



Marine & Offshore

Certificate number: 05818/F0 BV

File number: ACE 04/840/01

Product code: 2584I

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

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

VEM motors GmbH

Wernigerode - GERMANY

for the type of product

ASYNCHRONOUS MACHINES (Power 100kW and over)

Cage Induction Marine Motors

K10R, K11R, K20R, K21R, K22R, WE1R, W41R, W42R, W43R, W45R, W61R, W62R, 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=kvagl0gfpt>

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, K22R, WE1R, W41R, W42R, W43R, W45R, W61R, W62R, 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:	280, 315, 355, 400, 450
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, K22R; Size: 280 to 355; up to 490kW
	IE2: WE1R; Size: 280 to 355; up to 550kW
	IE3: W41R, W42R, W43R, W45R; Size: 280 to 400; up to 780kW
	IE4: W61R, W62R, W63R; Size: 280 to 450; up to 1000kW

2. DOCUMENTS AND DRAWINGS:

Catalogue: EMW/03 - 172 E/0209.

For F0 version:

- Description by en 11.12.2019 dated 11.12.2019
- ZA742-80.12 Rev.:01 dated 04.04.2014; ZA742-80.13 Rev.: 01 dated 16.08.11; ZA-745 Rev.: 01 dated 29.09.1997

3. TEST REPORTS:

- VEM motors GmbH: V 208006 - AB301020 dated 15/07/2008

For F0 version:

- 410915/0001/2020 dated 29.07.2020; 437852/0001 dated 29.04.2020; 442032/0001/2020 dated 28.07.2020



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.
- 4.3 - Each motor intended for essential service is to be tested with attendance of a BV surveyor or an alternative inspection scheme BV Mode I survey is to be agreed.

5. PRODUCTION SURVEY REQUIREMENTS:

- 5.1 - The above mentioned products are to be supplied by **VEM motors GmbH** in compliance with the type and the requirements described in this certificate.
- 5.2 - This type of product is within the category IBV of Bureau Veritas Rule Note NR320.
- 5.3 - Bureau Veritas product certificate is required.

6. MARKING OF PRODUCT:

- According to IEC 60034 specification
-  or  conformity marking, as relevant.

7. OTHERS:

- 7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that **VEM motors GmbH - GERMANY**, will accept full responsibility for informing shipbuilders, ship owners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.
- 7.2 - This certificate supersedes the Type Approval Certificate N° 05818/E0 BV issued on 06 Mar 2015 by the Society.

*** END OF CERTIFICATE ***