



Translation

EC-Type Examination Certificate

- (2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
- (3) No. of EC-Type Examination Certificate: **BVS 14 ATEX E 128 X**
- (4) Equipment: **Direct current motor type d-G*Z 17***
- (5) Manufacturer: **Winkelmann Elektromotoren GmbH & Co. KG**
- (6) Address: **Im Neuen Felde 88-90, 29525 Uelzen, Germany**
- (7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.
- (8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the Test and Assessment Report BVS PP 14.2194 EG.
- (9) The Essential Health and Safety Requirements are assured by compliance with:
 - EN 60079-0:2012 General requirements**
 - EN 60079-1:2007 Flameproof enclosure "d"**
 - EN 60079-7:2007 Increased Safety "e"**
- (10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.
- (11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.
- (12) The marking of the equipment shall include the following:

 **II 2G Ex d IIA/IIB/IIC T3-T6 Gb** or **II 2G Ex de IIA/IIB/IIC T3-T6 Gb**

DEKRA EXAM GmbH
Bochum, dated 2014-08-19

Signed: Simanski

Certification body

Signed: Dr. Wittler

Special services unit



- (13) Appendix to
- (14) **EC-Type Examination Certificate
BVS 14 ATEX E 128 X**
- (15) 15.1 Subject and type

Type d-GN*¹⁾Z 17*²⁾

- 1) N = shunt-wound
- Reg = series
- F = flange
- E = axial own surface cooling
- (O) = axial forced surface cooling

2) Rotational speed number = number of poles e.g. 2 = 2 poles = 3000 min⁻¹

15.2 Description

The direct current motor type d-GN*Z 17* is designed in type of protection flameproof enclosure „d“. The motor enclosure consists of a seamless steel tube and is closed with cast iron bearing shields.

The motor could be equipped with a separately certified terminal box in type of protection increased safety "e" (BVS 14 ATEX E 003 U) resp. in type of protection flameproof enclosure "d" (BVS 12 ATEX E 149 U or BVS 12 ATEX E 131 U).

The motor can be cooled in different ways: Own surface cooling or with separately certified external forced ventilation motor (CESI 01 ATEX 103).

15.3 Parameters

Electrical parameters

Circuit of the rotating electrical machine

Rated voltage	up to	600 +15 % / -20 %	V
Rated power	up to	22,5	kW
Rated rotational speed	up to	3600	min ⁻¹
Duty type		S1 / S2 / S3	

Monitoring circuit

(S1 external cooling, S2 and S3)

Temperature sensors (ptthermistors) According to the specifications given in the certificate of the trigger unit and the electrical design

Bimetal switch According to the specifications given in the certificate of the trigger unit and the electrical design

U_{max} = 250 VAC or 24/48 VDC;
I_{max} = 2,5 A

Ambient temperature range, temperature class, gasgroup and surface temperature

The electrical data, the temperature class and the ambient temperature range of the respective version is determined by a routine test carried out by the manufacturer. The marking of the gas group IIA, IIB or IIC depends on the type of the painting.

The ambient temperature range is -20 °C...+40 °C. A special electrical and thermal design using suitable terminal boxes, materials and components allows extending this range up to -60 °C...+70 °C.



(16) Test and Assessment Report

BVS PP 14.2194 EG as of 2014-08-19

(17) Special conditions for safe use

- 17.1 The dimensions of the flameproof joints are in parts other than the relevant minimum or maximum values of EN 60079-1:2007. For information on the dimensions of the flameproof joints contact the manufacturer.
- 17.2 Fasteners with a screw quality of at least A4-70 have to be used for the closing of the flameproof enclosure. A related note has to be given in the manual of the complete rotating electrical machine.
- 17.3 If the temperature exceeds +100 °C at the end of the shaft, only metal fans are suitable for this purpose.
- 17.4 If the electrical machine will be cooled by forced ventilation, it has to be assured that the electrical machine can only run if the ventilation is running.
- 17.5 If the motor type d-GN*Z 17* is used for the gas group IIC, the painting of the enclosure must not be thicker than 0.2 mm according table 8 (EN 60079-0:2012).
- 17.6 If the motor type d-GN*Z 17* is used for the gas group IIA/IIB, the painting of the enclosure must not be thicker than 2 mm according table 8 (EN 60079-0:2012).
- 17.7 A special electrical and thermal design using suitable terminal boxes, materials and components allows extending this the ambient temperature range up to -60 °C...+70 °C.

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 EXAM GmbH
44809 Bochum, 2014-08-19
BVS-Yil/Ma A20110911

Certification body

Special services unit

Translation

EU-Type Examination Certificate Supplement 1

Change to Directive 2014/34/EU

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

3 EU-Type Examination Certificate Number: **BVS 14 ATEX E 128 X**

4 Product: **Direct current motor type d-G*Z 17***

5 Manufacturer: **Winkelmann Elektromotoren GmbH & Co. KG**

6 Address: **Im Neuen Felde 88-90, 29525 Uelzen, Germany**

7 This supplementary certificate extends EC-Type Examination Certificate No. BVS 14 ATEX E 128 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 EXAM 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 14.2194 EU.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012 + A11:2013	General requirements
EN 60079-1:2014	Flameproof enclosure "d"
EN 60079-7:2015	Increased Safety "e"

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:


II 2G Ex db IIA/IIB/IIC T3-T6 Gb or
II 2G Ex db eb IIA/IIB/IIC T3-T6 Gb

DEKRA EXAM GmbH
 Bochum, 2018-03-16

Signed: Jörg Koch

 Certifier

Signed: Dr Michael Wittler

 Approver

13 **Appendix**

14 **EU-Type Examination Certificate**

**BVS 14 ATEX E 128 X
Supplement 1**

15 **Product description**

15.1 **Subject and type**

Direct current motor type d-GN*¹⁾Z 17*²⁾

- 1) N = shunt-wound
 Reg = series
 F = flange
 E = axial own surface cooling
 (O) = axial forced surface cooling

2) Rotational speed number = number of poles e.g. 2 = 2 poles = 3000 min⁻¹

15.2 **Description**

The direct current motor type d-GN*Z 17* is designed in type of protection flameproof enclosure "d". The motor enclosure consists of a seamless steel tube and is closed with cast iron bearing shields.

The motor is equipped with a separately certified terminal box in type of protection increased safety "e" (BVS 14 ATEX E 003 U) or in type of protection flameproof enclosure "d" (BVS 12 ATEX E 149 U or BVS 12 ATEX E 131 U)

The motor can be cooled in two different ways: Own surface cooling or with separately certified external forced ventilation motor (CESI 01 ATEX 103).

Reason of the supplement:

- Change to Directive 2014/34/EU
- Updating to the standard EN 60079-1:2014 and EN 60079-7:2015
- Modification of the parameters

Listing of all components used referring to older standards

Subject and type	Certificate
Terminal box type *** GGe	BVS 14 ATEX E 003 U
Terminal box type 2/3d and 4d	BVS 12 ATEX E 149 U
Terminal box type 6d So	BVS 12 ATEX E 131 U

With this supplement the certificate is changed to Directive 2014/34/EU. (Annotation: In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.)

15.3 Parameters

Electrical parameters

Circuits of the rotating electrical machine

Rated voltage	up to	552 +25 % / -20 %	V
Rated power	up to	22.5	kW
Rated rotational speed	up to	3600	min ⁻¹
Duty type		S1 / S2 / S3	

Monitoring circuits

(S1 external cooling, S2 and S3)

Temperature sensors (ptc thermistors) According to the specifications given in the certificate of the trigger unit and the electrical design

Bimetal switch According to the specifications given in the certificate of the trigger unit and the electrical design

$U_{\max} = 250 \text{ VAC or } 24/48 \text{ VDC}$;

$I_{\max} = 2.5 \text{ A}$

Ambient temperature range, temperature class, Gas Group and surface temperature

The electrical data, the temperature class and the ambient temperature range of the respective version is determined by a routine test carried out by the manufacturer. The marking of the Gas Group IIA, IIB or IIC depends on the type of the painting.

The ambient temperature range is -20 °C...+40 °C. A special electrical and thermal design using suitable terminal boxes, materials and components allows extending this range up to -60 °C...+70 °C.

16 Report Number

BVS PP 14.2194 EU, as of 2018-03-16

17 Special Conditions for Use

- 17.1 The dimensions of the flameproof joints are in parts other than the relevant minimum or maximum values of EN 60079-1:2014. For information on the dimensions of the flameproof joints contact the manufacturer.
- 17.2 Fasteners with a screw quality of at least A4-70 have to be used for the closing of the flameproof enclosure. A related note has to be given in the manual of the complete rotating electrical machine.
- 17.3 If the temperature exceeds +100 °C at the end of the shaft, only metal fans are suitable for this purpose.
- 17.4 If the electrical machine will be cooled by forced ventilation, it has to be assured that the electrical machine can only run if the ventilation is running.
- 17.5 If the motor type d-GN*Z 17* is used for the Gas Group IIC, the painting of the enclosure must not be thicker than 0.2 mm according table 8 (EN 60079-0:2012).
- 17.6 If the motor type d-GN*Z 17* is used for the Gas Group IIA/IIB, the painting of the enclosure must not be thicker than 2 mm according table 8 (EN 60079-0:2012).
- 17.7 A special electrical and thermal design using suitable terminal boxes, materials and components allows extending this the ambient temperature range up to -60 °C...+70 °C.

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**

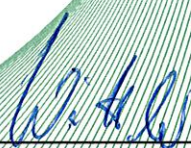
Drawings and documents are listed in the confidential report.

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 EXAM GmbH
Bochum, dated 2018-03-16
BVS-Pz/Nu A 20170957



Certifier



Approver