



EU DECLARATION OF CONFORMITY

GAZOMAT™
11, rue de l'Industrie
67400 Illkirch-Graffenstaden – France

hereby declares that the product designed for use in explosive atmospheres and here designated as:

INSPECTRA® LASER



Serial Number

Is in conformity:

- with ATEX Directive 2014/34/EU of 26 February 2014
- with EMC Directive 2014/30/EU of 26 February 2014
- with Low Voltage Directive (LVD) 2014/35/EU of 26 February 2014

- **With the explosion-proof standards relative to use in explosive atmospheres:**
 - EN IEC 60079-0:2018 Electrical apparatus for explosive gas atmospheres: ATEX general requirements.
 - IEC 60079-0:2017 (Ed. 7.0)

 - EN 60079-11:2012: Explosive atmospheres – ATEX Intrinsic safety protection mode « ib »
 - IEC 60079-11:2011 (Ed. 6.0)

 - EN 60079-28:2015: ATEX optical radiation protection mode “op is”
 - IEC 60079-28:2015

- **With Electromagnetic Compatibility Standards:**
 - EN 50270 :2015 : Electrical apparatus for the detection and measurement of combustible gases, toxic gases or oxygen

- **With general safety requirements:**
 - EN 61010-1 :2010 + A1:2019/AC 2019-04 : Safety requirements for electrical equipment for measurement, control, and laboratory use
 - IEC/EN-60825-1:2014 Safety of laser product Class 1

- With the type of apparatus that have been examined and fully approved by the INERIS notified body, identified under number 0080, with address rue J. Taffanel, 60550 Verneuil en Halatte, France, and for which INERIS has issued an EC Type examination certificate under the number **INERIS 19ATEX0018X**.

- The manufacturing unit in Illkirch has been registered under the number Nr. **ITS-I21ATEXQ29379** by Intertek Italia SPA, Via Guido Miglioli, 2/A, 20063 Cernusco sul Naviglio (MI), notified body identified under 2575.

Illkirch-Graffenstaden, on 6th July 2022

Alan VIDAL
GAZOMAT™ General Manager

Natural Gas and Biogas Facilities and Network Monitoring

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INSPECTRA® LASER IECEx

Laser Technology
applied to Methane Detection

- Zone 1, IECEx and ATEX certified
- Selectivity to methane (CH₄)
- 1 ppm sensitivity CH₄
- Measurement range from 0ppm to 100% volume CH₄

Using laser spectroscopy technology, the INSPECTRA® LASER IECEx equipment by GAZOMAT™ is a high-performance methane detector offering all the advantages of optical detection.

The device meets latest IECEx and ATEX standards for use in explosive atmospheres as well as in confined zones. It detects methane and locates leaks with precision, across a wide measurement range, down to the smallest concentrations. It is ideal for the monitoring of natural gas and biogas facilities and pipelines, both outdoors and indoors.



Total Selectivity to Methane

- The measuring chamber of the INSPECTRA® LASER analyzer is fitted with a laser diode adjusted to the absorption wavelength specific to methane.
- In the presence of methane molecules, the laser beam is partially absorbed. Thus, only methane is detected.
- The device is insensitive to other hydrocarbon gases, chemicals, water vapours and pollution that may be present in the ambient air in small quantities.

Unique Measuring Precision and Reliability

- 1 ppm sensitivity (CH₄) thanks to the path length of the multipass cell
- Two measurement scales with simultaneous display
 - PPM scale from 0 ppm to 10,000 ppm
 - GAS scale: from 0 % to 100 % volume gas
- Very quick response time

Zone 1, IECEx and ATEX Certified



Intrinsically safe, the device can be operated in zone 1 explosive atmospheres, both indoors and outdoors.

Easy-to-Use

- Quick start-up, in just a few seconds, with automatic self-test,
- Visual and audio indicators (battery charge level, pump status, alarm on/off, risk of explosion, etc.)
- Access to standard and advanced functions with the 5-key keypad and a scrolling menu
- Four measurement ranges with Autoscale function improving measurement range change
- Measurement in absolute or relative
- GAZOMAT battery pack easy to replace by operator – no return to Service center required

Note: the INSPECTRA® may be operated with three LR20 dry cells, outside explosive atmospheres exclusively

- Extended set of sampling equipment
- Connects to dedicated survey App for real-time data transmission (option).

Wide Scope of Application

Suitable for any application requiring the measurement of methane and biomethane concentrations:

- Detection and location of gas leaks in any type of configuration: bore holes, confined areas, etc.
- Survey of underground and aboveground pipelines
- Monitoring of compression plants, gas storage plants, high pressure lines, pressure reducing stations, etc.
- Surface emission monitoring of volcano sites, landfills, etc.
- Gas analysis in laboratories.



Accessories and Adds-on

- 100-240VAC 50Hz-60Hz charger
- Rechargeable battery pack (not shown) – fits inside the instrument
- Modular telescopic sampling rod with suction cup
- Storage case for the detector and its accessories
- Set of water-repellent filters and dust filters (not shown)
- Pin wrench to access the water-repellent filter compartment (not shown)
- **Optional:**
 - 12VDC charger
 - Long semi-rigid sampling probe with its filter fitted handle (not shown)
 - Short flexible probe with its handle (not shown)
 - Gas check kit comprising a gas check cylinder and a pressure regulator
 - Bluetooth communicator (not shown) for wireless data transfer



Sampling Equipment Compatible with the Instrument

Telescopic sampling probe and accessories



Modular telescopic carbon sampling probe



Suction cup probe



Gas trap trolley (optional)



Single-wheel probe (optional)

Other sampling probes



Long probe (optional)



Short probe (optional)

GAZOSURVEY™, the Mobile App Dedicated to Methane Leak Monitoring (optional)

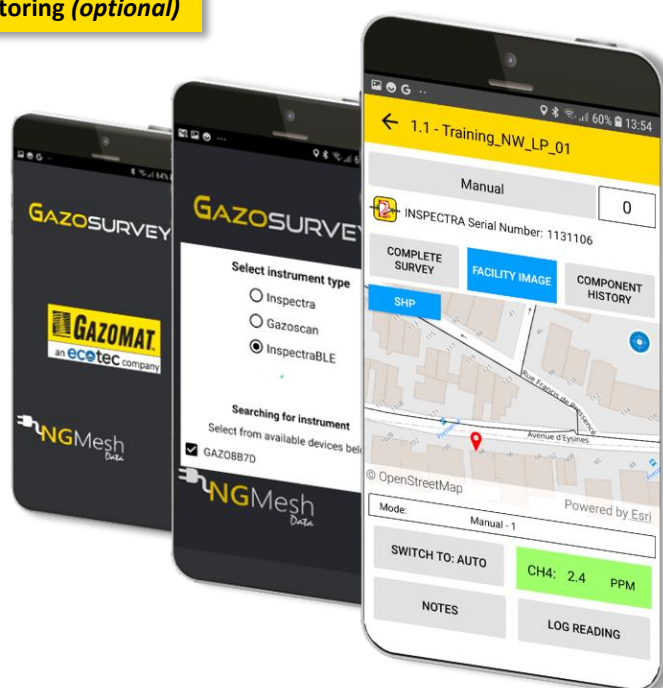
Available as an option, GAZOSURVEY ⁽¹⁾ is a software application running on iOS and Android smart devices. It has been developed for leak monitoring of natural gas and biogas pipelines and installations.

GAZOSURVEY app facilitates survey data collection and transfer. The smart device connects in Bluetooth to the INSPECTRA® detector. Via the app, the field technician can then use the smart device's functions:

- Geolocation and navigation on maps
- Note entry
- Multiple photo storage using the camera

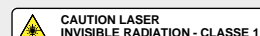
Through an interface with a web platform, georeferenced survey data is transferred, and alerts are automatically sent to emergency personnel or services.

(1) Application marketed separately. Consult GAZOSURVEY brochure



TECHNICAL SPECIFICATIONS **INSPECTRA® LASER IECEx**

Measurement principle:	• Laser spectroscopy (TDLAS – Tunable Diode Laser Absorption Spectroscopy)		
Gas selectivity:	• Methane gas (CH ₄)		
Measurement scales: (Simultaneous display)	PPM 0ppm to 10,000ppm CH ₄	GAS 0.0% to 100.0% VOL. GAS CH ₄	LEL (on request only) 0.0% LEL to 100.0% LEL CH ₄
Measurement range:	• 0ppm-100.0 % VOL. GAS CH ₄		
Detection threshold:	• 1ppm CH ₄		
Response time:	<ul style="list-style-type: none"> T10 standard: 2 seconds T90 standard: 4.5 seconds 		
Start-up time:	• In less than 30 seconds		
Display:	<ul style="list-style-type: none"> LCD screen display with green color backlighting visible in daylight 3 display areas: Measurements/Status indicators/Dialog window Height of measurement character: 13 mm 		
Keypad:	<ul style="list-style-type: none"> 5 direct-control keys: ON/OFF, pump, alarm, backlighting, menu Advanced function control with protected access scrolling menu 		
Power supply:	• Ni-MH rechargeable battery pack along manufacturer's references:		
Charger	• 3.6V, 23.22Wh / 6.45Ah		
Charge time:	<ul style="list-style-type: none"> Input: 100-240VAC 50Hz-60Hz Max 0.35A Charge time up to 10 hours 		
Battery life:	<ul style="list-style-type: none"> 12 hours at temperatures within +20°C and +25°C - no accessories and all functions on (backlighting, pump on normal speed) Battery life reduced by 20% at temperatures below 0°C and above +35°C 		
Electric pump flowrate:	• 55 l/h (normal flow) and 45 l/h (slow flow)		
Alarms:	<ul style="list-style-type: none"> They activate the visual (LED and LCD displays) and audio warnings: <ul style="list-style-type: none"> Methane (CH₄) concentration threshold Explosion risk due to methane concentration Pump: pump stopped, pump error 		
Status indicators:	• Battery charge level, pump status (2 speeds)		
Gas connection:	<ul style="list-style-type: none"> Quick-connect inlet coupling with locking mechanism: suction probe on right side Quick-connect gas outlet coupling 		
Electrical connections:	<ul style="list-style-type: none"> 2.1mm connector for battery charger Communication connector for connection to: - a PC via an optional dedicated cable - an optional external Bluetooth communicator 		
Data transfer:	• Via an external wireless Bluetooth communicator (option) and a dedicated application (option)		
Housing:	<ul style="list-style-type: none"> Housing material: polyamide reinforced with fiber glass and carbon Material of front side: anodized aluminum 		
Dimensions:	• Length 263 mm x Width 113 mm x Height 141 mm (10.3 x 4.4 x 5.5 inches)		
Weight:	• 2.7 kg with batteries (5.95 lbs)		
Conditions of use in stabilized mode:	<ul style="list-style-type: none"> Humidity: 5% to 80% relative humidity Operating temperature range: -15°C to +50°C (+5°F to 122°F) Atmospheric pressure 1013 mbar (± 100 mbar) 		
Storage conditions: (excluding batteries)	<ul style="list-style-type: none"> Humidity: < 90% relative humidity Temperature: -20°C to +60°C (-4°F to +140°F) 		
Protection rating:	• IP54 (complies with IEC 60529)		
CE Marking Standard conformity:	<ul style="list-style-type: none"> EN 50270 :2015 - Electromagnetic compatibility EN 61010-1 :2010 + A1:2019/AC 2019-04 - Safety requirements for electrical equipment for measurement, control and laboratory use IEC 60825-1 :2014 - Safety of laser products 		
	European standards of use in explosive atmospheres: <ul style="list-style-type: none"> EN IEC 60079-0 :2018 - General Requirements EN 60079-11 :2012 - Intrinsic Safety EN 60079-28 :2015 – Optical radiation protection 		
IECEx Marking: Zone 1	II2G Ex ib op is IIB T3 Gb IECEx INE 19.0017X		
ATEX Marking: Zone 1	Ex II 2 G Ex ib op is IIB T3 Gb INERIS 19ATEX0018X		
Patents:	No 7352463 and No 1647820		
Country of origin:	Made in France		



IEC 60079-0 :2017 (Ed. 7.0)
IEC 60079-11 :2011 (Ed. 6.0)
IEC 60079-28 :2015





- (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 05ATEX0051**

- (4) Equipment or protective system:

GAZ DETECTOR TYPE INSPECTRA LASER

- (5) Manufacturer: **GAZOMAT**

- (6) Address: 11, rue de l'Atome
F - 67802 BISCHHEIM

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

- (8) The INERIS, notified body and identified under number 0080, in accordance with article 9 of Council Directive 94/9/EC of the 23rd March 1994, certifies that this equipment or protective system 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 No P56944/05.

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

- conformity with:

EN 50 014 of June 1997 + Amendment 1 and 2
EN 50 020 of June 2002

- 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:

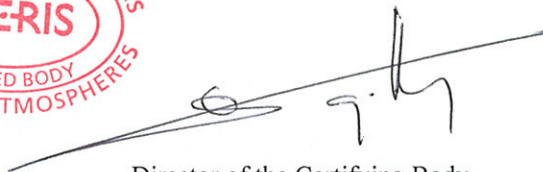
 **II 2 G**

EEx ib IIB T4

Verneuil-en-Halatte, on 2005 11 24



T. DELBAERE
Engineer at the Laboratory for Certification
of ATEX Equipment



Director of the Certifying Body,
By delegation
B. PIQUETTE
Deputy manager of Certification

(13)

ANNEX

(14)

EC TYPE EXAMINATION CERTIFICATE N° INERIS 05ATEX0051

(15) DESCRIPTION OF THE EQUIPMENT OR THE PROTECTIVE SYSTEM

The material is a gas detector

The material gets a protection degree IP54 according to European standard EN 60 529.


PARAMETERS RELATING TO THE SAFETY

Characteristics of the cells and batteries :

Mark	VARTA	DURACELL	SAFT
Reference	4920	Procell MN1300	VTD70 (VTD137)
Type	Alcaline Pile High Energy	Alcaline Pile High Energy	Battery NiCd
Size	LR20 D	LR20 D	LR20 D
Voltage	1,5V	1,5V	1,2V

MARKING

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

- GAZOMAT
11, rue de l'Atome
F - 67802 BISCHHEIM
- INSPECTRA LASER
- INERIS 05ATEX0051
- (serial number)
- (Year of construction)
-  II 2 G
- EEx ib IIB T4
- "DO NOT REPLACE THE CELLS OR BATTERIES IN EXPLOSIVE ATMOSPHERE"

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

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

ROUTINE EXAMINATIONS AND TESTS

None.

(16) DESCRIPTIVE DOCUMENTS

The documents listed hereafter, constitute the descriptive file of the apparatus, object of this certificate.

- Certification file N°002 AB of 2005.11.16
- User Manual 02_340_000_AB_BE of 2005.11.16
- Technical file ref 02_200900_AB_BE of 2005.11.15
- Electronic drawing file 02_200905_AB_BE of 2005.11.15
- Drawing file 02_200910_AB_BE of 2005.11.16

All these documents are signed on 2005.11.16

(17) SPECIAL CONDITIONS FOR SAFE USE

See the instruction note.

(18) ESSENTIAL REQUIREMENTS OF SAFETY AND HEALTH

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

- the conformity to the European standards EN 50 014 and EN 50 020
- the whole of the provisions adopted by the manufacturer and described in the descriptive documents.

This equipment is not evaluated according to annex II §1.5 of 94/9/EC Directive.



- 2 Appareil ou système de protection destiné à être utilisé en atmosphères explosibles
Equipment and protective systems intended for use in potentially explosive atmospheres

Directive 2014/34/UE
Directive 2014/34/EU

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ATTESTATION D'EXAMEN UE DE TYPE
EU-TYPE EXAMINATION CERTIFICATE

- 3 Numéro de l'attestation d'examen UE de type / *Number of the EU-Type Examination Certificate*

INERIS 19ATEX0018X

INDICE / *ISSUE* : 00

- 4 Appareil ou système de protection / *Equipment or protective system:*

DETECTEUR DE GAZ PORTABLE TYPE INSPECTRA LASER
PORTABLE GAS DETECTOR TYPE INSPECTRA LASER

- 5 Fabricant / *Manufacturer:*

GAZOMAT™

- 6 Adresse / *Address :*

11, rue de l'Industrie
F-67400 ILLKIRCH-GRAFFENSTADEN

- 7 Cet appareil ou système de protection et toute autre variante acceptable de celui-ci sont décrits dans l'annexe de la présente attestation et dans les documents descriptifs cités dans cette annexe.

This equipment or protective system and any acceptable variation thereto is specified in the Annex of this certificate and the descriptive documents therein referred to.

- 8 L'INERIS, organisme notifié et identifié sous le numéro 0080, conformément aux articles 17 and 21 de la directive 2014/34/UE du Parlement Européen et du Conseil, datée du 26 février 2014, et accrédité par le COFRAC sous le n° 5-0045 dans le cadre de l'activité de certification de produits et services (portée disponible sur www.cofrac.fr) certifie que cet appareil ou système de protection répond aux Exigences Essentielles de Sécurité et de Santé en ce qui concerne la conception et la construction des appareils et des systèmes de protection destinés à être utilisés en atmosphères explosibles, décrites en annexe II de la Directive.

INERIS, notified body and identified under number 0080, in accordance with Articles 17 and 21 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, and accredited by COFRAC under number 5-0045 for certification of products and services (scope of accreditation available on the website www.cofrac.fr), certifies that this equipment or protective system fulfils 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.

Les procédures de certification sont disponibles sur www.ineris.fr.

The rules of certification are available on INERIS website on: www.ineris.fr.

Les examens et les essais sont consignés dans le rapport :

The examinations and the tests are recorded in report:

N° 029447.

9 Le respect des Exigences Essentielles de Sécurité et de Santé est assuré par :

The respect of the Essential Health and Safety Requirements has been assured by:

- la conformité à / *Conformity with:*

EN 60079-0 : 2012 + A11 : 2013
EN 60079-11 : 2012
EN 60079-28 : 2015

- les solutions spécifiques adoptées par le fabricant pour satisfaire aux Exigences Essentielles de Sécurité et de Santé décrites dans les documents descriptifs /

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

10 Si le signe X est placé à la suite du numéro de l'attestation d'examen UE de type, il indique que cet appareil ou système de protection est soumis à des conditions spéciales d'utilisation, mentionnées dans l'annexe de la présente attestation.

If the sign X is placed after the Number of the EU type examination certificate, it indicates that this equipment and protective system is subject to the Specific Conditions of Use, mentioned in the annex of this certificate.

11 Cette attestation d'examen UE de type se rapporte uniquement à la conception, aux examens et essais de l'appareil ou système de protection spécifié conformément à la directive 2014/34/UE. D'autres exigences de cette Directive s'appliquent à la fabrication et à la fourniture de cet appareil ou système de protection, celles-ci ne sont pas couvertes par cette attestation.

This EU-Type Examination Certificate relates only to the design, examinations and tests of the specified equipment or protective system in accordance to the Directive 2014/34/EU. 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 Le marquage de l'appareil ou du système de protection doit contenir :

The marking of the equipment or the protective system shall include the following:



Verneuil-en-Halatte, 2019 11 08



Signé électroniquement
Digitally signed by
Thierry HOUEIX
Ex Certification Officer
Délégué Certification

Le Directeur Général de l'INERIS
Par délégation
The Chief Executive Officer of INERIS
By delegation

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ANNEXE**15 DESCRIPTION DE L'APPAREIL OU DU SYSTÈME DE PROTECTION :**

Le détecteur de gaz type Spectra Laser permet la détection et la mesure de fuite dans les réseaux de distribution de gaz, des milieux industriels et des industries chimiques.

Protégé par sécurité intrinsèque, la détection de gaz ou de fuite s'effectue par un module laser.

Le matériel se compose d'une enveloppe en matériau plastique munie de cartes à circuits imprimés sur lesquelles sont implantés les composants électroniques.

L'alimentation du matériel s'effectue par un ensemble de trois éléments de batteries connectées en série.

PARAMETRES RELATIFS A LA SECURITE :

Tension d'alimentation aux bornes du connecteur de recharge : $U_m = 250 \text{ V}$

Tension d'alimentation aux bornes du connecteur de communication (BINDER) : $U_m = 250 \text{ V}$

Caractéristiques des batteries / Batteries characteristics :

<u>Fabricant / Manufacturer</u>	ARTS Energy	ARTS Energy	GP Batteries
<u>Référence / Model</u>	VNT-D(H) U	VHT-D(L)	GP1000DH
<u>Type / Type</u>	Ni-Cd	Ni-Mh	Ni-Mh
<u>Capacité / Capacity</u>	4250 mAh	6450 mAh	10 Ah
<u>Format / Size</u>	LR20 - D	LR20 - D	LR20 - D
<u>Tension par élément/ Voltage per element</u>	1,55 V / 1.55 V	1,60 V / 1.60 V	1,60 V / 1.60 V

MARQUAGE :

Le marquage doit être lisible et indélébile ; il doit comporter les indications suivantes :

GAZOMAT™
F-67400 Illkirch-Graffenstaden
INSPECTRA LASER
INERIS 19ATEX0018X
(Numéro de série)
(Année de construction)



II 2 G
Ex ib op is IIB T3 Gb

AVERTISSEMENT :
NE PAS REMPLACER OU RECHARGER LE PACK
BATTERIES EN ATMOSPHERE EXPLOSIBLE

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ANNEX**15 DESCRIPTION OF THE EQUIPMENT OR THE PROTECTIVE SYSTEM :**

The Gas Detector type Spectra Laser allows to detect and measure gas leakage in industrial gas network from industrial fields and chemical industry.

Protected by intrinsic safety, gas detection or leak is performed by a laser module.

The apparatus is composed of a plastic enclosure provided printed circuits boards on which are implemented electronic components.

Power supply of the apparatus is performed by a whole of three batterie elements connected in series.

PARAMETERS RELATING TO THE SAFETY :

Supply voltage to charging terminals: $U_m = 250 \text{ V}$

Supply voltage to communication port (BINDER):
 $U_m = 250 \text{ V}$

MARKING :

Marking has to be readable and indelible; it has to include the following indications:

GAZOMAT™
F-67400 Illkirch-Graffenstaden
INSPECTRA LASER
INERIS 19ATEX0018X
(Serial number)
(Year of manufacture)



II 2 G
Ex ib op is IIB T3 Gb

WARNING:
DO NOT REPLACE OR CHARGE BATTERIES PACK IN
HAZARDOUS AREA

L'ensemble du marquage peut être réalisé dans la langue du pays d'utilisation.

L'appareil ou le système de protection doit aussi porter le marquage normalement prévu par les normes de construction qui le concernent.

EXAMENS ET ESSAIS INDIVIDUELS :

Néant.

16 DOCUMENTS DESCRIPTIFS :

Les documents descriptifs cités ci-après, constituent la documentation technique de l'appareil, objet de la présente attestation.

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 :

None.

16 DESCRIPTIVE DOCUMENTS :

The descriptive documents quoted hereafter constitute the technical documentation of the equipment, subject of this certificate.

Titre / Title	Réf. / Ref.	Rév. / Rev.	Date / Date
Technical file (111 pages/ 9 Rubriques/Rubrics)	02-200-999-AE	AE	2019.09.20
Manuel d'utilisation / User manual	02_340_000AN_BE	BE	2019.09.02

17 CONDITIONS SPÉCIALES D'UTILISATION :

- Cet appareil est prévu pour une gamme de températures ambiantes de -15°C à +50°C.
- La recharge du pack batteries ou l'utilisation du port de communication (BINDER) doivent s'effectuer hors atmosphères explosibles

Les autres conditions d'utilisation sont définies dans la notice d'instructions.

17 SPECIFIC CONDITIONS OF USE :

- *The equipment is intended to be used in an ambient temperature range from -15°C to +50°C.*
- *Charging batteries pack or usage of communication port (BINDER) shall be perform outside hazardous area.*

The other conditions of use are stipulated in the instructions.

18 EXIGENCES ESSENTIELLES DE SECURITE ET DE SANTE :

Le respect des Exigences Essentielles de Sécurité et de Santé est assuré par :

- La conformité aux normes listées au paragraphe (9).
- L'ensemble des dispositions adoptées par le constructeur et décrites dans les documents descriptifs.

18 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS :

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

- *Conformity to the standards quoted in clause (9).*
- *All provisions adopted by the manufacturer and defined in the descriptive documents.*

19 REMARQUES :

Néant.

19 REMARKS :

None.