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Abstract

This document describes the technical characteristics of a wind farm consisting of 29 Gamesa G52 turbines, currently installed and operational in Italy. The turbines are used but in excellent condition.

Each turbine is complete with the main components required for operation, including the tower, frequency converter, electrical control panels, hydraulic systems, medium voltage equipment and auxiliary parts such as PLCs and various cables. Bolts and anchor cages are not included.



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Nomenclature

AC	Alternating Current
AVR	Automatic Voltage Regulator

DC	Direct Current
DCS	Distributed Control System
EPC	Engineering, Procurement and Construction
HMI	Human-Machine Interface
I/O	Input / Output
ISO	International Organization for Standardization
LHV	Lower Heating Value
LV	Low Voltage
MCC	Motor Control Cubicle
MV	Medium Voltage
HV	High Voltage
N/A	not applicable / not available
OEM	Original Equipment Manufacturer
P&ID	Process & Instrumentation Diagram
PC	Personal Computer
PFD	Process Flow Diagram
PLC	Programmable Logic Controller
WTG	Wind Turbine Generator
TBD	To be determined / To be defined

1. Introduction

Complete wind turbines available for relocation, this document describes the various characteristics of the turbines and their current status. The subject of the opportunity is as follows: 29 Gamesa G52 wind turbines, each with a capacity of 850 kW.

General Data	
Manufacturer	Gamesa
Model	G52
Quantity	29
Power	850 kW
Available from	January 2026
Country	Italy
Condition	New
Year of construction	2001

2. Description of Supply

2.1 Wind Turbine Gamesa G52 850 kW

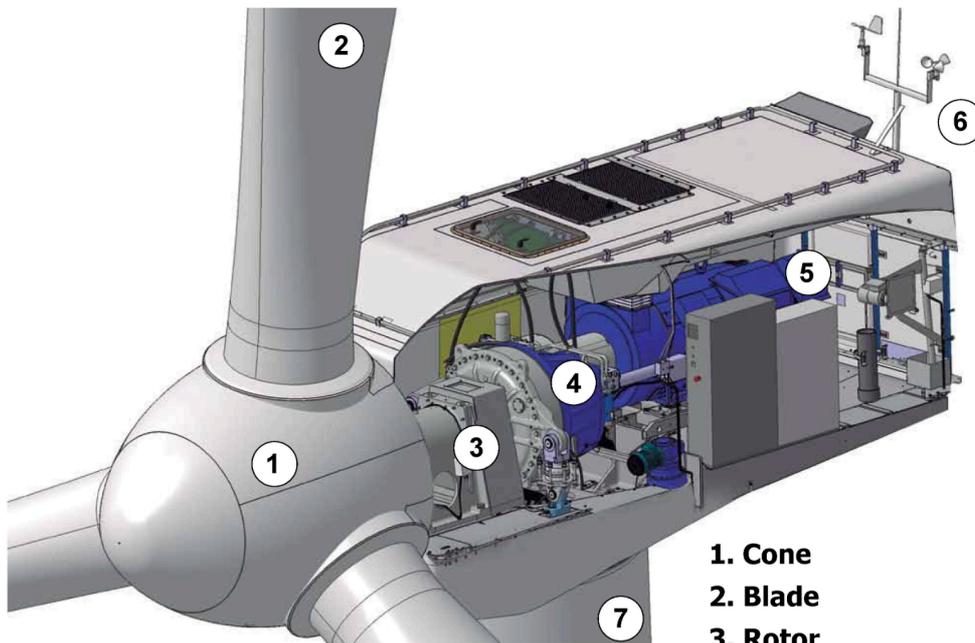
The Gamesa G52 is a three-bladed, upwind wind turbine with collective variable pitch and variable-speed operation, developed by Gamesa Eólica. Blade pitch control allows regulation of rotor speed, optimization of energy production, and safe turbine shutdown.

The fiberglass-reinforced composite blades consist of bonded shells mounted on a main structural spar and are bolted to a cast-iron hub via blade bearings. Mechanical power from the rotor is transmitted through a forged steel main shaft supported by two bearings to a three-stage planetary–helical gearbox, which drives the generator through a flexible coupling.

The turbine is equipped with a doubly fed asynchronous generator rated at 850 kW, enabling variable-speed operation and control of active and reactive power. All turbine functions are monitored and controlled by a microprocessor-based control system, while a hydraulic system actuates blade pitch, yaw braking, and the mechanical disc brake.

The primary braking system is aerodynamic, achieved by feathering the blades, while the secondary brake is a hydraulically actuated disc brake on the gearbox high-speed shaft used for parking and emergency conditions.

Yawing is performed by an active yaw system with two electric geared motors engaging a toothed yaw ring at the top of the tower. The nacelle is fully enclosed in reinforced fiberglass, with access from the tower and rear openings for maintenance and lifting operations.



Candidate turbine: 850kW Gamesa G52

- 1. Cone**
- 2. Blade**
- 3. Rotor**
- 4. Gearbox**
- 5. Generator**
- 6. Wind speed and direction meter**
- 7. Tower**

2.2 Technical data

2.2.1 Rotor

Diameter:	52 m
Swept area:	2,124 m ²
Rotor speed:	30.8 rpm
Rotation direction:	Clockwise (front view)
Maximum rotor speed:	~30.8 rpm
Tip speed:	~84 m/s
Cut-in wind speed:	4.0 m/s
Rated wind speed:	~13–16 m/s
Cut-out wind speed:	~25 m/s

2.2.2 Tower

Exact hub height:	50.1 m
Weight: approx.	51,000 kg

External surface treatment:

- Sandblasting: SA 3
- Metallizing: 60 µm Zn
- Primer: ≥ 90 µm
- UV-resistant top coat: ≥ 50 µm
- Corrosion class: 3

Internal surface treatment:

- Sandblasting: SA 2.5
- Zinc primer: ≥ 40 µm
- Top coat: ≥ 100 µm
- Corrosion class: 2

2.2.3 Gearbox

Type:	Planetary + helical
Ratio:	1:62

2.2.4 Main Generator (850 kW)

Type:	Asynchronous, variable slip
Rated power:	850 kW
Voltage:	690 VAC
Frequency:	50 Hz
Protection class:	IP54

Number of poles:	4
Speed:	1500–1600 rpm
Rated current:	628 A
Power factor:	0.88 (resultant 0.98)

2.2.5 Weights

Complete nacelle: approx.	23,400 kg
Rotor incl. hub: approx.	10,200 kg

2.3 Power curves – Gamesa G52 850kW

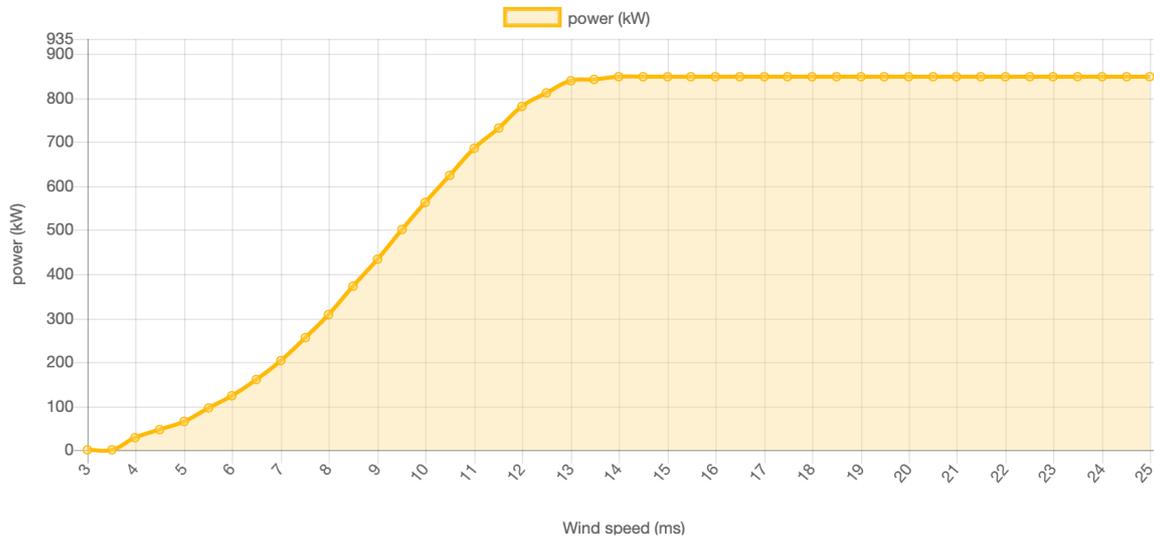


Figure 1: Power curve Gamesa G52

3. Storage status

3.1 WTGs

3.1.1 Blades

3.1.2 Drive train

3.1.3 Hub

3.1.4 Nacelle

3.1.5 Towers

4. Scope of Supply

Position	Quantity	Description
1000		Wind Tubrine
1001	41	Wind turbine <ul style="list-style-type: none"> • <i>Manufacturer: Gamesa</i> • <i>Model: G52 850kW</i>

Table 1: scope of supply.

4.1 Exclusions

Scope not explicitly listed in the Scope of Supply (Table 1) is excluded.

The following items are explicitly excluded:

Mechanical
Modification of any existing systems not explicitly cited.
Missing parts and components.
Electrical
Modification of existing systems not explicitly cited.
Civil
Land and land preparation and permits
Temporary accesses and final accessing roads
Security plan and hardware
Temporary accommodation
Finishing and fencing
Waste disposal facility

Table 2: exclusions from the Scope of Supply.

Project Management
Attainability of installation, commissioning and operation permits, or any other permit.
Assessment and acceptance of safety relevant issues.

Any study, engineering, documentation, or other service.
Additional works resulting from changes in laws or any other reasons.
Building of Site Facilities of any kind (lights, water supply and treatment, heating, power supply, etc.).
Custom duties and taxes.
Engineering
Feasibility studies, basic, design and detailed engineering of existing equipment.

Table 3: exclusions from scope of Services.

5. Mandatory condition for purchase

The following material may be sold under the following conditions:

The Purchaser declares to accept the Products in the absence of the necessary certifications required by the applicable legislation and technical regulations and declares to be qualified to recondition, recertify and secure the Products for future reuse, or to use qualified parties to recondition, recertify and secure the Products for future reuse if not directly able to carry out the aforementioned activities. Therefore, the Purchaser declares to accept the Products, even if they are working, in conditions of out of service and undertakes to carry out the necessary compliance activities, which are essential for the purposes of any subsequent use. As a result, the Seller is relieved of any type of liability related to the lack of the aforementioned technical certifications.

The Seller also reserves the right to ask the Buyer for evidence of the recertification and compliance of the Products by the Buyer (or by a qualified party used by him, in accordance with the provisions of this clause).

In any case, the Purchaser shall be held liable (i) for the above-mentioned compliance activities, as well as (ii) for any obligation subsequent to this sale, deriving from the autonomous management of the Products in accordance with the regulations applicable to them.