



*Innovation Everywhere*



## ABOUT COMPANY

Backed by rich industry, **Onix Structure Private Limited** since 2008, we have gained tremendous expertise in services providing and we are a leading turnkey Electrical & Civil Contractors.

Our proficiency encourages us to offer Electrical, civil, solar, wind energy Contracting Services for Design, Engineering, Procurements, Installation, Testing, Commissioning of Electrical Project 66 to 400Kv Substation (AIS / GIS / HIS), Transmission lines, Underground Cables (UG), Pipeline Works, Road & Building construction, Operation & Maintenance, Line Shifting work, industrial Solar, wind, open access projects.

With the help of our technocrats, we offer complete customization on designing, erection, installation and Maintenance services.

## WHY US?

- ⇒ ISO 9001 : 2015 Certified Company
- ⇒ “A” Class Contractor Accredited By Govt. of Gujarat
- ⇒ 12 Years of Expertise in All Technical Fields
- ⇒ A team of 400+ highly skilled and professional employees
- ⇒ More than 400+ MW solar project installed by OSPL
- ⇒ “Best Solar EPC Company” Awarded by Tv9
- ⇒ 100% Quality and HSE Compliance
- ⇒ 24 X 7 Technical Response For Ongoing and Under Maintenance Sites
- ⇒ Quick & Customized Solutions
- ⇒ Registered member of MNRE & GEDA



## TECHNICAL SPECIFICATIONS

ROTOR	VALUE
Diameter	130 m
Swept area	13,273 m <sup>2</sup>
Nominal speed	11.4 rpm
Rotor axis inclination	6°
Rotor cone angle	4°
Direction of rotation	clockwise (right)
Rotor position	upwind

BLADES	VALUE
Number of blades	3
Blade length	63.7 m
Material	Glass-fiber reinforced plastic (GFRP) in sandwich construction
Surface color	Light grey (RAL 7035)

PITCH SYSTEM	VALUE
Type	Electric individual blade pitch
Power control	Blade pitch and speed control
Drive	DC motors, battery buffered, synchronized

YAW	VALUE
Type	3 gear motors, 14 brake calipers
Bearing	Four-point bearing with external gearing

GEARBOX	2500 KW	2700 KW
Type	Planetary/spur gearbox	
Nominal mechanical power	2750 KW	2970 KW

GENERATOR	VALUE
Type	Asynchronous generator (doublyfed induction generator)
Protection class	IP 54
Cooling system	Water cooled

ELECTRICAL PARAMETERS	VALUE
Nominal voltage	660 V
Terminal voltage range of the WTC	90 ≤ UN ≤ 110 %
Nominal frequency	50 Hz

TOWER	VALUE
Type	Tubular steel tower
Hub height	130, project specific m
Corrosion protection	C4/C3 (outside/inside) & project specific

CONVERTER	VALUE
Type	Frequency converter for doubly-fed induction generator with DC link
Operating mode	Control/regulation of active and reactive power.
Protection class	IP 54, brake resistor: IP 21
Cooling system	Air flow cooling of the converter housing. Liquid or air flow cooling system for IGBTs.

OPERATIONAL DATA	VALUE	
Cut-in wind speed	3.0 m/s	
Nominal wind speed	2500 KW	2700 KW
	11 m/s	12 m/s
Cut-in wind speed	20 m/s	
Cut-back-in wind speed	18 m/s	

WEIGHTS (APP.)	VALUE
Blade	13.2 t
Hub	23.0 t
Drive train	45.0 t
Covers	5.0 t
Nacelle	82.0 t

DIMENSIONS (APP.)	L	W	H	UNIT
Blade	63.7	4.0	-	m
Hub	2.3	3.4	2.3	m
Nacelle	11.0	4.0	4.0	m
Drive train	5.4	3.2	2.1	m

## GENERAL CONDITIONS

PARAMETER	VALUE
Distances between WTCs in wind farms	A minimum distance of 5 rotor diameters (650m) between turbines should generally be observed
Maximum slope within an area of 100 meters [°] (%)	10 (17.6)
Maximum installation altitude over sea level [m]	2,000 - hub height
Maximum medial vertical wind shear coefficient	0.2
Roughness class (Roughness length) [m]	2.5 (0.2)
Air density 1 [kg/m <sup>3</sup> ]	1.15
Solar radiation [W/m <sup>2</sup> ]	1,000

NOTE 1. Air density: 1.15 kg/m<sup>3</sup> at hub height and air pressure 1,013 hPa.



**DOMESTIC PRESENCE**

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