

[1] **TYPE EXAMINATION CERTIFICATE**  
(Translation)



[2] **for electrical equipment of Equipment Group II, Equipment Category 3**

[3] Type Examination Certificate Number: **IBExU09ATEXB006**

[4] Equipment: **Three-phase Asynchronous Motor with Squirrel-Cage Rotor**  
Type series (IE1-)K1.R 112... Ex nA (KN) up to (IE1-)K1.R 315... Ex nA (KN)  
and (IE1-)K12R 355... Ex nA (KN)

[5] Manufacturer: VEM motors GmbH

[6] Address: Carl-Friedrich-Gauß-Str. 1  
38855 Wernigerode  
GERMANY

[7] The design of the equipment mentioned under [4] and any acceptable variations thereto are specified in the schedule to this Type Examination Certificate.

[8] IBExU Institut für Sicherheitstechnik GmbH certifies that the equipment mentioned under [4] has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive 94/9/EC.

The test results are recorded in the test report IB-09-4-012 of 22 April 2010.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2006 and EN 60079-15:2005.

[10] If the sign „X“ is placed after the certificate number and the marking under [12], it indicates that the equipment is subject to special conditions for safe use specified under [17] in the schedule to this Type Examination Certificate and in the operating instruction.

[11] This Type Examination Certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

[12] The marking of the equipment mentioned under [4] shall include the following:

 **II 3G Ex nA II T2, T3 or T4**

T<sub>a</sub> -40 °C up to +40 °C ... +55 °C

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Freiberg, 22 April 2010

By order

(Dr. Wagner)

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- Stamp -

Certificates without signature and stamp are not valid.  
Certificates may only be duplicated completely and unchanged.  
In case of dispute, the German text shall prevail.

**Schedule**

[13] **Schedule**

[14] **to the Type Examination Certificate IBExU09ATEXB006**

[15] **Description of equipment**

The Motors of type series (IE1-)K1.R 112... Ex nA (KN) up to (IE1-)K1.R 315... Ex nA (KN) and (IE1-)K12R 355... Ex nA (KN) are designed as closed surface-ventilated three-phase asynchronous motors with squirrel cage rotors. The enclosure made of grey cast iron is provided with cooling fins. The ventilator works as radial ventilator. The air is sucked axially through the protective grid of the ventilator cowl and conducted over cooling fins of the enclosure.

The connection of the motors is carried out with terminal boxes, which are selected according to the size of the motors.

Parameters

The motors are manufactured up to the following rated data:

Type:	K1.R 112...	K1.R 132...	K1.R 160...	K1.R 180...	K1.R 200...	
Power:	9	13	22	36	54	kW
Speed:	7000	6000	6000	5000	5000	min <sup>-1</sup>

Type:	K1.R 225...	K1.R 250...	K1.R 280...	K1.R 315...	K12R 355...	
Power:	66	105	158	350	500	kW
Speed:	4500	4300	3600	3600	3600	min <sup>-1</sup>

Rated voltage:	220 V up to 725 V
Frequency (Mains operation):	50/60 Hz
Operation mode:	S1
Cooling medium temperature:	-40 °C up to +40 °C ... +55 °C
Degree of protection:	IP 55
Cooling method:	IC 411 (surface ventilation)

[16] **Test report**

The test results are recorded in the test report IB-09-4-012 of 22 April 2010. The test documents are part of the test report and listed there.

Summary of the test results

The Three-phase Asynchronous Motors with Squirrel-Cage Rotor of type series (IE1-)K1.R 112... Ex nA (KN) up to (IE1-)K1.R 315... Ex nA (KN) and (IE1-)K12R 355... Ex nA (KN) fulfil the requirements of explosion protection for equipment of Group II, Category 3G, type of protection „n“.

Safety instructions

- The motors may be operated only in the operating mode and under the ambient conditions, for which they have been tested at the type verification. This includes the operation at the frequency converter.
- Motors for feeding by converter with variable frequency and voltage must be tested for this operation as a unit with the converter fixed in the documents, s. a. EN 60079-15:2005, Paragraph 17.8.2.
- At installation of the motors with free shaft end upwards, the falling in of dirt particles into the ventilation openings must be prevented by the mounting.

[17] **Special conditions**

none

[18] **Essential Health and Safety Requirements**

Confirmed by compliance with standards (see [9]).

By order



(Dr. Wagner)

Freiberg, 22 April 2010