



DATA SHEET

AEROLEAF 300W

Vertical-axis micro-wind turbine

Updated technical product sheet

300 W reference power

48 V DC collection bus

2.5 m/s starting speed

0.80 m minimum spacing



Patented micro-wind turbine designed for local proximity energy production

1.05 m

height + flange

16.5 kg

weight

6

minimum quantity

Scope note

Energy yield and final electrical architecture remain project-specific. Wind distribution, turbulence, cable routing, inverter certification and local grid rules must be reviewed before any production or grid-connection commitment.



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PRODUCT OVERVIEW

One consolidated technical snapshot for the Aeroleaf 300W

The Aeroleaf 300W is a patented vertical-axis micro-wind turbine shaped as a leaf. It is designed to be installed as part of a multiple-Aeroleaf electrical assembly, with each unit contributing to a 48 V DC collection architecture through the New World Wind control cabinet.

The product is intended for local proximity energy production in environments where visual integration, low start-up speed and distributed wind harvesting are required. Actual production remains dependent on site conditions, including wind distribution, turbulence, installation height, nearby obstacles and electrical architecture.

300 W

power reference per Aeroleaf

48 V DC

collection architecture

2.5 m/s

starting speed, subject to conditions

850 rpm

maximum rotational speed

1.05 m

height including flange

0.80 m

minimum centre distance

16.5 kg

Aeroleaf weight

6

minimum purchase quantity

Reference positioning

Technical wording harmonised with the 2026 visual product sheets

Aeroleaf reference

- Proprietary vertical-axis micro-wind turbine.
- Embedded electronic regulation for energy extraction.
- Permanent-magnet synchronous micro-generator.
- Direct DC collection before cabinet conversion.

Use-case reminder

- Installed as a multi-unit system, typically from 12 Aeroleafs.
- Cabinet and inverter sizing depend on project scope.
- Autonomy, critical loads and grid export require specific sizing and local approval.

Performance wording

The 300 W value is retained as a reference power per Aeroleaf.



Operating principle

The Aeroleaf uses a double-blade vertical-axis geometry in the shape of a leaf. Driven directly by the rotating blade, the permanent magnets pass in front of the coils to generate an alternating current. This current is immediately rectified into direct current so the output from several Aeroleafs can be collected in parallel.

The design avoids belts and gears. The micro-generator is encapsulated to protect it from rain, sand, snow, pollution and salty air.

Embedded regulation

Maximum power extraction principle retained, with clearer wording

Every 10 milliseconds, the embedded microprocessor calculates the voltage/current relationship and adjusts the Aeroleaf operating point toward the appropriate rotation speed for the ideal extraction curve. The objective is to maximise energy capture from the wind passing through the turbine at that moment.

Function	Technical wording
Direct drive	No belt or gear between the rotating leaf and the micro-generator.
Rectification	Alternating current from each micro-generator is rectified to direct current.
Parallel collection	Multiple Aeroleafs are electrically collected toward the 48 V DC architecture.
Regulation	Integrated microprocessor manages the operating point for best energy extraction.

Mechanical data

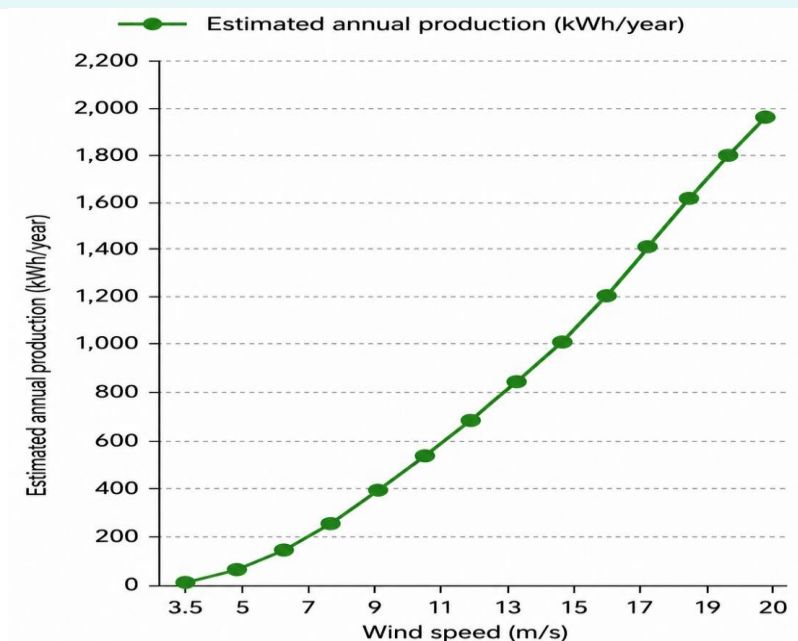
Parameter	Value
Aeroleaf height + flange	1.05 m
Minimum distance between 2 Aeroleafs	0.80 m
Aeroleaf weight	16.5 kg
Minimum number of Aeroleafs to purchase	6

Wind and electrical data

Parameter	Value
Starting speed	2.5 m/s (9 km/h), subject to installation conditions
Maximum wind resistance	36 m/s continuously; 43 m/s in gusts
Installed power reference	300 W per Aeroleaf
Required voltage	48 V DC
Inverter output voltage	110 V or 230 V AC, depending on project inverter

Production curve reference

technical reference image



Aeroleaf production curve as a function of wind speed.

Site dependency

The production curve is a reference curve. Annual production must be calculated from local wind data, installation height, turbulence and surroundings.

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ELECTRICAL ARCHITECTURE

48 V DC collection, protection cabinet and AC output

Electrical architecture - harmonised wording

From distributed Aeroleaf production to customer facilities

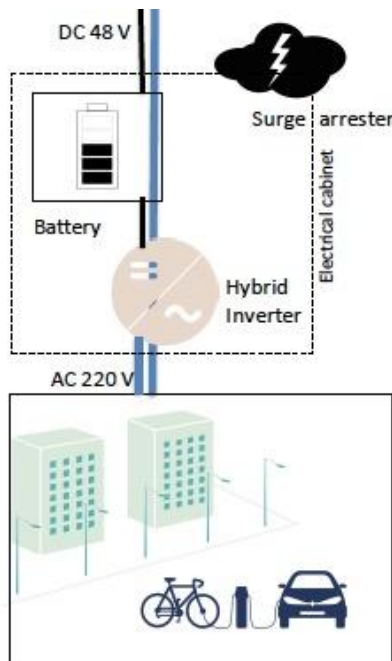


The electricity produced by each Aeroleaf is immediately rectified into direct current and routed in parallel toward the 48 V DC collection architecture. The control cabinet is sized according to the number of Aeroleafs installed and the selected project configuration.

Collection	Protection and regulation	Output
<ul style="list-style-type: none">Parallel DC collection from multiple Aeroleafs.48 V DC architecture.Cable distance and sizing checked per project.	<ul style="list-style-type: none">Fuses / breakers.Surge protection and disconnecter.Earthing and required safety devices.Buffer batteries for regulation / short-duration needs only.	<ul style="list-style-type: none">Inverter selected according to local voltage/frequency.110 V or 230 V AC output depending on project.Grid connection subject to local rules and utility approval.

Important limitation

The standard buffer battery pack smoothes production over short periods. It is not presented as a full storage system unless battery capacity is specifically sized for the customer load profile.



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INSTALLATION REQUIREMENTS

Location, clearance and customer preparation

Aeroleafs can be installed on roofs and terraces, along roads, on masts, pylons, lampposts or on any support capable of absorbing the forces and vibrations transmitted by the rotating leaf. A minimum centre distance of 80 cm between Aeroleafs must be respected.

0.80 m

minimum centre distance

20 m

maximum cabinet distance baseline

16 mm²

grounding cable for Aeroleaf

1 to several days

typical installation time, project-dependent

Minimum preparation before installation

Items to be completed or validated before New World Wind intervention

Item	Minimum requirement / wording
Support validation	The customer must ensure that the support can withstand the forces and vibrations from the rotating Aeroleafs.
Cable routing	Cable routing to the technical room or customer TGBT must be prepared before installation.
Cabinet to customer facilities	The cables between the cabinet and the customer installation are supplied and connected by the customer unless otherwise agreed.
Grounding	Aeroleaf grounding must be prepared using the required grounding cable.
Site access and safety	The customer must secure the work area and provide safe access for installation.

Adaptations

In case of specific site constraints, New World Wind may propose technical adaptations subject to a dedicated estimate and project validation.

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RESPONSIBILITIES AND COMPLIANCE

Clear scope split for customer-facing use

Installation flow

Standard sequence after site readiness confirmation



The entire installation must be carried out in accordance with the applicable local directives, electrical rules and site safety requirements. Grid export or grid-parallel operation depends on local grid code, inverter certification and utility approval.

Item	Standard responsibility	Notes
Preparing the passage of cables to the customer TGBT	Customer	Prepared before NWW intervention.
Securing the site	Customer	Safe installation area and access to be confirmed.
Connection cabinet / local network	Customer / local electrician	Must comply with local electrical code and facility rules.
Installation of Aeroleafs	NWW or approved installer	Unless otherwise agreed in the project scope.
Installation of electrical cabinet	NWW or approved installer	When the cabinet is included in the NWW scope.
Connection Aeroleaf / cabinet	NWW or approved installer	Cable distance and sizing checked for each project.
Permits / grid approval	Customer with local specialists	Planning and grid requirements vary by country and municipality.

Compliance reminder

Before any grid connection, the selected inverter and complete electrical architecture must be checked against the local grid code, certification requirements and utility approval process.

MECHANICAL SPECIFICATIONS

Parameter	Value
Aeroleaf height + flange	1.05 m
Minimum distance between 2 Aeroleafs	0.80 m
Aeroleaf weight	16.5 kg
Minimum number of Aeroleafs to purchase	6

ELECTRICAL SPECIFICATIONS

Parameter	Value
Installed power reference	300 W
Required voltage	48 V DC
Inverter output voltage	110 V or 230 V AC depending on inverter
Electrical cabinet	Sized according to number of Aeroleafs

AEROLEAF SPECIFICATIONS

Parameter	Value
Starting speed	2.5 m/s (9 km/h)
Maximum wind resistance	36 m/s continuous; 43 m/s gusts
Protection principle	Integrated regulation and braking strategy

INSTALLATION SITE

Parameter	Value
Recommended locations	Roofs, terraces, roadsides, masts, pylons, lampposts or validated supports
Maximum cabinet distance	20 m baseline, subject to cable sizing
Installation time	Between 1 and several days depending on number of Aeroleafs and site complexity

Final customer-facing caution

Retained to avoid overstating production guarantees

The Aeroleaf 300W technical sheet provides reference product values. It is not a substitute for a project-specific study covering wind data, turbulence, installation height, structural support, cable sizing, battery/inverter configuration, local certification and grid connection requirements.