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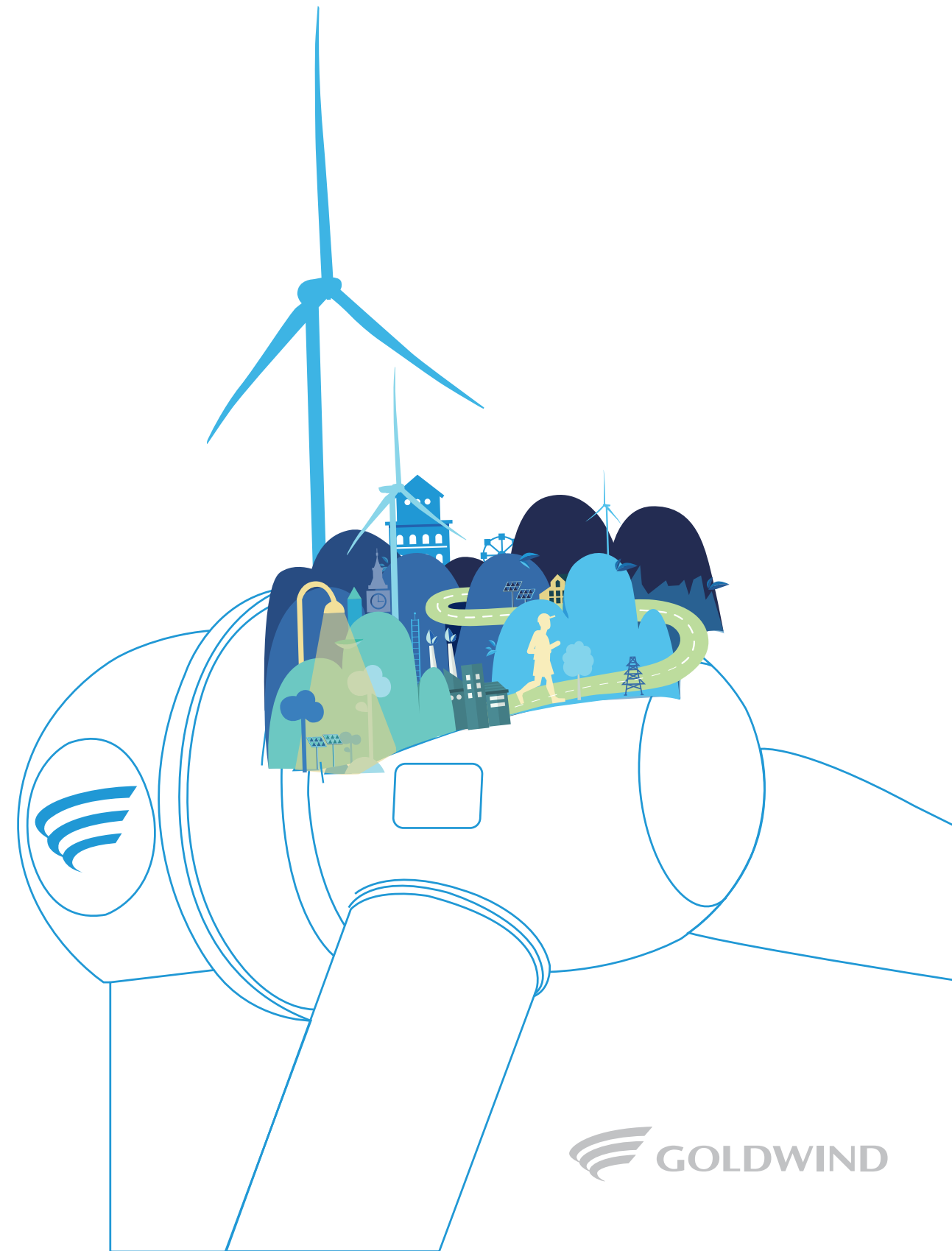
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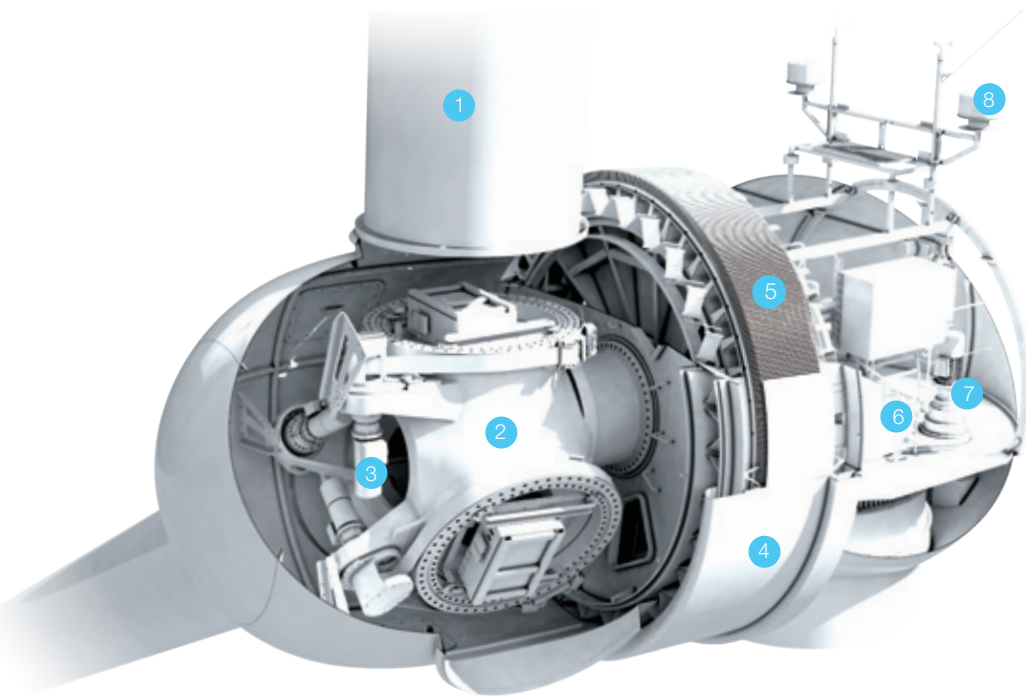
1.5 MW

PMDD WIND TURBINE

INNOVATING FOR  
A BRIGHTER FUTURE



# 1.5 MW PMDD WIND TURBINE



1. Blade
2. Hub
3. Pitch System
4. Generator Rotor
5. Generator Stator
6. Nacelle
7. Yaw System
8. Wind Measurement Equipment

## GOLDWIND 1.5MW PMDD WIND TURBINE KEY FEATURES

### Platform Evolution

- 20+ years of operational experience from 21,000+ Permanent Magnet Direct Drive (PMDD) wind turbines

### High Efficiency

- Permanent Magnet Synchronous Generator (PMSG) eliminates excitation losses
- The absence of gearbox eliminates losses from ancillary systems such as lubricant distribution and thermal management

### High Reliability

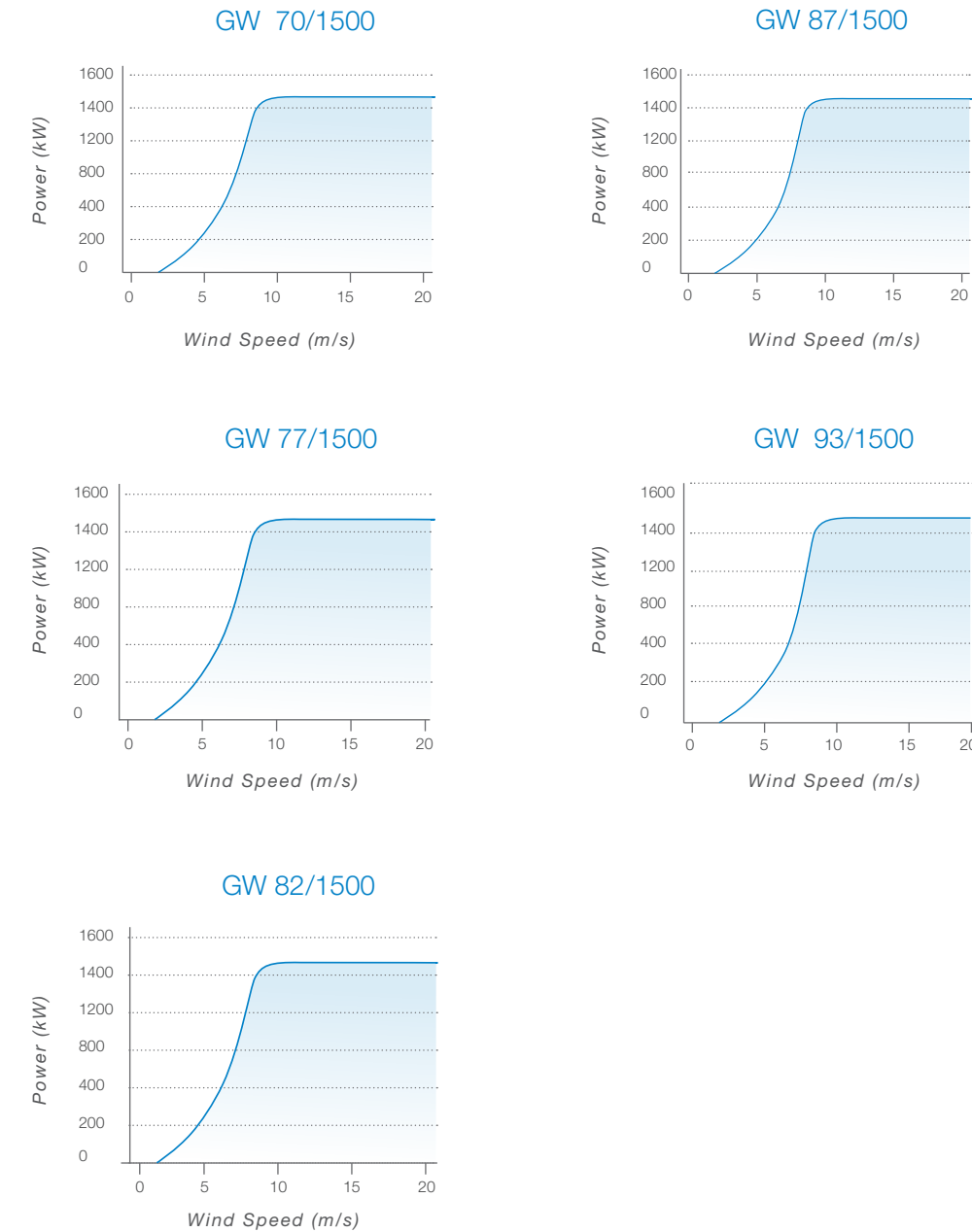
- The gearless drivetrain design eliminates the possibility of gear failure during the operational life of the turbine
- Maintenance-free design of the toothed belt pitch drive system simplifies pitch system maintenance requirements
- PMSG does not require high maintenance slip rings for conducting power

### Highly Adaptable

- Grid Adaptability: Excellent zero, low and high voltage ride through capability and compliant with associated standards across the globe
- Maintenance Adaptability: Dual circuit design of generator and converter enables partial operation when one circuit is compromised
- Environment Adaptability: Flexible operation modes enable adaptation to extreme environmental conditions such as high and low temperature, noise constraints and challenging wind conditions
- Construction Adaptability: Individual blade assembly to conserve site space constraints

## DYNAMIC POWER CURVE

Air Density: 1.225kg/m<sup>3</sup>



## TECHNICAL SPECIFICATIONS

GW 1.5MW						
Item	Unit	Specifications				
Model		GW 70/1500	GW 77/1500	GW 82/1500	GW 87/1500	GW 93/1500
<b>Parameters</b>						
Rated Power	kW	1500				
Wind Class		IEC IA	IEC IIA	IEC IIIA	IEC IIIB	S
Cut-in Wind Speed	m/s	3	3	3	3	2.5
Rated Wind Speed	m/s	11.6	11.1	10.3	9.9	9.5
Cut-out Wind Speed	m/s	25	22	22	22	19
Designed Service Life	Year	≥20				
Operating Temperature Range	°C	-30°C to +40°C				
Survival Temperature Range	°C	-40°C to +50°C				
<b>Rotor System</b>						
Nominated Rotor Diameter	m	70	77	82	87	93
Rotor Swept Area	m <sup>2</sup>	3,886	4,649	5,325	5,909	6,733
<b>Generator</b>						
Generator Type		Permanent Magnet Synchronous Generator (PMSG)				
Rated Voltage	V	720				
Rated Rotation Speed	rpm	19	17.3	17.3	16.6/17.3	16.6/17.3
<b>Converter</b>						
Converter Type		Full Power Conversion				
Power Factor Regulation Range		Capacitive 0.95 to Inductive 0.95, dynamically adjustable				
Rated Output Voltage	V	620/690				
<b>Brake System</b>						
Aerodynamic Brake System		Blade Pitch Triple-Redundant				
Mechanical Brake System		Hydraulic Mechanical Brake System (for Maintenance)				
<b>Yaw System</b>						
Type/Design		Motor Drive / Four Planetary Stages for Speed Reduction				
Yaw Brake		Hydraulic Brake				
<b>Control System and Lightning Protection</b>						
Type		PLC Control System				
Lightning Protection Standard		Complying with IEC 61400-24:2010 and IEC 62305:2006, and in conformance with GL Standards for the Certification of Wind Turbines				
Ground Resistance	Ω	≤4				
<b>Tower</b>						
Type		Conical Steel Tower				
Hub Height	m	65	65/85	70/85	75/85	75/85