



SG 4.4-164  
Building America's energy future



# Delivering on our promise to the American market

The SG 4.4-164 high capacity factor turbine has the right rotor and nameplate to enhance revenues and take advantage of the most common U.S. wind conditions

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Siemens Gamesa,  
your technology  
partner

One of the key aspects to Siemens Gamesa's success is the continuous development of advanced products adapted to the business case of every customer. We strive to provide the suitable technological solutions for each project, while driving down the LCoE.

For this reason, we offer a catalog of solutions adapted to every type of site and condition, backed by:

- Our reputation as a stable partner (over 138 GW installed worldwide).
- A track record spanning more than 40 years.
- The recognition of the wind power sector.

### Designed for the U.S. market

Siemens Gamesa's High Capacity Factor (HNCF) SG 4.4-164 wind turbine has been developed based on the needs of those customers developing projects in the U.S. wind power market. The turbine has the right design profile to produce revenue by harnessing the wind conditions most common in the U.S., and features a design lifetime longer than the industry standard.

Development of the SG 4.4-164 turbine represents Siemens Gamesa's commitment to create value for our customers through the continuous development of technologies that improve performance and competitiveness. The model leverages both established and updated platform design to lower costs and streamline constructability.

### Siemens Gamesa solution for your project site

The SG 4.4-164 turbine delivers a nominal power of 4.4 MW. This model is well-adapted to harnessing the available wind potential at every site. Depending on the noise requirements, temperature, and electrical properties of the project, power delivery and performance can be enhanced using Siemens Gamesa's OptimaFlex<sup>®</sup> flexible power rating resulting in a flexible and versatile product.

The SG 4.4-164 incorporates a combination of a three-stage gearbox (two planetary stages and one parallel), and a doubly fed asynchronous generator. The passive cooler outside the nacelle and the cabinet's improved ventilation ensures efficient thermal conditioning and performance at higher temperature sites. The model has several features that make it a first choice for projects that require an HNCF solution:

- Designed to support IRA domestic content requirements.
- IntegralBlade<sup>®</sup> technology including aero-performance boosters DinoTails<sup>®</sup> and DinoShells<sup>®</sup>.
- Single-piece blade, main components transportable by rail.
- Drivetrain delivered to site fully assembled.
- US focused trucking envelope to improve transport costs
- Spacious rotor hub eases serviceability.
- Efficient yaw system with high retention and orientation capacity.

### Blade design

At a length of 81 m, the fiberglass reinforced with pultruded carbon fiber blade is suited for IEC Class S winds and has blade aerodynamics designed by our blade design team in Boulder, Colorado.

The blade is made with our IntegralBlade<sup>®</sup> technology including aero-performance enhancers DinoTails<sup>®</sup> and DinoShells<sup>®</sup>. The combination of airfoils in the blade design creates a balance of AEP, loads distribution and noise.

A high capacity factor turbine designed to enhance revenue by harnessing the wind conditions common in the U.S.

## Technical specifications



### General details

Rated power	4.4 MW
IEC class	II/S (25 years lifetime)
Flexible power rating	Site specific
Control	Pitch and variable speed
Standard operating temperature	Range from -20°C to 45°C (with de-rating) <sup>(1)</sup>

### Rotor

Diameter	164 m
Swept area	21,124 m <sup>2</sup>
Power density	208 W/m <sup>2</sup>

### Blades

Length	81 m
Airfoils	Siemens Gamesa proprietary
Material	Fiberglass infusion and carbon pultruded-molded components

### Gearbox

Type	3 stages
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### Generator

Type	Doubly-fed induction machine
Voltage	690 V AC
Frequency	60 Hz
Lightning protection class	LPL 1
Power factor	± 0.90 Cos Phi <sup>(2)</sup>

<sup>(1)</sup> Different versions and optional kits are available to adapt machinery to cold climate, saline or dusty environments.

<sup>(2)</sup> Power factor at generator output terminals, on low voltage side before transformer input terminals.

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02/2024

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