

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

[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 **IBExU03ATEX1078 X** | Issue 2
- [4] Equipment: **Three-phase Submersible motor**
Type: HC 20.1-./...Ex and T 20.1-./...Ex
- [5] Manufacturer: **WILO SE**
- [6] Address: **Wilopark 1
44263 Dortmund
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-21-3-0124.
- [9] Compliance with the essential health and safety requirements has been assured by compliance with:
EN IEC 60079-0:2018 EN 60079-1:2014
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 IIB T4 or T3 Gb

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By order

Dipl.-Ing. (FH) Henker



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, 2022-02-09

[13] **Schedule**

[14] **Certificate number IBExU03ATEX1078 X | Issue 2**

[15] **Description of product**

The Three-phase Submersible motors type HC 20.1-./...Ex and T 20.1-./...Ex are closed surface-cooled three-phase asynchronous motors with squirrel-cage rotor. The outer enclosure is made of grey cast iron. The electric connection is carried out with connecting cables, which are inserted into the flameproof enclosure directly with special cable entries.

The Submersible motors are functionally designed without an external fan. The motor type T 20.1-./...Ex is cooled by the conveying medium. The motor type HC 20.1-./...Ex has a cooling jacket and it is liquid-cooled with the internal cooling circuit.

The Three-phase Submersible motors may be produced also as motor with high efficiency (IE3) and optional optionally marked (e.g. with -IE3).

Rated values and technical data

- Type:	HC 20.1-./...Ex	T 20.1-./...Ex
- Rated voltage:	max. 690 V	max. 690 V
- Rated power (Input):	max. 32 kW	max. 33 kW
- Mode of operation:	S1	S1 submerged S2 15 min, interval operation
- Ambient temperature range:	-20 °C up to +40 °C -20 °C up to +60 °C (S1, submerged)	
- Property class fastening screws:	min. A2-50 according to ISO 4762	

The exact electrical data and operating modes are specified in the continuation sheets to this certificate.

Variations compared to Issue 1 of this certificate:

- The Three-phase Submersible motors are manufactured according to der current standard edition of EN IEC 60079-0.
- The manufacturer's address was changed.

[16] **Test report**

The test results are recorded in the confidential test report IB-21-3-0124 of 2022-02-09. The test documents are part of the test report and they are listed there.

Summary of the test results

The Three-phase Submersible motors type HC 20.1-./...Ex and T 20.1-./...Ex fulfil the requirements of explosion protection for equipment of Group II and Category 2G, type of protection flameproof enclosure "db" for explosive atmospheres with gases and vapors up to explosion group IIB and Temperature class T4 or T3.

[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 table 2 of EN 60079-1.
- Only fastening screws of property class A2-50, specified by the manufacturer, shall be used.
- The Three-phase Submersible motors may be operated with reduced power also in an increased temperature range. The maximum ambient and conveying medium temperature is specified in the respective Continuation sheet and on the type plate.

- The motors must be generally protected by a device for the direct temperature control. It consists of temperature sensors (160 °C, bimetal according to EN 60730 or triple PTC thermistor according to EN 60947-8 or EN 60034-11) built into the winding and an appropriate release device in accordance with directive 2014/34/EU. The motor type HC 20.1-./...Ex is only equipped with PTC thermistor temperature sensors.
- In converter operation, the current limitation of the converter is set to a maximum of 1.5 fold the rated motor current. Further parameters and settings of the converter can be found in the respective Continuation Sheet and in the operating manual. The temperature class for converter operation is T3.
- The Three-phase Submersible motors type T 20.1-./...Ex may be operated also in not submerged operation. Therefore, the motors must be equipped with an additional temperature control circuit. This consists of temperature sensors built into the winding (140 °C). The motor can be switched during operation with these sensors, taking into account the maximum number of starts.

[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.

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