



Marine & Offshore

Certificate number: 22096/C0 BV

File number: ACE 04/840/02

Product code: 2584H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

VEM motors GmbH

Wernigerode - GERMANY

for the type of product

ASYNCHRONOUS MACHINES (Power below 100kW)

Cage induction Marine Motors

K10R, K11R, K20R, K21R, WE1R, WE2R, W21R, W41R, W42R, W43R, W45R, W61R, W63R

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

IEC 60034-1:2017

IEC 60092-301:1995

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 13 Apr 2026

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 13 Apr 2021,

Dirk Hoepfner



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with Bureau Veritas Marine & Offshore. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of Bureau Veritas Marine & Offshore available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against Bureau Veritas Marine & Offshore for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

The electronic version is available at: <http://www.veristarnb.com/veristarnb/jsp/viewPublicPdfTypepec.jsp?id=4lnwfudx0o>

BV Mod. Ad.E 530 June 2017

This certificate consists of 2 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

The **K10R, K11R, K20R, K21R, WE1R, WE2R, W21R, W41R, W42R, W43R, W45R, W61R, W63R** series are three phase cage induction marine motors.

Frame material:	Grey cast iron
Number of poles:	2 to 8, pole changing motors
Height of frame:	112, 132, 160, 180, 225, 250, 280 and 315
Power supply:	220 to 690V / 50Hz - 460V / 60Hz
Enclosure	IP55 -IP56
Ambient temperature:	45°C
Duty type:	S1
Insulation class:	F
Temperature rise:	F
Efficiency class:	IE1: K10R, K11R, K20R, K21R; Size: 112 to 315
	IE2: WE1R, WE2R, W21R; Size: 112 to 315
	IE3: W41R, W42R, W43R, W45R; Size: 112 to 315
	IE4: W61R, W63R; Size: 132 to 315

2. DOCUMENTS AND DRAWINGS:

- Catalogue: EMW/03 - 172 E/0209

For C0 version:

- Description bv_en 11.12.2019 dated 11.12.2019

- ZA-744 Rev.: 01 dated 01.09.93; ZA742-80.11 Rev.: 02 dated 26.08.2014

3. TEST REPORTS:

- VEM motors GmbH: Tests dated 15.07.2008 and 21.07.2008

For C0 version:

- 434768/0001 dated 29.04.2020; 411018/0006/2020 dated 29.07.2020; 437897/0001/2020 dated 30.07.2020;

438858/0001/2020 dated 30.07.2020; 441865/0001/2020 dated 29.07.2020

4. APPLICATION/LIMITATION:

4.1 - Bureau Veritas Rules and Regulations for the Classification of Steel Ships

4.2 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above mentioned products are to be supplied by **VEM motors GmbH** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **VEM motors GmbH** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

VEM motors GmbH
Carl-Friedrich-Gauss-Strasse 1
38855 Wernigerode
GERMANY

6. MARKING OF PRODUCT:

- According to IEC 60034 specification

7. OTHERS:

7.1 - It is the responsibility of **VEM motors GmbH** to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 22096/B0 BV issued on 06 Mar 2015 by the Society.

*** END OF CERTIFICATE ***