



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx BVS 15.0066X issue No.:0 Certificate history:

Status: **Current**

Date of Issue: **2015-09-10** Page 1 of 4

Applicant: **BARTEC VARNOST, d.o.o.**  
Cesta 9. avgusta 59  
1410 Zagorje ob Savi  
Slovenia

Electrical Apparatus: **Flameproof electric motors type 3KTC 180-225, 3KTCR 180-225, 3KTCP 180-225 and 4KTC 250-315, 4KTCR 250-315, 4KTCP 250-315**  
Optional accessory:

Type of Protection: **Equipment protection by flameproof enclosures "d", Equipment protection by increased safety "e"**

Marking: Ex db IIC T\* Gb or Ex db e IIC T\* Gb or  
Ex db IIB T\* Gb or Ex db e IIB T\* Gb or  
Ex db I Mb or Ex db e I Mb  
\*) See Parameters


Approved for issue on behalf of the IECEx  
Certification Body:

Dr. F. Eickhoff

Position:

Deputy Head of Certification Body

Signature:  
(for printed version)

  
2015-08-10

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

**DEKRA EXAM GmbH**  
Dinnendahlstrasse 9  
44809 Bochum  
Germany

 **DEKRA**  
DEKRA EXAM GmbH



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Manufacturer: **BARTEC VARNOST, d.o.o.**  
Cesta 9. avgusta 59  
1410 Zagorje ob Savi  
Slovenia

Additional Manufacturing location  
(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

#### STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

<b>IEC 60079-0 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2014-06</b> Edition: 7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-7 : 2006-07</b> Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

#### TEST & ASSESSMENT REPORTS:

*A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in*

Test Report:  
[DE/BVS/ExTR15.0069/00](#)

Quality Assessment Report:  
[SI/SIQ/QAR11.0003/02](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

#### General product information:

##### Subject and Type

Flameproof electric motors type 3KTC 180-225, 3KTCR 180-225, 3KTCP 180-225 and 4KTC 250-315, 4KTCR 250-315, 4KTCP 250-315

Type designation to \*1)KT\*2)\*3) \*4)\*4)\*4) \*5)\*5) \*6)/\*6)

##### 1) Motor generation

- 3: Third generation
- 4: Fourth generation

##### 2) Explosion group

- B: Flameproof enclosure for group IIB
- C: Flameproof enclosure for group IIC

##### 3) Enclosure variant

- R: Mining motor with standard housing
- P: Mining motor with screened housing

##### 4) Frame size

- 180 180 mm
- 200 200 mm
- 225 225 mm
- 250 250 mm
- 280 280 mm
- 315 315 mm

##### 5) Length of stator assembly

##### 6) Quantity of poles

#### CONDITIONS OF CERTIFICATION: YES as shown below:

1. The lengths of the flameproof joints are in parts longer and the gaps of the flameproof joints are in parts smaller than the values of table 2 and 3 of EN 60079-1:2014. For information of the dimensions of the flameproof joints contact the manufacturer.

2. Fasteners with a minimum yield stress of 640 N/mm<sup>2</sup> must be used for the closing of the flameproof enclosure.

3. Motors which have to be equipped with a direct temperature control must be monitored by a separate certified trigger unit.

4. Before setting-up operation it has to be ensured that no inadmissible over voltage caused by converter supply may occur at the terminals of the motor.

Clearances and creepage distances inside the terminal box do not permit an overvoltage cause by the converter which increase:

- 3.1 x UN for rated voltages ≤ 600 V
- 2.04 x UN for rated voltages > 600 V and ≤ 1100 V

The insulating system of the motor may require an additional limitation of a periodic over voltage.





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## EQUIPMENT(continued):

### Description

The enclosures of the flameproof electric motors are made of welded steel and cast iron and have a mounting place for terminal boxes.

The shaft will be fixed with ball bearings.

A terminal compartment in type of protection Flameproof enclosure "d" or Increased safety "e" or a direct cable entry is used for electrical connection of the motor. For electric power input into the motor compartment, separately certified cable glands or conductor bushings are used.

The cooling of the motor is realised by an external fan that is made of steel or aluminium (only group II). The fan is driven by the electrical machine itself.

Optionally a space heater can be mounted inside the stator housing.

For direct temperature monitoring the winding of the motor is equipped with temperature sensors (thermistors according DIN 44081 respectively DIN 44082). The sensors are connected in series. Optionally the temperature at the bearings could be monitored separately certified resistance thermometers (Pt100).

The sensors respectively the thermometers will be connected to a trigger unit which is certified for this purpose.

The maximum permissible ambient temperatures are -20 °C to 60 °C. This temperature range may be limited as a result of the selected terminal boxes and components, or the electrical design.

If the motor is converter-fed the converter must be of type voltage-source converter with pulse width modulation.

### Parameters

See Annex