

# Pioneer Wincon 750/57

The Premium 750 KW Wind Turbine



**Pioneer Wincon**

**Pioneer Wincon  
750/57**



# Transforming the Power of Wind

## Corporate Profile

Pioneer Wincon (PW) is a member company of the Pioneer Asia Group having diverse interests in safety matches, chemicals, non-ferrous, forgings, textiles, information technology etc. The promoters of Pioneer Asia Group are the first in India to install and connect private wind farms to the state electricity board as early as 1989. PW was incorporated in the year 1996 and has over the last two decades become a trusted name and an emerging market leader in wind energy. The core business consists of design, manufacture, marketing and maintenance of wind power systems that harness the energy of wind to generate green power. PW is an ISO 9001:2015 certified company. The corporate office is in Chennai and the manufacturing facility is in Pondicherry, 160 km from Chennai.

## Technical know-how

Pioneer Wincon was formed as a joint venture between Pioneer Asia Group and Wincon West Wind of Denmark (as a division of Vest Frost, A/s Denmark) well known for their turbine's simple and sturdy design and advanced power electronics. Now Pioneer Wincon is fully owned by Pioneer Asia Group and is having 100% worldwide rights for the Technical Know how for the 250KW & 750 KW wind turbines.

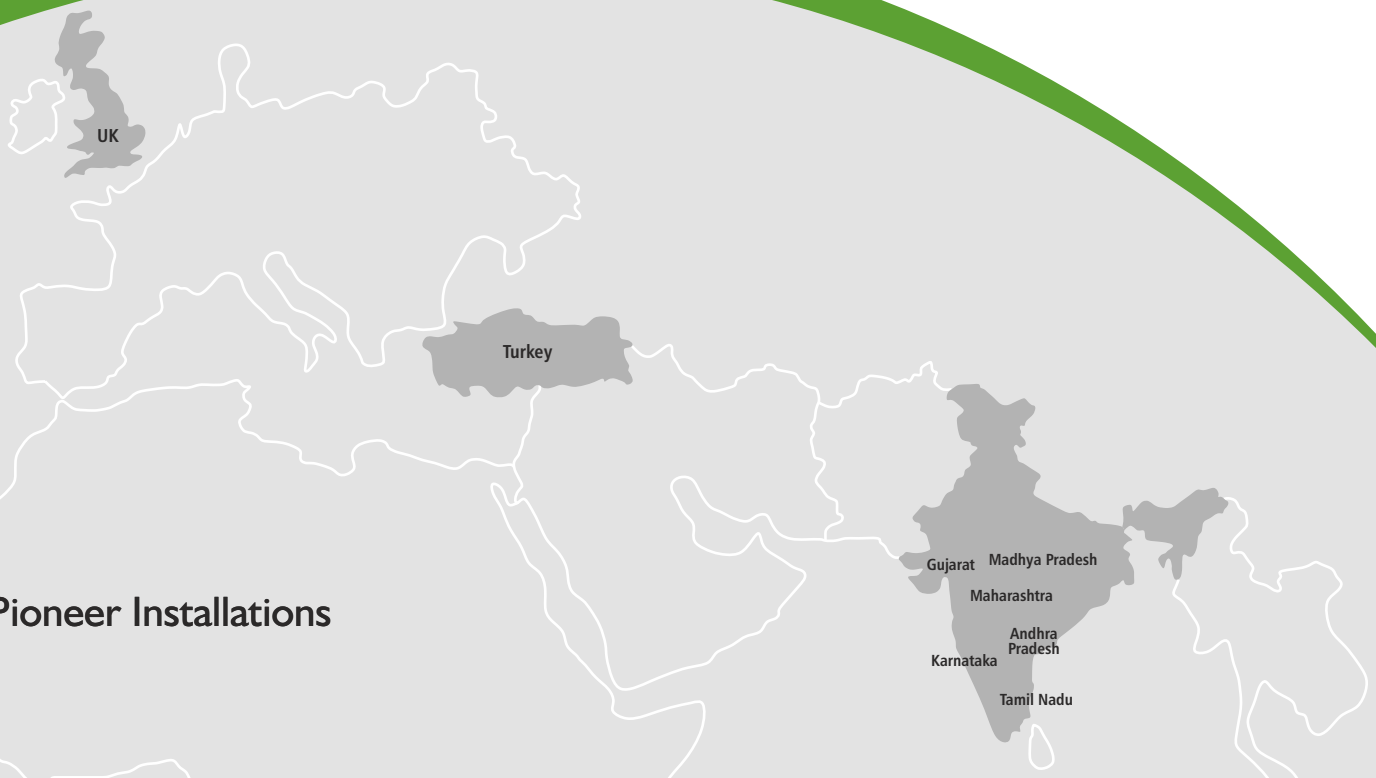
## Market Leaders

PW is the market leader in the Indian wind industry with more than two decades of experience and over 1000 numbers of Wind turbines in operation.

## Land mark in Exports

Our 250Kw Wind turbines are running successfully in Turkey and U.K.

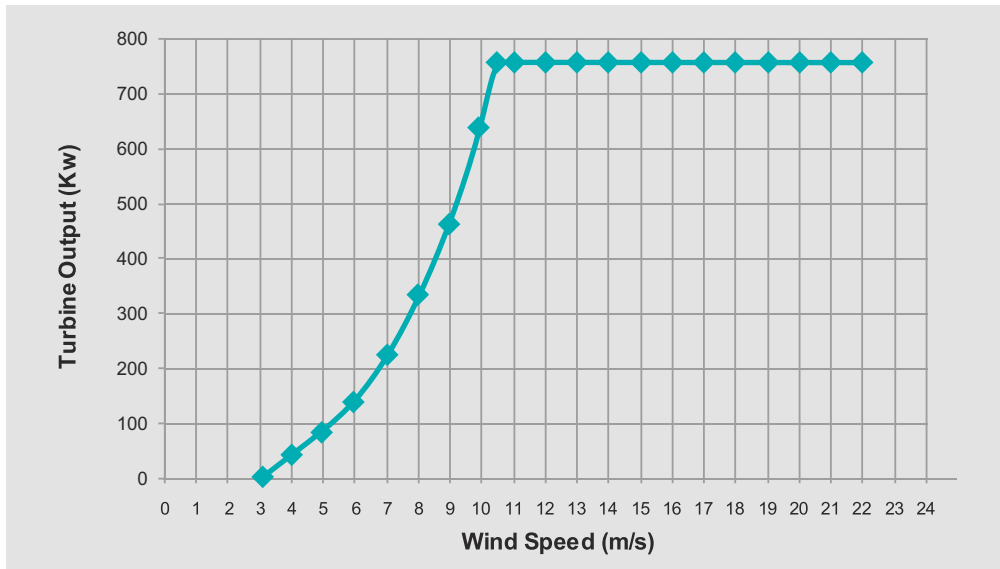
## Pioneer Installations



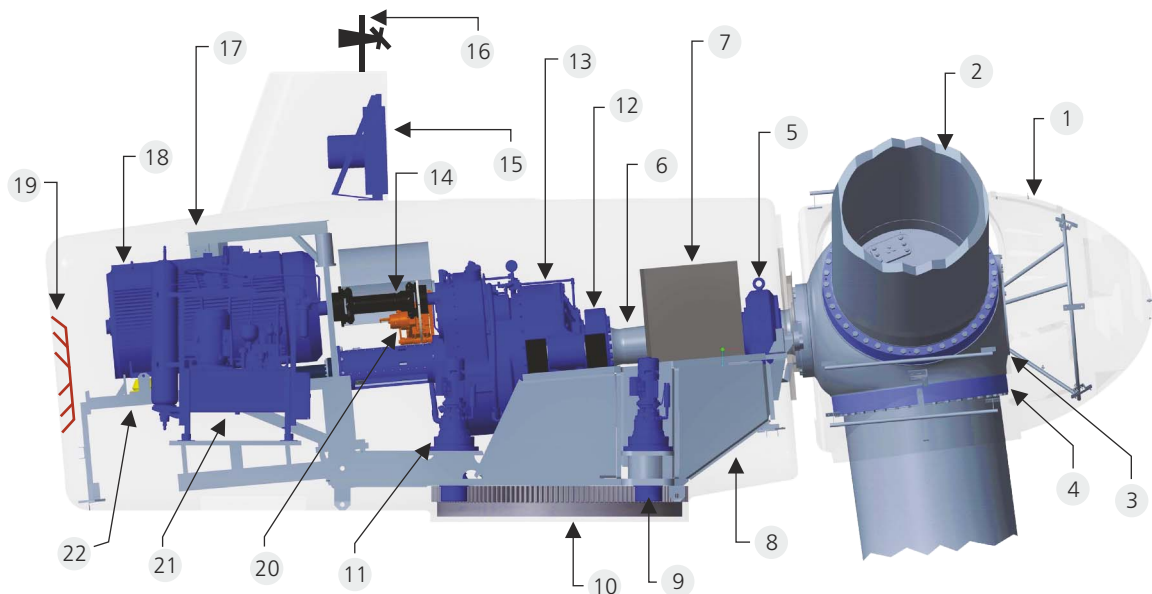




## Power curve chart for Pioneer Wincon 750/57 WTG



## Nacelle diagram with components



- |                    |                           |                            |
|--------------------|---------------------------|----------------------------|
| 1. Nose cone       | 9. Yaw Pinion             | 17. Material Lifting Crane |
| 2. Blade           | 10. Yaw Flange            | 18. Generator              |
| 3. Hub             | 11. Yaw Motor             | 19. Rear Louver            |
| 4. Blade Bearing   | 12. Shrink Disc           | 20. Mechanical Brake Unit  |
| 5. Bearing Housing | 13. Gear Box              | 21. Hydraulic Power Unit   |
| 6. Main Shaft      | 14. CD Coupling           | 22. Generator Console      |
| 7. Top Panel       | 15. Gear Box Cooler       |                            |
| 8. Bottom Frame    | 16. Anemometer & Windvane |                            |



# Technical Specifications\* - PIONEER WINCON 750/57

## 1. General Data

Nominal power \_\_\_\_\_ 750 kW  
Rotor diameter \_\_\_\_\_ 57.0  
Swept area \_\_\_\_\_ 2551.7 Sq.m  
Hub height \_\_\_\_\_ 61.5 / 75.0 M  
Wind Turbine Class \_\_\_\_\_ III A, IEC 61400-1, ed.3

## 2. Operational Data

Cut-in, wind speed \_\_\_\_\_ 4.0 m/s  
Rated wind speed \_\_\_\_\_ 10.7 m/s  
Cut-out, wind speed \_\_\_\_\_ 25.0 m/s  
Survival, wind speed for 2s max \_\_\_\_\_ > 52.5 m/s  
Maintenance wind speed \_\_\_\_\_ 13.0 m/s

## 3. Rotor

No. of blades \_\_\_\_\_ 3  
Rotor position \_\_\_\_\_ Up wind  
Rotor speed \_\_\_\_\_ 25.20 RPM  
Rotor diameter \_\_\_\_\_ 57.0 m  
Swept area \_\_\_\_\_ 2551.7 Sq.m  
Regulation \_\_\_\_\_ variable speed with pitch  
Weight, rotor ( including hub ) \_\_\_\_\_ 14237 Kg.

## 4. Blade

Type \_\_\_\_\_ PW 28  
Profile data \_\_\_\_\_ NACA 63  
Length \_\_\_\_\_ 28.0 m  
Material \_\_\_\_\_ Fiber glass reinforced polyester  
Weight \_\_\_\_\_ 2472 kg

## 5. Hub

Type \_\_\_\_\_ Cast Steel  
Material \_\_\_\_\_ Cast.GGG 40.3

## 6. Main Shaft and Bearings

Type, shaft \_\_\_\_\_ Forged  
Material \_\_\_\_\_ Steel alloy, 34CrNiMo6  
Type, bearings \_\_\_\_\_ Spherical roller bearings  
No. of bearings \_\_\_\_\_ 1

## 7. Gearbox

Type \_\_\_\_\_ 3-Stage: 1Planetary + 2 Helical  
Ratio \_\_\_\_\_ 1:67.7  
Lubrication \_\_\_\_\_ ISO - VG 320 (Injection method)  
Oil volume \_\_\_\_\_ 157 lts.

## 8. Brake Systems

Mechanical brake \_\_\_\_\_ Hydraulic Brake Caliper Type  
Brake position \_\_\_\_\_ High-speed shaft  
Aerodynamic brake \_\_\_\_\_ Hydraulically activated blade pitching

## 9. Couplings

Main shaft – gearbox \_\_\_\_\_ Shrink disc  
Gearbox – generator \_\_\_\_\_ Cordon link coupling

## 10. Generator

Type \_\_\_\_\_ 4 pole, Induction  
Rated power \_\_\_\_\_ 750 KW  
Voltage \_\_\_\_\_ 690 V, 3 phase, AC  
Operating Speed Range \_\_\_\_\_ 1049 – 1993 RPM

Rated speed \_\_\_\_\_ 1705 RPM  
Insulation class \_\_\_\_\_ H  
Protection class \_\_\_\_\_ IP 55  
Weight \_\_\_\_\_ 4500 Kgs.

## 11. Bedplate

Type \_\_\_\_\_ Welded  
Profiles, steel \_\_\_\_\_ Bend Plate, RHS  
Surface treatment \_\_\_\_\_ Zinc spray and 2 coat PU paint

## 12. Yaw System

Yaw top \_\_\_\_\_ Flange Type  
Yaw drives, motor \_\_\_\_\_ Electric (4 x 1.5 KW)  
Yaw drives, gear \_\_\_\_\_ Planetary (x 4)  
Dampening system \_\_\_\_\_ Yaw arms with friction pads (5nos)  
Yaw speed \_\_\_\_\_ 0.486 ° per sec

## 13. Wind Turbine Controller

Type \_\_\_\_\_ PLC  
Power factor \_\_\_\_\_ Cos phi > 0.95  
Control and monitoring of \_\_\_\_\_ Power, Voltage, Frequency,  
\_\_\_\_\_ Reactive Power, Imbalance  
\_\_\_\_\_ Generator overload  
\_\_\_\_\_ Yaw drives overload,  
\_\_\_\_\_ Automatic cable untwisting  
\_\_\_\_\_ Activation of brake systems  
\_\_\_\_\_ Grid Voltage fluctuations,  
\_\_\_\_\_ Grid failure  
\_\_\_\_\_ Generator over speed  
\_\_\_\_\_ Rotor Over speed  
\_\_\_\_\_ Automatic adjustment of power factor  
\_\_\_\_\_ Pitch angel and Pitching distance  
Temp. Measurements on: \_\_\_\_\_ Control panel, converter, Gear oil  
\_\_\_\_\_ High-speed shaft bearings, Main Bearing  
\_\_\_\_\_ Generator windings & Bearings  
\_\_\_\_\_ Transformer windings & Oil  
\_\_\_\_\_ Outside temp, Nacelle inside temp  
\_\_\_\_\_ Hydraulic Oil  
\_\_\_\_\_ Converter Cooler Water Temp

## 14. Tower

Type \_\_\_\_\_ Lattice tower  
Height \_\_\_\_\_ 60 / 73 M  
Surface treatment \_\_\_\_\_ Hot dip Galvanized

## 15. Nacelle

Weight, excl. rotor \_\_\_\_\_ 24000 kgs.

## 16. Convertor

Type \_\_\_\_\_ Full power IGBT converter  
Rated Power \_\_\_\_\_ 750 KW  
Voltage \_\_\_\_\_ 690 V, 3 phase, AC  
Power Regulation \_\_\_\_\_ Speed controlled with power  
(control above rated wind)  
Grid Frequency \_\_\_\_\_ 50 Hz  
Protection Class \_\_\_\_\_ IP 54  
Cooling \_\_\_\_\_ Liquid - cooled  
LVRT Compatible \_\_\_\_\_ Yes

## 17. Scada

Web Scada \_\_\_\_\_ Yes (Optional)

\* In view of continuous product improvement, specifications are subject to change without prior notice.



## **Pioneer Wincon**

Corporate Office:

### **Pioneer Wincon**

(A Unit of Para Enterprises Pvt. Ltd.)

Thamarai Tech Park, 7th Floor  
SP Plot No.16 – 20 and 20A,  
Thiru vi ka Industrial Estate,  
Inner Ring Road, Guindy,  
Chennai - 600 032, India.

Tel : +91-44-2431 4790 / 4341 4700

Email : [marketing@pioneerwincon.com](mailto:marketing@pioneerwincon.com)  
[info@pioneerwincon.com](mailto:info@pioneerwincon.com)

[www.pioneerwincon.com](http://www.pioneerwincon.com)

Toll Free Number:

1800-123-363749-Energy

