

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

1. Manufactured by **RYAN INDUSTRIES, INC.** (Name and address of Manufacturer) **CLEVELAND, OHIO**
2. Manufactured for **STOCK INDUSTRIAL OXYGEN CO., LOUISVILLE, KENTUCKY** (Name and address of Purchaser)

3. Type **VERTICAL** Kind **JACKETED** Vessel No. (**4424**) (Natl. Bd. No. **4424**) Yr. Built **1966**
(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 (Kind and Spec. No.) T.S. (Fig. or F.B. & Spec. Min. T.S.) Nominal Thickness In. Allowance In. Diam. Ft. In. Length Ft. In. Corrosion
5. SEAMS: Long (Welded, Dbl., Single, Lap, Butt) H.T. (Yes or No) X.R. (Spot or Complete) Sectioned (Yes or No) Efficiency %
If riveted describe seams fully on reverse side of form.

6. HEADS (a) Material (Kind and Spec. No.) T.S. (Fig. or F.B. & Spec. Min. T.S.) (b) Material (Kind and Spec. No.) T.S. (Fig. or F.B. & Spec. Min. T.S.)
Location (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. STAY BOLTS: (Material) If hollow Attachment (Threaded, Welded) Pitch (Horiz.) X (Vert.) Diam. (Nominal) (Size of Hole)

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. psi at max. temp. Min. temp. (when less than -20°) F. Hydrostatic or Pneumatic or Test Press. psi (Combination)

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material (Kind & Spec. No.) Diam. In. Thickness In. Attachment (Welded, Bolted) (Subject to Pressure)
Floating. Material (Kind & Spec. No.) Diam. In. Thickness In. Attachment
11. TUBES: Material (Kind & Spec. No.) O.D. In. Thickness In. Inches or Gage Number Type (Straight or U)

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

304 S.S. 12. SHELL: Material **SA-240** T.S. **75,000** Nominal Thickness **.542"** Corrosion Allowance **0** In. Diam. **6** Ft. **4** In. Length **8** Ft. **0** In. (Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)

13. SEAMS: Long **DBL. BUTT WELD** H.T. **NO** X.R. **COMPLETE** Sectioned **NO** Efficiency **100** %
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)
Girth **DBL. BUTT WELD** H.T. **NO** X.R. **COMPLETE** Sectioned **NO** No. of courses **1**

304 S.S. 14. HEADS (a) Material **SA-240** T.S. **75,000** (b) Material T.S. (c) Material T.S.
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 **.620" MIN. 80/10 60.8" D.R. 8" K.R.** **CONCAVE**
(b) Channel
(c) Floating
If removable, bolts used (a) (Material, Spec. No., T.S., Size, Number) (b) Other fastening (Describe or Attach Sketch)

15. Constructed for max. allowable working press. **245** psi at max. temp. **+100** °F. Min. temp. (when less than -20°) **-320** °F. Hydrostatic or Pneumatic or Test Press. **398** psi (Combination)

Items below to be completed for all vessels where applicable. **WELD I.T.**

16. SAFETY VALVE OUTLETS: Number Size Location

17. NOZZLES

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
	2	5/8" O.D.	x .120" WALL	SA-213 TYPE 304 S.S.	SMLS.	TUBING	WELDED
	1	3/4" O.D.		SA-479 TYPE 304 S.S.	ROD BORED .385" I.D.		WELDED
	1	1" O.D.		SA-479 TYPE 304 S.S.	ROD BORED .635" I.D.		WELDED
	1	1-1/8" O.D.		SA-479 TYPE 304 S.S.	ROD BORED .885" I.D.		WELDED
	1	1-1/2" O.D.		SA-479 TYPE 304 S.S.	ROD BORED 1.135" I.D.		WELDED
	2	1-1/4"		SA-312 TYPE 304 S.S.	SCH. 40 PIPE BORED 1.385" I.D.		WELDED
	1	1-1/2"		SA-312 TYPE 304 S.S.	SCH. 40 PIPE BORED 1.635" I.D.		WELDED

If post-weld heat-treated. * If further heat-treated, or external or external pressures both, indicate at temperature when applicable.

FORM U-1 (back)

18. INSPECTION Manholes, No. _____ Size _____ Location _____
 OPENINGS: Handholes, No. _____ Size _____ Location _____
 Threaded, No. _____ Size _____ Location _____ **WELDED TO**
 19. SUPPORTS: Skirt _____ (Yes or No) Lugs _____ (Number) Legs **3 WELDED** Other **3 BRACE RODS** Attached **TOP HEAD**
 TO SIDE OF SHELL (Describe) (Where & How)
 20. REMARKS: **76" I.D. CRYOGENIC VESSEL - LENGTH O.A. 11' 4-1/4"**
INNER VESSEL ONLY
JACKET VACUUM SERVICE - NOT CODE STAMPED
DIA. 96-1/8" O.D. LENGTH O.A. 13' 1-3/4"

(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 Unfired Pressure Vessels.

Date NOV 11 1956 Signed RYAN INDUSTRIES, INC. By *J. Morgan*
(Manufacturer)

Certificate of Authorization Expires #956 12/31/67

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY RYAN INDUSTRIES, INC. at CLEVELAND, OHIO
 I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of NATIONAL BOARD and employed by HARTFORD STEAM BOILER INSPECTION of HARTFORD, CONN. INSURANCE CO. have inspected the pressure vessel described in this manufacturer's data report on _____ 19____, 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 NOV 11 1956 19____
J. Morgan _____
 Inspector's Signature _____ Commissions N.B. # 3342
 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.