


EU-TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive
2014/34/EU

- EU-Type Examination Certificate Number:** ETL24ATEX0454X **Issue 00**
- Product:** FWD and FWD-T Flameproof Air Warmer
- Manufacturer:** EXHEAT Industrial Ltd.
- Address:** Threxton House, Threxton Road Ind. Est., Watton, Norfolk, IP25 6NG, UK
- This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- Intertek Testing Services NA Ltd., Notified Body number 2903 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council dated 26 February 2014, certifies that the product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II of the Directive.
- Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018, EN 60079-1:2014, EN 60079-31:2014 except in respect of those requirements referred to within item 14 of the Schedule.
- If the sign "X" is placed after the certificate number, it indicates that the product is subject to the special conditions of use specified in the Schedule to this certificate.
- This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- The marking of the product shall include the following:

II 2 G D
Ex db IIC T4...T2 Gb
 Ex tb IIIC T135°C...T300°C Db
-60°C ≤ Ta ≤ +40°C/+60°C*
* see Schedule for details

Certification Officer:  _____ **Date:** 8th May 2025
M Newman

SCHEDULE:

EU-Type Examination Certificate Number: ETL24ATEX0454X Issue 00

11. Description of Equipment or Protective System

The products are flameproof air warmers, 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.

Ratings:

Type FWD:

Supply voltage: Up to 254V (1 phase) or up 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. May be other lengths (lengths shown are predefined) so long as the Watt density is to the table below.

Type FWD-T:

Supply voltage: Up 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. May be other lengths (lengths shown are predefined) so long as the Watt density is to the table below.

Temperature Classification:

Max. Power Density	Max. Ambient Temperature	Temperature Class	
		Gas	Dust
0.33W/cm ²	+40°C	T4	T135°C
	+60°C	T3	T200°C
0.67W/cm ²	+40°C	T3	T200°C
	+60°C	T2	T300°C

SCHEDULE:

EU-Type Examination Certificate Number: ETL24ATEX0454X Issue 00

Additional manufacturing locations

EXHEAT Ltd.

Thrextton House, Thrextton Road Ind. Est., Watton, Norfolk, IP25 6NG, UK

EXHEAT Process Heat India Private Limited

Plot No. 311, Sector - 6, IMT Manesar - 122052 Gurugram (Haryana), India.

12. Report Number

Intertek Report: 106003042CHE-001 dated 7th May 2025.

13. Special Conditions of Certification

(a). Special Conditions of 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

(b). Conditions of Manufacture

- According to Clause 16.1.1 of EN 60079-1:2014, each flameproof air warmer type FWD and the heating part of type FWD-T shall be submitted to an overpressure test for a minimum of 10 seconds at 13.5bar. All tests must be recorded.

14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report: 106003042CHE-001 dated 7th May 2025.

SCHEDULE:

EU-Type Examination Certificate Number: ETL24ATEX0454X Issue 00

15. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
FWD Type Flameproof Air Warmer General Arrangement ATEX, IECEx & UKEX Certified	2004-60-01	07	06.04.25
FWD-T Type Flameproof Terminal Box General Arrangement ATEX, IECEx & UKEX Certified Page 1 of 2	2004-60-02	03	06.04.25
FWD-T ATEX, IECEx & UKEX Certified Lid General Arrangement Drawing Industrial Product Page 2 of 2	2004-60-02	03	06.04.25
FWD Wiring Diagram ATEX, IECEx & UKEX Certified Page 1 of 2	2004-60-04	03	06.04.25
FWD-T Wiring Diagram ATEX, IECEx & UKEX Certified Page 2 of 2	2004-60-04	03	06.04.25
FWD-T Terminal Box Adaptor Boss ATEX, IECEx & UKEX Certified	2004-60-22	04	06.04.25
Securing Ring For FWD-T Terminal Box ATEX, IECEx & UKEX Certified	2004-60-23	03	06.04.25
FWD Type Flameproof Air Warmer Name Plate Details ATEX, UKEX & IECEx Certified	2004-60-41	06	06.04.25
FWD-T Type Flameproof Air Warmer Name Plate Detail ATEX, UKEX & IECEx Approved	2004-60-42	05	06.04.25
Electrostatic Charge Warning Label General Arrangement Drawing Industrial Product	2004-60-43	01	06.04.25
FWD-T Type Flameproof Air Warmer Sub Assembly Details ATEX, IECEx & UKEX Certified	2004-60-47	01	06.04.25
FWD Type Flameproof Air Warmer Terminal Box Fabrication and Details ATEX, IECEx & UKEX Certified	2004-60-89	06	06.04.25
FWD-T Type Flameproof Air Warmer General Arrangement ATEX, IECEx & UKEX Certified	2004-60-90	06	06.04.25
FWD-T Flameproof Externally Adjustable Enclosure Body Detail ATEX, IECEx & UKEX Certified	2004-60-92	05	06.04.25
FWD-T Flameproof Externally Adjustable Enclosure Lid Detail ATEX, IECEx & UKEX Certified	2004-60-93	05	06.04.25
FWD-T Flameproof Externally Adjustable Enclosure Adjuster and Probe Housing Detail Page 1 of 3 ATEX, IECEx & UKEX Certified	2004-60-94	04	06.04.25
FWD-T Flameproof Externally Adjustable Enclosure Adjuster and Probe Housing Detail Page 2 of 3 ATEX, IECEx & UKEX Certified	2004-60-94	04	06.04.25
FWD-T Flameproof Externally Adjustable Enclosure Adjuster and Probe Housing Detail Page 3 of 3 ATEX, IECEx & UKEX Certified	2004-60-94	04	06.04.25
Installation, Operation & Maintenance Instructions Manual FWD & FWD-T Air Warmer	-	03	April 2025