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Canada M8X 2X4  
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Toll Free: 1.877.682.8772

[www.tssa.org](http://www.tssa.org)

November 27, 2014

SCOTT ISLIP  
ROUND ENGINEERING INC  
10 SEGWUN RD  
WATERDOWN ON L0R 2H8  
CA

Service Request Type.: BPV-National MB  
Service Request No.: 1466440  
Your Reference No.: GUNTNER  
Registered to.: GUNTNER DE MEXICO S.A. DE C.V.

Dear SCOTT ISLIP,

Please find enclosed the original response from MB, registered under the CRN No.: 0H16962.54.

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](mailto: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](mailto:tfrancis@tssa.org)



**Inspection and Technical Services Manitoba**  
500 - 401 York Avenue  
Winnipeg Manitoba R3C 0P8  
T (204) 945-3373  
F (204) 948-2309  
[www.firecomm.gov.mb.ca/codes\\_steam\\_pressure.html](http://www.firecomm.gov.mb.ca/codes_steam_pressure.html)

27 October 2014

TSSA  
3300 Bloor St. W, Center Tower, 14<sup>th</sup> Floor  
Toronto, ON  
M8X 2X4

Attn: Tanya Francis

### **REGISTRATION OF VALVES AND FITTINGS**

**Manufacturer:** GUNTNER DE MEXICO, SA DE C.V

The design(s) for the following Valves/Fittings has been received by us and has been examined and accepted for registration in the Province of Manitoba as follows.

<b>DRAWING</b>	<b>CRN</b>	<b>FILE</b>
300-0000431778 REV. -	0H16962.54	34455

**An invoice covering survey and registration fees is enclosed.**

***NOTE:** CRN registered under reciprocal agreement & is conditional based on compliance with the notes set by the original issuing Jurisdiction: TSSA. See attached stamped "this is part of CRN" for scope of registration. This registration expires **June 25, 2024**.*

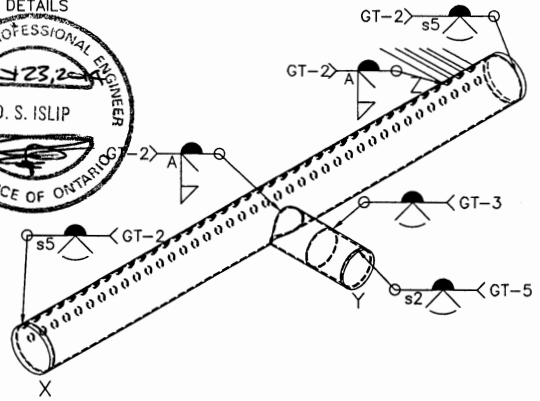
This registration is valid until the indicated expiry date only if the Manufacturer maintains a valid quality management system approved by an acceptable third-party agency until that date. Should the approval of the quality management system lapse before the expiry date indicated above, this registration shall become void.

The registration of this design does not relieve the manufacturer, the owner or his agent of the responsibility for the design or construction of a fitting in accordance with the applicable Acts, Codes and Standards. Inspection and Technical Services assumes no responsibility by registering designs, examining plans and/or inspecting equipment or facility.

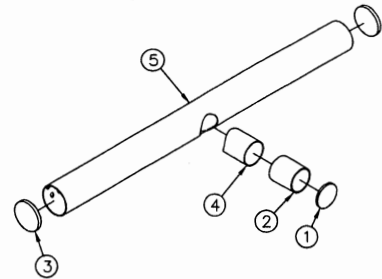
Yours truly,

**Ryan Orlesky, C.E.T.**  
Design Surveyor  
Office of the Fire Commissioner  
Inspection and Technical Services Manitoba  
500 - 401 York Avenue  
Winnipeg, Manitoba, R3C 0P8  
Phone: 204-945-3373  
Email: [ryan.orlesky@gov.mb.ca](mailto:ryan.orlesky@gov.mb.ca)

WELDING DETAILS



PARTS IDENTIFICATION  
(ITEM 6 NOT SHOWN)



BILL OF MATERIALS		IDENT.	MATERIAL	ASME STANDARD
1	HEADER CONNECTION FLAT PLATE	d1 x s1	CARBON STEEL (1)	SA516-70 DR SA36
2	INLET/OUTLET HEADER EXTENSION	d2 x s2	CARBON STEEL (1)	SA106-B DR SA53-E/B
3	HEADER FLAT PLATE	d3 x s3	STAINLESS STEEL	SA-240-304,304L,316 DR 316L
4	INLET/OUTLET HEADER CONNECTION	d4 x s4	STAINLESS STEEL	SA-312-304,304L,316 DR 316L
5	INLET/OUTLET HEADER	d5 x s5	STAINLESS STEEL	SA-312-304,304L,316 DR 316L
6	CORE TUBE, ELBOWS	d6 x s6	STAINLESS STEEL	SA-249-304,304L,316 DR 316L

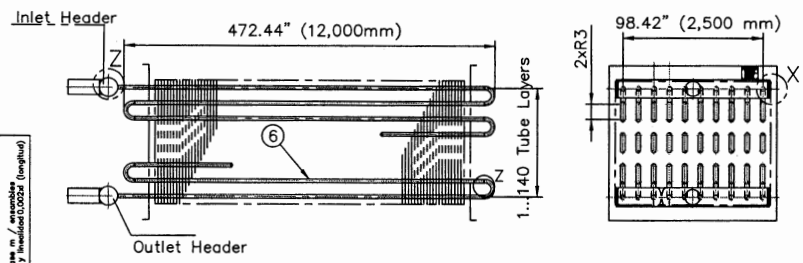
NOTE 1: OPTIONAL

VALUES FOR A IN INCHES (REQUIRED WELD SIZE)

MATERIAL	CONNECTION (d4 OR d6)	HEADER NOMINAL PIPE SIZE (d5)								
		1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"
TYPE 304, 304L SS, 316 SS OR TYPE 316L SS	d6 0.748" X 0.022" (19MM X 0.50MM)	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400	0.0400
	d4 1/2"	0.1100	0.1100	0.1100	0.1100	0.1100	0.1100	0.1100	0.1100	0.1100
	d4 3/4"	0.1300	0.1200	0.1200	0.1200	0.1100	0.1100	0.1100	0.1300	0.1300
	d4 1"	0.1300	0.1200	0.1300	0.1100	0.1100	0.1100	0.1100	0.1300	0.1900
	d4 1-1/4"		0.1300	0.1300	0.1100	0.1100	0.1100	0.1100	0.1300	0.1900
	d4 1-1/2"			0.1300	0.1100	0.1100	0.1100	0.1100	0.1300	0.1900
	d4 2"				0.1100	0.1100	0.1100	0.1200	0.2400	0.1200
	d4 2-1/2"					0.1100	0.1100	0.1800	0.2800	0.1200
	d4 3"						0.1100	0.1800	0.3200	0.1200
	d4 4"							0.2500	0.3500	0.1200
d4 5"								0.3500	0.1900	
d4 6"									0.2500	

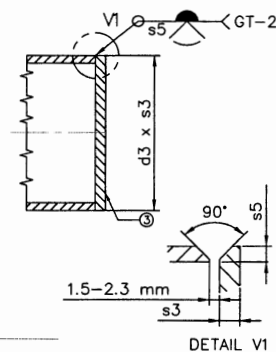
NOTE 1: CORE TUBES(d6) ATTACHED TO HEADER IN ACCORDANCE WITH FIGURE UW-16.1(KV-1).

DIMENSIONAL DETAILS



(\* For tube 0.748" (19.05 mm) distance is 1.969" (50 mm)

DETAIL X Header - Flat Plate SS



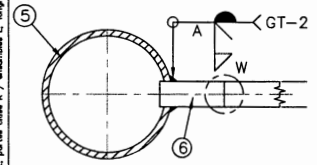
HEADER(S), CONNECTION(4) AND HEADER FLAT PLATE(3) DETAILS		
HEADER(S) d5x s5	MAX CONNECTION SIZE (4) d4x s4	FLAT PLATE MIN. THK. (3) d3x s3
1" x 0.133"	1" x 0.133"	1.315" X 0.250"
1-1/4" x 0.140"	1-1/4" x 0.140"	1.660" X 0.250"
1-1/2" x 0.145"	1-1/2" x 0.145"	1.900" X 0.250"
2" x 0.109"	2" x 0.109"	2.375" X 0.250"
2-1/2" x 0.120"	2-1/2" x 0.120"	2.875" X 0.313"
3" x 0.120"	3" x 0.120"	3.500" X 0.313"
4" x 0.120"	4" x 0.120"	4.500" X 0.438"
5" x 0.134"	5" x 0.134"	5.563" X 0.625"
6" x 0.280"	6" x 0.134"	6.625" X 0.625"

CORE TUBE (6) COMBINATIONS AND DETAILS			
d6	s6	R3	H
0.748" (19.05mm)	0.022" (0.50mm)	0.984" (25.00mm)	1.358" (34.50mm)

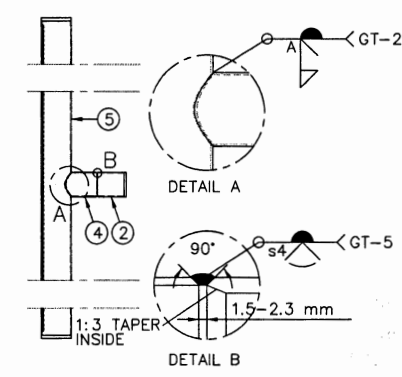
OPTIONAL EXTENSION(2) AND EXTENSION FLAT PLATE(1) DETAILS	
EXTENSION SIZE (2) d2x s2	HEADER CONNECTION FLAT PLATE MIN. THK. (1) d1x s1
1/2" x 0.147"	0.840" X 0.250"
3/4" x 0.154"	1.050" X 0.250"
1" x 0.179"	1.315" X 0.250"
1-1/4" x 0.191"	1.660" X 0.250"
1-1/2" x 0.200"	1.900" X 0.250"
2" x 0.154"	2.375" X 0.250"
2-1/2" x 0.203"	2.875" X 0.313"
3" x 0.216"	3.500" X 0.313"
4" x 0.237"	4.500" X 0.438"
5" x 0.258"	5.563" X 0.625"
6" x 0.280"	6.625" X 0.625"

Inspection & Technical Services Manitoba  
Office of the Firm Commissioner  
**Manitoba**  
THIS IS PART OF CRN  
0416962.54

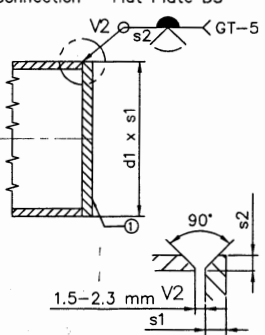
DETAIL Z Header - Core tube SS



ITEM 2,4,5 CONNECTION DETAILS



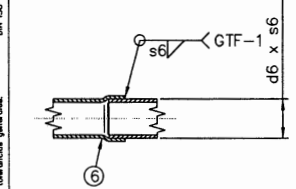
DETAIL Y Connection - Flat Plate BS



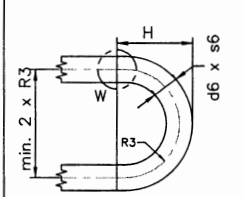
DESIGN CODE	ASME SECTION VIII-DIV.1, 2013
MAXIMUM ALLOWABLE WORKING PRESSURE (MAWP)	380 PSIG (26 BARG)
MAXIMUM ALLOWABLE EXTERNAL PRESSURE (MAEP)	0 PSIG (0 BARG)
MAXIMUM DESIGN METAL TEMPERATURE	584°F (148°C)
MINIMUM DESIGN METAL TEMPERATURE	S.S. STEEL -148°F (-100°C), C.S. STEEL -50°F (-45.6°C) - NOTE 1
IMPACT TEST	NOT REQUIRED ACCORDING TO UHA-SI(2) OR UCS-56 FOR MATERIALS
CORROSION	NIL (3)
HEAT TREATMENT	NONE
HYDROSTATIC TEST PRESSURE	1.3XMAWP = 494 PSIG (34 BARG)
SERVICE	FOR NON-LETHAL SERVICE
UNITS/CONTENTS	AMERICAN

NOTE 1: MINIMUM DESIGN METAL TEMPERATURE FOR UNITS WITH STAINLESS STEEL ONLY (WITHOUT C.S. STEEL EXTENSION) IS -148°F (-100°C). IF UNIT IS REQUIRED WITH CARBON STEEL EXTENSION THEN THE MINIMUM DESIGN METAL TEMPERATURE WILL BE -50°F (-45.6°C).

DETAIL W Stub - Core Tube



DETAIL Z Core Tube - Elbows



SCALE		UNITS		SHEET NO.	
escala		unidad		hoja No.	
modificación		modificación		numero	
tipo		tipo		heat exchanger	
Baan-No.					
descripcion		fecha		numero de dibujo	
nombre		nombre		300-0000431778	
fecha		fecha		cliente	
dibujo		dibujo		proyecto / cambio	
orden / posición		orden / posición		orden / posición	

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