

Order Code -22235524.6 Wind Energy Training System



FEATURES:

- Compact Design
- can be used indoors as well as outdoors
- Artificial Wind generator
- Actual fixed pitch wind turbine in controlled environment
- Provision to vary wind speed.
- Evaluation of the efficiency of charge controller.
- Cut-in speed of wind turbine can be calculated experimentally.
- Evaluation of the Tip Speed ratio (TSR) at different wind speeds.
- Evaluation of the coefficient of performance of wind turbine.
- User can draw the turbine Power versus wind speed curve.
- User can draw the curve between TSR and coefficient of power.
- User can draw the power curve of turbine with respect to the rotational speed of rotor at fix wind speeds.
- User can study the power analysis at turbine output.
- User can study the power analysis at different branches of wind turbine energy system with AC load only.
- User can study the power analysis at different branches of wind turbine energy system with DC load only.

Components

This system can be divided in following components

- Artificial wind generating unit
- Wind Turbine system
- Structure and tunnel
- Measuring unit with load

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.



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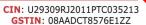
IT-2013, Ramchandrapura Industrial Area, Sitapura Extension, Jaipur-302022, India.













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Technical Specifications:

1. Artificial Wind Generating Unit:

• Induction motor:

Power: 10HP

Type: 3 phase (2 pole) Current rating: 14 A

Rotation speed: 2850 rpm

• VFD:

Power rating: 15KW

Frequency range: 0-60 Hz

Type: 3 phase

Fan:

No. of blades: 7

Fan diameter: 86 cm

2. Wind turbine

Rotor:

Hub type: fixed pitch Rotor diameter: 1.26m

No. of blades: 3

Swept area: 1.246 m2 Performance parameter: Rated wind speed: 12.5m/s Cut-in speed: 3.5m/s

3. Measuring unit with load

Battery

Voltage: 12V Capacity: 42Ah

Inverter

Rated power: 600VA Input voltage: 10-15V

 Charge controller Rated power: 500W Rated load voltage: 12V

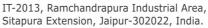
DC load (bulb)

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Tesca Technologies Pvt. Ltd.



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Nominal voltage: 12V Rated power: 35W

AC load (bulb)

Nominal voltage: 230V Rated power: 100W

Different meters:

DC voltmeter: 0-20V DC ammeter: 20 A

Single phase Power analyzer: 1 KVA/230V Three phase power analyzer: 1 KVA/230V

Tachometer: 0-2500 RPM Anemometer: 0-25 m/s

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CIN: U29309RJ2011PTC035213

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