



(2) **Equipment and protective systems intended for use in potentially explosive atmospheres
Directive 94/9/EC**

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

(3) Number of the EC type examination certificate: **INERIS 03ATEX0208**

(4) Equipment or protective system:

GAS DETECTOR SERIES 47K-...

(5) Manufacturer: **MSA AUER GmbH**

(6) Address: **Thiemannstr,1
12059 BERLIN
GERMANY**

(7) This protective system or equipment and any other acceptable alternative of this one are described in the annex of this certificate and the descriptive documents quoted in this annex.

(8) The INERIS, notified body and identified under number 0080, in accordance with article 9 of Council Directive 94/9/CE 23th March 1994, certifies that this protective system or equipment fulfils the Essential of Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, described in appendix II of the Directive.

The examinations and the tests are consigned in official report N°P52478/03.

(9) The respect of the Essential Health and Safety Requirements is ensured by:

- conformity with:


EN 50 014 of June 1997 + A1 and A2

EN 50 018 of November 2000 + A1

- specific solutions adopted by the manufacturer to meet the Essential Health and Safety Requirements described in the descriptive documents.


(10) Sign X, when it is placed following the Number of the EC type examination certificate, indicates that this equipment and protective system is subjected to the special conditions for safe use, mentioned in the annex of 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 or the protective system will have to contain:

 II 2 G

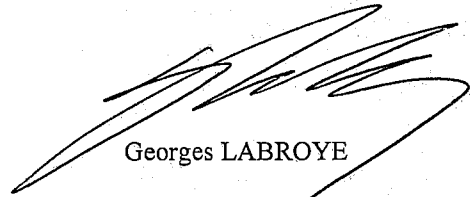
EEx d IIC T3/T4/T6

Verneuil-en-Halatte, 2003 10 24



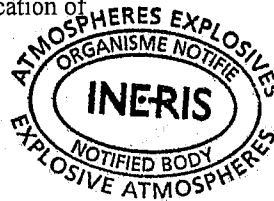
Thierry HOUEIX

Engineer at the Laboratory of Certification of
Materials ATEX



Georges LABROYE

Director Général



(13)

ANNEX

(14)

EC TYPE EXAMINATION CERTIFICATE N° INERIS 03ATEX0208

(15) DESCRIPTION OF THE EQUIPMENT OR THE PROTECTIVE SYSTEM

Gas detector series 47K-ST (standard) and 47K-PRP (Poison Resistant Pellement) protected by flameproof enclosure may be used stand-alone duct mounting or mounted on a junction box which is protected by an adapted type of protection and compatible with the type of protection of the detector.

Gas detector series 47K-HT consists of the catalytic diffusion sensor for High Temperature mounted on stainless steel bracket.

PARAMETERS RELATING TO THE SAFETY

Sensor catalytic

Supply voltage : 10 V
Maximal current : 800 mA

MARKING

Marking must be readable and indelible ; it must comprise the following indications :

A - Gas detector series 47K-ST or 47K-PRP :

MSA AUER GmbH
Thiemannstr,1
12059 BERLIN
GERMANY

Series 47K-ST or 47K-PRP
INERIS 03ATEX0208
(Serial number)
(year of construction)

 II 2 G

EEx d IIC T6 (T.Amb -40°C to +40°C) on the sensor
EEx d IIC T4 (T.Amb -40°C to +90°C) on the sensor

B - Gas detector series 47K-HT:

MSA AUER GmbH
Thiemannstr, 1
12059 BERLIN
GERMANY

Series 47K-HT
INERIS 03ATEX0208
(Serial number)
(year of construction)



II 2 G

EEx d IIC T3 (T.Amb -40°C to +160°C)

The whole of marking can be carried out in the language of the country of use.

The equipment or protective system must also carry the marking normally envisaged by the standards of construction which relate to it.

ROUTINE EXAMINATIONS AND TESTS

In accordance with 16.2 of the standard EN 50 018, the equipment is exempted of routine test, due to the fact that the free internal volume is less than 10 cm³.

(16) DESCRIPTIVE DOCUMENTS

The technical report is composed of the documents quoted hereafter, constituting the descriptive file of the apparatus, object of this certificate.

- Operation manual (20 pages)	of 2003.07.24	signed on 2003.07.24
- Drawing n°DG0748030	of 2003.06.30	signed on 2003.09.24
- Drawing n°DG0748031	of 2003.06.30	signed on 2003.09.24
- Drawing n°DG0748801	of 2003.05.26	signed on 2003.07.24
- Drawing n°DG0748802	of 2003.05.26	signed on 2003.07.24
- Drawing n°DG0748015	of 2003.05.13	signed on 2003.07.24
- Drawing n°DG0748017	of 2003.05.14	signed on 2003.07.24
- Drawing n°DG0748024	of 2003.05.13	signed on 2003.07.24
- Drawing n°DG0748026	of 2003.05.13	signed on 2003.07.24
- Drawing n°DG0748020	of 2003.05.13	signed on 2003.07.24
- Drawing n°DG0748022	of 2003.05.23	signed on 2003.07.24
- Drawing n°DG0748029	of 2003.05.22	signed on 2003.07.24
- Drawing n°DG0748006	of 2003.06.20	signed on 2003.07.24
- Drawing n°DG0748807	of 2003.07.23	signed on 2003.07.24
- Drawing n°DG0748804	of 2003.02.18	signed on 2003.07.24
- Drawing n°DG0748002	of 2003.02.18	signed on 2003.07.24
- Drawing n°DG0748805	of 2003.04.04	signed on 2003.07.24
- Drawing n°DG0748003	of 2003.04.04	signed on 2003.07.24

(17) SPECIAL CONDITIONS FOR SAFE USE

The special conditions are defined in the instructions.

(18) ESSENTIAL REQUIREMENTS OF SAFETY AND HEALTH

The respect of the Essential Health and Safety Requirements is ensured by:

- conformity to the European standards EN 50 014 and EN 50 018.
- the whole of the provisions adopted by the manufacturer and described in the descriptive documents.

ADDITION

INERIS 03ATEX0208/01

GAS DETECTOR SERIES 47K-

Manufactured by MSA AUER GmbH

(15) - PURPOSE OF THE ADDITION

- Addition of a new type: the gas detector series 47K-4P. This version is different from the previous one by the fact that there are 4 pellements instead of two.
- Addition of a new material type FEPM for the sealing rings of the 47K-HT gas detector cable gland.
- Descriptive documents updated.


PARAMETERS RELATING TO THE SAFETY

The parameters relating to the safety stipulated by the basic certificate are unchanged.


MARKING

The marking defined in the basic certificate is completed by the following one:

C - gas detector series 47K-4P:

- MSA AUER GmbH
Thiemannstr,1
12059 BERLIN
Germany
- 47K-HT-4P
- INERIS 03ATEX0208
- (Serial number)
- (Year of construction)
-  II 2 G
- EEx d IIC T3 (T.Amb -40°C to +40°C) on the sensor
- EEx d IIC T4 (T.Amb -40°C to +90°C) on the sensor

D - gas detector series 47K-HT-4P:

- MSA AUER GmbH
Thiemannstr, 1
12059 BERLIN
Germany
- 47K-HT-4P
- INERIS 03ATEX0208
- (Serial number)
- (Year of construction)
-  II 2 G
- EEx d IIC T3 (T.Amb -40°C to +160°C)

ROUTINE EXAMINATIONS AND TESTS

The routine and examinations tests stipulated by the basic certificate are unchanged.

(16) - DESCRIPTIVE DOCUMENTS

The document referred to below, constitutes the file describing the modifications of the apparatus and forming the subject of the present addition.

- Technical file serie 47K (1 page and 16 drawings) of 2004.09.01

This document was signed on 2004.09.01

(17) - SPECIFIC PARAMETERS OF THE TYPES OF PROTECTION CONCERNED

None.

(18) - ESSENTIAL REQUIREMENTS OF SAFETY AND HEALTH

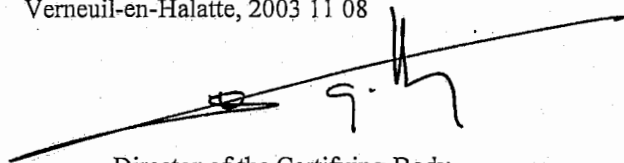
The respect of the Essential Health and Safety Requirements defined in the basic certificate is unchanged.

Verneuil-en-Halatte, 2003 11 08



T. HOUEIX

Engineer at the Laboratory for Certification of
ATEX Equipment

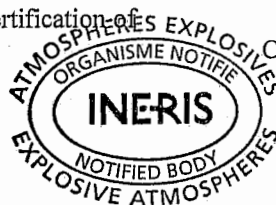


Director of the Certifying Body,

By delegation

B. PIQUETTE

Certification Deputy Manager



ADDITION

(3) INERIS 03ATEX0208/03

(4) GAS DETECTOR Type 47K-..

(5) Made by MSA AUER GmbH

(15) **PURPOSE OF THE ADDITION**

- Application of new standards EN 60079-0 : 2006, EN 60079-1 : 2004, EN 61241-0 : 2006 and EN 61241-1 : 2004.
- Additional porosity for the sintered metal (145µm)

PARAMETERS RELATING TO THE SAFETY

The parameters relating to the safety are unchanged.

MARKING

The marking is modified as follows:

A - GAS DETECTOR TYPE 47K-ST, 47K-PRP or 47K-4P

MSA AUER GmbH



D - 12059 BERLIN

Type 47K-..

INERIS 03ATEX0208

(Serial number)

(Year of construction)

 II 2 G or  II 2 D

Ex d IIC T6 or Ex tD A21 IP6X T85°C (T.amb -40°C to 40°C)

Ex d IIC T4 or Ex tD A21 IP6X T135°C (T.amb -40°C to 90°C)

B - GAS DETECTOR TYPE 47K-HT

MSA AUER GmbH



D - 12059 BERLIN

Type 47K-..

INERIS 03ATEX0208

(Serial number)

(Year of construction)

 II 2 G or  II 2 D

Ex d IIC T3 or Ex tD A21 IP6X T200°C (T.amb -40°C to 160°C)

Marking may be carried out in the language of the country of use.

The protective system or equipment has also to carry the marking normally stipulated by its construction standards.

ROUTINE EXAMINATIONS AND TESTS

The routine examinations and tests are modified as follows :

In accordance with clause 16.2 of the EN60079-1 standard, the equipment defined above is exempted of routine test in owing to the fact that its free internal volume is less than 10 cm³.

(16) DESCRIPTIVE DOCUMENTS

The descriptive documents quoted hereafter constitute the technical documentation describing the modification of the equipment, subject of this present addition.

- 1.04 version 47K serie drawings list of 2007.11.06 (8 drawings) signed on 2007.11.23
- Instructions 10052472/06 (32 pages) signed on 2007.11.23

(17) SPECIAL CONDITIONS FOR SAFE USE

The special conditions are stipulated in the instructions.

(18) ESSENTIAL SAFETY AND HEALTH REQUIREMENTS

The respect of the Essential Health and Safety Requirements is completed as follows:

- Conformity to the standards EN 60 079-0, EN 60 079-1, EN 61241-0 and EN 61241-1.
- All provisions adopted by the manufacturer and defined in the descriptive documents.

Verneuil-en-Halatte, 2007 11 28

S. MAUGER
Project Manager at the ATEX
Equipment Evaluation Laboratory



T. Houeix
Director of the Certifying Body,
By delegation
T. HOUEIX
Certification Officer
Certification Division

ADDITION

(3) INERIS 03ATEX0208/04

(4) GAS DETECTOR Type 47K-..

(5) Made by MSA AUER GmbH

(15) PURPOSE OF THE ADDITION

- Introduction of a new model type 47K-HS with semiconductor.
- Modification of drawings.

PARAMETERS RELATING TO THE SAFETY

The parameters relating to the safety are modified as follows for type 47K-HS:

- Maximum supply voltage : 5 V
- Maximum current : 0.2 A

MARKING

The marking is modified as follows:

MSA AUER GmbH



D - 12059 BERLIN

47K-HS...

INERIS 03ATEX0208

(Serial number)

(Year of construction)

 II 2 G or  II 2 D

Ex d IIC T6 or Ex tD A21 IP6X T85°C (T.amb -40°C to 40°C)

Ex d IIC T4 or Ex tD A21 IP6X T135°C (T.amb -40°C to 90°C)

Marking may be carried out in the language of the country of use.

The protective system or equipment has also to carry the marking normally stipulated by its construction standards.

ROUTINE EXAMINATIONS AND TESTS

The routine examinations and tests are unchanged.

(16) DESCRIPTIVE DOCUMENTS

The descriptive documents quoted hereafter constitute the technical documentation describing the modification of the equipment, subject of this present addition.

- Technical file Serie47K_Drwg vers 1_05 of 2008.10.30 (3 drawings) signed on 2008.10.31
- Plan n° DG0748850 of 2008.10.30 signed on 2008.11.28
- Plan n° DG0748807 rev.2 of 2007.04.17 signed on 2008.11.28

(17) SPECIAL CONDITIONS FOR SAFE USE

The special conditions are stipulated in the instructions.

(18) ESSENTIAL SAFETY AND HEALTH REQUIREMENTS

The respect of the Essential Health and Safety Requirements is unchanged.

Verneuil-en-Halatte, 2008 12 02



Director of the Certifying Body,
By delegation
T. HOUeix
Certification Officer
Certification Division

ADDITION

- (3) INERIS 03ATEX0208/05
- (4) GAS DETECTOR TYPE 47K-...
- (5) Made by MSA EUROPE GmbH

(15) PURPOSE OF THE ADDITION

- Application of the following standards:
EN 60079-0 : 2012/A11 :2013
EN 60079-1 : 2007
EN 60079-31 : 2009
- Introduction of an alternative resin type Araldite CW 229-3 / HW 229-1 for high temperature detector type 47K-HT.
- Change of the manufacturer's name : "MSA AUER GmbH" replaced by "MSA EUROPE GmbH".

PARAMETERS RELATING TO THE SAFETY

The parameters relating to the safety are unchanged.

MARKING

The marking is modified as follows:

A - GAS DETECTOR TYPE 47K-ST, 47K-PRP or 47K-4P



MSA EUROPE GmbH
CH - 8645 RAPPERSWIL JONA

Type 47K-... (1)

INERIS 03ATEX0208

(Serial number)

(Year of construction)

 II 2 G or  II 2 D

Ex d IIC T6 Gb or Ex tb IIIB T85°C Db IP6X (T.amb -40°C to 40°C)

Ex d IIC T4 Gb or Ex tb IIIB T135°C Db IP6x (T.amb -40°C to 90°C)

- (1) Type is completed by numbers and/or letters corresponding to the manufacturing variations.

B - GAS DETECTOR TYPE 47K-HT

MSA EUROPE GmbH



CH - 8645 RAPPERSWIL JONA

Type 47K-... (1)

INERIS 03ATEX0208

(Serial number)

(Year of construction)

 II 2 G or  II 2 D

Ex d IIC T3 Gb or Ex tb IIIB T200°C Db IP6X (T.amb -40°C to 160°C)

(1) Type is completed by numbers and/or letters corresponding to the manufacturing variations.

Marking may be carried out in the language of the country of use.

The protective system or equipment has also to carry the marking normally stipulated by its construction standards.

ROUTINE EXAMINATIONS AND TESTS

The routine examinations and tests are unchanged.

(16) DESCRIPTIVE DOCUMENTS

The descriptive documents quoted hereafter constitute the technical documentation describing the modification of the equipment, subject of this present addition.

- Certification file Serie47K_Drwg vers 1_08 2015-01-09 (including 4 drawings updated) signed on 2015.01.12
- Certification file Serie47K_Drwg vers 1_09 2015-04-24 (including 3 drawings updated) signed on 2015.04.24

(17) SPECIAL CONDITIONS FOR SAFE USE

The special conditions for safe use are unchanged.

(18) ESSENTIAL SAFETY AND HEALTH REQUIREMENTS

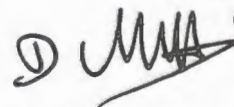
The respect of the Essential Health and Safety Requirements is completed or modified as follows:

- Conformity to the standards quoted in clause (15).
- All provisions adopted by the manufacturer and defined in the descriptive documents.

Verneuil-en-Halatte, 2015.04.30



Dominique CHARPENTIER
Certification Division
Manager



The Chief Executive Officer of INERIS
By delegation
T. HOUEIX
Ex Certification Officer