

U.B. #104506

70-23 A **FORM U-1 MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS** **ITEM #**
 As required by the Provisions of the ASME Code Rules, Section VIII, Division 1 **E-203-132**

1. Manufactured by SOUTHERN HEAT EXCHANGER CORPORATION, TUSCALOOSA, ALABAMA
 (Name and address of Manufacturer)

2. Manufactured for HERCULES, INC., WILMINGTON, DELAWARE, DIST. WILMINGTON, NORTH CAROLINA
 (Name and address of Purchaser)

3. Type HORIZ. Kind HEM EXCH. Vessel No. (1264) (Mfr. Serial) (State & Date No.) Natl. Bd. No. 1264 Yr. Built 1970
 (Hols. or Vert.) (Tank, Jacketed, Heat Exch.) (Mfr. Serial) (State & Date 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-515 GR 70 T.S. 70000 Nominal 1/16 Corrosion 1/16 In. Allowance 2 In. Diam. 2 Ft. 11 1/2 In. Length 15 Ft. 11 1/2 In.
 (Kind and Spec. No.) (Fig. or P.B. & Spec. Min. T.S.) Thickness In. (State & Date No.)

5. SEAMS: Long DBL. BUTT H.T. NO R.T. SPOT Sectioned NO Efficiency 85 %
 (Welded, DBL., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

If riveted describe seams fully on reverse side of form.

Girth DBL. BUTT H.T. NO R.T. NO Sectioned NO No. of Courses 2

6. HEADS (a) Material SA-515 GR 70 T.S. 70000 (b) Material SA-515 GR 70 T.S. 70000
 Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)

(a) CENTRE (2) 46" O.D. 1/2" THK. FLANGED & FLARED
 (b) NO

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

7. STAYBOLTS: NONE If hollow (Material) (Size of Hole) Attachment (Threaded, Welded) Pitch (Hols.) X (Vert.) Diam. (Nominal)

8. JACKET CLOSURE: NONE
 (Describe as ogee & weld, bar, etc. If bar, give dimensions. If bolted, describe or sketch)

9. Constructed for max. allowable working press. 300 psi at max. temp. 600 °F. less than -20° Min. temp. (when Hydrostatic Test Press 450 psi.
 °F. Combination

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA-240 TYPE 316 Diam. 3 1/4 In. Thickness 3/16 In. Attachment WELDED
 (Kind & Spec. No.) (Subject to Pressure)

Floating. Material (Kind & Spec. No.) Diam. In. Thickness In. Attachment

11. TUBES: Material SA-240 TYPE 316 O.D. 3/4 In. Thickness 14 Inches or Gage Number 1032 Type STRAIGHT
 (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 TYPE 316 T.S. 75000 Nominal 1/16 Corrosion 0 In. Allowance 0 In. Diam. 2 Ft. 11 1/2 In. Length 15 Ft. 11 1/2 In.
 (Kind & Spec. No.) (Fig. or P.B. & Spec. Min. T.S.) Thickness In. (State & Date No.)

13. SEAMS: Long DBL. BUTT H.T. NO R.T. COMPLETE Sectioned NO Efficiency 100 %
 (Welded, DBL., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

If riveted describe seams fully on reverse side of form.

Girth FIG. UW 13.2 (b) H.T. NO R.T. NO Sectioned NO No. of courses 2

14. HEADS (a) Material SA-515 GR 70 T.S. 70000 (b) Material SA-515 GR 70 T.S. 70000 (c) Material SA-515 GR 70 T.S. 70000
 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 4.625
 (b) Channel
 (c) Floating

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

15. Constructed for max. allowable working press. 600 psi at max. temp. 600 °F. less than -20° Min. temp. (when Hydrostatic Test Press 900 psi.
 °F. Combination

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number NONE Size Location

17. NOZZLES	Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
	<u>IN/OUT</u>	<u>2</u>	<u>6"</u>	<u>FLANGED</u>	<u>SA-53 GR B</u>	<u>10.5</u>	<u>SA-515 GR 70</u>	<u>WELDED</u>
	<u>IN/OUT</u>	<u>2</u>	<u>6"</u>	<u>"</u>	<u>SA-240 TYPE 316</u>	<u>0.625</u>	<u>SA-240 TYPE 316</u>	<u>"</u>

FORM U-1 (back)

18. INSPECTION Manholes, No. NONE Size _____ Location _____
 OPENINGS: Handholes, No. 0 Size _____ Location _____
 Threaded, No. 11 Size _____ Location _____
 19. SUPPORTS: Skirt NO Lugs _____ Legs 2 (Number) (Describe) Attached SWELDED (Welds & How)
 20. REMARKS: HEAT EXCHANGER. CONTENTS CONFIDENTIAL. NOT LISTED.

(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 Pressure Vessels, Section VIII, Division 1.

Date SEPT. 16 1970 Signed SOUTHERN HEAT EXCHANGER CORP. By J. M. Ryle
 (Manufacturer)

Certificate of Authorization Expires DECEMBER 31, 1972

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY SOUTHERN HEAT EXCHANGER CORP. TUCALOOBA, ALABAMA

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province LA. and employed by HARTFORD STEAM BOILER INSP. AND INS. CO. of HARTFORD, CONN.

have inspected the pressure vessel described in this manufacturer's data report on Sept 24 1970 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 Sept. 24 1970

James Dennis Watkins
 Inspector's Signature

Commission NB 4795

Nat'l Board, State, or Province and No.

JAMES DENNIS WATKINS

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 _____

Inspector's Signature

Commission

Nat'l Board, State, or Province and No.