

# Vertical Wind Turbine Catalogue

Model: GV-500W    Vertical axis wind turbine    |Off-grid system | Folding tower

## Overview

GREEF 500W Vertical axis wind generator (VAWTs) is a type of wind generator where the main rotor shaft is set vertically. VAWTs offer a number of advantages over traditional horizontal-axis wind generator (HAWTs). They can be packed closer together in wind farms, allowing more in a given space. They are smaller, but rather due to the slowing effect on the air that HAWTs have, forcing designers to separate them by ten times their width.

GV-500W vertical Axis wind generator are rugged, quiet, light, Omni-directional, and they do not create as much stress on the support structure. They do not require as much wind to generate power, thus allowing them to be installation at urban .They are easily maintained and can be installed on rooftop and similar tall structures.



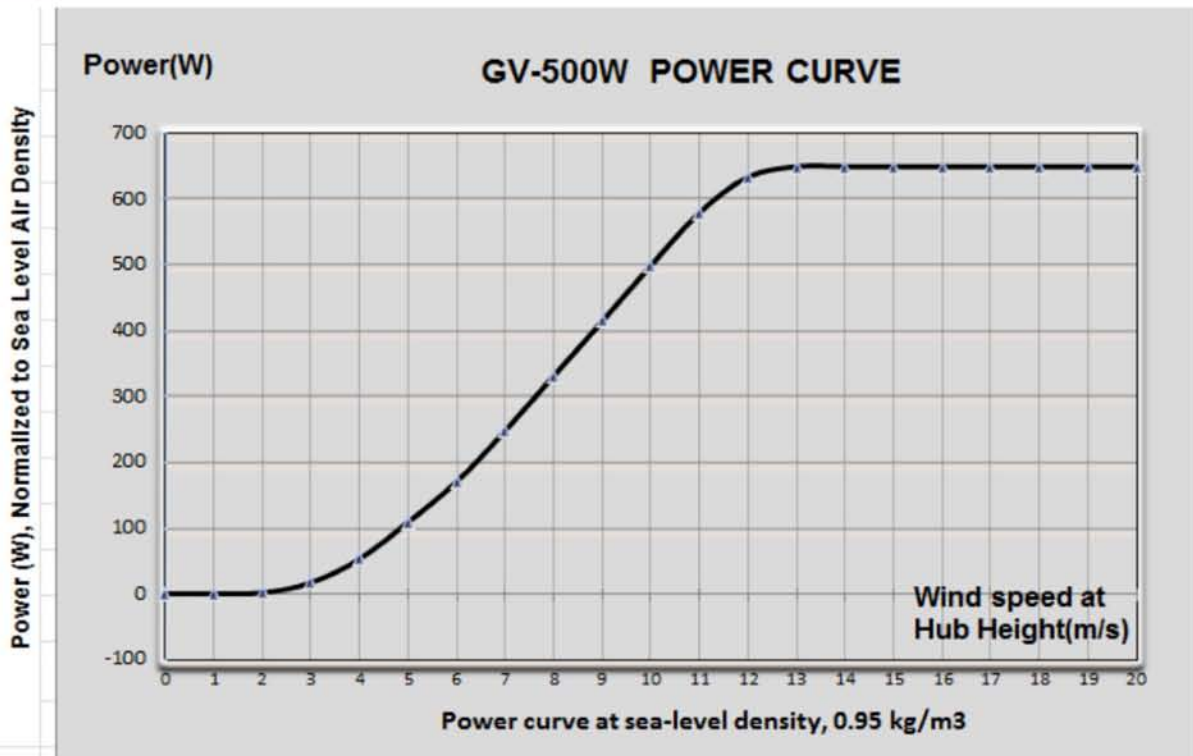
## Recommended for:

- Household,Garden,farm,Urban ,Rooftop
- Telecom sites.
- Rural electrification programs. Island , sentry, island, sight lighting

## Technical specification

Model	GV-500W
<b>Performance</b>	
Rated Power	500W
Max Power	650W
Start Wind Speed	1m/s(2.24mph)
Rated Wind Speed	10m/s(22.4mph)
Working Wind Speed	1-25m/s (2.24-56 mph)
Safety Wind Speed	50m/s(112mph)
<b>Physical Parameters</b>	
Blades Length	1.5M(4.92ft)
Blades Rotor Diameter	1.3M(4.26ft)
Blades Material &Quantity	FRP /3PCS
Mill Weight	64kg
Swept Area	2.4 m <sup>2</sup>
Tower Height	6m(19.68ft.) Free folding tower
<b>Generator Parameters</b>	
Generator Type	Axial Flux Coreless outer rotor disc permanent magnet direct drive generator
Rated Speed	200RPM
Start Torque	<0.1N.M
Option Voltage	24Vdc/48Vdc
Protection Method	Electromagnetic Brake +PWM
Protection Grade	IP54
Working Temperature	-40-50℃
Life time	20 Years

## Power Curve



## Annual Energy Production

<b>Annual Wind</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
<b>Production(kWH)</b>	17	152	470	958	1499	2177	2909
<b>Annual Wind</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
<b>Production(kWH)</b>	3638	4375	5081	5554	5694	5694	5694

This data will have  $\pm 10\%$  difference according to real condition.

## Sound Data

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Test position: At 15m away from generator (average value of 3 point-rears, left, right.)

<b>Wind Speed (m/s)</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>
<b>Sound( dB )</b>	1.31	3.02	6.20	9.43	13.42	22.08	32.54	36.45	37.22
<b>Wind Speed (m/s)</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
<b>Sound( dB )</b>	45.11	45.20	45.25	45.33	45.44	45.62	45.76	45.85	46.00

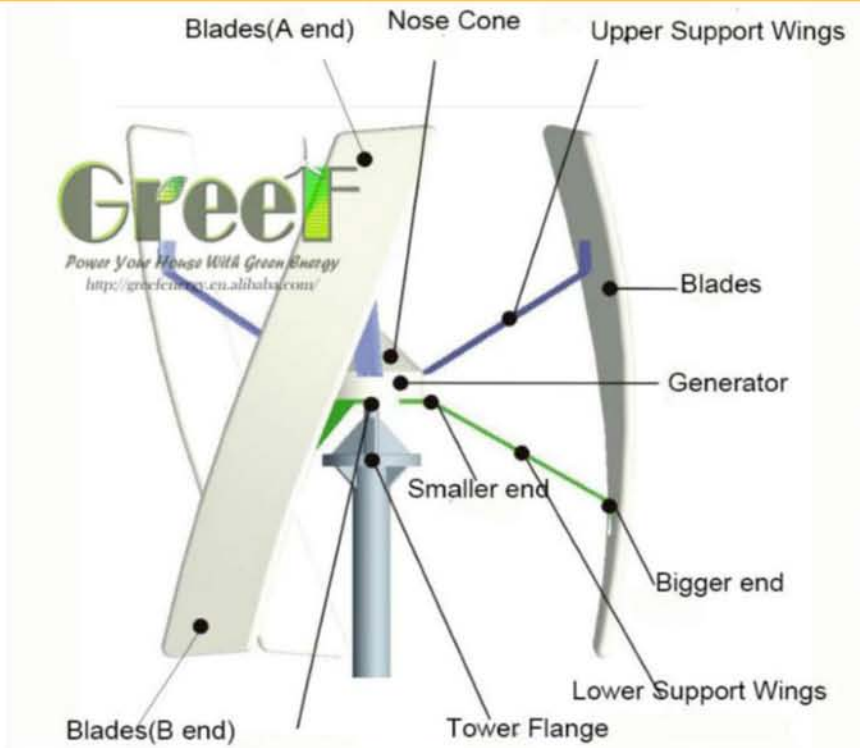
Note: The sound value includes wind noise.

## Pictures

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Accesses Details Pictures



Prices:

GV-500W-24v \$ 2850.00

GV-500W-48v \$ 2950.00

Includes controller

Mounting adaptor \$ 285

Requires 4" sched-40 pipe as mounting pipe



**Dermanent Magnet Generator**

- ◆ Low start torque <math><0.1\text{N.M}</math>
- ◆ High Efficiency >85%
- ◆ Less volume and weight
- ◆ Gearless, direct drive, low RPM

**Patent Design Blades**



- ◆ Low start wind speed 1 m/s
- ◆ Higher CP >35%
- ◆ Good performance in endurance resistance
- ◆ Quiet <math><35\text{ dB}</math>

**Support Wings**



- ◆ Cast Iron , strong enough
- ◆ Hop-dip galvanized
- ◆ Rust protection
- ◆ Easy assemble