


SOLAR COLLECTOR CERTIFICATION AND RATING  SRCC OG-100	CERTIFIED SOLAR COLLECTOR SUPPLIER: Free Hot Water 2146 Bering Drive San Jose, CA 95131 USA MODEL: FHW-FC7275A COLLECTOR TYPE: Glazed Flat-Plate CERTIFICATION#: 2010020A
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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	MILDLY CLOUDY	CLOUDY DAY	CATEGORY (Ti-Ta)	CLEAR DAY	MILDLY CLOUDY	CLOUDY DAY
A (-5 °C)	37.6	28.3	19.1	A (-9 °F)	35.6	26.8	18.1
B (5 °C)	34.7	25.4	16.2	B (9 °F)	32.9	24.1	15.4
C (20 °C)	29.9	20.9	11.9	C (36 °F)	28.4	19.8	11.3
D (50 °C)	20.7	12.1	4.1	D (90 °F)	19.6	11.4	3.9
E (80 °C)	11.6	4.3	0.0	E (144 °F)	11.0	4.1	0.0

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:

COLLECTOR SPECIFICATIONS

Gross Area:	2.571 m ²	27.67 ft ²	Net Aperature Area:	2.34 m ²	25.14 ft ²
Dry Weight:	49.0 kg	108. lb	Fluid Capacity:	1.6 liter	0.4 gal
Test Pressure:	1103. KPa	160. psg			

COLLECTOR MATERIALS

Frame: Aluminum
Cover (Outer): Tempered Glass
Cover (Inner): None

Pressure Drop

Flow		ΔP	
ml/s	gpm	Pa	in H ₂ O
20.00	0.32	262.30	1.05
50.00	0.79	885.3	3.6
80.00	1.27	1783.70	7.17

Absorber Material:	Tube - Copper / Plate - Copper	Insulation Side:	Rock Wool
Absorber Coating:	Selective	Insulation Back:	Rock Wool

TECHNICAL INFORMATION

Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Ta]				Y INTERCEPT	SLOPE
S I UNITS:	$\eta = 0.679$	$-2.85210 (P)/I$	$-0.01222 (P)^2/I$	0.686	$-3.593 \text{ W/m}^2\cdot\text{°C}$
I P UNITS:	$\eta = 0.679$	$-0.50240 (P)/I$	$-0.00120 (P)^2/I$	0.686	$-0.633 \text{ Btu/hr}\cdot\text{ft}^2\cdot\text{°F}$
Incident Angle Modifier [(S)=1/cosθ - 1, 0°<θ<=60°]				Model Tested:	2006030A
Kα = 1	-0.115 (S)	-0.088 (S) ²		Test Fluid:	Water
Kα = 1	-0.21 (S)	Linear Fit		Test Flow Rate:	51.4 ml/s 0.81 gpm

REMARKS:

March, 2010
Certification must be renewed annually. For current status contact:
SOLAR RATING & CERTIFICATION CORPORATION
c/o FSEC ♦ 1679 Clearlake Road ♦ Cocoa, FL 32922 ♦ (321) 638-1537 ♦ Fax (321) 638-1010

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