**WHY TOZZI GREEN TURBINES?**

TN535 and Victory

Thanks to their technical and aerodynamic characteristics - that maximize wind harvesting - Tozzi Green turbines adapt to the broadest range of wind conditions, achieving the highest energy production and thus ensuring a faster return on investment.

- Source of supplementary income and/or boost for one’s own activities
- Highly profitable investment for both individuals and businesses
- Rapid return on investment
- Simplified authorization procedures
- Safe and silent
- “Full Service” Maintenance
- Real-time monitoring system for clients
- Remote supervision system
- Power curve certified as per IEC 61400-12
- Fast, simple construction works
- Track record of over 400 installations
- Solid, lightweight, aerodynamic design
- Designed to last over 20 years

**CERTIFICATIONS**

- TN535 Power curve certified by DNV-GL Garrad Hassan as per IEC 61400-12
- Acoustic emissions certified by DNV-GL Garrad Hassan as per IEC 61400-11
- Type Certification MCS 006 for the United Kingdom (KIWA)
- Type Certification ClassNK for Japan (Nippon Kaiji Kyokai)

**TECHNICAL CHARACTERISTICS**

- Class IV
- Rated Power: 9.9 kW
- Rotor Diameter: 13.2 m
- Swept Area: 136.7 m²
- Hub height: 15 m - 18 m - 24 m
- Cut in Speed: 2.5 m/s
- Cut out speed: 16 m/s
- Rated Speed*: 6.8 m/s
- Active pitch
- Active Yaw
- Synchronous generator with permanent magnets
- Secondary brake system

**EXPECTED OUTPUT**

- Weibull Factor k = 2.0
- Technical Availability: 100%
- Air Density: 1.225 kg/m³
- Average Turbulence Index: 18%

<table>
<thead>
<tr>
<th>Average Annual Speed m/s</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Annual Output MWh</td>
<td>24.59</td>
<td>37.36</td>
<td>47.24</td>
<td>53.52</td>
</tr>
</tbody>
</table>

**POWER CURVE**

- Chart 0.5 to 6.5
- Up to 2500 W at a 10 m/s
- Rated power: 9.9 kW
- Rated speed: 12 m/s
- Rated torque: 206 Nm
- Shaft speed: 60 rpm
- Rated voltage: 690 V
- Rated frequency: 50/60 Hz
- Rated output: 10 kW
- Weight: 379.0 kg
- Max. torque: 1700 Nm
- Max. Lift: 1000 Nm
- Max. Pitch Angle: 15°
We develop innovative solutions that generate, distribute and store energy. We aim to provide high-quality products and services, which will also ensure a sustainable future. Tozzi Green has a strategic vision of the future, that is strongly felt in England, Italy, Germany and Spain. The vertical integration in the field experience, know-how that crosses several professional areas (aerodynamics, aeroelastics, project management, control, etc.).

Tozzi Green was one of the first Italian operators to invest in large-scale wind farms with a total capacity of 100 MW, which is currently expanding into international markets in Japan. Its presence is strongly felt in England, Italy, Germany and Spain. Tozzi Green’s innovative project, the Victory, is designed to optimize energy harvesting as the wind speed increases, thus reducing wind load on the blades. Victory is a model of high performance, even under the most extreme operating conditions. The active pitch control optimizes turbine performance, even under the most extreme operating conditions. The Victory 19-20 is ideal for wind farms in Class II, even in areas considered Class IV.

The last addition to the Tozzi Green family is the Victory 19-20, with rotor diameter of 19 metres. The design and size of the wind farm allow the installation of the TN535 merges with the sturdiness, reliability and experience of the 10 kW turbine, but a true and proper concept Victory: the versatility and ease of installation. The latest addition to the Tozzi Green family is the Victory 19-20, with rotor diameter of 19 metres. The design and size of the wind farm allow the installation of the Victory 19-20, with rotor diameter of 19 metres. The design and size of the wind farm allow the installation of the TN535 merges with the sturdiness, reliability and experience of the 10 kW turbine, but a true and proper concept Victory: the versatility and ease of installation.