

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Electric Motor**with type designation(s)
KPER, IE*-KPR and IE*-KPER

Issued to

VEM Motors Thurm GmbH
Zwickau, Germanyis found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Degree of protection	IP55, IP56, IP65 & IP66
Insulation class	F (H)
Temp. class (°C)	155 (180)
Voltage (V)	127 - 725
Power (kW)	0.12 - 5.5
Frequency (Hz)	50 - 60
Speed (RPM)	660 - 3600

Issued at **Hamburg** on **2019-01-01**for **DNV GL**This Certificate is valid until **2023-12-31**.DNV GL local station: **Essen**Approval Engineer: **Maik Gagern**

Arne Schaarmann
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

Type KPER, IE*-KPR & IE*-KPER 3-phase induction motor (ATEX):

Rated Voltage:	127V up to 725V
Rated Frequency:	50Hz, 60Hz
Number of poles:	2, 4, 6 and 8 (4-2, 8-4, ...)
Duty type:	S1
Enclosure class:	IP55, IP56, IP65 & IP66
Ambient air temp.:	45 (50, 55, 60) deg. C
Construction:	IM B3, IM B5, IM B14 and derived type IM B35..., IM V1...
Ex rating:	Ex II 2G, Ex II 3G, Ex II 2D, Ex II 3 D
Insulation class:	F (H)

Data for 230/400V and 400/690V 50Hz, Ex II 2G Exell T3 -Types, 45 deg.C, S1

Types Frame Sizes		No of poles	Max.Power (kW)	Rated Current (230/400V)	Rated Current (400/690V)
KPER IE1-KPER					
	63 K2	2	0,18	0,91 / 0,52	-
	63 G2	2	0,25	1,30 / 0,75	-
	71 K2	2	0,37	1,69 / 0,97	0,97 / 0,56
	71 G2	2	0,55	2,50 / 1,43	1,43 / 0,83
	80 K2	2	0,75	3,0 / 1,76	1,76 / 1,02
	80 G2	2	1,1	4,50 / 2,60	2,60 / 1,50
	90 S2	2	1,3	4,8 / 2,75	2,75 / 1,59
	90 L2	2	1,85	6,7 / 3,85	3,85 / 2,25
	100 L2	2	2,5	9,0 / 5,2	5,2 / 3,0
	112 M2	2	3,3	12,0 / 6,9	6,9 / 4,0
	112 MX2	2	4,1	14,1 / 8,1	8,1 / 4,7
	132 S2T	2	4,6	15,8 / 9,1	9,1 / 5,3
	132 SX2T	2	5,5	18,5 / 10,7	10,7 / 6,2
	63 K4	4	0,12	-	-
	63 G4	4	0,18	1,10 / 0,63	-
	71 K4	4	0,25	1,37 / 0,79	-
	71 G4	4	0,37	1,87 / 1,08	1,08 / 0,62
	80 K4	4	0,55	2,75 / 1,59	1,59 / 0,92
	80 G4	4	0,75	3,50 / 2,0	2,0 / 1,17
	90 S4	4	1,0	4,15 / 2,4	2,4 / 1,4
	90 L4	4	1,35	5,4 / 3,1	3,1 / 1,79
	100 L4	4	2,0	8,1 / 4,65	4,65 / 2,70
	100 LX4	4	2,5	9,7 / 5,6	5,6 / 3,2
	112 M4	4	3,6	14,1 / 8,1	8,1 / 4,7
	132 S4T	4	4,4	15,9 / 9,2	9,2 / 5,3
	80 K6	6	0,37	2,25 / 1,30	1,30 / 0,75
	80 G6	6	0,55	3,05 / 1,75	1,75 / 1,01
	90 S6	6	0,65	3,4 / 1,95	1,95 / 1,13
	90 L6	6	0,95	4,7 / 2,7	2,7 / 1,57
	100 L6	6	1,4	6,6 / 3,75	3,75 / 2,2
	112 M6	6	1,9	8,2 / 4,7	4,7 / 2,7
	132 SX6T	6	2,6	11,1 / 6,4	6,4 / 3,7
	80 K8	8	0,18	1,36 / 0,78	-
	80 G8	8	0,25	1,73 / 1,0	1,0 / 0,58
	90 S8	8	0,37	2,80 / 1,61	1,61 / 0,93

Types Frame Sizes		No of poles	Max.Power (kW)	Rated Current (230/400V)	Rated Current (400/690V)
	90 L8	8	0,55	3,75 / 2,15	2,15 / 1,25
	100 L8	8	0,65	3,9 / 2,25	2,25 / 1,30
	100 LX8	8	0,95	4,75 / 2,75	2,75 / 1,59
	112 M8	8	1,3	6,8 / 3,9	3,9 / 2,25
	132 SX8T	8	1,9	9,0 / 5,2	5,2 / 3,0
Types Frame Sizes		No of poles	Max.Power (kW)	Rated Current (230/400V)	Rated Current (400/690V)
IE2-KPR	IE2-KPER				
80 K2	-	2	0,75	2,70 / 1,56	1,56 / 0,90
80 G2	-	2	1,1	3,90 / 2,25	2,25 / 1,30
90 S2	-	2	1,3	4,50 / 2,60	2,60 / 1,50
90 L2	-	2	1,85	6,6 / 3,8	3,80 / 2,20
100 L2	-	2	2,5	8,5 / 4,90	4,90 / 2,85
-	112 MX2	2	3,3	11,3 / 6,5	6,5 / 3,8
80 G4	-	4	0,75	2,95 / 1,70	1,70 / 0,98
90 S4	-	4	1,0	3,98 / 2,30	2,30 / 1,33
90 L4	-	4	1,35	5,6 / 3,20	3,20 / 1,85
100 L4	-	4	2,0	7,5 / 4,30	4,30 / 2,50
100 LX4	-	4	2,5	9,2 / 5,3	5,3 / 3,05
-	112 MZ4	4	3,6	13,0 / 7,5	7,5 / 4,35
90 L6	-	6	0,95	4,60 / 2,65	2,65 / 1,53
100 LX6	-	6	1,3	5,6 / 3,2	3,2 / 1,85
-	112 MV6	6	1,9	8,9 / 5,1	5,1 / 2,95
Types Frame Sizes		No of poles	Max.Power (kW)	Rated Current (230/400V)	Rated Current (400/690V)
IE3-KPR	IE3-KPER				
71 G2	-	2	0,37	1,52 / 0,88	0,88 / 0,51
80 K2	-	2	0,75	2,70 / 1,56	1,56 / 0,90
80 G2	-	2	1,1	3,90 / 2,25	2,25 / 1,30
90 S2	-	2	1,3	4,50 / 2,60	2,60 / 1,50
90 L2	-	2	1,85	6,3 / 3,6	3,6 / 2,1
100 L2	-	2	2,5	8,5 / 4,90	4,90 / 2,85
-	112 MX2	2	3,3	11,3 / 6,5	6,5 / 3,8
80 GX4	-	4	0,75	3,08 / 1,78	1,78 / 1,03
90 S4	-	4	1,0	3,90 / 2,25	2,25 / 1,30
90 LX4	-	4	1,35	4,94 / 2,85	2,85 / 1,66
100 L4	-	4	2,0	7,4 / 4,25	4,25 / 2,45
100 LZ4	-	4	2,5	9,0 / 5,2	5,2 / 3,0
90 L6	-	6	0,95	4,60 / 2,65	2,65 / 1,53
100 LX6	-	6	1,3	5,6 / 3,2	3,2 / 1,85
-	112 MZ6	6	1,9	8,3 / 4,75	4,75 / 2,75

Modifications List

- thermal winding protection
- built-in motors
- fanmotors
- unventilated motors

KPR...TPM., KPER..TPM., KPR...TS., KPER...TS..
 KPR.....E, KPER.....E
 YP....., YPE.....
 KPO....., KPEO.....

- explosion-proof motors	KPR...Exe, KPER...Exe, KPR...Exn...,KPER...Exn..., KPR.../KPER... ExII2G, KPR.../KPER... ExII3G, KPR.../KPER... ExII2D, KPR.../KPER... ExII3D
- motors with built-on brakes	BPR..., BPER..., BPRK..., BPERK...
- motors with separately driven fan	KPRF..., KPERF....
- motors with tachometer or IGR	KPR....., KPER....., KPO....., KPEO.....
- motors with anti-condens. heater	KPR... STH, KPER....STH
- reluctance motors	KPR....syn, KPER....syn
- motors with special rotormaterials	KPRW..., KPERW..., BPRKW..., BPERKW...
- single phase motors	EBPR(W)...., EBPER(W)...., EDPR..., EDPER...

Application/Limitation

For installation in hazardous area. The information related to Ex-certification from recognised test institute is given as information only. Ex installations to be approved in each case according to the Rules and Ex-certification/Special conditions for safe use listed in valid Ex-certificate issued by a notified/recognised body.

For installation on open deck Rules Pt.4 Ch.8 Sec.10 Table B1 to be followed.

Type Approval documentation

Statement_DNV_GL_empt_e_20181212 2018-12-11
Drawing summary type list IE1 ATEX ET-N 111 153.01.01 2018-10-22
Drawing summary type list IE2 ATEX ET-N 113 800.01-.03 2017-11-28
Drawing summary type list IE3 ATEX ET-N 113 900.01-.03 2017-11-28
Assembly drawing 05-0001:04 2014-11-03
Assembly drawing 05-0001:93 2010-06-03
Test reports for motor KPER 63 K2 Ex F861/18 2018-09-18
Test reports for motor KPER 112 M4 Ex F862/18 2018-09-18
Ex Certificate for motor KPER 63 K2 Ex IBExU02ATEX_1110_02 2002-09-16
Ex Certificates for motor KPER 112 M4 Ex IBExU02ATEX_1115_09 2002-10-30
EC-Type Examination Certificate Type K.. 56... to K.. 132... IBExU02ATEX 1109 - 1116 2002-08-28
EC-Type Examination Certificate ExII2G IBExU02ATEX 1108 U 2002-08-28
EC-Type Examination Certificate ExII3G Series KPR IBExU06ATEX B001 2006-06-02
EC-Type Examination Certificate ExII3G Series KPER IBExU06ATEX B002 2006-06-02
Product Quality Assurance Notification Ex motors IBExU08ATEX Q008 2008-07-25
Product Quality Assurance Notification ExII2G/2D IBExU11ATEX Q011 2012-01-19
Product Quality Assurance Notification ExII2G/2D IBExU14ATEX Q015 2014-07-30
Test report IB-00-083 (IP65) IB-00-083 2002-10-23
VDE "Prüfbericht" (IP 55) 1993-11-18
VEM "Prüfbericht" (IP 56) 1993-08-20
DMT certificate (IP65)
Certificate „DIN EN ISO 9001 / 2015 493837 QM15 2018-07-22
Process description "Electrical final test" ETPB_3-1.04 2018-03-01

Tests carried out

Temperature, Overload, Overspeed, Insulation resistance, Winding resistance, No load.

Marking of product

VEM Motors Thurm GmbH – Type designation – Technical data

Periodical assessment



Job Id: **262.1-010587-5**
Certificate No: **TAE00003F8**

The scope of the periodical assessment is to verify that the conditions stipulated for the Type Approval is complied with and that no alterations are made to the product design or choice of materials.

The main elements of the survey are:

- Inspection on factory samples, selected at random from the production line
- Review of type approval documentation
- Review of possible change in design, materials and performance
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE