

# WIND TURBINE GENERATORS



**TECO**  **Westinghouse**



# Manufacturing Capabilities

## Wind Turbine Assembly

- Production line based on: cellular concept, scalable, continuous improvement focus, mathematically-based, quicker and more efficient response
- Flow Design: Inspection (Visual and Discrete checks)

## Nacelle and Hub Contract Manufacturing

- Supply chain expertise
- Time proven cell based line
- ISO 9000 certified facility



## Manufacturing Facilities Details

- 100 ton capacity remote control electric carts for flexible line design and configuration
- 90 ton crane capacity for loading and unloading
- 30 ton component lift for assembly and handling
- 4500 Square meters for lean primary assembly and parts feed and storage with capability to expand
- 9000 Square meters for major large parts staging (casting/ fabrications/ fiberglass) with the capability to expand



## Service Capabilities

- Turbine service
- Generator service and repair
- Spare parts



# Wind Turbine Generators

TECO-Westinghouse manufactures custom designed wind turbine generators per customer specifications.

- High Efficiency & Optimum Reliability
  - Low Maintenance Design
  - Robust Bearing Insulation Design\* for Challenging Wind Environments
  - Partial Discharge-Free Winding Insulation System
  - Global Design, Manufacturing, & Service Capability
- \*Patent Pending



## Double-Fed Wound Rotor Induction Generator (DFIG)

- 500 kW – 3 MW available (Larger sizes available upon request)
- 96% Efficiency or greater
- Power factor from -0.9 to +0.9
- Variable speed from 68% to 134% of synchronous speed
- Reactive power capabilities

PRODUCT SERIES	RATED OUTPUT (kW)	STATOR VOLTAGE (V)	FREQUENCY (Hz)	NO. OF POLES	SYNCHRONOUS SPEED (RPM)	SPEED RANGE (% OF SYNCH. SPEED)	POWER FACTOR (LEADING)	INSULATION CLASS	EFFICIENCY*	AMBIENT TEMP. (°C)
TW450XX	500-1,000	460/ 575/ 690	50/ 60	4/6	50 Hz: 1000/ 1500 60 Hz: 1200/ 1800	68% to 134%	-0.90 to +0.90	H/ F	≥ 96%	-40 to +50
TW500XX	1,000-2,000	460/ 575/ 690	50/ 60	4/ 6	50 Hz: 1000/ 1500 60 Hz: 1200/ 1800	68% to 134%	-0.90 to +0.90	H/ F	≥ 96%	-40 to +50
TW560XX	2,000-3,000	460/ 575/ 690	50/ 60	4/ 6	50 Hz: 1000/ 1500 60 Hz: 1200/ 1800	68% to 134%	-0.90 to +0.90	H/ F	≥ 96%	-40 to +50

XX: Enclosure Type

DP: Open Drip Proof

AC: Totally Enclosed Air-to-Air Cooled

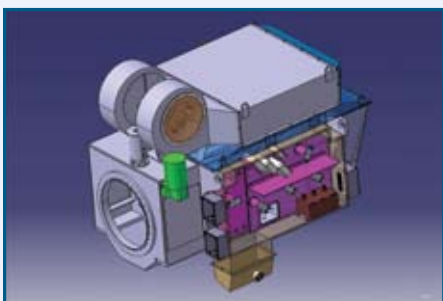
WC: Totally Enclosed Water Cooled

\* Consult factory for higher efficiency capabilities



## Permanent Magnet

- Rating 0.1 – 3 MW
- 96 – 98% Efficiency
- Variable speed 10 – 2500 RPM
- Direct or gear drive
- Voltage suited to application
- Capability to withstand severe demagnetization faults



## Synchronous

- Rating 1 – 5 MW
- 97 – 98% Efficiency
- Reactive power capabilities
- Variable speed 10 – 2500 RPM
- Direct or gear drive
- Voltage suited to application

**TECO**   **Westinghouse**

5100 N. IH-35  
Round Rock, TX 78681  
1-800-451-8798

**[www.tecowestinghouse.com](http://www.tecowestinghouse.com)**

TF 05-10