

Product Evaluation

RV132 | 0825

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: RV-132

Effective Date: August 1, 2025

Re-evaluation Date: August 2029

Product Name: Solar Ventilation Fans

Manufacturer: Changzhou 1st Sunflower Intelligence Technology Co., Ltd.
No. 18, Xiangyun Road, Wujin Economic Development Zone
Changzhou, Jiangsu Province, China 213149
+86-1-358-436-6733

Models:

SFM-F40 Series (20/25/30/35/40 Watt)

General Description:

The Solar Ventilation Fans are self-flashing, roof mounted, solar powered attic fans that are used to provide exhaust ventilation of the attic or interior space of a structure. The ventilation fan has a two-piece design where the flashing is installed first and then the hood is secured without the use of tools. The ventilation fan includes a built-in monocrystalline adjustable solar panel allowing for versatility in mounting positions. The solar panel is secured to the top of the housing. The fan is available in 20/25/30/35/40 Watt models. The following table lists the main dimensions of each model:

Product Type	Solar Powered Ventilation System			
	Size			Solar Panel
	Base	Collar	Hood	
SFM-F40 Series (20/25 /30/35/40 Watt)	21.2" x 21.2"	14.4" Dia.	19.9" x 19.9"	The size remains the same, and the power is optional at 20/25/30/35/40 Watt

A top view, bottom view, side view, and front view with dimensions are included in this evaluation report.

Ventilator Construction: The vent is built from 18-gauge (0.047" thick) painted steel, with a tapered base and a square hood. A ventilation fan is mounted onto the hood using four M6 x 12 machine screws and nuts. Four braces connect the base to the hood. Each brace is secured to the base with one M6 x 18 machine screw and nut, and to the hood with two M5 x 12 rivets.

Solar Panel: The solar panel, measuring 19.9" W x 19.9" H x 0.98" T, mounts to the top of the hood using four M6 x 18 machine screws.

Limitations:

Roof Slope: No minimum roof slope. The maximum roof slope is 16:12.

Roof Deck: The roof deck must be minimum nominal 7/16" thick OSB (minimum nominal 15/32" thick plywood is acceptable).

Roof Deck Attachment: The roof deck must be secured to the roof framing to resist the required wind uplift design pressures.

Design Pressure: The maximum allowable design pressure is -428 psf.

Installation:

General Installation Instructions:

All requirements specified in the IRC and the IBC must be satisfied and the manufacturer's installation instructions followed, unless otherwise specified by this product evaluation.

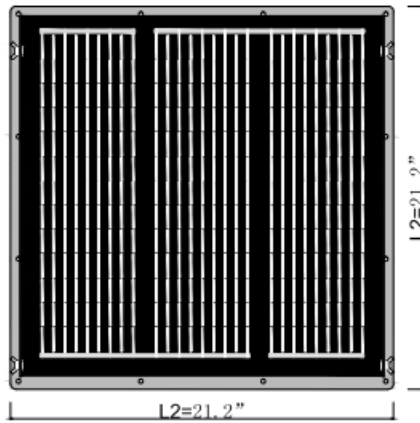
Attachment:

The solar ventilation fans must be installed in accordance with the 1st Sunflower SFM-F Series Installation manual and this product evaluation report. The solar fan must be installed between the roof framing. The attic fan flashing is installed underneath the roof covering material.

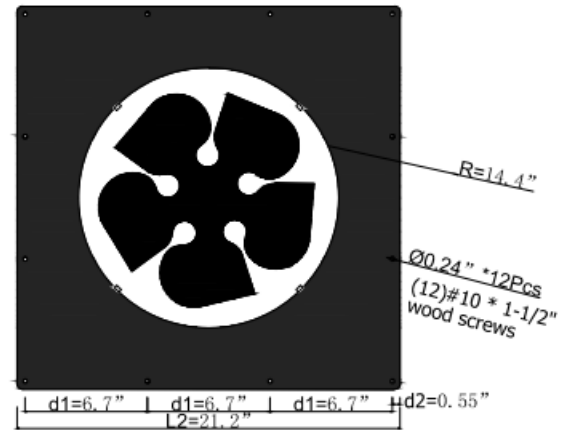
The attic fan is secured to the roof deck using the flashing of the attic fan. Secure the flashing to the wood deck with minimum No. 10 x 1-1/2" wood screws. Place these fasteners within 1 inch of the flange edge at each corner and at 1/3 intervals along the flange sides. Use fasteners long enough to penetrate a minimum of 1/4" below the roof deck.

Note: Keep the manufacturer's installation instructions available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.

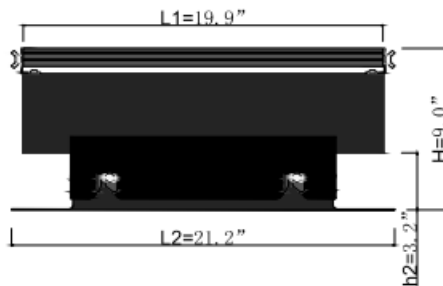
TOP VIEW



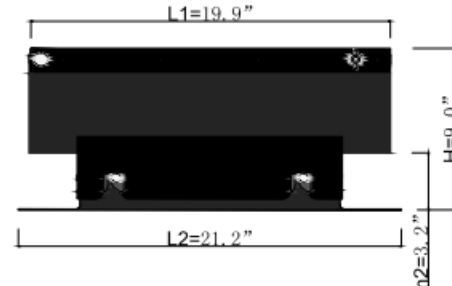
BOTTOM VIEW



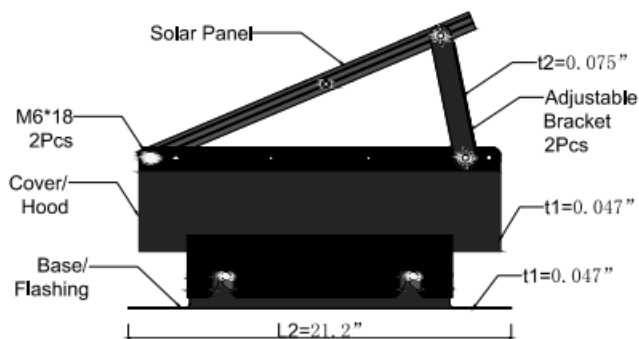
SIDE VIEW



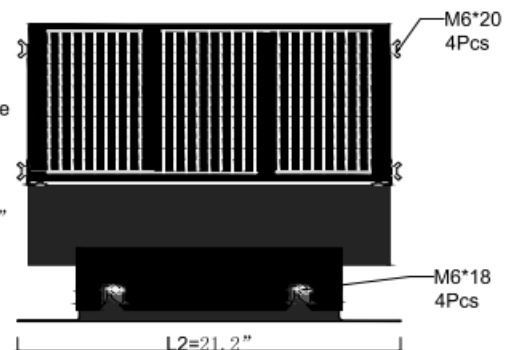
FRONT VIEW



SIDE VIEW



FRONT VIEW



SFM-F40 Series Solar Ventilation Fans