

105666

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

As required by the Provisions of the ASME Code Rules Section VIII, Division 1

1. Manufactured by SHELL AND TUBE, INC. Tulsa, Oklahoma
(Name and address of Manufacturer)

2. Manufactured for Stearns-Roger Corp. Tacoma, Washington
(Name and address of Purchaser)

3. Type Horiz. Kind Heat Exch. Vessel No. (S-508-5) Natl. Bd. No. 51 Yr. Built 1973
(Horiz. or Vert.) (Tank, Jacketed, Heat Exch.) (Mfrs. Serial) (State & State No.)

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 SA-285-C T.S. 55,000 Nominal 3/8 Corrosion 1/16 In. Allowance 2 In. Diam. 29 Ft. 11 In. Length 3/4 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.) Thickness In. (State & State No.)

5. SEAMS: Long DBL. BUTT H.T. NO R.I. SPOT Sectioned NO Efficiency 85 %
(Welded, DBL, Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)
Corner Jt., Single Butt
with B. U. DBL. Butt H.T. NO R.I. SPOT Sectioned NO No. of Courses 4

If riveted describe seams fully on reverse side of form.

6. HEADS (a) Material SA-285-C T.S. 55,000 (b) Material SA-285-C T.S. 55,000
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) Top, bottom, ends
(b) Top, bottom, ends

If removable, bolts used (Material, Spec. No., T.S., Size, Number) Other fastening (Describe or Attach Sketch)

7. STAYBOLTS: (Material) 1/2 hollow Attachment (Threaded, Welded) Pitch (Horiz.) X (Vert.) --- Diam. (Nominal) ---

8. JACKET CLOSURE: (Describe as gage & weld, bar, etc. If bar, give dimensions, if bolted, describe or sketch)

9. Constructed for max. allowable working press. 75 psi at max. temp. 200 °F. Min. temp. (when less than -20°) --- °F. Hydrostatic Test Press 135 psi.

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA-182-F-316-L Diam. 28 3/8 In. Thickness 2 In. Attachment Welded
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)

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

11. TUBES: Material SA-240-316L 3/4 In. Thickness 18 (avg) or Gage Number 660 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 SA-240-316L T.S. 70,000 Nominal 3/8 Corrosion 0 In. Allowance 2 In. Diam. 2 Ft. 2 In. Length 2 Ft. 2 In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.) Thickness In. (State & State No.)

13. SEAMS: Long DBL. BUTT H.T. NO R.I. SPOT Sectioned NO Efficiency 85 %
(Welded, DBL, Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

Girth DBL. BUTT H.T. NO R.I. SPOT Sectioned NO No. of courses 1

14. HEADS (a) Material SA-240-316L T.S. 70,000 (b) Material SA-240-316L T.S. 70,000 (c) Material SA-240-316L T.S. 70,000
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) Top, bottom, ends
(b) Channel 3/8" NOM. 2:1 Concave
(c) Floating

If removable, bolts used (a) (Material, Spec. No., T.S., Size, Number) (b) SA-193-B7; 125,000; 3/4" 16

(c) Other fastening DBL. BUTT WELD (Describe or Attach Sketch)

15. Constructed for max. allowable working press. 150 psi at max. temp. 200 °F. Min. temp. (when less than -20°) --- °F. Hydrostatic Test Press 265 psi.

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number 1 Size 1"-6000# CPLG. Location Shell

17. NOZZLES

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Neck Material	Neck Thickness	Reinforcement Material	How Attached
Shell in-out	1-1	8"-150#	RF SO	SA-53-B	Sch. 80	Weld	Welded
Chan in-out	1-1	8"-150#	Lap Joint	SA-182F316L	Std. Wt.	Weld	Welded
Drain	1	1"	CPLG	SA-105-II	6000#	Weld	Welded
Process	4	1"	CPLG	SA-105-II	6000#	Weld	Welded

¹ If postweld heat-treated

² List under remarks other portion of external pressures with coincident temperature when applicable.

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 2 saddles Attached Welded to
 (Yes or No) (Number) (Number) (Describe) (Where & How) Shell
 20. REMARKS: SIZE: 27-360
TYPE: BFM
ITEM NO.: 41D28502
SERVICE: Tray Cooler #2
CUST. P.O. NO.: R-208-C11150

(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 Unfired Pressure Vessels.

Date Jan. 11, 19 73 Signed SHELL AND TUBE INC. By George Barbour
 (Manufacturer) GEORGE BARBOUR
 Certificate of Authorization Expires December 31, 1975

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY SHELL AND TUBE INC. at Tulsa, Oklahoma

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province Oklahoma and employed by Commercial Union Ins. Co. of _____

_____ have inspected the pressure vessel described in this manufacturer's data report on 2-9 1973, 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 2-9 1973

M. Batchelor
 Inspector's Signature

Commissions AB 5174
 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 or Province _____ and employed by _____

_____ 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. _____