



BLADE DYNAMICS

D49 2MW Datasheet

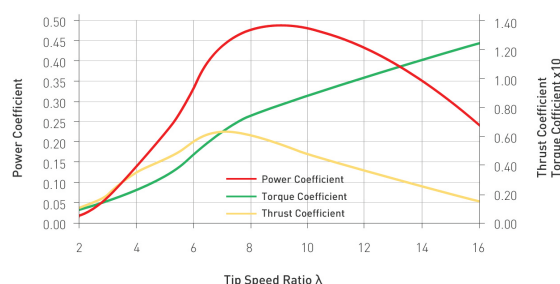
Longer blades.
More power.
Lower cost of energy.

The Dynamic 49 is the first in a new generation of wind turbine blades that have been designed exclusively for the requirements of a modern wind energy industry. The Blade Dynamics design platform enables much larger, lighter and more reliable blades, which turbo charge power output and reduce the cost of energy. The platform also allows the possibility for various transport options, simple maintenance options and also readily tailorable aeroelastic options to suit individual customer needs. The D49 has been designed to work especially well with AMSC Windtec 2MW machines and has a turbo charging effect that improves power output and reduces the cost of energy significantly.

Technical Data

General		Aerodynamics	
Rotor Diameter (appr.)	100m	Airfoils	Blade Dynamics, TU Delft and NACA
Rated Power (electric)	2000 kW	Design Tip Speed Ratio	9.4
Rated Rotational Speed	15.7 rpm	Maximum Power Coefficient	0.49
Direction of Rotation (looking downwind)	Clockwise		
Class		Structural	
Type Class	S	Blade Mass	5880 kg
Average wind speed at hub height (80m)	7.5 m/s	Structural concept	Blade Dynamics proprietary
Max wind speed	acc. class III	Production Method	Blade Dynamics proprietary
Turbulence Class	A	Materials	Epoxy, glass fibre, carbon fibre
Average temperature	≥ 3.5 °C	Surface coating	Bladeskyn
Average air density	≤ 1.21 kg/m ³	GL certification	in Progress
Height above sea level	≥ 350 m	Lightning Protection	Aluminum Receptor System
Operating ambient temperature range	-30 to +40 °C		
Geometry		Mounting	
Blade length	48.63 m	Root Bolt Circle Diameter	2110 mm
Maximum chord length	3.54	Number of Bolts	64
Pre-cone angle	1 deg	Bolt type	M30

Performance Characteristics



Site Conditions

