

ae 3.0-53.7

General Data

Blade length (m)	53.7	Maximum chord (m)	4.4
Design Type Class (-)	1A/2A*	Prebending at tip (m)	2.10

Operation Parameter

Rated power (kW)	3000
Rotor diameter (m)	110
Nominal speed (rpm)	13.0
Nominal tip speed (m/s)	75

Aerodynamic Parameter

Tip speed ratio (-)	9.0
Power coefficient** (-)	0.48

Blade Connection

BCD blade root (mm)	2300
Number, size of tension bolts	72 x M36

Mass and Frequencies

Mass (excl. T-Bolts) (kg)	13878
Mass-T-Bolts (kg)	425
CoG (m)	17.35
First/Second flap-wise frequency (Hz)	0.65 / 1.91
First/Second edge-wise frequency (Hz)	1.07 / 3.54

* 1st value for extreme loads/2nd for fatigue loads

** conservative approximation, depends on specific turbine configuration

The standard design of the blade is performed with the wind conditions and operation parameters as listed above. Any customized modifications of the wind conditions, the blade materials and the structural design are possible. Its lightweight construction using modern glass fibre textiles along with its load reducing design makes this blade well-balanced. The blades' structure is based on the well proven and successful aerodynBlade concept.

