

**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: **100-2009005A**

Date Certified: **May 4, 2009**

Expiration Date: **May 4, 2021**

Test Laboratory: **FSEC**

Report Number: **00066**

Report Date: **2/17/2003**

Product: **Unglazed Flat-Plate**

Certified Model: **10001**

Model Tested: **10001-5**

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: 4.34 m<sup>2</sup> (46.77 ft<sup>2</sup>). Aperture Area: 4.34 m<sup>2</sup> (46.77 ft<sup>2</sup>)**

**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 <sup>2</sup> -d	17 MJ/m <sup>2</sup> -d	11 MJ/m <sup>2</sup> -d		2 kBtu/ft <sup>2</sup> -d	1.5 kBtu/ft <sup>2</sup> -d	1 kBtu/ft <sup>2</sup> -d
A (-5 °C)	18.4	14.2	10.0	A (-9 °F)	1.6	1.2	0.9
B (5 °C)	14.4	10.2	6.0	B (9 °F)	1.3	0.9	0.5
C (20 °C)	7.6	3.9	0.8	C (36 °F)	0.7	0.3	0.1
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

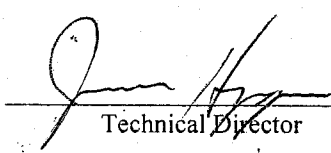
**Efficiency Equation [NOTE: (P) = Ti-Ta]**

<b>SI Units:</b>	$\eta = 0.769 - 10.1035 (P)/I - 0.1495 (P)^2/I$	<b>Y Intercept</b>	0.761	<b>Slope</b>	-12.36	W/m <sup>2</sup> ·°C
<b>I P Units:</b>	$\eta = 0.769 - 1.7805 (P)/I - 0.0146 (P)^2/I$		0.761		-2.177	Btu/hr·ft <sup>2</sup> ·°F

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

$K_{\text{air}} = 1.0 - 0.4062 (S) + 0.3160 (S)^2$        $K_{\text{air}} = 1.0 - 0.07 (S)$  (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

  
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 Technical Director

May 4, 2009

**SOLAR RATING & CERTIFICATION CORPORATION**

**AWARD OF COLLECTOR CERTIFICATION**

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Collector Certification Number: **100-2009005B**

Date Certified: <b>May 4, 2009</b>	Expiration Date: <b>May 4, 2021</b>
Test Laboratory: <b>FSEC</b>	Report Number: <b>00066</b>
Product: <b>Unglazed Flat-Plate</b>	Report Date: <b>2/17/2003</b>
Supplier: <b>Aquatherm Industries, Inc.</b>	Certified Model: <b>10204</b>
<b>1940 Rutgers University Blvd.</b>	Model Tested: <b>10001-5</b>
<b>Lakewood, NJ 08701 USA</b>	
<b>(732) 905-9002</b>	

Description: **Polypropylene with UV stabilization absorber tube. Water was the fluid for performance tests.**  
 Gross Area: **4.34 m<sup>2</sup> (46.77 ft<sup>2</sup>).** Aperture Area: **4.34 m<sup>2</sup> (46.77 ft<sup>2</sup>)**

**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 <sup>2</sup> -d	17 MJ/m <sup>2</sup> -d	11 MJ/m <sup>2</sup> -d		2 kBtu/ft <sup>2</sup> -d	1.5 kBtu/ft <sup>2</sup> -d	1 kBtu/ft <sup>2</sup> -d
A (-5 °C)	18.4	14.2	10.0	A (-9 °F)	1.6	1.2	0.9
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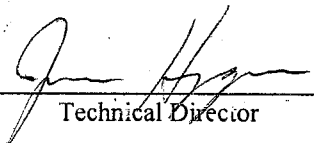
**Efficiency Equation [NOTE: (P) = Ti-Ta]**

<b>SI Units:</b>	$\eta = 0.769 - 10.1035 (P)/I - 0.1495 (P)^2/I$	<b>Y Intercept</b>	0.761	<b>Slope</b>	-12.36	W/m <sup>2</sup> ·°C
<b>IP Units:</b>	$\eta = 0.769 - 1.7805 (P)/I - 0.0146 (P)^2/I$		0.761		-2.177	Btu/hr-ft <sup>2</sup> ·°F

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

$K_{\alpha} = 1.0 - 0.4062 (S) + 0.3160 (S)^2$        $K_{\alpha} = 1.0 - 0.07 (S)$  (Linear Fit)

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 Technical Director

May 8, 2009