

FORM U-1 MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured by MINNESOTA VALLEY ENGINEERING, NEW PRAGUE, MINNESOTA 56071
(Name and address of manufacturer)

2. Manufactured for _____
(Name and address of purchaser)

3. Location of installation _____
(Name and address)

4. Type VERT VLS3000 Vessel No. 106 4501 Year Built 1981
(Horiz. or vert. tank) (Mfr's Serial No.) (CRN) (Drawing) (Nat'l Bld No.)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 1980 and Addenda to W-80 and Code Case no. _____
(Date) (Year)

Special service per UG-120(d) LOW TEMP SVC REQUIREMENTS OF UW-2(B) & UHA-51
Manufacturers' Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: _____
(Name of part, item number, mfr's name and identifying stamp)

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

6. Shell: Material _____ Nom. Thickness _____ in. Corrosion Allowance _____ in. Diam. _____ ft. _____ in. Length _____ ft. _____ in.
(Spec. No., Grade) (Overall)

7. Seams: Longitudinal _____ R.T. _____ Efficiency _____ % H.T. Temp _____ F Time _____ Girth _____ R.T. _____ No. of Courses _____
(Dbl., Sngl.) (Spot or Full) (Dbl., Sngl.) (Spot, Partial, or Full)

8. Heads: (a) Material _____ (b) Material _____
(Spec. No., Grade) (Spec. No., Grade)

Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
SH									
HE									

If removable, bolts used (describe other fastenings) _____
(Material, Spec. No., Gr., Size, No.)

9. Type of Jacket _____ Proof Test _____

10. Jacket Closure _____ If bar, give dimensions _____ If bolted, describe or sketch.
(Describe as ogee & weld, bar, etc.)

11. Constructed for max. allowable working pressure _____ psi at max. temp. _____ F Min. temp. (when less than -20 F) _____ F. Hydrostatic, pneumatic, or combination test pressure _____ psi.

Items 12 and 13 to be completed for tube sections

12. Tubesheets: Stationary Material _____ Diam. _____ in. Nominal Thick. _____ in. Corrosion Allow. _____ in. Attachment _____
(Spec. No., Gr.) (Subject to pressure) (Welded, Bolted)

Floating Material _____ Diam. _____ in. Nominal Thick. _____ in. Corrosion Allow. _____ in. Attachment _____
(Spec. No., Gr.)

13. Tubes: Material _____ O.D. _____ in. Nominal Thickness _____ in. or gauge Number _____ Type _____
(Spec. No., Gr.) (Straight or "U")

Items 14-17 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers

14. Shell: Material SA240 T304 Nominal Thickness 208 in. Corrosion Allowance 0 in. Diam. 107 ft. 0 in. Length 8 ft. 25 in.
(Spec. No., Gr.)

15. Seams: Longitudinal DB1 R.T. SPOT Efficiency 85 % H.T. Temp _____ F Time _____ Girth _____ R.T. _____ No. of courses 1
(Dbl., Sngl.) (Spot or Full) (Dbl., Sngl.) (Spot, Partial, or Full)

16. Heads: (a) Material SA240 T304 (b) Material SA240 T304
(Spec. No., Grade) (Spec. No., Grade)

Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
SH	<u>TOP &</u> .0928"	<u>0</u>			<u>2:1</u>				<u>CONCAVE</u>
HE	<u>BOTTOM</u> .0928"	<u>0</u>			<u>2:1</u>				<u>CONCAVE</u>

If removable, bolts used (describe other fastenings) _____
(Material, Spec. No., Gr., Size, No.)

17. Max. allowable working pressure 50 psi at max temp. 100 F. Min. temp. (when less than -20F) -320 F. Hydro. pneu. or comb. test pressure 103 psi.

Items below to be completed for all vessels where applicable: SA312 T304

18. Safety Valve Outlets: Number 1 Size 1.687 ID Location VENT

FORM U-1 (BACK)

19. Nozzles:

Purpose (Inlet, Outlet, Drain)	Number	Diam or Size	Type	Material	Nominal Thickness	Reinforcement Material	How Attached
Gauge	2	.334" ID	304	SA249	.083"		Welded
Outlet	1	.635" ID	304	SA249	.120"		Welded
Inlet	3	1.687" ID	304	SA312	.158"		Welded
Outlet	1	.760" ID	304	SA249	.120"		Welded
Hydro & X-ray	4	1.660" ID	304	SA312	.205"		Welded

20. Inspection Openings:

Manholes No. _____ Size _____ Location For noncorrosive service
 Handholes No. _____ Size _____ Location _____
 Threaded No. _____ Size _____ Location _____

21. Supports: Skirt _____ Lugs _____ Legs _____ Other Hub Attached Ends Welded
(Yes or no) (No.) (No.) (Describe) (Where and how)

22. Remarks: Vacuum jacketed vessel for storage of liquid nitrogen, oxygen or argon. Design pressure is 70.6 psi. Inner vessel coded only.

CERTIFICATE OF COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

Date 3/10/81 Signed Minnesota Valley Engr. by [Signature]
(Manufacturer) (Representative)

"U" Certificate of Authorization No. 8377 expires Jan. 15, 19 83

CERTIFICATE OF SHOP INSPECTION

Vessel made by Minnesota Valley Engr. at New Prague, MN 56071

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and the State or Province of Minn. and employed by Div. of Boiler Insp.

of Minn. have inspected the pressure vessel described in this Manufacturers' Data Report on 3/10, 19 81, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in the Manufacturers' Data Report. Furthermore, neither the Inspector nor his 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 3/10/81
 Signed [Signature] Commissions NB7703
(Inspector) (Nat'l Board, State, Province and No.)

CERTIFICATE OF COMPLIANCE FOR FIELD WORK

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

Date _____ Signed _____ by _____
(Manufacturer) (Representative)

"U" Certificate of Authorization No. _____ expires _____, 19 _____

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

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

of _____ have compared the statements in this Manufacturers' 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 that, to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1.

The described vessel was inspected and subjected to a hydrostatic test of _____ psi.

By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturers' Data Report. Furthermore, neither the Inspector nor his 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 _____ Commissions _____
(Authorized Inspector) (Nat'l Board, State, Province and No.)