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# Wind Turbine SWT-2.3-93

## Technical specifications

Product Name: SWT-2.3-93  
Application: Onshore  
Technology: Geared drive

### Rotor

Type	3-bladed, horizontal axis
Position	Upwind
Diameter	93 m
Swept area	6,800 m <sup>2</sup>
Speed range	6-16 rpm
Power regulation	Pitch regulation
Rotor tilt	6 degrees

### Blade

Type	Self-supporting
Blade Length	45 m
Tip chord	0.8 m
Root chord	3.5 m
Aerodynamic profile	NACA 63.xxx, FFAxxx
Material	GRE
Surface gloss	Semi-matt, <30 / ISO2813
Surface color	Light grey, RAL 7035

### Aerodynamic Brake

Type	Full span pitching
Activation	Active, hydraulic

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### Load-Supporting Parts

Hub	Nodular cast iron
Main bearing	Spherical roller bearing
Main shaft	Alloy steel
Nacelle bed frame	Steel

### Transmission system

Coupling hub - shaft	Flange
Coupling shaft - gearbox	Shrink disc
Gearbox type	3-stage planetary-helical
Gearbox ratio	1:91
Gearbox lubrication	Splash / forced lubrication
Oil volume	Approx. 400 l
Gearbox cooling	Separate oil cooler
Gearbox designation	PEAB 4456
Gearbox manufacturer	Winergy AG
Coupling gear - generator	Double flexible coupling

### Mechanical Brake

Type	Hydraulic disc brake
Position	High-speed shaft
Number of calipers	2

### Generator

Type	Asynchronous
Nominal Power	2,300 kW
Synchronous speed	1,500 rpm
Voltage	690 V
Frequency	50 Hz
Protection	IP54
Cooling	Integrated heat exchanger
Insulation class	F
Generator designation	AMA 500L4 BAYH

### Canopy

Type	Totally enclosed
Material	Steel

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### Yaw System

Type	Active
Yaw bearing	Externally geared slew ring
Yaw drive	Eight electric gear motors
Yaw brake	Passive friction brake

### Controller

Type	Microprocessor
SCADA system	WPS via modem
Controller designation	KK WTC 3.0

### Tower

Type	Cylindrical or tapered tubular steel tower
Hub heights	80 m or site-specific
Corrosion protection	Painted
Surface gloss	Semi gloss, 30-50 / ISO 2813
Surface Color	Light grey, RAL 7035

### Operational data

Cut-in wind speed	4 m/s
Nominal power at	13-14 m/s
Cut-out wind speed	25 m/s
Maximum 2 s gust	55 m/s (standard version) 59.5 m/s (special version)

### Masses (approximate)

Rotor	60 t
Nacelle excl. rotor	82 t
Tower (80 m)	162 t

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