



CERTIFIED SOLAR COLLECTOR

SUPPLIER:
Modulo Solar SA de CV
 Calle 23 Este # 3, Col. Civac
 Cuernavaca, MORELOS 62578 Mexico
 www.modulosolar.com.mx

BRAND: MAXOL FULL PLATE 2.0
MODEL: FP 1.20.0 LE sc
COLLECTOR TYPE: Glazed Flat Plate
CERTIFICATION #: 2011002A
Original Certification: April 07, 2011
Expiration Date: December 14, 2021

The solar collector listed below has been evaluated by the Solar Rating & Certification Corporation™ (SRCC™) 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.

COLLECTOR THERMAL PERFORMANCE RATING							
Kilowatt-hours (thermal) Per Panel Per Day				Thousands of Btu Per Panel Per Day			
Climate -> Category (Ti-Ta)	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 -> Category (Ti-Ta)	High Radiation (2000 Btu/ft ² .day)	Medium Radiation (1500 Btu/ft ² .day)	Low Radiation (1000 Btu/ft ² .day)
A (-5 °C)	8.4	6.4	4.3	A (-9 °F)	28.7	21.7	14.8
B (5 °C)	7.6	5.5	3.5	B (9 °F)	25.8	18.9	12.0
C (20 °C)	6.3	4.3	2.3	C (36 °F)	21.5	14.7	8.0
D (50 °C)	3.9	2.1	0.5	D (90 °F)	13.4	7.3	1.8
E (80 °C)	1.8	0.4	0.0	E (144 °F)	6.1	1.3	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:	2.031 m ²	21.86 ft ²	Dry Weight:	27 kg	60 lb
Net Aperture Area:	1.886 m ²	20.30 ft ²	Fluid Capacity:	2.2 liter	0.6 gal
Absorber Area:	1.809 m ²	19.48 ft ²	Test Pressure:	1500 kPa	218 psi

TECHNICAL INFORMATION			Tested in accordance with:		
ISO Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Ta]					
SI UNITS:	$\eta = 0.666 - 3.71930(P/G) - 0.01019(P^2/G)$	Y Intercept:	0.670	Slope:	-4.404 W/m ² .°C
IP UNITS:	$\eta = 0.666 - 0.65550(P/G) - 0.00100(P^2/G)$	Y Intercept:	0.670	Slope:	-0.776 Btu/hr.ft ² .°F

Incident Angle Modifier								Test Fluid:	
θ	10	20	30	40	50	60	70	Water	
K$\tau\alpha$	1.00	1.00	1.00	0.99	0.95	0.83	0.31	Test Mass Flow Rate:	0.0217 kg/(s m ²) 15.97 lb/(hr ft ²)
Impact Safety Rating:									

REMARKS:

Jim Higgins

Technical Director





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ADDITIONAL INFORMATION (click here to return to the rating page)			
Test Lab:	TÜV Rheinland Energie und Umwelt GmbH	Test Report Date:	December 14, 2009
Test Report Number:		Test conducted:	

SOLAR COLLECTOR CONSTRUCTION DETAILS					
Gross Length:	1.944 m	Gross Width:	1.045 m	Gross Depth:	80.0 mm

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

Glazing	Outer Cover	Inner Cover
Material:	Glass sheet	None
Surface Characteristics:		
Thickness:	3.2 mm	N/A
Transmissivity:		
Length:	0.000 m	
Width:	0.000 m	
Tube Glazing to Header Enclosure Seal:		

ABSORBER:		Absorber Coating:		Selective	
Header Material:		Header OD:		Header Wall:	
Riser Tube Material:	Aluminium	Riser Tube OD:		Riser Tube Wall Thickness:	
Fin Material:		Fin Thickness:	0.30 mm		





Flow Pattern:					
Number of Riser Tubes:	0	Tube Spacing:		Number of times each riser crosses the absorber:	0
Length of Flow Path:	0.00 m	Riser to Fin/Plate Bond:			

INSULATION:					
Location	Type	Thickness	Location	Type	Thickness
Back – Top Layer:	Foam		Sides – Inner Layer:		
Back – Bottom Layer:	None		Sides – Outer Layer:		
Enclosure Fastening Methods:					

Power Output per Collector(W) [Ti-Ta, G = 1000 W/m ²]				
0	10	30	50	70

PRESSURE DROP				
Flow	ΔP		Flow	ΔP
ml/s	Pa		gpm	in H₂O
20			0.32	
50			0.79	
80			1.27	

