

Power and Load Optimised Modes

Wind turbine operational strategies to fully leverage site-specific wind conditions

Benefits of Vestas' Power and Load Optimised Modes

- Maximum energy production based on site-specific conditions
 - Maintain structure and component design lifetime
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Powered by Vestas' superior wind insight

Vestas' Power and Load Optimised Modes are advanced operational strategies, which enable product customisation for site-specific conditions. Based on Vestas' deep understanding of wind and the turbine load implications, the turbines can be configured to the optimal mode of operation on each site. The modes enable an optimisation of the annual energy production of the individual turbines in the wind park, while adhering to the site specific loads of the turbines. Ultimately, ensuring the ideal wind solution to every site.

Availability of Vestas' Power Optimised Modes:

V90-2.0 MW™: Up to 2.2 MW
V100-2.0 MW®: Up to 2.2 MW
V110-2.0 MW®: Up to 2.2 MW
V105-3.45 MW™: Up to 3.6 MW
V112-3.0 MW: Up to 3.2 MW**
V112-3.45 MW®: Up to 3.6 MW
V116-2.0 MW: Up to 2.1 MW
V117-3.45 MW®: Up to 3.6 MW
V117-4.2 MW™: Up to 4.2 MW
V120-2.0 MW™: Up to 2.2 MW
V126-3.45 MW®: LTq up to 3.6 MW
V126-3.45 MW®: HTq up to 3.8 MW
V136-3.45 MW®: Up to 3.6 MW
V136-4.2 MW™: Up to 4.2 MW
V150-4.2 MW™: Up to 4.2 MW

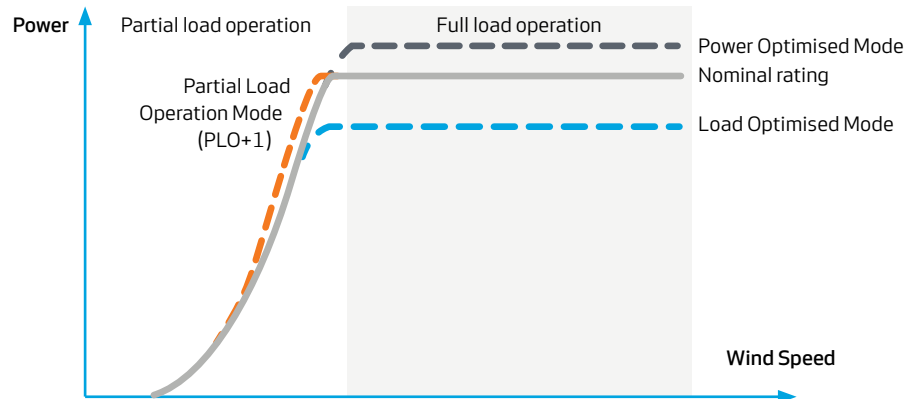
Availability of Vestas' Load Optimised Modes:

V90-3.0 MW®: Down to 2.039 MW
V90-1.8/2.0 MW®: Down to 1.125 MW
V100-1.8/2.0 MW®: Down to 1.125 MW
V105-3.45 MW™: Down to 3.0 MW
V112-3.45 MW®: Down to 3.0 MW
V117-3.45 MW®: Down to 3.0 MW
V117-4.2 MW™: Down to 3.6 MW
V126-3.45 MW®: Down to 3.0 MW
V136-3.45 MW®: Down to 3.0 MW
V136-4.2 MW™: Down to 3.6 MW
V150-4.2 MW™: Down to 3.6 MW
V150-5.6 MW™: Down to 5.0 MW
V162-5.6 MW™: Down to 5.4 MW

Availability of Vestas' Partial Load Operation Mode:

V90-1.8/2.0 MW®
V90-3.0 MW®

Applicability may differ across various platforms



Power Optimised Mode

Vestas' Power Optimised Mode is an operational strategy that enables turbine operation beyond standard nominal rating. This option is highly relevant in wind distributions favoring full load hours, where the turbine is operating well within the operational envelope. Leveraging the potential of the available load margins in the operational envelope can, without exceeding design loads, increase annual energy production by up to 2.3%*.

Load Optimised Mode

Vestas' Load Optimised Mode is an option to decrease the maximum rating of the turbine below the standard nominal rating. The application of the Load Optimised Mode may enable deployment of a larger rotor and avoidance of full-stop periods, thereby maximising production for the specific conditions. A wind distribution favoring partial load wind speed hours is particularly suitable for this option.

Partial Load Operation Mode

For certain earlier Vestas turbine models, improvement of production can be achieved in the partial load operation before the turbine reaches nominal rating. The control feature, Partial Load Operation Plus (PLO+1), optimises the blade pitch angle in relation to the blade tip-speed and maximises production without exceeding design loads**.

For more information

Please contact the local Vestas office for market specific availability and further information.

*Based on V136-3.45 MW® in 3.6 MW Power Optimised Mode compared to V136-3.45 MW®

**Aftersales solution

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Vestas Wind Systems A/S
Hedeager 42 . 8200 Aarhus N . Denmark
Tlf: +45 9730 0000 . Fax: +45 9730 0001
vestas@vestas.com . vestas.com

Wind. It means the world to us.™