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www.tssa.org

July 21, 2017

SCOTT ISLIP
ROUND ENGINEERING INC
10 SEGWUN RD
WATERDOWN ON L8B 0K6
CA

Service Request Type: BPV-Fitting Registration
Service Request No.: 2116164
Your Reference No.: R-0755A HEAT EXCHAGNER
Registered to: CUSTOM MANUFACTURED SYSTEMS INC

Dear SCOTT ISLIP,

Technical Standards and Safety Authority (TSSA) is pleased to inform you that your submission has been reviewed and registered as follows:

CRN No.: 0H19539.5
Main Design No.: R-0755A (sheet 1 thru. 5) REV 0, Scope of Registration
Expiry Date: 21-Jul-2027

Note: *NPS6 Shell Heater.*

Please be advised that a valid quality control system must be maintained for the fitting registration to remain valid until the expiry date.

The stamped copy of the approved registration and the invoice are mailed separately. Should you have any questions or require further assistance, please contact a Customer Service Advisor at 1.877.682.TSSA (8772) or e-mail customerservices@tssa.org. We will be happy to assist you. When contacting TSSA regarding this file, please refer to the Service Request number provided above.

Yours truly,

Ruiming You, P.Eng.
Mechanical Engineer, BPV
Tel.: 416-734-3428
Fax: 416-231-6183
Email: ryou@tssa.org



TECHNICAL STANDARDS & SAFETY AUTHORITY
 14th Floor, Centre Tower
 3300 Bloor Street West
 Toronto, Ontario
 Canada M8X 2X4

Show facsimile of manufacturer's logo or trademark, as it will appear on the fitting, in the space below



**CMS INCORP or
 CUSTOM MANUFACTURED
 SYSTEMS INC.**

STATUTORY DECLARATION Registration of Fittings

I, JOE WALSON, PRESIDENT
(Name and Position, e.g. President, Plant Manager, Chief Engineer)

of CUSTOM MANUFACTURED SYSTEMS INC.
(Name of Manufacturer)

Located at 18 JARVIS STREET, CAMBRIDGE, ONTARIO, N1R 1G8 519-267-2824
(Plant Address) (Telephone No.) (Fax No.)

do solemnly declare that the fittings listed hereunder, which are subject to the **Technical Standards and Safety Act**, Boilers and Pressure Vessels Regulation, comply with all of the requirements of ASME SECTION VIII, DIVISION 1

(Title of recognized North American Standard)

which specifies the dimensions, materials of construction, pressure/temperature ratings, identification marking the fittings and service;

or are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with _____ as supported by the attached data which identifies the dimensions, material of construction, pressure/temperature ratings and the basis for such ratings, the marking of the fitting for identification and service.

I further declare that the manufacture of these fittings is controlled by a quality system meeting the requirements of CSA B51 which has been verified by the following authority, TSSA.

The items covered by this declaration, for which I seek registration, are category H (HEAT EXCHANGERS) type fittings. In support of this application, the following information and/or test data are attached as follows:
DRAWINGS, DESIGN CALCULATIONS, SCOPE OF CRN REGISTRATION

(drawings, calculations, test reports, etc.)

Declared before me at Cambridge in the Province of Ontario
 the 20 day of June AD 2017.

Commissioner for Oaths:

David A Kinder
(Printed name)

(Signature)

(Signature of Declarer)

FOR OFFICE USE ONLY

To the best of my knowledge and belief, the application meets the requirements of the **Technical Standards and Safety Act**, Boilers and Pressure Vessels Regulation, and CSA Standard B51 and is accepted for registration in Category H.

CRN: 0H19539-5

Registered by: RUIMING You

Dated: July 21, 2017

NOTE: This registration expires on July 21, 2027

Technical Standards and Safety Authority	Boilers and Pressure Vessels Safety Program
REGISTERED	
CRN: <u>0H19539-5</u>	
Signed:	
Date: <u>July 21, 2017</u>	



CUSTOM MANUFACTURED SYSTEMS INC.

18 JARVIS STREET
CAMBRIDGE, ONTARIO
CANADA, N1R 1G8

24-Jun-17

CMS INCORP

PAGE 1 OF 1

SCOPE OF CRN REGISTRATION

Product Description	CMS INCORP Model	Design Code	Tube Side Design	Shell Side Design	M.D.M.T. (Note 3)	Process In x Out Connection	Steam In x Out Connection	Material Specification (Note 2)	Drawing Number
Heat Exchanger NPS 6" Shell	CSS-6	ASME Section VIII, Division 1	150 psig at 375F	150 psig at 375F	35F	2" x 2" 150 Lb. RF Flange (Note 1)	2" x 1-1/2" 150 Lb. RF Flange (Note 1)	ASME SA182-304/304L ASME SA312-304/304L ASME SA403-304/304L	R-0755A Rev. 0

Note 1: Flanges with a pressure class greater than class 150 Lb. may be used but in all cases the pressure-temperature ratings are limited to the values stated in the "Tube Side Design" and "Shell Side Design" column above.

Note 2: Type 316 Stainless Steel Grade may substitute for Type 304 Stainless Steel Grade.

Note 3: M.D.M.T. = Minimum Design Metal Temperature.

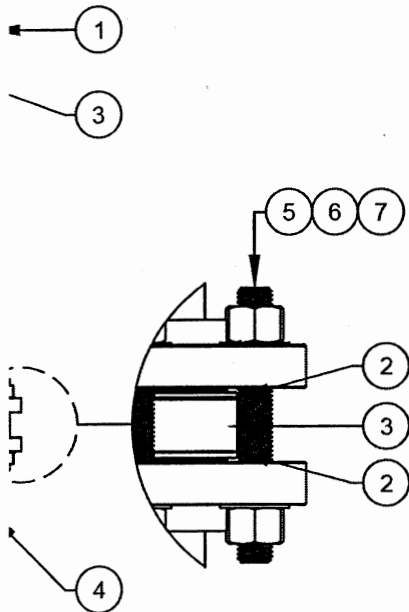
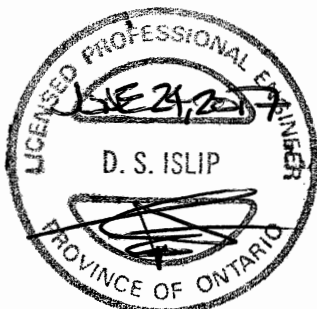
THIS IS PART OF
 CRN 0419539-5
 Technical Standards & Safety Authority
 Boilers & Pressure Vessels
 Safety Program

Bill of Materials

Item	Description	Material	Qty
1	BUNDLE SHELL	TYPE 304 S.STEEL - SEE SHEET 2	1
2	TUBESHEET GASKETS	6" 150 LB. NON-ASBESTOS	2
3	TUBE SHEET & BUNDLE	TYPE 316L - NOTE 10	1
4	STEAM SHELL	TYPE 304 S.STEEL - SEE SHEET 3	1
5	NUTS	3/4" UNC SA194-8 HHX NUT S.STEEL	16
6	STUDS	3/4" UNC SA193-B8-1 STUDS (LENGTH AS REQ'D DUE TO TUBE SHEET)	8
7	WASHERS	TYPE 304 S.STEEL	16
8	NAMEPLATE AND BRACKET (NOT SHOWN)	ASTM A240-304/304L BRACKET C/W NAMEPLATE IN ACCORDANCE WITH UG-116 OF ASME SECTION VIII-1.	1

Notes:

- All dimensions are in inches. SI units if provided are in brackets.
- All nozzle bolt holes straddle the major centerlines unless specifically noted.
- All nozzle gasket surfaces require a serrated finish per ASME B16.5.
- All piping/nipples shall be per ASME B36.10 (latest), all fittings shall be per ASME B16.9 (latest), all flanges shall be per ASME B16.5 (2013), B16.47 (2011) and all couplings shall be per ASME B16.11 (latest).
- All welds to be neat in appearance, free of slag and other debris.
- Item to be cleaned of scale, oil, weld splatter and all foreign matter prior to hydrostatic test.
- Inside nozzle corners to have a minimum 1/8" radius.
- Impact test exempt per UHA-51.
- Fabricator to hold current ASME U/UM-Stamp Certification and/or CSA B51 Certification. Fabricator shall be authorized for shop fabrication of Category H Fittings per CSA B51.
- Tube sheet and bundle manufactured by S.A. Armstrong Limited. Tube sheet and Bundle to be supplied with ASME Manufacturer's Partial Data Report. Tube bundle design covered under complete unit having CRN 0H-480.5. See Sheet 5.



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VALID CRN Required for Tube Bundle.

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		(N8)	
INLET (N1)	2" 150 Lb. RF	(N8)	3/4" FNPT
JTLET (N2)	1-1/2" 150Lb.RF	(N9)	1/2" FNPT
R INLET (N3)	2" 150 Lb. RF	(N10)	1/2" FNPT
JTLET (N4)	2" 150 Lb. RF	(N11)	3/4" FNPT
5)	1" FNPT	(N12)	1/4" FNPT
6)	1" FNPT	(N13)	1/2" FNPT
7)	1-1/2" FNPT	(N14)	

UNLESS OTHERWISE NOTED
 1. DIMENSIONS ARE IN INCHES. IF USED SI UNITS ARE IN () BRACKETS.
 2. TOLERANCES
 FRACTIONAL: +/- 1/8"
 DECIMALS: .XX +/- .02
 .XXX +/- .005

THE INFORMATION CONTAINED IN THE DRAWING IS THE SOLE PROPERTY OF CUSTOM MANUFACTURED SYSTEMS INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF CUSTOM MANUFACTURED SYSTEMS INC. IS PROHIBITED.

REV.	DESCRIPTION	DATE	INITIALS
TITLE NPS6 SHELL HEATER		 CMS INCORP 18 JARVIS STREET CAMBRIDGE, ON, N1R 1G8	
MODEL CSS-6			
PROJECT NAME N/A			
DRAWN BY SI	DRAWING SIZE B		
CHECKED BY MB	SCALE 1:12		
DATE 24/06/2017	DRAWING NO. R-0755A	REV. 0	SHEET 1 of 5