



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

Certificate No.: **IECEx LCI 07.0005X** Page 1 of 4 Certificate history:
Status: **Current** Issue No: 2 Issue 1 (2008-11-21)
Date of Issue: 2021-03-19 Issue 0 (2007-06-05)
Applicant: **EXHEAT Ltd**
Thrextan Road Industrial Estate
Watton, Thetford, Norfolk
IP25 6NG
United Kingdom
Equipment: **Flameproof air warmer - Type: FWD and FWD-T.**
Optional accessory:
Type of Protection: **Ex db and Ex tb**
Marking: Ex db IIC T4...T2 Gb
Ex tb IIIC T135°C...T300°C Db
IECEx LCI 07.0005X
(Refer to attachment for full marking).

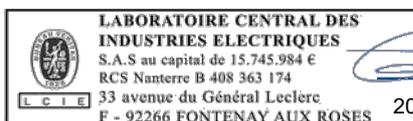
Approved for issue on behalf of the IECEx
Certification Body:

Julien GAUTHIER

Position:

Certification Officer

Signature:
(for printed version)



Date:

2021-03-19

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 www.iecex.com or use of this QR Code.



Certificate issued by:

Laboratoire Central des Industries Electriques (LCIE)
33 Avenue du General Leclerc
Fontenay-aux-Roses FR-92260
France





IECEx Certificate of Conformity

Certificate No.: **IECEx LCI 07.0005X**

Page 2 of 4

Date of issue: 2021-03-19

Issue No: 2

Manufacturer: **EXHEAT Industrial Ltd**
Threxton Road Ind Estate
Watton
Thetford
Norfolk
IP25 6NG
United Kingdom

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/LCIE/ExTR21.0010/00](#)

Quality Assessment Report:

[FR/LCI/QAR06.0005/11](#)



IECEx Certificate of Conformity

Certificate No.: **IECEx LCI 07.0005X**

Page 3 of 4

Date of issue: 2021-03-19

Issue No: 2

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The products are flameproof air warmer, types FWD and FWD-T.

The FWD flameproof air warmer is a tubular convector heater comprising a ceramic core type electric heating element fitted in a horizontally mounted metallic externally finned tube and terminated by a terminal box.

The FWD-T additionally includes the option of integral externally adjustable thermostatic control.

The maximum power density is established to ensure that whilst continuously energized at its rated voltage a given temperature class cannot be exceeded in a given ambient. It is also established in function of the length of the heating element.

The enclosure is made of welded construction with a threaded cover for the FWD type and with a spigot cover for the FWD-T type. All electrical connections are terminated in the terminal enclosure.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The equipment shall be equipped with suitably certified cable glands and blanking elements with a compatible type of protection for the intended use.
- The flameproof joints are not intended to be repaired.
- Potential electrostatic charging hazard. Painted surfaces should only be cleaned with a damp cloth.
- For the FWD-T, the special fasteners of the enclosure lid are socket head screws conforming to ISO 4762. The minimum grade of screws must be 12.9. If any, the screws shall only be replaced with identical ones.
- The equipment shall be installed and used according to the instruction manual provided by the manufacturer.



IECEx Certificate of Conformity

Certificate No.: **IECEx LCI 07.0005X**

Page 4 of 4

Date of issue: 2021-03-19

Issue No: 2

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 02:

- Normative update according to IEC 60079-0, Edition 7.0 standard.
- Normative update according to IEC 60079-1, Edition 7.0 standard.
- Normative update according to IEC 60079-31, Edition 2 standard.
- Clarification about the applicant and manufacturer names.

Annex:

[IECEx LCI 07.0005X - Issue 02 - Annex 01 - Exheat.pdf](#)



Annex 01 to Certificate IECEx LCI 07.0005X issue 02



MARKING



Address: ...

Type: FWD or FWD-T

Serial number: ...

Year of construction: ...

Ex db IIC T4...T2 Gb ⁽¹⁾

Ex tb IIIC T135°C...T300°C Db ⁽¹⁾

IECEx LCI 07.0005X

$-60^{\circ}\text{C} \leq T_{\text{amb}} \leq +\dots^{\circ}\text{C}$ ⁽¹⁾

WARNINGS –

DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT.

DO NOT OPEN WHEN ENERGIZED.

POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS. ⁽²⁾

On the marking plate :

T cable entry : $+74.5^{\circ}\text{C}$ ($T_a = +60^{\circ}\text{C}$)

T branching point: $+76.2^{\circ}\text{C}$ ($T_a = +60^{\circ}\text{C}$)

U = ... V; I = ...A; P = ... kW ⁽³⁾

⁽¹⁾ see temperature table.

⁽²⁾ if the equipment is natural (without coating), the warning is not marked.

⁽³⁾ completed by electrical parameters.

Temperature table for FWD and FWD-T types :

Max. power density	Max. ambient temperature	Temperature class	
		Gas	Dust
0.33 W / cm ²	+40°C	T4	T135°C
	+60°C	T3	T200°C
0.67 W/cm ²	+40°C	T3	T200°C
	+60°C	T2	T300°C

RATINGS

For the FWD :

Supply voltage : 110 to 120V and 230 to 254V (1 phase) or 380 to 690V, subject to design parameters (3 phases)

Maximum power : 500W to 4 kW

Power density : 0.33W/cm² and 0.67W/cm²

Length of the heating element: 800mm, 1300mm, 1900mm or 2450mm.

For the FWD-T:

Supply voltage : 110 to 120V and 230 to 254V (1 phase)

Maximum power : 500W to 2kW

Power density : 0.33W/cm² and 0.67W/cm²

Length of the heating element: 800mm, 1300mm, 1900mm or 2450mm.

ROUTINE TESTS

According to clause 16.1.1 of standard IEC 60079-1, each flameproof air warmer type FWD and the heating part of the FWD-T shall be submitted to an overpressure test during minimum 10 seconds, at 13.5 bar.