



# 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 12.0056X** Page 1 of 4 Certificate history:  
Status: **Current** Issue No: 2 [Issue 1 \(2018-04-05\)](#)  
[Issue 0 \(2013-07-05\)](#)  
Date of Issue: 2021-06-16  
Applicant: **BIFFI ITALIA S.r.l**  
Strada Biffi, 165  
29017 Fiorenzuola d'Arda  
**Italy**  
Equipment: **Solenoid valves type 15010..., 15020..., 15030... and 15040...**  
Optional accessory:  
Type of Protection: **db and tb**  
Marking: Ex db IIC T5 or T4 or T3 Gb  
Ex tb III C T100°C or T135°C or T150°C Db IP65 or IP66

Approved for issue on behalf of the IECEx  
Certification Body:

**Thierry HOUÉIX**

Position:

**Ex Certification Officer**

Signature:  
(for printed version)

Date:

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Certificate issued by:

**INERIS**  
**Institut National de l'Environnement Industriel et des Risques**  
**BP n2 / Parc Technologique ALATA**  
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**France**



controlling risks |  
for sustainable development |



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Certificate No.: **IECEX INE 12.0056X**

Page 2 of 4

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Manufacturer: **BIFFI ITALIA s.r.l**  
Strada Biffi, 165  
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 60079-31:2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

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/ExTR12.0058/02](#)

Quality Assessment Report:

[FR/INE/QAR08.0005/12](#)



# IECEX Certificate of Conformity

Certificate No.: **IECEX INE 12.0056X**

Page 3 of 4

Date of issue: 2021-06-16

Issue No: 2

## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The equipment is composed by a terminal box in aluminum alloy connected through a Ø 6 mm stainless steel tube to up to 4 solenoid enclosures; each solenoid has its own enclosure made of a coil enclosure in aluminum alloy or stainless steel, a core enclosure (lower, intermediate and upper part) in stainless steel and a coil lower body in stainless steel.

The terminal box has a threaded cover for types 15010 and 15030 or a cover fixed by screws (minimum quality A2-70) for types 15020 and 15040, on the top of this cover a selector is foreseen.

The whole solenoid valve group is closed by an aluminum alloy cover, this cover has a minimum IP66 degree of protection according to IEC 60529 standard.

The degree of protection of the equipment is IP66 with the aluminum Alloy cover and IP 65 without the cover according to 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.

- The quality of the screws, for models 15020 and 15040, must be higher or equal to class A4 grade 70 with yield strength higher or equal to 450 N/mm<sup>2</sup>.



# IECEX Certificate of Conformity

Certificate No.: **IECEX INE 12.0056X**

Page 4 of 4

Date of issue: 2021-06-16

Issue No: 2

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

### **For the Issue 01:**

- Introduction of a new material (stainless steel) for the coil cover and for the coil body.
- Application of IEC 60079-1:2014 and IEC 60079-31:2013 standards.
- Update of the manufacturer documentation and electrical parameters.

### **For the Issue 02:**

- Application of the standard IEC 60079-0:2017 (instead of IEC 60079-0:2011)
- Introduction of new versions foreseen with 1 or 3 valves.
- New types blanking plug for unused entries of the junction box.

### **Annex:**

[IECEX INE 12.0056X-02\\_Annex.pdf](#)



# IECEX Certificate of Conformity

Certificate No.: IECEx INE 13.0089X

Issue No.: 2

Page 1 of 1

Annex: IECEx INE 13.0089X-02\_Annex.pdf

## PARAMETERS RELATING TO THE SAFETY

Supply voltage : From 12V to 220 Vdc  
From 24V to 380 Vac (50/60Hz)

Maximum power of valves : 24 W

All versions of the solenoid valves are in Direct current, in case of alternative current, a bridge of diode is installed in the terminal box.

The Solenoid Valves group is composed as per table below:

TYPE	NUMBER OF SOV	HOLES BETWEEN JB AND BASE-PLATE
15010	1 or 2	2
15020	1 or 2	2
15030	1, 2, 3 or 4	2, 3 or 4
15040	1, 2, 3 or 4	2, 3 or 4

These solenoid valves are intended to be used in the following minimum ambient temperatures:

- Down to -60°C if the equipment is fitted with gaskets and O-ring made in Fluorosilicon, SBR or silicone rubber
- Down to -20°C if the equipment is fitted with gaskets and O-ring made in NBR, Neoprene.

These solenoid valves are intended to be used in the maximum ambient temperatures up to +50°C or +65°C or +85°C as detailed in the clause "MARKING".

## MARKING

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

- BIFFI ITALIA S.r.l
- Strada Biffi, 165
- I – 29017 Fiorenzuola d'Arda
- (\*)
- IECEx INE 12.0056X
- (Serial number)
- Ex db IIC T(\*\*) Gb
- Ex tb IIIC T(\*\*) Db IP(\*\*\*)
- ...°C < Tamb < ...°C (\*\*)
- T.Cable: (\*\*)
- For cable entries dimension see installation manual
- **WARNINGS:**
  - DO NOT OPEN WHEN ENERGIZED
  - DO NOT OPEN IF AN EXPLOSIVE ATMOSPHERE IS PRESENT

(\*) One of the following types: 15010, 15020, 15030 or 15040. The type can be completed by numbers and/or letters corresponding to manufacturing variations.

(\*\*) See table below:

MAXIMUM DISSIPATED POWER	RANGE OF AMBIENT TEMPERATURES	TEMPERATURE CLASS		CABLE TEMPERATURE
		GAS	DUST	
10 W	-60°C to 50°C	T5	T100°C	NA
	-60°C to 85°C	T4	T135°C	95°C
24 W	-60°C to 65°C	T4	T135°C	NA
	-60°C to 85°C	T3	T150°C	95°C

(\*\*\*) IP65 without protection cover or IP66 with protection cover.

## ROUTINE EXAMINATIONS AND TESTS

In accordance with clause 16.2 of the IEC 60079-1 standard, each equipment defined above, is exempted of routine test due to the fact the type has undergone a static type test at 4 times of the reference pressure under 44 bar.