

FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by Precision Stainless, Inc., 330C East Pythian, Springfield, MO 65801
(Name and address of manufacturer)
2. Manufactured for Welgen Manufacturing, 40 Hopkins Hill Rd., West Greenwich, RI 02816-4000
(Name and address of purchaser)
3. Location of installation Welgen Manufacturing, 40 Hopkins Hill Rd., West Greenwich, RI 02816-4000
(Name and address)
4. Type Vertical 9837-14-15-16 -- 44920D 3209-3210-3211 1990
(HORIZ. OR VERT., TANK) (Mfg's serial No.) (CRN) (Drawing) (Nat'l. Bd. No.) (Year built)
5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME Boiler and Pressure Vessel Code. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 1989
Year

Addenda (date)

Code Case No.

Special service per UG-120(d)

Items 6-11 incl. to be completed for single wall vessels, jackets of jacketed vessels, or shells of heat exchangers

6. Shell: SA312 304L Sch40 0 2' 1' 6 9/16"
(Mat'l. Spec. No., Grade) (Nom. Thk. (in.)) (Corr. Allow. (in.)) (Diam. I.D. (ft & in.)) (Length (Overall) (ft & in.))
7. Seams: Weld Single Butt No 70% --
(Long (Dbl. Sngl.)) (R.T. (Spot or Full)) (Eff. (%)) (H.T. Temp. (°F))
- Weld Single Butt No 1
(Time) (Girth (Dbl. Sngl.)) (R.T. (Spot, Partial, or Full)) (No. of Courses)
8. Heads: (a) Mat'l. -- (b) Mat'l. --
(Spec. No., Grade) (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	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 (describe other fastenings) --

(Mat'l. Spec. No., Gr., Size, No.)

9. Type of Jacket Half Pipe Coil Proof Test UG101 Max. Test Pressure 4,750 psi
10. Jacket Closure Weld Double Fillet If bar, give dimensions -- If bolted, describe or sketch.
(Describe as ogee & weld, bar, etc.)
11. MAWP 45 psi at max. temp. 270 °F. Min. design metal temp. -20 °F at 45 psi.
Hydro. ~~XXXXXX~~ test press. 70 psi.

Items 12 and 13 to be completed for tube sections

12. Tubesheets: -- -- -- -- --
(Stationary Mat'l. (Spec. No., Gr.)) (Diam. (in.) (Subject to pressure)) (Nom. Thk. (in.)) (Corr. Allow. (in.)) (Attach. (Welded, Bolted))
- -- -- -- --
(Floating Mat'l. (Spec. No., Gr.)) (Diam. (in.)) (Nom. Thk. (in.)) (Corr. Allow. (in.)) (Attach.)
13. Tubes: -- -- -- -- --
(Mat'l. (Spec. No., Gr.)) (O.D. (in.)) (Nom. Thk. (in. or Gauge)) (Number) (Type (Straight or "U"))

Items 14-17 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers

14. Shell: SA240 316L .135 -- 22" 27 5/16"
(Mat'l. (Spec. No., Grade)) (Nom. Thk. (in.)) (Corr. Allow. (in.)) (Diam. I.D. (ft & in.)) (Length (Overall) (ft & in.))
15. Seams: Weld Single Butt No 70% --
(Long (Dbl. Sngl.)) (R.T. (Spot or Full)) (Eff. (%)) (H.T. Temp. (°F))
- Weld double Butt No 1
(Time) (Girth (Dbl. Sngl.)) (R.T. (Spot, Partial, or Full)) (No. of Courses)
16. Heads: (a) Mat'l. SA240 316L (b) Mat'l. SA240 316L
(Spec. No., Grade) (Spec. No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Top Head	.218"	--	22"	1 3/8"	--	--	--	--	Concave
(b)	Bct. Head	.103"	--	22"	1 3/8"	--	--	--	--	Concave

If removable, bolts used (describe other fastenings) Eye bolts SA193 8M .75" dia. 8 ea. lug nuts SA479

(Mat'l. Spec. No., Gr., Size, No.)

17. MAWP 45 45 270 -20 45
psi at max. temp. °F. Min. design metal temp. °F at psi.
- Hydro. ~~XXXXXX~~ test press. 70 psi.

Form U-1 (Back)

18 Nozzles, Inspection and Safety Valve Openings

Particulars (Name, Number, Design, etc.)	No.	Diam. or Size	Type	Matl.	Nom. Thk.	Reinforcement Matl.	How Attached	Location
Sight Glass	1	3"	Pipe	SA312 316L	Sch40	-	Weld	Top
Pressure Gauge	1	1 1/2"	Ferrule	SA312 316L	Sch40	-	Weld	Top
Process Inlet	1	1 1/2"	Ferrule	SA312 316L	Sch40	-	Weld	Top
Outlet	1	3/4"	Ferrule	SA479 316L	.051	-	Weld	Bot. Head
Air Inlet-Out	1	3/4"	Ferrule	SA479 316L	.051	-	Weld	Top
Sample Port	1	3/4"	Ferrule	SA479 316L	.051	-	Weld	Top
HTS Inlet-Out	1	1"	Pipe	SA312 304	Sch40	-	Weld	Upper Side Wall
HTS Inlet-Out	1	1"	Pipe	SA312 304	Sch40	-	Weld	Lower Side Wall

19 Supports Skirt ☒ No Legs ☒ Legs 4 Other ☒ Attached Bottom Head Weld

20 Remarks Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: (Name of part, item number, etc.; name and identifying stamp)

150 Liter mobil vessel vacuum design 29.92 in HG with half pipe heat transfer surface. Heat transfer surface. Heating medium steam. Cooling medium-water. Customer to install suitable pressure and/or vacuum relief valves. Exempt from impact testing per UHA-51. Hydro test in vertical position. Top head is removable.

CERTIFICATE OF SHOP COMPLIANCE

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 1

U-1 Certificate of Authorization No. 23004 expires April 6, 1992
 Date 12-3-90 Co. name Precision Stainless, Inc. Signed Douglas W Morgan (Representative)

CERTIFICATE OF SHOP INSPECTION

Vessel constructed by Precision Stainless, Inc. at Springfield, MO
 The undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Missouri and employed by Commercial Union Insurance Co.

I have inspected the pressure vessel described in this Manufacturer's Data Report and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in the 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 12-4-90 Signed J.T. (Authorized Inspector) Commissions NB5330 Mo. 0135 (Nat'l Board, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the field assembly construction of all parts of this vessel conforms with the requirements of Section VIII, Division 1 of the ASME Boiler and Pressure Vessel Code

U-1 Certificate of Authorization No. expires 19_____
 Date _____ Co. name _____ Signed _____ (By Representative)

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 of _____ 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 ASME Code, Section VIII, Division 1. 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 _____ Signed _____ Commissions _____ (Nat'l Board (incl. endorsements), State, Prov. and No.)

in accordance with provisions of the National Board Inspection Code

Pressure Test, if applied 116 psi

8. Replacement Parts. Attached are Manufacturer's Partial Data Reports or Form R-3s properly completed for the following items of this report:

9. Remarks: _____

DESIGN CERTIFICATION

I, Chris A. Trumbull, certify that to the best of my knowledge and belief the statements in this report are correct and that the Design Change described in this report conforms to the National Board Inspection Code.

National Board "R" Certificate of Authorization No. R-2187 expires on June 6, 1999
 Date 8/4, 19 98 Cotter Corporation Signed Chris A. Trumbull
(name of design organization) (authorized representative)

CERTIFICATE OF DESIGN CHANGE REVIEW

I, John W. Burke, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the jurisdiction of Rhode Island and employed by Protection Mutual Ins Co. Factory Mutual Eng. Ass. of Norwood, MA have reviewed the design change as described in this report and state that to the best of my knowledge and belief such change complies with the applicable requirements of the National Board Inspection Code.

By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.

Date 8/4, 19 98 Signed J. W. Burke Commissions NB11002(B.N.A.)RE813
(inspector) (National Board (incl endorsements), and jurisdiction, and no.)

CONSTRUCTION CERTIFICATION

I, Chris A. Trumbull, certify that to the best of my knowledge and belief the statements in this report are correct and that all material, construction, and workmanship on this Alteration conforms to the National Board Inspection Code.

National Board "R" Certificate of Authorization No. R-2187 expires on June 6, 1999
 Date 8/5, 19 98 Cotter Corporation Signed Chris A. Trumbull
(name of alteration organization) (authorized representative)

CERTIFICATE OF INSPECTION

I, John W. Burke, holding a valid Commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency issued by the jurisdiction of Rhode Island and employed by Protection Mutual Ins Co. Factory Mutual Eng. Ass. of Norwood, MA have inspected the work described in this report on Aug 5, 19 98 and state that to the best of my knowledge and belief this work complies with the applicable requirements of the National Board Inspection Code.

By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage or loss of any kind arising from or connected with this inspection.

Date 8/5, 19 98 Signed J. W. Burke Commissions NB11002(B.N.A.)RE813
(inspector) (National Board (incl endorsements), and jurisdiction, and no.)