



## PowerSpin Series

Powering residential & commercial sites  
at arid-connected and off-arid locations

# PowerSpin TSW 8000

## Wind Power System for residential and commercial use

The TechnoSpin PowerSpin TSW 8000 wind turbine provides a renewable energy source to a wide range of residential and commercial applications in remote and urban locations.

Based on a revolutionary blade design, the TechnoSpin wind turbine generates substantial energy in areas with low and medium winds.

### Applications

- Power for household appliances including heating applications
- Industrial/small business machinery
- Advertising boards
- Grid back-up systems
- Battery charging (use in remote areas, green car battery charging stations, etc.)

### Product advantages

#### Performance

- Start-up and high energy output in low winds
- Superior efficiency (up to 30% higher than competition)
- Vibration free
- Silent operation in all wind regimes

#### Reliability

- Robust design
- Simple to install
- No maintenance required
- 5 year warranty (optional extension up to 20 years)

**Cost effective - shorter ROI period  
compared to alternatives**

## System configurations

- On-Grid Systems
- Off-grid systems
  - Stand-alone systems
  - Local-grid systems: serving a whole village/community instead of separate households
- Turbine could be installed on separate tower
- Wind only or Hybrid system with Solar/Diesel generator

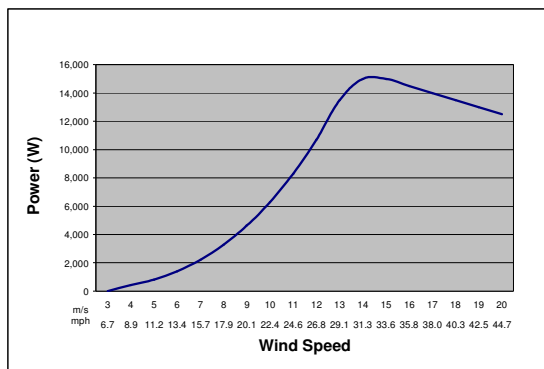
\* On-Grid system does not require battery

## Technical Specifications

<b>Rotor Diameter</b>	6 m (19.7 ft)
<b>Rated Power</b>	8 kW
<b>Max Power</b>	15 kW
<b>Rotor Efficiency</b>	up to 45%
<b>Yearly Energy Output - at average yearly wind speed of 5 m/s (11.2 mph)</b>	12,700 kWh
<b>Rated Wind Speed</b>	11 m/s (26.8 mph)
<b>Start-Up Wind</b>	2.5 m/s (5.6 mph)
<b>Survival Wind</b>	60 m/s (134 mph)
<b>Generator</b>	Permanent Magnet Generator
<b>Voltage for Grid Connection</b>	Adjusted to requirements of inverter
<b>Overspeed Protection</b>	Mechanical and Electrical System
<b>Maximum Axis Load</b>	500 Kg force (1102 lb)
<b>Temperature Range</b>	-40 C to +70 C (-40 to 158 F)
<b>Installation</b>	Separate tower
<b>Separate Tower Height - Minimum</b>	12 m (40 ft)
<b>Product Design Life</b>	30 years
<b>Warranty</b>	5 years (optional extension up to 20 years)

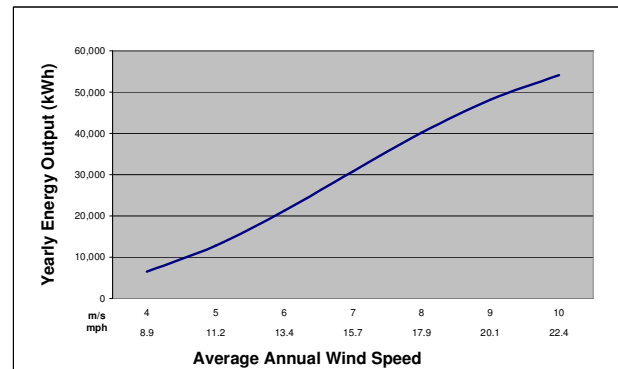


## Power Curve



\* Estimated Power curve data with appropriate load

## Average Annual Power



\*This distribution is based on the Power Curve data and the average annual wind speed (weibull distribution)

## The standard kit includes:

- Blades
- Hub
- PMG Generator
- Turbine head
- Tail
- Stub
- Charge controller (for battery charging) OR Electronic controller for connecting to grid-tie inverter

## Noise

The turbine is extremely silent; its noise level is lower than 40 dB. Noise measurements are conducted based on the international standard 61400-11 and chapter 3 of the BWEA standard.

## Regulation

The turbine is manufactured according to relevant international standards:

- IEC 61400-2 (International Electrotechnical Commission)
- BWEA British Wind Energy Association Small Wind Turbine Performance and Safety Standard

## Electronics Data

The turbine standard kit includes a controller, which is used for rectifying unstable wind energy power output, voltage control and battery charging. This device converts the generator's 3-phase AC voltage to DC voltage, acts as a safety device, making sure that the voltage will never exceed the allowed maximum. The controller has the following additional functions:

- MPPT (Maximum Power Point Tracking) - synchronizes between the turbine and the batteries and ensures that the turbine is working at the point where it gives maximum output.
- LVD (Low Voltage Disconnection) - used to protect batteries from discharging beyond the minimum level. In hybrid system with diesel generators this system is used to connect and disconnect the generator when power input from the turbine is low.
- OCP (Over Charging Protection) – protection of over charging of the batteries. Excessive energy is diverted to the dump load and converted into heat.

For grid connected applications, the standard kit includes a controller that is designed to connect to the specific grid inverter suitable for the installation

## TechnoSpin Inc.

601 W 26th St  
New York NY 10001-1129 USA

E-mail: [info@tswind.com](mailto:info@tswind.com)

Tel. 1-212-7518336

Fax. 1-212-6561444

[www.tswind.com](http://www.tswind.com)