



Prüf- und Zertifizierungsstelle

ZELM Ex



(1) **EC-TYPE-EXAMINATION CERTIFICATE**

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-TYPE-EXAMINATION CERTIFICATE Number:

ZELM 04 ATEX 0211X

(4) Equipment: **Heater** Type DH.(ST).. .. Q/HR... and Type DH.(ST).. .. QE/HR...

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

(6) Address: **Nordallee 1, D – 29504 Uelzen**

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The Prüf- und Zertifizierungsstelle ZELM Ex, notified body No. 0820 in accordance with Article 9 of the Council Directive 94/9/EC 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 confidential report ZELM Ex 0120312290

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

EN 50 014:1997 + A1+A2
EN 50 017:1998

EN 50 018:2000
EN 50 019:2000

(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 schedule to this certificate.

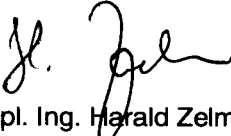
(11) This EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system.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

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



II 2 G EEx dqe IIC T1-T6 resp. EEx dq IIC T1-T6

Zertifizierungsstelle ZELM Ex


Dipl. Ing. Harald Zelm



Braunschweig, January 19, 2005

Sheet 1/3

EC-type-examination Certificates without signature and stamp are not valid. The certificates may only be circulated without alteration. Extracts or alterations are subject to approval by the Prüf- und Zertifizierungsstelle ZELM Ex. This English version is based on the German text. In the case of dispute, the German text shall prevail.



(13)

SCHEDULE

(14)

EC-TYPE-EXAMINATION CERTIFICATE ZELM 04 ATEX 0211 X

(15) Description of equipment

The Heaters are intended to be built in heating-, air-condition- and air-ventilation-plants or to heat process-air, technical gases (heaters type: DHG...) or fluids (heaters type: DHF...) within hazardous areas. There are two different types, Heaters with a temperature limiter according to Directive 94/9/EC and self restricting Heaters.

The type designation of the Heaters which has to work with a safety temperature limiter is:

DH.(ST) ... Q/HR...

The type designation of the self restricting Heaters is:

DH.(ST) ... QE/HR...

Electrical Data:

Kind of current: Alternative Current and Direct Current

Heater circuit:

Rated Power (input): up to 75 kW

Rated Voltage: up to 690 V

Rated Current: up to 63 A

Wire-section: up to 25 mm²

Control circuit:

Rated Voltage: up to 400 VAC resp. up to 250 VDC

Rated Current: up to 16 A resp. up to 0,25 A

Comment:

Every Heater has to be controlled and fixed by the manufacturer in view of the respective temperature class according to the affiliated test specifications under reflection of the original process and environment situation.

(16) Report No.

ZELM Ex 0120312290

(17) Special conditions for safe use

1. The instruction manual is to be observed, particularly the potential-equalisation and the instructions of the manufacturer respective to the installation (thermal control, temperature class, mounting and so on) so as the special maintenance comments according to the devices are to be considered.



Prüf- und Zertifizierungsstelle

ZELM Ex



SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE ZELM 04 ATEX 0211 X

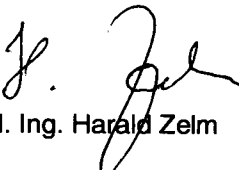
The electrical connection is to the valid regulations at the place of erection (for example the EN60079-14) under observance of the technical, the powerconsumption, the ambient temperature and the instruction-manual to perform (execute).

2. At the used certified electronic temperature limiter according to Directive 94/9/EC and the affiliated sensor-circuit, the function of this temperature-limiting system has to be tested periodical according to the requirements given in the EC-Type-Examination Certificate. The results are to be documented device-specific. Faulty devices are to replace.
3. The heating of fluids is only allowed with enough covering medium. The covering is to control by a liquid level control system. It is only allowed to use examined and approved explosion protected liquid level control systems. If necessary by flowing mediums a flow control system can be used, which is approved for this hazardous area.

(18) Essential Health and Safety Requirements

Met by standards

Zertifizierungsstelle ZELM Ex


Dipl. Ing. Harald Zelm



Braunschweig, January 19, 2005