Rotor
- Type: 3 blades, horizontal axis
- Diameter: 116m
- Swept area: 10568 m²
- Wind category: IEC III, DIBt 2
- Power regulation: Pitch control
- Tilt angle: 4 °
- Pitch system: Individual electrical drive

Operating data
- Rated power: 3000 kW
- Cut-in wind speed: 3 m/s
- Rated wind speed: 11.3 m/s
- Cut-out wind speed: 23 m/s
- Short time cut-out wind speed: 30 m/s

Generator
- Type: Direct driven permanent-magnet generator
- Rated speed: 12 rpm
- Rated voltage: 690 V
- Cooling: Air-cooled

Supporting structure
- Hub: Nodular cast iron
- Main bearing: Adjusted bearing unit
- Main frame: Nodular cast iron

Yawing
- Type: Aktive
- Yaw bearing: Friction bearing elements
- Yaw drive: 8 electric drives
- Yaw brake: Friction of the bearing elements

Converter
- Type: Full power converter
- Grid frequency: 50 Hz
- Control: Modular PLC
- Cooling: Water cooled

Control system
- Type: Modular PLC
- Internal communication: PROFINET, CAN Bus, TCP/IP
- HMI: Touch panel
- Park communication: Industrial Ethernet

Technical Data

The experience gained after many years of turbine operation and maintenance with different kind of turbine types has crucially influenced the development of the A3000. Thus a remarkably efficient and reliable machine with minimal maintenance requirements has been designed. The A3000 can be delivered with different hub heights and for different climate conditions, on steel towers or on higher hybrid towers with a concrete base, either for standard temperature environments or for cold climates, certified according to the latest wind turbine guidelines of Germanischer Lloyd.

A3000: Innovative, efficient and reliable

Efficient technology for reliable wind power generation
High-Tech Direct-Drive for low-wind conditions

Full power converter technology

The continuous improvement in the design of electro-technical components offers the possibility to use a new generation of generators and converters for this new wind turbine. The power electronics are now all located in the bottom of the tower. By means of full power conversion technology the wind turbine can meet the requirements of all the relevant grid codes (including but not limited to BDEW Medium-Voltage Technical Guideline 2008, SDL-WindV).

Control Unit

The wind turbine is controlled by a microprocessor-based industrial computer. This control unit comprises all safety devices. The unit can be adapted and configured according to the specific requirements of each wind farm. For monitoring, error analysis and remote control purposes, the wind turbine is equipped with a SCADA (Supervisory Control and Data Acquisition)-system.

Integrated direct driven synchronous generator

The integrated multipolar permanent-magnet generator makes possible to create a technically simple but innovative design with an optimized efficiency. The generator reaches its nominal power already at a rotational speed of 12 rpm. This slow rotation keeps the acoustic power level low.

Rotor

The A3000 has rotor blades made of fiber glass-reinforced epoxy resin with integrated lightning protection. Each rotor blade is connected to the hub by a double-row ball bearing and has individual electrical activation. The special emergency stop system is equipped with a separate pitch control mechanism, which enables the blades to rotate up to a predefined park position even in the event of grid failure.

Maintenance-friendly

By means of the integrated drive concept and using modern technology, a competitive wind turbine has been designed.

Yawing

The wind turbine is equipped with an electrical yaw system in order to align the machine cabin with the wind direction. The friction of the slide bearing units ensures absorption of external loads during yawing.