

| | |
|-----------------------|---------------|
| No. TSD 59.007 | |
| Rev. | Date |
| Orig | 1/3/13 |

CRN REGISTRATION FILE FOR #0H2915.5CR3

PREPARED BY: RT Gula, Product Design Engineer DATE 1/9/13

APPROVED BY: S Kroon, Sr. Project Engineer DATE 1/10/13

G.J. Boyce, Quality Assurance Manager DATE 1/10/13

RAC for J Lindstrom, Product Mktg Engr DATE 1/10/13

M Valachos, Manager Sales & Eng DATE 1/10/13

| REVISION RECORD | | | | |
|-----------------|---------------------|------------------------------------|--------|--------------------|
| Revision | Affected Paragraphs | Brief Description of Revision | Date | Approval Signature |
| Orig. | All | Original Release per E.O. QP-13601 | 1/3/13 | <u>RT Gula</u> |

TABLE OF CONTENTS

| <u>Paragraph</u> | <u>Title</u> | <u>Page No.</u> |
|------------------|---|-----------------|
| 1.0 | Introduction / Purpose | 1 |
| 2.0 | Reference Documents | 1 |
| 3.0 | CRN #0H2915.5CR3 (Revision 3) Requirements | 1 |
| 3.1 | Fitting Part Numbers Covered | 1 |
| 3.2 | CRN Pressure Ratings | 1 |
| 3.3 | Allowable Material Options | 1 |
| 4.0 | CRN Marking Requirements | 4 |
| 4.1 | CRN Number Designation | 5 |
| 4.2 | CRN #0H2915.5CR3 Certification Packages | 5 |
| 4.3 | CRN Product Marking Requirements for Conax Fittings | 5 |
| App A | Certification Package for Province of Ontario | |
| App B | Certification Package for Province of British Columbia | |
| App C | Certification Package for Province of Alberta | |
| App D | Certification Package for Province of Manitoba | |
| App E | Certification Package for Provinces of Prince Edward Island, Nova Scotia, New Brunswick, Newfoundland & Labrador, Yukon Territory, Northwest Territory, Nunavut | |
| App F | Certification Package for Provinces of Quebec and Saskatchewan | |
| App G | Email Correspondence with British Columbia Safety Authority Representative | |
| App H | Email Correspondence with CSA and ANRIC Representatives | |

1.0 Introduction / Purpose:

Conax's CRN Registration Number 0H2915.5CR2 (Revision 2) expired in August 2012. This registration number was valid for ALL Canadian Provinces. During the renewal process for 0H2915, Reference [2.1] was submitted to the Canadian Technical Standards & Safety Authority (TSSA) of Ontario to provide the necessary technical justifications to support approval of a 10-year renewal in ALL provinces. As part of the renewal effort, no new fitting Part Numbers were proposed to be added however new material options were recommended to be added based upon Reference [2.1] technical justifications. Previously only 304, 304L, 316, and 316L SST materials were allowed.

All thirteen (13) Canadian Provinces have granted approval of the 10-year renewal for 0H2915. This document provides a collection of the "certified" paperwork from each Canadian Province which essentially grants approval of CRN Registration Number 0H2915.5CR3 (Revision 3) which will expire on August 2, 2022. Additionally, this document also summarizes the fitting Part Numbers and Material Options covered under CRN 0H2915.5CR3. All applicable documentation (i.e., drawings, catalogs, and laser marking programs) will need to be updated to reflect use of the new material options allowed and the new 0H2915.5CR3 file number.

2.0 Reference Documents:

- 2.1 Conax TSD 59.006 "CRN Registration Renewal Support Document"

3.0 CRN #0H2915.5CR3 (Revision 3) Requirements:

Consult Reference [2.1] for additional information and technical support.

3.1 Fitting Part Numbers Covered:

Table 1 identifies the fittings covered under CRN #0H2915.5CR3 (Revision 3). These are the same fitting part numbers covered under CRN #0H2915.5CR2 (Revision 2).

3.2 CRN Pressure Ratings:

Table 2 identifies the allowable CRN Pressure Ratings for each fitting based upon the Temperature Range and fitting's NPT Thread Size. These are the same ratings previously covered under #0H2915.5CR2 (Revision 2).

3.3 Allowable Material Options:

Table 3 identifies the material options allowed under CRN #0H2915.5CR3. Previously, CRN #0H2915.5CR2 only allowed fitting bodies to be constructed out of 304, 304L, 316, or 316L SST material per ASTM A479 requirements.

Table 1: Fitting Part Numbers covered under CRN Registration File #0H2915.5CR3

| Item | Fitting Part Number ⁽¹⁾ | Fitting Description | NPT Fitting Sizes Allowed |
|------|------------------------------------|--|---------------------------|
| 1 | 117-XX-ZZZZCRN | EG-750(CRN) | 1-1/2" |
| 2 | 258-XX-ZZZZCRN | MIC(CRN) | 1/16" |
| 3 | 327-XX-ZZZZCRN | MPG(CRN) | 1/8" |
| 4 | 1448-XX-ZZZZCRN | TG8(CRN), MHC5(CRN) | 1/2", 3/4", 1" |
| 5 | 1896-XX-ZZZZCRN | MHM5(CRN), SPG150(CRN), DSPG(CRN), EG37(CRN), EG50(CRN) | 3/4", 1" |
| 6 | 2447-XX-ZZZZCRN | MTG(CRN), MHC1(CRN) | 1/8" |
| 7 | 5936-XX-ZZZZCRN | EG09(CRN) | 1/8" |
| 8 | 5971-XX-ZZZZCRN | TG14(CRN), MHC4(CRN) | 1/4", 1/2" |
| 9 | 5980-XX-ZZZZCRN | MHM4(CRN), SPG100(CRN), DSPG100(CRN), EG25(CRN), EG31(CRN) | 1/2" |
| 10 | 6032-XX-ZZZZCRN | TG20(CRN), TG24(CRN), MHC2(CRN) | 1/4", 3/8" |
| 11 | 6036-XX-ZZZZCRN | MHM2(CRN), EG12(CRN), EG18(CRN) | 1/4", 3/8" |
| 12 | 6470-XX-ZZZZCRN | PG2(CRN) | 1/8", 1/4", 3/8" |
| 13 | 6477-XX-ZZZZCRN | PL5(CRN) | 3/4", 1" |
| 14 | 6570-XX-ZZZZCRN | PG4(CRN) | 1/4", 3/8", 1/2" |
| 15 | 6574-XX-ZZZZCRN | PG5(CRN) | 1/2", 3/4", 1" |
| 16 | 317729-XX-ZZZZCRN | PG6(CRN) | 1" |
| 17 | 319098-XX-ZZZZCRN | PG7(CRN) | 1-1/4" |
| 18 | 31-0129-XX-ZZZZCRN | MHM6(CRN) | 1" |

- (1) P/N Designation: XX = Numeric Dash Variation (to control fitting variations such as mounting thread and bore size)
ZZZZ = Conax Material Option Code per Table 3

Table 2: CRN Registration File #0H2915.5CR3 Pressure Ratings

| Temperature Range (T) | NPT Thread Size | | |
|-----------------------|-----------------|-------------|--------------------|
| | ≤ 3/4" NPT | 1" NPT | 1-1/4", 1-1/2" NPT |
| T < 220°F | 2500 psi | 2500 psi | 2500 psi |
| 220° < T ≤ 850°F | 1500 psi | 1200 psi | 600 psi |
| 850°F < T | Not Allowed | Not Allowed | Not Allowed |

Table 3: Fitting Material Options covered under CRN Registration File #0H2915.5CR3

| Item | Material | Conax Material Modifier Code | UNS Number | ASTM Material Standard | Minimum Required Yield Strength ⁽²⁾ |
|-------------------|-----------------|------------------------------|------------|------------------------|--|
| 1 | Monel 400 | M400 | N04400 | B164 | 25 ksi |
| 2 | Monel 405 | M405 | N04405 | B 164 | 25 ksi |
| 3 | Hastelloy X | HX | N06002 | B 572 | 35 ksi |
| 4 | Inconel 600 | I600 | N06600 | B 166 | 35 ksi |
| 5 | Inconel 625 | I625 | N06625 | B 446 | 60 ksi |
| 6 | Incoloy 800 | INY800 | N08800 | B 408 | 30 ksi |
| 7 | Hastelloy C276 | HC276 | N10276 | B 574 | 41 ksi |
| 8 | 304H SST | S304H | S30409 | A 479 | 30 ksi |
| 9 | 310S SST | S310S | S31008 | A 479 | 30 ksi |
| 10 | 310H SST | S310H | S31009 | A 479 | 30 ksi |
| 11 | 316L SST (NACE) | NC316L | S31603 | A 479 | 25 ksi |
| 12 | 316 SST (NACE) | NC316 | S31600 | A 479 | 30 ksi |
| 13 | 321 SST | S321 | S32100 | A 479 | 30 ksi |
| 14 | 321H SST | S321H | S32109 | A 479 | 30 ksi |
| 15 | 347 SST | S347 | S34700 | A 479 | 30 ksi |
| 16 ⁽¹⁾ | 304 SST | S304 | S30400 | A 479 | 30 ksi |
| 17 ⁽¹⁾ | 304L SST | S304L | S30403 | A 479 | 25 ksi |
| 18 ⁽¹⁾ | 316 SST | S316 | S31600 | A 479 | 30 ksi |
| 19 ⁽¹⁾ | 316L SST | S316L | S31603 | A 479 | 25 ksi |

(1) Previously approved under CRN #0H2915.5CR2 (Revision 2)

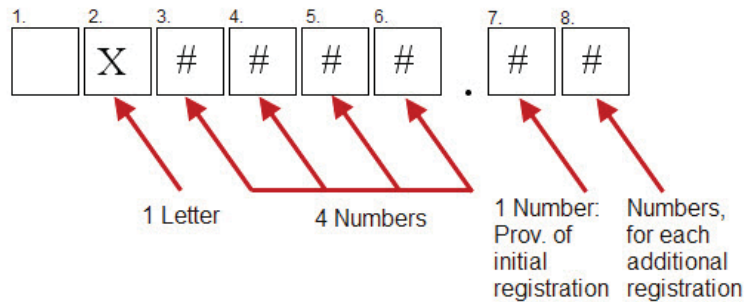
(2) Per 2010 ASME B&PV Code, Section II, Part D, Table Y-1

4.0 CRN Marking Requirements:

4.1 CRN Number Designation:

A Canadian Registration Number (CRN) for a boiler or pressure vessel is defined by CSA B51. It may consist of up to six (6) characters to the left of a decimal point followed by eight (8) or more characters to the right of the decimal point as depicted below.

For Conax Fittings, place holder #1 is the digit 0 (zero) and place holder #2 is the letter H. Place holders #3 - #6 represent a 4 digit sequential number unique to the registration file (e.g. 2915 for Conax Fittings). Place holder #7 is the Province code where the initial registration was filed (i.e., see below 5 = Ontario). Place holder #8 and beyond represent additional provinces where the registration is filed. If the registration is filed in all 13 provinces, place holder #8 can be listed as the letter "C" in lieu of listing each Province code. The expression "R1", "R2", "R3", etc at the end of the registration number signifies the revision level (i.e., "R3" would equate to Revision 3).



In accordance with CSA B51 the following codes are used for each province:

- | | | |
|----------------------|--------------------------|-----------------------------|
| 1 - British Columbia | 5 - Ontario | 0 - Newfoundland & Labrador |
| 2 - Alberta * | 6 - Quebec | T - Northwest Territories |
| 3 - Saskatchewan | 7 - New Brunswick | Y - Yukon Territory |
| 4 - Manitoba | 8 - Nova Scotia | N - Nunavut |
| | 9 - Prince Edward Island | |



4.2 CRN #0H2915.5CR3 Certification Packages:

Appendices A - F contain copies of the certification paperwork from each province granting approval of 0H2915.5CR3. The table below identifies the specific Appendix where the certification paperwork can be found for each province(s). For each province this entails copies of the signed and stamped “Statutory Declaration” except for the Province of British Columbia. Through email correspondence with a representative from British Columbia’s Safety Authority contained in Appendix G, the Province of British Columbia does not stamp and sign the Statutory Declaration. Therefore Appendix B only contains a copy of their approval letter for the renewal effort.

| Appendix | Province (s) |
|----------|--|
| A | Ontario |
| B | British Columbia |
| C | Alberta |
| D | Manitoba |
| E | Prince Edward Island, Nova Scotia, New Brunswick, Newfoundland & Labrador, Yukon Territory, Northwest Territory, Nunavut |
| F | Quebec and Saskatchewan |

4.3 CRN Product Marking Requirements for Conax Fittings:

With registration files provided from each of the thirteen (13) Provinces, use of the 0H2915.5CR3 number is considered acceptable. It is noted that per Appendix F, the registration for the Provinces of Quebec and Saskatchewan was conducted by CSA International and the prefix “CSA” should be added to the beginning of the CRN number as CSA-0H2915.56R3. However, when using the letter “C” to denote registration in all provinces, it is not required to use the prefix “CSA” as confirmed through email correspondence with representatives from CSA and ANRIC as contained in Appendix H. As such, Conax fittings identified in Table 1 shall be marked as follows:

CONAX TECHNOLOGIES
xxxx PER ASTM **yyyy**
 CRN NO. 0H2915.5CR3

where:

xxxx = Material Description Code per Table 3
yyyy = ASTM Specification per Table 3

Marking Examples:

For 316 SST:

CONAX TECHNOLOGIES
 S316 PER ASTM B479
 CRN NO. 0H2915.5CR3

For Hastelloy C276:

CONAX TECHNOLOGIES
 HC276 PER ASTM B574
 CRN NO. 0H2915.5CR3

END OF DOCUMENT

UNIFORM STATUTORY DECLARATION FORM FOR THE REGISTRATION OF FITTING DESIGNS

NEW BRUNSWICK NOVA SCOTIA PRINCE EDWARD ISLAND NEWFOUNDLAND AND LABRADOR
NUNAVUT YUKON NORTHWEST TERRITORIES

| | |
|--|---|
| MANUFACTURERS NAME: Conax Technologies LLC | |
| MANUFACTURERS ADDRESS: 2300 Walden Avenue, Buffalo, NY 14225 U.S.A. | |
| PLANT LOCATIONS: Same | |
| <p>CATEGORY OF FITTINGS TO BE REGISTERED. CIRCLE ONE CATEGORY ONLY</p> <p>A Pipe fittings, including couplings, tees, elbows, Ys, plugs, unions, pipe caps, or reducers B Flanges: all flanges C Valves: all line valves D Expansion joints, flexible connections, and hose assemblies: all types E Strainers, filters, separators, and steam traps F Measuring devices, including pressure gauges, level gauges, sight glasses, levels, or pressure transmitters G Certified capacity-rated pressure relief devices acceptable as primary over pressure protection on boilers, pressure vessels, piping and fusible plugs H Pressure retaining components that do not fall into one of the above categories N Nuclear components: Class 1 <input type="checkbox"/> Class 2 <input type="checkbox"/> Class 3 <input type="checkbox"/> (Meeting AECB or ASME requirements)</p> | <p>TITLE OF THE STANDARD OF CONSTRUCTION</p> <p>Proprietary Standard supported by Proof Pressure Test</p> |
| <p>SHOW MANUFACTURERS NAME, TRADEMARK, OR LOGO AS IT WILL APPEAR ON THE PRODUCT</p> <p>"Conax Technologies XXXXX per ASTM YYYY" XXXX = Material Code per TSD 59.006 YYYY = Specification Number per TSD 59.006</p> | <p>TYPE OF CONSTRUCTION</p> <p>FORGED <input type="checkbox"/> WELDED <input type="checkbox"/> WROUGHT <input type="checkbox"/> CAST <input type="checkbox"/> OTHER <input type="checkbox"/> DESCRIBE OTHER: Machined</p> |
| <p>LIST OF SUPPORTING DOCUMENTATION AND IDENTIFICATION OF THE ACTUAL ITEMS TO BE REGISTERED:</p> <p>Reference Conax TSD Report Number 59.006 * Fittings per TSD 59.006 Table 1 * Allowable materials per TSD 59.006 Table 2</p> | |

DECLARATION:
 I, Robert Gula (see note 3) employed by Conax Technologies and being the person having full authority and responsibility for the quality of the end product do solemnly declare that the information contained in this form is true and to the best of my knowledge represents the product for which registration is sought. The dimensions, materials of construction, pressure temperature ratings, and identification markings are in accordance with the herein named standards. I further declare that the manufacture of these fittings is regulated by a Quality Control Program which extends to each plant where fabrication of the whole or in part and has been verified by SGS as being suitable for that purpose and I make this solemn declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath.

Signature of Declarer: Robert Gula

Declared before me at Buffalo, NY

This 27th day of April AD 2012

Commissioner of Oaths or Notary Public: (sign) Patrice Marion Kotanski
 (Affix Official seal to the right)



| | |
|---|---|
| <p>This space for Regulatory Authority use</p> <p>This registration must be revalidated after ten (10) years from the date of acceptance.</p> <p>CRN: <u>0H2915.5 Rev3</u></p> <p>FID#: <u>14632</u></p> <p>Notes: 1. All fittings shall be registered in the name of the Manufacturer. 2. Each category shall be supported with two Statutory Declaration forms and one copy of supporting documentation. 3. The declaration shall be made by the person having full authority and responsibility for the quality of the end product. 4. Quality control programs shall be resubmitted for validation at a maximum interval of five (5) years.</p> | <p>DEPT OF PUBLIC SAFETY BOILER & PRESSURE VESSEL ACT</p> <p>REGISTRATION ONLY</p> <p>CRN: <u>0H2915.57 Rev3</u></p> <p>EXAMINER: <u>Chris Crown</u> for CHIEF BOILER INSPECTOR</p> <p>DATE: <u>08/31/2012</u></p> <p><input type="checkbox"/> BLRs <input type="checkbox"/> PVs <input checked="" type="checkbox"/> FITTINGS <input type="checkbox"/> COMPONENTS</p> |
|---|---|