

OG-100 ICC-SRCC™ CERTIFIED SOLAR COLLECTOR # 2010074A


Supplier:
EnerWorks, Inc.
 470 Industrial Ave.
 Woodstock, ON N4S 7L1 Canada
 www.enerworks.com
 Reference Standard:
SRCC Standard 100-2006-09

Brand: Akotec
 Model: HP 30/3000/R
 Collector Type: Tubular
 Certification #: 2010074A
 Original Certification: February 07, 2011
 Renewal Expiration Date: September 01, 2021
 Certifications must be renewed annually.

This solar collector has been evaluated and certified by the Solar Rating & Certification Corporation™ (ICC-SRCC™), an ISO/IEC 17065 accredited and EPA recognized Certification Body, in accordance with the SRCC OG-100 Certification Program, as defined in SRCC OG-100, Operating Guidelines and Minimum Standards for Certifying Solar Collectors. This award of certification is subject to all terms and conditions of the current OG-100 Program Agreement and the documents incorporated therein by reference. This document must be reproduced in its entirety.

COLLECTOR THERMAL PERFORMANCE RATINGS

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)	17.5	13.2	9.0	A (-9 °F)	59.6	45.1	30.6
B (5 °C)	16.6	12.4	8.1	B (9 °F)	56.8	42.3	27.8
C (20 °C)	15.4	11.2	6.9	C (36 °F)	52.6	38.1	23.6
D (50 °C)	13.2	9.0	4.8	D (90 °F)	44.9	30.7	16.5
E (80 °C)	11.1	7.0	3.1	E (144 °F)	38.0	23.8	10.5

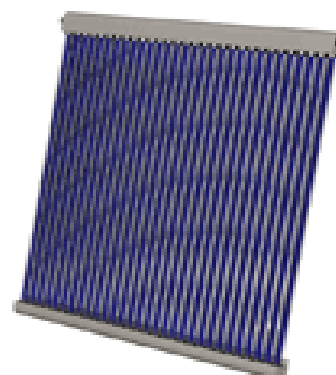
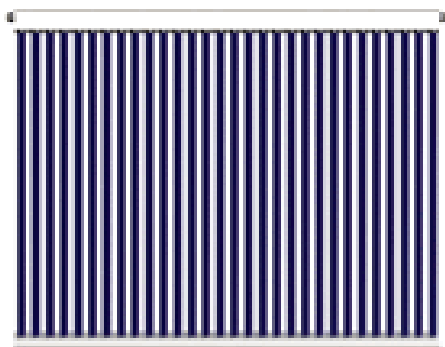
A- Pool Heating (Warm Climate) B- Pool Heating (Cool Climate) C- Water Heating (Warm Climate) D- Space & Water Heating (Cool Climate) E- Commercial Hot Water & Cooling

TECHNICAL RESULTS
Tested in accordance with:
ISO Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Ta]

SI UNITS:	$\eta = 0.477 - 1.500(P/G)$			Y Intercept:	0.477	Slope:	-1.500 W/m².°C	
IP UNITS:	$\eta = 0.477 - 0.264(P/G)$			Y Intercept:	0.477	Slope:	-0.264 Btu/hr.ft².°F	
Incident Angle:	θ	10°	20°	30°	40°	50°	60°	70°
Transverse IAM:	K _{tr}	1.00	1.00	1.00	1.00	0.98	0.92	0.67
Longitudinal IAM:	K _l	-	-	-	-	-	-	-

COLLECTOR SPECIFICATIONS

Gross Area:	5.030 m²	54.14 ft²	Dry Weight:	72.0 kg	158.7 lb
Net Aperture Area:	4.459 m²	48.00 ft²	Fluid Capacity:	1.4 liter	0.4 gal
REMARKS:					



Shawn Martin

Technical Director

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Please verify certification is active on the SRCC website www.solar-rating.org.

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ADDITIONAL INFORMATION ([click here to return to the rating page](#))

COLLECTOR TESTING INFORMATION

Test Lab:	TÜV Rheinland Energy GmbH	Test Date:	August 19, 2010
Test Report Number:	21210919_S-Power_R_SRCC	Test Location:	
Test Fluid:	Water		
Test Mass Flow Rate:	0.0195 kg/(s m²)	14.35 lb/(hr ft²)	Test Pressure: 1500 kPa 218 psi

SOLAR COLLECTOR CONSTRUCTION DETAILS

Header Enclosure:					
Gross Length:	2.252 m	Gross Width:	2.238 m	Gross Depth:	
Tube Bank:					
Gross Length:		Gross Width:			

COLLECTOR MATERIALS

Outer Cover:	Glass Tube	Enclosure back:	Aluminum	Back Insulation:	
Inner Cover:	None	Enclosure side:	Aluminum	Side Insulation:	
Absorber Description:		Flow Pattern:			
Riser Tube:	Copper	Fin:			
Absorber Coating:	Selective	Tube to fin connection			

GLAZING	Outer Cover	Inner Cover
Material:	Glass Tube	None
Surface Characteristics:		
Thickness:	1.8 mm	N/A
Transmissivity:		
Gross Tube Length (uninstalled):	2.000 m	
Diameter:	0.056 m	
Tube Glazing to Header Enclosure Seal:	EPDM gasket	



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Reflector Shape:		Reflector Material:	
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ABSORBER					
Header Material:		Header OD:		Header Wall:	
Riser Tube Material:	Copper	Riser Tube OD:		Riser Tube Wall Thickness:	
Fin Material:		Fin Thickness:	0.12 mm		
Flow Pattern:		Number of Flow Tubes / Heat Pipes:	30	Tube / Heat Pipe Spacing:	
Number of absorber tubes:	30	Flow Tube to Fin Bond:		Length of Flow Path:	1.94 m
Length of Flow Path:	1.94 m	Riser to Fin/Plate Bond:			

INSULATION:					
Location	Type	Thickness	Location	Type	Thickness
Back – Top Layer:			Sides – Inner Layer:		
Back – Bottom Layer:			Sides – Outer Layer:		
Enclosure Fastening Methods:	Mechanical Forming		Header Enclosure:		

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



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PRESSURE DROP				
Flow	ΔP		Flow	ΔP
ml/s	Pa		gpm	in H ₂ O
20			0.32	
50			0.79	
80			1.27	



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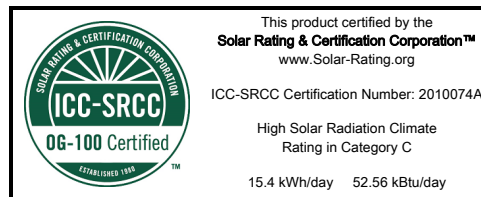
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ICC-SRCC OG-100 Certification Label

The collectors listed in this certification must display the label below.

The certification label must be permanently affixed to each collector in accordance with SRCC OG-100 program requirements.



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