

FORM U-1 MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS

As required by the provisions of the A S C Code Rules, Section VIII, Division I

E-6203-13R

Designed by INDUSTRIAL PROCESS ENGINEERS, NEWARK, NEW JERSEY #104029
(Name and address of Manufacturer)
Manufactured for Hercules, Inc. Wilmington, Del. E-0203-39A
(Name and address of Purchaser)

Type Horiz Kind Heat Exch Vessel No. 7580 () Natl. Bd. No. 3544 Yr. Built 1974
(Horiz. or Vert.) (Tank, Jacketed, Heat Exch.) (Mfrs. Serial) (State & State No.)

Items 4-9 incl. to be completed for jackets and jackets of heat exchangers.

4. SHELL: Material SA515Gr70 T.S. 75,000 Nominal 1/2 Corrosion 0
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.) Thickness 3/8 In. Allowance 0 In. Diam. 2 Ft. 9 In. Length 15 Ft. 2 In. 1/8

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 D.B.W. H.T. No R.T. Spot Sectioned No No. of Courses 4

6. HEADS (a) Material T.S. (b) Material T.S.
(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 (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 Hydrostatic Test 450 psi.
allowable working press 300 psi at max. temp. 650 °F. less than -20°) °F. Combination Press

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA515Gr70 Diam. 32 In. Thickness 3/4 In. Attachment Welded
(Kind and Spec. No.) (Subject to Pressure) (Welded, Bolted)

*See remarks O'layerd W/SS 316 Floating. Material (Kind & Spec. No.) Diam. In. Thickness In. Attachment (Welded, Bolted)

TUBES: Material SA249T316 O.D. 3/4 In. Thickness 14 Inches or Gage Number 610 ? Type Straight
(Kind & Spec. No.) (Straight or U)

Items 12-15 incl. to be completed for jackets and jackets of channels of heat exchangers.

12. SHELL Material SA240T316 T.S. 75,000 Nominal 5/8 Corrosion 0
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.) Thickness 5/8 In. Allowance 0 In. Diam. 2 Ft. 6 In. Length 1 Ft. 3 In. 5/8

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)

Girth DBW H.T. No R.T. Spot Sectioned No No. of channels 2

14. HEADS (a) Material SA515Gr70 T.S. 70,000 (b) Material T.S. (c) Material T.S.
(Top, bottom, ends) Thickness 4 1/8" plus 3/8" tk SA240T 316 Liner 39-3/4

(a) Top, bottom, ends (b) Channel (c) Floating

If removable, bolts used (a) SA193B7 125,000 1 1/8 8 80 (b) (Material, Spec. No., T.S., Size, Number)

(c) Other fastening (Describe or Attach Sketch)

15. Constructed for max. allowable working press 550 psi at max. temp. 550 °F. Min. temp. (when Hydrostatic Test 885 psi.
allowable working press 550 psi at max. temp. 550 °F. less than -20°) °F. Combination Press

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number () Size () Location () By Others ()

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
Chan In	1	3"	Flg/Nozzle	SA105/T316	600#Sch80	SA240TP316	Welded
Chan Out	1	6"	Flg/Nozzle	SA105/T316	600#Sch80	SA240TP316	Welded
Shell-In/Out	2	14"	Flg/Nozzle	SA181/SA53Grb	300#/1.375	SA515Gr70	Welded
Chan Drain	1	3/4"	Coup	SA182F316	#3000	None	Welded
Chan Vent	1	3/4"	Coup	SA182F316	#3000	None	Welded

Eq. E-6203-13R N.B. 3544

FORM U-1 (back)

18. INSPECTION Manholes, No. _____ Size _____ Location _____
 OPENINGS: Handholes, No. _____ Size _____ Location _____
 Threaded, No. _____ Size _____ Location _____
 19. SUPPORTS: Skirt No _____ Lugs _____ Legs _____ Other Saddles _____ Attached shell-wld'g _____
 (Yes or No) (Number) (Number) (Describe) (Where & How)

20. REMARKS: Menthanol Preheater * Shell Sects. # 1 & 4 C.S., # 2 & 3 S.S.
 ** Tube Sheet Base Material SA515Gr70 Overlayed With 1/4" Thk TP 316 Total Thickness 3
 Tube Sheet Calculations Based on 3" Base Material Thickness. I.P.E. Expansion Joint
 SA240T304 3/8" Thick Flangetype with 1 1/2" I.C.R. Code Inspection of Expansion
 Joint Covers Material and Workmanship Only In Accordance With Code Case 1177-7
 Customer Order No: 336-026-96001 Cust. Item No. E-6203-13R O.L. 23' 7 3/4"

(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 7/26 19 74 Signed Industrial Process Engineers By W. Thompson
 (Manufacturer)

Certificate of Authorization Expires December 31, 1976

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 The State of New Jersey

have inspected the pressure vessel described in this manufacturer's data report on SEP 6 19 74, 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 SEP 6 19 74

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.

104029

WGL

U DIVISION W	INDUSTRIAL PROCESS ENGINEERS NEWARK, N.J.			
	SERIAL NUMBER	7580	NATIONAL BOARD NO.	3544
		SHELL	TUBE	
MAX. WORK PRESS.		300 PSI	550 PSI	
MAX. WORK TEMP.		650° F	550° F	
HYDRO-TEST PRESS.		450 PSI	885 PSI	
ITEM NUMBER	E-6203-13R		YEAR BUILT	1974

