



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEx INE 13.0089X** Page 1 of 4 Certificate history:  
Status: **Current** Issue No: 2 [Issue 1 \(2014-11-20\)](#)  
[Issue 0 \(2014-03-28\)](#)  
Date of Issue: 2021-01-25  
Applicant: **BIFFI ITALIA s.r.l**  
Srada Biffi, 165  
I - 29017 Fiorenzuola d'Arda  
**Italy**  
Equipment: **Electric Actuator type F01.\*\*\*-\*\*\***  
Optional accessory:  
Type of Protection: **db h or db h ia and/or h tb**  
Marking: Ex db h IIB T4 Gb or Ex db h ia IIB T4 Gb  
Ex h tb IIIC T135°C Db IP66  
The complete marking is detailed in Annex.

Approved for issue on behalf of the IECEx  
Certification Body:

**Thierry HOUEIX**

Position:

**Ex Certification Officer**

Signature:  
(for printed version)

Date:

**2021-01-25**

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Certificate issued by:

**INERIS**  
**Institut National de l'Environnement Industriel et des Risques**  
**BP n2 / Parc Technologique ALATA**  
**F-60550 Verneuil-en-Halatte**  
**France**



controlling risks  
for sustainable development



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Manufacturer: **BIFFI ITALIA s.r.l**  
Srada Biffi, 165  
I - 29017 Fiorenzuola d'Arda  
**Italy**

Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

## STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

**IEC 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-1:2014-06** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

**IEC 60079-11:2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

**IEC 60079-31:2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

**ISO 80079-36:2016** Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements  
Edition:1.0

**ISO 80079-37:2016** Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"  
Edition:1.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

## TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[FR/INE/ExTR13.0090/02](#)

Quality Assessment Report:

[FR/INE/QAR08.0005/11](#)



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

This range of Electric Actuators are suitable for explosive gas atmospheres of group IIB and for dust group IIIC.

The enclosure "db h" made in light alloy, is intended to receive mainly an electric motor and an electronic part including a battery SAFT type LS14500C.

A version "db h ia" is foreseen with another compartment containing an intrinsic safety element equipped with a battery pack LS 9V.

The motor is fitted with an internal thermal probe put in the winding.

The enclosure presents the degrees of protection IP66 according IEC 60529 standard.

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

- The gap and diametrical clearances are lower than the values specified in the tables of IEC 60079-1 standard. The width of the flameproof joints is greater of the values specified in the IEC 60079-1 standard. For any repair, to contact the manufacturer.

- For the assembly of the various parts of explosion-proof enclosures, the screws must be in stainless steel class A4 grade 70 with yield strength higher or equal to 450 N/mm<sup>2</sup>.



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## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

### **For the Issue n°00:**

- Application of the IEC 60079-31:2013, 2nd edition;
- Addition of 5th cable entry (optional);
- Addition of the extension (optional);
- Change of ambient temperature from -50°C to +70°C to -50°C to +85°C

### **For the Issue n°01:**

- Mechanical modifications.
- Introduction of new light alloys for the different parts of the enclosure and modification of routine tests.
- Application of the last edition of the standards for electrical equipment listed in the certificate.
- Application the standards ISO 80079-36 and ISO 80079-37 for non-electrical equipment using the type of protection "h"
- Modification of the supply voltage parameters

## **Annex:**

[IECEx INE 13.0089X-02\\_Annex.pdf](#)



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## PARAMETERS RELATING TO THE SAFETY

### Electrical parameters for the motor:

Supply voltage : from 110 Vac to 690 Vac ( $\pm 10\%$ ) or 24 Vdc ( $\pm 10\%$ )  
Maximum powers : from 0.010 kW to 0.096 kW  
Frequency : DC motors or 50/60 Hz ( $\pm 2\%$ ) for AC motors  
Torque range : from 150 Nm to 600 Nm

### Characteristic of thermal probe equipping the motor:

Threshold of release : 140 °C  $\pm$  5°C for AC motors or 90 °C  $\pm$  5°C for DC motors

### Electrical characteristic of the cell located in the "Ex db" compartment:

Manufacturer : SAFT  
Type : LS 14500C  
Supply voltage : 3.6 V  
Nominal capacity : 2.6 Ah

### Electrical characteristic of the cell located in the "Ex ia" compartment:

Manufacturer : SAFT  
Type : Battery pack LS 9 V  
Supply voltage : 9 V  
Nominal capacity : 1.2 Ah

This actuator can be used in range of ambient temperatures from -50°C to +85°C.

## MARKING

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

- BIFFI ITALIA s.r.l
- I – 29017 Fiorenzuola d'Arda (PC)
- F01.\*\*\*-\*\*\* (\*)
- IECEx INE 13.0089X
- (Serial number)
- Ex db h IIB T4 Gb or Ex db h ia IIB T4 Gb
- Ex h tb IIIC T200°C Db
- IP66
- Tamb: -50°C to 85°C
- T.Cable: 110°C
- For cable entries dimensions see installation manual.
- **WARNINGS:**
  - DO NOT OPEN WHEN ENERGIZED.
  - DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.

On the compartment containing the intrinsic safety circuit, the marking: "ia"

(\*) Type is completed by numbers and/or letters corresponding to alternatives of execution



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## **ROUTINE EXAMINATIONS AND TESTS**

In accordance with clause 16 of IEC 60079-1 standard, the table below defines the parts of the enclosure that must be submitted to the overpressure routine test. When required, the sample must have successfully passed before delivery, an overpressure test, of a period comprised between 10 and 60 seconds, under 14 bar.

Parts of the equipment	Materials	Routine tests
Main housing	EN AC 44300	100% of production
	EN AC 43300	Batch testing according to ISO 2859-1
Local control group cover	EN AC 44300	100% of production
	EN AC 43300	Exempted
	EN AC 42000	100% of production
Local interface cover	EN AC 44300	100% of production
	EN AC 43300	100% of production
	EN AC 42000	Batch testing according to ISO 2859-1
Terminal board cover	EN AC 44300	100% of production
	ADC12 JIS	Exempted
Extension [A] and [B]	EN AC 43300	Exempted