



# Technical Specification

# SIVA 250/50

## Operational Data

Start up wind speed	: 3-4 m/s
Cut out wind speed	: 25 m/s
Nominal output achieved at	: 14 m/s
Design survival wind speed	: 52.5 m/s
Calculated lifetime of turbine	: 20 Years

## Rotor

Type	: Three bladed, horizontal axis
Position	: Upwind
Rotary direction	: Clockwise, seen from front
Number of blades	: 3
Rotor diameter	: 30 m
Swept area	: 707 m <sup>2</sup>
Power regulation	: Stall
Hub, type	: Ductile cast iron
Weight of hub	: 2000 kg
Weight of rotor (hub + blades)	: 4150 kg
Hub heights	: 50 m

## Blades

Manufacturer	: LM Glasfiber
Blade length	: 13.4 m
Type	: Self supporting
Material	: Fibreglass reinforced polyester
Weight per blade	: 750 kg

## Generator

Manufacturer	: ABB/ Equivalent	
Type	: Dual wound, asynchronous	
Weight	: 2100 kg	
Poles	: 4 poles	6 poles
Nominal power	250 kw	50 kw
Synchronous speed	1006/1207 rpm	757/908 rpm
Current	424 A	82 A
Voltage (other voltage on request)	415 V AC/480 V AC	415 V AC/480 V AC
Frequency (other frequency on request)	50/60 Hz	50/60 Hz
Insulation classification	F	F
Protection classification	Ip54	IP54
Thermal protection	PT100/ thermistor	PT100/ thermistor



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## Gear

Type : 3 stage helical gearbox  
 Material : Ductile cast iron  
 Cooling : Gear Oil Cooler

## Controller

Manufacturer : Mita Teknik As Denmark  
 Type : Microprocessor based  
 Remote communications : Gateway SCADA

## Hydraulic system

Manufacturer : AVN/HYDRATECH

## Hydraulic motor

Manufacturer : AVN/HYDRATECH  
 Speed : 1500 Rpm  
 Nominal effect : 3 kW  
 Thermal protection : Thermorelay/Thermistor

## Yawing system

Type : Active yawing  
 Yaw control : Wind vane  
 Yawing gear, manufacturer : Rossi, or Bonfiglioli

## Braking systems

### Aerodynamic Brake

Type : Pivotal blade tip  
 Activation : Hydraulic. Passive activation by centrifugal Force at over speed

### Mechanical Brake

Type : Hydraulic disc brake  
 Disc material : Ductile cast iron/Steel

## Tower

Towers	: Lattice	Tubular
Manufacturer	Siva	Siva
Hub Height	50 m	50 m/45 m/40 m/ 30 m
Corrosion protection	Hot tip galvanized	Hot tip galvanized
Weights	23.5 t	35 t