

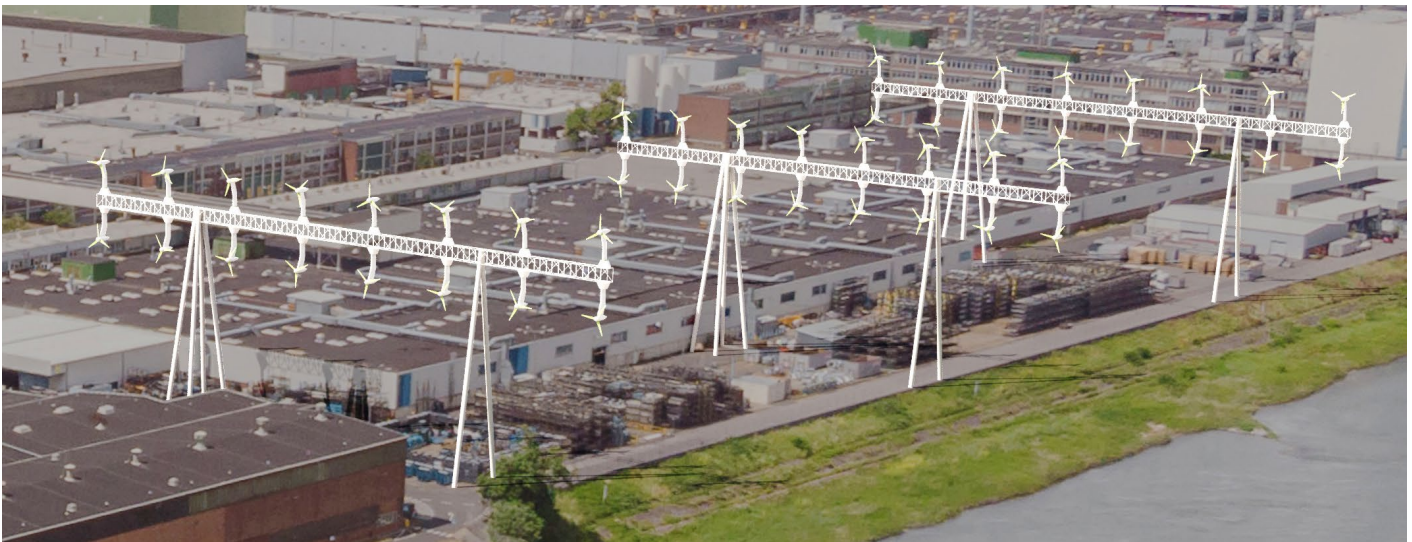
FlowGen wind turbine systems



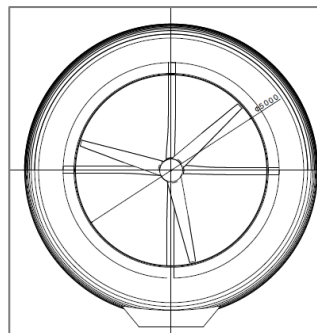
FlowGen microgrid with 4 wind turbines on 2 laminated wood masts, solar panels and battery



FlowGen's mobile green energy supply center combining wind turbines, solar and battery as mobile system incl. standard container



FlowGen Steel Frames with wind turbines for the supply of villages or industrial facilities with high power consumption.



FlowGen's ducted wind turbine for new constructions

## Unique Features

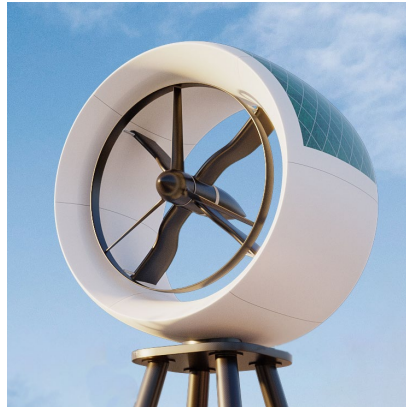
- Conforms to IEC 61400-2 international standard; UL certified
- Upwind, direct drive, stall controlled, overvoltage protection and emergency braking
- High-efficient; lightweight; modular system for easy transportation, assembling and installation
- High quality mass manufacturing according to automotive processes and standards
- Low maintenance through the monitoring of the performance of the wind turbine and whole systems through sensors (microgrids or grid connected applications combining wind, solar and battery)
- Average lifetime is 20 years; 5-year warranty; extendable to 10 years
- Developed in Switzerland, manufactured in Germany

## Technical Specifications FlowGen 10kW HSWT



Rated power:	10 kW
Wind speed:	
cut in	1.9 m/s
rated	11.5 m/s
cut out	20 m/s
survival	70 m/s
cp-factor	Above 50%
Noise level	68dB at rated power; in 20m distance to wind turbine 32dB
Rotor:	
number of blades	3
diameter	4.94 m
swept area	19.2m <sup>2</sup>
material	carbon reinforced
Generator:	
type	high efficiency PM generator with 94% efficiency
voltage	world-wide grid-compatibility 110V / 220-240V / 400-460V AC via inverter
frequency	50/60Hz other voltages on demand available
Other:	
gearbox	none – gearless zero ripple torque generator
braking system	electromagnetic disc-brake, fail safe with high torque reserve and energy-saving control logic
rotor speed control	sensorless
output control	energy-management implemented in inverter
inverter input	active front-end, vector-oriented control mode for maximum energy yield
hub type	generator integrated with rigid industrial bearings with low friction in all climate conditions
yaw system	active; low backlash geared motor
rotor position	upwind
tower/ construction	FlowGen offers a variety of applications: <ul style="list-style-type: none"> <li>– mast applications for one turbine up to 30meters in: <ul style="list-style-type: none"> <li>○ steel</li> <li>○ composite</li> <li>○ laminated wood</li> <li>○ bamboo</li> </ul> </li> <li>– supporting framework for several wind turbines in <ul style="list-style-type: none"> <li>○ steel</li> <li>○ composite</li> <li>○ laminated wood</li> <li>○ bamboo</li> </ul> </li> </ul> <p>Individual materials, constructions, and sizes on request</p>
powertrain weight	160kg

## Technical Specifications FlowGen 15kW DSWT



Rated power:	15kW
Wind speed:	
cut in	1.9 m/s
rated	11.5 m/s
cut out	20 m/s
survival	53 m/s
cp-factor	Above 50%
Noise level	68dB at rated power; in 20m distance to wind turbine 32dB
Rotor:	
number of blades	3
diameter	4.94 m
swept area	19.2m <sup>2</sup>
material	carbon reinforced
Generator:	
type	high efficiency PM generator with 94% efficiency
voltage	world-wide grid-compatibility 110V / 220-240V / 400-460V AC via inverter
frequency	50/60Hz other voltages on demand available
Other:	
gearbox	none – gearless zero ripple torque generator
braking system	electromagnetic disc-brake, fail safe with high torque reserve and energy-saving control logic
rotor speed control	sensorless
output control	energy-management implemented in inverter
inverter input	active front-end, vector-oriented control mode for maximum energy yield
hub type	generator integrated with rigid industrial bearings with low friction in all climate conditions
yaw system	active; low backlash geared motor (optional)
rotor position	upwind
construction	FlowGen offers a variety of applications: <ul style="list-style-type: none"> <li>– Ducted wind turbines as part of a construction made of: <ul style="list-style-type: none"> <li>○ steel</li> <li>○ reinforced concrete</li> </ul> </li> <li>– Duct as self-supporting element made of composite</li> </ul> Individual materials, constructions, and sizes on request
powertrain weight	160kg

## Contact us for more information

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