

## SP750W Domestic Wind Turbine - Datasheet

### Jetstream II Series – Extreme Climate Turbines

- Compact, light weight, space saving 3-phase generator to allow low cost installations.
- Next generation high temperature stable permanent magnet generator NdFeb.
- Dipped and sealed coils.
- Double slip ring transfer.
- Aluminium alloy casings.
- Surface Anti-corrosion treatment.
- Powder coated finish.
- Quick attachment and release blade mounting system.
- Industrial grade control system.
- Electromagnetic braking.
- Auto-stop on full battery.
- On/Off manual disc braking.
- Fully automatic computerised control system as standard – Jetstream II.
- Voltage display.
- Current display.
- Display for Wind On, Solar On, Battery High, Auto-Stop, Low Battery, Fuse Gone, Polarity Wrong.
- Polarity Protection.
- 3 Phase brake load supplied.
- All systems are expandable and upgradeable.
- Noise levels vary from silent & quiet on the SP500W to low noise with larger systems. Noise reduction control is standard on all larger systems. We have some of the quietest systems on the market.
- Blades manufactured by VARTM, Vacuum Assisted Resin Transfer Moulding process with foam filled interior for high strength.
- Solid mounting pole available for all turbines.
- Model SP750W Jetstream II.
- Blade diameter – 2.5 M.
- Weight of Turbine – 35 (KG)
- Rated power – 750 watt
- Battery voltage – 24 volt/ 48 volt custom.
- Start-up speed – 2.8 M/S.
- Cut-in speed – 3.5 M/S.
- Rated wind speed – 8 M/S (500W)
- Rated wind speed – 10 M/S (790W)
- Auto-stop – 30 volts
- Restart – 26 volts
- Survival speed – 60 M/S
- It is advisable to apply the manual brake above expected wind speeds of 40 M/S (140 kph) from the MET office.  
(Regardless - The auto-stop brake will also kick in quickly in a storm as the battery storage system will fill up quickly so the system is very safe for holiday homes and being left in running mode unattended.)
- All braking systems are electromagnetic and maintenance free.
- Only maintenance required is to surface coatings and blade condition which will be conditional on how close to a coastal environment and high wind speeds.
- Note: Real turbines are stand alone towered for maximum output. Wind Turbines should never be building mounted.
- Manufactured to IEC61400-2  
CENLEC/EN61400-2 (2006), the International and European small wind turbine design standard.
- CE Marked.



## Technical Data

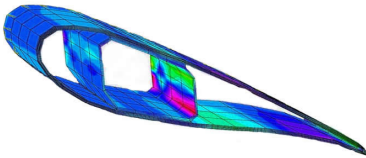
### Introduction

Surface Powers extreme weather turbines are ideal for climates where there are extreme weather systems. All Surface Power Wind Turbines are designed with a similar specification to wind farm machines with automated management systems as standard. These are full wind turbines with automated electromagnetic braking systems. (These are not low cost wind chargers) .

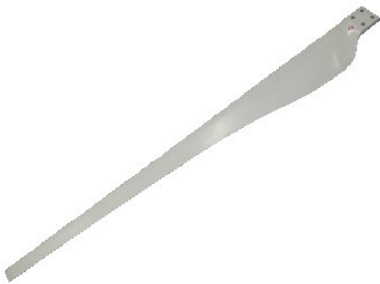
These strong 3 bladed systems are suitable for remote, holiday and unattended locations due to the auto shutdown braking system.

### Blade Design

Blade design is a key component of any wind turbine. All Surface Power blades are made using a VARTM process as used in larger blade systems. This Vacuum Assisted Resin Transfer Moulding process is state of the art for producing blades giving the longest lifespan for your blade set.



All blades are carefully balanced and weighted. These blades sets can only be mounted in one configuration using a central mounting hub and lock assembly. This is designed to make blade assembly fool proof but quick and also to make dismounting the blades straight forward. Blades set hubs come with a blade puller tool as standard which can be located securely and balanced within the nose cone until required.



### Testing & Certification

All Surface Power systems are tested in extreme Atlantic ocean weather systems at over 120 metres for several months as part of the testing process. This ensures that all systems have optimal performance characteristics for Irish & Scottish extreme weather conditions. All systems carry CE marking, are designed to the international and EU CENLEC wind turbine design standard of IEC61400-2.

### EU ALTENER Project

Surface Powers extreme weather turbines are listed under the EU Altener project since 2005 as suitable for installation in urban areas.



### Planning exemptions

All our turbines are currently within the planning exemptions for domestic installations of wind turbines in the Republic of Ireland. Some of the larger systems will have to meet the boundary noise level of the site of 43 db(a). This will impact the distance from the boundary of your site where you will need to site the system. Please go to [www.surfacepower.ie/downloads.html](http://www.surfacepower.ie/downloads.html) for more info on planning exemptions.

### Automated control systems

All Jetstream II control systems contain advanced features for climates with extreme conditions. Included are automatic electromagnetic braking with auto stop functions. The Jetstream II control systems come with monitors and full automatic functions.



A matching 3 phase loading unit comes with the Jetstream II controllers to balance braking in storm conditions.

## Services, Support & Accessories

### System details & Accessories

A wind turbine is only part of an energy system configuration. You also need a battery storage system and inverters which MUST be both impedance and voltage matched to the turbine otherwise damage can occur. If you need help on a configuration, you can contact us; otherwise you can select one of our balanced systems by going to our electricity systems section on our website. Other components datasheets are available separately. All our systems are voltage and impedance matched.

A partial off-grid system is made up of a Solar Photovoltaic and Wind Turbine mix whereas a total off-grid system is made up of a Solar Photovoltaic and Wind Turbine mix plus a charging generator which can be run for short periods on diesel or bio-diesel.



### Professional services

Surface Power technical services can assist in the design of solutions for unique purposes. Please email [support@surfacepower.ie](mailto:support@surfacepower.ie)

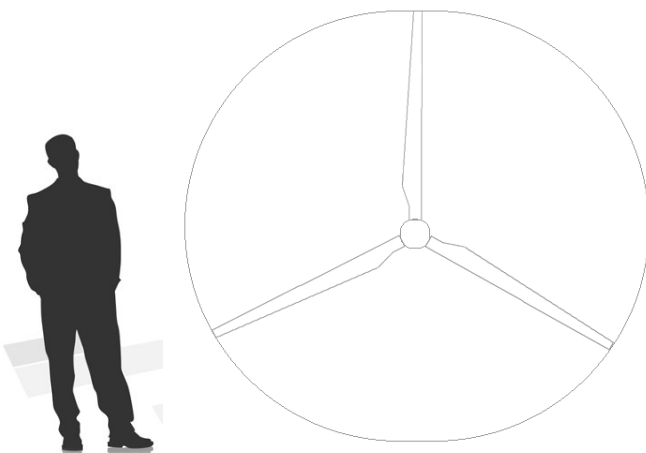


Fig 1: Size of the SP750W blades versus a human being - Diameter 2600mm

### Benefits

- Independence from the grid
- Various size wind turbines available
- FREE electricity
- Power cuts no longer impact
- Affordable and expandable solutions
- High quality equipment
- Fully automatic control systems
- Customer & Technical support
- Straight forward installations

### Training & services

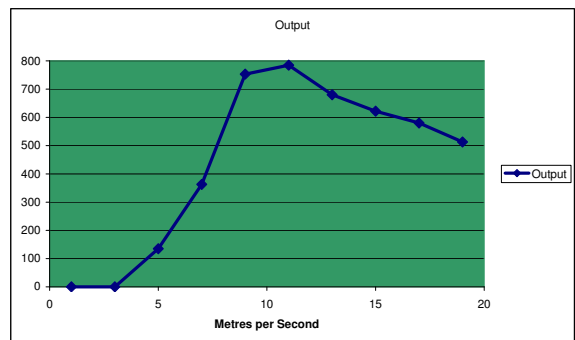
There are many brochures, videos and information sources available from our website. Contact us for information on our training courses for installers, consumers and distributors.

### Repair & warranty

We can provide repair services on our products including replacement parts.

### Ordering information

Please call +353-94-9544776 or email [sales@surfacepower.ie](mailto:sales@surfacepower.ie) or go to [www.surfacepower.ie](http://www.surfacepower.ie) for pricing and information.



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