

104205

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

1. Manufactured by INDUSTRIAL PROCESS ENGINEERS, NEWARK, NEW JERSEY
(Name and address of Manufacturer)

2. Manufactured for HERCULES INC., HANOVER PROJECT - WILMINGTON, DELAWARE
(Name and address of Purchaser)

3. Type Vert Kind Ht. Exch. Vessel No. (6900-1) (Mfrs. Serial) (State & State No.) Natl. Bd. No. 3347 Yr. Built 1972
(Horiz. or Vert.) (Tank, Jacketed, Heat Exch.)

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 SA515-70 T.S. 70,000 Nominal Thickness 7/16 In. Allowance 1/8 In. Diam. 4 Ft. 2 In. Length 16 Ft. 0 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)

5. SEAMS: Long DBW 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.

6. HEADS (a) Material See Line 10 T.S. (b) Material SA515-70 T.S. 70,000 (c) Material SA515-70 T.S. 70,000
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 (b) Channel Cover: 1-3/4" thk. -- lined w/SA240-TP-316 pl. 54-5/8"

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. 75 psi at max. temp. 350 °F. Min. temp. (when less than -20°) Hydrostatic Test 115 psi
Press. XXXXXXXXXX

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA240-TP-316 Diam. 50 In. Thickness 1-11/16 Attachment welded
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)

11. TUBES: Material TP-316 O.D. 1 In. Thickness 16 Mils. Gage Number 1271 Type straight
(Kind & Spec. No.) (Straight or Coiled)

Items 12-15 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

12. SHELL Material SA240-TP-316 T.S. 75,000 Nominal Thickness 1/4 In. Allowance 0 In. Diam. 4 Ft. 2 In. Length 3 Ft. 10 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)

13. SEAMS: Long DBW 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.

14. HEADS (a) Material SA515-70 T.S. 70,000 (b) Material SA515-70 T.S. 70,000 (c) Material SA515-70 T.S. 70,000
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 (b) Channel Cover: 1-3/4" thk. -- lined w/SA240-TP-316 pl. 54-5/8"

(c) Floating If removable, bolts used (a) (Material, Spec. No., T.S., Size, Number) (b) (40) 5/8 stud bolts - SA193-B7

(c) Other fastening (Describe or Attach Sketch)

15. Constructed for max. allowable working press. 75 psi at max. temp. 350 °F. Min. temp. (when less than -20°) Hydrostatic Test 120 psi
Press. XXXXXXXXXX

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number _____ Size _____ Location _____ By _____ Others _____

17. NOZZLES

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
SH-in/out	2	6", 20"	150# flgd	SA53-B	Std. wt.	----	welded
SH-V/D	2	3/4", 1"	eplg	SA181-1	3000#	----	welded
CH-Inlet	1	14	150# flgd	SA240-316	1/4"	----	welded
CH-outlet	1	30" special	L.L.	SA240-316	1/4"	SA240-tp. 316	welded
CH-V/D	2	3/4-1"	eplg	SA182-F-316	3500	----	welded in ex't.

P.O. 026-55043-FCD EAD H. F. 4240000 R 104205

FORM U-1 (back)

18. INSPECTION Manholes, No. _____ Size _____ Location _____
 OPENINGS: Handholes, No. _____ Size _____ Location _____
 Threaded, No. _____ Size _____ Location _____
19. SUPPORTS: Skirt No (Yes or No) Lugs 4 (Number) Legs _____ (Number) Other _____ (Describe) Attached Shell welded (Where & How)
20. REMARKS: Methanol still reboiler -- TEMA type- CEN - Item No. E-4205-2A
Contents -- Shell Side -- steam -- Tube Side -- MEOH -- Water
Expansion Joint by I*P*E built in Shell. Code Inspection of Expansion joint covers
Material and workmanship only as per Code Case -- 1177-7.

(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 July 27, 1972 19 72 Signed Industrial Process Engineers By S. B. Hillen
(Manufacturer)

Certificate of Authorization Expires December 31, 1973

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Industrial Process Engineers at Newark, New Jersey

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province N. J. and employed by State of New Jersey have inspected the pressure vessel described in this manufacturer's data report on July 25 1972, 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 July 27, 1972 19 72

[Signature]
 Inspector's Signature

Commissions NB#6575
 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 _____

 Inspector's Signature

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