



Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate supersedes certificate number 92/20022 (E5) issued on 10.12.2012 which is hereby cancelled.

This certificate is issued to:

PRODUCER	VEM motors Thurm GmbH Äußere Dresdner Str. 35 08066 Zwickau Germany	
DESCRIPTION	A.C. polyphase squirrel cage induction motors	
TYPES	(IE#-)KPER 63 - 132 (IE#-)KPR 56 - 112	(# = 1, 2, 3)
APPLICATION	Marine, offshore and industrial use	
SPECIFIED STANDARDS	EN 60034-1: 2011 EN 60079-0: 2012 EN 60079-7 : 2007	
RATINGS	Types (IE#-)KPR / (IE#-)KPER (standard motors)	
	Rated voltage:	up to 690 V
	Rated power:	up to 9kW
	Ambient air temperature:	up to 60°
	Degrees of protection:	IP 54, IP 55, IP 56, IP 65
Certificate No.	92/20022 (E6)	
Issue Date	07 September 2017	
Expiry Date	06 November 2022	
Sheet	1 of 10	


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LR031.1.2013.12



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RATINGS continued

Number of poles:	2, 4, 6, 8 and combination
Speed range:	670 min ⁻¹ up to 3600 min ⁻¹
Rated frequency:	50Hz, 60Hz
Insulation class:	155 (F) / 180 (H) ***

Types (IE#-)KPR / (IE#-)KPER (safetype motors)

Rated voltage:	127 V up to 725 V (± 5%) *)**)
Rated Frequency:	50Hz / 60Hz (± 2%) *)
Rated power:	0,12kW up to 5,5kW
Ambient air temperature:	up to 60°
Degrees of protection:	IP 54, IP 55, IP 56, IP 65
Number of poles:	2, 4, 6, 8
Speed range:	670 min ⁻¹ up to 3600 min ⁻¹
Protection concept:	
(IE#-)KPR/(IE#-)KPER 56 to 132	II 2 G Ex e II T3 or T4
(IE#-)KPR/(IE#-)KPER 56 to 132	II 3 D
(IE#-)KPR/(IE#-)KPER 56 to 132	II 2 D
(IE#-)KPR/(IE#-)KPER 63 to 132	II 3 G ExnA T3 or T4

Notes:

- *) Suitable measures are to be taken to ensure that the permissible voltage and frequency deviations will not be exceeded.
- ***) The PTB certificates for each individual type of motor state the working voltage range available for the type.
- ***) For application in the marine industry the ambient air temperature of 45 °C is to be considered.

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Modifications List

- Thermal winding protection (IE#-)KPR...TPM., (IE#-)KPER..TPM., (IE#-)KPR...TS., (IE#-)KPER...TS..
- built-in motors (IE#-)KPR.....E, (IE#-)KPER....E
- fanmotors (IE#-)YP..., (IE#-)YPE....
- unventilated motors (IE#-)KPO..., (IE#-)KPEO....
- explosion-proof motors (IE#-)KPR...Exe, (IE#-)KPER....Exe, (IE#-)KPR...ExnA., (IE#-)KPER...ExnA., (IE#-)KPR.../(IE#-)KPER...ExII2G, (IE#-)KPR.../(IE#-)KPER...ExII3G, (IE#-)KPR.../(IE#-)KPER... ExII2D; (IE#-)KPR../ (IE#-)KPER... ExII3D

- motors with built-on brakes (IE#-)BPR..., (IE#-)BPER..., (IE#-)BPRK..., (IE#-)BPERK...
- motors with separately driven fan (IE#-)KPF..., (IE#-)KPEF....
- motors with tachometer or IGR (IE#-)KPR....., (IE#-)KPER....., (IE#-)KPO....., (IE#-)KPEO.....
- motors with anti-condensations heater (IE#-)KPR...HB, (IE#-)KPER....HB
- reluctance motors (IE#-)KPR...syn, (IE#-)KPER...syn
- motors with special requirements (IE#-)KPRW..., (IE#-)KPERW..., (IE#-)BPRKW..., (IE#-)BPERKW...
- single phase motors (IE#-)EBPR(W)...., (IE#-)EBPER(W)...., (IE#-)EDPR..., (IE#-)EDPER...

Explanation List

- Ex II 3 G : ExnA
- Ex II 2 G : Exe
- Ex II 2 D : Ex II 2D Ex tb
- Ex II 3 D : Ex II 3D Ex tc

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50Hz/60Hz Standard-types, 45 deg.C, S1

Types Frame sizes		No. of poles	Rated Power / (kW) 50/60 Hz
KPR and IE1-KPR	KPER and IE1-KPER		
56 K2	63 K2	2	0.18/0.21
56 G2	63 G2	2	0.25/0.3
63 K2	71 K2	2	0.37/0.44
63 G2	71 G2	2	0.55/0.65
71 K2	80 K2	2	0.75/0.9
71 G2	80 G2	2	1.1/1.3
80 K2	90 S2	2	1.5/1.8
80 G2	90 L2	2	2.2/2.6
90 L2	100 L2	2	3.0/3.6
100 S2	112 M2	2	4.0/4.8
100 L2	112 MX2	2	5.5/6.6
112 MY2	132 S2	2	5.5/6.6
-	132 S2T	2	5.5/6.6
100 LV2	112 MV2	2	7.5/9
-	132 SX2T	2	7.5/9
112 M2	132 SX 2	2	7.5/9
56 K4	63 K4	4	0.12/0.14
56 G4	63 G4	4	0.18/0.21
63 K4	71 K4	4	0.25/0.3
63 G4	71 G4	4	0.37/0.44
71 K4	80 K4	4	0.55/0.65
71 G4	80 G4	4	0.75/0.9
80 K4	90 S4	4	1.1/1.3
80 G4	90 L4	4	1.5/1.8

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Types Frame sizes		No. of poles	Rated Power / (kW) 50/60 Hz
KPR and IE1-KPR	KPER and IE1-KPER		
90 L4	100 L4	4	2.2/2.6
100 S4	100 LX4	4	3.0/3.6
100 L4	112 M4	4	4.0/4.8
100 LX4	112 MX4	4	5.5/6.6
-	132 S4T	4	5.5/6.6
112 M4	132 S4	4	5.5/6.6
56 K6	63 K6	6	0.09/0.105
56 G6	63 G6	6	0.12/0.14
63 K6	71 K6	6	0.18/0.21
63 G6	71 G6	6	0.25/0.3
71 K6	80 K6	6	0.37/0.44
71 G6	80 G6	6	0.55/0.65
80 K6	90 S6	6	0.75/0.9
80 G6	90 L6	6	1.1/1.3
90 L6	100 L6	6	1.5/1.8
100 L6	112 M6	6	2.2/2.6
100 LX6	112 MX6	6	3.0/3.6
-	132 S6T	6	3.0/3.6
112 M6	132 S6	6	3.0/3.6
112 MX6	132 M6	6	4.0/4.8
63 K8	71 K8	8	0.09/0.105
63 G8	71 G8	8	0.12/0.14
71 K8	80 K8	8	0.18/0.21
71 G8	80 G8	8	0.25/0.3
80 K8	90 S8	8	0.37/0.44

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Types Frame sizes		No. of poles	Rated Power / (kW) 50/60 Hz
KPR and IE1-KPR	KPER and IE1-KPER		
80 G8	90 L8	8	0.55/0.65
90 L8	100 L8	8	0.75/0.9
100 S8	100 LX8	8	1.1//1.3
100 L8	112 M8	8	1.5/1.8
100 LX8	112 MX8	8	2.2/2.6
-	132 S8T	8	2.2/2.6
112 M8	132 S8	8	2.2/2.6
112 MX8	132 M8	8	3.0/3.6

50Hz/60Hz Standard-types, 45 deg.C, S1

Types Frame sizes		No. of poles	Rated Power / (kW) 50/60 Hz
IE2-KPR	IE2-KPER		
56 G2	-	2	0.12/0.14
63 K2	-	2	0.18/0.21
63 G2	-	2	0.25/0.30
71 K2	-	2	0.37/0.44
71 G2	-	2	0.55/0.65
80 K2	-	2	0.75/0.9
80 G2	-	2	1.1//1.3
90 S2	-	2	1.5/1.8
90 L2	-	2	2.2/2.6
100 L2	-	2	3.0/3.6
-	112 MX2	2	4.0/4.8
-	112 MV2	2	5.5/6.6

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Types Frame sizes		No. of poles	Rated Power / (kW) 50/60 Hz
IE2-KPR	IE2-KPER		
-	132 S2T	2	5.5/6.6
-	132 S2	2	5.5/6.6
-	112 MW2	2	7.5/7.5
-	132 SX2T	2	7.5/7.5
63 K4	-	4	0.12/0.14
63 G4	-	4	0.18/0.21
71 K4	-	4	0.25/0.30
71 G4	-	4	0.37/0.44
80 K4	-	4	0.55/0.65
80 G4	-	4	0.75/0.9
90 S4	-	4	1.1/1.3
90 L4	-	4	1.5/1.8
100 L4	-	4	2.2/2.6
100 LX4	-	4	3.0/3.6
-	112 MZ4	4	4.0/4.5
112 M4	-	4	4.0/4.8
112 MX4	132 S4	4	5.5/6.6
-	63 G6	6	0.12/0.14
71 K6	-	6	0.18/0.21
71 G6	-	6	0.25/0.30
80 K6	-	6	0.37/0.44
80 G6	-	6	0.55/0.65
90 S6	-	6	0.75/0.9
90 L6	-	6	1.1/0.92
100 LX6	-	6	1.5/0.92

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Types Frame sizes		No. of poles	Rated Power / (kW) 50/60 Hz
IE2-KPR	IE2-KPER		
-	112 MV6	6	2.2/0.92
-	112 MZ6	6	3.0/ -
-	132 SX6T	6	3.0/ -
-	132 S6	6	3.0/3.6
-	132 M6	6	4.0/4.5
-	80 G8	8	0.25/0.30
90 S8		8	0.37/0.44
90 L8		8	0.55/0.65
100 L8		8	0.75/0.9
100LX8	-	8	1.1/1.25
-	112 MV8	8	1.5/1.25
-	132 S8	8	2.2/ -
-	132 M8	8	3.0/ -

Types Frame sizes		No. of poles	Rated Power / (kW) 50/60 Hz
IE3-KPR	IE3-KPER		
56 G2	-	2	0.12/0.14
63 K2	-	2	0.18/0.21
63 G2	-	2	0.25/0.30
71 K2	-	2	0.37/0.44
71 G2	-	2	0.55/0.65
80 K2	-	2	0.75/0.9
80 G2	-	2	1.1/1.3
90 S2	-	2	1.5/1.8
90 L2	-	2	2.2/2.6

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Types Frame sizes		No. of poles	Rated Power / (kW) 50/60 Hz
IE3-KPR	IE3-KPER		
100 L2	-	2	3.0/3.6
-	112 M2	2	4.0/4.8
112 M2	-	2	4.0/4.8
-	132 S2T	2	5.5/6.6
-	132 S2	2	5.5/6.4
-	63 K4	4	0.12/0.14
63 G4	-	4	0.18/0.21
71 K4	-	4	0.25/0.30
71 G4	-	4	0.37/0.44
80 K4	-	4	0.55/0.65
80 G4	-	4	0.75/0.9
90 S4	-	4	1.1/ 1.3
90 L4	-	4	1.5/ 1.8
100 L4	-	4	2.2/2.6
100 LZ4	-	4	3.0/3.6
-	112 M4	4	4.0/4.5
63 G6	-	6	0.12/0.14
71 K6	-	6	0.18/0.21
71 GY6	-	6	0.25/0.30
80 K6	-	6	0.37/0.44
80 G6	-	6	0.55/0.45
90 S6	-	6	0.75/0.9
90 L6	-	6	1.1/0.92
100 LX6	-	6	1.5/0.92
-	112 MZ6	6	2.2/ -

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Types Frame sizes		No. of poles	Rated Power / (kW) 50/60 Hz
IE3-KPR	IE3-KPER		
-	132 S6	6	3.0/ -
80 G8	-	8	0.25/0.30
90 S8	-	8	0.37/0.44
90 L8	-	8	0.55/ -
100 LY8	-	8	0.75/0.9
100 LX8	-	8	1.1/1.25
-	112 MZ8	8	1.5/1.25
-	112 M8	8	1.5/1.25
-	132 S8	8	2.2/ -

OTHER CONDITION

Ratings of motors for use in hazardous areas are to be obtained from the relevant Ex-Certificates.


The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

The Design Appraisal Document No. HTS/ETS 35836-17 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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