



1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 02ATEX1049X** Issue: **4**

4 Equipment: **Heated Regulator Assembly XHR-300, XHR-301, XHR-310 & XHR -311**

5 Applicant: **Pressure Tech Limited**

6 Address: **Pressure Tech Limited
Unit 24 Graphite Way
Hadfield
Glossop
Derbyshire SK13 1QH
UK**

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, 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 Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012/ A11:2013 IEC 60079-1:2014 Ed 7 EN 13463-1:2009

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 2 G T3
Ex db IIC T3
Ta = -40°C to +60°C

Project Number 70021534

A C Smith
Certification Manager

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Unit 6, Hawarden Industrial Park,
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SCHEDULE

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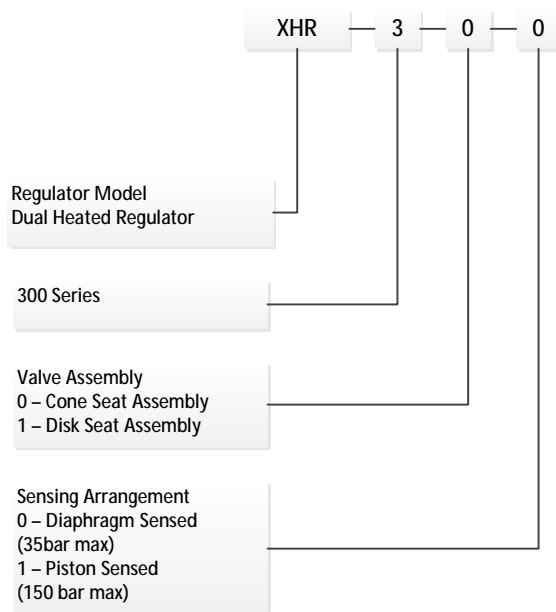
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13 DESCRIPTION OF EQUIPMENT

The Heated Regulator Assembly whether XHR-300, XHR-301, XHR-310 or XHR311 comprises of three main parts: a flameproof, cast aluminium enclosure manufactured by Cor.Tem and certified II, 2, G, EEx d IIC, certificate number CESI 01ATEX 034U, heater cartridges (probes) and a pressure regulator manufactured in stainless steel.

The XHR-300, XHR-301, XHR-310 and XHR-311 pressure regulators are similar in construction, varying only in the arrangement of the pressure sensor and main valve assemblies. In particular, the XHR-300 and XHR-310 are diaphragm sensed pressure regulators, while the XHR-301 and XHR-311 are piston sensed pressure regulators. The XHR-300 and XHR-301 main valve assembly includes a cone seat design, while the XHR-310 and XHR311 pressure regulators include a disc type valve assembly. The operating parameters of the Heated Regulator Assembly range are listed in Table 1.

The model number can be broken down as follows:



The flameproof enclosure is employed to house the control equipment for the heater cartridges (probes). The heater cartridges protrude from the flameproof enclosure via two 3/8" BSP threaded flamepaths, access to the heaters within is provided by a cylindrical flamepath secured by a hexagonal threaded locking nut. The heater cartridges are installed into the body of the pressure regulator. The flameproof enclosure/heater cartridge combination contains all of the electrical equipment. The pressure regulator contains no electrical equipment.

The flameproof enclosure provides up to three, M20 x 1.5, threaded entry points for the installation of suitably certified cable entry devices.

The regulator can be used to regulate any gas or liquid that is compatible with the materials of construction.

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Table 1 – Heater Regulator Assemblies

Model Ref.	Electrical ratings	Regulator Pressure	
		Maximum Inlet Pressure	Maximum Outlet Pressure
XHR-300	115 Vac 3 A, 230 Vac 3A	300 bar	35 bar
XHR-301	115 Vac 3 A, 230 Vac 3A	300 bar	150 bar
XHR-310	115 Vac 3 A, 230 Vac 3A	414 bar	35 bar
XHR-311	115 Vac 3 A, 230 Vac 3A	414 Bar	150 bar

Variation 1 - This variation introduced the following change:

- i. The introduction of the Heated Regulator Assembly XHR-301, its ratings have been added to the table in the description above.

Variation 2 - This variation introduced the following changes:

- i. The applicant's name and address was changed in from Pressure Tech 2000 Ltd, Unit 2, Blue Chip Business Park, Atlantic Street, Altrincham, Cheshire, WA14 5DD to Pressure Tech Limited, Rossington Place, Graphite Way, Hadfield, Derbyshire SK13 1QG, UK.
- ii. The maximum outlet pressure of the Type XHR-300 was increased from 20 bar to 35 bar, the description being amended accordingly.
- iii. The introduction of minor drawing amendments that clarify the existing data and change components that are not critical to explosion safety.

Variation 3 - This variation introduced the following change:

- i. The Change of company address from Unit 3 Rossington Place, Graphite Way, Hadfield, Derbyshire SK13 1QG to that currently shown was recognised.

Variation 4 - This variation introduced the following change:

- i. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, the documents previously listed, EN 50014:1997 (including amendments A1 and A2), EN 50018:2000 and EN 13463-1:2001, were replaced by EN 60079-0:2012/A11:2013, IEC 60079-1:2014 Ed. 7, and EN 13463-1:2009, as a result; the markings were updated, Special Conditions For Safe Use were introduced and therefore an 'X' suffix was added to the certificate number, Conditions of Certification were modified.
- ii. Models XHR 310 and XHR 311 were introduced. For clarity the product description was amended to reflect the current model references.
- iii. To permit the replacement of the existing PCB unit with a similar PCB unit which is smaller in terms of its cross sectional area.
- iv. The Ambient Temperature Range was changed from "-40°C to +50°C" to "-40°C to +60°C" the marking being amended accordingly.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

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14.2 Associated Sira Reports and Certificate History

Issue	Date	Report No.	Comment
0	12 April 2002	R51A7658A	The release of the prime certificate.
1	8 February 2005	R51V12811A	The introduction of Variation 1.
2	30 January 2009	R51A19560A	This Issue covers the following changes: <ul style="list-style-type: none"> All previously issued certification was rationalised into a single certificate, Issue 2, Issues 0 to 1 referenced above are only intended to reflect the history of the previous certification and have not been issued as documents in this format. The introduction of Variation 2.
3	27 March 2012	R27537A/00	The introduction of Variation 3.
4	25 August 2015	R70021534A	The introduction of Variation 4.

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

- 15.1 The user shall ensure that the equipment is appropriately connected to earth.
- 15.2 The equipment shall not be exposed to vibrations exceeding 5m/sec²
- 15.3 The equipment shall be protected from mechanical impact in service by location or suitable guarding.
- 15.4 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 and recommendations.
- 15.5 The equipment has flamepaths which differ from those in IEC 60079-1:2014. The manufacturer, Pressure Tech, shall be contacted for guidance when maintaining the flamepaths.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 This certificate relies on the following previously certified product. It is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with this product, and the manufacturer shall inform Sira of any modifications of the product that may impinge upon the explosion safety design of their products. In addition, the enclosure's certificate shall maintain the attributes listed in the table below.

Item	Certificate Number	Key attributes
Cor.Tem Enclosure Type CCA ESECUZ	CESI 01 ATEX 034U	EEx d IIC, group II Cat 2 G

- 17.4 The manufacturer shall provide the end-user and/or installer with an appropriate copy of the certificate for the certified flameproof enclosure.

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Certificate Annexe



Certificate Number: Sira 02ATEX1049X
Equipment: Heated Regulator Assembly XHR-300, XHR-301, XHR-310 & XHR-311
Applicant: Pressure Tech Limited

Issue 0

Drawing No.	Sheet	Rev.	Date	Description
A2-PT-XHR-300	1 of 1	C	19 Mar 02	Electrical Heated Regulator XHR300
REGULATOR XHR 300	1 of 1	-	27 Mar 02	Regulator XHR 300Parts List
A3-EHR-300-006	1 of 1	C	19 Mar 02	Enclosure Tappings
A4-PT-EHR-300-007	1 of 1	C	19 Mar 02	Connection Fitting
A4-PT-EHR-300-008	1 of 1	B	19 Mar 02	Heated Regulator Label
A2-PT-XHR-300-100	1 of 1	B	01 Mar 02	Electrical Heated Regulator XHR300 Electrical Portion

Issue 1

Drawing No.	Sheet	Rev	Date	Description
A2-PT-EHR-301-HP	1 of 1	A	25 Nov 04	Electrical Heated Regulator EHR301
Form OS-005-A	6	-	27 Jan 05*	XHR-301 Bill of Materials
A4-PT-EHR-301-008	1 of 1	A	28 Jan 05	Heated Regulator Label

* This is the date that the drawing was stamped by Sira.

Issue 2

Drawing No.	Sheets	Rev.	Date	Description
REGULATOR XHR 300	1 of 1	-	03 Jan 07	XHR 300 Parts List
REGULATOR XHR 301	1 of 1	-	07 Dec 06	XHR 301 Parts List
A4-PT-EHR-300-008	1 of 1	E	16 Dec 08	XHR 300 Heated Regulator Label
A4-PT-EHR-301-008	1 of 1	C	05 Jul 06	XHR 301 Heated Regulator Label

Issue 3

Drawing	Sheets	Rev.	Date (Sira stamp)	Description
PT-EHR-300-008	1 of 1	F	27 Mar 12	Heated Regulator Label
PT-EHR-301-008	1 of 1	D	27 Mar 12	Heated Regulator Label

Issue 4

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
PT-XHR-300	1 of 1	D	16 Jul 15	Dual Heated Regulator – XHR300
PT-XHR-301	1 of 1	B	16 Jul 15	Dual Heated Regulator – XHR301
PT-XHR-300-100	1 of 1	C	16 Jul 15	Dual Heated Regulator – Electrical Portion
PT-EHR-300-006	1 of 1	F	16 Jul 15	Enclosure Tappings
PT-XHR-310	1 of 1	A	16 Jul 15	Dual Heated Regulator – XHR310
PT-XHR-311	1 of 1	A	16 Jul 15	Dual Heated Regulator – XHR311
PT-EHR-300-007	1 of 1	D	16 Jul 15	Connector Fitting
PT-EHR-300-008	1 of 1	G	03 Aug 15	Dual Heated Regulator Label XHR300/310
PT-EHR-301-008	1 of 1	F	03 Aug 15	Dual Heated Regulator Label XHR301/311

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