

FORM U-1 MANUFACTURERS' DATA REPORT FOR UNFIRE PRESSURE VESSELS **E-2400-5**  
As required by the Provisions of the ASME Code Rules **Sec. 160**

1. Manufactured by Camden Copper Works, Camden, New Jersey  
(Name and address of Manufacturer)  
2. Manufactured for Hercules, Inc., Wilmington, Delaware  
(Name and address of Purchaser) **#104140**  
3. Type Vert Kind Heat Exch. Vessel No. (67-3740-2) Natl. Bd. No. 592 Yr. Built 1967  
(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 SA285C Stl T.S. 55,000 Nominal Thickness 7/16 In. Allowance 1/16 In. Corrosion 0 In. Diam. 3 Ft. 0 In. Length 8 Ft. 1 1/8 FF  
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)

5. SEAMS: Long Butt H.T. no X.R. spot Sectioned no Efficiency 85 %  
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

Girth Butt H.T. no X.R. none Sectioned no No. of Courses 2

6. HEADS (a) Material SA285C Stl T.S. 55,000 (b) Material SA285C Stl T.S. 55,000  
(Top, bottom, ends) Thickness 1 1/4 Crown Radius 0 Knuckle Radius 0 Elliptical Ratio 0 Conical Apex Angle 0 Hemispherical Radius 0 Flat Diameter 0 Side to Pressure (Convex or Concave)

(a) Top (b) Bottom

If removable, bolts used SA193B7 125,000 3/4, 56 Other fastening none  
(Material, Spec. No., T.S., Size, Number) (Describe or Attach Sketch)

7. STAYBOLTS: SA285C Stl If hollow no Attachment Welded Pitch 12 X 1/2 Diam. 1/2  
(Material) (Size of Hole) (Threaded, Welded) (Horiz.) (Vert.) (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. 200 psi at max. temp. 600 °F. Min. temp. (when less than -20°) 0 °F. Hydrostatic Test 300 psi.  
Pneumatic or Combination

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA240 316 S/S Diam. 35-1/8 Thickness 1 In. Attachment welded  
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)

Floating. Material none Diam. 0 In. Thickness 0 In. Attachment 0

11. TUBES: Material SA249 av. wall T.S. 75,000 In. Thickness 1 1/4 Inches or Gage Number 434 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 SA240 316 T.S. 75,000 Nominal Thickness 1/4 In. Allowance 0 In. Corrosion 0 In. Diam. 3 Ft. 0 In. Length 2 Ft. 9-5/8 In.  
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)

13. SEAMS: Long Butt H.T. no X.R. none Sectioned no Efficiency 85 %  
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

Girth Butt H.T. no X.R. none Sectioned no No. of courses 2

14. HEADS (a) Material SA240 316 T.S. 75,000 (b) Material SA240 316 T.S. 75,000  
(Top, bottom, ends) Thickness 1 1/4 Crown Radius 0 Knuckle Radius 0 Elliptical Ratio 0 Conical Apex Angle 0 Hemispherical Radius 0 Flat Diameter 35-1/2 Side to Pressure (Convex or Concave)

(a) Top (b) Bottom

(c) Channel

(c) Floating

If removable, bolts used (a) SA193B7 125,000 3/4, 56 (b) none  
(Material, Spec. No., T.S., Size, Number) (Describe or Attach Sketch)

(c) none Other fastening none

15. Constructed for max. allowable working press. Full Vac. psi at max. temp. 550 °F. Min. temp. (when less than -20°) 0 °F. Hydrostatic Test 50 psi.  
Pneumatic or Combination

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number elsewhere in system Location elsewhere in system

17. NOZZLES	Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
	A	1	24"	L.J.	SA240, 316	1/4"	none	welded
	B	1	14"	"	"	"	"	"
	D, E	2	6"	S.O.	SA53B, Stl	Sch. 80	1/4x2	"
	K	1	1"	"	SA312, 316	Sch. 40	none	"
	L	1	2"	Pad	SA240, 316	7/8	"	"

## FORM U-1 (back)

18. INSPECTION Manholes, No. \*None Size \_\_\_\_\_ Location \_\_\_\_\_  
 OPENINGS: Handholes, No. None Size \_\_\_\_\_ Location \_\_\_\_\_  
 Threaded, No. None Size \_\_\_\_\_ Location \_\_\_\_\_  
 19. SUPPORTS: Skirt no Lugs 4 Legs none Other none Attached welded to shell  
 (Yes or No) (Number) (Number) (Describe) (Where & How)

20. REMARKS: \*Nozzles E & D are available for internal inspection of the shell. This vessel is a 1130 sq. ft. reboiler for non-lethal service. The shell of this vessel is equipped with an expansion joint designed and fabricated per code case 1177-5. One channel head of this vessel is equipped with a jacket 21" ID x 34-1/2" OD x 3" deep designed for 150# steam pressure.

(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 April 18 1967 Signed Camden Copper Works By Philip P. Danner  
 (Manufacturer)

Certificate of Authorization Expires 12/31/67

## CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Camden Copper Works at Camden, New Jersey

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of New Jersey and employed by Hartford Steam Boiler Ins. & Insp. of Hartford, Conn. have inspected the pressure vessel described in this manufacturer's data report on 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 or a loss of any kind arising from or connected with this inspection.

Date 5/20 1967

[Signature]  
 Inspector's Signature

Commissions

NB-2907

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 \_\_\_\_\_ 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

Commissions

Nat'l Board or State and No.