



Geared Drive System

- ◆ Proven reliability in rural, C&I, and microgrid installations
- ◆ High-efficiency 3-stage gearbox with robust asynchronous generator
- ◆ Optimized for low wind speed performance (cut-in: ~3.5 m/s)
- ◆ Stable AC grid output with modular control systems
- ◆ Ideal for hybrid applications (wind + solar) and captive use
- ◆ SCADA & CMS enabled for remote diagnostics

SIVA 250 / 50

You Can Trust Siva
Simple Yet **Powerful**

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SIVA 250 / 50

High Reliability SIVA250/50 has Certified according to the strictest IEC standards in the wind industry. The nacelle is based on the well tested and proven design of the SIVA 250 of which more than 100 turbines are installed at sites ranging from arctic to tropical climates and in various wind regimes in the world.

High performance cooling system with large radiators ensures swift and efficient cooling of gear box, ideal for high and medium temperature sites, resulting in low maintenance and longer life of lubricants.

SIVA250/50 also caters for grid factors with the help of full load and dynamic phase compensation that supports reactive power regulation, to maintain power factor within the specified range. Continuous regulation of active and reactive power as well as voltage balance in the grid also helps in stabilizing grid operations. The asynchronous generator of the turbine ensures harmonics-free generation of power and an uninterrupted power supply backup ensures full operation of control systems in the wind turbine during grid downtime.

You benefit from our experience

SIVA has played a major role in the wind industry for more than 10 years and have installed over 100 wind turbines in many countries of the world. This makes SIVA one of the most experienced wind turbine manufactures in the market, and we make sure that our customers benefit from the vast amount of know-how and feedback that we receive everyday. A good example is the fact that over 60 turbines covered by SIVA's service programmed average 98.6% availability annually. Since then, the SIVA250 has been performing consistently year after year. We are proud to have over 20 satisfied customers Globally.

Optimal wind turbine for any site

The ability to design and supply a tailor made solution is one of SIVA's strengths, a strength achieved through decades of research and product development. This continuous research has also assisted in making the sound levels of the SIVA250 among the lowest, at all wind speeds.

Our product programme is continuously optimized, and we offer the broadest product portfolio in the market. This is why SIVA is always able to supply a truly competitive wind turbine for any site, irrespective of wind regime and climatic conditions of the location.

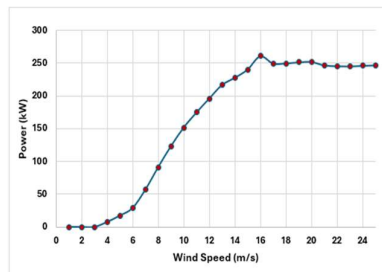
Sites for installation

SIVA 250/50 can be installed, as single or multiple units in wind parks as power station connected to the main grid. The modular design allows for convenient transport by 2 regular sized containers through ships and trucks to the erection site. Local regulations and rules for parallel production and connection to the grid will be followed. The optimal output and minimum expenditures can be reached by entering into a long term service and maintenance agreement.

Service and maintenance

Service and maintenance is provided directly from Siva or through trained local service partners. All spare parts required for the 20 years lifetime of the turbine are readily available from Siva and its exclusive suppliers.

Power Curve Siva : 250/50 kW
Rotor diameter : 30m
Air Density : 1.225 kg/m²



Please note that the power curve has been noted at standard atmospheric density according to IEC Standards.

Please note that the rotor and the hub heights have been approved for specific market and wind classes - please call for further information.

Siva Windturbine India Private Limited reserves the right to change specifications and to use components of alternative manufacture without prior notice. Alternative components will be of the same high quality and standard as in this survey.

Technical Data SIVA 250/50

Operational data

Nominal output	250 kW
Power regulation	Stall
Nominal wind speed	14 m/sec.
Cut in	3-4 m/s
Cut out	25 m/s

Rotor

Rotor diameter	30/29 m
Rotor swept area	707 m ²
Number of blades	3
Rotor revolutions	40/24 rpm Upwind rotor

Brake system

Blade tip air brake	Hydraulic, fail-safe
Disk brake	Hydraulic, fail-safe

Drive train

Gear type	Helical - 3 Stage
Ratio	1:37
Main shaft	High quality forged shaft
Main bearing	Spherical roller bearing
Cooling	Heat exchanger with pump

Generator

Type	Asynchronous, 4/6 pole
Nominal Voltage	400/480 V
Nominal frequency	50/60Hz
Name plate rating	250/50 kW
Cooling	Closed circuit liquid-cooling

Yaw system

Type	Ball bearing
Yaw brake	Friction brake / Motor brake
Drive mechanism	2 electrical planetary gears

Tower

Type	Conical, steel, PU painted
Hub height	50m/45 m/40m/30m

Controller

Type	Microprocessor based
Computer Controlling	Soft by thyristors
Capacitor bank	No-load compensated
Remote control	By modem

Sensors

RPM sensors	Rotor Generator
Temperature sensors	Yaw system Gear,
Thermal sensors	Generator, Controller
/ Warning	Main switch, Engine protection
Vibration sensor	Nacelle, Rotor
Meteorology	Anemometer, Wind vanes, Thermometer
Hydraulic systems	Pressure sensitive switches



Quality Management
system as per
DIN EN ISO 9001: 2008