Siemens Gamesa 4.X
On the way to the next generation
Benchmark solutions in their segment for efficiency and reduced LCoE

SG 5.0-145 and SG 5.0-132: continuous improvement with a new state-of-the-art control system and enhanced blade aerodynamics

One of the key aspects to Siemens Gamesa’s success is the continuous development of new and advanced products adapted to the business case of every customer. We strive to provide the best technological solutions for each project, while driving down the LCoE. For this reason, we offer an optimized, streamlined catalog of proven solutions adapted to every type of site and condition, backed by:

- Our reputation as a trusted and stable partner (99 GW installed worldwide).
- A proven track record spanning 40 years that makes Siemens Gamesa a benchmark for wind projects.
- The recognition of the wind power sector.
Siemens Gamesa 4.X
The Siemens Gamesa 4.X platform is one of the latest additions to the Siemens Gamesa product portfolio. Consisting of the SG 5.0-145 and the SG 5.0-132 wind turbines, two benchmark solutions in the market for sites with medium and high winds, Siemens Gamesa 4.X is the result of the operational experience accumulated by the company in the wind power industry.

Siemens Gamesa 4.X represents Siemens Gamesa’s commitment to create value for our customers through the continuous development of new technologies that improve the performance, competitiveness and quality of our products. With a new state-of-the-art control system, enhanced blade aerodynamics and structural modularity, both the SG 5.0-145 and SG 5.0-132 offer our customers higher flexibility to adapt to sites with a wide range of wind conditions and logistics constraints.

Proven Siemens Gamesa technology
Siemens Gamesa 4.X leverages the knowledge acquired through the development of our latest products and integrates innovative technologies to achieve higher efficiency and cost-effectiveness.

It relies on proven concepts with extensive track record in the market, such as the combination of a three-stage gearbox (two planetary and one parallel) and a doubly-fed induction generator, which offer the higher levels of reliability. In addition to this, the inclusion of an optional premium converter allows us to comply with the most demanding grid connection requirements.

The new 71-meter and 64.5-meter blades, made of fiberglass reinforced with epoxy resin, integrate innovative aerodynamics and the DinoTails® Next Generation technology, which guarantee the best balance between high energy production and reduced noise emission levels.

Greater efficiency and profitability
With respect to the previous generation solutions, Siemens Gamesa 4.X introduces a new control system, which optimizes the efficiency of the wind turbines and their applicability in a wide range of sites. It also offers flexible power rating, depending on the noise requirements, temperature and electrical properties of the project.

With over 30% increase in AEP over previous solutions from the Siemens Gamesa 3.X platform, the SG 5.0-145 and SG 5.0-132 models are a benchmark in their segment for LCoE and profitability.

Two turbine models with flexible power rating to configure uniquely tailored solutions that meet site requirements

### Technical specifications

<table>
<thead>
<tr>
<th></th>
<th>SG 5.0-132</th>
<th>SG 5.0-146</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General details</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated power</td>
<td>5.0 MW</td>
<td>5.0 MW</td>
</tr>
<tr>
<td>Wind class</td>
<td>IEC IA</td>
<td>IEC IIB</td>
</tr>
<tr>
<td>Flexible power rating</td>
<td>4.0-5.0 MW</td>
<td></td>
</tr>
<tr>
<td>Control</td>
<td>Pitch and variable speed</td>
<td></td>
</tr>
<tr>
<td>Standard operating temperature</td>
<td>Range from -20ºC to 45ºC [with de-rating] (1)</td>
<td></td>
</tr>
</tbody>
</table>

| **Rotor**             |                          |                          |
| Diameter              | 132 m                    | 145 m                    |
| Swept area            | 13,685 m²                | 16,513 m²                |

| **Blades**            |                          |                          |
| Length                | 64.5 m                   | 71 m                     |
| Airfoils              | Siemens Gamesa           |                          |
| Material              | Fiberglass reinforced with epoxy resin | |

| **Tower**             |                          |                          |
| Type                  | Multiple technologies available |                          |
| Height                | 84 m and site-specific    | 90, 102.5, 127.5 m and site-specific |

| **Gearbox**           |                          |                          |
| Type                  | 3 stages                 |                          |

| **Generator**         |                          |                          |
| Type                  | Doubly-fed induction machine |                          |
| Voltage               | 690 V AC                 |                          |
| Frequency             | 50 Hz/60 Hz              |                          |
| Protection class      | IP 54                    |                          |
| Power factor          | 0.9 CAP-0.9 IND throughout the power range (2) |

(1) Different versions and optional kits are available to adapt machinery to high or low temperatures and saline or dusty environments.
(2) Power factor at generator output terminals, on low voltage side before transformer input terminals.
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