

UK Type Examination Certificate CML 22UKEX1283X Issue 0

United Kingdom Conformity Assessment

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **XHS-410 Series and XHM-410 Heated Pressure Regulators**
- 3 Manufacturer **Pressure Tech Limited**
- 4 Address **Unit 24 Graphite Way off Woolley Bridge Road,
Hadfield,
Derbyshire, SK13 1QH
United Kingdom**

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential reports listed in Section 12.

7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.


8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018

EN 60079-1:2014

10 The equipment shall be marked with the following:

 II 2 G

Ex db IIC T3 Gb

Ta = -40 °C to +59 °C





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11 Description

The XHS-410 Series and XHM-410 Heated Pressure Regulators are single heated pressure regulators, available with side-entry (SE) or in-line (IL) configurations. They intended to be used to maintain sample gases in their vapour state.

The Heated Pressure Regulators can be configured for either Side-Entry where heat transfer is less critical and where installations have height restrictions, or In-Line to maximises the heat transfer area.

The XHS-410 Series are single heated pressure regulators with an electronically heated manifolds to heat the flowing media: The XHM-410 is a large version. The regulator types are:

- XHS-410 – Single heated, diaphragm sensed pressure regulator.
- XHS-411 – Single heated, piston sensed regulator.
- XHM-410 – Single heated manifold unit.

All Heated Pressure Regulator types use similar electronic circuits housed within the flameproof enclosure used to set temperature by either push-button-switch and display or via a serial interface. The set temperature is controlled at the regulator via feedback from a thermocouple located within the heater cartridges.

The XHS-410 Series Heated Pressure Regulators are fitted with a single heater sheath with a 100W cartridge heater. A thermal cut-off with a 70°C limit is located at the base of the cartridge. The XHM-410 is fitted with a 150W cartridge heater that is housed within the manifold block. A thermal cut-off with a 150 °C limit is located on the heater within the manifold block. The thermal cut-outs provide additional protection to prevent the regulators from exceeding the T3 temperature rating.

Certified Ex-Components

Manufacturer	Part Number / Type	Certificate Number	Marking
Precision Digital Corporation	EX and EC series	Sira 19ATEX1252U	II 2 GD Ex db IIC Gb

12 Certificate history and evaluation reports

Issue	Date	Associated Report	Notes
0	06 Dec 2024	R17143A/00	Initial release of prime certificate

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated.



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14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

- i. WARNING – Potential Electrostatic Charging Hazard – See Instructions.
- ii. The user shall ensure that the equipment is appropriately connected to earth.
- iii. The equipment shall not be exposed to vibrations exceeding 5m/sec².
- iv. The equipment shall be protected from mechanical impact in service by location or suitable guarding.
- v. To prevent damage being caused to the regulator, which may result in an ignition risk, it is the user's responsibility to ensure the equipment is operated in accordance with the manufacturer's instructions.

Certificate Annex

Certificate Number CML 22UKEX1283X

Equipment XHS-410 Series and XHM-410 Heated Pressure Regulators

Manufacturer Pressure Tech Limited



The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved Date	Title
PT-EHR-300-016-120	1 of 1	C	06 Dec 2024	XHS Cartridge Heater – 115V, 100W
PT-EHR-300-016-230	1 of 1	C	06 Dec 2024	XHS Cartridge Heater – 230V, 100W
PT-XHM-300-005-120	1 of 1	C	06 Dec 2024	XHM Cartridge Heater – 115V, 150W
PT-XHM-300-005-230	1 of 1	C	06 Dec 2024	XHM Cartridge Heater – 230V, 150W
PT-XHS-410-003-XXX	1 of 1	A	06 Dec 2024	XHS-410 In-Line Heater Sheath
PT-XHS-410-005-XXX	1 of 1	A	06 Dec 2024	XHS-410 Side Entry Heater Sheath
PT-XHS-410-006-003	1 of 1	A	06 Dec 2024	XHS-410 Certification Drawing ATEX/IECEX/UKEx
PT-XHS-410-009	1 of 1	A	06 Dec 2024	XHS 10mm OD Compression Fitting X 1/2" NPT Male Stud Coupling
PT-XHS-410-011-XXX	1 of 1	A	06 Dec 2024	XHM-410 Heater Retainer
PT-XHS-410-012	1 of 1	A	06 Dec 2024	XHS-410 Compression Fitting M20 x 1.5
PT-XHS-410-100	1 of 1	A	06 Dec 2024	XHS-410 Heated Pressure Regulator, Electrical Portion
PT-XHS-410-201	1 of 1	A	06 Dec 2024	XHS-410 Circuit Board Assembly
PT-XHS-410-202	1 of 2	A	06 Dec 2024	XHS-410 Assembly Schematic for Cartridge Heater and Fuse
PT-XHS-410-HMOL	1 of 1	A	06 Dec 2024	XHM-410 Single Electric Heated Manifold
PT-XHS-410-HMOL-001	1 of 1	A	06 Dec 2024	Single Electric Heated Manifold, 300 Bar Max. Working Pressure
PT-XHS-410-IL-SA	1 of 1	A	06 Dec 2024	XHS-410/XHM-410 Sealing Arrangement for Compression Fitting and Heater Sheath
PT-XHS-410-IL-OL	1 of 1	A	06 Dec 2024	XHS-410 Inline Electrical Heated Regulator Outline Drawing
PT-XHS-410-SE	1 of 1	A	06 Dec 2024	Electrical Heated Regulator XHS-410 Side Entry
PT-XHS-410-SE-OL	1 of 1	A	06 Dec 2024	Electrical Heated Regulator XHS-410 Side Entry Outline Drawing
PT-XHS-410-XXX	1 of 1	A	06 Dec 2024	XHS-410 Series ATEX Enclosure
PT-XHS-411-IL	1 of 1	A	06 Dec 2024	XHS-411 Inline Electrical Heated Pressure Regulator
PT-XHS-411-SE	1 of 1	A	06 Dec 2024	Electrical Heated Regulator XHS 411
PT-XHM-410-02N-002	1 of 1	A	06 Dec 2024	XHM-410 Heater Manifold
PT-XHM-410-HEATER POCKET	1 of 1	A	06 Dec 2024	Heater Pocket Dimensions for XHM-410 Series
PT-XHS-410-002	1 of 1	B	06 Dec 2024	Brass Button for XHS 410 Electric Controller