

freen

Freem-20

Wind Turbine



Highest proven power generation for VAWT in a class

The maximum wind energy conversion coefficient of small-sized Darrieus turbines on the market and the best use of turbulent air flows throughout the entire range of operating winds.



A fair and transparent low price per kW stands out among other EU manufacturers

Our optimized production line in Estonia for manufacturing turbines with a patented soft blade design and outstanding generator parameters delivers ready-to-install prefab solutions in 6 months.



Construction innovations for positive eco impact & smart operation

The small number of rubbing elements brings the O&M costs down, while the balanced assembly designs help to reduce noise emissions and threat to wildlife; moreover, the absence of construction permits* and cost-effective dismantling process provide for flexibility in relocation options.



Our proprietary control and management SCADA system

FREEN SCADA software links up the turbines, offering advanced data analysis, critical effectiveness controls, and a user-friendly interface for optimal wind energy management and performance monitoring.

*Conditions may change depending on the local government



Freem OÜ

Arenduse tn 6, Kohtla-Järve,
30328, Ida-Viru maakond, Estonia



www.freem.com

contact@freem.com



Small wind turbine generator with an installed capacity of 20 kW.

Designed for on- and off-grid power supply of small and medium energy consumers. Vertical ultra-light turbine is efficient in diverse regions under variable wind conditions.

freen - your wind, your power, your way

FREEN-20

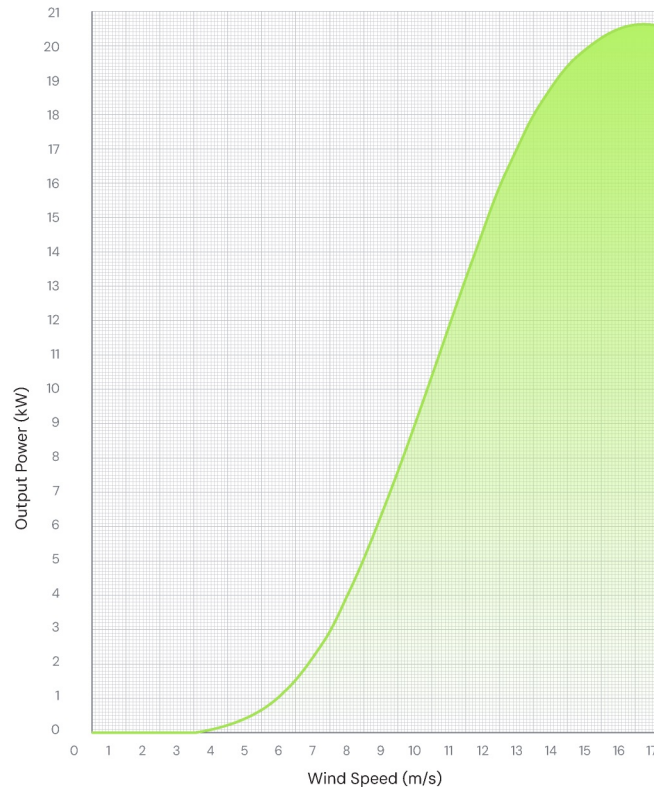
20 kW Wind Turbine



Technical specifications

Rated power, (kW)	20
Cut-in wind speed, (m/s)	3.5
Cut-out wind speed, (m/s)	17
Wind class	IEC III, IV
Swept area, (m ²)	52
Noise level at 100 m distance, (dB)	45
Height, (m)	24.7
Weight, (kg)	5000
Footprint area, (m ²)	35
Lifetime, (years)	20
Standard	IEC 61400-2:2013 - Small wind turbines
Operating temperatures, (C°)	-25 to +40
Survival wind speed, (m/s)	36
Remote monitoring	FREEN SCADA
Installation time	1-2 days

Power output



Equipment set

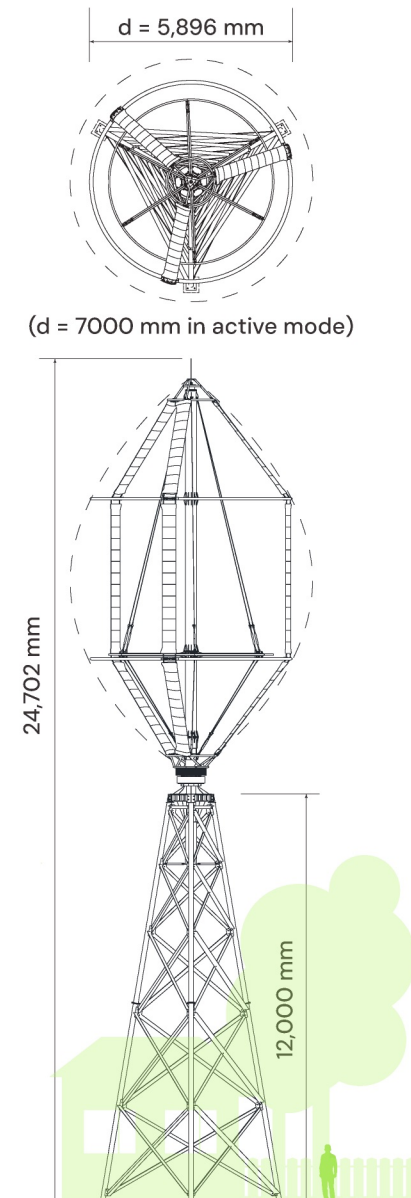
- Wind Turbine
- Inverter ON-GRID*
- Controller
- FREEN SCADA
- Tower

*We offer customized off-grid solution per request

! The product specifications are provisional and subject to change at any time due to improvements or other reasons.

! AEP is based on a Rayleigh wind speed distribution, K=2, t=15°C, P=1013 mbar, p=1.225 kg/m³

Drawing



AEP

Wind speed (m/s)	AEP (MWh)
4	7.9
5	17.6
6	30.2
7	43.2
8	54.5
9	62.6
10	67.5
11	69.6
12	69.6
13	68.1
14	65.7
15	62.7
16	59.5
17	56.2

Contact us

