

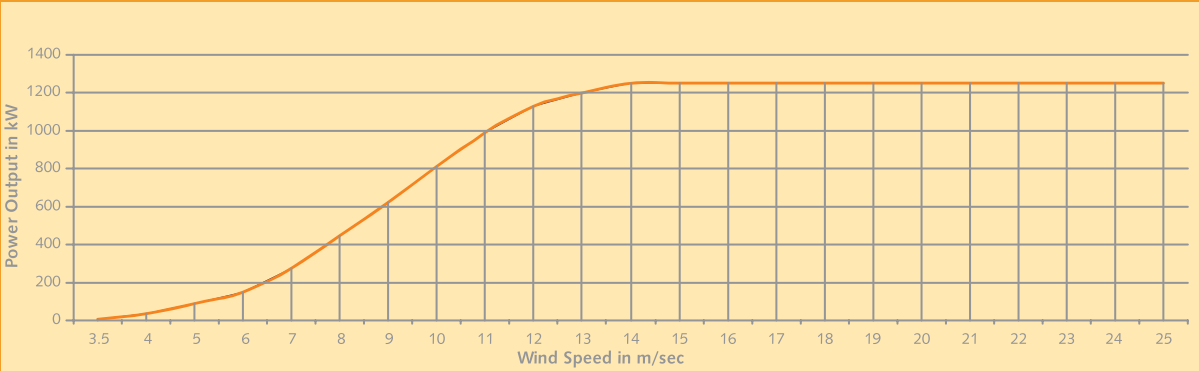
S64

S64-1.25 MW
Technical overview



SUZLON

MODEL	S64-I.25 MW	
OPERATING DATA		
Rated power	1250 kW	
Cut-in wind speed	3.5 m/s	
Rated wind speed	14 m/s	
Cut-off wind speed	25 m/s	
Survival wind speed	59.5 m/s	
ROTOR		
Type	3 Blades, Upwind / Horizontal axis	
Diameter	64 m	
Rotational speed at rated power	13.5 to 20.3 rpm	
Rotor blade material	Epoxy bonded fiber glass	
Swept area	3217 m²	
Power regulation	Active pitch regulated	
GEARBOX		
Type	1 planetary stage / 2 helical stages	
Ratio	1 : 74.9	
Nominal load	1390 kW	
Type of cooling	Forced oil cooling lubrication system	
GENERATOR		
Type	Dual speed induction generator (asynchronous)	
Speed at rated power	1006/1506 rpm	1007/1509 rpm
Rated power	300/1250 kW	250/1250 kW
Rated voltage	690 V AC (phase to phase)	
Frequency	50 Hz	
Insulation	Class H	
Enclosure	IP 56	
Cooling system	Air cooled	
TOWER		
Type	Lattice tower (hot dip galvanised) or Tubular tower (corrosion proof painting on inner and outer surface)	
Tower height	54 m / 63 m / 72 m (variable as per requirement)	
Hub height (including foundation)	Approximately 56.5 m / 65 m / 74.5 m (variable as per requirement)	
BRAKING SYSTEM		
Aerodynamic braking	3 Independent systems with blade pitching	
Mechanical braking	Hydraulic fail safe disk brake system	
YAW SYSTEM		
Type	Active electrical yaw motor	
Bearing	Polyamide slide bearing with gear ring & automatic greasing system	
Protection	Cable twist sensor, proximity sensor	
PITCH SYSTEM		
Type	3 independent blade pitch control with battery backup for each blade	
Operating range	-5 ° to +90 °	
Resolution	0.1 ° to 10 °	
CONTROLLER		
	Suzlon Control System with following salient features:	
	- Park slave	
	- Power output control / limitation	
	- Reactive power control	
	- Grid measurement	
	- Low voltage ride through (LVRT)	
	- Weather measurement	
	- Time synchronization	
	- Statistics	
Wind Class	II	
Certification & Standards	GL (T-GL-003A-2007)	
Quality System	ISO 9001:2000	



Under given set of parameter and conditions.
Subject to change without notice due to difference in parameters, conditions and/or change in equipment or technological requirements.

S64-1.25 MW

The S64-1.25 MW has a well-suited ratio between rotor diameter and generator for most sites in a medium wind speed regime. The wind turbine concept is based on robust design with pitch-regulated blade operation, a three-stage gearbox with 1390 kW rating and a safe peak load damping with a fluid coupling to the asynchronous induction generator. The turbine operation is efficiently controlled by the Suzlon controller. These technologies are all well-known in the wind power industry and have proven themselves. With more than 1000 units of the 1.25 MW turbines installed in very harsh and remote areas in India, the S64-1.25 MW wind turbine is designed to withstand the most extreme conditions and operate effectively.

BLADES

As all other Suzlon blades, the AE31 blade is a fully integrated design. The blade manufacturing system from mould engineering to state-of-the-art Resin Infusion Moulding (RIM) is done in close co-operation between the Dutch design team and the manufacturing plants in India.

PITCH SYSTEM

The full-span blade pitching system is based on electrical motors with individual power backup which allows fast and efficient pitching of the blades. With a resolution of 0.1° and a special fast-pitching mode, the S64-1.25 MW allows optimal power output as well as fast and safe braking of the rotor.

GEARBOX

The design of the gearbox has always been paid special effort in Suzlon. The design philosophy is based on years of experience with wind turbines in harsh environments and the internal design standard well exceeds the industry standards. The power rating of the gearbox for the S64-1.25 MW is actually 1.39 MW. With the recent acquisition of Hansen Transmission, Suzlon will also in the future secure in-house design and development of superior gearbox technology for the customer's benefit.

SERVICE AND MAINTENANCE

Suzlon has teams of trained wind farm technicians around the globe who focus on excellence in service, maintenance and monitoring. Our service technicians aim to maximise energy production from the wind, and ensure the turbines operate reliably and with minimal maintenance costs during their life span. The key emphasis is on maximizing availability and efficiency in operation thus providing ease of mind for our clients. Suzlon

provides intensive and continuous training programs for its wind farm technicians, both in and out of field. The expertise of highly respected and reputable industry training consultants ensure world class training to Suzlon's technicians and technical support engineers.

MANUFACTURING

Suzlon's manufacturing facilities for wind turbine generator components and rotor blades are currently located in India, China, Belgium and the USA. As part of Suzlon's strategic growth plans to significantly increase manufacturing capacity of all key turbine components, a number of new facilities are currently planned or under construction. This meets our objective to vertically integrate the entire supply chain, ensuring that Suzlon brings to the market the most cost efficient and reliable technology. It also enables us to control the supply chain to secure quality, volume and growth, as well as deliver long term service support.

SUZLON END TO END SOLUTIONS SINCE 1995

The End-to-End solution pattern is built on Suzlon's expertise in technology, processes and thorough understanding of the Indian wind energy market. It is a unique combination of proven technology and a bundle of value added services. This successful and proven business model includes everything - from arranging land; to equipment supply & EPC; to nodal agency clearances; to life-cycle operations & maintenance of project. There is no need for customer to engage manpower or time on the wind power project. Suzlon brought about a paradigm shift in India's wind energy market with End-to-End solutions. It made setting-up wind energy projects simple, hassle-free and enabled hundreds of Indian customers including small/medium/big enterprises, Indian and multinational corporates, public sector companies and even individuals set-up their own wind energy projects with confidence and ease.

Site Identification and Land Acquisition	Infrastructure Development
Supply of WTG & Accessories	Assistance for loans processing
Erection & Commissioning	Assistance in Liaison & Clearances
Comprehensive Operations & Maintenance	Power Evacuation



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