innovative windpower




Falcon 1.25 MW

The Next Generation Wind Turbine

The Next Generation Wind Turbine - Falcon 1.25 MW

➔ More and more wind turbines will be installed in new regions and markets worldwide. In these markets customers require not only a state of the art design that is proven-and-tested, but which also considers site conditions like extreme temperature, dust, and humidity. Moreover, in many regions infrastructure or governmental requirements determine the size of WTGs and wind farms. Thus erection and service activities as well as transport become substantial expense factors.

In these regions a reliable WTG design which minimizes the need of service and repair activities is of utmost importance. In the case of need WTG operators depend on fast available service to minimize down time. A compact WTG design has to fulfill international standard transport requirements.

Existing technologies and service concepts do not sufficiently meet the demands of owners and operators in the worldwide growing markets.

Leading manufacturers actually concentrate on the production of multi-megawatt turbines. In their pursuit of the largest turbines, the longest blades and an impressive capacity characteristic they risk losing sight of the further development of smaller turbines. Existing mid-size turbines are developed for existing markets, most of them not any more state-of-the-art, and do not satisfy customers in new markets.

Modular Design, Extreme Versatility, Highly Competitive Cost of Energy, Fitting to most Challenging settings. The Falcon 1.25 MW fills the gap. It features a unique integration of proven and tested attributes with the most innovative features, allowing for complete on-site component replacement, easy maintenance procedures, and extreme reliability.

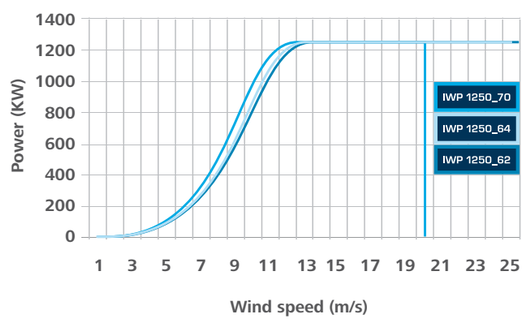
The Falcon 1.25 MW reflects optimum points between cost of energy and logistic and lifetime service costs.

Technical specification

General	
Power output	1250 kW
Cut-in wind speed	3 m/s – 10 min. avg.
Cut-out wind speed	25 m/s – 10min. avg.
Certification Body	DEWI-OCC according IEC 61400 and GL rules
Rotor	
Diameter (IEC-I)	62m
Diameter (IEC-II)	64m
Diameter (IEC-III)	70m
Max tip speed (IEC-II)	80m/s
Drivetrain	
Tilt	6°
Pitch system	individual blade pitch
Pitch drive	AC electric servo-drive
Gearbox	2 step planetary gearbox
Grid	
Converter	IGBT, full conversion
Voltage	690 V
Frequency	50 HZ / 60 Hz
Towers	
Type	steel / concrete
Hub height	60m / 75m / 100m

POWER CURVE FALCON 1.25 MW

Rotor diameter: 62m, 64m and 70m
Air-density: 1.225kg/m³



Features and Innovations

➔ The Falcon 1.25 MW wind turbine is characterised by a unique integration of proven and tested attributes with the most innovative features:

Designed Reliability
The innovative Gearbox System is a patented gearbox solution: it is based on an integrated main bearing dimensioned with outstanding safety factors ensuring robustness during the entire service life and on board maintainability without external crane needs.

Condition Monitoring System
Reporting of real time loading and wear information are accessible via WEB SCADA. This permits scheduled maintenance activities based on actual turbine state for optimising cost and frequency of field activities.

On-Site Gearbox Replacement & Maintenance
All service and repair activities were considered during the design phase. Technical solutions have been developed to allow a high degree of accessibility and life-time independence from expensive mobile crane rental.

Gearbox – Generator Unit
The integrated gearbox concept is not just limited to the low speed shaft. The generator is flange mounted to the gearbox to minimize weight and vibration.

Automated Field Service Feedback System (AFS)
AFS is based on a RFID information system attached to the main components. It supplies relevant lifetime information and communicates required activity, documentation and technology details with the help of electronic user interfaces. Field service documentation is thus directly stored in a real-time updated internet knowledge base.

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