



Marine & Offshore

Certificate number: 10424/D0 BV

File number: ACE 04/840/03

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 Thurm GmbH
Zwickau - GERMANY

for the type of product

ASYNCHRONOUS MACHINES (Power below 100kW)

Increased Safety Induction Motors below 100kW
KPR, KPER and IE*-KPR, IE*-KPER

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships
IEC 60034-1:2010, 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: 12 Nov 2023

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 12 Nov 2018,

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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 4 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

The **KPR, KPER** and **IE*KPR, IE*-KPER** series are three phase low voltage asynchronous motors of increased safety type with squirrel-cage rotor.

Main characteristics:

Shaft height: KPR, IE*-KPR: 56 - 63 - 71 - 80 - 90 - 100
 KPER, IE*-KPER: 63 - 71 - 80 - 90 - 100 - 112 - 132

Material stator housing: Grey cast iron

Number of poles: 2 - 4 - 6 - 8

Duty cycle rating: S1

Protective degree: IP54, IP55 or IP65

Insulation class: 155 (F)

Rated voltage: up to 690V

Frequency: 50Hz

Power (kW) at 45°C 50 Hz	2 pole		4 pole		6 pole		8 pole	
	KPR/ IE1-KPR	KPER/ IE1-KPER	KPR/ IE1-KPR	KPER/ IE1-KPER	KPR/ IE1-KPR	KPER/ IE1-KPER	KPR/ IE1-KPR	KPER/ IE1-KPER
0.12	-	-	56 K2	63 K4	-	-	-	-
0.18	56 K2	63 K2	56 G2	63 G4	-	-	71 K8	80 K8
0.25	56 G2, 63 KY2	63 G2, 63 GX2	63 K4	71 K4	-	-	71 G8	80 G8
0.37	63 K2, 63 G2	71 K2	63 G4, 71 KY4	71 G4	71 K6	80 K6	80 K8	90 S8
0.55	63 G2, 71 KY2	71 G2	71 K4	80 K4, 80 GY4	71 G6	80 G6	80 G8	90 L8
0.65	-	-	-	-	80 K6	90 S6	90 L8	100 L8
0.75	71 K2	80 K2	71 G4, 80 GY4	80 G4, 80 GX4	-	-	-	-
0.95	-	-	-	-	80 G6	90 L6	100 S8	100 LX8
1.0	-	-	80 K4	90 S4	-	-	-	-
1.1	71 G2, 80 KY2	80 G2	-	-	-	-	-	-
1.3	80 K2	90 S2	-	-	-	-	100 L8	112 M8
1.35	-	-	80 G4	90 L4	-	-	-	-
1.4	-	-	-	-	90 L6	100 L6	-	-
1.85	80 G2	90 L2	-	-	-	-	-	-
1.9	-	-	-	-	100 L6	112 M6	-	132 SX8T
2.0	-	-	90 L4	100 L4	-	-	-	-
2.5	90 L2	100 L2	100 S4	100 LX4	-	-	-	-
2.6	-	-	-	-	-	132 SX6T	-	-
3.3	100 S2	112 M2	-	-	-	-	-	-
3.6	-	-	100 L4	112 M4, 112 MX4	-	-	-	-
4.1	100 L2	112 MX2	-	-	-	-	-	-
4.4	-	-	-	132 S4T	-	-	-	-
4.6	-	132 S2T	-	-	-	-	-	-
5.5	-	132 SX2T	-	-	-	-	-	-

Power (kW) at 45°C, 50Hz	2 pole		4 pole		6 pole	
	IE2-KPR	IE2-KPER	IE2-KPR	IE2-KPER	IE2-KPR	IE2-KPER
0.12	-	-	-	63 K4	-	-
0.18	-	63 K2	63 G4	63 G4	-	-
0.25	-	63 G2	-	-	71 K6	-
0.37	-	-	71 KY4	-	-	80 GY6
0.55	71 KY2	-	-	-	80 KY6 80 G6	-
0.75	80 K2	-	80 G4	-	-	-
0.95	-	-	-	-	90 L6	-
1.0	-	-	90 S4	-	-	-
1.1	80 G2	-	-	-	-	-
1.3	90 S2	-	-	-	100LX6	-
1.35	-	-	90 L4	-	-	-
1.85	90 L2	-	-	-	-	-
1.9	-	-	-	-	-	112 MV6
2.0	-	-	100 L4	-	-	-
2.5	100 L2	-	100 LX4	-	-	-
2.6	-	-	-	-	-	132 SX6T
3.3	-	112 MX2	-	-	-	-
3.6	-	-	-	112MZ4	-	-
4.6	-	132 S2T	-	-	-	-
5.5	-	132 SX2T	-	-	-	-

Power (kW) at 45°C, 50Hz	2 pole		4 pole		6 pole		8 pole	
	IE3-KPR	IE3-KPER	IE3-KPR	IE3-KPER	IE3-KPR	IE3-KPER	IE3-KPR	IE3-KPER
0.12	-	-	-	63 G4	-	-	-	-
0.18	-	63 G2	63 G4	-	-	-	-	-
0.25	60 KY2	-	71 KY4	-	-	-	80 G8	-
0.37	-	71 G2	71 G4	-	-	-	-	-
0.55	-	80 K2	-	-	80 G6	-	-	-
0.75	80 K2	-	80 G4 80GX4	-	-	-	-	-
0.95	-	-	-	-	90 L6	-	-	-
1.0	-	-	90 S4	-	-	-	-	-
1.1	80 G2	-	-	-	-	-	100 LX8	-
1.3	90 S2	-	-	-	100LX6	-	-	112 MV8
1.35	-	-	90 L4 90 LX4	-	-	-	-	-
1.85	90 L2	-	-	-	-	-	-	-
1.9	-	-	-	-	-	112 MV6	-	-
2.0	-	-	100 L4	-	-	-	-	-
2.5	100 L2	-	100 LZ4	-	-	-	-	-
3.3	-	112 MX2	-	-	-	-	-	-

2. DOCUMENTS AND DRAWINGS :

- Catalogue: VEM / 04-042 E / 10.00
- 05-0001:93 dated 03.06.2010; ET-N 113 420
- Technical documentation stored in file ACE 04/840/03.

For D0 version:

- Catalogue: VMUK_NS02-110-EN-2/17
- IBExU02ATEX1108 U 10th Addition dated 02 May 2014; IBExU02ATEX1116 4th Addition dated 02 May 2014
- IBExU02ATEX1109, 1110, 1111, 1112, 1113, 1114, 1115 all in 5th Addition dated 02 May 2014
- ET-N 111153.01.01 dated 22.10.2018; ET-N 113800.01-03 dated 28.11.2017; ET-N 113900.01-04 dated 11.06.2018

3. TEST REPORTS :

VEM motors Thurm GmbH:

- F168I12 dated 12.04.2012; F173 12 dated 12.04.2012
- K62268C0 dated 05/04/2006; K62272C1 dated 05/04/2006; K62273C2 dated 05/04/2006
- 442 650 112 dated 02/03/1992; 442 650 112 dated 02/04/1992; 368 804 111 dated 19/12/1991

For D0 version:

- F861/18 dated 18.09.18; F862/18 dated 18.09.18

4. APPLICATION / LIMITATION :

4.1 - Bureau Veritas Rules for the Classification of Steel Ships and IEC 60092 series.

4.2 - The motors are intended for the installation in enclosed spaces.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The asynchrony motors are to be supplied by **VEM motors Thurm 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 Thurm 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 Thurm GmbH
Äußere Dresdner Str. 35
08066 Zwickau
GERMANY

6. MARKING OF PRODUCT :

- According to IEC 60034 specification
- Ex marking as relevant

7. OTHERS :

7.1 - It is in the responsibility of **VEM motors Thurm 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° 10424/C0 BV issued on 16 May 2012 by the Society.

*** END OF CERTIFICATE ***