


SOLAR COLLECTOR CERTIFICATION AND RATING  SRCC OG-100	<u>CERTIFIED SOLAR COLLECTOR</u> SUPPLIER: Solargenix Energy, LLC 2101 Westinghouse Blvd, Ste 115 Raleigh, NC 27604 MODEL: Winston Series CPC WS0503 COLLECTOR TYPE: Tubular CERTIFICATION #: 100-2005-003A
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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)	29	22	15	A (-9°F)	28	21	15
B (5°C)	25	18	11	B (9°F)	24	17	11
C (20°C)	19	13	6	C (36°F)	18	12	6
D (50°C)	10	3		D (90°F)	9	3	
E (80°C)	1			E (144°F)	1		

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: July 28, 2005

COLLECTOR SPECIFICATIONS

Gross Area:	2.239 m ²	24.10 ft ²	Net Aperture Area:	2.091 m ²	22.51 ft ²
Dry Weight:	48.5 kg	107 lb	Fluid Capacity:	9.6 l	2.5 gal
Test Pressure:	827 kPa	120 psig	Max. Oper. Temp.:	121 °C	250 °F

COLLECTOR MATERIALS

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

PRESSURE DROP

Flow		Δ P	
ml/s	gpm	Pa	in H ₂ O
20	0.32	13	0.05
50	0.79	90	0.36
80	1.27	235	0.94

TECHNICAL INFORMATION

Efficiency Equation [NOTE: Based on gross area and (P) = Ti-Ta]	Y Intercept	Slope
S I Units: $\eta = 0.591 - 4.5502 (P)/I - 0.0189 (P)^2/I$	0.6	-5.679 W/m ² ·°C
I P Units: $\eta = 0.591 - 0.8019 (P)/I - 0.0019 (P)^2/I$	0.6	-1.001 Btu/hr·ft ² ·°F

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

$$K_{arr} = 1.0 + 0.6317 (S) - 1.2396 (S)^2$$

Model Tested:	WS0503
Test Fluid:	Water
Test Flow Rate:	41 ml/s 0.65 gpm

REMARKS: Collector tested with long axis of the reflectors oriented north-south. IAM perpendicular to the reflectors is listed above. IAM parallel to the reflectors = 1.0 - 0.16(S)

October, 2005

Certification must be renewed annually. For current status contact:

SOLAR RATING & CERTIFICATION CORPORATION

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