

FORM U-1 MANUFACTURERS' DATA REPORT FOR UNFIRED PRESSURE VESSELS  
As required by the Provisions of the ASME Code Rules M & L JOB # 16371-9

1. Manufactured by MANNING & LEWIS ENG. CO., 675 RAHWAY AVE., UNION, N. J.  
(Name and address of manufacturer)  
2. Manufactured for Hercules Inc., Wilmington, N. C.  
(Name and address of Purchaser)  
3. Type Hor. Kind H.E. Vessel No. (4838) (Mfrs. Serial) Natl. Bd. No. 2564 Yr. Built 1967  
(Horiz. or Vert.) (Tank, Jacketed, Heat Exch.) (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 A240-304 T.S. 75000 Nominal 3/16 Corrosion 0 In. Allowance 0 In. Diam. 2 Ft. 4 In. Length 9 Ft. 9-1/2 In.  
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.) Thickness In.

5. SEAMS: Long Dbl. Butt. H.T. No X.R. No Sectioned No Efficiency 70 %  
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)  
Girth Dbl. Butt. H.T. No X.R. No Sectioned No No. of Courses 5

If riveted describe seams fully on reverse side of form

6. HEADS: (a) Material SA240-304 T.S. 75000 (b) Material SA240-304 T.S. 75000  
Location (Top, bottom, ends) XXXX Crown Radius XXXX Knuckle Radius XXXX Elliptical Ratio XXXX Conical Apex Angle XXXX Hemispherical Radius XXXX Flat Diameter XXXX Side to Pressure (Convex or Concave)  
(a) 40" OD X 30" Lg. X 1/4" Tk.  
(b) XXXX  
If removable, bolts used XXXX Other fastening XXXX  
(Material, Spec. No., T.S., Size, Number) (Describe or Attach Sketch)

7. STAYBOLTS: XXXX If hollow XXXX Attachment XXXX Pitch X Diam. XXXX  
(Material) (Size of Hole) (Threaded, Welded) (Horiz.) (Vert.) (Nominal)

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

9. Constructed for max. allowable working press. 75 psi. at max. temp. 300 °F. Min. temp. (when less than -20°) XXXX °F. Hydrostatic } Test Press. 136 psi.  
Pneumatic or }  
Combination }

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA240-304 Diam. 29.56 In. Thickness 1-3/8 In. Attachment W  
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)  
Floating. Material XXXX Diam. XXXX In. Thickness XXXX In. Attachment XXXX  
(Kind & Spec. No.)

11. TUBES: Material SA249 O.D. 3/4 In. Thickness 18 XXXX Gage Number 661 Type S  
(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 285-C T.S. 55000 Nominal 5/16 Corrosion 1/16" In. Allowance 0 In. Diam. 2 Ft. 4 In. Length 1 Ft. 8 In.  
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.) Thickness In.

13. SEAMS: Long Dbl. Butt. H.T. No X.R. No Sectioned No Efficiency 70 %  
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)  
Girth Dbl. Butt. H.T. No X.R. No Sectioned No No. of courses 1

If riveted describe seams fully on reverse side of form

14. HEADS: (a) Material SA285-C T.S. 55000 (b) Material XXXX T.S. XXXX (c) Material XXXX T.S. XXXX

Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)  
(a) Top, bottom, ends 3/16 26 1.687 XXXX XXXX XXXX XXXX XXXX Concave  
(b) Channel XXXX  
(c) Floating XXXX

If removable, bolts used (a) XXXX (b) XXXX  
(Material, Spec. No., T.S., Size, Number) (Describe or Attach Sketch)  
(c) XXXX Other fastening XXXX

15. Constructed for max. allowable working press. 75 psi. at max. temp. 300 °F. Min. temp. (when less than -20°) XXXX °F. Hydrostatic } Test Press. 113 psi.  
Pneumatic or }  
Combination }

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number XXXX Size XXXX Location XXXX

17. NOZZLES: IN-OUT 2 8 150#S.O. SA53-B S/30 XXXX Welded  
Purpose (Inlet, Outlet, Drain) Number Diam. or Size Type Material Thickness Reinforcement Material Attached  
INLET 1 12 150#S.O. SA240-304 25 XXXX Welded  
OUTLET 2 6 150#S.O. SA312-304 S/40S XXXX Welded  
OUTLET 2 2 150#S.O. SA312-304 S/40S XXXX Welded

18. INSPECTION MANHOLES, NO. XXXX Size XXXX Location XXXX  
OPENINGS: HANDHOLES, NO. XXXX Size XXXX Location XXXX  
Threaded, No. XXXX Size XXXX Location XXXX

19. SUPPORTS: Skirt XXXX Lugs 2 Legs XXXX Other XXXX Attached Welded to Shell  
(Yes or No) (Number) (Number) (Describe) (Where & How)

20. REMARKS: 28-120 Purge Evaporator Condenser with Water in shell and tubes.

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



# 104088

SN 4838

We certify that the statements made in this report are correct and that all details of material, construction, and workmanship of this unfired pressure vessel conform to the ASME Code for Unfired Pressure Vessels.

Date SEP 7 1967 Signed MANNING & LEWIS ENG. CO. By A. L. Gale  
(Manufacturer)

Certificate of Authorization Expires December 31, 1967

### 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 of Nat'l. Board and employed by COMMERCIAL UNION INSURANCE CO. of NEW YORK

have inspected the pressure vessel described in this manufacturer's data report on SEP 7 1967 1967, 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 of a loss of any kind arising from or connected with this inspection.

Date SEP 7 1967 1967  
W. A. Harrington Commissions NAT'L BD. 5313  
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 of \_\_\_\_\_ 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 \_\_\_\_\_ set 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\_\_\_\_  
Inspector's Signature Commissions \_\_\_\_\_  
Nat'l Board or State and No.

