

1. Manufactured by Camden Copper Works, Camden, New Jersey
(Name and address of Manufacturer)
2. Manufactured for Hercules, Inc., Wilmington, Delaware #1041009
(Name and address of Purchaser)
3. Type Horizontal Kind Heat Exch. Vessel No. (57-3734-13) Natl. Bd. No. 605 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 SA240 316 T.S. 75,000 Nominal Thickness 1/4 In. Allowance 0 In. Diam. 2 Ft. 7 1/2 In. Length 20 Ft. 0 In. FF
(Kind and Spec. No.) (Fig. of F.B. & Spec. Min. T.S.)
5. SEAMS: Long Butt H.T. no X.R. spot Sectioned no Efficiency 35 %
(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 SA240 316 T.S. 75,000 (b) Material SA240 316 T.S. 75,000
(Top, bottom, ends) Thickness 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) See tube sheets
(b) See tube sheets

If riveted describe seams fully on reverse side of form.

of tub sheets

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

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

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

9. Constructed for max. allowable working press. 100 psi at max. temp. 300 °F. Min. temp. (when less than -20°) - °F. Hydrostatic Test Press 150 psi.
Pneumatic or Combination

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA240 316 S/S Diam. 31 In. Thickness 1/8 In. Attachment welded
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)
- Floating. Material none Diam. In. Thickness In. Attachment

11. TUBES: Material SA249 304L O.D. 3/4 In. Thickness 16 Inches or Gage Number 840 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 SA235C Stl T.S. 55,000 Nominal Thickness 3/8 In. Allowance 1/16 In. Diam. 2 Ft. 7 1/2 In. Length 1 Ft. 2 In.
(Kind and Spec. No.) (Fig. of F.B. & Spec. Min. T.S.)

13. 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

14. HEADS (a) Material SA240 316 T.S. 75,000 (b) Material SA240 316 T.S. 75,000 (c) Material SA240 316 T.S. 75,000
(Top, bottom, ends) Thickness 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, bottom, ends 2 with 3/4 x 6" ribs @ 90° welded 30-3/4 flat
(b) Channel 2 30-3/4
(c) Return and 2 30-3/4

If riveted describe seams fully on reverse side of form.

If removable, bolts used (a) (Material, Spec. No., T.S., Size, Number) (b) Stl, SA193B7, 125,000, 5/8, 32

(c) same as (b) Other fastening (Describe or Attach Sketch)

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

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number elsewhere in system Location

17. NOZZLES

| Purpose (Inlet, Outlet, Drain) | Number | Diam. or Size | Type | Material | Thickness | Reinforcement Material | How Attached |
|--------------------------------|--------|---------------|------|------------|-----------|------------------------|--------------|
| A, B | 2 | 6" | S.O. | SA533, Stl | Std. Wt. | none | welded |
| C | 1 | 10x6" | L.J. | SA312, 316 | " | " | " |
| D | 1 | 6" | " | " | " | " | " |
| E | 1 | 3" | " | " | " | " | " |
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¹ If postweld heat-treated.² List under remarks other internal or external pressures with coincident temperature when applicable.

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 (Yes or No) Lugs no (Number) Legs no (Number) Other saddles (Describe) Attached added to shell (Where & How)

20. REMARKS: This vessel is an oxidizer condenser for non-lethal service.
The shell of this vessel is equipped with an expansion joint of flanged
and flued heads designed and fabricated per code case 1177-5.
The underside of the vessel shell is equipped with a longitudinal
heating jacket fabricated from 12" 20.75A-36 carbon steel channel.

(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 17 19 67 Signed Camden Copper Works By Philip P. Dunne

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 I & I of Hartford, Conn. have inspected the pressure vessel described in this manufacturer's data report on 19 67 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 4/17 19 67

Inspectors Signature

Commissions ND-2997 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.