VEVOR®

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WIND TURBINE GENERATOR

MODEL: FG300W

We continue to be committed to provide you tools with competitive price.
"Save Half", "Half Price" or any other similar expressions used by us only represents an estimate of savings you might benefit from buying certain tools with us compared to the major top brands and does not necessarily mean to cover all categories of tools offered by us. You are kindly reminded to verify carefully when you are placing an order with us if you are actually saving half in comparison with the top major brands.

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NEED HELP? CONTACT US!

Have product questions? Need technical support? Please feel free to contact us:

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This is the original instruction, please read all manual instructions carefully before operating. VEVOR reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

	Warning-To reduce the risk of injury, user must read instructions manual carefully.
	**CORRECT DISPOSAL** This product is subject to the provision of European Directive 2012/19/EC. The symbol showing a wheelie bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices

Safety instruction

1. Before installing and operation of this product please read the instruction.
2. Please properly keep this instruction,this manual book contains in the assembly, installation and maintenance process and all important instructions.
3. Please read,understand and following all rules
4. Don’t install the wind turbine under very strong wind.
5. If you meet abnormal noises or operation,please contact professional sales and engineer.
6. During assembling,all the screws must be tight fixed
7. Wind turbine code. Failure to follow the manual and local regulations may affect and may void the warranty.
8. When the blades rotating, it will be very dangerous for people stand close.

FCC Information

CAUTION:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment!

This device complies with Part 15 of the FCC Rules. Operation is subject to

the following two conditions:

1) This product may cause harmful interference.

2) This product must accept any interference received, including interference that may cause undesired operation.

WARNING:

Changes or modifications to this product not expressly approved by the party. responsible for compliance could void the user's authority to operate the product.

Note:

This product has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules, These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This product generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception,which can be determined by turning the product off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

· Reorient or relocate the receiving antenna.

· Increase the distance between the product and receiver.

· Connect the product to an outlet on a circuit different from that to which the receiver is connected.

· Consult the dealer or an experienced radio/TV technician for assistance.

Product Introduction

1. FG series wind turbines have the same shape,and the power depends on the blade size/leaf number and the stator specifications.

2. FG series wind turbine adopts the patented technology with completely independent intellectual property rights. The high efficiency bearing greatly reduces the starting torque and the starting wind speed. which has high

mechanical properties, wear-reducing properties and corrosion resistance.
3. FG series wind turbine blades adopt advanced polymer composite materials, which have good strength and toughness, light weight and no deformation and no maintenance.
4. FG series generator adopts high-efficiency permanent magnet and optimized magnetic circuit design. It adopts high magnetic permeability and high temperature resistant materials,which greatly improves the insulation performance and service life.
5. FG series wind turbine shell is made of high-strength aluminum alloy by advanced precision casting technology. It is light in weight, high in strength, non-rusting and corrosion resistant. The fuselage and heat dissipation ribs greatly improve the heat dissipation performance.
6. FG series wind turbine adopts a carbon brush and a brush ring structure to transfer the generator electricity from the carbon brush to the brush ring, and the brush ring takes out the electricity; when the wind generator rotates, the cable does not rotate to prevent the cable from being broken.
7.FG series wind turbines use an automatic air-winding device to automatically adjust the wind turbine to the windward direction, taking into account the sensitivity of the steering and the stability of the steering.
8. FG series anti-rust treatment:the tail bar and the tail plate are galvanized, the body is made of high-strength aluminum alloy, and the whole machine is used for outdoor protection special paint. Double anti-rust treatment ensures that the use does not rust.
9. FG series waterproof performance:the joint is assembled with sealant, and the flange is processed with waterproof groove.
10. This series of products has passed CE certification, and has passed the test of GB/T19068.1-2003 standard by the wind power machinery product quality supervision and testing center of the mechanical industry.

Technical Data

Model	FG300W
Rated power(W)	800

Rated Voltage(v)	12
Rotor Diameter(m)	1.5
Start up wind speed(m/s)	2.5
Rated wind speed(m/s)	12
Shell Material	Die Cast aluminum
Blades number	3
Blades material	High strength Nylon composite

Wind turbine installation

1.Choosing installation site

Here are some suggestions for wind turbine installation site selection:

1.) Wind energy is proportional to the cube of wind speed, Therefore, wind turbines should be installed in places with large annual wind speeds. In addition, the wind speed is also higher as it is usually higher from the ground, so the wind turbine is installed as high as possible.

2.) Recommended installation height: In the place without obstruction, the center of the wind wheel is more than 6 meters above the ground. When installing on the roof platform, the center of the wind wheel should be more than 2 meters above the retaining wall, so that the wind wheel does not cover the wind.

3.) When the wind encounters obstacles such as buildings or trees, it will form turbulent flow, which not only affects the power generation effect, but also poses a threat to the operation of the wind turbine. Therefore, the site should avoid large obstacles.suggestions below:

You should choose a place where the terrain is flat and open, where there is no obstruction to the airflow, or where it is selected to increase the velocity of the airflow. Within 100 meters around the wind turbine tower, there should be no obstacles of more than 8 meters.Within 30 meters around the tower,there should be no obstacles of more than 3 meters. If

the obstacle must be installed close to the obstacle, the height of the tower should be more than 2 times the height of the obstacle.
4.) The tower should be in the downwind position in the local environment to ensure that the wind turbine rotor is in the windward position for most of the time, improving power generation.
5.) Site selection should avoid frequent areas such as storms, hail, lightning and other disasters.
6.) The wind turbine should be installed in a solid place to ensure the foundation is reliable, otherwise the foundation should be strengthened.
7.) Installation of wind turbines should be kept away from transmission lines and communication lines, and comply with the relevant regulations and requirements of the locality. If possible, install the wind turbine as much as possible for easy viewing.

2. series wind turbine installation steps

1) Packing list

Inside parts	Quantity (pc)
generator	1
flange	1
blades	3
hub	1
casing	1
controller	1

2) Wind turbine generator and tower connection

It is easy to assemble by means of casing connection (Fig.1). (The length of this casing is 120MM. The casing is first welded to the tower 40mm, and the height is 80mm. The center line of the connecting casing and the tower center line are ensured during welding.Parallel) Install the nose support sleeve in the tower sleeve and install the side screws (Figure 2). Pictures

as following:

Fig. 1

Fig. 2

3) Wind generator motor install ways

Note: please prepare all installation tool by yourself

First step: Tilt the tower rod (the angle is easy to install the wind turbine); wear the wind turbine lead wire, the lead wire is introduced from the hole above the tower rod, the wire hole is taken out from the bottom of the tower rod and the three wires should make short-circuited now to make the generator keep braking state, avoiding the rotor turning during the installation process.

Second step: Connect the three wires of the wind turbine to the wire we prepared. and then put the cable into the tower. Connect the generator shaft with the tower using M8*20 hex screw and Flat elastic, locks it.

Third step: Install the wind blades on the flange, paying attention to the windward side of the wind blades (i.e.with the letter facing outward). Use M8*35 external hexagonal screws and flat spring pads to install the other two blades in this way. Adjust the distance error between the two blade tips to within 5mm, and then tighten the bolts (as shown in Figure 3).

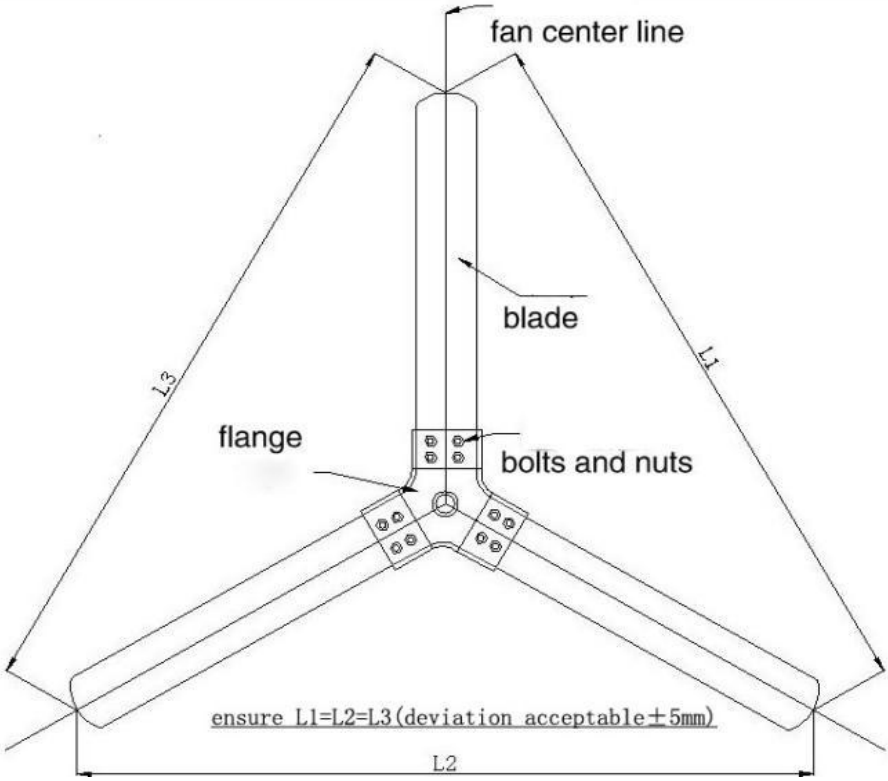

Fig.3

Forth step:

Take the M6 Phillips screw and the flat elastic pad to fix the hood on the rotor shaft and lock it (as shown in Figure 4).

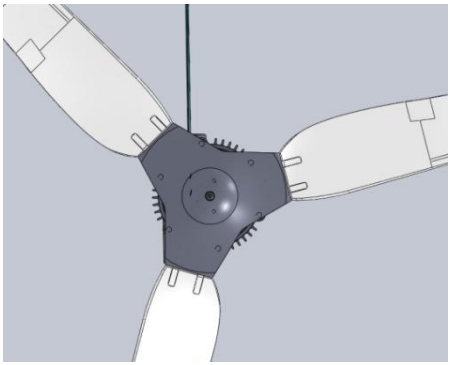

Fig.4

Fifth step: Hoisting tower,and the center line of the tower pole is within 0.5 degrees of the horizontal plane when installed.

Sixth step: Connect the wire line.The output of the wind turbine is three-phase AC, **and the three terminals of the three lead wires are connected to the controller without distinguishing between the positive and negative terminals** (**show. Note: the controller is connected to the battery before connecting the wind turbine**).

Maintenance

Although the wind turbine is designed to operate for a long period of time without any maintenance, if the system can be inspected regularly, the reliability of the wind turbine can be improved.

Warning: Do not approach the fan during installation

- When the wind blade has a flaw or crack, if it is damaged, please replace the blade. Please do not install the wind turbine if the blade is damaged or unstable.
- Check the blade screws and flanges to be tightened.
- Check if the hood is cracked and suitable.
- Remove dirt and waste from the blades.
- Check that all electrical connections are normal and ensure that they are tight and protected from corrosion.
- Check all cables for damage,corrosion or poor contact.If found,please replace them in time.
- For all charging systems,check the battery level and increase the distilled water according to the manufacturer's instructions (the colloid-free maintenance battery does not need to add distilled water).
- We recommend replacing the blades every five years to achieve optimum performance.

Trouble clearing

The power generation system is designed to be extremely demanding and usually does not malfunction during normal installation and use. In case of special circumstances, please refer to the following table.

Malfunction	Failure causes	Exclusion method
vibration	1. Rope loose 2. Fixed blade bolts loose 3. Wind turbine blades by external defect 4. Imbalance caused by blade attachments	1. Adjust the tension rope 2. Tighten loose part 3. Replace blades 4. Clear attachments
Abnormal murmur	1. Loose fasteners 2. Alternator bearing damage 3. Wind wheel and other parts of the friction	1. Tipped fan bracket, check all parts 2. Replace bearings 3. Examination to exclude
Significantly reduced rotor speed	1. Generator stator and rotor friction 2. Stator winding short circuit or output short circuit 3. Switch is in the down position controller	1. Replace bearing 2. Short positions will be insulated 3. Power switch set to the position controller
Generator output voltage is low	1. Motor speed low 2. Three-phase short circuit in stator winding 3. Controller circuit 4. Low-voltage transmission line is too long or too small	1. Identify the reasons for return to positive production speed 2. Short positions will be insulated 3. Replace controller 4. Shorten lines, bold diameter

Generator AC line has no output	1. Output line circuit	1. Identify the reasons, turn circuit
Motor AC output normal But no DC output	1. DC blown fuse 2. Output line circuit 3. Controller rectifier damage	1. Replace the fuse 2. Identify the reasons, turn circuit
Battery output capacity is insufficient	1. Generator output voltage is too low 2. Poor conductivity battery posts 3. Battery failure	1. Excluded by the above examinations 2. Maintenance batteries

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