

FORM U-1 MANUFACTURERS' DATA REPORT FOR UNFIRED PRESSURE VESSELS

1. Manufactured by ENGINEERS & FABRICATORS, INC. HOUSTON, TEXAS.

2. Manufactured for M. W. Kellogg Company New York, New York
(Name and address of Purchaser)

3. Type Horiz Kind Ht Exch Vessel No. (S-14022) (Mfrs. Serial) (State & State No.) Nat'l Bd. No. 892 Yr. Built 1966

Items 4-9 incl. to be completed for single wall vessels (such as air tanks), jackets of jacketed vessels, or shells of heat exchangers.

SHELL: Material SA-212-B T.S. 70,000 Nominal Thickness 3/4 in. Corrosion Allowance 1/8 in. Diam. 2 ft. 8 1/2 in. Length 30 ft. 0 in.
(Kind & Spec. No.) (Fig. or F.B. & lowest T.S.)

4A. SHELL COVER: Matl. SA-212-B T.S. 70,000 Nominal Thickness 3/4 in. Corrosion Allowance 1/8 in. Diam. 2 ft. 8 1/2 in. Length 30 ft. 0 in.
(Kind & Spec. No.) (Fig. or F.B. & lowest T.S.)

5. SEAMS: Long Dbt Butt S.R. Yes X.R. Complete Sectioned No Efficiency 100 %
(Welded, Dbt, Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

Girth Dbt Butt S.R. Yes X.R. Complete Sectioned No No. of Courses 8

6. HEADS: (a) Material SA-212-B T.S. 70,000 (b) Material SA-212-B T.S. 70,000
(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 Int. pressure of 1715 psi. Max. Temp. 625 °F. Subzero _____ °F. Hydrostatic Test 2600 psi.

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary Material SA-105-11 Diam. 37-3/8 Thickness 4-7/8 Attachment Welded
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)

Floating Material SA-182-F1 Diam. 36-3/8 Thickness 4-7/8 Attachment Welded
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)

11. TUBES: Material SA-200T1a O.D. 3/4 in. Thickness #12 BWG or gage. Number 770 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. CHANNEL "A" Material SA-212-B T.S. 70,000 Nominal Thickness 5/8 in. Corrosion Allowance 1/8 in. Diam. 2 ft. 6 1/2 in. Length 3 ft. 1-5/8 in.
(Kind & Spec. No.) (Fig. or F.B. & lowest T.S.)

12A CHANNEL "B" Material SA-204-B T.S. 70,000 Nominal Thickness 3/4 in. Corrosion Allowance 1/8 in. Diam. 2 ft. 6 1/2 in. Length 3 ft. 1-5/8 in.
(Kind & Spec. No.) (Fig. or F.B. & lowest T.S.)

13. SEAMS: Long Dbt Butt S.R. Yes X.R. Spot Sectioned No Efficiency 85 %
(Welded, Dbt, Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

Girth Dbt Butt S.R. Yes X.R. Spot Sectioned No No. of Courses 1 each

14. HEADS: (a) Material SA-212-B T.S. 70,000 (b) Material SA-204-B T.S. 70,000 (c) Material _____ T.S. _____
(Kind & Spec. No.) (Kind & Spec. No.) (Kind & Spec. No.)

Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)

(a) CHANNEL "A" 5/8" - - 2:1 - - - Concave

(b) CHANNEL "B" 3/4" - - 2:1 - - - Concave

(c) Floating _____

If removable, bolts used (a) SA-193-B7 125,000 1" 1/4 (b) SA-193-B7 125,000 1" 1/4
(Material, Spec. No., T.S., Size, Number)

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

15. Constructed for Int. pressure of 425 psi. Max. Temp. 750 °F. Subzero _____ °F. Hydrostatic Test 735 psi.

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number _____ Size _____ Location In Line

17. NOZZLES:

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
Inlet, Outlet	2	3"	WELD STUB	SA-105-11	1 1/4"	-	Welded
Inlet	1	12"	LWN	SA-182-F1	2"	-	Welded
Outlet	1	14"	WN	SA-181-1	2-1/8"	SA-106-B	Welded

18. INSPECTION Manholes, No. _____ Size _____ Location _____

OPENINGS: Handholes, No. _____ Size _____ Location SA-182-F1 &

Threaded, No. 6 Size 3/4" Location C Cyls, Nz Nks SA-105-11 Welded

19. SUPPORTS: Skirt No Lugs _____ Legs _____ Other 2 Saddles Attached Welded to Shell
(Yes or No) (Number) (Number) (Describe) (Where & How)

20. REMARKS: ITEM: 114-C METHANATOR EFFLUENT - BFV HEATER

SHELL SIDE: Boiler Feedwater TUBE SIDE: Methanator Effluent

(Brief description of purpose of the vessel, as Air Tank, After Cooler, Jacketed Cooler, etc. State contents of each part.)

OVER

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this unfired pressure vessel conform to the ASME Code for Unfired Pressure Vessels.

Date 6-3 19 66 Signed ENGINEERS FABRICATORS, INC. By Terry Williams

Terry Williams

Certificate of Authorization Expires 12-31-67

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY ENGINEERS & FABRICATORS, INC. AT HOUSTON, TEXAS

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Texas and employed by Hartford Steam Boiler

Inspection and Insurance Company of

Hartford, Conn. have inspected the pressure vessel described in this manufacturer's data report on 6-3 19 66, 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 6-3 19 66

J. M. Westoverland
Inspector's Signature

Commissions National Board No. 5883
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. _____