

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>

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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)

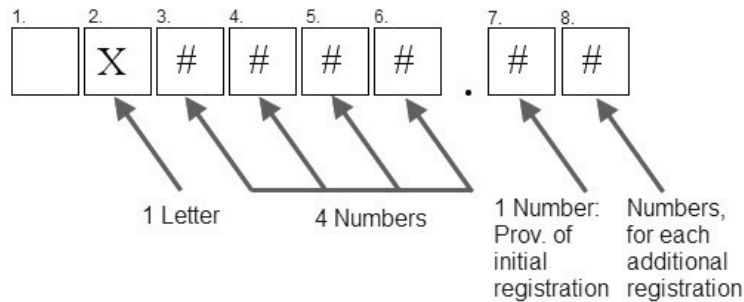
(2) Per 2010 ASME B&PV Code, Section II, Part D, Table Y-1

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



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Appendix C

Certification Package for Province of Alberta



14th Floor, Centre Tower
3300 Bloor Street West
Toronto, Ontario
Canada M8X 2X4
Tel.: 416.734.3300
Fax: 416.231.1626
Toll Free: 1.877.682.8772

www.tssa.org

October 09, 2012

ROBERT GULA
CONAX TECHNOLOGIES LLC
2300 WALDEN AVE
BUFFALO NY 14225
US

Service Request Type.: BPV-National AB
Service Request No.: 855390
Your Reference No.: RENEW CRN 0H2915.5 - NAT'L SERV.
Registered to.: CONAX TECHNOLOGIES LLC

Dear ROBERT GULA,

Please find enclosed the original response from AB, registered under the CRN No.: 0H02915.52.

As all jurisdictional fees are handled by the Technical Standards and Safety Authority (TSSA), you do not pay any jurisdictions directly.

Should you have any questions or require further assistance, I will be happy to assist you.
For general enquiries, please contact a Customer Service Advisor at 1.877.682.TSSA (8772) or e-mail customerservices@tssa.org. When contacting TSSA regarding this file, please refer to the Service Request number provided above.

Yours truly,

Tanya Francis
Administrative Assistant_ BPV Engineering
Tel.: 416-734-3423
Fax: 416-231-6183
Email :tfrancis@tssa.org

Putting Public Safety First



the pressure equipment safety authority

9410 - 20 Ave N.W.
Edmonton, Alberta, Canada T6N 0A4
Tel: (780) 437-9100 / Fax: (780) 437-7787

September 17, 2012

Tanya Francis
TECHNICAL STANDARDS & SAFETY AUTHORITY
3300 BLOOR STREET WEST
14 FLOOR CENTRE TOWER
TORONTO, ON M8X 2X4

Dear Tanya Francis,

The design submission, tracking number 2012-05700, originally received on August 15, 2012 was surveyed and accepted for registration as follows:

CRN :	0H02915.52	Accepted on:	September 17, 2012
Reg Type :	Addition to Acc. Fitting	Expiry Date:	August 02, 2022
Drawing No. :	TSD REPORT #59.006		
Fitting Desc:	SEALING GLANDS		

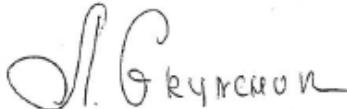
Design registered in the name of : CONAX TECHNOLOGIES LLC

Description	MAWP	Design Temperature
rating per report	kPa	°C

The registration is conditional on your compliance with the following notes:*This registration is valid until the indicated expiry date only if the Manufacturer maintains a valid quality management system approved by an acceptable third-party agency until that date. Should the approval of the quality management system lapse before the expiry date indicated above, this registration shall become void.***An invoice covering survey and registration fees will be forwarded from our Revenue Accounts.**

Enclosed are stamped prints for your reference.

Sincerely,

GRYNCHUK, MILLA
Design Survey Engineer



AB-41 2005-02



the pressure equipment safety authority

**STATUTORY DECLARATION
Registration of Fittings**

In this space, show facsimile of manufacturer's logo or trademark as it will appear on the fitting. "Conax Technologies XXX per ASTM YYYY"

XXX = TSD 59.006 Mat. Code
YYYY = Specification No.

I, Robert Gula,
Product Design Engineer
(company title, e.g. vice president, plant manager, chief engineer) (must be in a position of authority)

of Conax Technologies LLC
(name of manufacturer)

located at 2300 Walden Avenue; Buffalo NY 14225
(plant address)

do solemnly declare that the fittings listed hereunder, which are subject to the Safety Codes Act (check one)

- comply with the requirements of _____ which specifies the dimensions, (title of recognized North American Standard) materials of construction, pressure/temperature ratings and identification marking of the fittings, or
- are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with Proof Pressure Test as supported by the attached data which identifies the dimensions, materials of construction, pressure/temperature ratings and the basis for such ratings, and the marking of the fittings for identification.

I further declare that the manufacture of these fittings is controlled by a quality control program which has been verified by the following authority, SGS (ISO 9001:2008) as being suitable for the manufacture of these fittings to the stated standard. The fittings covered by this declaration, for which I seek registration, are Category H

In support of this application, the following information, calculations and/or test data are attached:

Conax TSD Report #59.006 Rev. Orig

DECLARED before me at Buffalo in the _____ state of New York

this 27th day of April, 2012
(Month) (Year)

(print) PATRICE MARION KOTANSKY _____
(Signature of Applicant)

(sign) Patrice Marion Kotansky PATRICE MARION KOTANSKY
(A Commissioner for Oaths) Notary Public, State of New York
Qualified in Niagara County
My Commission Expires July 31, 2013

For Office Use Only

To the best of my knowledge and belief, the application meets the requirements of the Safety Codes Act and CSA Standard B51, Clause 4.2, and is accepted for registration in Category H

Registration Number: 0 H 0 2 9 1 5 . 5 2

Date Registered: SEP 17 2012 _____
(For the Administrator/Chief Inspector of Alberta)
Expiry Date: 2022-08-02

The information you provide is necessary only for the administration of the programs as required by the Alberta Safety Codes Act and Regulations in the Boiler Discipline.



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1.0 INTRODUCTION / PURPOSE:

1.1 This document summarizes Conax Technologies' existing CRN Registration File #OH2915.5CR2 in support of having the registration renewed for an additional 10 year period. The existing registration is set to expire in August of 2012. As part of the renewal effort, Conax Technologies intends to:

- Renew CRN Registration for existing fittings
- Add alternate material configurations in addition to 304, 304L, 316, and 316L SST

1.2 For existing fitting configurations that presently have CRN registration, the renewal effort will be based upon the original Proof Pressure Testing performed in the 2002 time frame as summarized and included within this document.

1.3 Technical justifications are provided to allow the use of materials other than 304, 304L, 316, and 316L SST provided their mechanical property values exceed those of 316L SST.

2.0 REFERENCE DOCUMENTS:

- 2.1 Canadian BPV Code
- 2.2 CRN Registration #OH2915.5CR2, Dated Aug 20, 2002 (Conax Technologies)
- 2.3 ASME B31.1-1998 "Power Piping Code"
- 2.4 2010 ASME Boiler & Pressure Vessel Code

3.0 TECHNICAL JUSTIFICATIONS:

3.1 CRN Registration Renewal of Existing Fittings:

3.1.1 Table 1 identifies the existing fittings that currently are covered under Reference [2.2]. Since these fittings are not covered by the provisions of a recognized North American standard, their certification was based upon the successful completion of a 14,000 psi Proof Pressure Test. These tests were performed in the 2002 time frame as witnessed by the Hartford Steam Boiler Inspection and Insurance Company of Connecticut (HSBI&I Co.). Appendix A provides copies of these test records.

3.1.2 Based upon Appendix A, the following CRN Pressure Ratings have been established and used over the past 10 year period for Conax fittings. Ratings are dependent upon the operating temperature of the fitting as well as the fitting's NPT mounting thread size. Only fittings supplied with NPT mounting threads are covered.

Temperature Range (T)	NPT Thread Size		
	< ½" NPT	1" NPT	1-¼", 1-½" 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

3.1.3 The fittings identified in Table 1 are currently available with CRN Registration provided they are constructed out of 304, 304L, 316, or 316L SST material per ASTM A479 requirements.



OH02915.52