S88-2.1 MW
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 # Europe, Middle East, Africa ** Central Amercia and South America*

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S88-2.1 MW

S88-2.1 MW is designed for a medium wind speed regime. The wind turbine concept is based on robust design with pitch regulated blade operation, a three-stage gearbox with 2200 kW rating and flexible coupling to the asynchronous induction generator. The Suzlon flexi-slip system provides efficient control of the load and power control and the turbine operation is effectively controlled by the Suzlon controller. These technologies are all well known in the wind power industry and have proven themselves. The S88-2.1 MW is designed to withstand extreme conditions and operate effectively with low maintenance costs.

BLADES

As with all other Suzlon blades, the AE43 blade is a fully integrated design. The blade manufacturing system, from mould engineering to state-of-the-art Resin Infusion Moulding (RIM), is implemented in close co-operation between the Dutch design team and the manufacturing plant operators. Blades for the world market are manu - factured at Suzlon's in-house facilities located in India, China and the USA. Specifically in the North American market, the S88 blades are manufactured in our Pipestone, Minnesota facility.

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 S88-2.1 MW allows optimal power output as well as fast and safe braking of the rotor.

GEARBOX

Suzlon has always placed significant focus on gearbox design. The design philosophy is based on years of experience with wind turbines in harsh environments and our internal design standards exceeding the industry standards. The power rating of the Winergy gearbox for the S88-2.1 MW is actually 2.2 MW. With the acquisition of Hansen Transmission, Suzlon is further able to secure supply and design development of superior gearbox technology for the benefit of our customers.

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 and complement our own training resources by using highly respected and reputable industry training consultants to tutor and train our technicians and technical support engineers.

MANUFACTURING

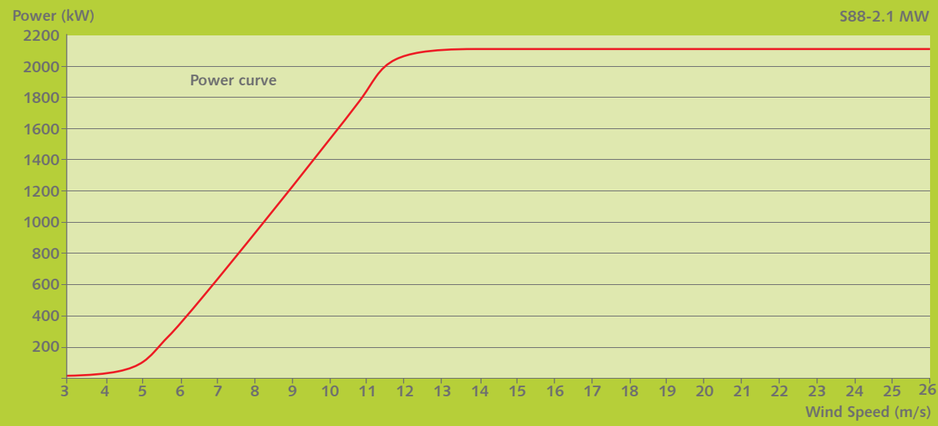
Suzlon's manufacturing facilities for wind turbine generator components and rotor blades are currently located in India, China, Belgium and the USA. As part of Suzlon's strategic growth plans to significantly increase manufacturing capacity of all key turbine components, a number of new facilities are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




World's 3rd* largest and fastest growing integrated wind turbine manufacturer | 600 kW to 2.1 MW capacity wind turbines | Workforce of 14,000 people and a global presence in 21 countries across 5 continents | Manufacturing units in 3 continents | R&D facilities in Belgium, Denmark, Germany, India and The Netherlands

** (Combined - Suzlon and REpower)*

MODEL	S.88 – 2.1 MW
OPERATING DATA	
Rated power	2.1 MW
Cut-in wind speed	4 m/s
Rated wind speed	14 m/s
Cut-out wind speed	25 m/s
50 years gust wind speed	59.5 m.s
Hub height	79 m (Foundation top equal to ground level)
Wind Class	IEC-IIA
Rotational Speed	15 to 17.6 rpm
ROTOR	
Pitch system	Pitch regulated, electrical
Diameter	88 m
Swept area	6082 m^2
Blade material type	Epoxy bounded fibre glass
GENERATOR	
Type	Asynchronous slip ring type induction generator
Rated power	2100 kW
Rated voltage	690 / 600 V
Frequency	50 / 60 Hz
Protection	IP 54, IP23 for slip ring unit
Cooling system	Air cooled
Insulation	Class H
Slip control	Unique Flexi-Slip providing slip up to 16.67%
BRAKING SYSTEM	
Aerodynamic brake	3 independent systems with blade pitching mechanism
Mechanical brake	Hydraulic fail-safe disc brake system
GEARBOX	
Type	3 stages (One planetary & Two helical)
Ratio	1:98.8 / 1:118.1
Nominal load	2200 kW
YAW SYSTEM	
Type	Driven by 3 electrical driven planetary drives
Bearings	Polyamide slide
CERTIFICATIONS	
Design standards	GL 2003
Quality	ISO 9001:2000, ISO 9001:2008, ISO 14001:2004 & OHSAS 18001:2007
TOWER	
Type	Tubular Tower (4 sections)
Corrosion protection	Epoxy/PU coated



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.