FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS

No. 70582 No.

As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

Corrected Copy

1. Manufactured and certified by **Refrigeration Valves and Systems Corporation, 1520 Crosswinds Drive, Bryan, Texas, 77808**
(Name and address of Manufacturer)

2. Manufactured for **UNKNOWN**
(Name and address of Purchaser)

3. Location of installation **UNKNOWN**
(Name and address)

4. Type **Horizontal** (Horizontal, vertical, or sphere) | **8" X 36" OIL POT** (Tank, separator, jkt. vessel, heat exch., etc.) | **49570** (Manufacturer's serial number)

N/A (CRN) | **49570 REV.0** (Drawing number) | **26107** (National Board number) | **2014** (Year built)

5. ASME Code, Section VIII, Div. 1 **2013/ NONE** [Edition and Addenda, if applicable (date)] | **N/A** (Code Case Number) | **N/A** [Special Service per UG-120(d)]

Items 6-11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multichamber vessels.

6. Shell: (a) Number of course(s) **1** (b) Overall length **2' 4"**

Course(s)			Material	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter	Length	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	8.625" OD	2' 4"	SA106B	.322	0	S	NONE	85%	2	NONE	65%	N/A	N/A

Body Flanges on Shells

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

7. Heads: (a) **SA234 WPB NO HT** (Material spec. number, grade or type) (H.T. - time and temp.) (b) **SAME** (Material spec. number, grade or type) (H.T. - time and temp.)

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	END	.282	0	N/A	N/A	2:1	N/A	N/A	N/A			N/A	N/A	N/A
(b)	END	.282	0	N/A	N/A	2:1	N/A	N/A	N/A			N/A	N/A	N/A

Body Flanges on Heads

	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
(a)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A

8. Type of jacket **N/A** Jacket closure **N/A** (Describe as ogee & weld, bar, etc.)

If bar, give dimensions **N/A** If bolted, describe or sketch.

9. MAWP **400 psi** (Internal) **N/A** (External) at max. temp. **300 °F** (Internal) **N/A** (External) Min. design metal temp. **-50 °F** at **400 psi**

10. Impact test **NO UCS-66-b** [Indicate yes or no and the component(s) impact tested] at test temperature of **N/A**

11. Hydro., pneu., or comb. test pressure **Hydro. at 520 psi** Proof test **N/A**

Items 12 and 13 to be completed for tube sections.

12. Tubesheet **N/A** [Stationary (material spec. no.)] | **N/A** [Diameter (subject to press.)] | **N/A** (Nominal thickness) | **N/A** (Corr. allow.) | **N/A** Attachment (welded or bolted)

N/A [Floating (material spec. no.)] | **N/A** (Diameter) | **N/A** (Nominal thickness) | **N/A** (Corr. allow.) | **N/A** (Attachment)

13. Tubes **N/A** (Material spec. no., grade or type) | **N/A** (O. D.) | **N/A** (Nominal thickness) | **N/A** (Number) | **N/A** [Type (Straight or U)]

FORM U1-(Cont'd)

NB Number 26107

Items 14-18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell: (a) No. of course(s) **N/A** (b) Overall length **N/A**

Course(s)			Material	Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter	Length	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Body Flanges on Shells

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

15. Heads: (a) **N/A** (Material spec. number, grade or type) (H.T. - time and temp.) (b) **N/A** (Material spec. number, grade or type) (H.T. - time and temp.)

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Body Flanges on Heads

	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

16. MAWP **N/A** (Internal) **N/A** (External) at max. temp. **N/A** (Internal) **N/A** (External) Min. design metal temp. **N/A** at **N/A** .

17. Impact test **N/A** at test temperature of **N/A** .
[Indicate yes or no and the component(s) impact tested]

18. Hydro., pneu., or comb. test pressure **N/A** Proof test **N/A**

19. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
MISC.	1,1	2,1-1/2	W E	SA106B		S/80	0	INHERENT	*		
OUT	1	3/4	W E	SA106B		S/80	0	INHERENT	*		

20. Supports: Skirt **No** (Yes or no) Lugs **0** (Number) Legs **0** (Number) Others **2 SADDLES** (Describe) Attached **WELDED TO SHELL** (Where and how)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report (list the name of part, item number, Manufacturer's name, and identifying number):

N/A

22. Remarks

PRESSURE RELIEF DEVICE SUPPLIED BY OTHERS. *WELDED IN ACCORDANCE WITH FABRICATION DRAWING. FOR NON-LETHAL, NON-CORROSIVE SERVICE.

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. U Certificate of Authorization Number **18912** Expires **October 10, 2016**

Date 03/31/2015 Name **Refrigeration Valves and Systems Corporation** (Manufacturer) Signed (Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by

OneCIS Insurance Company, of Lynn, MA

have inspected the pressure vessel described in this Manufacturer's Data Report on **August 1, 2014** , and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 04/01/2015 Signed (Authorized Inspector) Commissions: **12355A, TX1681** [National Board (incl. endorsements)]

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements made in this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. U Certificate of Authorization Number _____ Expires _____

Date _____ Name _____ (Assembler) Signed _____ (Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and employed by

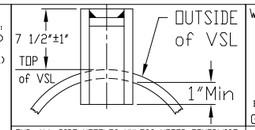
_____,

have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of _____ . By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

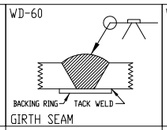
Date _____ Signed _____ (Authorized Inspector) Commission _____ [National Board (incl. endorsements)]

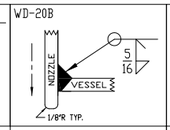
GENERAL NOTES

1) WELDING SHALL BE IN ACCORDANCE WITH: WPS-1-1 (CARBON STL TO CARBON STL) WPS-1-8 (CARBON STL TO STAINLESS STL) WPS-8-8 (STAINLESS STL TO STAINLESS STL)
2) FABRICATION TOLERANCES PER R.V.S. SHOP PROCEDURE No. T-701.
3) ALL WELDS SHALL MEET VISUAL ACCEPTANCE CRITERIA OF QAP-704.
4) PRESSURE TESTING SHALL BE IN ACCORDANCE WITH QAP-701 OR QAP-702 AS APPLICABLE.
5) COATING SHALL BE IN ACCORDANCE WITH MAP-606.
6) BOLT TORQUES SHALL BE IN ACCORDANCE WITH MAP-608.
7) SA53B SMLS PIPE MAY BE SUBSTITUTED FOR SA106B SEAMLESS PIPE.
8) SA516-70 PLATE MAY BE SUBSTITUED FOR SA36 PLATE.
9) ALL BOLT HOLES STRADDLE CENTERLINES.
10) PADS & REPADS SHALL HAVE A 1/4"ø WEEPHOLES UNLESS OTHERWISE INDICATED ON THE DRAWING.

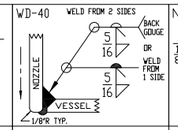


TYP. ALL PIPE NOZZLES UNLESS NOTED OTHERWISE.

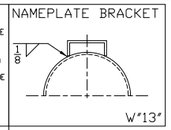


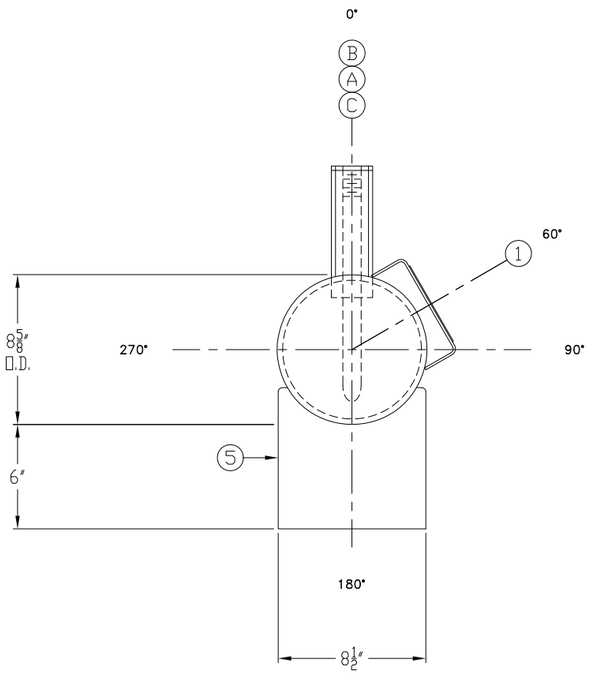


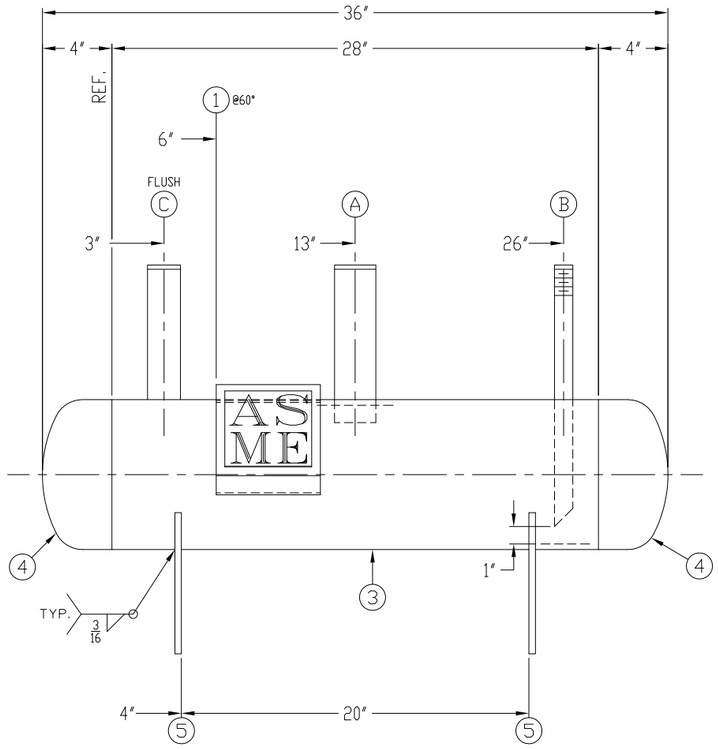
TYP. UNLESS NOTED OTHERWISE



FOR NOZZLE C







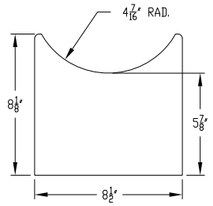


PLATE (5) DETAIL

CERTIFIED

RVS PROJECT No. 70582 SERVER\DWG ARCHIVES\49000\49500-49599

Rev.	DATE / BY	DESCRIPTION	CHK'D / DATE
0	06-27-14 SM	RELEASED FOR FABRICATION	DS 06-26-14

ESTIMATED SHIPPING DIMENSIONS — WIDTH: 12" HEIGHT: 29" LENGTH: 3'-0" DRY WEIGHT: 141 LBS

U
REFRIGERATION VALVES and SYSTEMS CORPORATION
BRYAN, TEXAS
MAXIMUM ALLOWABLE WORKING PRESSURE: 400 PSI AT 300 °F
MAX. ALLOWABLE EXTERNAL WORKING PRESSURE: X PSI AT X °F
MINIMUM DESIGN METAL TEMPERATURE: -50 °F AT 400 PSI
S/N 49570 YEAR 2014
SHELL THK in HEAD THK in U.S. GAL. SQ.FT. SURF.

TEST WITH WATER

HYDRO NOTES:
1) ESTIMATED VOLUME: 7.8 GALLONS.

BILL of MATERIALS

NOZZLE SCHEDULE

ITEM	QTY	SIZE	TYPE	RATING	MATERIAL	SERVICE	LENGTH
R							
Q							
P							
N							
M							
L							
K							
J							
H							
G							
F							
E							
D							
C	1	1 1/2"	PIPE	S/80	SA106B	VENT / RELIEF	9"
B	1	3/4"	PIPE (T.O.E.)	S/80	SA106B	OUTLET (M-1-45°)	14 3/4"
A	1	2"	PIPE	S/80	SA106B	INLET	9"

SHELL, HEADS, INTERNALS, & SUPPORTS

ITEM	QTY	SIZE	TYPE	RATING	MATERIAL	LENGTH
16						
15						
14						
13						
12						
11						
10						
9						
8						
7						
6						
5	2	8 1/2" x 8 1/8"	PLATE (SEE DETAIL)	3/8"	SA36	
4	2	8"	B.W. PIPE CAP (12 Hea.)	S/40	SA234-WPB	
3	1	8"	PIPE SHELL (68 #)	S/40	SA106B	28"
2	2	8"	BACKING RING	3/32"	SA414	
1	1	2" TALL	STD. NAMEPLATE BRACKET	10 GA	SA36	6"

CUSTOMER: REFRIGERATION CONCEPTS, INC. P.O. C928001

VESSEL DESIGN SPECIFICATIONS
DESIGN & CONSTRUCTION IN ACCORDANCE WITH SECTION VIII DIV. 1 ASME CODE FOR PRESSURE VESSELS 2013 EDITION & ADDENDA TO - - -
SHELL: t= .117" CA: 0
HEADS: t= .116" .2818" MIN. AFTER FORMING CA: 0
M.A.W.P.: 400 P.S.I. HYDROSTATIC TEST: 520 P.S.I.
-50 °F To 300 °F
RT: LONG: NONE / GIRTH: NONE HT: NONE
PAINT: SANDBLAST SSPC-SP6, RVS BLUE PRIMER

TITLE: 8 5/8" O.D. x 36" 400# ASME HRZ. MRP OIL POT

REFRIGERATION VALVES and SYSTEMS CORPORATION
A WHOLLY OWNED SUBSIDIARY OF EVAPCO INC.

PACKAGED VESSEL SYSTEMS and CONTROLS
1520 CROSSWIND DRIVE, BRYAN, TX. 77808

DRAWN BY: SHARON 06-23-14 SCALE: 3"=1'-0"
CHK'D BY: DS 06-26-14 S/N: 49570
DWG No. 49570 REV. 0