



Turbine type: NedWind 46, Caribbean type
Nominal Output: 500 kW
Rotor diameter 46.1meter
Hub height: 47.2 meter
Number of turbines: 18
Installed capacity: 9 MW
Commissioning date: December 2000

TURBINE SPECIFICATIONS

Main dimensions

Rotor diameter : 46.1 m
Hub height : 47.2 m
Application : Dual speed
Grid connected operation

Design data

Operational area : 3.5 -25 m/s
Max. designed wind speed : 52.5 m/s
Operational area nominal power : 14 m/s
Nominal rotor speed : 28.5 rpm
Generator power : 500 kW

Rotor data

Blades : 3
Material : Glass-fibre reinforced Epoxy
Blade profile : NACA 634, 636 and DU
Power regulation : Active stall control
Shaft angle : 5°

Brake systems

- a) Aerodynamic : blade pitch control to -90°
- b) Mechanical : two disc brakes on high speed shaft
- Both systems : fail safe

Transmission

- Gearbox : Hansen
- Transmission ratio : 1 : 53.199
- Gearbox capacity : 2 x 308 kW
- System : parallel axis, 3 stage twin
- Coupling to rotor shaft : direct

Electrical system

- Generator : asynchronous, 690 V, 3 phase 4-pole, 1515 rpm
- Connection to grid : automatic, soft starters
- Type generator : M2CG 355MA 4 B5

Yaw mechanism

- System : hydraulic yaw system activated by a wind direction sensor
- Bearing : plastic slide bearing

Cooling system

: powered intake of fresh air, using the natural flow pattern in the nacelle. Air intake and outlet grids are designed to reduce environmental noise radiation. The gearbox has an oil-cooling system, controlled by thermostat.

Safety system

- Controller : NedWind Wind Turbine Controller (WBB)
- Type of controller : microprocessor

Construction

- Nacelle : frame constructed of girders and partitions
- Tower : tube out of annealed construction steel
- Access to nacelle : safety ladder in tower interior
- Foundation : reinforced concrete slab, (on piles if necessary)

Weights

- Rotor : 14,500 kg
- Nacelle : 26,000 kg
- Tower : 36,200 kg