



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

(Alternative Form for Single Chamber, Completely Shop-Fabricated Vessels Only)
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1/3

1. Manufactured and certified by MINNESOTA VALLEY ENGINEERING, 407 7th ST. NW; NEW PRAGUE, MN 56071
(Name and address of manufacturer)

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

3. Location of installation _____
(Name and address)

4. Type HL 5000 117 D36553 B 45134 1991
(Horiz or Vert Tank) (Mfg's Serial No.) (CRN) (Drawing No.) (Natl. Bd. No.) (Year built)

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 1989
Year

to A-89 NA LOW TEMP. SVC. UW2B UHA51
Addenda (Date) Code Case Nos. Special Service per UG-120(d)

6. Shell: SA240 T304 .156" 0 6' 8" 19'
Mat'l. (Spec. No., Grade) Nom. Thk. (in.) Cor. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

7. Seams: WLD. DBL. BUTT FULL 100 NA NA WLD. DBL. BUTT FULL 2
Long (Welded, Double, Single, Lap, Butt) R.T. (Spot or Full) E.H. (%) H.T. Temp. (F) Time (hr.) Girth (Welded, Double, Single, Lap, Butt) R.T. (Spot, Partial, or Full) No. of Courses

8. Heads: (a) Mat'l. SA240 T304 (b) Mat'l. 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)
(a)	END	.225"	0	68"	5"	NA	NA	NA	NA	CONCAVE
(b)	END	.225"	0	68"	5"	NA	NA	NA	NA	CONCAVE

If removable, bolts used (describe other fastenings) BOLTS MS-35307 18-8 1/2" 24
(Mat'l., Spec. No., Gr., Size, No.)

9. MAWP 55 psi at max. temp. 100 °F
Min. design metal temp. -320 °F at 55 psi. Hydro., pneu., or comb. test pressure 91 psi

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diameter or Size	Type	Mat'l.	Nom. Thk.	Reinforcement Mat'l.	How Attached	Location
IN/OUT	1	2.875"	W.E.	SA312 T304	.203"	12"ID X 18"OD	WELDED	SUMP
OUT	1	1.66"	W.E.	SA312 T304	.140" X .187"THK	T304	WELDED	SUMP
INST	2	.840"	W.E.	SA312 T304	.109"	NA	WELDED	HEAD
OUT	1	4.0"	W.E.	SA312 T304	.237"	NA	WELDED	HEAD
INST	1	.840"	W.E.	SA312 T304	.109"	NA	WELDED	SHELL
SUMP	1	12" OD	HEAD	SA240 T304	.25"	12"IDx18"ODx.187"	WELDED	SHELL
MANWAY	1	16"OD	BELLOWS	SA240 T304	.187"	16.5"IDx25"ODx.187"THK	WELDED	SHELL

11. Supports: Skin NO Lugs NA Legs NA Other SUPPORT BARS Attached HEAD WELDED
(Yes or No) (No.) (No.) (Describe) (Where and How)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: 16" MANWAY BELLOWS PATHWAY MANUFACTURE SERIAL NUMBER U2-5229
(Name of part, item number, Mfg's name and identifying stamp)

VACUUM JACKETED VESSEL FOR STORAGE OF LIQUID ARGON, OXYGEN, OR NITROGEN. DESIGN PRESSURE IS 73.7 PSI. INNER VESSEL CODED ONLY. HYDRO PORTS ARE PLUGGED AND SEAL WELDED. IMPACT TESTED PER UHA51. TEST POSITION HORIZONTAL.

CERTIFICATE OF SHOP 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. "U" Certificate of Authorization No. 8377 expires JAN. 15, 1992
Date June 19, 1991 Co. name MINNESOTA VALLEY ENGINEERING Signed [Signature]
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by MINNESOTA VALLEY ENGINEERING at NEW PRAGUE, MINNESOTA 56071
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of MINNESOTA and employed by H.S.B.I. and I. CO of HARTFORD, CT

have inspected the component described in this Manufacturer's Data Report on 6-19, 1991, 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 this Manufacturer's 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 6-24-91 Signed [Signature] Commissions MB10928, MA91-259
(Authorized Inspector) (Natl. Board (incl. endorsements), State, Prov. and No.)

PATHWAY



MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET

NB#45134 3/3

Manufactured and Certified by

PATHWAY BELLOWS, INC. 115 FRANKLIN RD. OAK RIDGE, TN 37830

Manufactured for MINNESOTA VALLEY ENGINEERING P.O. Box 234 New Praque, MN 56071

U2-5221

thru

U2-5232

B-1-5714

1991

Mfg. Serial No.	Drawing	Nat'l Bd. No.	1991		
SHELL	MATERIAL	ALLOW. STRESS	NOM. THK.	DIA.	LENGT
BELLOWS	<u>SA240 T321</u>	<u>18,700</u>	<u>.030</u>	<u>15.875</u>	<u>7.250</u>
BAND	<u>SA240 T304</u>	<u>18,800</u>	<u>.060</u>	<u>15.935</u>	<u>2.000</u>
SEAMS	LONG	HT	X-RAY	SECT	EFF
BELLOWS	<u>Wld Sngl Butt</u>	<u>N/A</u>	<u>Full</u>	<u>N/A</u>	<u>100%</u>
BAND	<u>Wld Sngl Butt</u>	<u>N/A</u>	<u>None</u>	<u>N/A</u>	<u>70%</u>
GIRTH	Fillet	N/A	None	N/A	No. of Courses

Constructed for Maximum Allowable Working Press

PSI at Max. Temp.

Minimum Temp.

Remarks:

PATHWAY BELLOWS, INC. IS RESPONSIBLE FOR THE DESIGN OF THESE UNITS.

1-14-91

Date

PATHWAY BELLOWS, INC.

Manufacturer

clm

Signed

1-14-91

Paul E. Whitaker

702434