



# GW-133

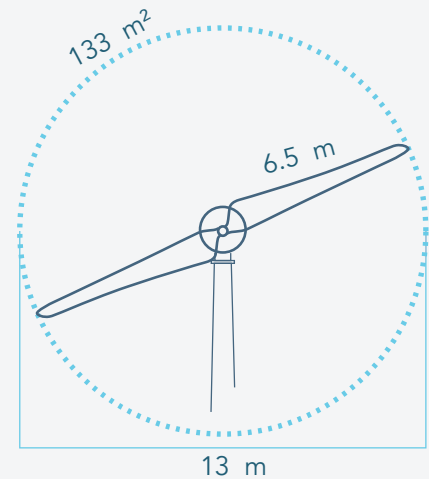
## DATA SHEET

The GW-133 is capable of displacing greenhouse gas emissions from 15,000 litres of fuel each year.



<b>GENERATOR</b>	Type	Induction
	Maximum Power	10.2 kW
	Rated Power	9.7 kW
<b>ROTOR</b>	Configuration	Horizontal Axis
	No. of Blades	2
	Blade Material	Glass fibre
	Blade Length	6.5 m
	Rotor Diameter	13 m
	Swept Area	133 m <sup>2</sup>
	Nominal Rotor Speed	56 rpm
	Pitch/Yaw	Downwind fixed pitch with passive yaw
<b>WIND</b>	Cut-In Speed	3 m/s
	Rated Wind Speed	11 m/s
	Cut-Out Speed	25 m/s
	Survival Speed	52.5 m/s
<b>WEIGHTS</b>	Hub	900 kg
<b>TOWERS</b>	Tilt-Up Monopole	18 – 27 m
	Lattice	15 – 36 m
<b>DESIGN PARAMETERS</b>	Turbine Design Class	IEC 61400-2 Class III
	Temperature Range	-20° to 50°C
	Lifespan & Servicing	20 years, subject to regular maintenance

## TECHNICAL PROFILE

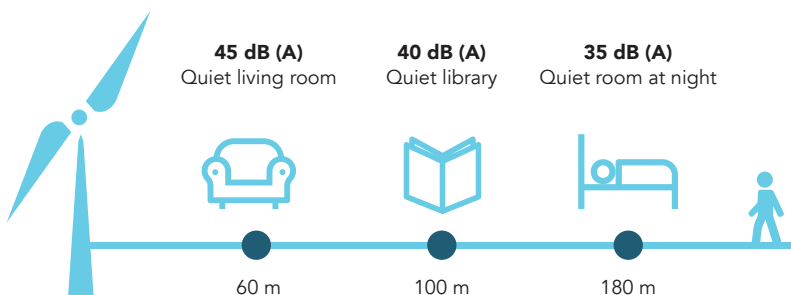


**CLASS III**

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PASSIVE REGULATION

## NOISE





SAFETY



- Base Level: Passive stall of blades limits power output.
- Second Level: Electronic control system activates mechanical brake.
- Third Level: Passive centrifugally activated aerodynamic brakes, concealed in the rotor tips, release, spoiling the rotor aerodynamics and subsequently its ability to rotate.

DATA INPUT & MANAGEMENT



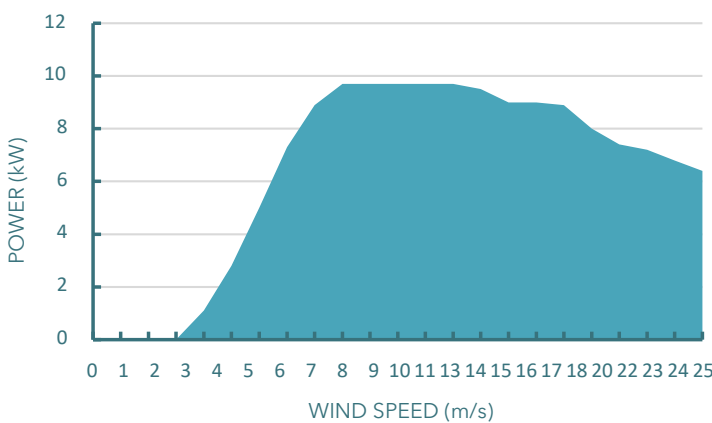
- Integrated microprocessor with multiple sensor inputs: wind speed, power, voltages, currents and phase, rpm, vibration and temperature alerts.
- LCD display in control box. Can output to local PC or be monitored remotely via the internet.
- Remote Monitoring: Allows remote monitoring of the wind turbine in order for Ryse to ensure the turbine is operating at its peak performance.

CONSTRUCTION & MAINTENANCE



- Limited plant requirement for installation.
- The bottom of the tower is bolted onto a reinforced concrete base with dimensions 5.2 x 5.2 x 0.6 m. This is set in a 1 m deep hole with a 0.4 m layer of hard-packed earth on top.
- Online store for easy purchase of spare parts & equipment: [ryse.energy/shop](http://ryse.energy/shop)
- Ryse service contract available.

POWER CURVE



ENERGY OUTPUT

Annual Mean Wind Speed (m/s)	Estimated Annual Output (kWh)
4.0	16,220
4.5	21,861
5.0	27,502
5.5	32,731
6.0	37,959
6.5	42,243
7.0	46,527
7.5	49,655

MCS APPROVED DATA