

# TYPE APPROVAL CERTIFICATE

DNV-GL

This is to certify that the undernoted product(s) has/have been tested in accordance with the relevant requirements of the DNV GL Type Approval System.

Certificate No. **14 337 - 15 HH**

Company **Clemens Lammers GmbH**  
**Offenbergweg 17**  
**48432 Rheine, GERMANY**

Product Description **Asynchronous Low-Voltage Motors**

Type **1TZ9 - series, 1PC3 - series**  
**Sizes 71M up to 315L**

Environmental Category **H**

Technical Data /  
Range of Application **Places of manufacturing:**  
**97616 Bad Neustadt, Germany**  
**789 85 Mohelnice, Czech Republic**  
**744 01 Frenstat, Czech Republic**

**Rated voltage:** 200 V up to 690 V  
**Rated power:** S1 0,03 kW up to 378 kW  
**Synchronous speed:** 750 1/min up to 3600 1/min  
**Rated frequency:** 50 Hz, 60 Hz, conv. Operation <= 690V  
**Ambient temperature:** 45° C or 50 °C  
**Thermal class:** 155 (F), 180 (H)  
**Degree of protection:** IP 55, IP 56, IP 65  
**No. Of poles:** 2, 4, 6, 8 and pole-changing types  
**Spec. Model:** For marine and offshore applications  
The motors are intended for installation below deck and optional with built-in units e.g. brakes, external fans, encoders on request

Test Standard **IEC 60034-1:2010-02, IEC 92-301-3rd ed. 1980 + Amd 1-1994 + Amd 2-1995**  
**GL Test Requirements for Electrical Machinery (VI-7-6), edition 1999**

Documents **Catalogue: Lammers Version 2.00-08\_2014**  
**Operating instruction: Betriebsanleitung V1.02**  
**Relevant documents, drawings, test reports are listed on page 2**

Remarks **This certificate is issued on the basis of GL Guidelines for the Performance of Type Approvals, Chapter 1 - Procedure (VI-7-1), Edition 2007.**

Valid until **2020-05-17**

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File No. **I.G.03**

**Hamburg, 2015-05-18**

Type Approval Symbol



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## Motor description:

Type: **1TZ90.. Aluminium motor, self-ventilated or separate-ventilated**  
**1TZ90.. Aluminium motor, non-ventilated (without fan)**

**1TZ95.. Cast iron motor, self-ventilated or separate-ventilated**  
**1TZ95.. Cast iron motor, non-ventilated (without fan)**

**1TZ95.. Cast iron motor, self-ventilated or separate-ventilated, special purpose**  
**1TZ95.. Cast iron motor, non-ventilated (without fan), special purpose**

**1PC3... Motor with customer-specific design**

## Documents :

Datasheet **1TZ9003-1DA3 V1.4.21 dated 04.05.2015**  
Datasheet **1TZ9505-2AA3 V1.4.21 dated 04.05.2015**

Drawing **1TZ9003-1DA3 IM B3,\_Motor dimension sheet V1.4.21 dated 04.05.2015**  
Drawing **1TZ9503-2AA5 IM B3,\_Motor dimension sheet V1.4.21 dated 04.05.2015**

## Test reports:

**15/257560 Ser No. UD1503/1699622-016-005 dated 07.04.2015**  
**15/257560 Ser No. UD1504/1706769-016-002 dated 07.04.2015**

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