

SWIFT Wind Turbine

Renewable Devices Swift Turbines Ltd have developed the Swift Rooftop Wind Energy System™, the world's first quiet, building-mountable wind turbine, capable of providing a cost-effective renewable energy source for domestic, community and industrial use. Cascade Renewable Energy Solutions is proud to be the importer and manufacturer of SWIFT for North America.

The SWIFT is a grid-connected form of embedded power generation. The emphasis of the design process has focused on safety, reliability and ease of operation, alongside the high-performance of this innovative system. Unique technologies have been developed, leading to the filing of five international patents, which allow the SWIFT Rooftop Wind Energy System to offer:

- Universal application
- Quiet, vibration-free rooftop operation
- Simple installation
- Safe, efficient & autonomous operation
- Visually appealing design, which is zoning compliant
- Sustainable, harm neutral design—allowing the SWIFT to become carbon and energy positive within four years

The SWIFT turbine is mounted on a bespoke aluminum mast with a minimum blade-roof clearance of approximately 0.5 meters. It is usually optimally mounted at the highest point of a roof, in a

position which benefits from maximum prevailing wind, but it will work effectively in almost any location. The SWIFT is designed to be both aesthetically pleasing and zoning compliant.

To ensure minimal transmission of oscillations from turbine to building, the SWIFT turbine mounting brackets incorporate damping systems specifically designed to absorb a wide range of frequencies. The patented ring diffuser minimizes turbine noise by preventing the creation of turbulent vortices at the blade tip. In addition, the five bladed design allows for a slower speed of rotation to further reduce noise, making the SWIFT Rooftop Wind Energy System one of the quietest wind systems.



Installations



Features

Rated power output: 1.5 kW*
Annual Power Supplied: up to 2000 kWh**
Design enables use of turbine in turbulent air flows
Quiet mast mounting technology eliminates unwanted vibration to building/home

Application

Universal rooftop Wind Energy System
Simple installation & autonomous operation

Safety

The rooftop Wind Energy System incorporates safety features which exceed all the British, European and North American safety standards for wind energy systems of this class. Renewable Devices Swift Turbines Ltd leads the market in passive safety and fail-safe technologies.

The turbine safety systems complies with British Standard BS EN 61400-2, for the safety of wind turbines, and, if required it can generate electricity in line with Electricity Association Requirement G59 for power quality.****

Environment

The rooftop Wind Energy System has been designed to be environmentally sustainable. The product produces more energy in its lifetime than is incorporated in the materials and processes used to manufacture it—it is therefore "harm neutral".



Technical Specifications

Turbine	Upwind horizontal axis wind turbine
Rated power output	1.5 kW *
Annual power supplied	Up to 2000 kWh **
CO2 displacement/year	1.4 tons ***
Product design life	20 years
Generator	Custom designed brushless PMG
Rotor	2.1m diameter
Mast	Bespoke aluminium (to BS1387, ISO65)
Mounting brackets	Specifically designed mounting system
Cut in speed	2.3 m/s
Acoustic emissions	<35 dB (A) (for all wind speeds)
EMI (electromagnet emissions)	CE certified, BS EN 6100
Grid connection	G83 certified ****
Safety, electrical & reliability standards (independently verified)	BS En 61400-2, BS 7671, BS 5760-7

* Rated wind speed: 12.5 m/s

** Dependant on siting of turbine

*** Substituting end-user electricity with a single 1.5kW rooftop turbine at 30% utilization by CEDRL

**** Pending UL approval

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