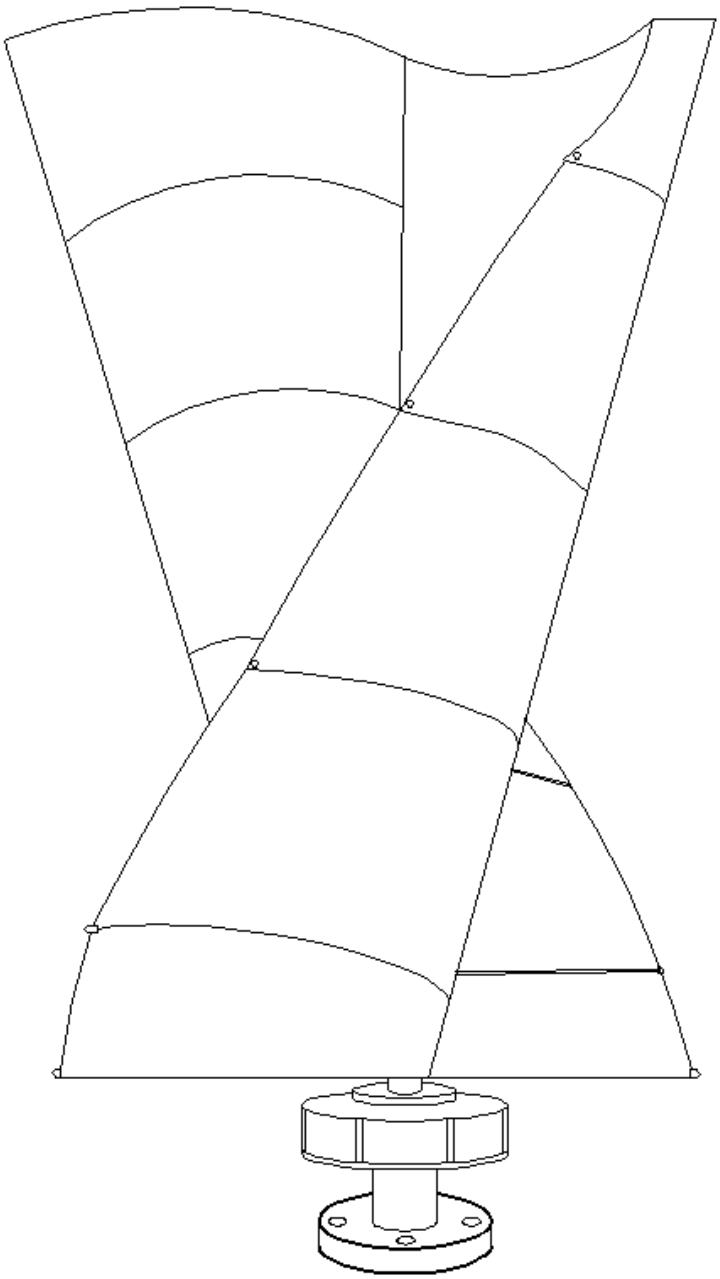
Solazone

USER MANUAL

For Red Spiral Model Vertical Wind Generators



Thank you for choosing to purchase this quality Red Spiral vertical Axis wind turbine. We know that if correctly installed it will deliver many years of reliable service. Be sure to read this entire manual completely prior to attempting installation.

Contents

Part 1. Safety Instructions

Important：

For correct installation and use of this equipment, please carefully read the safety warnings and carefully follow the instructions.

Basic requirements：

● Do not disassemble any of the equipment. Always contact the specified maintenance department when the equipment requires servicing.

● No company or individual is authorized to change the equipment structure, safety and performance design without permission.

● Always obey local laws and regulations when using this product.

Assembly Requirements：

1. Before the assembly of the wind generator or doing any maintenance, be sure to read the user's manual completely first.

2. Do not attempt to install the wind generator on rainy days or when the wind scale is at Level 3 or above.

3. After opening the package, it is advised to immediately short circuit the three leads of the wind generator. （The exposed copper parts should be screwed or taped together).

4. Before the installation of the wind generator, it is important to install a lightning grounding wire. You can arrange this according to national standards, or according to local

environment and soil conditions.

5. When assembling the wind generator, all the parts should be fastened with fasteners specified in the following Table 2

Table 2

Serial#	Fasteners	spec	quantity	tightening torque (N*M)	remarks	Executive standard
1	Flange bolts	M12*45	4	45-55	galvanized	
2	Plain washer	D12.2	8		galvanized	
3	Spring washer	D12.2	4		galvanized	
4	Nuts	M8	48	12-15	galvanized	
5	Connecting rod	M8	6	12-15	galvanized	
6	Screw	M8	12	12-15	stainless	
7	Nuts	M12	4	45-55	galvanized	

6. Before connecting between the wind generator flange and the tower flange, connect the three leads of the wind generator to the three leads of the tower according to these instructions. When using the hinge method, every pair of wires should be no less than 30mm in length and be wrapped with Acetate cloth tape for three layers, then sheathed with spun glass paint tube. With this method, connect the three pairs of wires, making sure that: the joint of the wires isn't bearing the weight of the tower leads directly., The wires 100mm downward from the joint should be wrapped with adhesive tape and then be stuffed into the steel pipe.

After that, wind generator flange and tower flange may be connected.

7. Before hoisting the wind generator, the end of the leads that are to be connected to the controller should be bared for 10mm or so, and then screwed or taped together.

8. During installation, avoid rotating the rotor blades to prevent damage (the ends of the wind generator leads are short-circuited at this time). Only after the installation and inspection are complete and the security of the erection crew is assured, can the short circuited leads be separated and then connected to the controller and battery before running. (See note below☺

Attention:

The battery MUST be connected with controller before wind generator is connected to the controller

If this instruction is not followed when assembling and installing the wind generator, any problem or failure caused to the controller is not covered by warranty.

Part 2. Product Description

1. Low start up speed; high wind energy utilization; beautiful appearance; low vibration

2. Human friendly design, easy installation, maintenance and repair.

3. Precise injection molding blades together with the optimized design of aerodynamic contour and structure, the blades have such advantages: high utilization of wind energy which contributes to the annual energy output.

4.The generators, adopting maglev alternator， with a special kind of stator design, efficiently decrease resistance torque. Meanwhile, it makes the wind generators match the generators quite well and increase its reliability.

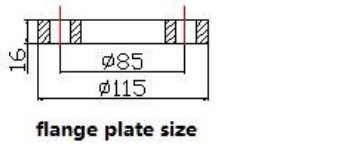
Model	**NE-100**	**NE-200**	**NE-300**	**NE-400**
Rated power	100W	200W	300W	400W
Wheel diameter	0.46m	0.46m	0.58m	0.58m
Turbine height	0.8m	0.95m	1.2m	1.2m
Rated wind speed	11m/s	11m/s	11m/s	11m/s
Start-up wind turbine	1.5m/s	1.5m/s	1.5m/s	1.5m/s
Survival wind turbine	45m/s	45m/s	45m/s	45m/s
Output voltage	12/24V	12/24V	12/24V	12/24V
Net Weight	11.2kg	11.4kg	11.6kg	32kg

Blades number	10	12	8	10
Blade material	Casting aluminum alloy			
Generator type	Maglev generator		Three phase permanent magnet ac synchronous generator	
Control system	Electromagnet			
Speed regulation	Automatically adjust windward direction			
Lubrication way	Lubrication grease			
Working temperature	-40°C~80°C			

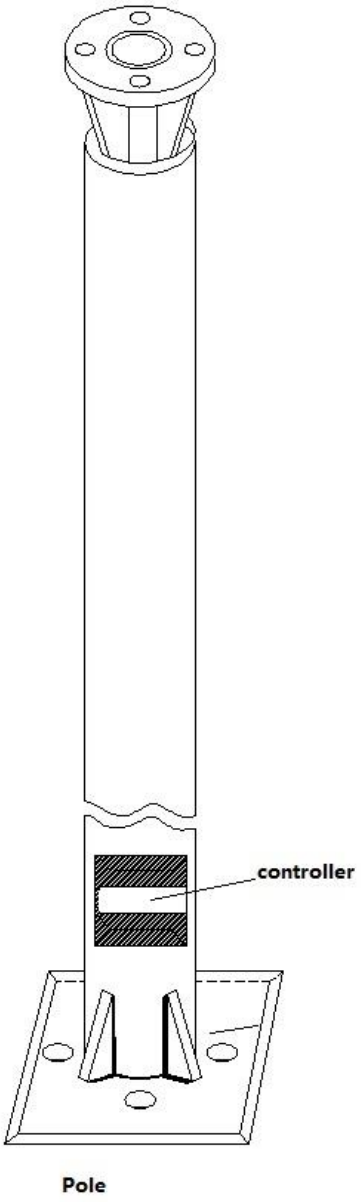
Technical data:

Part 3. Tower and Accessories

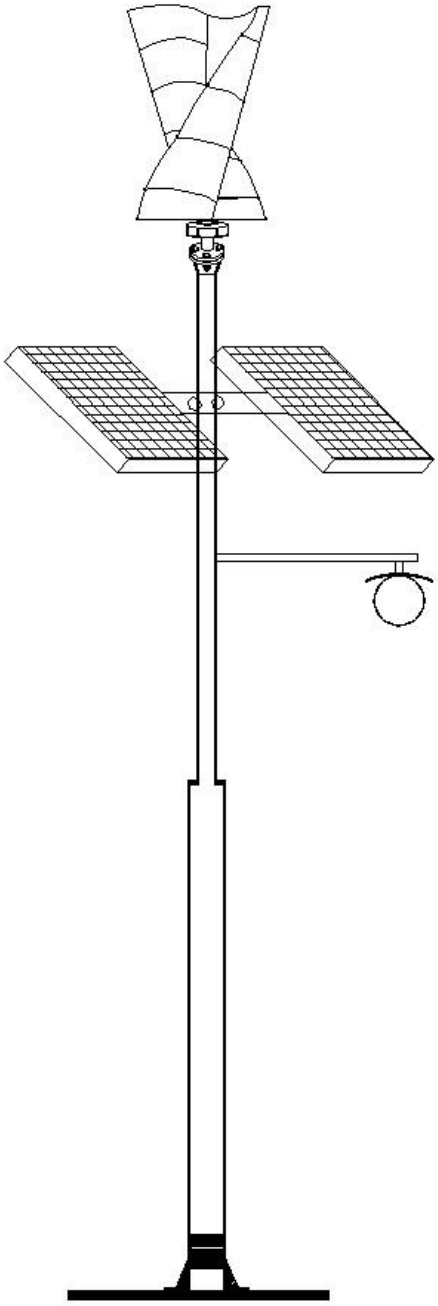
1. Its flange base is suggested to be installed on a free standing tower whose O.D. is 85mm and thickness is 16mm.



flange plate size



Pole



2. Iron pipe length is suggested to choose based on local wind scales and geographical environment.

Part 4. The wind generator Installation Steps

·**Do not attempt to assemble and install wind generators on rainy days.**

1. The insulated current transmission wires: run inside the iron pipe tower. The upper end is led out through the center bore of the wind generator flange, while the bottom ends are led out from a pipe opening which is located about 30cm above the ground. The section from the opening to the point which is 60cm beneath ground should be protected by iron pipes or heavy duty conduit of O.D between 17mm to 21mm. The underground cables of the transmission lines to the controller should be installed in orange PVC conduit approximately 600mm below the surface.

2. The installation sequence of the wind generators can follow the steps as illustrated in **video.**

2-1. Place the steel bracket on the ground; block up the flange joint to 1.3m.

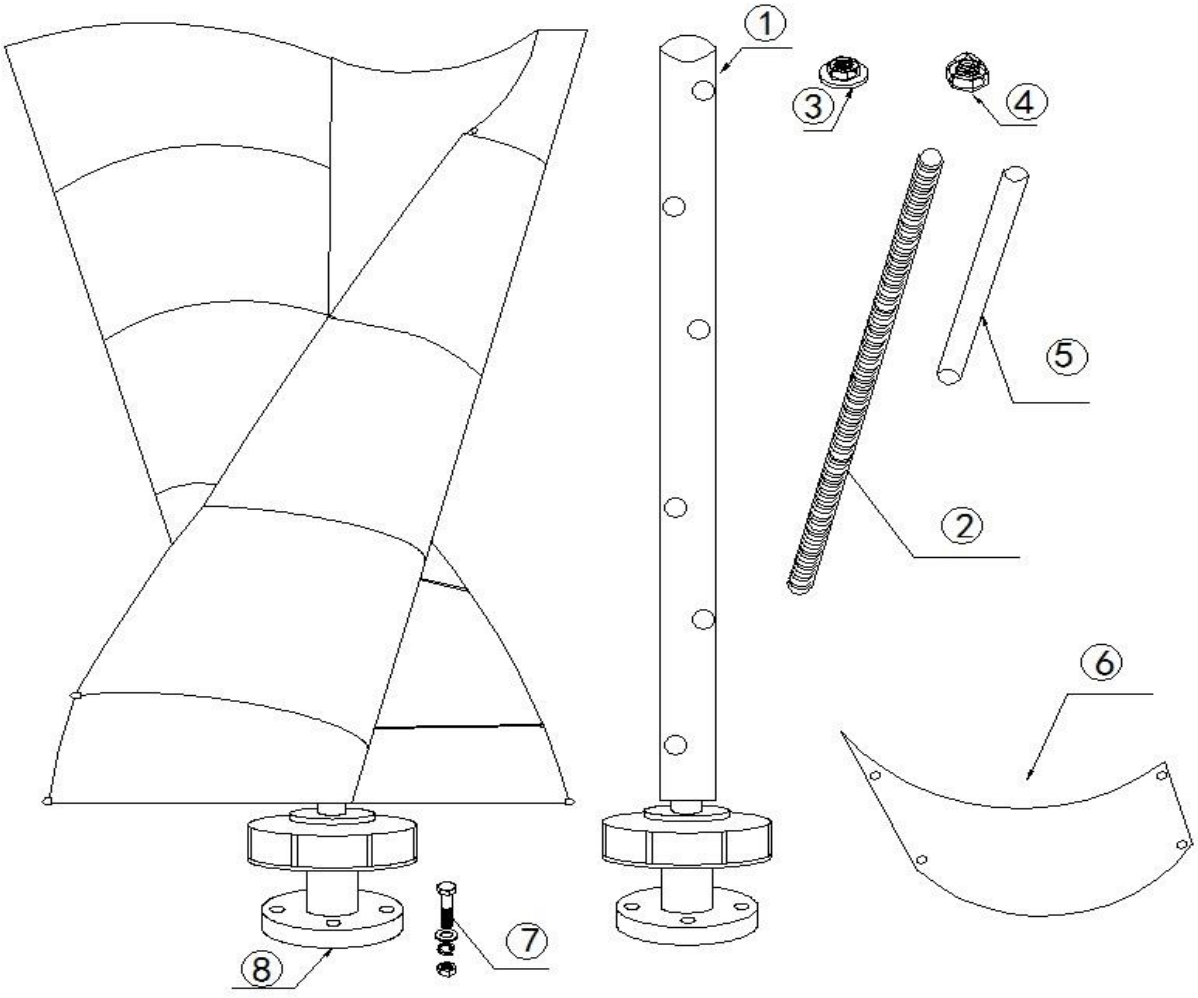
2-2. Align the wind generator flange to the tower flange. Cut away insulating layer of current transmission wire end (which are to be connected with controller) for 10mm, then short circuit the exposed copper wires (screwed together)

3. The lifting of the wind generators and tower should be proceeded with the presence of skilled slinger and the security should be guaranteed. The tower's stance should be executed on the basis of the relevant requirement of permanent construction.

4. After installation of tower and lightning protection is finished, use 500V meggar to

measure insulating resistance between transmission lines and earth (earth wire can act as ground) in the case of not losing the short circuited leads of transmission lines, measurement should not be less than 5MΩ, otherwise, insulating layer may be crushed or damaged should be dealt with immediately.

Figure 3



wind generator decomposition

Part 5. The Transmission Line Connection With Controller

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Avoid heavy rain days for the first commissioning. Priority should be given to the days with gentle breeze or strong wind (wind speed: 5~13m/s).

1. Connect correctly the positive and negative pole of battery to the positive and negative pole of controller.

2. The load circuit connected to the socket on the back of control by way of fuses, switches, plugs.

3. Connect the three current transmission lines of wind generator to the three terminals on the back of controller. Please refer to controller manual for detailed instruction.

4. Battery selection generally lead-acid battery preferred, 100w-.300W wind generator 100AH -200AH battery optional, 300W-600W wind generator, 200 ~ 400AH battery optional.

5. The controller should be placed in dry, well ventilated place, moisture and dust-proofed. Inverter shell should be kept grounded and more than 1.5 meters away from the batteries to avoid acid gas pollution.

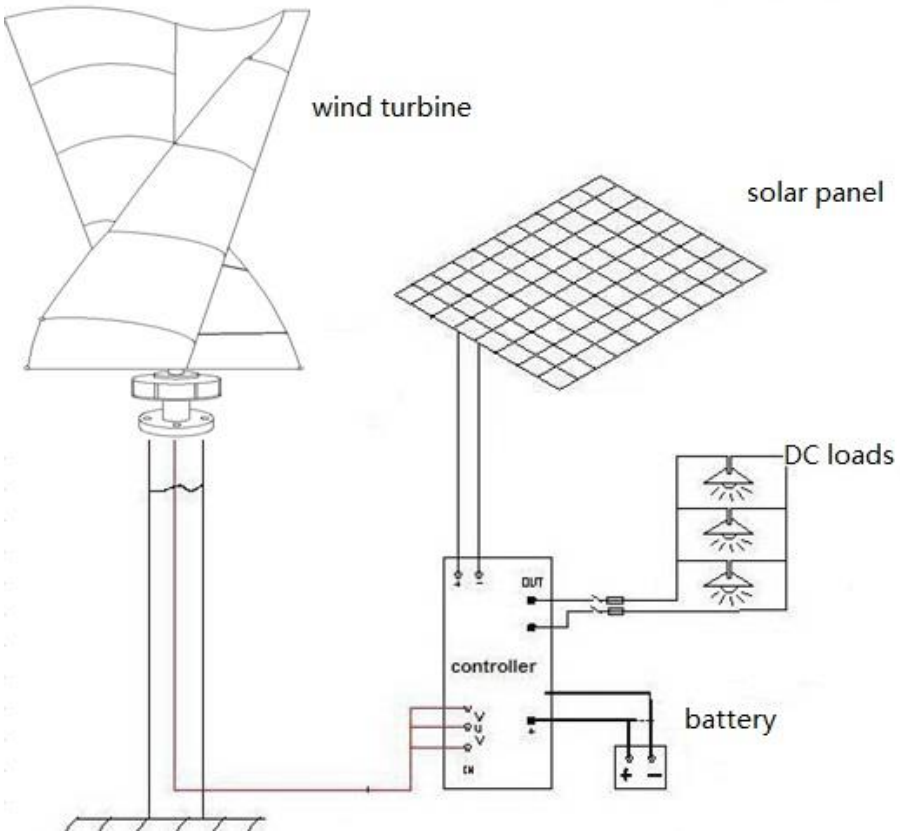
6. Battery should be put in the dry, ventilated place, cool in summer, warm in winter,in such environment , battery can be better maintained

Attention:

- Battery should be connected with controller before the wind generator is connected to the controller.

- Failure to follow these written instructions will void your product guarantee.

Connection diagram of wind generator, solar panel & electrical appliance



Part 6. Maintenance and Service

1. Wind generators often work at poor environment, thus please make sure to check regularly with your sight and hearing; check whether the tower is swaying or whether the cable is loose (using a telescope is also a good idea).

2. Timely inspection should be made after a heavy storm. If there is any problem, please put down the tower slowly for maintenance. With regard to the wind generators for streetlights, there should be electrician climbing the pole to check if there is any problem

when wind generator have been short circuited and security protection measures prepared.

3. The free maintenance batteries should be kept externally clear.

4. Do not disassemble the equipment by yourself. Please contact sales department when the equipment is out of order

Part 7. Packing List

Serial#	Item	Quantity	Remarks
1	Generator body	1	
2	blades	10/12/8	
3	Bolts and nuts	1 bag	
	Connecting rods	6	M8
	Stainless rods	12	
13	L spanner	1	optional
14	hex wrench	1	optional
15	Controller / inverter	1	optional
16	tower	1	optional

Part 8. Warranty

1. The company guarantees customers that the wind generator is of excellent quality, function is good, the body is complete, rigorously checked before delivery,

2. We provide one year's warranty for wind generator since the date of sale. Damage due to dismantling by yourself or seriously violent operation (not according to instructions of use) are not covered by this warranty.

3. The documents are as a product warranty certificate, please keep it properly.

User information table：

Sales company：	Purchaser：
Purchase date：	Contact person：
SBBH：	Contact：
Model：	Zip code：

Maintenance record:

Date	Maintenance done	Summary	SMT rework