

Solar roof exhaust fan
Product model MF-01



The user manual must be properly placed in the packaging box to ensure that it can be easily accessed and referenced. The user manual must always be placed with the product, even for resale.

Product Profile

Our product is a DC brushless exhaust fan with two power supply modes: solar energy/power adapter.

It has the following advantages:

1. Dual power supplies ensure that the exhaust fan can operate normally regardless of changes in weather conditions.
2. It adopts a low-voltage DC brushless motor which is safe, reliable, low in noise and long in service life.
3. Energy-saving and environmentally-friendly: the motor is powered by both solar energy and power adapter at the same time, with the former as the main power source. When the solar radiation is insufficient, the power adapter can automatically supplement power supply to ensure that the rotating speed of the motor is not affected.
4. Remote control switch function allows the exhaust fan to be switched on and off at any time.



Product Parameters:

Product name	Photovoltaic intelligent ventilator
Product model	
Duct diameter	320mm
Ventilation capacity	2200~2500m ² /h
Motor speed	1350rpm
Maximum output power of solar panel	35W
Maximum output voltage of solar panel	18V
Power adapter input voltage	110~220V
Power adapter output voltage	DC15V
Power adapter output current	2.0A
Noise	≤45db

Installation and Operation Instructions for Metal Roofing

The following tools are recommended for installation:

1. Reciprocating electric saw or grinding wheel cutting machine;
2. Electric hand drill (equipped with one 5mm and one 6.5mm drill bit each)
3. One glass cement gun;
4. Tape measure;
5. Screwdriver and wrench;
6. Oily marker (or chalk or crayon)
7. Compass;

Step 1 Select the model and quantity of solar roof fans:

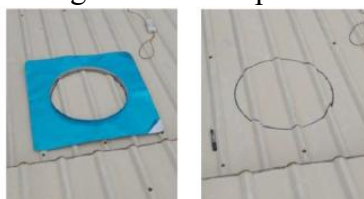
Based on different environmental factors and requirements, determine the number of the roof ventilation per hour, and calculate the total exhaust air volume by multiplying the building space size by the number of hourly ventilation; divide the total exhaust air volume by the hourly exhaust air volume of the selected model “MF-01-12 or MF-01-14 exhaust air volume 2000~2500m³/hour, MF-01-20 7000m³/hour” to obtain the number of fans to be installed; see Figure 1)



1. To determine the location of the fan, it is necessary to consider placing the solar panel in the roof area where the sun does not block it (note that the shadow will affect the performance of the solar fan). The solar panel can receive the sunlight from the south and the west in the hot season to allow for the longest possible duration of direct sunlight. If multiple fans are to be installed, the arrangement of the fans should meet the overall aesthetic requirements of the building;
2. If it is not possible to position the fan in a location that allows it to receive sunlight from the south and the west, the solar panel and the wind turbine can be installed separately, so that the solar panel can be installed at the position where it can receive sunlight from the south and the west, and then the fan is supplied with power through the cable connection of the solar panel.
3. If two or more fans are installed on the same roof, it is recommended that the interval between each fan be more than 8m;
4. If there is a passive windball, just remove the old vent and fit the same aperture for installation, or block it to optimize the ventilation effect;
5. In order to maximize the efficiency of the solar fan, it is recommended to remove or seal the existing roof vent cap or gable vent. It is also important to keep a distance from the air intake window so as to make the air convection between the air intake window and the position requiring ventilation and the roof fan as much as possible, allowing for the maximum air flowing in the indoor space.

Step 2 Positioning of roof opening

According to the figure below, generally, the screws that are used to fix the corrugations from the top of the roof to the bottom (at the location of the washers) can be used to fix the bottom plate of the roof fan. Remove the fixing screws of the roof corrugations (the bottom plate does not cover any fixing screws of the roof corrugations), place the fan bottom plate on the roof, and slide the fan bottom plate so that the round hole of the bottom plate covers as few as possible the number of corrugated raised strips (this can reduce the number of grooves that need waterproofing). Once positioned, mark a circle on the inside edge of the base plate.



Step 3 Cutting the hole:

Use a reciprocating saw or cutter to cut out the inside of the circle as per the circle marked on the roof as shown below



Note:

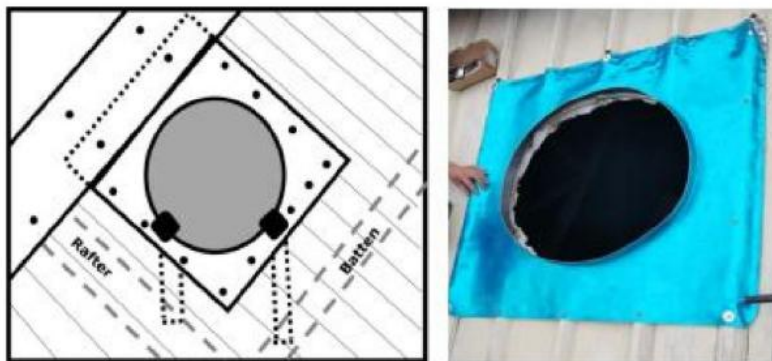
1. When cutting, be careful not to cut any washers or framing materials beneath the roof. Only roof tiles may be cut and removed. 2. Before cutting the hole, make sure that there are no electrical wires or water lines in the cutting area. 3. Before completely cutting the circle, try to fix the cut material so that it does not fall off

Step 4 Installation of base plate of fan

1. Press the aluminum plate of the base to fit the roof tile,(see the figure below)



2. Use multiple M6*50 self-tapping screws with waterproof rubber ring to penetrate and fix (see the figure below)



3. The machine is equipped with two 20x300 soft flat aluminum strips, one end of which is hung on the edge of the base, and the other end is connected with the rafter or frame beneath the roof (see the figure below).



4. Apply glass cement between the bottom plate and the roof surface for waterproofing, as shown by the red arrow in the following figure:



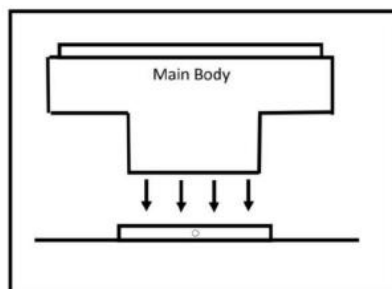
5. In order to improve the reliability of sealing and waterproofing, a rubber waterproof tape with a width of 10cm can be used on the joint.

Note: do not apply glass cement below the sloping roof to prevent water accumulation, as shown by the green arrows in the following figure:



Step 5 Install the fan body:

1. Place the fan body above the bottom plate. If the solar panel is installed on the fan host cover, the fan body needs to be rotated left or right to adapt to the required direction of the solar panel;



2. Use an electric screwdriver to pass at least 4 screws through the air duct on the fan body, drill holes into the folded edge of the bottom plate,
Fix the fan body and the bottom plate. Then, apply waterproof sealant on all screw covers to prevent rainwater penetration. (See the figure below)



Step 6 Install the wind support rod

One end of the telescopic windproof support rod is fixed on a solar battery bracket of a wind cylinder or a cover, and the other end of the telescopic windproof support rod is fixed on the sandalwood of the roof;



Step 8 Adjust the solar panel:

Adjust the angle of the solar panel to ensure that the solar panel is closest to the vertical sunlight angle at noon and afternoon during hot seasons.

Installation completed