

EC TYPE EXAMINATION CERTIFICATE

Equipment or protective system intended for use in potentially explosive atmospheres –
Directive 94/9/EC – Annex III

EC Type Examination Certificate No.: **TRL03ATEX11001X (incorporating variations V1 to V4)**

Equipment: **Electrically Heated Adjustable Pressure Regulators, HPR, HPR-2XW, DHR and CV Series**

Manufacturer: **Circor Instrumentation Technologies,**

Address: **405 Centura Court, PO Box 4866, Spartanburg, South Carolina 29305, United States of America.**

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

Element Materials Technology, Notified Body number 0891 in accordance with Article 9 of the Council 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 or protective system intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential report **XU1036/4469, 16-0042-003997, 16-0152-007020, TRA-010256-33-00A & TRA-030362-33-00A.**

Compliance with the Essential Health and Safety Requirements, with the exception of those listed in section 17 of the schedule to this certificate, has been assured by compliance with:

EN 60079-0:2012+A11:2013 EN 60079-1:2014

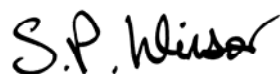
If the sign “X” is placed after the certificate number then this indicates that the equipment or protective system is subject to special conditions of safe use specified in the schedule to this certificate.

This EC-Type Examination certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

The marking of this equipment or protective system shall include the following:

 **II 2 G Ex db IIC T1 or T3 Gb (T_a= -30°C to +55°C)**

This certificate and its schedules may only be reproduced in its entirety and without change. This certificate is issued in accordance with the Element Materials Technology Ex Certification Scheme.



S P Winsor, Certification Manager

Issue date: 2016-03-31

CSF355 1.0

13 **SCHEDULE TO EC TYPE EXAMINATION CERTIFICATE**

14 **TRL03ATEX11001X (incorporating variations V1 to V4)**

15 **General description of equipment or protective system included within the scope of this certificate**

The Electrically Heated Adjustable Pressure Regulators are designed to supply heat to samples entering instrumentation systems. They can be used to pre-heat liquids, to prevent condensation of gases, or to vaporise liquids prior to gas analysis.

The equipment consists of a flameproof enclosure and pressure regulator. Electrical components, temperature controller, heater and thermal cut out (if fitted) are housed within the flameproof enclosure. The regulator itself has no electrical parts and is located outside of the flameproof enclosure.

A temperature class T3 is marked on models rated at 100W, 150W, 200W, 250W when equipped with an internal thermal cut out and the 40W, 50W models without a cut out. While T1 is marked on the 100W model when the thermal cut out is not fitted by the manufacturer.

All models are identified with the coding MODEL-XXXXXXXXXX where the 'MODEL' is shown as either CV, DHR or H2 (for both HPR models) and XXXXXXXXXXXX represents specific model variants (11, 14 or 15 digits dependent on model type). Both HPR models are pre-fixed by 'H2' and are the same specification except that the HPR-2XW allows the end user to remove the heat exchanger, to allow cleaning or replacement when used with dirty liquids or liquids that polymerize and clog the heat exchange screen.

A list of controlled Manufacturer's Documents is given in Appendix A to this schedule.

16 **Test report No. (associated with this certificate issue):** TRA-030362-33-00A.

17 **Essential health and safety requirements (Directive Annex II)**

Covered by application of the standards listed in section 9 of this certificate and the assessment conducted in the test report listed in section 16 of this certificate.

18 **"Special Conditions of Safe Use" for Ex Equipment, if any:**

1. A suitably rated approved Ex d stopping box is to be fitted in accordance with IEC 60079-14.

19 **"Routine tests", if any:**

1. Routine (100%) hydrostatic testing (at 250 to 275psi / 17.25 to 18.96Bar) as per Circle Seal test procedure 113109.

20 **"Special conditions for manufacture", if any:**

1. 150W, 200W and 250W models must be fitted with a thermal cut out (operates at 184°C).

21 **Other information, if any:**

None.

22 **Photographs**

HPR-2 Pressure Regulator



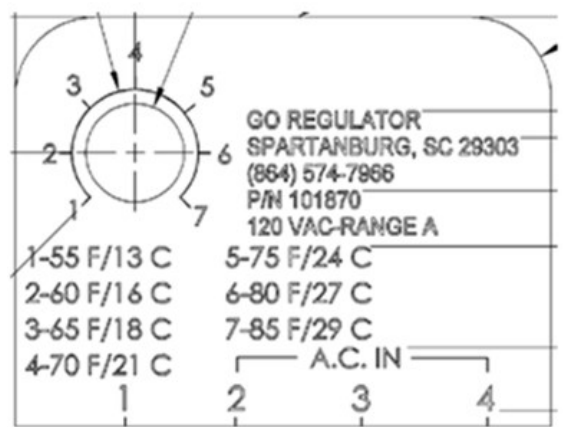
Temperature Controller



Flameproof enclosure lid



23 Details of markings



LabelPartNumber	WWW	XXX	YYY
110542	120	40	T3
110543	120	50	T3
110544	120	100	T3
110548	120	150	T3
115073	120	200	T3
115075	120	250	T3
110545	240	40	T3
110546	240	50	T3
110547	240	100	T3
110549	240	150	T3
115074	240	200	T3
115076	240	250	T3
110542	120	40	T3
111255	120	50	T3
111257	120	100	T1
110545	240	40	T3
111256	240	50	T3
111258	240	100	T1

Manufacturer's name and address, Model part number, serial number, are described in drawings :- 108067-ATEX (HPR-2), 108069-ATEX (HPR-2XW), 108799-ATEX (CV), 111206-ATEX (DHR)

24 Details of variations to this certificate

This certificate is a consolidated certificate and reflects the latest status of the certification, including the following variations:

- Variation V1 - Addition of four new heater/thermistor assemblies, revised label drawings and new drawing.
- Variation V2 - Update the ATEX approval from compliance with EN50014 and EN50018 to compliance with EN60079-0 and EN60079-1.
- Variation V3 – Change to the conduit reducer.
- Variation V4- Update to latest edition EN 60079-0 & 60079-1 standards.

25 Notes to CE marking

In respect of CE Marking, Element Materials Technology accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

CONTINUATION OF SCHEDULE TO CERTIFICATE TRL03ATEX11001X V4

26 Notes to this certificate

Element Materials Technology certification reference: **TRA-030362-33-00A**.

Throughout this certificate, the date format yyyy-mm-dd (year-month-day) is used.

Notified Body 0891 is the designation for Element Materials Technology Warwick Ltd (formerly known as TRaC Global Ltd).

This certificate is a consolidated certificate and reflects the latest status of the certification, including all variations.

APPENDIX A - LIST OF CONTROLLED MANUFACTURER'S DOCUMENTS

Title:	Drawing No.:	Rev. Level:	Date:
Screw, Socket Set	018119	B	2010-06-11
HPR-2 Electric Condulet	034003	E	2009-04-03
Plug, Ground Leg, ATEX, IEC	046403-ATEX	A	2010-06-29
HPR-2 Series Condulet Reducer $\frac{3}{4}$ NPT/ $\frac{1}{2}$ NPT	046500-ATEX	B	2012-09-05
Fitting, Heat Exchanger	100422-ATEX	F	2003-09-03
Assy, Heater/Thermistor, 150 Watts, 120 VAC, ATEX	106695-ATEX	*	2003-09-02
Assy, Heater/Thermistor, 150 Watts, 240 VAC, ATEX	106696-ATEX	*	2003-09-02
Assy, Welded, Block, Electrical	106828-ATEX	*	2003-09-03
Assy, Heater/Thermistor, 100 Watts, 120 VAC, ATEX	106842-ATEX	*	2003-09-02
Assy, Heater/Thermistor, 100 Watts, 240 VAC, ATEX	106843-ATEX	*	2003-09-02
Assy, Heater/Thermistor, 50 Watts, 120 VAC, ATEX	106844-ATEX	*	2003-09-02
Assy, Heater/Thermistor, 50 Watts, 240 VAC, ATEX	106845-ATEX	*	2003-09-02
Assy, Heater/Thermistor, 40 Watts, 120 VAC, ATEX	106849-ATEX	*	2003-09-02
Assy, Heater/Thermistor, 40 Watts, 240 VAC, ATEX	106850-ATEX	*	2003-09-02
Label for HPR-2 Controller P/N 101870 120 VAC – Range A	106990	K	2010-04-06
Label for HPR-2 Controller P/N 101871 120 VAC – Range B	106991	K	2010-04-06
Label for HPR-2 Controller P/N 101872 120 VAC – Range C	106992	K	2010-04-06
Label for HPR-2 Controller P/N 101873 120 VAC – Range D	106993	K	2010-04-06
Label for HPR-2 Controller P/N 101874 240 VAC – Range A	106994	K	2010-04-06
Label for HPR-2 Controller P/N 101875 240 VAC – Range B	106995	K	2010-04-06
Label for HPR-2 Controller P/N 101876 240 VAC – Range C	106996	K	2010-04-06
Label for HPR-2 Controller P/N 101877 240 VAC – Range D	106997	K	2010-04-06
Fitting, Heat Exchanger	107834-ATEX	F	2003-09-03
Assembly, Regulator, Electric, HPR-2, ATEX	108067-ATEX	*	2003-08-02
Assembly, Regulator, Electric, HPR-2XW, ATEX	108069-ATEX	*	2003-09-02
Assembly, Regulator, Electric, CV, ATEX	108799-ATEX	*	2003-08-02
Cap, Condulet, ATEX	109323-ATEX	*	2003-09-03

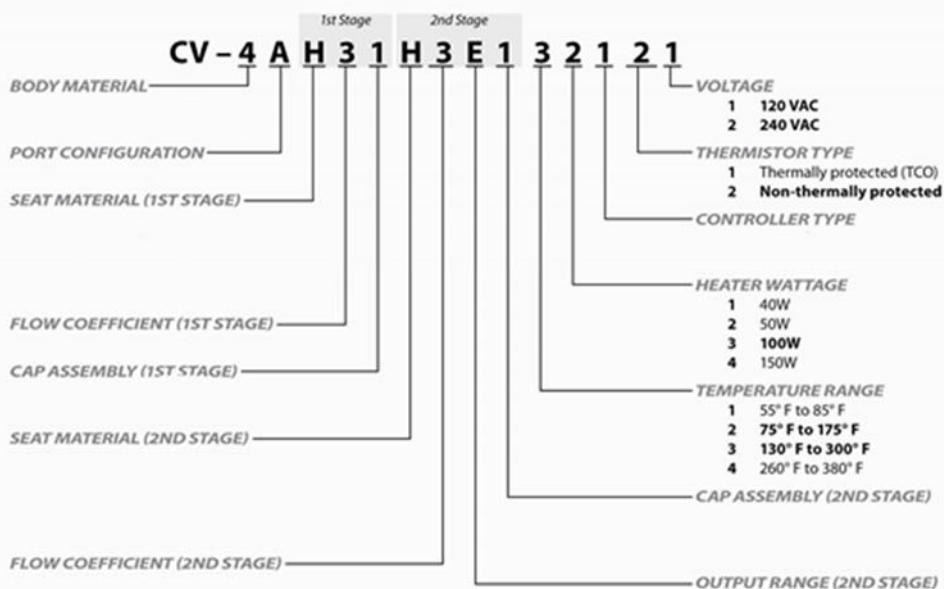
CONTINUATION OF SCHEDULE TO CERTIFICATE TRL03ATEX11001X V4

Fitting, Heat Exchanger	109790-ATEX	F	2003-09-03
Condulet, Machined, ATEX	109819-ATEX	*	2003-09-02
Assy, Heater/Thermistor, 100 Watts, 120 VAC, 3', ATEX	110239-ATEX	*	2003-09-02
Assy, Heater/Thermistor, 100 Watts, 120 VAC, TCO, ATEX	110520-ATEX	*	2003-09-03
Assy, Heater/Thermistor, 100 Watts, 240 VAC, TCO, ATEX	110521-ATEX	*	2003-09-03
Assy, Heater/Thermistor, 50 Watts, 120 VAC, TCO, ATEX	110522-ATEX	*	2003-09-03
Assy, Heater/Thermistor, 50 Watts, 240 VAC, TCO, ATEX	110523-ATEX	*	2003-09-03
Assy, Heater/Thermistor, 40 Watts, 120 VAC, TCO, ATEX	110524-ATEX	*	2003-09-03
Assy, Heater/Thermistor, 40 Watts, 240 VAC, TCO, ATEX	110525-ATEX	*	2003-09-03
Assy, Heater/Thermistor, 150 Watts, 120 VAC, TCO, ATEX	110526-ATEX	*	2003-09-03
Assy, Heater/Thermistor, 150 Watts, 240 VAC, TCO, ATEX	110527-ATEX	*	2003-09-03
Label, Vaporizing Regulator, ATEX CERT	110542	I	2016-03-18
Assy, Heater/Thermistor, 100 Watts, 240 VAC, 20 cm	110820-ATEX	*	2003-09-02
Assy, Heater/Thermistor, 150 Watts, 240 VAC, 20 cm, TCO, ATEX	110914-ATEX	*	2003-09-02
Assy, Heater/Thermistor, 40 Watts, 240 VAC, ATEX	110915-ATEX	*	2003-09-02
Assy, Heater/Thermistor, 150 Watts, 240 VAC, 400 mm TCO, ATEX	111145-ATEX	*	2003-09-02
Assy, Heater/Thermistor, 100 Watts, 120 VAC, 18", ATEX	111160-ATEX	*	2003-09-02
Assembly, Regulator, Electric, DHR, ATEX	111206-ATEX	*	2003-09-02
Test Procedure for Vaporizing Pressure Regulator	113109	D	2010-06-14
Installation Procedure for Vaporizing Regulator	113117	E	2016-03-18
Disassemble & Assemble Procedure for Vaporizing Regulator Model: HPR-2, HPR-2XW, CV and DHR	108727	E	2016-03-18
Label, Temperature, Wiring, Porting, , ATEX, IEC	113144	A	2010-06-10
Assy, Heater/Thermistor, 200 Watts, 120 VAC,	114941-ATEX	A	2010-09-28
Assy, Heater/Thermistor, 200 Watts, 240 VAC,	114942-ATEX	A	2010-09-28
Assy, Heater/Thermistor, 250 Watts, 120 VAC,	114943-ATEX	A	2010-09-28
Assy, Heater/Thermistor, 250 Watts, 240 VAC,	114944-ATEX	A	2010-09-28

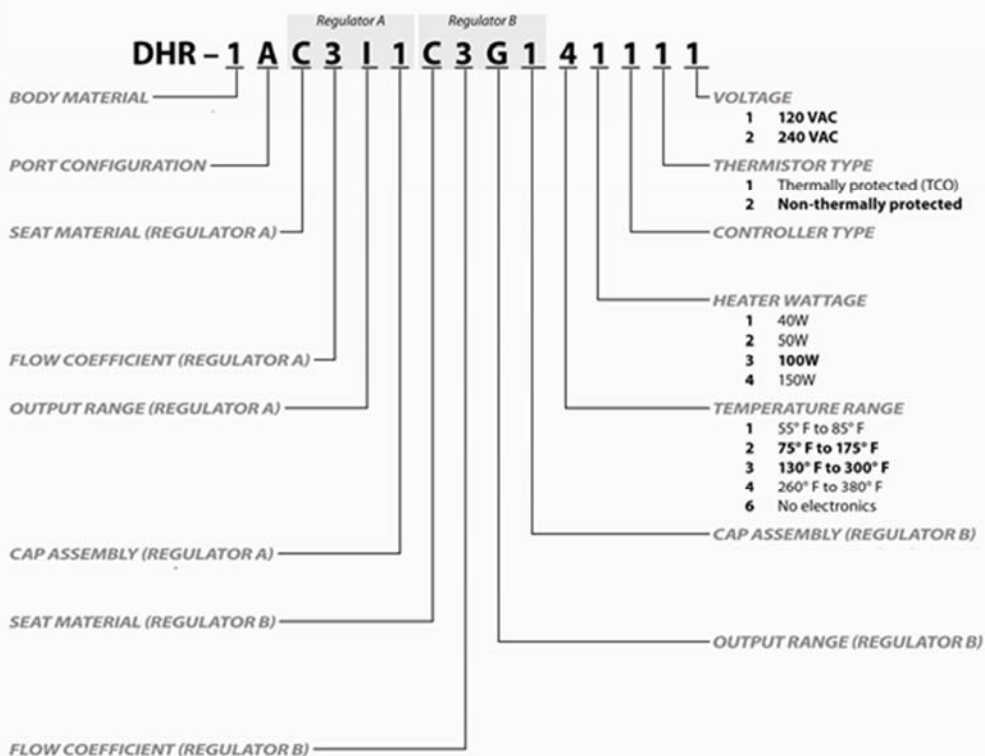
* no information provided

Annex A: Example Model nomenclature and electrical data:

CV Series Cylinder Vaporizer

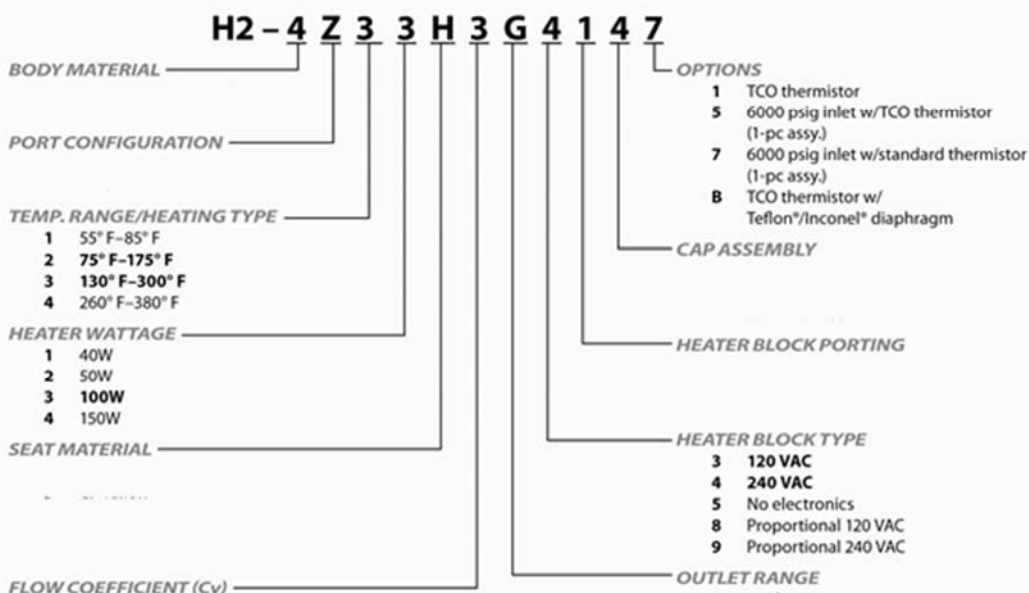


DHR Series



Annex A: Example Model nomenclature and electrical data continued:

HPR-2 Series



HPR-2XW Series

