Translation

1 # EU-Type Examination Certificate Supplement 2

2 **Equipment intended for use in potentially explosive atmospheres Directive 2014/34/EU**

3 EU-Type Examination Certificate Number: **BVS 12 ATEX E 123 X**

4 Product: **Motor type T42 - * /**.Ex**

5 Manufacturer: **WILO SE**

6 Address: **Wilopark 1, 44263 Dortmund, Germany**

7 This supplementary certificate extends EU-Type Examination Certificate No. BVS 12 ATEX E 123 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH, Notified Body number 0158, 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 Report No. BVS PP 12.2136 EU.

9 The Essential Health and Safety Requirements are assured in consideration of:

EN IEC 60079-0:2018	**General requirements**
EN 60079-1:2014/AC:2018	**Flameproof enclosure "d"**

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix 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:

Ex **II 2G Ex db IIB T3 Gb**

DEKRA Testing and Certification GmbH
Bochum, 2021-12-02

Signed: Jörg-Timm Kilisch

Managing Director

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13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 12 ATEX E 123 X
Supplement 2

15 **Product description**

15.1 **Subject and type**

Motor type T[1)]42[2)] -*[3)] / **[4)].Ex-**[5)]

[1)] Motor version	T = dry motor
[2)] Size	
[3)] Number of poles	e.g. 4, 6, 8, 10
[4)] Package length	e.g. 08
[5)] Optional efficiency class marking	

15.2 **Description**

The motors are intended for driving submersible pumps and are designed in type of protection Flameproof Enclosure “d”.
For direct temperature monitoring, the motors are equipped with temperature sensors (PTC thermistors DIN 44081-150 or bimetals VDE 0631) in the stator winding.

Reason of supplement:

- Updating to the standards EN IEC 60079-0:2018 and EN 60079-1:2014/AC:2018

Listing of all components used referring to standards

Subject and type	Certificate	Standards
Cable entry 54230	IBExU 19 ATEX 1085 U	EN 60079-0:2012+A112013 EN 60079-1: 2014
Cable entry 30T, 42T and 60T	PTB 00 ATEX 1090 U	EN IEC 60079-0:2018 EN 60079-1:2014+AC2018

15.3 **Parameters**

15.3.1 Motor circuit

15.3.1.1 Type T42-4/36.Ex-** (Number of poles 4)

Rated voltage	200	up to 690		V
Rated frequency	50	/	60	Hz
Rated speed	1450	/	1740	min^{-1}
Mode	S1 submerged / emerged operation			

Upper Ambient temperature range*	40	40	60	60	°C
Rated frequency	50	60	50	60	Hz
Power	120	123	101	102	kW

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15.3.1.2 Type T42-4/42.Ex-** (Number of poles 4)

Rated voltage	200 up to 690	V
Rated frequency	50 / 60	Hz
Rated speed	1450 / 1740	min^{-1}
Mode	S1 submerged / emerged operation	

Upper Ambient temperature range*	40	40	60	60	°C
Rated frequency	50	60	50	60	Hz
Power	138	150	115	125	kW

15.3.1.3 Type T42-4/51.Ex-** (Number of poles 4)

Rated voltage	200 up to 690	V
Rated frequency	50 / 60	Hz
Rated speed	1450 / 1740	min^{-1}
Mode	S1 submerged / emerged operation	

Upper Ambient temperature range*	40	40	60	60	°C
Rated frequency	50	60	50	60	Hz
Power	156	176	132	148	kW

15.3.1.4 Type T42-6/36.Ex-** (Number of poles 6)

Rated voltage	200 up to 690	V
Rated frequency	50 / 60	Hz
Rated speed	975 / 1170	min^{-1}
Mode	S1 submerged / emerged operation	

Upper Ambient temperature range*	40	40	60	60	°C
Rated frequency	50	60	50	60	Hz
Power	98	121	83	102	kW

15.3.1.5 Type T42-6/46.Ex-** (Number of poles 6)

Rated voltage	200 up to 690	V
Rated frequency	50 / 60	Hz
Rated speed	975 / 1170	min^{-1}
Mode	S1 submerged / emerged operation	

Upper Ambient temperature range*	40	40	60	60	°C
Rated frequency	50	60	50	60	Hz
Power	120	132	101	110	kW

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15.3.1.6 Type T42-6/52.Ex-** (Number of poles 6)

Rated voltage	200 up to 690	V
Rated frequency	50 / 60	Hz
Rated speed	975 / 1170	min^{-1}
Mode	S1 submerged / emerged operation	

Upper Ambient temperature range*	40	40	60	60	°C
Rated frequency	50	60	50	60	Hz
Power	144	165	121	138	kW

15.3.1.7 Type T42-8/34.Ex-** (Number of poles 8)

Rated voltage	200 up to 690	V
Rated frequency	50 / 60	Hz
Rated speed	740 / 890	min^{-1}
Mode	S1 submerged / emerged operation	

Upper Ambient temperature range*	40	40	60	60	°C
Rated frequency	50	60	50	60	Hz
Power	73	78	61	65	kW

15.3.1.8 Type T42-8/40.Ex-** (Number of poles 8)

Rated voltage	200 up to 690	V
Rated frequency	50 / 60	Hz
Rated speed	740 / 890	min^{-1}
Mode	S1 submerged / emerged operation	

Upper Ambient temperature range*	40	40	60	60	°C
Rated frequency	50	60	50	60	Hz
Power	84	95	71	80	kW

15.3.1.9 TypeT42-8/50.Ex-** (Number of poles 8)

Rated voltage	200 up to 690	V
Rated frequency	50 / 60	Hz
Rated speed	740 / 890	min^{-1}
Mode	S1 submerged / emerged operation	

Upper Ambient temperature range*	40	40	60	60	°C
Rated frequency	50	60	50	60	Hz
Power	99	110	85	92	kW

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15.3.1.10 Type T42-10/37.Ex-** (Number of poles 10)

Rated voltage	200 up to 690	V	
Rated frequency	50 / 60	Hz	
Rated speed	585 / 700	min^{-1}	
Mode	S1 submerged / emerged operation		

Upper Ambient temperature range*	40	40	60	60	°C
Rated frequency	50	60	50	60	Hz
Power	68	75	57	63	kW

15.3.1.11 Type T42-10/47.Ex-** (Number of poles 10)

Rated voltage	200 up to 690	V	
Rated frequency	50 / 60	Hz	
Rated speed	585 / 700	min^{-1}	
Mode	S1 submerged / emerged operation		

Upper Ambient temperature range*	40	40	60	60	°C
Rated frequency	50	60	50	60	Hz
Power	84	91	71	75	kW

* The maximum permissible temperature of the water to be pumped complies with the respective maximum ambient temperature.

For the supply with a frequency converter the maximal values given on the marking plate must not be exceeded. It is recommended to have a safety factor of 5-7 % from nominal load to reduce the temperature rise by converter feeding.

Electrical parameters (Converter)		
Maximum permitted input voltage	Rated voltage of the motor	V
Minimum switching frequency	4	kHz
Current limiting value	1.5 x I_N	
Maximum overload time / permitted time for operation below the minimum output frequency[2)]	60	s
Output frequency	Rated frequency of the motor or lower	Hz
If the motor runs with a converter, the converter is designed as intermediate circuit voltage converter with pulse width modulation		

2) The maximum overload time and the permitted time for operation below the minimum output frequency are in relation with a period of 10 minutes.

15.3.2 Thermistor circuit (PTC DIN 44081)

According certificate of functional tested safety device

15.3.2 Bimetal-thermostat circuits:

Current 2.5 A

Voltage 250 V

15.3.4 Maximal permissible submersion depth: 20 m

15.3.5 Ambient temperature range -20 °C up to +40 °C / 60 °C

15.3.6 Maximum temperature of the water to be pumped: +40 °C / 60 °C

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16 **Report Number**

BVS PP 12.2136 EU, as of 2021-12-02

17 **Special Conditions for Use**

17.1 In addition to the motor circuit breaker, the motor must be directly thermally monitored by the temperature sensors located in the stator winding in conjunction with a tripping device or bimetal (normally closed) contact that has been functionally tested for this purpose.

In case of supply by a frequency converter the temperature shall be controlled directly by Temperature sensors in the stator winding or in the coil end in connection with a functionally tested control unit.

17.2 The fasteners screws of the flameproof enclosure parts have to appear a yield stress ≥ 450 N/mm².

17.3 In case of the parts forming the joint shall be replaced or repaired, the dimensions information of the flameproof joints must be obtained from the manufacturer, because the gap length of the flameproof joint of this apparatus are in parts longer and the gap width are in parts smaller than required by Table 2 of EN 60079-1:2014/AC:2018.

17.4 The motor is used for the Gas Group IIB, the painting of the enclosure must not be thicker than 2 mm according table 9 (EN IEC 60079-0:2018).

17.5 The motor may only be allowed to operate with the frequency converter using pulse width modulation to keep the parameters according clause 15.3.1.

17.6 Before commissioning, it must be ensured that no impermissibly high overvoltages occur at the terminals of the motor when the inverter is supplied.
The clearances and creepage distances in the terminal box do not permit inverter-related overvoltages with a periodic peak value of more than 3000 V.

The insulation system of the motor may make it necessary to further limit the periodically occurring overvoltages.

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH
Bochum, 2021-12-02
BVS-Pz/Mu A20210587

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