Original Certification: September 14, 2006
 Expiration Date: May 08, 2018

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/m².day)	Medium Radiation (4.7 kWh/m².day)	Low Radiation (3.1 kWh/m².day)	Climate -> Category (Ti-Ta)	High Radiation (2000 Btu/ft².day)	Medium Radiation (1500 Btu/ft².day)	Low Radiation (1000 Btu/ft².day)
A (-5 °C)	13.4	10.1	6.9	A (-9 °F)	45.9	34.6	23.4
B (5 °C)	12.4	9.1	5.8	B (9 °F)	42.3	31.1	19.9
C (20 °C)	10.7	7.5	4.3	C (36 °F)	36.5	25.5	14.6
D (50 °C)	7.5	4.4	1.5	D (90 °F)	25.5	14.9	5.1
E (80 °C)	4.3	1.6	0.0	E (144 °F)	14.6	5.5	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:	2.873 m²	30.92 ft²	Dry Weight:	50 kg	111 lb
Net Aperture Area:	2.691 m²	28.96 ft²	Fluid Capacity:	1.9 liter	0.5 gal
Absorber Area:	0.000 m²	0.00 ft²	Test Pressure:	517 kPa	75 psi

TECHNICAL INFORMATION			Tested in accordance with: ISO 9806		
ISO Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Ta]					
SI UNITS:	$\eta = 0.762 - 3.27870(P/G) - 0.01290(P^2/G)$		Y Intercept:	0.768	Slope: -4.035 W/m².°C
IP UNITS:	$\eta = 0.762 - 0.57785(P/G) - 0.00126(P^2/G)$		Y Intercept:	0.768	Slope: -0.711 Btu/hr.ft².°F

Incident Angle Modifier								Test Fluid:	
θ	10	20	30	40	50	60	70	Propylene glycol	
Kτ	1.00	1.00	1.00	1.00	0.96	0.84	0.31	Test Mass Flow Rate:	0.0184 kg/(s m²) 13.60 lb/(hr ft²)
Impact Safety Rating:									

REMARKS:

Jen Higgins

Technical Director



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



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ADDITIONAL INFORMATION (click here to return to the rating page)			
Test Lab:	Bodycote	Test Report Date:	May 08, 2006
Test Report Number:	06-08-9133-2	Test conducted:	indoors

SOLAR COLLECTOR CONSTRUCTION DETAILS					
Gross Length:	0.000 m	Gross Width:	0.000 m	Gross Depth:	0.0 mm

COLLECTOR MATERIALS					
Outer Cover:	Glass sheet	Enclosure back:	Steel	Back Insulation:	Fiber, None
Inner Cover:	Glass Tube	Enclosure side:	Steel	Side Insulation:	Foam, None
Absorber Description:		Flow Pattern:			
Riser Tube:	Copper	Fin:			
Absorber Coating:	Selective	Tube to fin connection			

Glazing	Outer Cover	Inner Cover
Material:	Glass sheet	Glass Tube
Surface Characteristics:	Smooth	
Thickness:	3.2 mm	
Transmissivity:	High (equal to or greater than 90%)	
Length:	0.100 m	
Width:	0.100 m	
Tube Glazing to Header Enclosure Seal:	EPDM gasket	

ABSORBER:		Absorber Coating:		Selective	
Header Material:		Header OD:		Header Wall:	
Riser Tube Material:	Copper	Riser Tube OD:		Riser Tube Wall Thickness:	
Fin Material:		Fin Thickness:	0.00 mm		





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	Type	Thickness	Location	Type	Thickness
Back – Top Layer:	Fiber	43.2 mm	Sides – Inner Layer:	Foam	25.4 mm
Back – Bottom Layer:	None		Sides – Outer Layer:	None	
Enclosure Fastening Methods:					

Power Output per Collector(W) [Ti-Ta, G = 1000 W/m ²]				
0	10	30	50	70

PRESSURE DROP				
Flow	ΔP		Flow	ΔP
ml/s	Pa		gpm	in H₂O
20	14184.09		0.32	57.1
50	42170.61		0.79	169.7
80	78209.60		1.27	314.8

