SOLAR RATING & CERTIFICATION CORPORATION

An ICC Evaluation Service Program

OG-100 Solar Thermal Collector Certification

No./2011123A

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www.solar-rating.org | **(800) 423-6587** | **(562) 699-0543**

CERTIFICATION HOLDER:	**EVALUATION SUBJECT**	
Matrix Energy 294 Labrosse Avenue Pointe Claire, Québec H9R 5L8 Canada www.matrixairheating.com	**BRAND:**	MatrixAir
	MODEL:	DT
	TYPE:	Solar Air Heating Collector - Transpired, Unglazed, Unitary

PRODUCT CERTIFICAITON SYSTEM:
The ICC-SRCC OG-100 certification program includes evaluation and performance ratings for solar thermal collectors as established in the *ICC-SRCC Rules for Solar Heating & Cooling Product Listing Reports*. The program also includes periodic factory inspections and surveillance of the manufacturer's quality management system.

COMPLIANCE WITH THE FOLLOWING STANDARD(S): *ICC 901/SRCC 100 - 2020, Solar Thermal Collectors Standard*
THERMAL PERFORMANCE TEST STANDARD: CSA F378-2011 (DEVIATION from ISO 9806-2017 specified in ICC 901)

COLLECTOR SPECIFICATIONS		
To be considered certified, installed collectors must match the following specifications.		
Max. Design Flow Rate	2.1 scmm/m² (14.0 scfm/ft²)	
Panel Width	0.624 m (24.6 in)	
Panel Length	3.05 m (10 ft)	
Weight	44.9 kg (99 lb)	
Air Inlet	Absorber panel perforations (3.1%)	
Air Outlet	Variable	
Orientation	60° from horizontal	
Absorber Type	Black painted perforated plate	
Absorber Material	Steel, 24 gauge	
Absorber Profile	Flat	

IDENTIFICATION:
Certified collectors must be identified with the OG-100 certification mark below in accordance with the *Rules for Certification Mark and Certificate Use* and labeled in with the information below per *ICC 901/SRCC 100*:

SOLAR RATING & CERTIFICATION CORPORATION
ICC-SRCC
OG-100 Certified
ESTABLISHED 1980 ™

1. Manufacturer's name and model number.
2. ICC-SRCC OG-100 collector certification number
3. Maximum operating temperature
4. Dry (empty) weight
5. Fluid volume
6. Compatible heat transfer fluids
7. Standard stagnation temperature
8. Year of manufacture and/or serial number.

OG-100 COLLECTOR EFFICIENCY RATINGS[1] (η_a) – Black Absorber Color[2]			
Wind Speed[3] ▶ / **Air Flow Rate**	**Low Wind (1.0 m/s, 2.2 mph)**	**Medium Wind (2.0 m/s, 4.5 mph)**	**High Wind (3.0 m/s, 6.7 mph)**
1.2 scmm/m² (4 scfm/ft²)	0.60	0.57	0.54
2.1 scmm/m² (7 scfm/ft²)	0.72	0.70	0.67
3.1 scmm/m² (10 scfm/ft²)	0.78	0.75	0.72

1: Thermal efficiency (η_a) is based on aperture area and includes back losses.
2: Efficiency ratings are based on test data for the specific collector described in the "Collector Test Sample Details" section below. Performance values are only valid for collectors painted the same color as the test sample.
3. Efficiency data calculated at 1.0, 2.0, 3.0 m/s speeds. Original data available in Testing Summary below.

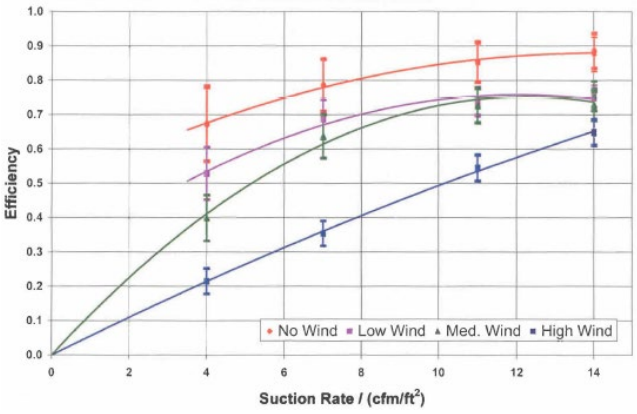
LABORATORY TESTING SUMMARY

Test Lab	Exova Canada, Inc.
Test Report Number	09-08-0028
Test Report Date	June 12, 2010
Test Standard	CSA F378-1987

Laboratory testing of a collector sample is required for OG-100 certification to confirm that the collector passes qualification tests and to obtain performance results. These sections provide information on the sample tested for the purposes of OG-100 certification and the measured results.

TEST SAMPLE DETAILS

Absorber	**Coating**	Black paint
	Absorptivity	0.94 (measured by lab)
	Material	Steel
	Porosity	3.1%
Gross Area		1.716 m² (18.47 ft²)
Aperture Area (Net)		1.580 m² (17.01 ft²)
Gross Sample Dimensions (LXWXH)		2.75 m x 0.54 m x 61.5 cm (9 ft x 1.8 ft x 2.0 ft)



THERMAL EFFICIENCY TESTING DETAILS

Testing Location	Indoor solar simulator @ 25°C
Added Insulation	1" Foil-faced fiberglass at outlet transition

THERMAL EFFICIENCY DATA SUMMARY (900 W/m² average insolation)

Wind Speed / **Air Flow Rate**	**0.9 m/s (2.0 mph)**		**1.6 m/s (3.6 mph)**		**3.0 m/s (6.7 mph)**	
	η	**Δ T (K)***	**η**	**Δ T (K)***	**η**	**Δ T (K)***
1.2 scmm/m² (4 scfm/ft²)	0.53	19.8	0.40	14.5	0.21	7.9
2.1 scmm/m² (7 scfm/ft²)	0.69	15.0	0.64	13.3	0.35	7.7
3.4 scmm/m² (11 scfm/ft²)	0.74	10.2	0.73	9.7	0.54	7.6
4.3 scmm/m² (14 scfm/ft²)	0.75	8.7	0.73	8.0	0.65	5.8

**Δ T defined as T_e-T_a where T_e is the temperature of the air exiting the collector and T_a is the ambient (inlet) air temperature.*

CONDITIONS:

1. Collector must be installed and operated in accordance with the manufacturer's published instructions and local codes and regulations.
2. OG-100 Standard Performance Ratings have been calculated for the tested components using standardized conditions established by the OG-100 program and associated test standards. Actual performance will vary based on the specific usage, installation, and local environmental conditions. OG-100 Thermal performance values are valid only for collectors with the same absorber profile, perforation porosity, and color.
3. The collector listed in this ICC-SRCC OG-100 certification must be labeled with the information listed above in accordance with the *ICC-SRCC Rules for Mark and Certificate Use*.
4. OG-100 certifications do not include mounting hardware and fixtures.
5. Solar thermal collectors and mounting hardware and appurtenances must comply with all applicable local requirements for fire resistance. Solar thermal collectors must be mounted in accordance with the requirements of the collector and mounting hardware manufacturers to comply with local codes for structural loading for wind, seismic, snow and other loads.
6. Solar thermal collectors must be used with the heat transfer fluids listed in this document.
7. Solar thermal collector manufactured under a quality control program subject to periodic evaluation in accordance with the requirements of ICC-SRCC.
8. This document must be reproduced in its entirety.
9. Certification status should be confirmed on the ICC-SRCC Directory at www.solar-rating.org

Shawn Martin

Vice President of Technical Services, ICC-SRCC

ACCREDITED
CERTIFICATE # 3299.01, 3299.03