

FORM U-1 MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS
As required by visions of the ASME Code Rules, Sec VIII, Division I

1. Manufactured by JOSEPH ORT & SONS, INC. PHILADELPHIA, PA. # 104040
(Name and address of Manufacturer)
2. Manufactured for HERCULES INC. WELMINGTON, NORTH CAROLINA
(Name and address of Purchaser)
3. Type VERT. Kind TANK EXCH. Vessel No. 1960-1A (Mfrs. Serial) (State & State No.) Natl. Bd. No. 460 Yr. Built 1971

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 SA515GR70 T.S. 70000 Nominal Thickness 7/16 Corrosion Allowance 1/16 In. Diam. 3 Ft. 0 In. Length 6 Ft. 0 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)

5. SEAMS: Long DDW H.T. NO R.T. Spot Sectioned NO Efficiency 85 %
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)
Girth DDW H.T. NO R.T. Spot Sectioned NO No. of Courses 2

If riveted describe seams fully on reverse side of form.

6. HEADS (a) Material T.S. (b) Material T.S.
Location (Top, bottom, ends) Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (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)

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

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA240T316 Diam. 35-1/8" Thickness 1 In. Attachment welded
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)

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

11. TUBES: Material SA240T316 O.D. 1-1/4 In. Thickness 14 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 SA240T316 T.S. 75000 Nominal Thickness 1/4 Corrosion Allowance 0 In. Diam. 3 Ft. 0 In. Length 2 Ft. 11 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)

13. SEAMS: Long DDW H.T. NO R.T. Spot Sectioned NO Efficiency _____ %
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)
Girth DDW Back-up H.T. NO R.T. _____ Sectioned NO No. of courses 1

If riveted describe seams fully on reverse side of form.

14. HEADS (a) Material SA240T316 T.S. 55000 (b) Material _____ T.S. _____ (c) Material _____ T.S. _____
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 1 41.00
(b) Channel _____
(c) Floating _____

If removable, bolts used (a) 44-3/4" -10UNC SA193B7 (b) _____
(Material, Spec. No., T.S., Size, Number) (Material, Spec. No., T.S., Size, Number)

see remarks. (c) _____ Other fastening _____
(Describe or Attach Sketch)

15. Constructed for max. allowable working press. Full psi at max. temp. 556 °F. less than -20° Min. temp. (when Hydrostatic or Pneumatic or Test Press 50 psi.
°F. 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
A-Product In	1	24"	Pipe	SA240T316	1/4"	None	Welded
B-Product Out	1	14"	Pipe	SA240T316	1/4"	None	Welded
D & E	2	6"	Pipe	SA53GRB	Sch40	SA235GRB	Welded
F & G	2	1"	Cplg	SA105GR11	3000	None	welded
K	1	1"	Pipe	SA312T316	Sch40	None	Welded
L	1	2"	Pad	SA240T316		None	Welded

FORM U-1 (back)

18. INSPECTION Manholes, No. _____ Size _____ Location _____
 OPENINGS: Handholes, No. _____ Size _____ Location _____
 Threaded, No. _____ Size _____ Location _____
19. SUPPORTS: Skirt _____ Lugs _____ Legs _____ Other _____ Attached _____
 (Yes or No) (Number) (Number) (Describe) (Where & How)
20. REMARKS: Vessel is a Ester Still Reboiler constructed to Cat Dwg. 5020 Rev. 1
and the ASME Code Section VIII Div. 1 -
Bottom channel cover has 4 Sockets consisting of half sections of 6" sch 40
across full dia., 8" o.d. center, with 2 - 1" Coup. each.

(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 I.

Date 4-16 19 71 Signed Joseph Oat & Sons, Inc. By Robert A. Buck
 (Manufacturer)

Certificate of Authorization Expires December 31, 1973

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Joseph Oat & Sons, Inc. at Philadelphia, Pa.

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province Pa. and employed by Travelers Indemnity Co. of Pa.

Pa. have inspected the pressure vessel described in this manufacturer's data report on 4-14 19 71, 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 4-14 19 71
Anthony S. Meloni Commissions MB 6458 PA 2075 EXPI 2-4-69
 Inspector's Signature 1-560-18-71 Nat'l Board, State, or Province 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, State, or Province and No.