

Solar Fans for Greenhouses Exhaust & Ventilation with Brushless Motor Super Fans



Super Fans are a family of brushless motor DC powered high efficiency ventilation fans that operate directly from solar panels giving you the cooling effect needed when the sun is at its hottest. Super fans can also operate from 24 volt batteries. Super Fan is made in the USA. Super Fan is an ideal greenhouse fan and is also frequently used for agricultural and horticultural ventilation, attic cooling and exhaust applications.

Super Fan Performance



16 Inch Super Fan Specifications

- Air flow 1,000 to 2,000 cubic feet per minute
- 12 volt solar panel estimated operating performance 30 watts up to 1,000 CFM, 60 watts up to 1,900 CFM, 135 watts up to 2,000 CFM
- Operating voltage range 15 to 44 VDC from solar panels or 24 volt batteries
- Thermally protected brushless motor designed for 50,000 hours continuous duty
- High performance airfoil structural reinforced plastic blades
- Heavy duty powder coated steel frame
- Frame dimensions 20.125 x 20.125 x 5.5 inches
- Fan weight 12 pounds, shipping weight 16 pounds
- 5 minute automatic low light low amp restart delay for motor protection
- Moderate over voltage and thermal protection
- Higher wattage solar panels will increase run time per day
- Fan will not run in reverse
- Made in the USA
- Two year warranty

20 Inch Super Fan Specifications

- Air flow 1,600 to 3,200 cubic feet per minute
- 12 volt solar panel estimated operating performance 30 watts up to 1,600 CFM, 60 watts up to 2,300 CFM, 135 watts up to 3,000 CFM
- Operating voltage range 15 to 44 VDC from solar panels or 24 volt batteries
- Thermally protected brushless motor designed for 50,000 hours continuous duty
- High performance airfoil structural reinforced plastic blades
- Heavy duty powder coated steel frame
- Frame dimensions 24.125 x 24.125 x 5.5 inches
- Fan weight 15 pounds, shipping weight 20 pounds
- 5 minute automatic low light low amp restart delay for motor protection
- Moderate over voltage and thermal protection
- Higher wattage solar panels will increase fan speed and run time per day
- Fan will not run in reverse
- Made in the USA
- Two year warranty

Super Fan Use In Greenhouses

Ventilation requirements in greenhouses vary with the weather and time of the year. If you are using your greenhouse year round, ventilation needs can range from 100 percent air volume exchange per minute during the Summer to only 10 to 30 percent air volume exchange per minute from Fall to Spring. This information may be helpful: [Greenhouse Ventilation Strategies with Solar Powered Fans](#).

A single fan cannot usually meet this range of air movement requirements. It takes at least two fans, preferably one pushing and one pulling. We have some other ideas about how you can expand the variability of you Super Fans if you are willing to use 12 volt solar panels wired in series to make 24 volts during the peak of the Summer, and change the connections over to 12 volts during the times of the year when slower fans speeds will meet your requirements.

Here are some basic rules of thumb calculations for greenhouse air volumes:

- Medium to Large Greenhouses - Floor Length Feet x Floor Width Feet x 8
- Small Greenhouses Less Than 5,000 Square Feet - Floor Length x Floor Width x 12

Your Super Fan selection should be based on the fan CFM capacity. Here's an example:

Small greenhouse 20 x 16 feet x 12 = 3,840 Cubic Feet

2 each 16 inch Super Fans and 1 each 20 inch Super Fan would make a good working combination with 2 fans pushing and one fan pulling would give you a good range of possible air flows.

Also see our [Vari-Cyclone solar ceiling fans](#) and our [solar ceiling fan case study from Australia](#).

Super Fan Performance Factors

Super Fans have excellent performance and durability. These fans will provide you with many years of service with little maintenance thanks to their brushless motors, provided a few simple precautions are adhered to:

- **Proper Placement** - be sure to place the fan in a suitable location to adequately maximize air movement. Typically Super Fans are placed close to a greenhouse ceiling to both exchange and circulate warm interior air with cool air from outside and move the hottest air out of the house.
- **Water Hazards** - Do not place this product directly in contact with water or water spray.
- **Caution** - the blades of the Super Fan are built tough and they spin at high rates of speed, so extra precaution must be used when choosing a location to install your fan. With each installation site, check to make sure the spinning fan blades are out of reach of humans and animals.
- **OSHA requires finger guards for fans located less than eight (8) feet from the ground.**

Completely Rebuildable

Constant use and abuse from nature will eventually wear some Super Fan parts and components. Replacement parts for every component are available. With simple tools and elementary mechanical skills you will be able to replace these parts with confidence.

Solar Power For Your Super Fan

Super Fans will operate on voltages from 15 up to 44. Super Fans will not operate directly from a 12 volt battery, but we have a solution so that you can run the fan from 12 volts. The life of the brushless motor is rated for 50,000 hours of continuous use.

With Super Fan you can purchase the fan only, or Sunshine Works can provide a special kit for the fan of your choice which includes the fan, a solar panel, wire, connectors, fuses, circuit breakers, line voltage thermostat switches, on off switches, lightning arrestors or whatever you need for your installation.

We can help you configure your Super Fan and solar components to meet the requirements of your applications including the option to use multiple fans from a single large solar panel.

[Please contact us](#) for more information and assistance.

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