IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx CES 19.0004X

Issue No: 0

Certificate history:
Issue No. 0 (2019-04-05)

Status: **Current**

Date of Issue: **2019-04-05**

Applicant: **Piusi S.p.A.**
Via Antonio Pacinotti, 16A
I-46029 Suzzara (MN)
Italy

Equipment: **Electric pumps, model EX20 12V and EX30 12V**

Optional accessory:

Type of Protection: **Flameproof enclosures 'd', constructional safety 'c'**

Marking:

Ex db h IIA T4 Gb

or

Ex db h IIB T4 Gb

Approved for issue on behalf of the IECEx Certification Body: Mirko Balaz

Position: Head of IECEx CB

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

CESI
Centro Elettrotecnico
Sperimentale Italiano S.p.A.
Via Rubattino 54
20134 Milano
Italy

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Manufacturer:	**Piusi S.p.A.** Via Antonio Pacinotti, 16A I-46029 Suzzara (MN) **Italy**	

Additional Manufacturing location(s):

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 apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
ISO 80079-36 : 2016 Edition:1.0	Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements
ISO 80079-37 : 2016 Edition:1.0	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"

*This Certificate **does not** indicate compliance with electrical 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:

IT/CES/ExTR19.0001/00

Quality Assessment Report:

DE/TPS/QAR18.0005/01

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Electro-pumps model EX20 12V and EX30 12V are equipment made up of a flame proof electric motor coupled with a hydraulic pump. The product is suitable for the transfer of flammable fluids, according to the manufacturer's specifications.

The electrical part (motor and supplying electronics) is held in a flame proof enclosure formed by a steel pipe, closed at one side by an end-shield having the calibrated shaft passage and at the other side by an end-shield which incorporate the cable gland.

The hydraulic part (volumetric rotative pump, with by-pass valve) is attached to the motor end-shield and leaves a free volume of air, with natural ventilation, between the two parts. The pump is keyed on the motor shaft.

The electric motors are equipped with a manual reset protecting device with a pre-set intervention threshold.

The two models differ one from the other for the electrical characteristics: EX20 is foreseen for continuous service and is equipped with a thermal protection with intervention threshold set at 130°C, EX30 is foreseen for discontinuous service: maximum 30 minutes ON interspersed by minimum 60 minutes OFF and is equipped with a protection against overload calibrated at 20A with temperature 25°C.

This certificate bases on the assumption the operation conditions are compliant with the classification zone 1 inside the pump. The apparatus is equipped with an earthing screw which shall be connected, using a suitable cable, to an earthing point, common with the fuel tanks, before energizing the motor. At switch-on, the pump could operate in a bypass condition, in case of a closed outlet duct, and then pass into delivery when it opens. The time-length of the bypass functioning shall be limited to minimum time and anyway never longer than 30 seconds.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The electric pump is furnished with the supply cable permanently connected and without a switch for start and stop. The electrical cable shall be connected to the power supply in safe zone or using one of the protection methods foreseen by the standard IEC 60079-0 with a switch off button; the cable cannot be reduced in length.
- The equipment shall be attended while working to suddenly detect possible malfunctioning, including the intervention of the internal protection device and the pump stop;
- Observe the type of service foreseen for the model of electric pump as shown in electrical caracteristics, avoid using the pump dry or in bypass conditions;
- The apparatuses are equipped with internal protection devices against overheating, with manual restart; in case the intervention of the device repeats, in normal operation conditions, do not attempt to restart the pump but send it to the manufacturer for due checks;
- Before any run, connect tanks and pump, through the special screw, to a common earth;
- Keep clear the three openings which put the stretch of the shaft, between the flameproof enclosure and the pump, in connection with open air;
- The temperature of the fluid processed by the pump shall be inside the ambient temperature range shown on the marking plate.
- The flame-paths of the flameproof enclosure are identified in the manufacturer's drawings. For information concerning their sizes do contact the manufacturer.

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EQUIPMENT (continued):

Electrical characteristics

Model EX20

- Rated supply voltage: 12 Vdc (±10%)
- Rated supply current: 7 A
- Rated power: 84 W
- Rotation speed (max): 1400 min-1
- Type of service: CONTINUOUS S1
- Motor protection: Klixon Sensata 3MP68393A-900 (intervention at 130°C)
- Insulation class: H

Model EX30

- Rated supply voltage: 12 Vdc (±5%)
- Rated supply current: 12 A
- Rated power: 144 W
- Rotation speed (max): 2700 min-1
- Type of service: DISCONTINUOUS max 30’ ON - min 60’ OFF
- Motor protection: Klixon Sensata EXT 244-20 (intervention at I=20A @ 25°C)
- Insulation class: F

Ambient temperature: -10°C ÷ +40°C

Marking according to the standards: :

Ex db h IIA T4 Gb (with shaft passage gap ≤ 0.37 mm)

Ex db h IIB T4 Gb (with shaft passage gap ≤ 0.30 mm)

The only difference between models marked IIA and IIB is the maximum gap of the cylindrical flameproof joint through which the motor shaft crosses the end-shield.

The apparatus is protected, against the ignition due to potential non-electrical sources, using the constructive protection “c” (standard EN 80079-37).

Cable entries

Electric pumps are furnished with the supply cable already connected. The connection of the cable to the power supply shall be carried out according to the standard IEC 60079-14 and in force regulations for electrical systems, observing the special conditions for safe use (X).

The cable (type NONT14A-XX-013 by WUXI XINHONGYE WIRE & CABLE Co. LTD; +125°C 300V), has been flameproof tested (IEC 60079-1) with length 1000 mm, hence its length shall not be reduced below such value. It is also possible to use similar cables of the same diameter; in such case its minimum length shall not be lower than 3000 mm (standard IEC 60079-14).

Warning labels

“CAUTION - AUTOMATIC THERMAL PROTECTED MOTOR”