OG-100 ICC-SRCC™ CERTIFIED
SOLAR AIR HEATING COLLECTOR # 2011123A

SOLAR RATING & CERTIFICATION CORPORATION

SUPPLIER:
Matrix Energy
294 Labrosse Avenue
Pointe Claire, Québec
Canada H9R 5L8
matrixairheating.com

BRAND:	MatrixAir
MODEL:	DT
COLLECTOR TYPE:	Air Transpired
CERTIFICATION NUMBER:	2011123A
ORIGINAL CERTIFICATION DATE:	Jul. 02, 2012
RENEWAL EXPIRATION DATE:	May 31, 2019

Certifications are subject to annual renewal

The solar collector listed below has been evaluated by the Solar Rating & Certification Corporation™ (ICC-SRCC™), an ISO 17065 accredited Certification Body, in accordance *with ICC-SRCC OG-100, Operating Guidelines and Minimum Standards for Certifying Solar Collectors*, and has been certified by ICC-SRCC. This award of certification is subject to all terms and conditions of the OG-100 Program Agreement and the documents incorporated therein by reference. This document must be reproduced in its entirety.

OG-100 COLLECTOR EFFICIENCY RATINGS[1] (η) – 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/m^2 (4.0 scfm/ft^2)	0.51	0.35	0.21
2.1 scmm/m^2 (7.0 scfm/ft^2)	0.68	0.56	0.35
3.4 scmm/m^2 (11.0 scfm/ft^2)	0.74	0.68	0.54
4.3 scmm/m^2 (14.0 scfm/ft^2)	0.75	0.71	0.65

1: Thermal efficiency (η) is based on aperture area and does not include 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 for collectors that use an absorber painted a different color than the one tested can be estimated by multiplying the efficiency values above by the ratio of the absorptivity of the new paint color and the absorptivity of the tested collector (0.94 in this case). This assumes that the new color paint has a similar emissivity to the tested collector (0.88 in this case), the absorbers in each stage are the same color. Absorptivity should be measured per ASTM C1549.
3. Efficiency data adjusted to 1.0, 2.0, 3.0 m/s speeds by means of linear interpolation. Original data available in Testing Summary below.

CERTIFIED COLLECTOR SPECIFICATIONS

Collectors must match the design of the sample tested for certification. In order to be considered certified, installed collectors must match the following specifications.

Type	☒ Unglazed ☐ Glazed
Description	2-Stage Transpired Free-Standing Triangular Solar Air Heating Collector
Max. Flow Rate	2.1 scmm/m^2 (14.0 scfm/ft^2)*
Panel Width	0.624 m (24.6 in)*
Panel Length	3.05 m (10 ft)*
Air Inlet	Transpired – Absorber perforations
Air Outlet	Variable
ABSORBER	
Type	Painted Perforated Plate
Material	Steel, 24 gauge*

** Data supplied by collector manufacturer and was not measured independently by the testing laboratory.*

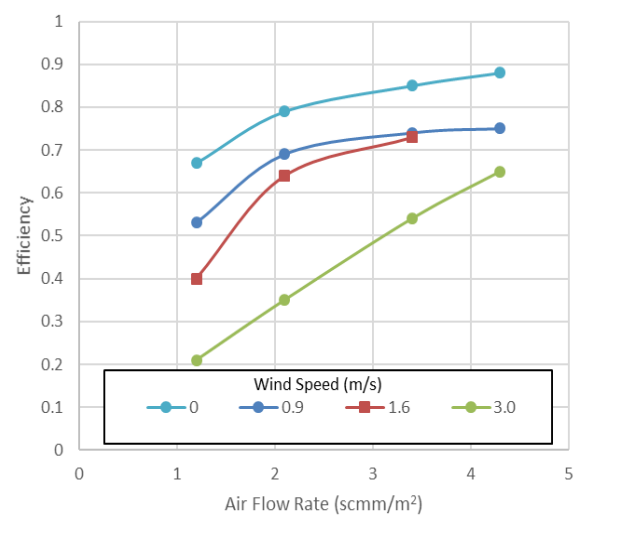
TESTING SUMMARY
MATRIXAIR DT COLLECTOR
ICC-SRCC OG-100 CERTIFICATION #2011123A

Test Lab	Exova
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. The following sections provide information on the collector tested for the purposes of OG-100 certification.

COLLECTOR TEST SAMPLE DETAILS		
Absorber	**Coating**	Paint, Black
	Absorptivity	0.94**
	Material	Steel
	Porosity	3.1%
	Profile	Flat
Gross Area		1.716 m^2 (18.47 ft^2)
Aperture Area (Net)		1.580/ m^2 (17.01 ft^2)
Gross Sample Dimensions (LXWXD)		2.75 m x 0.54 m x 0.615 m 9.0 ft x 1.8 ft x 2.0 ft *(Depth measured at the base of triangle)*
Dry Weight		Not Reported

THERMAL EFFICIENCY TESTING DETAILS	
Testing Location	Indoors, Conditioned space (25° C)
Added Back Insulation	2" foil-faced fiberglass



THERMAL EFFICIENCY DATA SUMMARY (900 W/m^2 average insolation)

Wind Speed / Air Flow	0.0 m/s (0.0 mph)		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)*****	**η**	**Δ T (K)*****
1.2 scmm/m^2 (4.0 scfm/ft^2)	0.67	24.3	0.53	19.8	0.40	14.5	0.21	7.9
2.1 scmm/m^2 (7.0 scfm/ft^2)	0.79	16.5	0.69	15.0	0.64	13.3	0.35	7.7
3.4 scmm/m^2 (11.0 scfm/ft^2)	0.85	11.7	0.74	10.2	0.73	9.7	0.54	7.6
4.3 scmm/m^2 (14.0 scfm/ft^2)	0.88	9.3	0.75	8.7	0.73	8.0	0.65	5.8

*** Data measured by test lab at the time of collector testing per CSA F378.*

**** 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.*

REMARKS:

1. Performance is unreliable if the collector is used at a pressure drop of less than 25 Pa.
2. Wind impact on efficiency should not be extrapolated to large-scale systems because the ratio of wind-blown edge loss to gain across the surface area is diminished for large vs. small collectors (arrays).
3. All lengths of this collector are certified.

Shawn Martin

Vice President of Technical Services, ICC-SRCC