

EU-TYPE EXAMINATION CERTIFICATE



- [1]
- [2] **Equipment or Protective System intended for use
in Potentially Explosive Atmospheres
Directive 2014/34/EU**
- [3] EU-Type Examination Certificate Number: **DEMKO 16 ATEX 1667X Rev. 3**
- [4] Product: **FX range of Enclosure Heaters, FXB, FXH, FXS**
- [5] Manufacturer: **EXHEAT Limited**
- [6] Address: **Thrextton Road Industrial Estate, Watton, Thetford, Norfolk, IP25 6NG United Kingdom**
- [7] This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- [8] UL International Demko A/S, notified body number 0539 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in confidential report no. **4788394757**
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2012+A11:2013 EN 60079-1:2014 EN 60079-18:2015 EN 60079-31:2014
- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to special conditions for safe use specified in the schedule to this certificate.
- [11] 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 the certificate.
- [12] The marking of the product shall include the following:



II 2 GD

Ex db IIC T4...T3 Gb

Ex db mb IIC T4...T3 Gb

Ex tb IIIC T135°C...T200°C Db

Ex tb mb IIIC T135°C...T200°C Db

Certification Manager
Jan-Erik Storgaard

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

Date of issue: 2016-12-02

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Notified Body

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[15] Description of Product

The products in the FX range consist of an extruded Aluminium finned body with an electrical cartridge heating element fitted within a central bore. The range uses fixed resistance and self-regulating heating elements.

FXB type, fixed resistance heaters must be mounted with the fins oriented vertically to allow for optimal airflow and convection.

FXH type, fixed resistance heaters may be mounted either vertically or flat to the base of the enclosure.

FXS type, self-regulating heaters may be mounted vertically, horizontally or flat on the base of the enclosure.

An electrical supply cable is fitted to the heater using a suitably certified cable gland. The cable must be terminated in suitably certified terminals or enclosure for the area of use (terminals/enclosure not supplied with the heater).

Where a fixed resistance heating element is utilised, the assembled heater shall be able to run at the specified temperature class indefinitely.

All heaters may additionally be fitted with either an encapsulated or flameproof thermostat, as defined by the nomenclature below. For thermostat certification, see Sira 17ATEX1356X, Issue 0.

Product nomenclature

Model FXB-FD-XXX-M-X
 I II III IV V

I - Enclosure Type

FXB – Block type extruded enclosure heater with fins on front and back, available in 225 mm and 325 mm lengths, all other dimensions are the common to both lengths.

FXH – Flat block type enclosure heater with fins on front face only, available in 90 mm and 225 mm lengths. Models use same fin design but differ significantly in size and features.

FXS - Self-regulating type enclosure heater that does not follow the dimensional specifications of the FXB or FXH models.

Each of the 4 sizes of heater will be available in a range of fixed resistance and self-regulating variants.

The FXS enclosure is only available with the self-regulating element.

II – Heater Type

FD – Fixed resistance heater element

SR – Self-regulating heater element

III – Heater Rating

XXX – Heater Duty in Watts, e.g. 500

See temperature table for each model maximum wattage

The Following Is Optional

IV – Thermostat

M – Encapsulated FXT-M thermostat

D – Flameproof FXT-DI thermostat

V – Thermostat Set Point

X – Thermostat Set Point (°C), e.g. 5

See temperature table for maximum set point.

Temperature range

Maximum ambient temperature range -60°C to +180°C

Depending upon configuration and construction materials.

When fitted with FXT-M or FXT-DI thermostats, the minimum ambient temperature is limited to -50°C

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The relation between ambient temperature and the assigned temperature class is as follows:

When fitted with a Fixed Resistance Heater Element					
Body	Type	Max Rating	Extrusion Size	Maximum Ambient Temperature	Temperature Class Group II / III
FXB	FD	511W	325	+40°C	T3 / 200°C
FXB	FD	252W	325	+40°C	T4 / 135°C
FXB	FD	252W	325	+80°C	T3 / 200°C
FXB	FD	376W	225	+40°C	T3 / 200°C
FXB	FD	210W	225	+40°C	T4 / 135°C
FXB	FD	210W	225	+80°C	T3 / 200°C
FXH	FD	204W	225	+40°C	T3 / 200°C
FXH	FD	135W	225	+40°C	T4 / 135°C
FXH	FD	135W	225	+80°C	T3 / 200°C
FXH	FD	85W	90	+40°C	T3 / 200°C
FXH	FD	45W	90	+40°C	T4 / 135°C
FXH	FD	45W	90	+80°C	T3 / 200°C

When fitted with a Self-Regulating Heater Element					
Body	Type	Nominal Rating	PTC Chip Rated Temperature	Maximum Ambient Temperature	Temperature Class Group II / III
FXS	SR	-	110°C	+130°C	T4 / 135°C
FXB	SR	240W	110°C	+130°C	T4 / 135°C
FXH	SR	100W	110°C	+130°C	T4 / 135°C
FXS	SR	-	180°C	+160°C/+180°C*	T3 / 200°C
FXB	SR	350W	180°C	+160°C/+180°C*	T3 / 200°C
FXH	SR	200W	180°C	+160°C/+180°C*	T3 / 200°C

* When cable gland is rated to a minimum of 200°C

When fitted with a Fixed Resistance Heater Element and FXT-M Encapsulated Thermostat					
Body	Type	Max Rating	Extrusion Size	Maximum Ambient Temperature	Temperature Class Group II / III
FXB	FD	511W	325	+40°C	T3 / 200°C
FXB	FD	252W	325	+40°C	T4 / 135°C
FXB	FD	252W	325	+80°C	T3 / 200°C
FXB	FD	376W	225	+40°C	T3 / 200°C
FXB	FD	210W	225	+40°C	T4 / 135°C
FXB	FD	210W	225	+80°C	T3 / 200°C
FXH	FD	204W	225	+40°C	T3 / 200°C
FXH	FD	135W	225	+40°C	T4 / 135°C
FXH	FD	135W	225	+80°C	T3 / 200°C
FXH	FD	85W	90	+40°C	T3 / 200°C
FXH	FD	45W	90	+40°C	T4 / 135°C
FXH	FD	45W	90	+80°C	T3 / 200°C

When fitted with a Self-Regulating Heater Element and FXT-M Encapsulated Thermostat					
Body	Type	Nominal Rating	PTC Chip Rated Temperature	Maximum Ambient Temperature	Temperature Class Group II / III
FXS	SR	-	110°C	80°C	T4 / 135°C
FXB	SR	240W	110°C	80°C	T4 / 135°C
FXH	SR	100W	110°C	80°C	T4 / 135°C
FXS	SR	-	180°C	80°C	T3 / 200°C
FXB	SR	350W	180°C	80°C	T3 / 200°C

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When fitted with a Fixed Resistance Heater Element and FXT-DI Flameproof Thermostat						
Body	Type	Max Rating	Extrusion Size	Maximum Ambient Temperature	Maximum Set Point	Temperature Class Group II / III
FXB	FD	511W	325	+40°C	140°C	T3 / 200°C
FXB	FD	252W	325	+40°C	75°C	T4 / 135°C
FXB	FD	252W	325	+80°C	140°C	T3 / 200°C
FXB	FD	376W	225	+40°C	140°C	T3 / 200°C
FXB	FD	210W	225	+40°C	75°C	T4 / 135°C
FXB	FD	210W	225	+80°C	140°C	T3 / 200°C
FXH	FD	204W	225	+40°C	140°C	T3 / 200°C
FXH	FD	135W	225	+40°C	75°C	T4 / 135°C
FXH	FD	135W	225	+80°C	140°C	T3 / 200°C
FXH	FD	85W	90	+40°C	140°C	T3 / 200°C
FXH	FD	45W	90	+40°C	75°C	T4 / 135°C
FXH	FD	45W	90	+80°C	140°C	T3 / 200°C

When fitted with a Self-Regulating Heater Element and FXT-DI Flameproof Thermostat						
Body	Type	Nominal Rating	PTC Chip Rated Temperature	Maximum Ambient Temperature	Maximum Set Point	Temperature Class Group II / III
FXS	SR	-	110°C	+130°C	75°C	T4 / 135°C
FXB	SR	240W	110°C	+130°C	75°C	T4 / 135°C
FXH	SR	100W	110°C	+130°C	75°C	T4 / 135°C
FXS	SR	-	180°C	+160°C/+180°C*	125°C	T3 / 200°C
FXB	SR	350W	180°C	+160°C/+180°C*	125°C	T3 / 200°C
FXH	SR	200W	180°C	+160°C/+180°C*	125°C	T3 / 200°C

* When cable gland is rated to a minimum of 200°C

Electrical data

FXB Fixed Resistance with a 325mm extrusion – 511W, 600VAC
 FXB Fixed Resistance with a 225mm extrusion – 376W, 600VAC
 FXH Fixed Resistance with a 225mm extrusion – 204W, 600VAC
 FXH Fixed Resistance with a 90mm extrusion – 85W, 600VAC
 FXS, FXB, FXH Self Regulating – 265VAC
 Rated up to 15A max for the range.

When Fitted with FXT-M – 277VAC, 4.8A Max.
 240VAC, 3.3A Max.
 120VAC, 6A Max.

When Fitted with FXT-DI – 277VAC, 9A Max.

Routine tests

Routine tests according to EN 60079-1 cl. 16 are not required; the enclosure has a free internal volume of ≤10cm³ and does not incorporate welded construction.

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Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [8] on page 1 of this EU-Type Examination Certificate.

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Specific conditions of use:

- No repair to the flameproof joints is permitted.
- Special precautions are necessary to reduce the risk due to electro-static discharge. Refer to the installation/operation instructions.
- The equipment is not field serviceable by the user and shall not be opened.
- Models fitted with thermostat FXT-M or FXT-DI shall be installed so that pulling, flexing or mechanical damage of the cable is prevented.

The following additionally apply to Models fitted with thermostat FXT-M:

- The equipment shall be installed in a certified enclosure, suitable for hazardous locations, so that they are protected from impact and exposure to direct sunlight.
- The equipment shall be supplied via a fuse that is mounted externally in a safe area and rated at 277Vac, 6 Amp maximum. The fuse shall have a breaking capacity which exceeds the prospective short circuit current of the supply.

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Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

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Additional information



The trademark **HEAT** will be used as the company identifier on the marking label.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.