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

As required by the Provisions of the ASME Code Rules and the National Board

B3-3626

1. Manufactured by Arthur F. Smith, Inc. 201 S.W. 12th Avenue-Pomp.Bch. Florida
(Name and address of Manufacturer) Pos.# 99697

2. Manufactured for Hoffmann-La Roche, Nutley, New Jersey 07110 B3 3626
(Name and address of Purchaser)

Type Vert. (Horiz. or Vert.) Kind Jacketed (Tank, Jacketed, Heat Exch.) Vessel No. (7650) (Mfrs.' Serial) (Fla.) (State & State No.) Nat'l Bd. No. 10 Yr. Built 1971

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 (Kind and Spec. No.) T.S. 55,000 (Flg. or F. B. & Spec. Min. T.S.) Nominal Thickness 1/2 in. Corrosion Allowance ... in. Diam. 3 ft. 5 in. Length 10 ft. 1 1/4 in.

5. SEAMS: Long Db. Wld. Butt (Welded, Dbl., Single, Lap, Butt) H.T. No (Yes or No)[1] X.R. No Sectioned No Efficiency 70 %

Girth ... H.T. ... X.R. ... Sectioned ... No. of Courses ...

If riveted describe seams fully on reverse side of form

6. HEADS: (a) Material SA 285 C T.S. 55,000 (b) Material ... 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. STAYBOLTS: None (Material) If hollow ... (Size of Hole) Attachment ... (Threaded, Welded) Pitch ... (Horiz.) × ... (Vert.) Diam. ... (Nominal)

8. JACKET CLOSURE: Jacket End Rings: SA 285 C; 55,000 psi; 1/2 Nom. Thk; 1" T.R. Str. Flange
(Describe as ogee & weld, bar, etc. If bar give dimensions, if bolted, describe or sketch)

9. Constructed for max. allowable working press.[2] 225 psi. at max. temp. 700° °F Min. temp. (when less than — 20°) ... °F. Hydrostatic / Pneumatic / Combination Test Press. 350 psi.

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material ... (Kind & Spec. No.) Diam. ... in. (Subject to Pressure) Thickness ... in. Attachment ... (Welded, Bolted)

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

11. TUBES: Material ... (Kind & Spec. No.) O.D. ... in. Thickness ... 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.

12. SHELL: Material SA 264 (Kind and Spec. No.) T.S. 55,000 (Flg. or F. B. & Spec. Min. T. S.) Nominal Thickness 15/16 in. Corrosion Allowance ... in. Diam. 3 ft. 7/8 in. Length 10 ft. 8 in.

13. SEAMS: Long Dbl. Wld. Butt (Welded, Dbl., Single, Lap, Butt) H.T. No (Yes or No)[1] X.R. No (Spot or Complete) Sectioned No (Yes or No) Efficiency 70 %

Girth 304 ELC H.T. ... X.R. 304 ELC Sectioned ... No. of courses ...

If riveted describe seams fully on reverse side of form

14. Heads (a) Material SA 240 T.S. 70,000 (b) Material SA 240 T.S. 70,000 (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	3/8	36	2 1/4					Convex
(b)	Channel	3/8	38	3					Convex
(c)	Floating								

If removable, bolts used (a) 304 S/S; 20,000; 1" - 12 (b) 304 S/S; 20,000 - 1" 8
(Material, Spec. No., T.S., Size, Number)

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

15. Constructed for max. allowable working press.[2] ... psi. at max. temp. ... °F Min. temp. (when less than — 20°) ... °F. Hydrostatic / Pneumatic / Combination Test Press. ... psi.

Items below to be completed for all Vessels where applicable.

16. SAFETY VALVE OUTLETS: Number 1 Size 1 1/2" Location Upper end of Shell

17. NOZZLES:

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
Inlet	1	1 1/2" Sch. 40	Flgd pipe	SA-53	.145	None	Welded
Outlet	1	1 1/2" Sch. 40	Flgd pipe	SA-53	.145	None	Welded
Drain	1	3/4" - 3000 lbs	Coupling	SA-53	.1625	None	Welded

18. INSPECTION OPENINGS: Manholes, No. ... Size ... Location ...
Handholes, No. ... Size ... Location ...
Threaded, No. ... Size ... Location ... To jacket

19. SUPPORTS: Skirt ... (Yes or No) Lugs 4 (Number) Legs None (Number) Other None (Describe) Attached welded (Where & How)

20. REMARKS: Molecular distillation Unit with Steam Pressure Jacket. Internal pressure varies from atmosphere to 10 microns (15 psi).

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

CPCo 10M—7-65

[1] If Postweld Heat-Treated

[2] List other internal or external pressures with coincident temperature when applicable.

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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 April 23 19 71 Signed Arthur F. Smith, Inc. By James La Valley
Manufacturer James La Valley

Certificate of Authorization Expires November 12, 1971

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Arthur F. Smith, Inc. at Pompano Beach, Florida

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Florida and employed by Maryland Casualty Company of Baltimore, Md. have inspected the pressure vessel described in this manufacturer's data report on April 23, 1971, 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 April 23 19 71

John P. Shaw
Inspectors Signature

Commissions #5579
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 manufacurer 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.....

.....
Inspectors Signature

Commissions .....
Nat'l Board or State and No.

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