



SOLAR RATING & CERTIFICATION CORPORATION

CERTIFIED SOLAR COLLECTOR

SUPPLIER:  
Viessmann Manufacturing Company (US) Inc.  
45 Access Road  
Warwick, RI 02886 USA  
www.viessmann-us.com

In Accordance with:  
ICC 901/SRCC Standard 100-2015

BRAND: Vitosol  
MODEL: 100-FM SV1F  
COLLECTOR TYPE: Glazed Flat Plate  
CERTIFICATION #: 10002025  
Original Certification: October 04, 2016  
Expiration Date: June 21, 2028

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 -> Category (Ti-Ta)	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 -> Category (Ti-Ta)	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)
A (-5 °C)	10.4	7.9	5.4	A (-9 °F)	35.6	26.9	18.3
B (5 °C)	9.2	6.7	4.1	B (9 °F)	31.4	22.7	14.1
C (20 °C)	7.4	4.9	2.5	C (36 °F)	25.3	16.7	8.4
D (50 °C)	4.0	1.8	0.1	D (90 °F)	13.5	6.0	0.4
E (80 °C)	1.0	0.0	0.0	E (144 °F)	3.4	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:	2.510 m <sup>2</sup>	27.02 ft <sup>2</sup>	Dry Weight:	42 kg	91 lb
Net Aperture Area:	2.330 m <sup>2</sup>	25.08 ft <sup>2</sup>	Fluid Capacity:	1.8 liter	0.5 gal
Absorber Area:	2.324 m <sup>2</sup>	25.02 ft <sup>2</sup>	Test Pressure:	900 kPa	131 psi

TECHNICAL INFORMATION			Tested in accordance with: ISO 9806:2013		
ISO Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Ta]					
SI UNITS:	$\eta = 0.733 - 4.46030(P/G) - 0.01960(P^2/G)$	Y Intercept:	0.744	Slope:	-5.674 W/m <sup>2</sup> .°C
IP UNITS:	$\eta = 0.733 - 0.78609(P/G) - 0.00192(P^2/G)$	Y Intercept:	0.744	Slope:	-1.000 Btu/hr.ft <sup>2</sup> .°F

Incident Angle Modifier								Test Fluid:	
$\theta$	10	20	30	40	50	60	70	Water	
K $\tau\alpha$	0.99	0.98	0.94	0.88	0.79	0.63	0.32	Test Mass Flow Rate:	0.0470 kg/(s m <sup>2</sup> ) 34.65 lb/(hr ft <sup>2</sup> )
Impact Safety Rating: 11									

REMARKS:

*Shawn Martin*

Technical Director

Print Date: November, 2016 Page 1 of 3  
Please verify certification is active on the SRCC website.  
© Solar Rating & Certification Corporation™

www.solar-rating.org ♦ ICC-SRCC ♦ 500 New Jersey Avenue, NW 6th Floor ♦ Washington, DC 20001 ♦ (888) 422-7233





SOLAR RATING  
& CERTIFICATION  
CORPORATION™

### CERTIFIED SOLAR COLLECTOR

**SUPPLIER:**  
Viessmann Manufacturing Company (US) Inc.  
45 Access Road  
Warwick, RI 02886 USA  
www.viessmann-us.com

In Accordance with:  
**ICC 901/SRCC Standard 100-2015**

**BRAND:** Vitosol  
**MODEL:** 100-FM SV1F  
**COLLECTOR TYPE:** Glazed Flat Plate  
**CERTIFICATION #:** 10002025  
**Original Certification:** October 04, 2016  
**Expiration Date:** June 21, 2028

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:	TÜV Rheinland Energy GmbH	Test Date:	June 21, 2016
Test Report Number:	21232812.001	Test Location:	indoors

SOLAR COLLECTOR CONSTRUCTION DETAILS					
Gross Length:	2.380 m	Gross Width:	1.056 m	Gross Depth:	73.000 mm

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

GLAZING	Outer Cover	Inner Cover
Material:	Glass sheet	None
Surface Characteristics:	Textured	
Thickness:	3.2 mm	N/A
Transmissivity:	High (equal to or greater than 90%)	
Length:	2.326 m	
Width:	1.002 m	
Tube Glazing to Header Enclosure Seal:	Silicone bead	

ABSORBER:		Absorber Coating:		Selective	
Header Material:		Header OD:		Header Wall:	
Riser Tube Material:	Copper	Riser Tube OD:	9.0 mm	Riser Tube Wall Thickness:	0.3 mm
Fin Material:	Aluminum	Fin Thickness:	0.40 mm		



Print Date: November, 2016 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:**  
Viessmann Manufacturing Company (US) Inc.  
45 Access Road  
Warwick, RI 02886 USA  
www.viessmann-us.com

In Accordance with:  
**ICC 901/SRCC Standard 100-2015**

**BRAND:** Vitosol  
**MODEL:** 100-FM SV1F  
**COLLECTOR TYPE:** Glazed Flat Plate  
**CERTIFICATION #:** 10002025  
**Original Certification:** October 04, 2016  
**Expiration Date:** June 21, 2028

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>Flow Pattern:</b>	Series/Meander				
<b>Number of Riser Tubes:</b>	1	<b>Tube Spacing:</b>	97.5 mm	<b>Number of times each riser crosses the absorber:</b>	22
<b>Length of Flow Path:</b>	21.88 m	<b>Riser to Fin/Plate Bond:</b>	Laser Weld		

INSULATION:					
Location	Type	Thickness	Location	Type	Thickness
<b>Back – Top Layer:</b>	Fiber	30.0 mm	<b>Sides – Inner Layer:</b>	Air	20.5 mm
<b>Back – Bottom Layer:</b>	None		<b>Sides – Outer Layer:</b>	None	
<b>Enclosure Fastening Methods:</b>		Mechanical Forming			

Power Output per Collector(W) [ Ti-Ta, G = 1000 W/m² ]				
0	10	30	50	70
1839	1722	1459	1156	814

PRESSURE DROP				
Flow	$\Delta P$		Flow	$\Delta P$
ml/s	Pa		gpm	in H <sub>2</sub> O
20	10		0.32	0.0
50	44		0.79	0.2
80	102		1.27	0.4



Print Date: November, 2016 Page 3 of 3  
Please verify certification is active on the SRCC website.  
© Solar Rating & Certification Corporation™