

FORM U-1 MANUFACTURERS' DATA REPORT FOR UNFIRED PRESSURE VESSELS

Job 13308 As required by the Provisions of the ASME Code Rule Section VIII, Division 1

1. Manufactured by Henry Vogt Machine Co., Louisville, Kentucky

2. Manufactured for Hercules Inc., Hanover Plant, Wilmington, North Carolina

3. Type Vertical Kind Heat Exch. Vessel No. ASME-19217 (Mfr. Serial) (State & State No.) --- Natl. Id. No. 12605 Yr. Built 1972

Items 4-9 incl. to be completed for single wall vessels (such as air tanks), jackets of jacketed vessels, or shells of heat exchangers.

4. SHELL: Material SA-515-70 T.S. 70000 Nominal Thickness 1/2 in. Allowance 1/16 in. Corrosion --- No. Diam. 3 Ft. 1 In. Length 10 Ft. 9-1/2 In.

5. SEAMS: Long Double Butt H.T. No R.T. Spot Sectioned No Efficiency 85 %

Girth Double Butt H.T. No R.T. --- Sectioned No No. of Courses 2

6. HEADS (a) Material See Tube Sheets T.S. --- (b) Material --- T.S. ---

Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure

If removable, bolts used --- (Material, Spec. No., T.S., S.P. Number) Other fastening See Remarks (Describe or Attach Sketch)

7. STAYBOLTS: (Material) --- If hollow --- Attachment --- Pitch X Diam. ---

8. JACKET CLOSURE: (Describe as gage & weld, bar, etc. If bar, give dimensions, if bolted, describe or sketch)

9. Constructed for max. allowable working press. 300 psi at max. temp. 650 °F. less than -20° F. --- Test Press 450 psi.

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA-240-Tp-316 Diam. 37 in. Thickness 2-7/8 in. Attachment Welded

Bottom Material SA-240-Tp-316 Diam. 37 in. Thickness 2-1/8 in. Attachment Welded

11. TUBES: Material SA-240-Tp-316 O.D. 2 in. Thickness 14 A.W. or Gage Number 166 Type Straight

Items 12-15 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

12. SHELL: Material SA-240-Tp-316 T.S. 75000 Nominal Thickness 1/4 in. Allowance 0 in. Corrosion --- No. Diam. 4 Ft. 7-1/2 In. Length 5 Ft. 5-3/8 In.

13. SEAMS: Long Double Butt H.T. No R.T. Spot Sectioned No Efficiency 85 %

Girth Double Butt H.T. No R.T. --- Sectioned No No. of courses 2

14. HEADS (a) Material SA-240-Tp-316 T.S. 75000 (b) Material --- T.S. --- (c) Material --- T.S. ---

Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure

(a) Top 5/16 54 3-3/8 --- --- --- --- --- --- Concave

(b) Channel

(c) Floating

If removable, bolts used (a) The two channel courses are flanged and bolted together with 72 - 5/8" x 8-1/2" long stud bolts - Spec. SA-193-B7 - 125,000 P.S.I.

(b) --- (c) --- Other fastening --- (Describe or Attach Sketch)

15. Constructed for max. allowable working press. 20 & F.V. at max. temp. 650 °F. less than -20° F. --- Test Press 30 psi.

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number 1 Studding Outlet Size 3" - 150# Location Channel Head

17. NOZZLES

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
Shell Inlet	1	4" - 300#	Nozzle	SA-106-B	.337"	None	Welded
Shell Outlet	1	4" - 300#	"	SA-106-B	.337"	"	"
Shell Vent	1	1" - 300#	"	SA-106-B	.250"	"	"
Shell Drain	1	1" - 300#	"	SA-106-B	.250"	"	"
Channel Inlet	1	6" - 150#	"	SA-403-WP-316	.280"	"	"
Channel Outlet	1	16" - 150#	"	SA-240-Tp-316	.250"	"	"

¹ If postweld heat-treated. ² List under remarks other internal or external pressures with coincident temperature when applicable.

18. INSPECTION Manholes, No. 1 Studding Outlet, size 8" - 150 Location Channel Body

OPENINGS: Handholes, No. Threaded, No. Size Location

19. SUPPORTS: Skirt (Yes or No) Lugs (Number) Legs (Number) Other (Describe) Attached Welded to Shell (Where & How)

20. REMARKS: Final Residue Stripper - Item No. E-1406-33
The 2 shell courses are separated by an expansion joint consisting of the following material: 2 - 38" I.D. X 50" O.D. X 1/2" thick flanged and flued heads. Spec. SA-515-70. Both heads are welded together and then welded to shell courses. Channel is welded to top tube sheet.

(Brief description of purpose of the vessel, e.g. Air Tank, After Cooler, Jacketed Cooker, etc. State contents of each part.)

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 Unfired Pressure Vessels.

Date November 21, 19 72 Signed HENRY VOGT MACHINE CO. By L. Koellman

Certificate of Authorization Expires December 31, 1972 (#409)

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Henry Vogt Machine Co. at Louisville, Kentucky

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province Nat'l. Bd. and employed by Employers Commercial Union Insurance Company

have inspected the pressure vessel described in this manufacturer's data report on November 21, 19 72 and state that to the best of my knowledge and belief, the manufacturer has constructed this pressure vessel in accordance with the applicable sections of the ASME Boiler and Pressure Vessel Code.

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 November 21, 19 72

Inspector's Signature

Commissions N.B.-3364 Nat'l Board or State and No.

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province 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 that to the best of my knowledge and belief the manufacturer has constructed and assembled this pressure vessel in accordance with the applicable sections of the ASME Boiler and Pressure Vessel Code. 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 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 19 72

Inspector's Signature

Commissions Nat'l Board or State and No.