

# 500W Permanent Magnet Generator for Wind Turbines

This 500W permanent magnet generator is designed for wind turbine applications and renewable energy systems. It features a robust aluminum alloy frame and high-quality components for efficient and reliable power generation.



## Overview

### High-Efficiency 500W Permanent Magnet Generator

This 500W permanent magnet generator is engineered for reliable performance in wind turbine and renewable energy systems. Featuring a gearless, direct-drive design, it offers low start-up speed and high energy conversion efficiency. Built with premium materials like heat-treated aluminium alloy and high-grade neodymium magnets, this unit is designed for a 20-year operational lifespan even in harsh environments.

## Performance Metrics

### Rated Output Power

**500 W**

Rated Power

**450 RPM**

Rated Speed

**20 A**

Rectified DC Current

### Torque Specifications

Metric	Value
Starting Torque	d 0.45N.m
Required Torque at Rated Power	14.8 N.m

## Construction & Materials

### Shaft Bearings

- Front: NSK 6207DDUC3
- Rear: NSK 6207VVC3

**Core Materials** Aluminium Alloy (TF/T6), Stainless Steel, NdFeB Magnets, Cold-rolled Steel

**Surface Finish** Anodised and power painted for anti-corrosion protection

## Technical Details

### Temperature Ratings

Component	Max Temperature
Windings	180°C
Magnets	150°C

### Physical Specifications

**14.4 kg**

Weight

**0.006 Kg.m<sup>2</sup>**

Rotor Inertia

### Electrical Configuration

3 Phase star connected AC output

## Features

### Key Features

Gearless Direct Drive • Low Cogging Torque • Corrosion Resistant • 20-Year Design Life • Class 1 Electrical Safety