



Physical Technical Testing Institute  
Ostrava-Radvanice



## EC-Type Examination Certificate

(1)

(2)

Equipment or Protective Systems Intended for use  
in Potentially Explosive Atmospheres  
Directive 94/9/EC

(3) EC-Type Examination Certificate Number:

**FTZÚ 03 ATEX 0258X**

(4) Equipment or protective system: **Electric heating unit type SH-40; SH-60; SH-90**

(5) Manufacturer: **HACO Mess – und Regeltechnik GmbH**

(6) Address: **Am Heerbach 10, D-638 57 Waldaschaff, SRN**

(7) This equipment or protective system and any of acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) The Physical Technical Testing Institute, notified body number 1026 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system 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 confidential Report N°

**03/0258 dated 01 December 2003**

(9) Compliance with Essential Health and safety requirements has been assured by compliance with:

**EN 50014:1997+A1+A2**

**EN 50018:2000**

(10) If the sign „X“ is placed after the certificate number, it indicates that the equipment or protective system 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 testing 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 or protective system shall include following:

 **II 2G EEx d IIC T3**

This EC-Type Examination Certificate is valid till: **31 of December 2008**

Responsible person:

**Dipl. Ing. Šindler Jaroslav**  
Head of certification body



Date of issue: 01 of December 2003

Number of pages: 2  
Page: 1/2

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Physical Technical Testing Institute  
Ostrava-Radvanice


(13)

Schedule

(14) **EC-Type Examination Certificate N° FTZÚ 03 ATEX 0258X**

(15) Description of Equipment or Protective System:

The electric heating unit consists of casing, heating element with semiconductor sensor, connection cable and brass cable gland.

Casing of heating unit, made of stainless steel 1.4404 has a outer thread 1/2" – 20 UNF to enable installation into the apparatus and it is equipped with brass cable gland HAWKE CABLE GLANDS, type 501/421 with type of protection  II 2GD EEx d IIC, certificate BAS 01 ATEX 2070X.

Inside of casing is a heating unit with semiconductor sensor, marked B59 102-R90-A10, made of stainless steel 1.4541, size of heating unit is 10 x 50 mm).

Connection cable marked SILFLEX SiHF 3G x 0,75 mm<sup>2</sup>, is connected (by pressing) to the terminal of heating unit and terminal compartment is encapsulated by compound WEVO type PU 403.

16) Report No. : FTZÚ No. 03/0258

(17) Special conditions for safe use: none

17.1. The flying lead connection cable of heating unit can be connected only in terminal box certified for appropriate zone classification.

17.2 The flying lead connection cable is design for fixed installation according to EN 60079-14:1999.

17.3 Mechanical endurance of electrical heating unit including connection cable is appropriate only for low risk of mechanical damage.


(18) Essential Health and Safety Requirements:

18.1 Essential health and safety requirement of Directive 94/9/EC, are covered in standard mentioned in (9) and in Instruction for use and operation of electric heating unit SH, No. ATEX/SH/instruction-2003.

(19) List of documentation:

- Drawings No.: SH-90/1.1/A3 on 08.11. 1993  
SH-90/1.2/A3 on 22.07. 1993  
SH-90/1.3/A3 on 03.10. 2003
- Technical description of electric heating unit SH, 1 page – document No. ATEX/SH/description - 2003
- Instruction for use and operation of electric heating unit SH, 1 page – document No. ATEX/SH/instruction - 2003

Responsible person:

  
Dipl. Ing. Šindler Jaroslav  
Head of certification body



Date of issue: 01 of December 2003

Page: 2/2

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Physical Technical Testing Institute  
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## Supplement No. 1 to EC-Type Examination Certificate

(2) Equipment or Protective Systems Intended for use  
in Potentially Explosive Atmospheres  
Directive 94/9/EC

(3) EC-Type Examination Certificate Number:

**FTZÚ 03 ATEX 0258X**

(4) Equipment or protective system: **Electric heating unit type SH-40; SH-60; SH-90**

(5) Manufacturer: **HACO Mess- und Regeltechnik GmbH**

(6) Address: **Am Heerbach 10, D-638 57 Waldaschaff, Germany**

(7) This supplement of certificate is valid for: - modification of certified product

(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 Paragraph 6) of Directive No. 94/9/EC. The Directive contains another requirement, which manufacturer shall fulfil before products are placed on market or introduced in service.

(10) Safety requirements of modified parts were fulfilled by satisfying of following standards:

**EN 50014:1997+A1+A2      EN 50018:2000**

(11) Marking of equipment designed according to this supplement shall contain symbols:

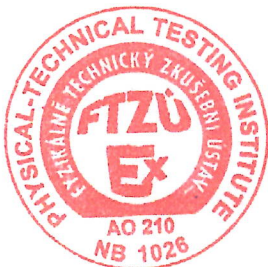
 **II 2G   EEx d   IIC T3**

(12) This type examination certificate is valid till: **31.12.2008**

Responsible person:

  
**Dipl. Ing. Šindler Jaroslav**

Head of certification body



Date of issue: 08 of June 2006

Number of pages: 2

Page: 1/2

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**Physical Technical Testing Institute  
Ostrava-Radvanice**


(13)

**Schedule**

(14)

**Supplement No. 1 to  
EC-Type Examination Certificate N° FTZÚ 03 ATEX 0258X**

(15) Description of Equipment or Protective System:

The electric heating unit, type series SH-40; SH-60; SH-90 consists of housing, heating element with semiconductor sensor, connection cable SILFLEX SiHF 3Gx0,75 mm<sup>2</sup> and brass cable gland type 501/421-Os M16, with type of protection  II 2GD EEx d IIC, certificate No. BAS 01 ATEX 2070X.

**The design change** – the heating element hasn't ceramic head and the whole connection compartment of housing is encapsulated in compound WEVO, type PU 403.

(16) Report No. : 03/0258 – supplement No. 1

(17) Special conditions for safe use: none

17.1 The output cable of electric heating element can be connected in terminal compartment certified for appropriate zone.

17.2 The output cable is intended for fixed installation according to EN 60079-14:2004.

17.3 The mechanical endurance of electric heating unit, including the connection cable comply for low hazard of mechanical damage.

(18) Essential Health and Safety Requirements:

18.1 Essential health and safety requirements are covered in standard mentioned in (9) of this certificate and instruction for installation and use of heating unit SH No. ATEX/SH/instruction-2005.

(19) List of documentation

- Technical description of heating unit series SH, 1 page – document No. ATEX/SH/description – 2005
- Instruction for installation and use of heating unit SH – document No. ATEX/SH/instruction – 2005
- Drawing No. SH-90/1.3/A3 on 21.10.2005

Responsible person:

  
**Dipl. Ing. Šindler Jaroslav**

Head of certification body



Date of issue: 08 of June 2006

Number of pages: 2

Page: 2/2

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Physical Technical Testing Institute  
Ostrava-Radvanice



**Supplement No. 2 to  
EC-Type Examination Certificate**

**Equipment or Protective Systems Intended for use  
in Potentially Explosive Atmospheres  
Directive 94/9/EC**

EC-Type Examination Certificate Number:

**FTZÚ 03 ATEX 0258X**

Equipment or protective system: **Electric heating unit type SH-40, SH-60, SH-90**

Manufacturer: **HACO Mess- und Regeltechnik GmbH**

Address: **Am Heerbach 10, D-638 57 Waldaschaff, Germany**

This supplement of certificate is valid for: - verification according to new standards  
and prolongation of certificate validity

Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, list of which is mentioned in schedule of this certificate.

This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 (Paragraph 6) of Directive No. 94/9/EC. The Directive contains another requirements, which manufacturer shall fulfil before products are place on market or introduce in service.

Safety requirements of modified parts were fulfil by satisfying of following standards:

**EN 60079-0 : 2006; EN 60079-1 : 2004**

Marking of equipment designed according to this supplement shall contain symbols:

**Ex II 2G Ex d IIC T3**

This type examination certificate is valid till: **07.01. 2014**

Responsible person:

*[Signature]*  
Dipl. Ing. Sindler Jaroslav  
Head of certification body



Date of issue: 07 of January 2009

Number of pages: 2  
Page: 1/2

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**Physical Technical Testing Institute  
Ostrava-Radvanice**

(13)

**Schedule**

(14)

**Supplement No. 2 to  
EC-Type Examination Certificate N° FTZÚ 03 ATEX 0258X**

(15) Description of Equipment or Protective System:

The requirements for equipment was verified according to new standard series. The construction of equipment wasn't modified. The only change is modification of data on manufacturer's label.

(16) Report No. : 03/0258 – d2

(17) Special conditions for safe use: **X**

17.1 The output cable of electric heating element can be connected in terminal compartment certified for appropriate zone.

17.2 The output cable is intended for fixed installation according to EN 60079-14:2004.

17.3 The mechanical endurance of electric heating unit, including the connection cable comply for low hazard of mechanical damage.

(18) Essential Health and Safety Requirements:

18.1 Essential health and safety requirements are covered in standard mentioned in (10) of this certificate and instruction for installation and use of heating unit SH No. ATEX/SH/instruction-2005.

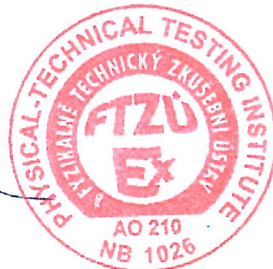
(19) List of documentation

➤ Drawing No.: SH-90/1.3/A3 ... 10.12.2008

Responsible person:

  
Dipl. Ing. Sindler Jaroslav

Head of certification body



Date of issue: 07 of January 2009

Number of pages: 2

Page: 2/2

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Physical Technical Testing Institute  
Ostrava – Radvanice



(1) **Supplement No. 3 to  
EC-Type Examination Certificate**

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

(3) EC-Type Examination Certificate Number:

**FTZÚ 03 ATEX 0258X**

(4) Equipment or protective system: **Electric heating unit type SH-40, SH-60, SH-90**

(5) Manufacturer: **HACO Mess- und Regeltechnik GmbH**

(6) Address: **Am Heerbach 10, D-638 57 Waldaschaff, Germany**

(7) This supplement of certificate is valid for: - recertification according to new standards  
- prolongation of certificate validity

(8) Modification of certified apparatus (protective system) and any of its approved variants are specified in documentation, a list of which is mentioned in the schedule of this certificate.

(9) This supplement to type examination certificate is valid only for type examination of design and construction of product sample in accordance with Annex 3 Paragraph 6) of Directive No. 94/9/EC. The Directive contains other requirements, which manufacturer shall fulfil before products are placed on the market or introduce in service.

(10) Safety requirements of modified parts were fulfilled by satisfying the following standards:

**EN 60079-0: 2009; EN 60079-1:2007**

(11) Marking of equipment shall contain symbols:

 **II 2G Ex d IIC T3 Gb**

(12) This type examination certificate is valid till: **07.01.2019**

Responsible person:

  
Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 07.01.2014

Page: 1/2

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FTZÚ, s.p., Pikartská 1337/7, 716 07 Ostrava-Radvanice, Czech Republic,  
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**Physical Technical Testing Institute  
Ostrava – Radvanice**

(13)

**Schedule**

(14)

**Supplement No. 3 to  
EC-Type Examination Certificate N° FTZÚ 03 ATEX 0258X**

(15) Description of Equipment or Protective System:

Equipment is certified according to new standards. No changes in the construction were made.

(16) Report No.: 03/0258 - 3

(17) Special conditions for safe use: **X**

17.1 The output cable of electric heating element can be connected in terminal compartment certified for appropriate zone.

17.2 The output cable is intended for fixed installation according to EN 60079-14:2008.

17.3 The mechanical endurance of electric heating unit, including the connection cable complies for low hazard of mechanical damage.


(18) Essential Health and Safety Requirements: Remain unchanged.

18.1 Essential health and safety requirements are covered in standard mentioned in (10) of this certificate and instruction for installation and use of heating unit SH No. ATEX/SH/instruction-2013.

(19) List of Documentation:

➤ Drawing No.: SH-90/1.3/A3 ... 04.12.2013

Responsible person:

  
Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 07.01.2014

Page: 2/2

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(1) **Supplementary EU - Type Examination Certificate No.4**

(2) **Equipment or Protective Systems Intended for Use  
in Potentially Explosive Atmospheres  
(Directive 2014/34/EU)**

(3) EU - Type Examination Examination Certificate number:

**FTZÚ 03 ATEX 0258X**

(4) Product: **Electric heating unit type SH-40, SH-60, SH-90**

(5) Manufacturer: **HACO Mess- und Regeltechnik GmbH**

(6) Address: **Am Heerbach 10, D-638 57 Waldaschaff, Germany**

(7) This supplementary certificate extends EC - Type Examination Certificate No. FTZÚ 03 ATEX 0258X to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

(8) The Physical-Technical Testing Institute, Notified Body number 1026, in accordance with Articles 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26.02.2014, certifies that this product, as modified by this supplementary certificate, 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.

(9) 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 (20.04.2016) 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 20.04.2016.

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


**EN IEC 60079-0:2018; EN 60079-1:2014**

(11) The marking of the product shall include the following:

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

(12) The certificate is valid till: **17.12.2023**

Responsible person:

  
Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 17.12.2018

Page: 1/3



**Physical-Technical Testing Institute  
Ostrava - Radvanice**

(13)

**Schedule**

(14) **Supplementary EU - Type Examination Certificate No. 4  
to FTZÚ 03 ATEX 0258X**

(15) Description of the variation to the Product:

The subject of this supplementary certificate is:

- Evaluation according to the new edition of standards: EN IEC 60079-0:2018, EN 60079-1:2014.
- Prolongation of certificate validity.
- Adding of special condition of use.
- Correction of Ex marking.
- Actualization of documentation.
- Verification of using of ADE 1F2 (M16x1,5) cable gland.

This supplementary verified using of ADE 1F2 (M16x1,5) threaded cable gland. Manufacturer of the cable gland is EATON-Crouse.Hind or CCH-CAPRI.

(16) Report Number.: 03/0258/4 dated: 17.12.2018

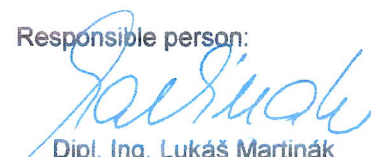
(17) Specific Conditions of Use:

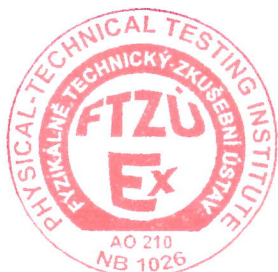
1. The output cable of electric heating element can be connected in terminal compartment certified for appropriate zone.
2. The output cable is intended for fixed installation according to EN 60079-14.
3. The mechanical endurance of electric heating unit, including the connection cable complies for low hazard of mechanical damage.
4. Silicone sealing O-ring must be used in cable gland ADE 1F2 (M16x1,5) for range of service temperature  $-60^{\circ}\text{C} + +140^{\circ}\text{C}$ .
5.  $T_{amb} = -50^{\circ}\text{C} + +60^{\circ}\text{C}$ .

(18) Essential Health and Safety Requirements:

Compliance with the Essential Health and Safety Requirements is covered by standards mentioned in clause (10) of this supplementary certificate.

Responsible person:

  
Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 17.12.2018

Page: 2/3





**Physical-Technical Testing Institute  
Ostrava - Radvanice**

(13)


**Schedule**

(14) **Supplementary EU - Type Examination Certificate No. 4  
to FTZÚ 03 ATEX 0258X**

(19) Drawings and Documents:

Number	Pages	Revision	Date	Description
SH-90/1.3/A3	1	07122018	22.07.1993	Drawing
ATEX/SH/popis-2005	1	-	2005	Technical description
ATEX/SH/navod-2018	1	-	2018	Manual

Responsible person:

  
Dipl. Ing. Lukáš Martinák  
Head of Certification Body



Date of issue: 17.12.2018

Page: 3/3

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