

**SOLAR COLLECTOR  
CERTIFICATION AND RATING**


SRCC OG-100

**CERTIFIED SOLAR COLLECTOR(S)**

**SUPPLIER:** Aquatherm Industries, Inc.  
1940 Rutgers University Blvd.  
Lakewood, NJ 08701

**TESTED BRAND:** Ecosun 16104  
**COLLECTOR TYPE:** Unglazed Flat-Plate  
**CERTIFICATION #:** 100-2004-012A

ALL SIZES OF THIS COLLECTOR MODEL ARE CERTIFIED

**COLLECTOR THERMAL PERFORMANCE RATING**

Megajoules Per Square Meter Per Day				Thousands of Btu Per Square Foot Per Day			
CATEGORY (T <sub>i</sub> -T <sub>a</sub> )	CLEAR DAY 23 MJ/m <sup>2</sup> -d	MILDLY CLOUDY 17 MJ/m <sup>2</sup> -d	CLOUDY DAY 11 MJ/m <sup>2</sup> -d	CATEGORY (T <sub>i</sub> -T <sub>a</sub> )	CLEAR DAY 2000 Btu/ft <sup>2</sup> -d	MILDLY CLOUDY 1500 Btu/ft <sup>2</sup> -d	CLOUDY DAY 1000 Btu/ft <sup>2</sup> -d
A (-5 °C)	20.0	15.5	11.1	A (-9 °F)	1.8	1.4	1.0
B (5 °C)	14.6	10.3	5.9	B (9 °F)	1.3	0.9	0.5
C (20 °C)	6.9	3.0	0.2	C (36 °F)	0.6	0.3	0.0
D (30 °C)				D (90 °F)			
E (80 °C)				E (144 °F)			

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: October 27, 2004

**TECHNICAL INFORMATION**

Efficiency Equation [NOMIE: (F) = T<sub>i</sub>-T<sub>a</sub>]

SI Units:	$\eta = 0.8200$	$-13.5264$ (F)	$-0.1553$ (F) <sup>2</sup>	<b>Y Intercept</b>	<b>Slope</b>	
IP Units:	$\eta = 0.8200$	$-2.3837$ (F)	$-0.0132$ (F) <sup>2</sup>	0.8160	-15.7630	W/m <sup>2</sup> -°C
				0.8160	-2.7779	Btu/ft <sup>2</sup> -°F

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

$K_{a1}$	1.0	-0.0715 (θ)	-0.0861 (θ) <sup>2</sup>	Model Tested:	16104-12
$K_{a2}$	1.0	-0.08 (θ)	(Linear Fit)	Test Fluid:	Water
				Test Flow Rate:	67 m <sup>3</sup> /m <sup>2</sup> 0.36 gpm/ft <sup>2</sup>

**TESTED COLLECTOR SPECIFICATIONS**

Gross Area:	4.567 m <sup>2</sup>	47.61 ft <sup>2</sup>	Field Capacity:	194 l	5.5 gal
Dry Weight:	9.3 kg	21 lb	Max. Oper. Temp.:	6 °C	32 °F
Test Pressure:	354 kPa	51 psig			

**COLLECTOR MATERIALS**

**Frame:** None  
**Absorber Material:** Tube - Polypropylene with UV Stabilization  
Plate - Polypropylene with UV stabilization  
**Absorber Coating:** None  
**Insulation:** None

**TESTED MODEL PRESSURE DROP**

Flow		ΔP	
m <sup>3</sup> /h	gpm	Pa	in H <sub>2</sub> O
150	2.38	963	3.87
200	3.17	1298	5.21
250	3.97	1735	6.96

**REMARKS:** Tests conducted outdoors.

October 2004

Certification must be renewed annually. For current status contact:

SOLAR RATING & CERTIFICATION CORPORATION

c/o SRCC • 1479 Clamshell Road • Cocoa, FL 32922 • (321) 434-1237 • Fax (321) 434-1018