# 1 EU - TYPE EXAMINATION CERTIFICATE

2 **Product or Protective System Intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU – Annex III**

3 EU - Type Examination Certificate No.: **TRL03ATEX11001X (incorporating variations V1 to V5)**

4 Product: **Electrically Heated Adjustable Pressure Regulators HPR-2, HPR-2XW, DHR, CV, DH2, CV2 and HBP Series.**

5 Manufacturer: **Crane Instrumentation & Sampling, Inc**

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

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

8 Element Materials Technology, Notified Body number 2812, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this 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 to the Directive.

The examination and test results are recorded in the confidential reports **XU1036/4469, 16-0042-003997, 16-0152-007020, TRA-010256-33-00A, TRA-030362-33-00A & TRA-030605-33-00A**.

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN IEC 60079-0:2018** **EN 60079-1:2014**

Except in respect of those requirements listed at section 18 of the schedule.

10 If the sign “X” is placed after the certificate number, it indicates that the product is subject to specific conditions of 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 this certificate.

12 The marking of this product shall include the following:

**Ex II 2 G Ex db IIC T1…T3 Gb, Ta = -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: 2020-04-20



Voorerf 18, 4824 GN Breda, Netherlands
Element Materials Technology Rotterdam B.V.
Registered in the Netherlands. Registered Office: PO Box 6854, 4802 HW, Breda, Netherlands
Company Reg No. 24170257

**13 SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE**

**14 CERTIFICATE NUMBER TRL03ATEX11001X (incorporating variations V1 to V5)**

**15 Description of Product**

The equipment is a series of Vaporizing Heated Regulators which 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, adjustable 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. As such, the equipment is also referred to as a series of 'Electrically Heated Adjustable Pressure Regulators'.

A temperature class of T3 is marked on models rated at 100 W, 150 W, 200 W and 250 W when equipped with an internal thermal cut out. The 40 W, 50 W & 100 W models without thermal cut outs are rated at T3, T2 and T1 respectively.

All models are identified as GO Regulators with the coding MODEL-XXXXXXXXXXX where the 'MODEL' is shown as either HBP, CV, CV2, DH2, DHR or H2 (for both HPR models) and XXXXXXXXXXX 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.

See Appendix B for model configuration.

Electrical rating: 120/240 VAC, 50/60 Hz, 40 W, 50 W, 100 W, 150 W, 200 W and 250 W

**16 Test Report No. (as added for this issue of the certificate):** TRA-030605-33-00A

**17 Specific Conditions of Use**

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

Attention is drawn to the operating and installation instructions which may contain useful information in relation to conditions of use.

**18 Essential Health and Safety Requirements (Directive Annex II)**

In addition to the Essential Health and Safety Requirements covered by the standards listed at item 9, all other requirements are demonstrated in the relevant reports.

**19 Drawings and Documents**

The list of controlled technical documentation is given in Appendix A to this schedule.

## 20 Routine Tests

1. Routine (100 %) hydrostatic testing (at 645 psi / 44.5 bar) as per 'Test Procedure for Vaporizing Pressure Regulator', drawing 113109.

## 21 Specific Conditions for Manufacture

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

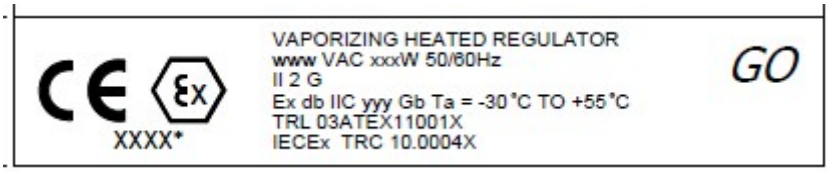
## 22 Photographs

e.g. HPR-2 Pressure Regulator

Temperature Controller

Flameproof enclosure lid

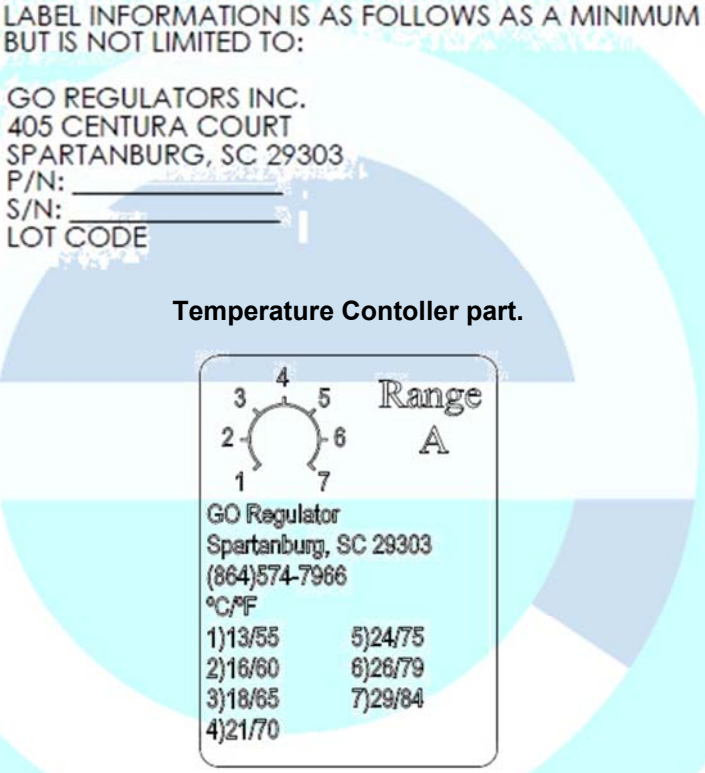
## 23 Details of Markings




www = Rated Voltage

xxx = Rated power

yyy = Temperature class




**Temperature Contoller part.**




## 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 condulet reducer.
- Variation V4- Update to latest edition EN 60079-0 & 60079-1 standards.
- Variation V5 - Change to applicant and manufacturer's name. Equipment assessed to latest editions of the standards. Several other changes to critical and non-critical parts of equipment for three new model types HBP, DH2 and CV2..

## 25 Notes to CE marking

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

## 26 Notes to this certificate

Element Materials Technology certification reference: TRL03ATEX11001X V5 (GU CIRQ-0001).

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

Notified Body number 2812 is the designation for Element Materials Technology Rotterdam BV.

In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Variation certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

## 27 Conditions for the validity of this certificate

This certificate remains valid for so long as:

(i) The equipment listed in section 4 is manufactured in accordance with the documents listed in Appendix A of this certificate.

(ii) The standards listed in section 9 of this certificate continue to satisfy the Essential Health and Safety Requirements of Annex II of Directive 2014/34/EU and the generally acknowledged state of the art (e.g. as determined by the publishers of those standards).

**SCHEDULE TO EU - TYPE EXAMINATION CERTIFICATE**

**CERTIFICATE NUMBER TRL03ATEX11001X (incorporating variations V1 to V5**

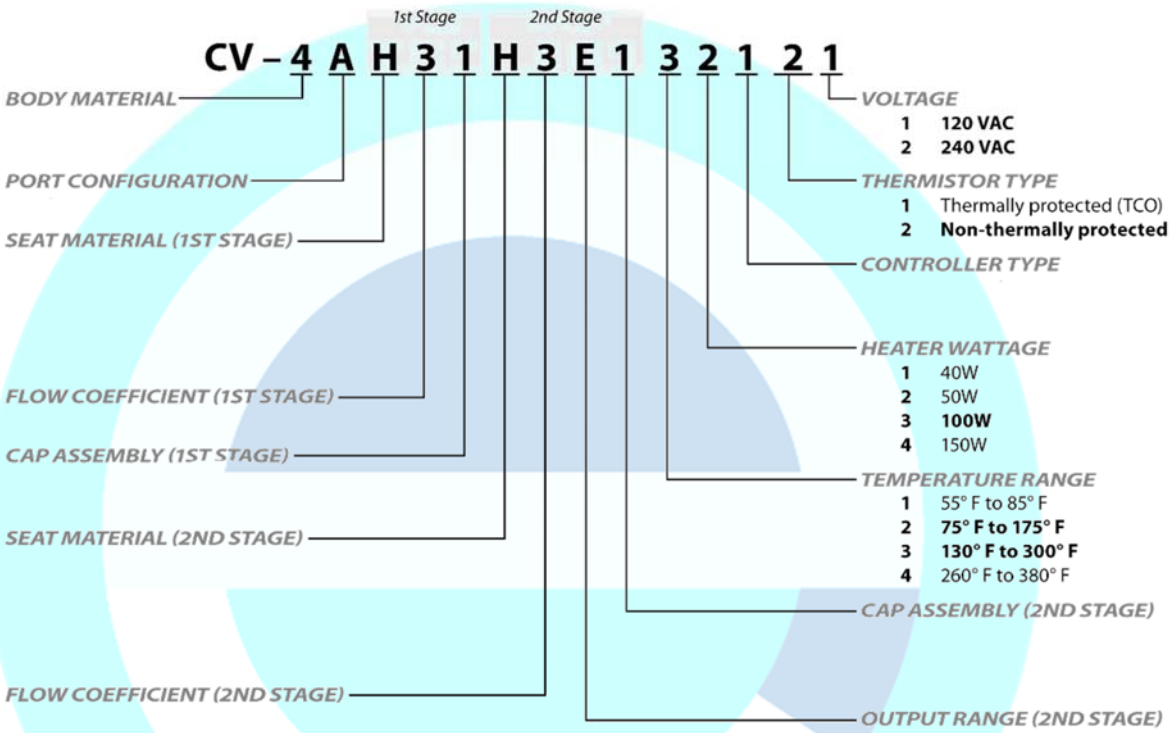
| **APPENDIX A - TECHNICAL DOCUMENTS** | | | |
|---|---|---|---|
| **Title:** | **Drawing No.:** | **Rev. Level:** | **Date:** |
| HPR-2 Heater Block Fitting | 115845-ATEX | - | 2019-08-01 |
| AC Heater | G115829-ATEX | - | 2018-10-18 |
| Heater Block Assembly | 115844-[]-ATEX | A | 2016-10-20 |
| Label AC Controller | 115884 | - | 2016-05-03 |
| HPR-2 Vaporizing Regulator Assy ATEX | 115852-ATEX | A | 2018-10-19 |
| HPR-2XW Vaporizing Regulator Assembly ATEX | 115856-ATEX | A | 2018-10-19 |
| CV Vaporizing Regulator Assembly ATEX | 115858-ATEX | A | 2018-10-19 |
| CV2 Vaporizing Regulator Assembly ATEX | 115880-ATEX | A | 2018-10-19 |
| DHR Vaporizing Regulator Assembly ATEX | 115860-ATEX | A | 2018-10-19 |
| DH2 Vaporizing Regulator Assembly ATEX | 115877-ATEX | A | 2018-10-19 |
| HBP Vaporizing Regulator Assembly ATEX | 115865-ATEX | A | 2018-10-19 |
| Label-Vaporizing Regulator ATEX CERT | 115854 | A | 2016-09-09 |
| 115791 (4 sheets) | 115791_pcbart | 1.4 | 2017-03-23 |
| 115791 | 115791_sch | 1.4 | 2017-03-07 |
| Ground Screw | 116156 | - | 2016-10-04 |
| HPR-2 Series Condulet Reducer 3/4 NPT / 1/2 NPT | 046500-ATEX | - | 2015-09-22 |
| Condulet, Machined, ATEX | 109819-ATEX | A | 2018-10-19 |
| Installation Manual for Vaporizing Regulator (15 sheets) | 113117 | F | 2020-03-31 |
| Service Assembly Manual for Vaporizing Regulators (5 sheets) | 108727 | F | 2020-03-31 |
| Test Procedure for Vaporizing Pressure Regulator (4 sheets) | 113109 | E | 2018-07-19 |
| Screw, Socket Set | 018119 | B | 2010-06-11 |
| Plug, Ground Leg, ATEX, IEC | 046403-ATEX | A | 2010-06-29 |
| Cap, Condulet, ATEX | 109323-ATEX | * | 2003-09-03 |
| Label, Temperature, Wiring, Porting ATEX, IEC | 113144 | A | 2010-06-10 |

* Denotes information not provided by manufacturer

## APPENDIX B - Model nomenclature and electrical data

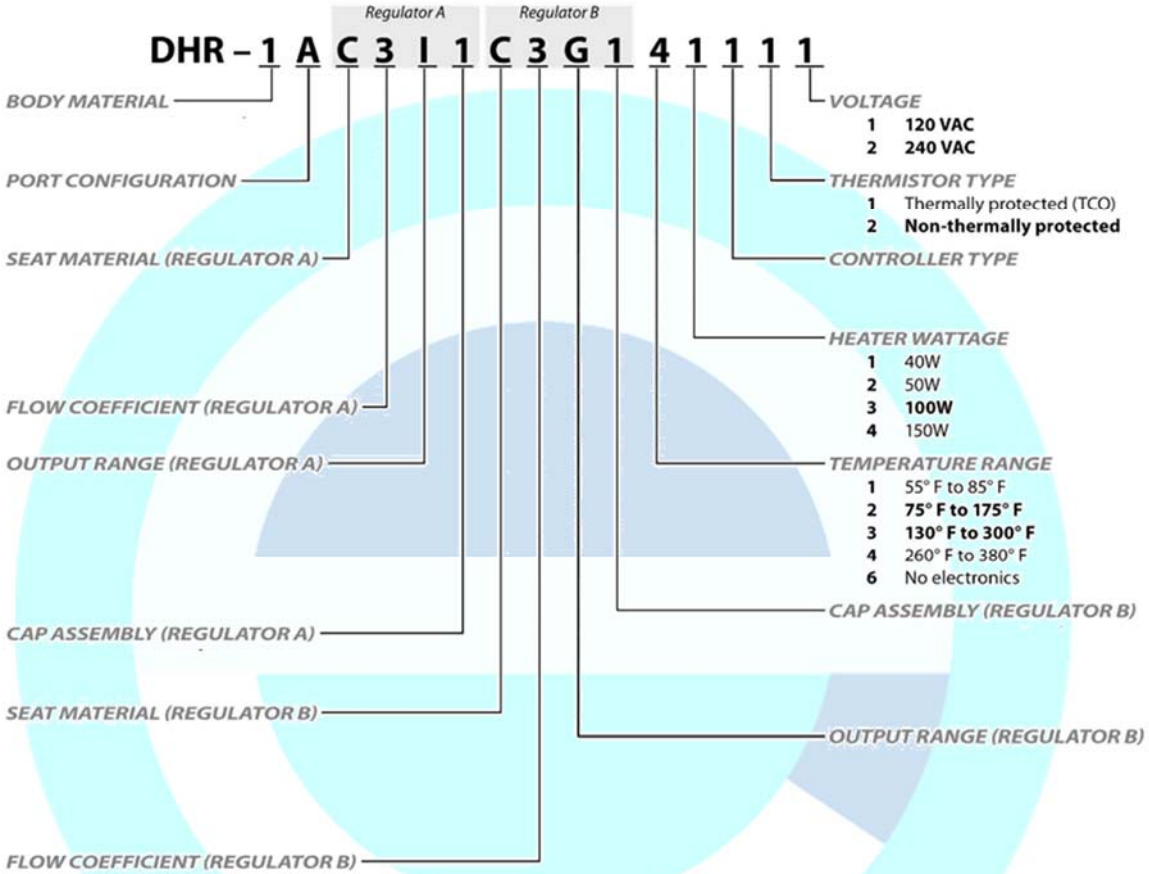
**Example Model nomenclature and electrical data:**

### CV Series Cylinder Vaporizer



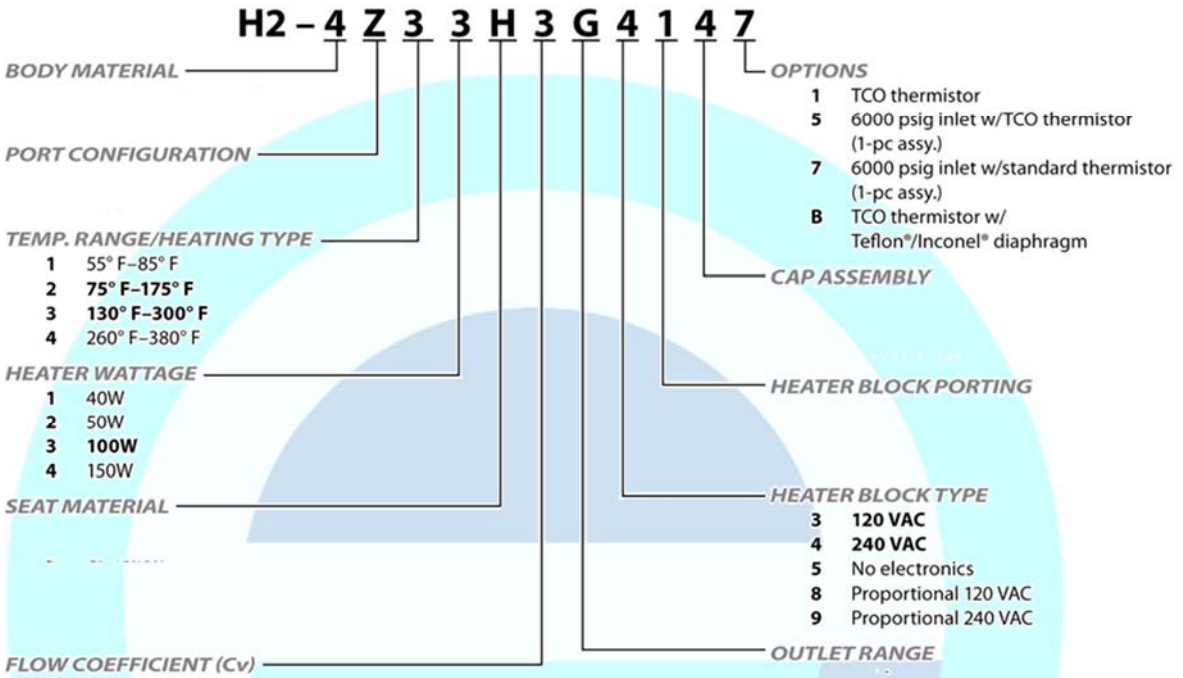
**Example Model nomenclature and electrical data continued:**

## DHR Series



**Example Model nomenclature and electrical data continued:**

## HPR-2 Series



**Example Model nomenclature and electrical data continued:**

## HPR-2XW Series

**H2 – 1 Z 2 3 C 3 E 6 1 1 7**

*BODY MATERIAL*

*PORT CONFIGURATION*

*TEMPERATURE RANGE / HEATING TYPE*
- 1 55° F to 85° F
- 2 **75° F to 175° F**
- 3 **130° F to 300° F**
- 4 260° F to 380° F

*HEATER WATTAGE*
- 1 40W
- 2 50W
- 3 **100W**
- 4 150W

*SEAT MATERIAL*

*FLOW COEFFICIENT (Cv)*

*OPTIONS*
- 1 TCO thermistor
- 5 6000 psig inlet w/TCO thermistor (1-pc assy.)
- 6 6000 psig inlet w/standard thermistor (1-pc assy.)
- B TCO thermisor w/ Teflon®/Inconel® diaphragm

*CAP ASSEMBLY*

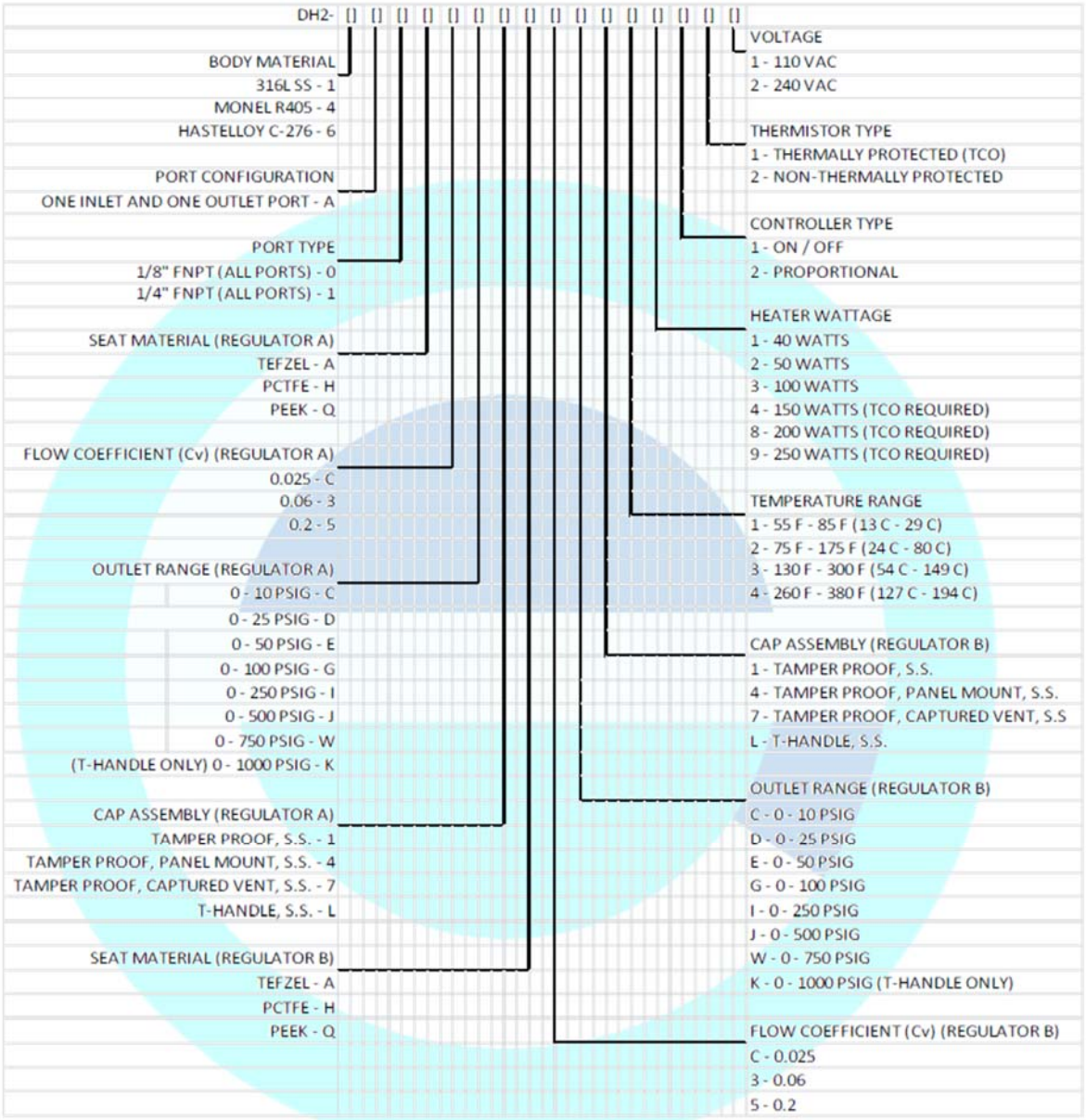
*HEATER BLOCK PORTING*

*HEATER BLOCK TYPE*
- 6 **120 VAC, HPR-2XW**
- 7 **240 VAC, HPR-2XW**
- 0 Proportional 120 VAC, HPR-2XW
- A Proportional 240 VAC, HPR-2XW

*OUTLET RANGE*

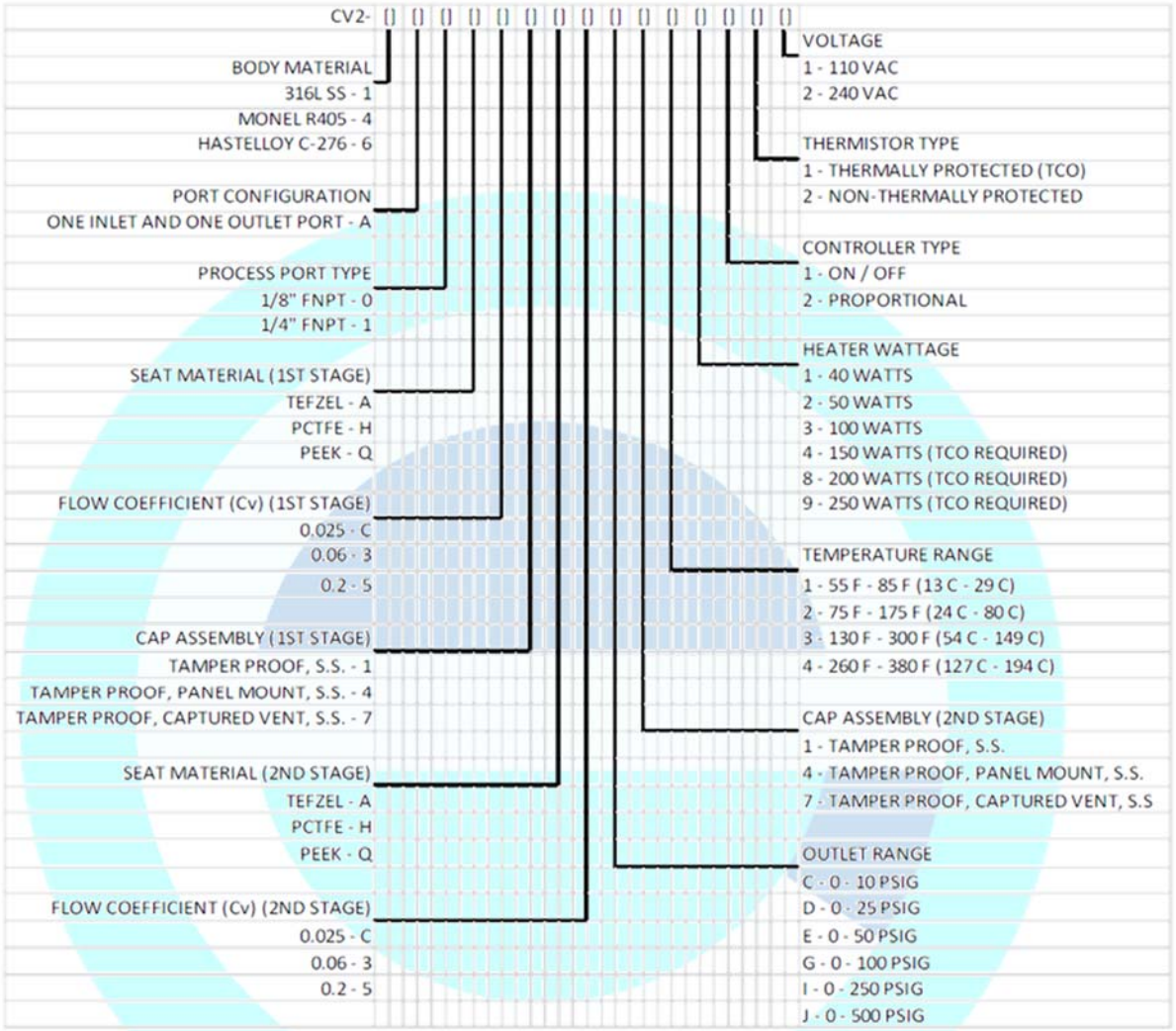
**Example Model nomenclature and electrical data continued:**

## DH2 Series



**Example Model nomenclature and electrical data continued:**

## CV2 Series



**Example Model nomenclature and electrical data continued:**

## HBP series