

# ACI Central Inc.

20 McAulay Court, Charlottetown, PE C1A 9M7  
 P.O. Box 53, Charlottetown, PE C1A 7K1. Phone: 902-566-1975, Fax: 902-566-3133

## Recommendation to Register – Pressure Vessel Design

**To:** Blair Rawlings

**Date:** 08/14/2025

**From:** ACI Central Inc.

**Manufacturer:** Chart Inc  
 1300 Airport Drive  
 Ball Ground, GA 30107

**Manufacturer #:** PV-9683

**Subject:** ACI Central Design Review

The product described on this form has satisfied the requirements for review of pressure vessel designs established by the Directors of ACI Central at their September 1994 meeting in Moncton, New Brunswick. We recommend this design be registered in your Jurisdiction under;

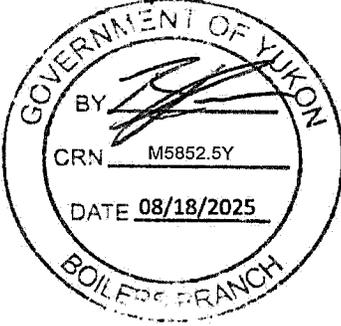
**CRN: M5852.5**

Unit Description	Drawing Number	Service	Design Code
Pressure Vessel	D-14302190 rev C	Non Lethal	ASME Sect VIII Div. 1

Shell Side		Tube Side	
MAWP @ TEMP	MDMT @ MAWP	MAWP @ TEMP	MDMT @ MAWP
300 PSI @ 100 F	- 320 F @ 300 PSI		

Test Pressure: Hydro: 415 PSI    Pneu:	Test Pressure: Hydro:                      Pneu:
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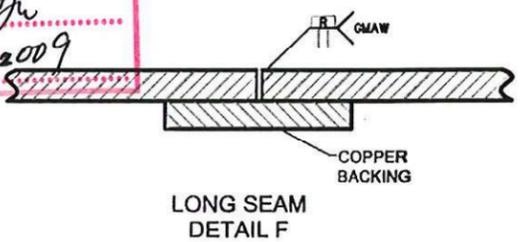
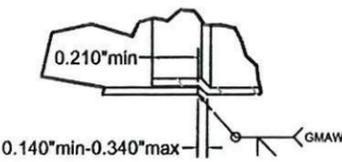
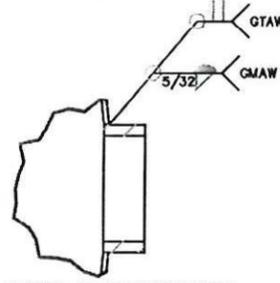
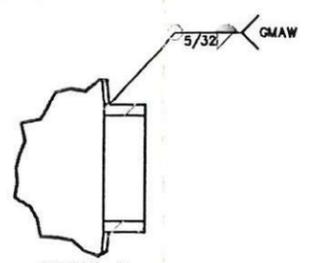
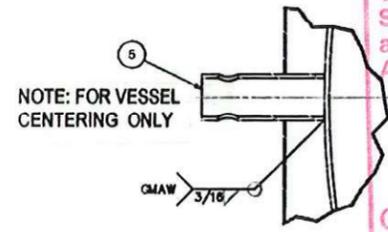
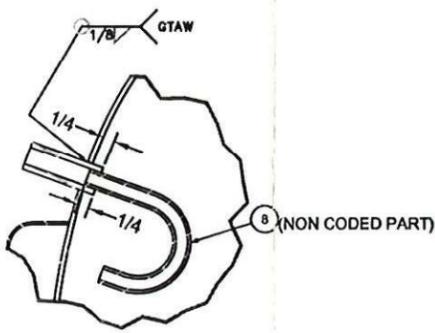
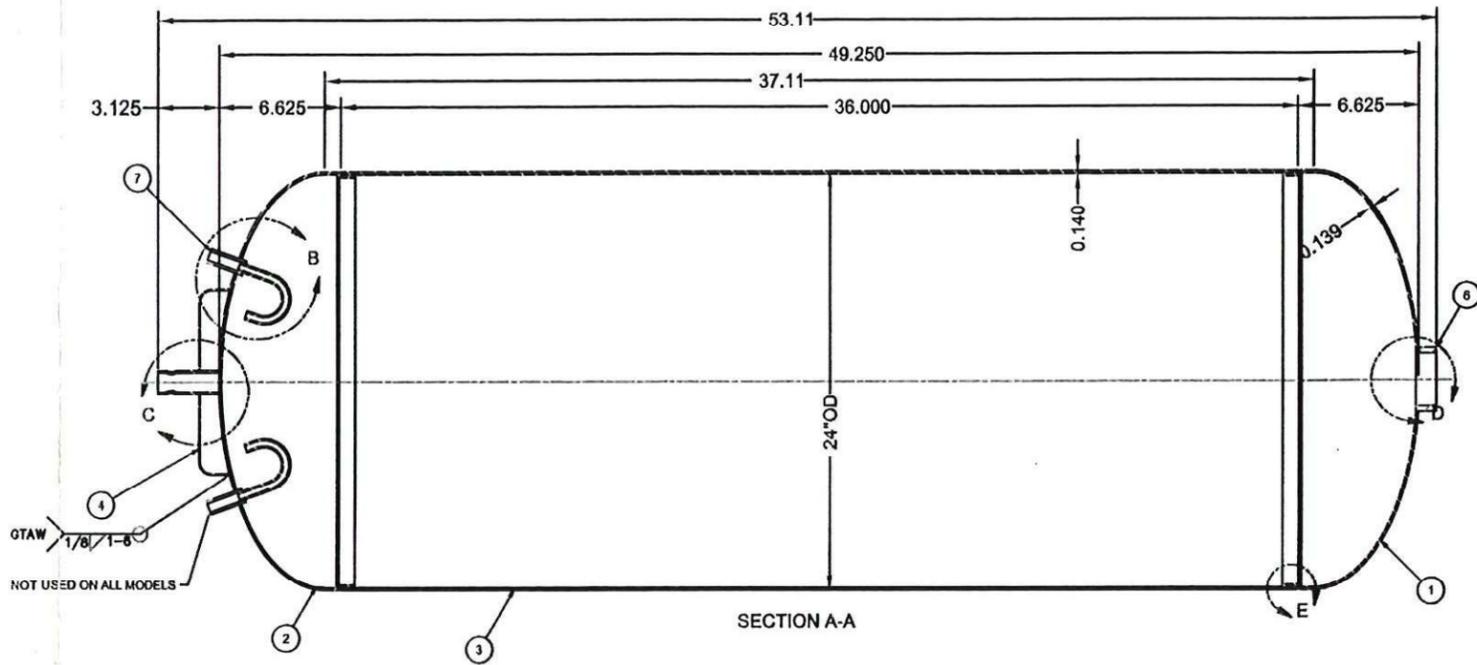
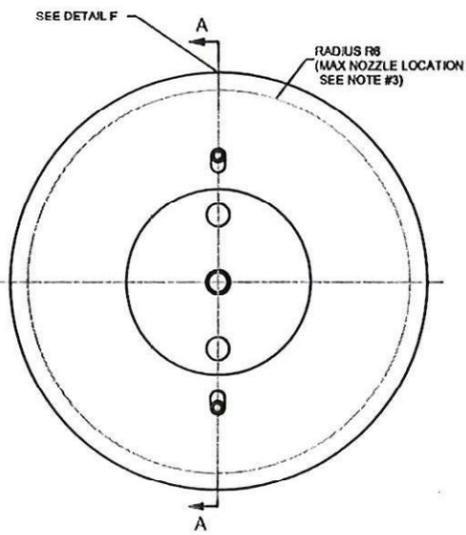
Part	Material	Des. t"	Act. t"	CA"	% EF	RT	PWHT	Dimensions	Notes
Shell	SA 240 201LN	0.140	0.140	-	80	RT1		OD": 24"	
Heads	SA 240 201LN	0.139	0.139	-	100			OAL": 53.11"	
								W":	
								H":	
								HS FT":	

<p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>1- The return of this form, bearing the signature and stamp of the Jurisdiction will legally establish the CRN shown on this form.</li> <li>2- A copy of the Design bearing the CRN will be sent to the Manufacturer.</li> <li>3- Details including service conditions will be posted on the 'Silent Inspector' Bulletin Board.</li> <li>4- Copies of the Design and Specifications are available to ACIC Members on demand.</li> <li>5- The form will be a permanent ACIC record.</li> <li>6- To reduce turnaround times to a minimum fax your response to 902-566-3133.</li> </ol> <p><b>ACIC Log#:</b> 37761</p> <p><b>Description:</b> Pressure Vessel, 24" OD                  ASME Stamp, National Board Registered</p>	<p>This space is for Jurisdictional stamp and signature</p> 
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GENERAL DATA FOR INNER VESSEL DRAWING	
PRESSURE VESSEL CODE	ASME SEC.VIII, DIV.1 2007 EDITION/ 2008 ADDENDA
MAWP	300 psi/ 20.68 bar
MAXIMUM TEMPERATURE	+100F/ 38C
MINIMUM TEMPERATURE	-320F/-196C
DESIGN PRESSURE	316.5 psi/ 21.82 bar
SPECIFIC GRAVITY CONTENT	1.52
HYDROSTATIC TEST PRESSURE	415psi/ 28.61bar
PRESSURE VESSEL LENGTH, in/mm	49.250/ 1251
PRESSURE VESSEL OUTSIDE DIAMETER, in/mm	24/ 609.6
SHELL LENGTH (INCLUDES STRAIGHT FLANGE)	37.11/ 942.6
WATER VOLUME, gal/liters	86/ 326
TYPE SERVICE	CO2
NDE REQUIREMENTS	RT-2
LONGITUDINAL SEAM	CATEGORY A, TYPE 1, 100% X-RAY
CIRCUMFERENTIAL SEAM	CATEGORY B, TYPE 2, SPOT X-RAY
MATERIAL TYPE	SA240 STAINLESS STEEL 201LN
MAXIMUM ALLOWABLE STRESS, psi	27100
SHELL DATA	
SHELL LENGTH, in/mm	36.0/ 914.4
NUMBER OF COURSES	1
MINIMUM THICKNESS, in/mm	0.140/ 3.56
WELD JOINT	CATEGORY A, TYPE 1
WELD JOINT EFFICIENCY	LONG 1.0, CIRC 0.8
CORROSION ALLOWANCE	0
HEAD DATA	
OVERALL HEIGHT, in/mm	7.250/ 184.2
MINIMUM THICKNESS, in/mm	0.139/ 3.53
TYPE	2:1 ELLIPTICAL
WELD JOINT EFFICIENCY	SEAMLESS HEAD 1.0
CORROSION ALLOWANCE	0
RELIEF VALVE DATA	
REQUIREMENTS PER CGA S1.3 VALUES ARE FOR WORST CASE ATMOSPHERIC GAS	
SETTINGS	300psi/ 20.67bar
LOSS OF VACUUM	
CAPACITY, scfm/ m3/hr	2/ 3.1
LOSS OF VACUUM/ FIRE	
CAPACITY, scfm/ m3/hr	42/ 70.6
WEIGHT	
INNER VESSEL WEIGHT (EMPTY) lbs/kg	184/ 83

PARTS LIST				
ITEM	DESCRIPTION	MATERIAL	QTY	NOTES
1	TOP HEAD	SA-240 201LN, 0.139" min	1	
2	BOTTOM HEAD	SA-240 201LN, 0.139" min	1	
3	SHELL	SA-240 201LN, 0.140" nom	1	SEE NOTE #8
4	SIEVE PAN	SA-240 T304 0.060"thk.X8.250"OD	1	
5	BOTTOM SUPPORT STUD	SA-249 T304 1.00"ODx0.083"Wx3.125"L	1	
6	COLLAR	SA-213 T304 2.75"ODx2.28"IDx0.875"L	1	
7	NOZZLE	SA-213 T304 0.625"ODx0.120"Wx1.875"L	2	MAX QTY
8	SNORKEL	SA-249 T304 .375"ODx0.065"W	2	NON-CODED

- NOTES:**
- INSIDE OF VESSEL MUST BE FREE OF ALL RUST, SCALE AND CORROSION BEFORE ASSEMBLING.
  - DRY CONTAINER AFTER HYDROTEST AND DRAINING.
  - NOZZLE AND ITS ATTACHMENT TO HEAD TO COMPLY WITH UG-45.(b).(4) AND UW-16.(f).3.(c). NOZZLES CLUSTERING ON HEADS TO COMPLY WITH G-36.(c).3.(d).
  - COMPLETE RADIOGRAPH ON BOTH LONGITUDINAL AND HEAD TO SHELL CIRCULAR SEAMS TO UW-51, RADIOGRAPHIC EXAMINATION LEVEL RT-2.
  - DATA PLATE IS ATTACHED TO OUTER SHELL.
  - JOINTS BETWEEN THE SHELL AND THE HEADS MADE PER UW-13(b)(4) AND UW-13.1(i).
  - MANUFACTURING OF VESSELS WITH LENGTH LESS THAN SHOWN IS PERMITTED.
  - THICKNESS OF SHELL SHOWN IS NOMINAL. MILL UNDER-TOLERANCE REQUIREMENTS PER UG-16.C MAY APPLY.
  - COLLAR (ITEM #6) MAYBE ATTACHED TO THE TOP HEAD BY FULL PENETRATION WELD AS SHOWN ON DETAILS D OR D-ALTERNATIVE AND IN COMPLIANCE WITH UW-16(C).



**Technical Standards and Safety Authority**

**REGISTERED**

C.R.N.: **M5852.5**

Signed: *[Signature]*

Date: **Apr. 27, 2009**

**U** NAT'L. BD. NO. (NB)  
W CRN  
YEAR 2008 and S/N  
RT-2 MODELURE Vessels  
Safety Program

MAWP 300 PSI  
AT 100°F CERTIFIED BY  
MDMT-320°F CHART, INC.  
AT PSI

DATA PLATE DETAILS  
SEE NOTE #5

**ACI Central Registration Notice**  
AUTHORISED BY THE DIRECTORS OF ACI CENTRAL

CRN: **M5852.5Y**

DATE: **Aug. 25, 2025**

FILE: **PV-9683**

REGISTRATION IS A LEGAL REQUIREMENT UNDER THE ACT. IT DOES NOT RELIEVE THE MANUFACTURER OF ANY RESPONSIBILITY FOR THE PRODUCT DETAILED HEREIN.

**LICENSED PROFESSIONAL ENGINEER**

**APR 22 / 09**

**V. ADAMOVSKY**

**170019**

**PROVINCE OF ONTARIO**

C	EP	207859	NOTES 3&6, ITEM 7 IN BOM,	AS	4/22/09	APP'VD	DATE
B	EP	ECR207854	DETAILS B, D & E, NOTES 3 & 6	AS	4.17.09	DESIGN BY	03-12-09
A	EP	ECR207850	BOM ITEMS: DETAIL E & NOTE 6	AS	4.14.09	DESIGN BY	03-12-09
REV	APPV	ECR	REVISION DESCRIPTION	BY	DATE	DESIGN BY	DATE

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DESIGNATOR A NOTE REFERENCE.

MAT'L SEE BOM

FINISH P/N 14302190

SCALE 1/2"=1'

1 of 1