


SOLAR COLLECTOR CERTIFICATION AND RATING  SRCC OG-100	CERTIFIED SOLAR COLLECTOR SUPPLIER: Solar Panels Plus 533 Byron Street Suite E Chesapeake, VA 23320 USA MODEL: SPP -30 COLLECTOR TYPE: Tubular CERTIFICATION #: 100-2008-050B
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COLLECTOR THERMAL PERFORMANCE RATING							
Megajoules Per Panel Per Day				Thousands of Btu Per Panel Per Day			
CATEGORY (Ti-Ta)	CLEAR DAY 23 MJ/m ² ·d	MILDLY CLOUDY 17 MJ/m ² ·d	CLOUDY DAY 11 MJ/m ² ·d	CATEGORY (Ti-Ta)	CLEAR DAY 2000 Btu/ft ² ·d	MILDLY CLOUDY 1500 Btu/ft ² ·d	CLOUDY DAY 1000 Btu/ft ² ·d
A (-5°C)	50	38	25	A (-9°F)	47	36	24
B (5°C)	48	36	24	B (9°F)	46	34	22
C (20°C)	45	33	20	C (36°F)	43	31	19
D (50°C)	38	26	14	D (90°F)	36	25	13
E (80°C)	30	19	7	E (144°F)	29	18	7

A-Pool Heating (Warm Climate) B-Pool Heating (Cool Climate) C-Water Heating (Warm Climate) D-Water Heating (Cool Climate) E-Air Conditioning

Original Certification Date: January 5, 2009

COLLECTOR SPECIFICATIONS

Gross Area:	4.810 m ²	51.78 ft ²	Net Aperture Area:	4.157 m ²	44.75 ft ²
Dry Weight:	86 kg	190 lb	Fluid Capacity:	1.6 l	0.4 gal
Test Pressure:	600 kPa	87 psig			

COLLECTOR MATERIALS

Frame:	Stainless Steel
Cover (Outer):	Glass Vacuum Tube
Cover (Inner):	None
Absorber Material:	Tube - Copper / Plate - Aluminum
Absorber Coating:	Aluminum Nitride
Insulation (Side):	Vacumn
Insulation (Back):	Vacumn

PRESSURE DROP

Flow		Δ P	
ml/s	gpm	Pa	in H ₂ O
0	0.00	0	0.00
0	0.00	0	0.00
0	0.00	0	0.00

TECHNICAL INFORMATION

Efficiency Equation [NOTE: Based on gross area and (P) = Ti-Ta]				Y Intercept	Slope
SI Units:	$\eta = 0.4772$	$-0.9374 (P)/I$	$-0.0066 (P)^2/I$	0.4806	$-1.3337 \text{ W/m}^2 \cdot ^\circ\text{C}$
IP Units:	$\eta = 0.4772$	$-0.1652 (P)/I$	$-0.0006 (P)^2/I$	0.4806	$-0.235 \text{ Btu/hr} \cdot \text{ft}^2 \cdot ^\circ\text{F}$

Incident Angle Modifier [(S) = 1/cos θ - 1, 0° ≤ θ ≤ 60°]

K_{act} = 1.0	+0.9638 (S)	-1.1856 (S) ²
K_{act} = 1.0	-0.27 (S)	(Linear Fit)

Model Tested: 100-2007-028B

Test Fluid: Water

Test Flow Rate: 71 ml/s 1.13 gpm

REMARKS: Tested with long axis of tubes oriented north-south. IAM perpendicular to the tubes is listed above. IAM parallel to the tubes = 1.0 - 0.33(S)

May, 2009

Certification must be renewed annually. For current status contact:

SOLAR RATING & CERTIFICATION CORPORATION

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