



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

[2] Equipment and Protective Systems intended for use  
in Potentially Explosive Atmospheres, Directive 94/9/EC

[3] Type Examination Certificate Number: **IBExU03ATEXB004**

[4] Equipment: Three-phase Asynchronous Motors with Squirrel-Cage Rotor  
Type W.1R 112... W.1R 180... W.1R 250...  
W.1R 132... W.1R 200... W.1R 280...  
W.1R 160... W.1R 225... W.1R 315...

[5] Manufacturer: VEM motors GmbH

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

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

[8] IBExU Institut für Sicherheitstechnik GmbH certifies that this Equipment 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. The test results are recorded in confidential test report IB-03-3-219 of 12 March 2003.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 50021:1999.

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

[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 Three-phase Asynchronous Motors mentioned under [4] shall include the following:

II 3G EEx nA T2, T3 or T4  
Ta -40 °C up to +40 °C respectively +55 °C

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Authorised for certifications  
-Explosion protection-

Freiberg, 12 March 2003

By order

(Dr. Lösch)

Schedule

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Seal

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

[13]

**Schedule**

[14]

**to the Type Examination Certificate IBExU03ATEXB004**

[15]

**Description of equipment**

The mechanical design of the Three-phase Asynchronous Motors with Squirrel-Cage Rotor of type series W.1R 132... up to W.1R 315... in type of protection „n“ correspond with the design of type series K1.R 132... up to K1.R 315... according to EC-Type Examination Certificate IBExU99ATEX1095.

By optimization of the winding layout, the use of higher-order magnet materials respectively the change of the motor basic type a rise of the motor effectiveness is reached.

- Rated data

The motors of the type series mentioned above are manufactured up to the following rated data:

Types:	<b>W.1R 132...</b>	<b>W.1R 160...</b>	<b>W.1R 180...</b>	<b>W.1R 200...</b>	
Power:	9	22	26	44	kW
Voltage:	725	725	725	725	V
Speed:	7000	6000	6000	5000	min <sup>-1</sup>
Types:	<b>W.1R 225...</b>	<b>W.1R 250...</b>	<b>W.1R 280...</b>	<b>W.1R 315...</b>	
Power:	54	66	105	350	kW
Voltage:	725	725	725	725	V
Speed:	5000	4500	4300	3600	min <sup>-1</sup>

Cooling medium temperature: -40 °C up to +40 °C respectively +55 °C

Degree of protection: IP 55

[16]

**Test report**

The proof of explosion protection of the Three-phase Asynchronous Motors of type series W.1R 132... up to W.1R 315... is recorded in the confidential test report IB-03-3-219 of 12 March 2003. The test documents are part of the test report and listed there.

Summary

The Three-phase Asynchronous Motors of type series W.1R 132... up to W.1R315... fulfil the requirements of explosion protection for equipment of Group II and Category 3G, type of protection „n“ for explosive atmospheres with gases and vapors of the temperature class T2, T3 or T4.

Safety instructions

- The manufacturer is under an obligation to carry out routine verifications and tests necessary for meeting the explosion proofness regulations for each Three-phase Asynchronous Motor.
- The motors may be operated only in this operating mode and under these ambient conditions, for what they have been tested at the type verification. That 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.

[17]

**Special conditions**

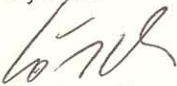
none

[18]

**Essential Health and Safety Requirements**

Confirmed by compliance with standards (see [9])

By order



(Dr. Lösch)

Freiberg, 12 March 2003



[1] **1<sup>st</sup> Addition to  
TYPE EXAMINATION CERTIFICATE IBExU03ATEXB004**  
(Translation)

[2] Equipment: Three-phase Asynchronous Motor with Squirrel-Cage Rotor  
Type series W.1R 112... up to W.1R 315...

[3] Manufacturer: VEM motors GmbH

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

[5] **Modifications / Additions**

The Three-phase Asynchronous Motors with Squirrel-Cage Rotor of type series W.1R 112... up to W.1R 315... are manufactured in future according to the standard EN 60079-15.

[6] **Test report**

The proof of explosion protection of the Addition mentioned under [5] is recorded in the test report IB-07-3-327 of 18 March 2008. The test documents are part of the test report and listed there.

[7] **Test result**

IBExU certifies that the equipment mentioned under [2] fulfils the Essential Health and Safety Requirements given in Annex II to the Directive 94/9/EC with EN 60079-15:2005.

The Three-phase Asynchronous Motors with Squirrel-Cage Rotor of type series W.1R 112... up to W.1R 315... mentioned under [2] fulfil the requirements of explosion protection for equipment of Group II, Category 3G, type of protection „n“ for explosive atmospheres with gases and vapors of the temperature classes T2, T3 or T4.

The marking of the equipment shall include the following:

II 3G Ex nA T2, T3 or T4

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

The safety instructions contained in the Schedule to the Type Examination Certificate IBExU03ATEXB004 are completed as follows:

- At installation of the motors with free shaft end upwards, the falling in of dirty particles into the ventilation openings must be prevented by the mounting.

*This Addition is only valid in combination with the Type Examination Certificate IBExU03ATEXB004 of 12 March 2003.*

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By order

(Dr. Lösch)

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- Stamp -

Freiberg, 18 March 2008

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[1] **2<sup>nd</sup> Addition to  
TYPE EXAMINATION CERTIFICATE IBExU03ATEXB004**

- [2] a) Equipment corresponding to IBExU03ATEXB004: **Three-phase Asynchronous Motor with Squirrel-Cage Rotor** type series W.1R 112... up to W.1R 315...  
b) Modified type key: (IE2-)W.1R 112...(KN) up to (IE2-)W.1R 315...(KN)
- [3] Manufacturer: VEM motors GmbH
- [4] Address: Carl-Friedrich-Gauß-Str. 1  
38855 Wernigerode  
GERMANY

[5] **Modifications / Additions**

The type key of the Three-phase Asynchronous Motors with Squirrel-Cage Rotor of type series W.1R 112... up to W.1R 315... is extended as mentioned under [2] b) with the following optional designations:

- IE2- IE-Code of the energy efficiency class  
KN Motor optimization (stator enclosure is turned, terminal box on the N-side)

All other mechanical and electrical parameters remain unchanged.

[6] **Test report**

The proof of explosion protection of the Addition mentioned under [5] is recorded in the test report IB-09-3-144/4 of 17 December 2009. The test documents are part of the test report and listed there.

[7] **Test result**

IBExU certifies that the equipment mentioned under [2] fulfils the Essential Health and Safety Requirements given in Annex II to the Directive 94/9/EC by compliance with EN 60079-0:2006 and EN 60079-15:2005.

The Three-phase Asynchronous Motors with Squirrel-Cage Rotor of type series (IE2-)W.1R 112...(KN) up to (IE2-)W.1R 315...(KN) mentioned under [2] fulfil the requirements of explosion protection for equipment of Group II, Category 3G, type of protection „n“ for explosive atmospheres with gases and vapors of the temperature classes T2, T3 or T4.

The marking of the equipment 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

The safety instructions contained in the Schedule to the Type Examination Certificate IBExU03ATEXB004 with 1<sup>st</sup> Addition keep their validity.

**This Addition is only valid in combination with the Type Examination Certificate IBExU03ATEXB004 of 12 March 2003 with 1<sup>st</sup> Addition.**

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By order

(Dr. Wagner)

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Freiberg, 17 December 2009

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