300kW Wind Turbine KWT300

Rated power - 300kW
Cut-in wind speed - 3.0m/s
Cut-out wind speed - 25m/s
Survival wind speed - 70m/s

High resistance to
Gusts, Typhoons and Earthquakes

KWT300 is resistant to mountain winds with the turbulence parameter set above the IEC standard. The survival wind speed is as high as 70m/s to resist most typhoons. The earthquake resistance model is designed to be safe under the earthquake of 1000gal.

Smooth interconnection to grid

Combination of an inductive generator and AC-DC-AC link convertor enables the variable speed operation. Torque and pitch are controlled in coordination to minimize the output variance, securing the system reliability and smooth output to the existing grid system.

Easy Transportation and Installation

KWT300 is deployable to the locations where large trailers and cranes are not available or not accessible. It requires as small as 10 ton trucks for transportation and 60 ton cranes for installation.
Robust and Reliable

According to the wind turbine generating system class set by IEC (International Electric Committee), the turbulence intensity of KWT300 is above all Classes, the reference wind speed is Class I, and the average wind speed falls into Class II.

KWT300 is designed to such places where the average wind speed is not so high but the instantaneous wind speed is very high caused by the mountain climate or typhoons.

<table>
<thead>
<tr>
<th>IEC WTGS Class</th>
<th>I</th>
<th>II</th>
<th>III</th>
<th>S (KWT300)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vref(m/s)</td>
<td>50</td>
<td>42.5</td>
<td>37.5</td>
<td>50</td>
</tr>
<tr>
<td>Vave(m/s)</td>
<td>10</td>
<td>8.5</td>
<td>7.5</td>
<td>8.5</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Iref Turbulence Intensity</th>
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<tbody>
<tr>
<td>A</td>
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<td>B</td>
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<td>C</td>
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</table>

Compact and High spec

- Up-wind type
- Inductive generator
- AC-DC-AC convertor
- Active yaw control
- Active pitch control
- 50/60Hz, 400V output
- Lightning protection
- SCADA monitoring system

KWT300 best fits to small grid systems in remote areas often isolated from the large national grids. With 300kW wind turbines, local communities could make the best use of their wind resources, reduce the fuel cost and minimize the risk of blackout due to non-delivery of the fuel.

As a 300kW wind turbine, KWT300 provides a realistic solution for distributed energy system.

For Smart and Micro Grid

Futtsu Plant, Japan

The first KWT300, installed in 2006 at the Komaihaltec Futtsu plant in Japan. Around 96% of wind generated electricity is supplied to the factory for its own use and the surplus is sold to the utility company, contributing the energy and cost saving of the factory.

Centro Regional de Tecnologia Eolica, Mexico

In October 2009, one KWT300 was built at the wind energy research center, funded by UNDP. It is now operated by IIE (Instituto de Investigaciones Eléctricas) for the purpose of technical training and research. Besides the supply of the wind turbine itself, KOMAI HALTEC provided a full set of technological transfer services to IIE for wind turbine installation and maintenance.