



# Prototype declaration

## Prototype declaration MOE 18-EZE-0042-08

Version: 1.0  
 PGU manufacturer: Vestas Wind Systems A/S  
 Hedeager 42  
 8200 Aarhus N.  
 Denmark

### Scope

Type of product: PGU, wind turbine  
 PGU types: V162-6.8 MW 50 Hz  
 V162-7.2 MW 50 Hz

Standards and guidelines: VDE AR-N 4110:2018  
 VDE AR-N 4120:2018  
 VDE AR-N 4130:2018  
 FGW TG8 Rev.09  
 NELEV

Commissioning date of  
 the first prototype: No prototype commissioned yet.

Applicable documents: Evaluation report MOE 18-EZE-0042-07 Ver.  
 1.0  
 Annex 1 – 3

Itzehoe, 2023-02-17

17.02.2023

Nadine Welzel, M.Eng  
 Head of unit certification body



17.02.2023

Dipl.-Ing.(FH) Daniel Lucht  
 Senior Expert of the certification body



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Vestas V162-6.8 MW / 7.2 MW

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Version history

Table 1: Version history

Report number	Date	Change	Prepared	Approved
18-EZE-0042-08 Ver. 1.0	2023-02-17	Preliminary Prototype declaration separation of the following PGU types: <ul style="list-style-type: none"> <li>• V162-6.8 MW 50 Hz</li> <li>• V162-7.2 MW 50 Hz</li> </ul>	DL	NW

Please note, the report MOE 18-EZE-0042-05 Ver. 3.0 (covering initially the V150-5.0 MW / 5.4 MW / 5.6 MW / 6.0 MW, V162-5.4 MW / 5.6 MW / 6.0 MW / 6.2 MW / 6.8 MW / 7.2 MW) is hereby withdrawn and replaced by the following documents:

- The unit certificate MOE 22-EZE-0028-EZ1-ZE covers the turbine types V150 5.6 MW, V162 5.6 MW, V150 6.0 MW, V162 6.0 MW and V162 6.2 MW.
- The present preliminary prototype declaration MOE 18-EZE-0042-08 together with the respective evaluation report MOE 18-EZE-0042-07 covers the turbine type V162 6.8 MW and V162 7.2 MW.
- The turbine types V150 5.0 MW, V150 5.4 MW and V162 5.4 MW are no longer covered through a prototype declaration nor a unit certificate. The manufacturer confirms that these turbine types are not relevant for the German market anymore.



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**Annex 1: Specifications of main components**

Type of product: PGU / wind turbine  
 PGU type: V162-6.8 MW 50 Hz  
 V162-7.2 MW 50 Hz

The type designations correspond to the following operating modes:

**Table 2: Operating modes**

Type designation	Operating mode
V162-6.8 MW 50 Hz	Mode PO6800
V162-7.2 MW 50 Hz	Mode PO7200

Nominal power: 6.8 MW / 7.2 MW  
 Electrical principle: Permanent magnet synchronous generator, full-scale converter  
 Rotor diameter: 162 m (V162)  
 Number of blades: 3  
 Power control: pitch  
 Orientation: upwind

Refer to the evaluation report MOE 18 EZE 0042 07 Ver. 1.0 chapter 3 for further and detailed main component specifications.

**Annex 2: Identity of first prototype in Germany**

Not applicable, no prototype commissioned yet.

Note: As soon as the first prototype is installed and a commissioning report/protocol is available, the declaration can be upgraded to a full prototype declaration, valid for the period of two years from the commissioning date of the prototype.

**Planning commissioning date:** Not scheduled yet



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### Annex 3: Declaration and further remarks

Please note, the report MOE 18-EZE-0042-05 Ver. 3.0 (covering initially the V150-5.0 MW / 5.4 MW / 5.6 MW / 6.0 MW, V162-5.4 MW / 5.6 MW / 6.0 MW / 6.2 MW / 6.8 MW / 7.2 MW) is hereby withdrawn and replaced by the following documents:

- The unit certificate MOE 22-EZE-0028-EZ1-ZE covers the turbine types V150 5.6 MW, V162 5.6 MW, V150 6.0 MW, V162 6.0 MW and V162 6.2 MW.
- The present preliminary prototype declaration MOE 18-EZE-0042-08 together with the respective evaluation report MOE 18-EZE-0042-07 covers the turbine type V162 6.8 MW and V162 7.2 MW.
- The turbine types V150 5.0 MW, V150 5.4 MW and V162 5.4 MW are no longer covered through a prototype declaration nor a unit certificate. The manufacturer confirms in [2] that these turbine types are not relevant for the German market anymore.

The manufacturer provided following statement:

*“The EnVentus turbine family is a new product family based upon 4 MW MK3E, which again is based on 3 MW MK3A. The main change to the product with respect to grid compliance are that the turbine has a higher power rating. To provide this, the converter features 4 machine and grid power stacks where MK3E only had 3. Where 4 MW MK3E features an induction generator, the EnVentus turbine family features a permanent magnet synchronous generator.”*

Furthermore, specifically for 6.8 MW and 7.2 MW types the manufacturer stated the following:

*“The unit certificate MOE 22-EZE-0028-EZE-EZ1 covers the turbine variants V150 5.6 MW, V162 5.6 MW, V150 6.0 MW, V162 6.0 MW and V162 6.2 MW. These turbine variants are part of the development release called “Mk0A”.*

*The turbine variants V162 6.8 MW and V162 7.2 MW are based on the same EnVentus platform but are part of a new development release called “Mk1A”. Beside the higher rated power, the converter and generator designs have been updated to accommodate the 6.8 MW and 7.2 MW power ratings and be prepared for future higher power modes.”*

**It is hereby confirmed that the members of the Vestas V162 6.8 MW / 7.2 MW product family are prototypes as defined by VDE AR-N 4110:2018 / VDE AR-N 4120:2018 / VDE AR-N 4130:2018, chapter 12, for the duration of validity of this declaration.**

**It is also confirmed that the Vestas V162-6.8 MW / 7.2 MW turbines meet the requirements of VDE AR-N 4110:2018 / VDE AR-N 4120:2018 / VDE AR-N 4130:2018 based on detailed manufacturer declarations presented to M.O.E. by Vestas (see evaluation report MOE 18-EZE-0042-07 Ver 1.0).**

References to source documents and further details (e.g. restrictions and conditions of validity) can be found in the evaluation report MOE 18-EZE-0042-07 Ver. 1.0.

This document may be submitted to fulfil the requirement of the NELEV (Elektrotechnische-Eigenschaften-Nachweis-Verordnung) to provide a verification of the electrical properties according to the application guidelines.

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