

SOLAR RATING & CERTIFICATION CORPORATION

AWARD OF COLLECTOR CERTIFICATION

The solar collector listed below has been evaluated by the Solar Rating and Certification Corporation (SRCC) in accordance with SRCC Document OG-100, *Operating Guidelines and Minimum Standards for Certifying Solar Collectors*, and has been certified by the SRCC as specified in SRCC Standard 100-94, *Test Methods and Minimum Standards for Certifying Solar Collectors*. Certification and thermal performance ratings are based on the successful durability and performance testing of a sample unit where said tests have been conducted by an independent laboratory accredited by the SRCC.

Collector Certification Number: **100-2009006A**

Date Certified: May 4, 2009	Expiration Date: May 4, 2021	
Test Laboratory: FSEC	Report Number: 00065	Report Date: 8/23/2003
Product: Un glazed Flat-Plate	Certified Model: 16104	Model Tested: 16104-12
Supplier: Aquatherm Industries, Inc. 1940 Rutgers University Blvd. Lakewood, NJ 08701 USA (732) 905-9002		

Description: Polypropylene with UV Stabilization absorber tube. Water was the fluid for performance tests.
Gross Area: 4.37 m² (47.00 ft²). Aperture Area: 4.37 m² (47.00 ft²)

UNGLAZED COLLECTOR THERMAL PERFORMANCE RATING

Megajoules Per Square Meter Per Day				Thousands of Btu Per Square Foot Per Day			
Category (Ti-Ta)	CLEAR	MILDLY CLOUDY	CLOUDY	Category (Ti-Ta)	CLEAR	MILDLY CLOUDY2	CLOUDY
	23 MJ/m ² -d	17 MJ/m ² -d	11 MJ/m ² -d		2 kBtu/ft ² -d	1.5 kBtu/ft ² -d	1 kBtu/ft ² -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 (50 °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

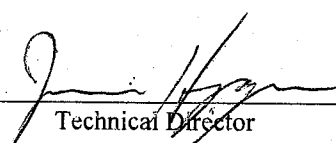
Efficiency Equation [NOTE: (P) = Ti-Ta]

	SI Units:	η = 0.820	-13.5264 (P)/I	-0.1353 (P) ² /I	Y Intercept	Slope	
	IP Units:	η = 0.820	-2.3837 (P)/I	-0.0132 (P) ² /I	0.816	-15.76	W/m ² ·°C
					0.816	-2.778	Btu/hr·ft ² ·°F

Incident Angle Modifier [NOTE: (S) = 1/cos θ - 1]

K_{irr} = 1.0 -0.0715 (S) -0.0061 (S)² K_{irr} = 1.0 -0.06 (S) (Linear Fit)

This award of certification is subject to all terms and conditions of the Program Agreement and the documents incorporated therein by reference. It must be renewed annually. Any change in collector design, materials, specifications, parts, or construction must be reported to SRCC for evaluation of continued certification



Technical Director

May 4, 2009

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Collector Certification Number: 100-2009006B

Date Certified: **May 4, 2009** Expiration Date: **May 4, 2021**

Test Laboratory: **FSEC** Report Number: **00065** Report Date: **8/28/2003**

Product: **Unglazed Flat-Plate** Certified Model: **16204** Model Tested: **16104-12**

Supplier: **Aquatherm Industries, Inc.**
 1940 Rutgers University Blvd.
 Lakewood, NJ 08701 USA
 (732) 905-9002

Description: Polypropylene with UV Stabilization absorber tube. Water was the fluid for performance tests. Gross Area: 4.37 m² (47.00 ft²). Aperture Area: 4.37 m² (47.00 ft²)

UNGLAZED COLLECTOR THERMAL PERFORMANCE RATING

Megajoules Per Square Meter Per Day				Thousands of Btu Per Square Foot Per Day			
Category (Ti-Ta)	CLEAR	MILDLY CLOUDY	CLOUDY	Category (Ti-Ta)	CLEAR	MILDLY CLOUDY2	CLOUDY
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D (50 °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

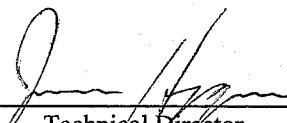
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SI Units:	$\eta = 0.820 - 13.5264 (P)/I - 0.1353 (P)^2/I$	Y Intercept	0.816	Slope	-15.76	W/m ² ·°C
IP Units:	$\eta = 0.820 - 2.3837 (P)/I - 0.0132 (P)^2/I$		0.816		-2.778	Btu/hr·ft ² ·°F

Incident Angle Modifier [NOTE: (S) = 1/cos θ - 1]

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 Technical Director May 8, 2009