DATA SHEET

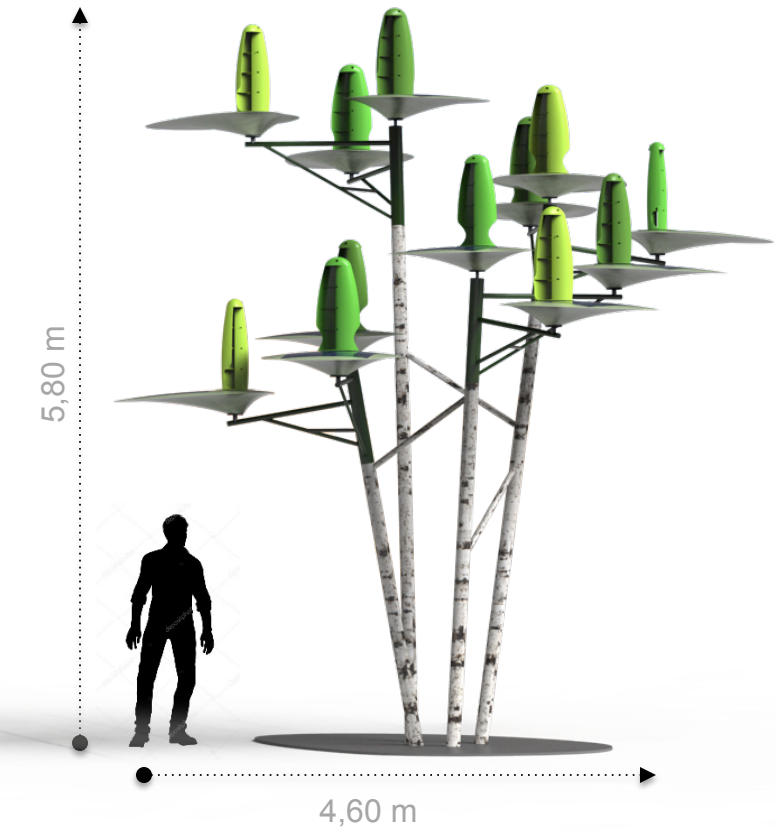
WINDBUSH

By

TABLE OF CONTENT

THE WINDBUSH

The Windbush is composed of 12 Aeroleaf equiped with solar petal mounted on 4 trunks connected to each other. The set up has been optimized to collect as much wind and sun power as possible.
This hybrid solution is a first in the world. The Windbush becomes very relevant in sunny sites without much oen area. The Windbush can be installed in rows,, in alleys or borders or simply in your backyard.



Installed Power Capacity: **4200 W**
Number of Aeroleaf : **12**
Number of Petal PV : **16**
Maximum Power per Aeroleaf : **300 W**
Nominal Power per petal : **36 Wc**

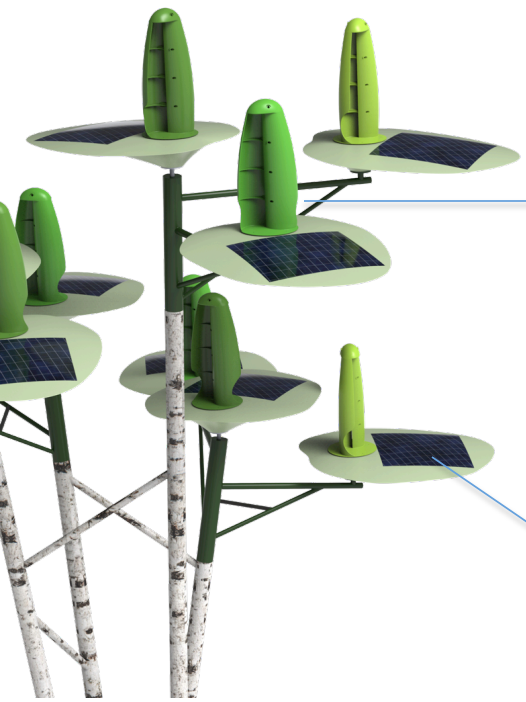
Elegantly designed and modestly sized, The Windbush can fit in multiple environments, urban or in the nature.

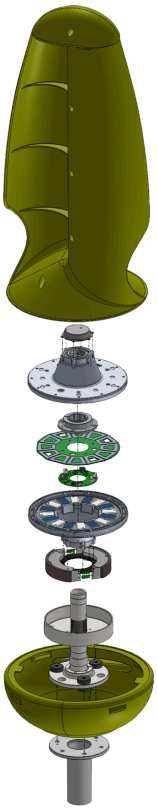
The Windbush requires a small foundation integrating the passage of the cables in the sleeves (see drawing in appendix).
Due to its set up, the Windbush is cost effective and cater for most of the proximity electrical needs

new world wind

THE AEROLEAF AND THE SOLAR PETAL

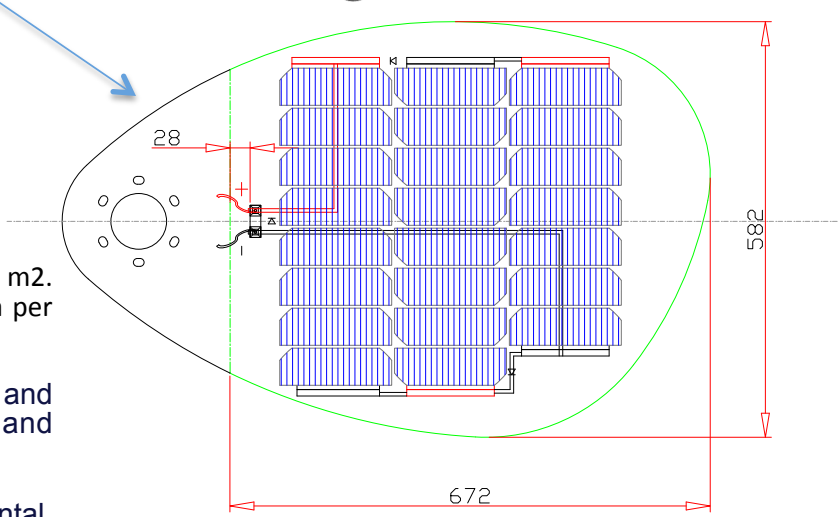
New World Wind offers now a high performance photovoltaic Petal in order to add a second source of power to the Aeroleaf.
The Petal is positioned at the bottom of each leaf and provides up to 36 Wc to be added to the 300 W from the Aeroleaf.
.





NWW Micro Generator

Proprietary technology with electronic regulation card embedded in each leaf for a maximum efficiency



Monocrystalline semi-flexible film
mounted on the petal

Each petal has 23 cells for an area of 0.3 m2. That is more 4,8 m2 of photovoltaic area per Windbush.

The solar Petal is light and thin (800g and 3mm). Besides, it is waterproof and robust.

Given its gradient of 5° from horizontal, the solar Petal enables an increase of windspeed when getting close to the edge of the Aeroleaf, improving the efficiency by 5%,

This hybrid system increases the performance while keeping it organic.

SOLBIAN
FREEDOM POWERED BY THE SUN

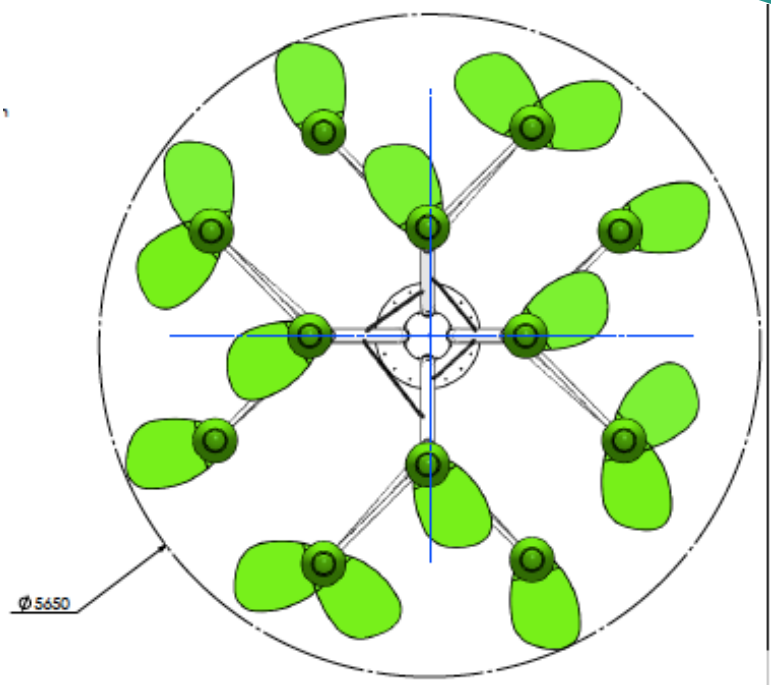
new world wind

General specifications

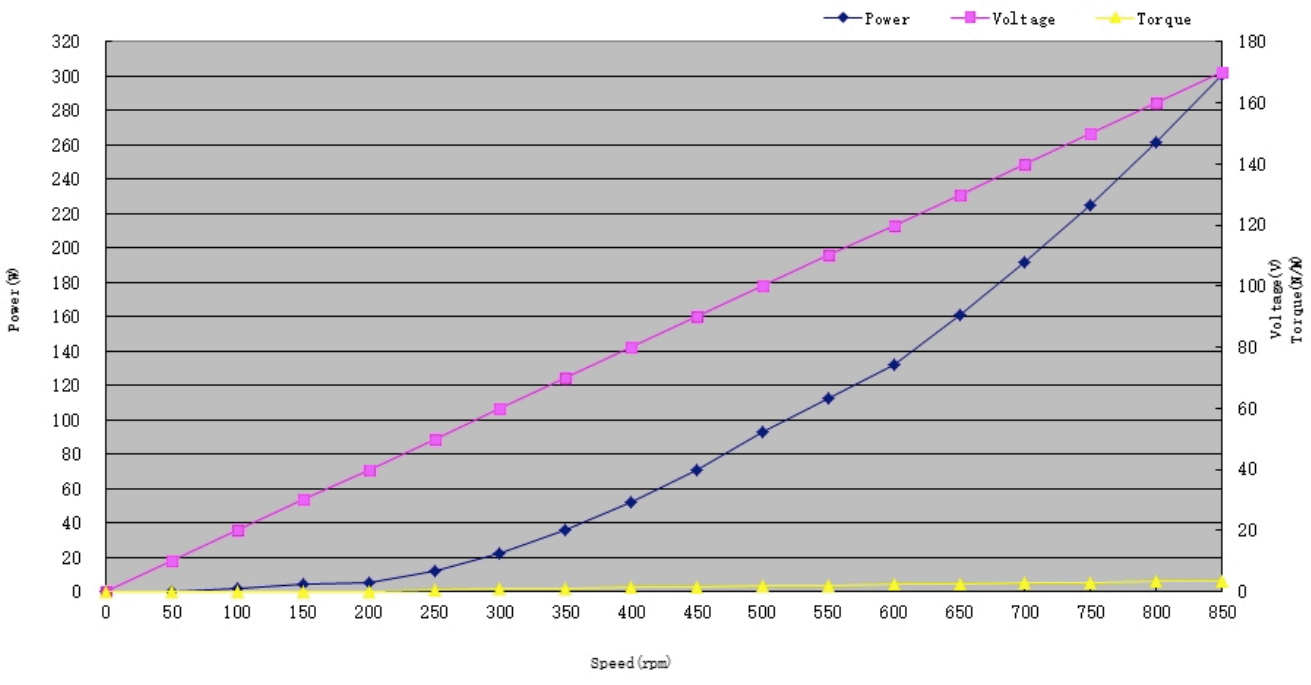
SX1T34 – 672x582 mm

Peak power - Pmax	34 W ±5%
Rated Voltage - Vmp	17,8 V
Rated Current - Imp	3, A
Open Circuit Voltage - Voc	21,7 V
Short Circuit Current - Isc	3,13 A
Temp. Coeff. Pmax	-0.40 %/°C
Temp. Coeff. Voc	-0.32 %/°C
Temp. Coeff. Isc	0.05 %/°C
Operating Temp.	-40 ÷ 85
Standard Test Conditions	(1000 W/m² irradiance, AM1.5, 25°C)
Number of cells	23
Strings of cells	2x8 cells + 1x7 cells
Length	672 mm
Width	582 mm
Thickness	2 mm
Weight	0,8 kg
Output	0,3 m length – 4mm² section

Maximum system voltage	1000V
Over current protection rating	12A
Application class (IEC 61730) A/B/C	A
Protection class	Class 0



300W-850RPM-170 VAC



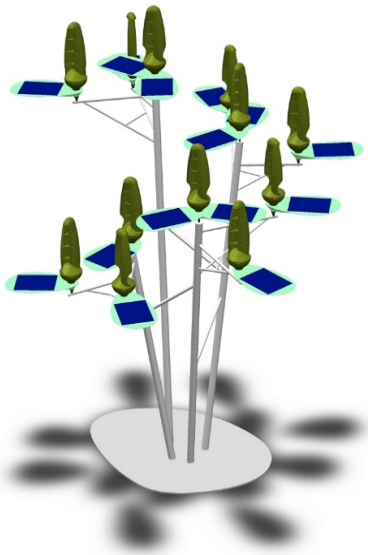
Power curve by Aeroleaf (without petal)

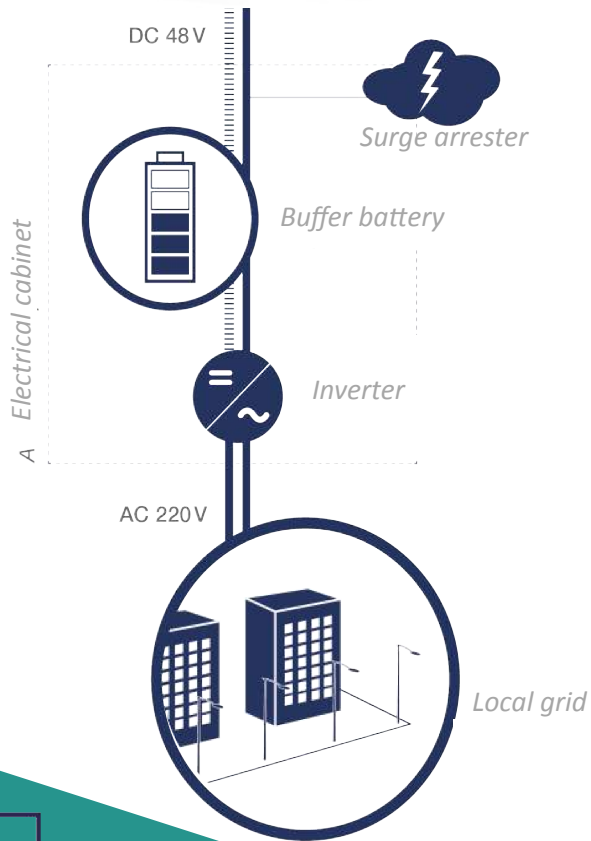
Voltage / Power / Rotation speed

new world wind

SCHEMATICS

The power produced by the photovoltaic Petals is added to the Aeroleaves electric bus. The electricity is routed through each branch to the control cabinet. The power sum is made through the Inverter.





New World Wind provides an electrical cabinet compliant with the electrical standards in France/Europe.
We will comply to your country requirements.

The Electrical cabinet is made of:

• A battery, allowing to temporarily regulate the electricity production to limit peaks and solely for short time needs. It is not for storage.

• A specific inverter dedicated to self-consumption that connects directly to the customer's main switchboard (TGBT).

• All the security systems required for commissioning (fuse wire, switchgears, lightning conductor and isolation switch).

As such, the electrical cabinet is readily available for connection to local grid.

INSTALLATION

Installation can be carried out by NWW teams or by the customer, subject to compliance with the recommendations established by NWW. .

The Installation requires a lifting mechanism of 12 m span to position the Aeroleaves and the solar Petals at the end of each branch.

The client shall however prepare:

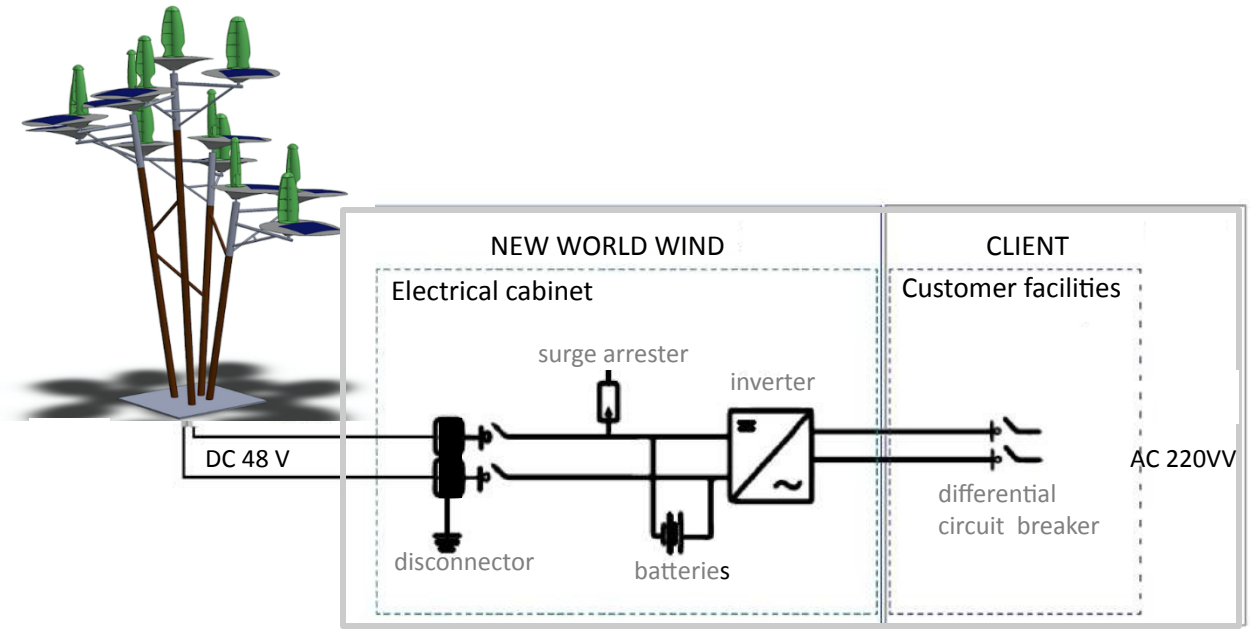
- Earthworks
- Small concrete block (according to attached appendix)
- The trench + Installation of sleeves between the Windbush and the electrical cabinet (20 meters max)
- Grounding the Aeroleaf
- The Anchoring base for the electrical cabinet (if needed)

A **security perimeter** of 8 meters around the Windbush is necessary to allow the elevator to maneuver around..

The full installation (mount and electric connection) can be done from 1 to 2 days (depending on the site).

ELECTRICAL CONNECTION

The Windbush is based on the concept of on-−−site generation and self consumption of the electricity in the connected building/area.



SCHEMATIC OF ELECTRIC INSTALLATION

The Windbush is connected to the local grid through the NewWorldWind electrical cabinet. A dedicated space should be prepared for the cabinet, within a maximum distance of 20 meters. In addition to the WindTree and its electrical cabinet, NewWorldWind is also providing the electrical wires between the WindTree and the Cabinet.

The overall installation is compliant with the current European standards. In case of specific difficulties, New World Wind can propose adaptations to make the installation possible (on estimate).

The electrical cables sleeves between the WindBush and the Electrical cabinet is explained in the civil engineering specifications. Similarly, any specific protection and wiring until the Electrical cabinet shall be prepared by the Customer to allow for the connection between the Electrical cabinet and the customer facilities.

SUMMARY

MECHANICAL SPECIFICATIONS

Height	5,80 m
Diameter Windbush	4,60 m
Height Aeroleaf	0,95 m
Total Weight	1200 kg
Number of Aeroleaves	12
Number of Petals	16

AEROLEAF SPECIFICATIONS

Starting speed	2,5 m/s (9 km/h)
Maximum Power per Aeroleaf	300 W
Maximum Wind	43 m/s continuously, 50 m/s in gusts (180 km/h)

PETAL SPECIFICATIONS

Power per solar Petal	36 Wc
Total photovoltaic power per Bush	576 W
Solar petal weight (support + photovoltaic film)	6,5 kg

ELECTRICAL SPECIFICATIONS

Installed capacity	4176 W
Voltage required	48 V
Inverter voltage output	110 V- 230 V

SITE INSTALLATION

Installation Timeframe	from 1 to 2 days depending on the site
Maximum Distance between the Windbush and the electrical Cabinet	20 m

SUMMARY

RESPONSIBILITIES

Preparation of underground Sleeves	Client
Earthworks + small concrete block	Client
Installation of the Windbush and Aeroleaves	New World Wind
Installation of the Electrical Cabinet	New World Wind
Connection between the Windbush and the electrical cabinet	New World Wind
Connection between the NWW cabinet and the customer facilities	Client

Key notes

- The Windbush doesn't require a declaration of site works under the French standards, other local regulations would have to be respected
- simplicity of implementation
- Possibility to mount the Bush yourself (subject to NWW recommendations)