

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



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

[3] EC-Type Examination Certificate Number: **IBExU02ATEX1115**

[4] Equipment or Protective System: Three-phase Asynchronous Motor with Squirrel Cage Rotor Type K.. 112...

[5] Manufacturer: VEM motors Thurm GmbH

[6] Address: Äußere Dresdner Straße 35
08066 Zwickau
GERMANY

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

[8] IBExU Institut für Sicherheitstechnik GmbH, NOTIFIED BODY number 0637 in accordance with article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment or protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The test results are recorded in confidential test report IB-00-083 of 29 February 2000 with 1. Addition (handling No.: IB-02-3-402) of 28 August 2002.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 50014:1997 + A1 + A2 and EN 50019:2000.

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

[11] This EC-Type Examination Certificate relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this directive apply to the manufacture and supply of this equipment or protective system.

[12] The marking of the equipment or protective system shall include the following:

II 2G EEx e II T1, T2, T3 or T4

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7 - 09599 Freiberg, GERMANY
Phone: +49 3731 3805-0 - Fax: +49 3731 23650

Authorised for certifications
-Explosion protection-

By order

(Dr. Lösch)



- Seal -
(ID no. 0637)

Freiberg, 28 August 2002

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.

Schedule

[13] **Schedule**

[14] **to the EC-TYPE EXAMINATION CERTIFICATE IBExU02ATEX1115**

[15] **Description of equipment or protective system**

The Three-phase Asynchronous Motors with Squirrel Cage Rotor type K.. 112... are designed in type of protection Increased safety. The explosion protection of the mechanical design of the motors is proved in the EC-Type Examination Certificate IBExU02ATEX1108 U.

Rated values and technical data

See Continuation Sheets to this EC-Type Examination Certificate

[16] **Test report**

The proof of explosion protection of the Three-phase Asynchronous Motors type K.. 112... is explained in the confidential test report which is mentioned in the respective Continuation Sheet.

Summary of the test results

The Three-phase Asynchronous Motors type K.. 112... fulfil the requirements of explosion protection for equipment of Group II and Category 2G, type of protection Increased safety „e“ for explosive atmospheres with gases and vapors of the temperature classes T1, T2, T3 or T4.

Test documents

Application for EC-type examination of 27 May 2002 with the included information

Safety instructions

- Each Three-phase Asynchronous Motor with Squirrel Cage Rotor type K.. 112... has to be subjected according to the EN 50014:1997, Paragraph 24 to routine verifications and necessary tests regarding the compliance with the measures for the fulfilment of the explosion protection.
- Before the affixing of the CE marking, the manufacturer is obliged to carry out the required tests within the conformity assessment procedure according to the Directive 94/9/EC.
- The motors may be operated in potentially explosive atmospheres only with an appropriate shut-off device (thermal or overcurrent). This device shall switch off the motors within the heating period t_E given on the test plate if the motors brake.

[17] **Special conditions for safe use**

None

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

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

By order



(Dr. Lösch)

Freiberg, 28 August 2002

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg



[1] **1st Addition to**
EC-TYPE EXAMINATION CERTIFICATE IBExU02ATEX1115
(Translation)

- [2] Equipment or protective system: Three-phase Asynchronous Motor with Squirrel Cage Rotor type K.. 112...
- [3] Marking: II 2G EExe II T1, T2, T3 or T4
- [4] Manufacturer: VEM motors Thurm GmbH
- [5] Address: Äußere Dresdner Straße 35
08066 Zwickau
GERMANY

- [6] **Additions**
The Three-phase Asynchronous Motors with Squirrel Cage Rotor type K.. 112... which have been already certified regarding the explosion protection Equipment Group II, Equipment Category 2G are also manufactured for the dust explosion protection Equipment Category 2D.

- [7] **Test result**
The proof of the dust explosion protection of the Three-phase Asynchronous Motors of type series K.. 56... up to K.. 132... is contained
- for the constructive design in the 1st Addition to the EC-Type Examination Certificate IBExU02ATEX1108 of 23 October 2002
 - for the thermal properties in the test report IB-02-3-402 of 06 November 2002.
- The type designation is complemented with the marking 2G/2D.
The explosion protection marking of the motors shall be complemented with the following:

II 2D T125 °C, IP 65

The operating parameters of the combined design of the Ex 2G / Ex 2D-Motors correspond completely to those of the Ex 2G-Motors and they are specified in the Continuation Sheets to the EC-Type Examination Certificate. Regarding the dust explosion protection the safety instructions contained in the Schedule to the EC-Type Examination Certificate are complemented with the following notes:

- The Motors must not run in dust deposits with excessive layer thickness. They are suitable for areas of the Zone 21.
- The fall of foreign particles into the ventilation openings must be prevented in case of the installation of the motors with the free shaft end upwards.
- The degree of protection - at least IP6X - is reached only at a proper use of the tested cable entries and sealing plugs.
- For the installation and maintenance of the motors the specifications of the EN 50281-1-2 have to be kept. Considering the safety factor specified in the EN 50281-1-2, the ignition temperature of the respective air/dust-mixture respectively the smoulder temperature of the respective dust must be especially higher than the maximum surface temperature of the Motors.

IBExU Institut für Sicherheitstechnik GmbH
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☎ +49 (0) 3731 3805-0 - 📠 +49 (0) 3731 23650

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Freiberg, 06 November 2002

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[1] **2nd Addition to
EC-TYPE EXAMINATION CERTIFICATE IBExU02ATEX1115**
(Translation)

[2] Equipment: Three-phase Asynchronous Motor with Squirrel-Cage Rotor
Type K.. 112...

[3] Manufacturer: VEM motors Thurm GmbH

[4] Address: Äußere Dresdner Straße 35
08066 Zwickau
GERMANY

[5] **Modifications / Additions**

The Three-phase Asynchronous Motors with Squirrel-Cage Rotor type K.. 112... are manufactured in future according to the standards EN 60079-0 and EN 60079-7 as well as EN 61241-0 and EN 61241-1.

[6] **Test report**

The proof of explosion protection of the Addition mentioned under [5] is recorded in the test report IB-06-3-180/1 of 03 August 2007. 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 60079-0:2004, EN 60079-7:2003, EN 61241-0:2006 and EN 61241-1:2004 + Cor.:2006.

The Three-phase Asynchronous Motors with Squirrel-Cage Rotor type K.. 112... mentioned under [2] fulfil the requirements of explosion protection for equipment of Group II, Category 2G, type of protection Increased safety „e“ and Category 2D, type of protection Protection by enclosures „tD“.

The rated values and the classification of the t_E -times to the Temperature classes are specified in the Continuation Sheets to this EC-Type Examination Certificate.

The marking of the equipment shall include the following:

 II 2G Ex e II T1/T2, T3 or T4  II 2D Ex tD A21 IP 65 T 125 °C


The temperature range is to be specified in the marking at increased ambient temperature:
i. e. T_a -20 °C up to +60 °C

The safety instructions contained in the Schedule to the EC-Type Examination Certificate IBExU02ATEX1115 with Addition keep their validity.

This Addition is only valid in combination with the EC-Type Examination Certificate IBExU02ATEX1115 of 28 February 2002.

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(Dr. Lösch)



Freiberg, 03 August 2007

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