Translation

(1) 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 155 U**

(4) Component: **Heater type DH..M0.-.**

(5) Manufacturer: **ELMESS-Thermosystemtechnik GmbH & Co. KG**

(6) Address: **Nordallee 1, 29525 Uelzen, Germany**

(7) The design and construction of this component 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 component 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 14.2219 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 60079-31:2014 Protection by enclosures "t"

(10) The sign "U" placed after the certificate number indicates that the certificate must not be mistaken for a certificate for equipment or a protective system. This certificate may only be used as the basis for the certification of equipment or a protective system.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified component in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.

(12) The marking of the component shall include the following:

II 2G Ex d IIB Gb alternative Ex db IIB or
II 2G Ex d IIC Gb alternative Ex db IIC or
II 2D Ex tb IIIC Db alternative Ex tb IIIC

DEKRA EXAM GmbH
Bochum, dated 2014-10-21

Signed: Schumann
Certification body

Signed: Dr. Eickhoff
Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 234/3696-105 Fax +49 234/3696-110 E-mail zs-exam@dekra.com

(13) Appendix to

(14) **EC-Type Examination Certificate**
BVS 14 ATEX E 155 U

(15) 15.1 Subject and type

Heater type DH..M0.-.
Type designation to DH.*1.*2M0.*3.*4 -.*5

1): Usable for heating medium
F: fluids
G: gases / air
K: heating element encapsulated with solid body

2): Type accordance with the purpose
0*: Component

3): Enclosure category / type or variation number
1, 2, 3, 4, 5, 6, 7, 8

4): Type of enclosure material

5): Index number for rated power

15.2 Description

The heater type DH..M0.-. is designed in the type of protection Flameproof Enclosure "d" or Protection by enclosure "t".
The heater enclosures consist of two parts each that are screwed together by means of an inch-long thread. The tubular part of the enclosure serves the purpose of housing the heating coils. This part is filled with magnesium oxide and sealed in a highly solid manner. The other part serves the purpose of fitting a cable entry. The heating is connected by means of a cable permanently installed in the heater enclosure.

15.3 Parameters

Main circuit:	
Rated voltage max.	AC/DC 800 V
Rated current max.	20 A
Size of conductor max.	4 mm²
Maximum ambient temperature range:	-60 °C up to +60 °C

(16) Test and Assessment Report

BVS PP 14.2219 EG as of 2014-10-21

(17) Installation instructions

The temperature class, a control unit if required (level, flow) and further conditions of use (ambient temperature, self-heating, heat conduction, fitted position etc.) all have to be defined when testing the entire heating system.

The apparatus shall only be connected using the lead fitted. This lead has to be connected observing the instructions provided. The connecting space in a potentially explosive atmosphere has to meet the requirements of an acknowledged type of protection according to EN 60079-0.

The equipotential bonding has to be established via the nipple, flange or the bushing.

The heater has to be mounted in such a manner that it will be protected against mechanical stress.

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 1 and 2 of EN 60079-1:2007. For information of the dimensions of the flameproof joints contact the manufacturer.

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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, 2014-10-21
BVS-Ew/Ma A20140184

Certification body

Special services unit

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Translation

1 # EU-Type Examination Certificate Supplement 1

Change to Directive 2014/34/EU

2 **Components intended for use on/in an Equipment or Protective System intended for use in potentially explosive atmospheres**
Directive 2014/34/EU

3 EU-Type Examination Certificate Number: **BVS 14 ATEX E 155 U**

4 Product: **Heater type DH* ** M0* **-*****

5 Manufacturer: **ELMESS-Thermosystemtechnik GmbH & Co. KG**

6 Address: **Nordallee 1, 29525 Uelzen, Germany**

7 This supplementary certificate extends EC-Type Examination Certificate No. BVS 14 ATEX E 155 U 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 14.2219 EU.

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

EN IEC 60079-0:2018	**General requirements**
EN 60079-1:2014	**Flameproof enclosure "d"**
EN 60079-31:2014	**Protection by Enclosure "t"**

Except in respect of those requirements listed under item 18 of the appendix.

10 The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system respectively product.

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 Gb
or
II 2G Ex db IIB Gb
or
II 2D Ex tb IIIC Db

DEKRA Testing and Certification GmbH
Bochum, 2019-06-12

Signed: Jörg-Timm Kilisch

Managing Director

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DAkkS Deutsche Akkreditierungsstelle D-ZE-17438-02-00

13 **Appendix**

14 **EU-Type Examination Certificate**

BVS 14 ATEX E 155 U
Supplement 1

15 **Product description**

15.1 **Subject and type**

Heater type DH[a] [bb] M0[c] [dd]_[eee]

Position	Description	
a	Suitable for medium	
	F	Fluids
	G	Gases / Air
	K	Heating elements inserted in solid body
bb	Design according to intended use	
c	Housing type of flameproof enclosure (value between 1 and 8)	
dd	Housing material	
	w/o	Brass
	V	Stainless steel
	St	Steel
eee	Nominal power in [kW]	

15.2 **Description**

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.)

The heater type DH* ** M0* **-*** is designed in the type of protection Flameproof Enclosure "d" or Protection by Enclosure "t".

The heating housings consist of two parts which are screwed together by means of threads. The flameproof terminal housing is available in welded and non-welded construction. The tubular part of the housing is made of stainless steel and serves to accommodate the heating coil. This is filled with magnesium oxide and compressed to a high strength. The other part is used for mounting a cable entry. To connect the heater, a permanently connected cable is part of the heater housing.

Reason for this supplement:

- Change to Directive 2014/34/EU
- Updating of the applied standards with simultaneous marking changes.
- Removal of the cylindrical pipe thread, as these are no longer permitted according to the current version of EN 60079-1.

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15.3 **Parameters**

15.3.1 Electrical parameters (main circuit)

Max. rated voltage	AC/DC	690	V
Max. rated current		20	A
Max. cross section of conductor		4	mm²

15.3.2 Thermal parameters

Temperature range at place of installation	-60 °C up to 60	°C

16 **Report Number**

BVS PP 14.2219 EU, as of 2019-06-12

17 **Installation Instructions**

The temperature class, a control unit if required (level, flow, etc.) and further conditions of use (ambient temperature, self-heating, heat conduction, fitted position etc.) have to be defined when testing the entire heating system.

The apparatus shall only be connected using the lead fitted. This lead has to be connected observing the instructions provided. The connecting compartment in a potentially explosive atmosphere has to meet the requirements of an acknowledged type of protection according to EN 60079-0.

The equipotential bonding has to be established via the nipple, flange or the bushing.

The heater has to be mounted in such a manner that it will be protected against mechanical stress.

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.

The assessment of the cable sheath or the installation of the fixed supply line with regard to electrostatic ignition hazards must be carried out as part of the certification of the complete unit.

18 **Essential Health and Safety Requirements**

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

For this product the standard EN IEC 60079-0:2018 is equivalent to the harmonized standard EN 60079-0:2012 + A11:2013 in terms of safety.

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, 2019-06-12
BVS-Kir/Mu A 20190101

Managing Director

DAkkS Deutsche Akkreditierungsstelle D-ZE-17438-02-00

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