

[1] **EU-TYPE EXAMINATION CERTIFICATE - TRANSLATION**



[2] Equipment and protective systems intended for use in potentially explosive atmospheres, directive 2014/34/EU

[3] EU-Type Examination Certificate Number **IBExU20ATEX1142 X** | Issue 1

[4] Equipment: **Three-phase Asynchronous Motor frame size 160**  
Type series: (IE-)W..R 160 Ex db (eb) (KN)(2D)...  
(IE-)W..R 180 Ex db (eb) (KN)(2D)...

[5] Manufacturer: VEM motors GmbH

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

[7] This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

[8] IBExU Institut für Sicherheitstechnik GmbH, Notified Body number 0637 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the essential health and safety requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential test report IB-21-3-0052/1.

[9] Compliance with the essential health and safety requirements has been assured by compliance with:  
EN IEC 60079-0:2018 EN 60079-1:2014 EN IEC 60079-7:2015/A1:2018 EN 60079-31:2014  
Except in respect of those requirements listed at item [18] of the schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the specific conditions of use specified in the schedule to this certificate.

[11] This EU-type examination certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the product shall include the following:

⊕ II 2G Ex db IIC or IIB T4 Gb

or

⊕ II 2G Ex db eb IIC or IIB T4 Gb

⊕ II 2D Ex tb IIC T125 °C Db

IBExU Institut für Sicherheitstechnik GmbH  
Fuchsmühlenweg 7  
09599 Freiberg, GERMANY

Phone: +49 (0)3731 3805-0  
Fax: +49 (0)3731 3805-10

By order

Dipl.-Ing. (FH) Henker



(Notified Body number 0637)

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

Freiberg, 2022-04-25

[13]

### Schedule

[14]

**Certificate Number IBExU20ATEX1142 X | Issue 1**

[15] **Description of product**

The Three-phase Asynchronous Motor frame size 160 of type series (IE.-)W..R 160 Ex db (eb) (KN)(2D)... and (IE.-)W..R 180 Ex db (eb) (KN)(2D)... is a flameproof encapsulated low-voltage motor in surface-cooled cast iron design. It is equipped with temperature limiters. The connection is made via the terminal box in type of protection flameproof enclosure or increased safety.

Rated values and technical data

- |   |  |
|---|--|
| - Rated voltage:                          | max. 690 V   |
| - Rated power:                            | max. 26 kW   |
| - Mode of operation:                      | S1 (S3, S6, S9)  |
| - Design according to EN 60034-7:         | IM B3/IM 1002, IM B35/IM 2002, IM B5/IM 3002 and derived designs according to EN 60034-7 |
| - Cooling method according to EN 60034-6: | IC411  |
| - Property class fastening screws:        | mind. A*-80 or 10.9 according to ISO 4762  |
| - Ambient temperature range:              | -40 °C ... -20 °C up to +40 °C ... +55 °C  |

The accurate electrical data are specified in the Continuation sheets to this certificate.

The Three-phase Asynchronous Motor can also be signed with a higher surface temperature for dust differing from 125 °C.

*Variations compared to Issue 0 of this certificate:*

- The Three-phase Asynchronous Motor can also be designed with a terminal box in type of protection flameproof enclosure, the type designation changes correspondingly.
- The Three-phase Asynchronous Motor can also be operated in the operation modes S3 and S6.
- The winding protection can also be carried out in operating mode S1 in mains operation with a motor protection switch as the only protection.
- Minor design changes have been made to the enclosure.
- Alternative components can also be used.

[16] **Test report**

The test results are recorded in the confidential test report IB-21-3-0052/1 of 2022-04-25.

The test documents are part of the test report and they are listed there.

*Summary of the test results*

The Three-phase Asynchronous Motor frame size 160 of type series (IE.-)W..R 160 Ex db (KN)... and (IE.-)W..R 180 Ex db (KN)... fulfils the requirements of explosion protection for equipment of Group II, Category 2G, type of protection flameproof enclosure "db".

The Three-phase Asynchronous Motor frame size 160 of type series (IE.-)W..R 160 Ex db eb (KN)(2D)... and (IE.-)W..R 180 Ex db eb (KN)(2D)... fulfils the requirements of explosion protection for equipment of Group II, Category 2G, type of protection flameproof enclosure "db" and increased safety "eb" and Category 2D, type of protection dust ignition protection by enclosure "tb".

[17] **Special conditions for use**

- Repairs of the flameproof joints must be made in compliance with the constructive specifications provided by the manufacturer. Repairs must not be made on the basis of values specified in tables 2 and 3 of EN 60079-1.
- Only fastening screws (property class mind. 10.9 or A\*-80 according to ISO 4762), specified by the manufacturer, shall be used.
- The Three-phase Asynchronous Motor can be used also in an extended ambient temperature range. This is specified in the respective continuation sheet and on the type plate.

- For the construction types IM V6, IM 2131 and IM V19, additional measures must be taken by the user to prevent foreign objects from falling vertically into the fan.
- The rated values and the measures to comply with the temperature class T4 and the maximum surface temperature for dust are specified in the respective Continuation Sheet to this EU-Type Examination Certificate. The instructions and electrical data contained therein, in particular for operation on the frequency inverter, must be observed for the individual motor types.

**[18] Essential health and safety requirements**

In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report:

- not applicable -

**[19] Drawings and documents**

The documents are listed in the test report.

IBExU Institut für Sicherheitstechnik GmbH  
Fuchsmühlenweg 7  
09599 Freiberg, GERMANY

By order



Dipl.-Ing. (FH) Henker

Freiberg, 2022-04-25