



SOLAR RATING & CERTIFICATION CORPORATION

**CERTIFIED SOLAR COLLECTOR**

SUPPLIER:  
**TVP Solar**  
 36 Place du Bourg-de-Four  
 Geneva, GE 1204 Switzerland  
 In Accordance with:  
**ICC 901/SRCC Standard 100-2015**

BRAND: MT-Power  
 MODEL: v4  
 COLLECTOR TYPE: Glazed Flat Plate  
 CERTIFICATION #: 10002057  
 Original Certification: November 14, 2017  
 Expiration Date: May 24, 2027

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 <sup>2</sup> .day)	Medium Radiation (4.7 kWh/m <sup>2</sup> .day)	Low Radiation (3.1 kWh/m <sup>2</sup> .day)	Climate ->	High Radiation (2000 Btu/ft <sup>2</sup> .day)	Medium Radiation (1500 Btu/ft <sup>2</sup> .day)	Low Radiation (1000 Btu/ft <sup>2</sup> .day)
Category (Ti-Ta)				Category (Ti-Ta)			
A (-5 °C)	8.6	6.4	4.2	A (-9 °F)	29.2	21.8	14.5
B (5 °C)	8.4	6.3	4.1	B (9 °F)	28.8	21.4	14.1
C (20 °C)	8.2	6.0	3.9	C (36 °F)	28.0	20.6	13.3
D (50 °C)	7.6	5.4	3.3	D (90 °F)	25.8	18.5	11.1
E (80 °C)	6.7	4.6	2.6	E (144 °F)	22.9	15.8	9.0

**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					
<b>Gross Area:</b>	1.960 m <sup>2</sup>	21.10 ft <sup>2</sup>	<b>Dry Weight:</b>	53.0 kg	116.8 lb
<b>Net Aperture Area:</b>	1.830 m <sup>2</sup>	19.70 ft <sup>2</sup>	<b>Fluid Capacity:</b>	1.4 liter	0.4 gal
<b>Absorber Area:</b>	1.800 m <sup>2</sup>	19.38 ft <sup>2</sup>	<b>Test Pressure:</b>	0 kPa	0 psi

TECHNICAL INFORMATION			Tested in accordance with: ISO 9806:2013		
<b>ISO Efficiency Equation</b> [NOTE: Based on gross area and (P)=Ti-Ta]					
<b>SI UNITS:</b>	$\eta = 0.729 - 0.55610(P/G) - 0.00610(P^2/G)$	<b>Y Intercept:</b>	0.745	<b>Slope:</b>	-1.455 W/m <sup>2</sup> .°C
<b>IP UNITS:</b>	$\eta = 0.729 - 0.09801(P/G) - 0.00060(P^2/G)$	<b>Y Intercept:</b>	0.745	<b>Slope:</b>	-0.256 Btu/hr.ft <sup>2</sup> .°F

Incident Angle Modifier								Test Fluid:	
θ	10	20	30	40	50	60	70	Water	
<b>K<sub>τα</sub></b>	1.00	0.99	0.99	0.97	0.94	0.88	0.71	<b>Test Mass Flow Rate:</b>	0.0200 kg/(s m <sup>2</sup> )    14.75 lb/(hr ft <sup>2</sup> )
<b>Impact Safety Rating: 2</b>									

REMARKS:

*Shawn Martin*

Technical Director

Print Date: November, 2017 Page 1 of 3  
 Please verify certification is active on the SRCC website.  
 © Solar Rating & Certification Corporation™





SOLAR RATING  
& CERTIFICATION  
CORPORATION

### CERTIFIED SOLAR COLLECTOR

SUPPLIER:  
**TVP Solar**  
36 Place du Bourg-de-Four  
Geneva, GE 1204 Switzerland  
In Accordance with:  
**ICC 901/SRCC Standard 100-2015**

BRAND: MT-Power  
MODEL: v4  
COLLECTOR TYPE: Glazed Flat Plate  
CERTIFICATION #: 10002057  
Original Certification: November 14, 2017  
Expiration Date: May 24, 2027

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.

ADDITIONAL INFORMATION <a href="#">(click here to return to the rating page)</a>			
Test Lab:	Forschungs- und Testzentrum für Solaranlagen (TZS) am Institut für Thermodynamik und Wärmetechnik (ITW) der Universität Stuttgart	Test Date:	May 24, 2017
Test Report Number:	16COL1343	Test Location:	indoors

SOLAR COLLECTOR CONSTRUCTION DETAILS					
Gross Length:	0.975 m	Gross Width:	2.015 m	Gross Depth:	51.000 mm

COLLECTOR MATERIALS					
Outer Cover:	Glass sheet	Enclosure back:	Stainless Steel	Back Insulation:	Vacuum, Vacuum
Inner Cover:	Glass sheet	Enclosure side:	Stainless Steel	Side Insulation:	Vacuum, None
Absorber Description:	Tubes connected to Single Sheet		Flow Pattern:	Mixed	
Riser Tube:	Copper		Fin:	Aluminum	
Absorber Coating:	Selective		Tube to fin connection	Laser Weld	

GLAZING	Outer Cover	Inner Cover
Material:	Glass sheet	Glass sheet
Surface Characteristics:	Smooth	Smooth
Thickness:	5.0 mm	0.0 mm
Transmissivity:	High (equal to or greater than 90%)	High (equal to or greater than 90%)
Length:	2.000 m	2.000 m
Width:	0.960 m	0.960 m
Tube Glazing to Header Enclosure Seal:	Other	

ABSORBER:	Absorber Coating:	Selective
-----------	-------------------	-----------



Print Date: November, 2017 Page 2 of 3  
Please verify certification is active on the SRCC website.  
© Solar Rating & Certification Corporation™



SOLAR RATING  
& CERTIFICATION  
CORPORATION

**CERTIFIED SOLAR COLLECTOR**

SUPPLIER:  
**TVP Solar**  
36 Place du Bourg-de-Four  
Geneva, GE 1204 Switzerland  
In Accordance with:  
**ICC 901/SRCC Standard 100-2015**

BRAND: MT-Power  
MODEL: v4  
COLLECTOR TYPE: Glazed Flat Plate  
CERTIFICATION #: 10002057  
Original Certification: November 14, 2017  
Expiration Date: May 24, 2027

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.

<b>Header Material:</b>	Stainless Steel	<b>Header OD:</b>	0.0 mm	<b>Header Wall:</b>	0.0 mm
<b>Riser Tube Material:</b>	Copper	<b>Riser Tube OD:</b>	12.0 mm	<b>Riser Tube Wall Thickness:</b>	0.5 mm
<b>Fin Material:</b>	Aluminum	<b>Fin Thickness:</b>	0.60 mm		

<b>Flow Pattern:</b>	Mixed				
<b>Number of Riser Tubes:</b>	6	<b>Tube Spacing:</b>	180.0 mm	<b>Number of times each riser crosses the absorber:</b>	1
<b>Length of Flow Path:</b>	2.20 m	<b>Riser to Fin/Plate Bond:</b>	Laser Weld		

<b>INSULATION:</b>					
<b>Location</b>	<b>Type</b>	<b>Thickness</b>	<b>Location</b>	<b>Type</b>	<b>Thickness</b>
<b>Back – Top Layer:</b>	Vacuum	25.0 mm	<b>Sides – Inner Layer:</b>	Vacuum	52.0 mm
<b>Back – Bottom Layer:</b>	Vacuum	25.0 mm	<b>Sides – Outer Layer:</b>	None	
<b>Enclosure Fastening Methods:</b>	Weld				

<b>Power Output per Collector(W)</b> [ Ti-Ta, G = 1000 W/m² ]				
<b>0</b>	<b>10</b>	<b>30</b>	<b>50</b>	<b>70</b>
1429	1418	1397	1375	1352

<b>PRESSURE DROP</b>				
<b>Flow</b>	<b>ΔP</b>		<b>Flow</b>	<b>ΔP</b>
<b>m/s</b>	<b>Pa</b>		<b>gpm</b>	<b>in H<sub>2</sub>O</b>
20	1885		0.32	7.6
50	11758		0.79	47.3
80	30087		1.27	121.1



Print Date: November, 2017 Page 3 of 3  
Please verify certification is active on the SRCC website.  
© Solar Rating & Certification Corporation™