



Prototype declaration

Preliminary prototype declaration MOE 18-EZE-0042-04

Signed copy 1

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

Scope

Type of product: PGU, wind turbine
PGU types: V150-5.0 MW 50 Hz
V150-5.4 MW 50 Hz
V162-5.4 MW 50 Hz
V150-5.6 MW 50 Hz
V162-5.6 MW 50 Hz

Standards and guidelines: VDE AR-N 4110:2018
VDE AR-N 4120:2018
NELEV

Valid from: 2019-06-24

Valid until: No prototype commissioned yet, the prototype declaration will be valid for 2 years after commissioning of the first prototype.

Applicable documents: Assessment report MOE 18-EZE-0042-03
Annex 1 – 3

Itzehoe, 2019-06-24

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24.06.2019



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24.06.2019

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 Vestas V150-5.0/5.4/5.6 MW and V162-5.4/5.6 MW
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Version history

Table 1: Version history

Report number	Date	Change	Prepared	Approved
18-EZE-0042-02	2018-08-30	Original document	MM	TB
18-EZE-0042-04	2019-06-20	The changes are described in the assessment report MOE 18-EZE-0042-03.	MM	JaM

The preliminary prototype declaration MOE 18-EZE-0042-02 is hereby withdrawn and replaced by the preliminary prototype declaration MOE 18-EZE-0042-04.



Annex 1: Specifications of main components

Type of product: PGU / wind turbine
 PGU type: V150-5.0 MW 50 Hz
 V150-5.4 MW 50 Hz
 V162-5.4 MW 50 Hz
 V150-5.6 MW 50 Hz
 V162-5.6 MW 50 Hz

The type designations correspond to the following operating modes:

Table 2: Operating modes

Type designation	Operating mode
V150-5.0 MW 50 Hz	Mode PO5000
V150-5.4 MW 50 Hz	Mode PO5400
V162-5.4 MW 50 Hz	Mode PO5400
V150-5.6 MW 50 Hz	Mode PO5600
V162-5.6 MW 50 Hz	Mode PO5600

Nominal power: 5.0 MW / 5.4 MW / 5.6 MW
 Electrical principle: Permanent magnet synchronous generator, full-scale converter

 Rotor diameter: 150 m (V150) / 162 m (V162)
 Number of blades: 3
 Power control: pitch
 Orientation: upwind

Annex 2: Identity of first prototype

Not applicable, no prototype commissioned yet.

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

Planned commissioning date: 2019-09-01



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Annex 3: Declaration and further remarks

The wind turbine product family V150-5.0/5.4/5.6 MW and V162-5.4/5.6 MW is a new product family based upon 4 MW MK3E, which again is based on 3 MW MK3A. The main changes to the product with respect to grid compliance are:

- permanent magnet synchronous generator instead of induction generator
- one additionally converter module (4 converter modules instead of 3)
- The software will be adapted in accordance with the new requirements of the VDE-AR-N 4110 and VDE-AR-N 4120

The difference between the 5.0, 5.4 and 5.6 MW variants is only the power mode (same hardware).

The difference between the V150 and V162 is only the rotor size.

It is hereby confirmed that the members of the Vestas V150-5.0/5.4/5.6 MW and V162-5.4/5.6 MW product family are prototypes as defined by VDE AR-N 4110:2018 / VDE AR-N 4120:2018, chapter 12, for the duration of validity of this declaration.

It is also confirmed that the Vestas V150-5.0/5.4/5.6 MW and V162-5.4/5.6 MW turbines meet the requirements of VDE AR-N 4110:2018 / VDE AR-N 4120:2018 based on detailed manufacturer declarations presented to M.O.E. by Vestas (see assessment report MOE 18-EZE-0042-03).

This is a preliminary prototype declaration, as a physical prototype turbine does not exist yet.

References to source documents and further details (e.g. restrictions and conditions of validity) can be found in the assessment report MOE 18-EZE-0042-03.

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.