



SOLAR RATING & CERTIFICATION CORPORATION

CERTIFIED SOLAR COLLECTOR

SUPPLIER:
Trigo Energies Inc.
 3420 rue de Bordeaux
 Trois-Rivières, QUÉBEC J8Y 3P6 Canada
 www.trigoenergies.com
 In Accordance with:
SRCC Standard 100-2008-02

BRAND: Trigo
 MODEL: Acero
 COLLECTOR TYPE: Glazed Flat Plate
 CERTIFICATION #: 10002046
 Original Certification: May 12, 2017
 Expiration Date: June 07, 2020

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

COLLECTOR THERMAL PERFORMANCE RATING							
Kilowatt-hours (thermal) Per Panel Per Day				Thousands of Btu Per Panel Per Day			
Climate ->	High Radiation (6.3 kWh/m ² .day)	Medium Radiation (4.7 kWh/m ² .day)	Low Radiation (3.1 kWh/m ² .day)	Climate ->	High Radiation (2000 Btu/ft ² .day)	Medium Radiation (1500 Btu/ft ² .day)	Low Radiation (1000 Btu/ft ² .day)
Category (Ti-Ta)				Category (Ti-Ta)			
A (-5 °C)	9.7	7.4	5.0	A (-9 °F)	33.3	25.1	17.0
B (5 °C)	8.7	6.3	4.0	B (9 °F)	29.8	21.7	13.6
C (20 °C)	7.1	4.8	2.5	C (36 °F)	24.4	16.3	8.4
D (50 °C)	3.9	1.8	0.2	D (90 °F)	13.3	6.1	0.7
E (80 °C)	0.9	0.0	0.0	E (144 °F)	3.2	0.0	0.0

A- Pool Heating (Warm Climate) B- Pool Heating (Cool Climate) C- Water Heating (Warm Climate)
 D- Space & Water Heating (Cool Climate) E- Commercial Hot Water & Cooling

COLLECTOR SPECIFICATIONS					
Gross Area:	2.625 m ²	28.26 ft ²	Dry Weight:	57.2 kg	126.0 lb
Net Aperture Area:	2.422 m ²	26.07 ft ²	Leakage rate:	0 m ³ /s	3 SCFM
Absorber Area:	2.399 m ²	25.82 ft ²	Test Pressure:	-1 kPa	0 psi

TECHNICAL INFORMATION			Tested in accordance with: ASHRAE 93		
ISO Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Ta]					
SI UNITS:	$\eta = 0.656 - 3.48050(P/G) - 0.02380(P^2/G)$	Y Intercept:	0.666	Slope:	-4.877 W/m ² .°C
IP UNITS:	$\eta = 0.656 - 0.61341(P/G) - 0.00233(P^2/G)$	Y Intercept:	0.666	Slope:	-0.860 Btu/hr.ft ² .°F

Incident Angle Modifier								Test Fluid:	
θ	10	20	30	40	50	60	70	Air	
K_{ra}	0.99	0.98	0.95	0.89	0.80	0.63	0.22	Test Mass Flow Rate:	0.0226 kg/(s m ²) 16.66 lb/(hr ft ²)
Impact Safety Rating: 11									

REMARKS:

Shawn Martin
 Technical Director

Print Date: May, 2017 Page 1 of 3
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ADDITIONAL INFORMATION (click here to return to the rating page)			
Test Lab:	Exova Canada, Inc.	Test Date:	June 07, 2010
Test Report Number:	08-08-15RV1	Test Location:	indoors

SOLAR COLLECTOR CONSTRUCTION DETAILS					
Gross Length:	2.342 m	Gross Width:	1.121 m	Gross Depth:	108.000 mm

COLLECTOR MATERIALS					
Outer Cover:	Glass sheet	Enclosure back:	Aluminum	Back Insulation:	Fiber, None
Inner Cover:	None	Enclosure side:	Aluminum	Side Insulation:	Fiber, None
Absorber Description:	Channel / Sheets		Flow Pattern:	Plate	
Riser Tube:	Aluminium		Fin:	Aluminum	
Absorber Coating:	Selective		Tube to fin connection	Other	

GLAZING	Outer Cover	Inner Cover
Material:	Glass sheet	None
Surface Characteristics:	Textured	
Thickness:	4.0 mm	N/A
Transmissivity:	Medium (87-89.9%)	
Length:	2.327 m	
Width:	1.105 m	
Tube Glazing to Header Enclosure Seal:	Silicone bead	

ABSORBER:		Absorber Coating:	Selective		
Header Material:		Header OD:		Header Wall:	
Riser Tube Material:	Aluminium	Riser Tube OD:	0.0 mm	Riser Tube Wall Thickness:	0.0 mm
Fin Material:	Aluminum	Fin Thickness:	0.50 mm		



Print Date: May, 2017 Page 2 of 3
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Flow Pattern:	Plate				
Number of Riser Tubes:	10	Tube Spacing:	57.2 mm	Number of times each riser crosses the absorber:	10
Length of Flow Path:		Riser to Fin/Plate Bond:	Other		

INSULATION:					
Location	Type	Thickness	Location	Type	Thickness
Back – Top Layer:	Fiber	37.0 mm	Sides – Inner Layer:	Fiber	24.0 mm
Back – Bottom Layer:	None		Sides – Outer Layer:	None	
Enclosure Fastening Methods:	Rivets				

Power Output per Collector(W) [Ti-Ta, G = 1000 W/m²]				
0	10	30	50	70
1721	1629	1447	1264	1081

PRESSURE DROP				
Flow	ΔP		Flow	ΔP
ml/s	Pa		gpm	in H ₂ O
20	0		0.32	0.0
50	0		0.79	0.0
80	0		1.27	0.0



Print Date: May, 2017 Page 3 of 3
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