



(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 03ATEX0182 X**

(4) Equipment or protective system:

**CONTROL, COMMAND AND JUNCTION BOX FOR MOTORIZED VALVE TYPE LEF 430 .....-..**

(5) Manufacturer: **LEF INDUSTRIES**

(6) Address: **ZI de Lannugat  
F -29177 DOUARNENEZ**

(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 23<sup>rd</sup> 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 P46743/03.

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

- conformity with:

EN 50 014	of June	1997 + Amendments 1 and 2
EN 50 020	of June	2002
EN 13463-1	of November	2001
EN 50 281-1-1	of September	1998 + Amendment 1

- 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 or GD


EEx ia IIC T6, T5 or T4  
IP6X T80°C, T95°C or T130°C

Verneuil-en-Halatte, 2004 11 01



T. HOUEIX

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 03ATEX0182 X

(15)

### DESCRIPTION OF THE EQUIPMENT OR THE PROTECTIVE SYSTEM

The case, made out of light alloy or polyester charged carbon, is of a certified type and can contain, according to the alternatives of realization, the following elements:

- To two electromagnetic solenoids of intrinsic safety of a certified type for the command and junction box,
- To twelve electromagnetic solenoids of intrinsic safety of a certified type for the case of interface selected,
- To eight detectors of intrinsic safety of a certified type,
- Connecting terminals EEx e of a certified type,

Connection with the external electric circuits is carried out by means of entries of cables of a type certified EEx e or EEx i.

The electrical apparatus can comprise the Ex components and materials of a certified type defined in the descriptive documents.

### PARAMETERS RELATING TO THE SAFETY

- Maximum supply voltage : 30 V.
- Maximum input characteristics of the solenoids


Ui (V)	Ii (mA)	Ci (nF)	Li (nH)
35	0,9	0	0

- Maximum input characteristics of the detectors

Ui (V)	Ii (mA)	Ci (nF)	Li (µH)
30	170	370	340

**MARKING**

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

- LEF INDUSTRIES  
ZI de Lannugat  
F -29177 DOUARNENEZ
- LEF 430.....-.-.-.-.
- INERIS 03ATEX0182 X
- (serial number)
- (Year of construction)
-  II 2 GD
- EEx ia IIC T6, T5 or T4

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

- Descriptive note n°LEF 430 ATEX/0350/JYF (17 pages) du 2003.12.18
- Instructions n°DQ.22.F (1 page) du 2003.12.18
- Drawing n°097/01 - ind. B - (1 page) dated on 2002.11.04
- Drawing n°097/02 - ind. B - (1 page) dated on 2002.11.04
- Drawing n°097/03 - ind. B - (1 page) dated on 2002.11.04
- Drawing n°097/04 - ind. B - (1 page) dated on 2002.11.04
- Drawing n°097/05 - ind. B - (1 page) dated on 2002.11.05
- Drawing n°118/430a - ind. B - (1 page) dated on 2003.05.16
- Drawing n°118/430b - ind. B - (1 page) dated on 2003.05.16
- Drawing n°118/430c - ind. C - (1 page) dated on 2003.05.16
- Drawing n°131/01 - ind. B - (1 page) dated on 2003.03.24
- Drawing n°133/01 - ind. A - (1 page) dated on 2003.05.16
- Drawing n°135/01 - ind. B - (1 page) dated on 2003.03.26
- Drawing n°135/02 - ind. B - (1 page) dated on 2003.03.26
- Drawing n°135/03 - ind. B - (1 page) dated on 2003.03.26
- Drawing n°135/04 - ind. A - (1 page) dated on 2003.03.26
- Drawing n°135/05 - ind. A - (1 page) dated on 2003.03.26
- Drawing n°136/01 - ind. C - (1 page) dated on 2003.03.27
- Drawing n°138 - ind. A - (1 page) dated on 2003.04.02
- Drawing n°154 - ind. B - (1 page) dated on 2003.05.15
- Drawing n°159 - ind. A - (1 page) dated on 2003.05.16

These documents are signed on 18<sup>th</sup> december 2003.

**(17) SPECIAL CONDITIONS FOR SAFE USE**

The control, command and junction box for motorized valve type LEF 430 must be supplied by a voltage source of a certified type for a use in the explosive atmospheres of the group IIC whose output circuit is recognized of intrinsic safety.

The maximum characteristics of this source are those indicated in the documents of certification of the established devices.

The ambient temperature range of use is function of the elements installed.

**(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, EN 50 020 EN 50 281-1-1 and EN 13463-1.
- the whole of the provisions adopted by the manufacturer and described in the descriptive documents.

## ADDITION

(3) INERIS 03ATEX0182X/01

(4) CONTROL, COMMAND AND JUNCTION BOX  
FOR MOTORIZED VALVE Type LEF 430 ....-...-...-

(5) Made by LEF INDUSTRIES

(15) PURPOSE OF THE ADDITION

- Introduction of a new case in plastic material usable only in gas version.
- Introduction of new metallic enclosure and terminal bloc certified
- Introduction of Pressure equaliser plug placed on the cases usable only in gas version.
- Introduction of an alternate mounting for the case LC3 usable only in gas version.
- Introduction of different component and equipment in the cases, in particular of new type of pneumatic distributors, electromagnetic valves and proximity detectors.
- Introduction of an alternative usable at an ambient temperature  $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq + 80^{\circ}\text{C}$

PARAMETERS RELATING TO THE SAFETY

The parameters relating to the safety mentioned in the basic certificate are modified as follows:

- Maximum equivalent characteristics to the terminal blocs of the electromagnetic valves and proximity detectors are defined in the instruction note and in the corresponding equipment instruction notes and/or certificate.
- Maximum pressure of the compressed air : 10 bar
- Maximum temperature of the compressed air :  $40^{\circ}\text{C}$

MARKING

The marking defined in the basic certificate is modified as follows:

- LEF Industries
- Z.I de Lannugat
- F - 29177 DOUARNENEZ
- LEF 430 ....-...-...-
- INERIS 03ATEX0182 X
- (Serial number)
- (Year of construction)
- $\text{Ex}$  II 2 G ou  $\text{Ex}$  II 2 GD\*
- EEx ia IIC T6, T5 or T4\*
- IP6X T80°C, T95°C or T130°C\*
- Tamb  $-40^{\circ}\text{C}$  or  $-20^{\circ}\text{C}$  to  $40^{\circ}\text{C}$  or  $60^{\circ}\text{C}$  or  $80^{\circ}\text{C}$ \*

\* Marking is performed according to the equipment and component including in the LEF 430

**ROUTINE EXAMINATIONS AND TESTS**

The routine examinations and tests stipulated by the basic certificate 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.

- Supplement No1 of the descriptive notice (9 pages) signed on 2007.02.26
- Instruction note (2 pages) signed on 2007.02.26

**(17) SPECIAL CONDITIONS FOR SAFE USE**

The special conditions defined in the basic certificate are unchanged.

**(18) ESSENTIAL SAFETY AND HEALTH REQUIREMENTS**

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

Verneuil-en-Halatte, 2007 03 05



Thierry DELBAERE

Engineer at the ATEX Equipment Assessment  
Laboratory



Director of the Certifying Body,  
By delegation  
Thierry HOUËIX  
Certification Officer



## ADDITION

(3) INERIS 03ATEX0182X/02

(4) CONTROL, COMMAND AND JUNCTION BOX  
FOR MOTORIZED VALVE TYPE LEF 430 .....-...-..

(5) Made by LEF INDUSTRIES

(15) PURPOSE OF THE ADDITION



- Application of European standards :
  - EN 60079-0 : 2006
  - EN 60079-11 : 2007
  - EN 61241-0 : 2006
  - EN 61241-1 : 2004
  - EN 13463-1 : 2009
- Introduction of a new case LC4, in plastic material.
- Introduction of new metallic enclosure type LC5.
- Introduction of new case of a certified type, in polyester material.
- Mechanical modifications of LC2 enclosure usable in version gas only.

PARAMETERS RELATING TO THE SAFETY

The parameters relating to the safety are unchanged.

MARKING

The marking is modified as follow:

- LEF Industries
- F - 29177 DOUARNENEZ
- LEF 430 .....-...-..
- INERIS 03ATEX0182 X
- (Serial number)
- (Year of construction)
-  II 2 G or  II 2 GD\*
- Ex ia or ib IIC T6, T5 or T4\*
- Ex tD A21 IP65 or IP66 T80°C, T95°C or T130°C\*
- Tamb : -40°C or -20°C or -10°C to 40°C or 60°C or 80°C\*

\* Marking is performed according to the equipment and component including in the LEF 430

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 describing the modification of the equipment, subject of this present addition.

- ATEX file DC430/av02 of 2009.01.13

signed on 2011.08.29

**(17) SPECIAL CONDITIONS FOR SAFE USE**

The special conditions for safe use are modified as follow:

The control, command and junction box for motorized valve type LEF 430 must be supplied by a voltage source of a certified type for a use in the explosive atmospheres of the group IIB or IIC whose output circuit is recognized of intrinsic safety.

The maximum characteristics of this source are those indicated in the documents of certification of the established devices.

**(18) ESSENTIAL SAFETY AND HEALTH REQUIREMENTS**

The respect of the Essential Health and Safety Requirements is modified as follow:

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

Verneuil-en-Halatte, 2011.09.08



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