

Energy yields of up to 10 kW.

WindCarrier: Technology for path-breaking power generation.



green
energy

Generate 100 % clean
power now

SPACE-SAVING, LOW NOISE, STABLE

Generate part of your power yourself.

With the WindCarrier of GILDEMEISTER energy solutions the perfect technology is available to you for the first time to self-sufficiently, efficiently and sustainably generate power. Space-saving, productive and reliable. Low-noise, stable and easy to maintain.

Clean power can be at home everywhere. It does not matter where you need power: the WindCarrier allows you to generate natural power easily in windy regions. Whether it is for an industrial plant or a company building, you can generate clean power with low maintenance to cater for your own requirements or to feed into the public power grid.

Yield potential of the WindCarrier

The following examples were created with model calculations, depending on the location, and present an overview of possible profitability for own use.

CALCULATED ANNUAL YIELD AT Ø WIND SPEED

4.5 m/s: 12,100 kWh p.a.

5.0 m/s: 16,800 kWh p.a.

6.5 m/s: 27,100 kWh p.a.

PROFITABILITY FOR OWN USE 2013 (5.0 m/s)

16,800 kWh x 25 cents (average power price)

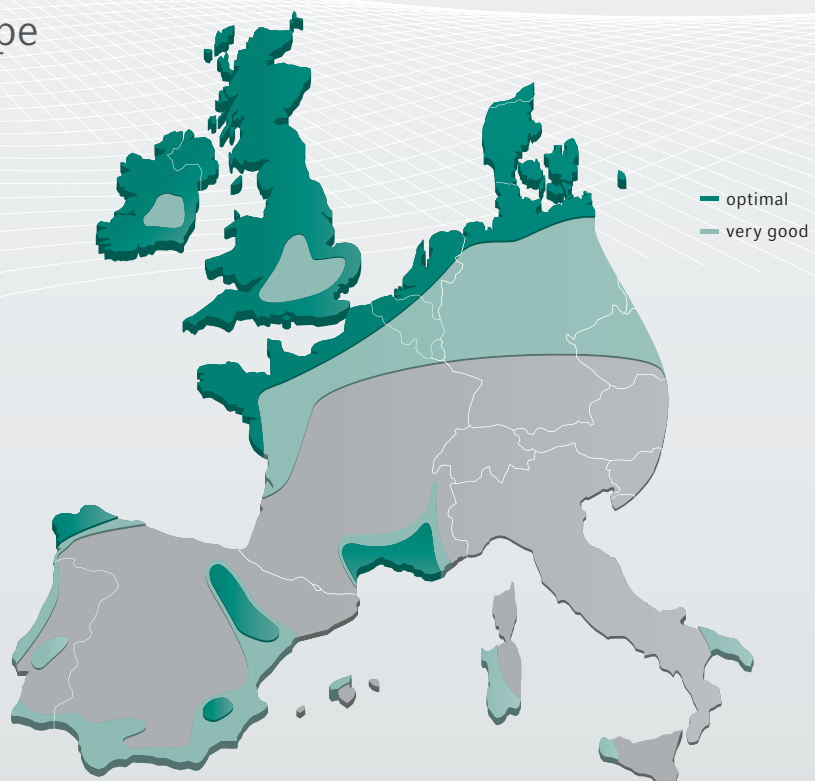
4,200,- € p.a.

PROFITABILITY FOR OWN USE 2023 (5.0 m/s)

16,800 kWh x 50 cents (estimated power price)

8,400,- € p.a.

Wind map Europe



AMORTISATION PERIOD LESS THAN 10 YEARS

An investment, which is worth it, not only for the environment.

Using nature and its resources sparingly - while your wind power station pays for itself. Depending on the location, even in a term of less than 10 years.

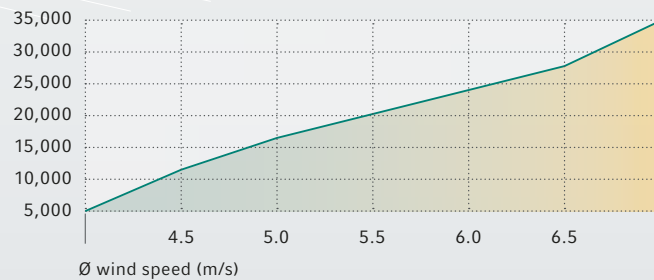


Energy solutions park, Bielefeld, Germany

Investments in the use of renewable energies are subsidised differently by each country. National and foreign companies in the commercial sector with a majority of private shareholding, municipalities and organisations, farmers and natural persons and non-profit applicants who are active in agriculture, can make use of promotions. Promotions reduce the amortisation period significantly.

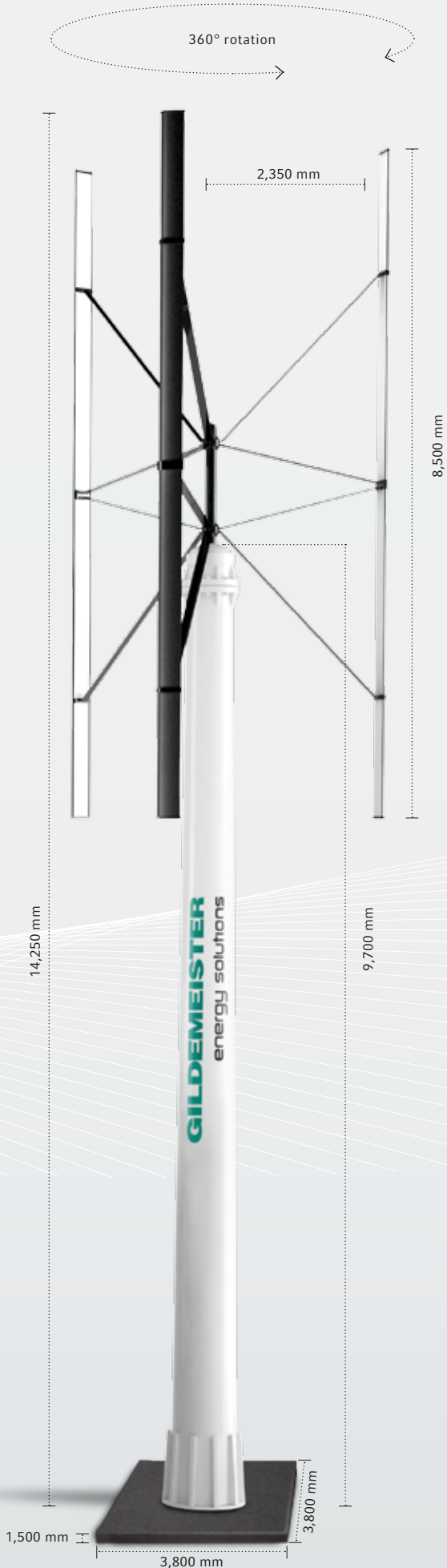
Annual yield

Energy p.a. in kWh*



Ø wind speed (m/s)

* Values depend on location and are subject to change.



Technical data.

System	
Overall height	14.25 m
Axis height	9.7 m
Weight	
Generator	0.5 t
Mast	1.25 t
Framework with blades	0.75 t
Overall system	2.5 t
Performance characteristics	
Start-up speed	3.5 m/s
Shut-down speed	16 m/s
Rotor	
Diameter	4.7 m
Nominal speed	125 rpm
Design of blades	Composite blades
Rotor area	40 m ²
Generator	
Design	synchronous
Torque	764 Nm
Nominal power rating	10 kW
Speed max.	130 rpm
Nominal current	15 A
Protection IP	23
Cooling	Air
Tower	
Type	hot dip galvanised
Paintwork	
Colour	RAL 7011*
Quality	C5M
Safety system	
Generator brake	yes
3-fold aerodynamic brake	yes
Temperature monitoring	yes

* Tower and blades can be painted individually at extra cost.

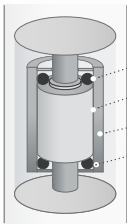
New

low noise
easy to maintain
stable



Advantages

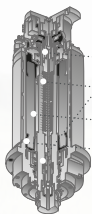
- Produce renewable energy yourself and use it immediately
- Guarantee stable long term power prices
- Proven technology with a long service life
- Utilising a free and inexhaustible source of energy
- Independent of the direction of the wind
- Low noise level [$< 35 \text{ dB(A)}$] at 100 m from the source
- Very easy to maintain and without wear and tear
- Easier approval procedures than for large installations



- Bearing 1
- Rotor
- Stator
- Bearing 2

Design of the bearings

This solid and mature solution provides the system with a performance advantage of up to 10 %. The generator is furnished with only two bearings, which need a minimum of maintenance and it convinces with its excellent efficiency.



- Bearing
- Shaft
- Rotor
- Stator

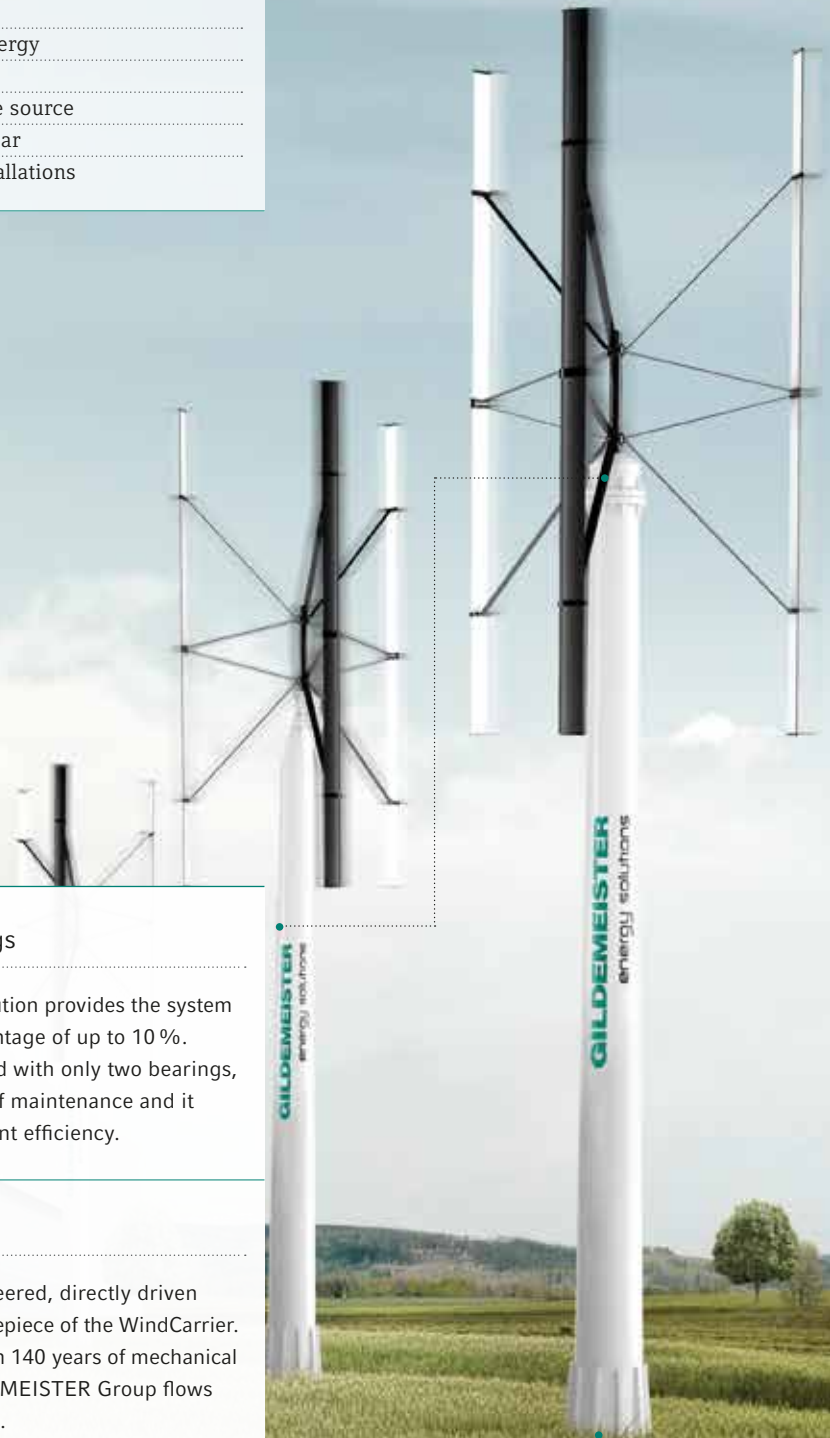
Based on experience

The high precision engineered, directly driven motor spindle is the centrepiece of the WindCarrier. Know-how from more than 140 years of mechanical engineering in the GILDEMEISTER Group flows into the WindCarrier here.



Installation option with anchor cage

The tailor-made foundation for your system, which takes up very little space and can be acquired at extra cost, ensures maximum stability through professional anchoring to the subsoil - irrespective of the weather.



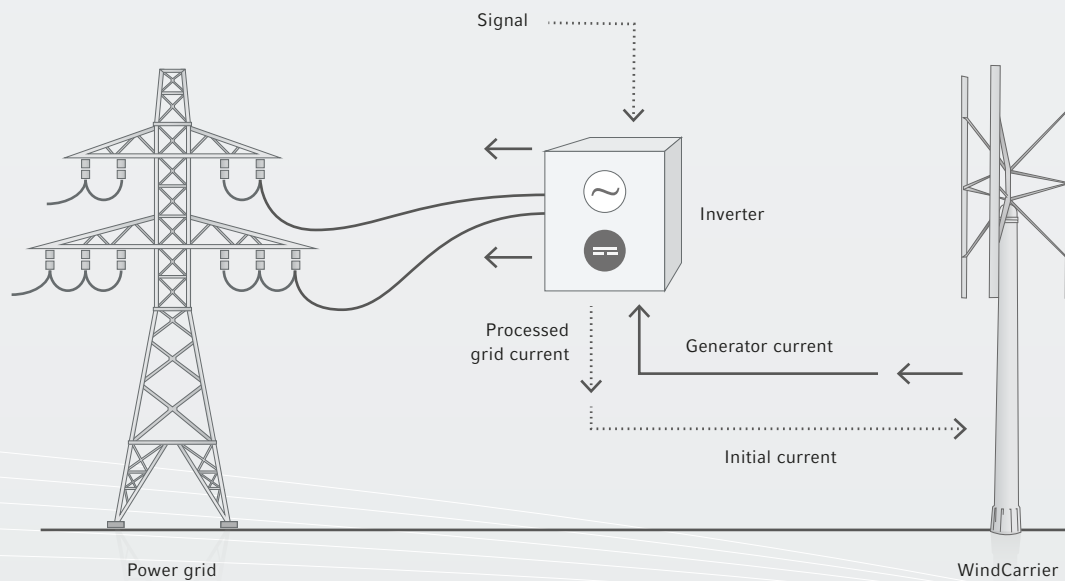
Guaranteed efficient energy yield.

The operating principle of the WindCarrier.

The Wind Carrier of GILDEMEISTER **energy solutions** is a new generation of small wind power plants at the leading edge of technology. With a nominal power rating of 10 kW it offers efficient energy yield with its gearless drive principle, low noise operation and ease of maintenance. Utilise the power of the wind to generate clean power.

Fast up to speed.

With intelligent sensor technology the control system initiates start-up from wind speeds of more than 3.5 m/s. The system is only switched off again when wind speeds consistently remain below 3 m/s. This means constant energy yield from 3,5 m/s upwards and a buffer for wind speed fluctuations of 0.5 m/s, so that frequent switching on and off of the system is avoided. This results in a constant energy yield.



Direct information regarding performance data.

With WebApp on a smart phone you can retrieve all performance data as well as current wind speed at any time. Production data of your system is recorded and the annual yield is calculated automatically. This tool keeps you constantly informed.

The WindCarrier can handle every situation under all weather conditions.

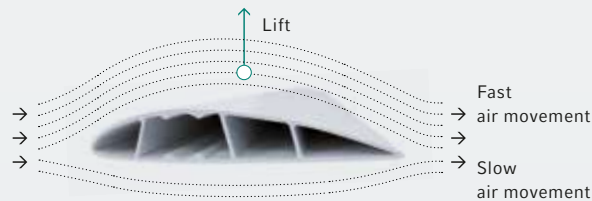
The first generator brake reduces system speed step-wise from wind speeds of more than 16 m/s. The second 3-fold aerodynamic brake creates a short circuit in case of failure of the control system or if the power grid is faulty.

The Darrieus principle.

The aerodynamic lift of the WindCarrier.

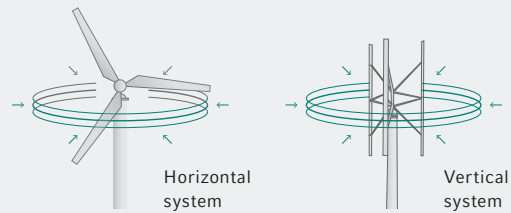
Innovation in detail: the design of the WindCarrier is based on the Darrieus rotor with a vertical rotation axis, whereby the aerodynamic lift is used with high efficiency to generate power.

The blades of the wind turbine have a cross section similar to that of aircraft wings. This special shape results in air flowing faster over the curved upper surface of the blade than over the bottom surface. In an aircraft the resulting force provides the required lift - and in the wind turbine it provides the drive.



Efficient in any direction.

The vertical arrangement of the blades has a distinct advantage. The WindCarrier does not need to be aligned to the direction of the wind in order to develop optimum performance: the wind always impinges on the blade surfaces optimally.



Simple and quick installation.

The WindCarrier can be erected and commissioned by three persons with the aid of a mobile crane in about three hours (excluding foundation work).



The best way to fight rising power costs: Efficient use of energy.

GILDEMEISTER energy solutions represents necessary and comprehensive awareness of energy, focusing on intelligent generation, storage and use of energy. It all starts with an energy efficiency analysis.

ENERGY EFFICIENCY PROCESS

- 1 Analysis of the actual condition
- 2 Evaluation of collected data
- 3 Catalogue of measures



Our energy experts and their team will gladly compile a concrete plan of measures together with you for a sustainable lowering of your energy costs: +49 931 250 64-120

The energy-efficient complete solutions.



Energy solutions Park, Bielefeld, Germany



Energy solutions Park, Bielefeld, Germany



DECKEL MAHO Seebach, Germany

generate

SunCarrier: The SunCarrier is a unique tracking system, which continuously aligns its module face to the current position of the sun.

WindCarrier: The small wind turbine according to the Darrieus principle with a nominal power rating of 10 kW guarantees efficient generation of power.

store

CellCube: The vanadium-based energy storage system with a long service life offers interruption-free supply of power. It is available with power ratings from 10 to 200 kW and a scalable capacity up into the MWh range. In this way base load coverage, power peak limiting and safeguarding of sensitive areas can be guaranteed at all times.

utilise

Intelligent products and technologies for modern industry:

- E-mobility solutions
- Backup solutions
- Industrial solutions
- Tele solutions
- Off-grid solutions
- Power solutions

Contact us

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All information here!

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