


SOLAR COLLECTOR CERTIFICATION AND RATING  SRCC OG-100	<u>CERTIFIED SOLAR COLLECTOR</u> SUPPLIER: Solar Thermal Systems 4723 Tidewater Avenue Oakland, CA 94601 USA MODEL: Solar Thermal Systems STS 48BP COLLECTOR TYPE: Glazed Flat-Plate CERTIFICATION #: 100-2007-001A
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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)	45	34	23	A (-9°F)	42	32	22
B (5°C)	41	30	19	B (9°F)	38	28	18
C (20°C)	34	24	13	C (36°F)	32	22	12
D (50°C)	22	12	3	D (90°F)	20	11	3
E (80°C)	10	2		E (144°F)	9	2	

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 24, 2007

COLLECTOR SPECIFICATIONS

Gross Area: 3.051 m² 32.84 ft²
Dry Weight: 47.6 kg 105 lb
Test Pressure: 1103 kPa 160 psig

Net Aperture Area: 2.750 m² 29.60 ft²
Fluid Capacity: 3.9 l 1.0 gal

COLLECTOR MATERIALS

Frame: Aluminum Extrusion
Cover (Outer): Low Iron Tempered Glass
Cover (Inner): None
Absorber Material: Tube - Copper / Plate - Copper
Absorber Coating: Moderately Selective Black Paint
Insulation (Side): Polyisocyanurate
Insulation (Back): Polyisocyanurate & Fiberglass

PRESSURE DROP

Flow		Δ P	
ml/s	gpm	Pa	in H ₂ O

TECHNICAL INFORMATION

Efficiency Equation [NOTE: Based on gross area and (P) = Ti-Ta]

				Y Intercept	Slope	
SI Units:	$\eta = 0.666$	$-3.3563 (P)/I$	$-0.0138 (P)^2/I$	0.682	-4.5392	W/m ² ·°C
IP Units:	$\eta = 0.666$	$-0.5915 (P)/I$	$-0.0014 (P)^2/I$	0.682	-0.800	Btu/hr·ft ² ·°F

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

$K_{at} = 1.0 + 0.0045 (S) - 0.2088 (S)^2$
 $K_{at} = 1.0 - 0.21 (S) \text{ (Linear Fit)}$

Model Tested: 100-1981-098E

Test Fluid: Water

Test Flow Rate: 32 ml/s 0.51 gpm

REMARKS:

October, 2007

Certification must be renewed annually. For current status contact:

SOLAR RATING & CERTIFICATION CORPORATION

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