Bonus 450 Turbine Specifications

Rotor Diameter – 37 meters
Tower Height – 40 meters (two sections)
Configuration: - Rotor blades, horizontal axis, upwind, stall-controlled

Operating data:
- Power-on wind speed: 4.5 m/s *
- Power-off wind speed: 28 m/s
- max. wind speed: 57 m/s

Rotor:
- No. of rotor blades: 3
- Diameter: 37 m
- Rotor area: 962 m²
- Rotor speed: 35 min⁻¹
- Power regulation: Constant pitch angle with stall-controls

- Rotor blade:
  - Design: Cantilevered
  - Material: Glass fiber-reinforced
  - Profile chord at the blade root: 1.35 m
  - Profile chord at the blade tip: 0.48 m
**Electrical System:**
- Power factor: 0.96
- Generator
  - Type: Induction generator
  - Rated output: 450 kW
  - Voltage-phases: 480 D - 3 phases

**Transmission:**
- Gear ratio: 1:43
- Design: Three stage
  - 1st stage: Planetary gear
  - 2nd and 3rd stage: spur gear, helical cut
- Generator coupling: Elastics coupling
- Shaft coupling: Elastics coupling

**Brake system:**
- Service brake: Aerodynamic braking,
  Hydraulic actuation through the control system
- Locking brake: Disc brake, hydraulically actuated, can only be actuated manually
- Emergency brake: Initiation of aerodynamic brakes by the overpressure valve

**Weight:**
- Rotor approx.: 6,500 kg
- Nacelle approx.: 16,000 kg
- Tubular tower approx.: 18,000 kg
- Total weight approx.: 40,500 kg