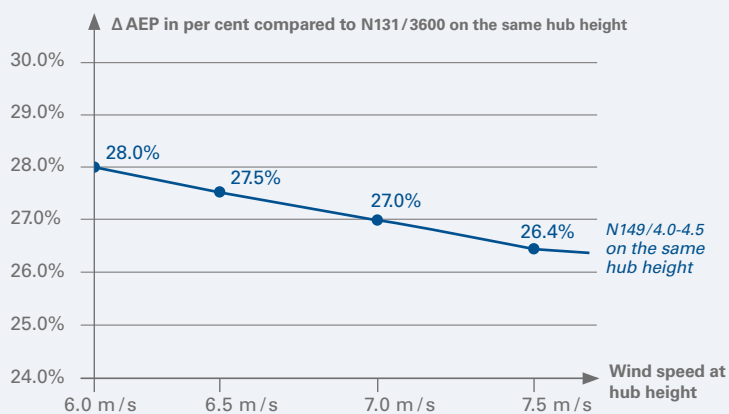


TECHNICAL DATA

N149 / 4.0-4.5	
Operating data	
Rated power	4,000–4,500 kW
Cut-in wind speed	3 m/s
Cut-out wind speed	20 m/s (26 m/s)*
Rotor	
Diameter	149.1 m
Swept area	17,460 m ²
Operating range rotational speed	6.4–12.3 rpm
Rated rotational speed	9.8–11.0 rpm
Tip speed	76.5–86.0 m/s
Speed control	Variable via microprocessor
Overspeed control	Pitch angle
Gearbox	
Type	3-stage gearbox (planetary-planetary-spur gear)
Generator	
Construction	Doubly fed asynchronous generator
Cooling system	Liquid/air cooling
Voltage	660 V
Grid frequency	50/60 Hz
Brake system	
Main brake	Aerodynamic brake (pitch)
Holding brake	Disc brake
Lightning protection	
Fully compliant with IEC 61400-24	
Hub height	
105 m/IEC S, DIBt S	
125 m/IEC S, DIBt S toegepast in Heibloem	
164 m/IEC S, DIBt S And site specific	

* optional site-specific adjustment up to 26 m/s

Compared to the N131 / 3600, the N149 / 4.0-4.5 generates additional annual yields of up to 28 per cent.



Calculation of AEP based on air density of 1.225 kg/m³, wind shear of 0.2 and Weibull shape parameter of $k = 2.0$