

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

E-4400-55B

1. Manufactured by INDUSTRIAL PROCESS ENGINEERS, NEWARK, NEW JERSEY
(Name and address of Manufacturer)
2. Manufactured for Hercules Inc., Hanover Project-Wilmington, Delaware #104370
(Name and address of Purchaser)
3. Type Vert Kind Ht Exch. Vessel No. 6896 (Mfr. Serial) (State & State No.) Natl. Bd. No. 3349 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 15/16 Corrosion 1/8 In. Allowance 5 In. Diam. 5 Fr. 1 In. Length 16 Ft. 0 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)

5. SEAMS: Long D.B.W. 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 UW. 13.2 (c) H.T. No R.T. - Sectioned - No. of Courses 2

If riveted describe seams fully on reverse side of form.

6. HEADS (a) Material See line - 10 T.S. - (b) Material - T.S. -
Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure
(Top, bottom, ends) (Convex or Concave)

(a) - (b) -

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. 300 psi at max. temp. 650 °F. Min. temp. (when less than -20°) - Hydrostatic Test Press 450 psi.
Pneumatic Test Press -

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA240 TP-316 Diam. 61 In. Thickness 5/16 Attachment Welded
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)

Floating. Material SA249 (Kind & Spec. No.) Diam. - In. Thickness - In. Attachment -

11. TUBES: Material TP-316 O.D. 1 In. Thickness 14 Inches or Gage Number 1969 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-TP316S T.S. 75,000 Nominal Thickness 1/4 Corrosion 0 In. Allowance 0 In. Diam. 5 Fr. 1 In. Length 4 Fr. 3 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)

13. SEAMS: Long D.B.W. 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 UW. 13.2 (b) H.T. - R.T. SA240 Sectioned - No. of courses 1

If riveted describe seams fully on reverse side of form.

14. HEADS (a) Material - T.S. - (b) Material SA240 T.S. 75,000 (c) Material - T.S. -

Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure
(a) Top, bottom, ends
(b) Channel GVR's 1-1/16", 1-1/4" 65-5/8
(c) Floating

If removable, bolts used (a) (Material, Spec. No., T.S., Size, Number) (b) (48) 5/8" Stud bolts-SA193-B7

(c) - Other fastening (Describe or Attach Sketch)

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

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	14"	300# Flg'd	SA53-B	Sch. 60	SA515-70	Welded
SH. V/D	2	3/4, 1"	Cpl'g	SA181-1	3000 #	-	Welded
Ch. In	1	14"	150# Flg'd	SA240-TP316	1/4	-	Welded
CH. Out	1	36" spec'l	L.J. Flg'd	SA240-TP316	1/4	SA240-316	Welded
CH Vent	1	1"	Cpl'g	SA182-F-316	3000	-	Welded
CH Drain	1	2"	Pad	SA240-TP316	1-1/4"	-	Welded
Jacket	4	1", 1-1/2"	Cpl'g	SA181-1	3000#	-	Welded