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VEVOR VV-FLFDJ-S7-5Y500W12VKZQ

VEVOR 500W 12V Horizontal Wind Turbine Generator User Manual

Model: VV-FLFDJ-S7-5Y500W12VKZQ | **Brand:** VEVOR

Introduction

This manual provides essential information for the safe and efficient installation, operation, and maintenance of your VEVOR 500W 12V Horizontal Wind Turbine Generator. Please read this manual thoroughly before attempting to install or operate the unit. Retain this manual for future reference.

Safety Warning:

- Always ensure the wind turbine is installed in a location with adequate clearance from obstacles and power lines.
- Disconnect all power before performing any maintenance or inspection.
- Wear appropriate personal protective equipment (PPE) during installation and maintenance.
- Installation should be performed by qualified personnel or under professional supervision.



Image: The VEVOR 500W Wind Turbine Generator in an outdoor setting, demonstrating its application for power generation.

Package Contents

Verify that all components are present and undamaged upon unpacking.

- 1 x Wind Turbine Generator
- 1 x MPPT Charge Controller
- 1 x Set of Screws and Nuts
- 1 x User Manual
- 5 x Nylon Blades



Image: All included components of the VEVOR Wind Turbine Generator kit, laid out for inspection. This includes the generator body, five nylon blades, the MPPT charge controller, and various fasteners and tools.

Specifications

Detailed technical specifications for the VEVOR Wind Turbine Generator.

Specification	Value
Model	VV-FLFDJ-S7-5Y500W12VKZQ
Rated Power	500 W
Rated Voltage	12 V / AC
Rated Current	29 A
Hoop Diameter	54 mm / 2 inches
Rotor Diameter	1.2 m / 47 inches
Net Weight	9.5 kg / 21 lbs
Number of Blades	5
Blade Material	Nylon Fiber
Rated Wind Speed	13 m/s
Survival Wind Speed	50 m/s
Rated Speed	900 r/min
Working Temperature	-40°C to 80°C
Generator Type	Three Phase AC Permanent Magnet
Control System	Electromagnetic / Yaw Regulation
Regulation Way	Automatic Adjustment
Cabin Material	Cast Aluminum
Tail Material	Stainless Steel

PRODUCT SPECIFICATIONS:

VEVOR®

Wind wheel diameter: 47 in / 120 cm

Product length and width: 26 in × 47 in / 67 cm × 120 cm

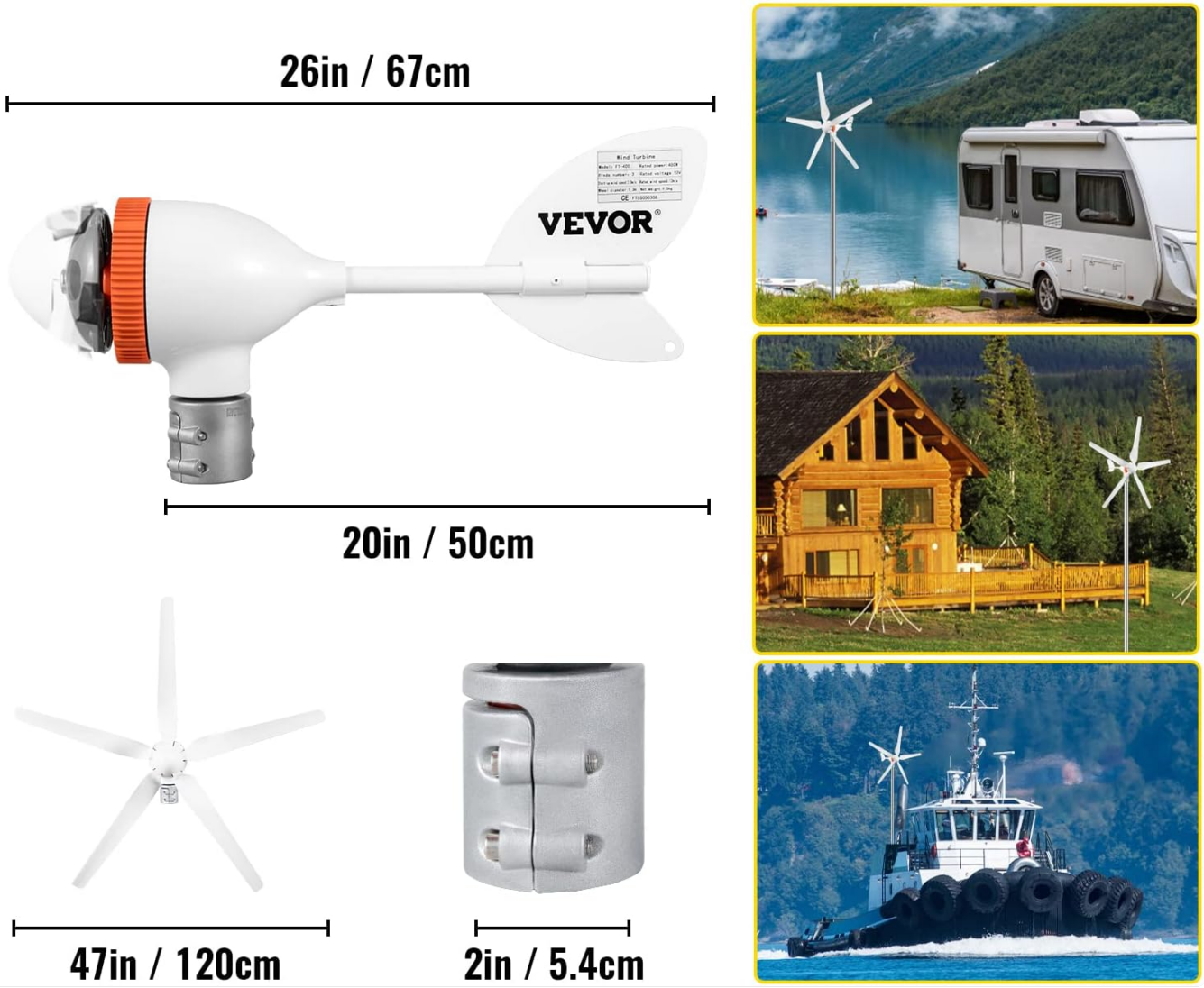


Image: A visual representation of the wind turbine's dimensions and key components, including the rotor diameter and overall length.

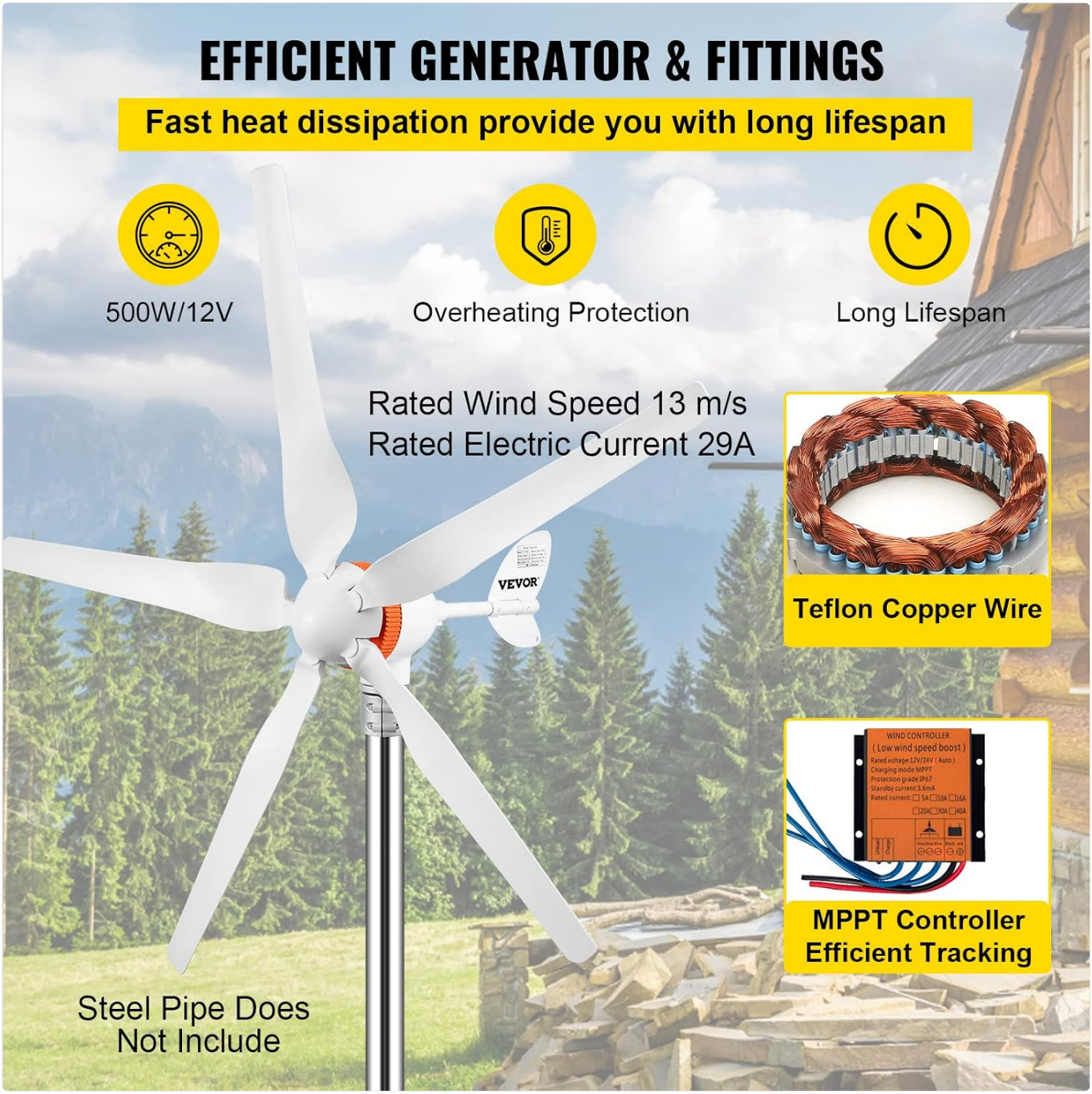


Image: This image highlights the efficient generator and its fittings, including the MPPT controller for optimal tracking performance and durable Teflon copper wire.

Setup and Installation

Follow these steps for proper assembly and installation of the wind turbine. Ensure all safety precautions are observed.

1. **Mounting the Generator Body:** Secure the main generator body to a suitable pole or mast using the provided hoop design. Ensure the mounting is stable and capable of withstanding wind loads.
2. **Attaching the Blades:**
   a. Attach each nylon blade to the hub using the screws and nuts. Ensure they are securely fastened.
   b. Connect the assembled blade hub to the generator shaft.
3. **Connecting the MPPT Controller:** Connect the wind turbine's output wires to the MPPT charge controller. Then, connect the controller to your battery bank or load according to the wiring diagram provided with the controller. Ensure correct polarity.

4. **Tail Assembly:** Attach the stainless steel tail to the generator body. This component helps the turbine orient itself into the wind.
5. **Final Checks:** Before operation, verify all connections are tight, and the turbine can rotate freely without obstruction.



Image: A six-step visual guide demonstrating the assembly process of the wind turbine blades onto the central hub, emphasizing secure fastening.

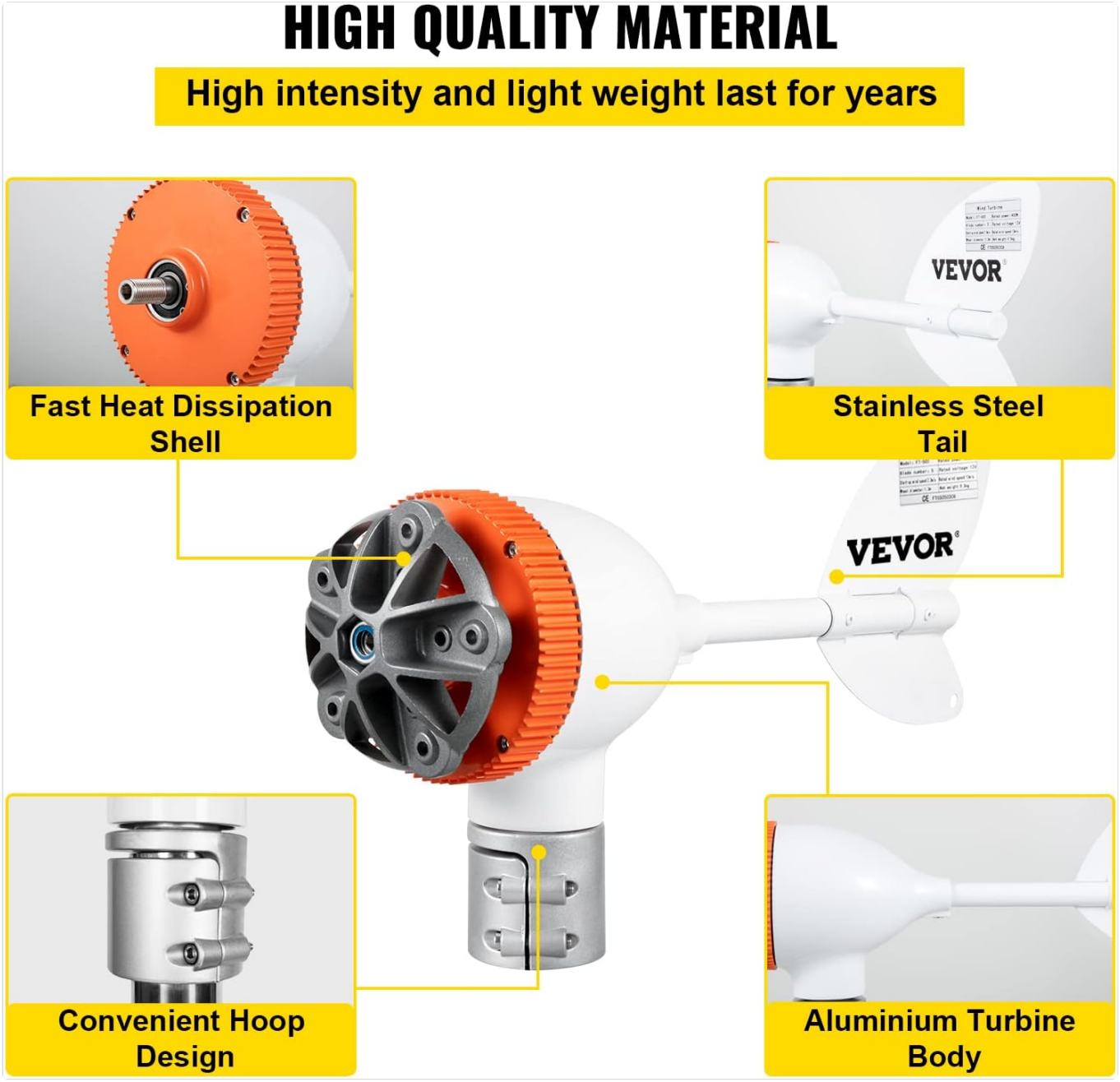


Image: This image illustrates the high-quality materials used in the turbine's construction, such as the cast aluminum body, stainless steel tail, and the convenient hoop design for mounting.

Operating Instructions

The VEVOR Wind Turbine Generator is designed for automatic operation once properly installed and connected.

- **Automatic Start-up:** The turbine is designed to start generating power at a low wind speed of 2 m/s. It will automatically adjust its direction to capture the maximum wind energy.
- **MPPT Controller:** The included MPPT (Maximum Power Point Tracking) charge controller optimizes the power output from the wind turbine to efficiently charge your battery bank. Monitor the controller's display (if available) for charging status and system parameters.
- **Power Output:** The generator's output will vary with wind speed. It is rated for 500W at a wind speed of 13 m/s.
- **Braking System:** The turbine features an electromagnetic braking system for safety and protection during high winds or maintenance. Refer to the MPPT controller manual for details on manual braking or automatic over-speed protection.



Image: This image details the nylon fiber blades, highlighting their lightweight and high-intensity properties, along with the double ball bearing system for low vibration and automatic windward adjustment.

Maintenance

Regular maintenance ensures the longevity and optimal performance of your wind turbine.

- **Visual Inspection (Monthly):** Check for any loose bolts, damaged blades, or signs of corrosion on the turbine body, tail, and mounting pole.
- **Blade Cleaning (As needed):** Clean the blades to remove dirt, dust, or ice buildup, which can reduce efficiency. Use a soft cloth and mild detergent if necessary.
- **Electrical Connections (Annually):** Inspect all electrical connections, especially at the generator, controller, and battery, to ensure they are secure and free from corrosion.
- **Bearing Check (Annually):** Listen for unusual noises from the generator or rotor, which could indicate bearing wear.
- **Storm Preparation:** In anticipation of severe weather or high winds exceeding the survival wind speed, consider engaging the turbine's braking mechanism if available, or lowering the mast if possible.

Troubleshooting

This section provides solutions to common issues you might encounter.

Problem	Possible Cause	Solution
No power output	Low wind speed; Loose electrical connections; Faulty controller; Turbine brake engaged.	Check wind conditions; Inspect all wiring; Consult MPPT controller manual; Disengage brake.
Turbine not rotating freely	Obstruction; Damaged bearings; Ice buildup.	Remove obstruction; Inspect bearings for damage; Clear ice from blades.
Excessive noise or vibration	Loose blades; Unbalanced rotor; Worn bearings.	Tighten blade fasteners; Inspect blades for damage; Replace worn bearings.
MPPT controller error	Wiring issue; Overload; Internal fault.	Refer to the MPPT controller's specific manual for error codes and troubleshooting steps.

Warranty and Support

For warranty information or technical support, please contact VEVOR customer service. Keep your purchase receipt and model number (VV-FLFDJ-S7-5Y500W12VKZQ) readily available when contacting support.

You can typically find support contact details on the VEVOR official website or through your purchase platform.

Visit the VEVOR Store for more information

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