

104157

E-2414-3

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

As required by the Provisions of the ASME Code Rules

M & L JOB # 17610-2

1. Manufactured by MANNING & LEWIS ENG. CO., 675 RAHWAY AVE., UNION, N. J. 07083
(Name and address of manufacturer)
2. Manufactured for HERCULES INC WILMINGTON N.C.
(Name and address of Purchaser)
3. Type VERT Kind HE Vessel No. (5848) (—) Natl. Bd. No. 3050 Yr. Built 1970
(Horiz. or Vert.) (Tank, Jacketed, Heat Exch.) (Mfrs. Serial) (State & State No.)

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 285-C T.S. 55000 Nom. Tks. 3/8 in. Corr. Allow. 1/16 in. Dia. 2 Ft. 8 in. Lgth. 11 Ft. 8 3/8 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)
5. SEAMS: Long DBL BUTT H.T. NO R.T. SPOT Sectioned NO Efficiency 85 %
(Welded, Dbl., Single, Lap, Butt) (Yes or No)¹ (Spot or Complete) (Yes or No)
- Girth DBL BUTT H.T. NO R.T. SPOT Sectioned NO No. of Courses 4
6. HEADS: (a) Material _____ T.S. _____ (b) Material _____ T.S. _____
Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure
(Top, bottom, ends) (Convex or Concave)
- (a) _____
(b) _____
- If removable, bolts used _____ Other fastening _____
(Material, Spec. No., T.S., Size, Number) (Describe or Attach Sketch)
7. STAYBOLTS: _____ If hollow _____ Attachment _____ Pitch _____ X _____ Diam. _____
(Material) (Size of Hole) (Threaded, Welded) (Horiz.) (Vert.) (Nominal)
8. JACKET CLOSURE: _____
(DESCRIBE AS OGEE & WELD, BAR, ETC. IF BAR, GIVE DIMENSIONS, IF BOLTED, DESCRIBE OR SKETCH).

If riveted describe seams fully on reverse side of form

9. Constructed for max. allowable working press.² 150 psi. at max. temp. 375 °F. Min. temp. (when less than -20°) _____ °F. Hydrostatic } Test Pneumatic or } Press. 225 psi. Combination }

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA 240-304 Dia. 33 1/8 In. Tks. 2 In. Attachment WELDED
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted) (CLAMPED)
- Floating. Material _____ Dia. _____ In. Tks. _____ In. Attachment _____
(Kind & Spec. No.)
11. TUBES: Material SA 249 -304 O.D. 3/4 In. Thickness 16 Inches or Gage Number 778 Type STR
(Kind & Spec. No.) (Straight or U)

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

12. SHELL: Material SA 240-304 T.S. 75000 Nom. Tks. 5/16 In. Corr. Allow. 0 In. Dia. 2 Ft. 8 In. Lgth. 3 Ft. 7 1/8 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)
13. SEAMS: Long DBL BUTT H.T. NO R.T. NO Sectioned NO Efficiency 85 %
(Welded, Dbl., Single, Lap, Butt) (Yes or No)¹ (Spot or Complete) (Yes or No)
- Girth _____ H.T. _____ R.T. _____ Sectioned _____ No. of courses 1
14. HEADS: (a) Material SA 615-70 T.S. 70000 (b) Material SA 615-70 T.S. 70000 (c) Material _____ T.S. _____
Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure
(Top, bottom, ends) (Convex or Concave)
- (a) Top, bottom, ends 206
(b) Channel 206
(c) Floating 33 1/8
- If removable, bolts used (a) SA 193-B7; 125000; 3/4; 28 (b) SA 193-B7; 12500; 3/4; 28
(Material, Spec. No., T.S., Size, Number)
- (c) _____ Other fastening _____
(Describe or Attach Sketch)

If riveted describe seams fully on reverse side of form

15. Constructed for max. allowable working press.² 150 psi. at max. temp. 375 °F. Min. temp. (when less than -20°) _____ °F. Hydrostatic } Test Pneumatic or } Press. 225 psi. Combination }

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number _____ Size _____ Location _____
17. NOZZLES:
- | Purpose (Inlet, Outlet, Drain) | Number | Diam. or Size | Type | Material | Thickness | Reinforcement Material | How Attached |
|--------------------------------|--------|---------------|-----------|-------------|-----------|------------------------|--------------|
| IN | 1 | 10 | 150# S.O. | SA 53-B | 5/40 | - | WELDED |
| OUT | 1 | 3 | 150# S.O. | SA 63-B | 5/80 | - | " |
| IN | 1 | 10 | 150# S.O. | SA 312-304 | .250 | - | " |
| OUT | 1 | 20 | 150# S.O. | SA 240-304 | .250 | - | " |
| FEED | 1 | 4 | 150# S.O. | SA 312-304 | 5/40S | - | " |
| DRAIN | 1 | 2 | 150# S.O. | SA 312-304 | 5/80S | - | " |
| VENT | 1 | 1 | H.C. | SA 182-F309 | 3000# | - | " |
| D & V | 2 | 3/4 | H.C. | SA 105-11 | 3000# | - | " |

18. INSPECTION Manholes, No. _____ Size _____ Location _____
 OPENINGS: Handholes, No. _____ Size _____ Location _____
 Threaded, No. _____ Size _____ Location _____

19. SUPPORTS: Skirt _____ Lugs 4 Legs _____ Other _____ Attached WELDED TO SHELL
 (Yes or No) (Number) (Number) (Describe) (Where & How)

20. REMARKS: 32-144 Me OH EVAPORATOR REBOILER W/STEAM IN THE SHELL AND "C" M/L IN THE TUBES

(Brief description of purpose of the vessel, as 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 3/10 19 70 Signed MANNING & LEWIS ENG. CO. By A. L. Gale
 Certificate of Authorization Expires DEC 31, 1970 MANUFACTURER

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY MANNING & LEWIS ENG. CO. at UNION, N. J.

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 B'D and employed by COMMERCIAL UNION INSURANCE CO. of NEW YORK, N.Y. have inspected the pressure vessel described in this manufacturer's

data report on _____ 19____, 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 3/10/70 19____
J. D. Carson Commissions NAT'L. BD. 3870
 Inspector's Signature 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 _____ of _____

_____ 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____
 _____ Commissions _____
 Inspector's Signature Nat'l Board or State and No.