

#102258

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

R001916

1/3

1. Manufactured and certified by PFAUDLER, INC., 1000 WEST AVENUE, ROCHESTER, NEW YORK 14811
(Name and address of Manufacturer)
2. Manufactured for Pfaudler, Inc., c/o Engineered Systems, 1000 West Ave., Rochester, NY 14811
(Name and address of Purchaser)
3. Location of Installation Pfaudler, Inc., c/o Engineered Systems, 1000 West Ave., Rochester, NY 14811
(Name and address)
4. Type: Vertical Jacketed Vessel, RT20-30 J026878 NA R991129 Sht 1 Rev A 49768 1999
(Horiz., vert., or sphere) (Tank separator, jct. vessel, heat exch., etc.) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)
5. ASME Code, Section VIII, Div. 1 Edition 1998, Addenda 1998 NA NA
Edition and 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, shell of heat exchangers, or chamber of multi-chamber vessels.

6. Shell (a) No. of course(s): 1 (b) Overall length (ft & in.): 1' 2-13/16"

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	24" ID	1' 2-13/16"	SA-516 Gr 70		1/4"	0"	2	None	65%	2	None	65%	NA	NA

7. Heads: (a) None (b) SA-516 Gr 70
(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp.

Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical	Conical	Hemispherical	Flat	Side to Pressure		Category A		
	Min.	Corr.	Crown	Knuckle	Ratio	Apex Angle	Radius	Diameter	Convex	Concave	Type	Full, Spot, None	Eff.
(a) None	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	None	NA
(b) Bottom	.25"	0"	24"	1-1/2"	NA	NA	NA	NA	NA	Yes	S	None	85%

If removable, bolts used (describe other fastening)

NA
(Mat'l Spec. No., Grade, Size, No.)

8. Type of jacket Fig. 9-2, Type 2 Jacket closure Fig. 9-5(b-2)
(Describe as open & weld, bar, etc.)
- If bar, give dimensions NA If bolted, describe or sketch.

9. MAWP 125/125 w/FV NA psi at max. temp. 450 NA ° F Min. design metal temp. -20 ° F at 125 psi.
(internal) (external)

10. Impact test No, exempt from impact testing per UCS-68(a).
(Indicate yes or no and the component(s) impact tested)

11. Hydro., ~~XXXX~~, or ~~XXXX~~ test press 140 psi Proof test NA

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: Items 12-13 NA
Stationary (Mat'l Spec. No.) Dia., in (subject to press) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)
- Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment

13. Tubes: Mat'l Spec. No., Grade or Type O. D., in. Nom. thk., in. or gauge Number Type (Straight or U)

Items 14 - 18 Incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell (a) No. of course(s): 1 (b) Overall length (ft & in.): 1' 4-1/2"

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter, in.	Length (ft & in.)	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	20" ID	1' 4-1/2"	SA-516 Gr 65		7/16"	0"	1	None	70%	1	None	70%	27-6	27-6

15. Heads: (a) SA-516 Gr 65 Per 27-6 (b) SA-285 Gr C Per 27-6
(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp.

Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical	Conical	Hemispherical	Flat	Side to Pressure		Category A		
	Min.	Corr.	Crown	Knuckle	Ratio	Apex Angle	Radius	Diameter	Convex	Concave	Type	Full, Spot, None	Eff.
(a) Top	.59"	0"	20"	NA	NA	NA	NA	NA	Yes	Yes	S	None	85%
(b) Bottom	.375"	0"	NA	NA	2:1	NA	NA	NA	Yes	Yes	S	None	85%

If removable, bolts used (describe other fastening)

SA-449, 7/8", 20
(Mat'l Spec. No., Grade, Size, No.)

16. MAWP 150/FV 140 psi at max. temp. 450 450 ° F Min. design metal temp. -20 ° F at 150 psi.
(Internal) (external) (internal) (external)

17. Impact test No, exempt from impact testing per UCS-66(a)
(Indicate yes or no and the component(s) impact tested)

18. Hydro., ~~stress~~, or ~~strain~~ test pressure 150 psi Proof test NA

19. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Handhole	1	4-3/8"	LAPJT	SA-838	SA-181 Cl 60	3/8"	0"	None	Note 1	Loose	NA
Inlet	1	2-3/8"	LAPJT	SA-838	SA-181 Cl 60	5/16"	0"	None	Note 1	Loose	NA
Inlet	2	2"	LAPJT	SA-838	SA-181 Cl 60	3/8"	0"	None	Note 1	Loose	NA
Outlet	1	2"	LAPJT	SA-838	SA-516 Gr 70	3/8"	0"	None	Note 1	Loose	NA
Inlet	3	1-1/2"	LAPJT	SA-838	SA-181 Cl 60	5/16"	0"	None	Note 1	Loose	NA
Jkt. Conn.	2	1-1/2"	SCDCPLG	SA-216 Gr WCA	None	3000#	0"	None	UW-16.1c	NA	NA
Jkt. Conn.	2	1-1/4"	SCDCPLG	SA-216 Gr WCA	None	3000#	0"	None	UW-16.1c	NA	NA

20. Supports: Skirt No Lugs 0 Legs 3 Others NA Attached NA Welded to Jacket NA
(Yes or No) (No) (No) (Describe) (Where and How)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:
 (List the name of part, item number, mfg's. name and identifying number)

20" Diameter Clamped Top Head, Mfg's S/N: J027361, N.B.#: 49765, Pfaudler, Inc., U.

22. Remarks: Constructed in Conformance With Appendix 27, Alternative Requirements for Glass-Lined Vessels. Inner vessel hydrotested in the vertical position. Pressure relief per UG-125 to be provided by user. Jacket for non-corrosive service. Note 1: Category B weld to swaged opening (a=70%). See Form U-4. Mfg's serial No.: J026878. Customer Order No.: G006181.

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 Certificate of Authorization No. 408 Expires December 31, 2000

Date 6/28/99 Name PFAUDLER, INC. Signed Thomas B. Miller
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of NY and employed by Hartford Steam Boiler Inspection and Insurance Company of Hartford, Connecticut have inspected the pressure vessel described in this Manufacturer's Data Report on June 28, 99, 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 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 6/28/99 Signed Bruce Sawka Commissions N.B.# 10496 A
(Authorized Inspector) (Natl Board Incl. endorsement, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1.

U Certificate of Authorization No. _____ Expires _____

Date _____ Name _____ Signed _____
(Assembler) (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 the State or Province 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 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 _____
(Authorized Inspector) (Natl Board Incl. endorsement, State, Province and No.)

FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

R001916

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1. Manufactured and certified by PFAUDLER, INC., 1000 WEST AVENUE, ROCHESTER, NEW YORK 14611
(Name and address of Manufacturer)

2. Manufactured for Pfaudler, Inc., c/o Engineered Systems, 1000 West Ave., Rochester, NY 14611
(Name and address of Purchaser)

3. Location of Installation Pfaudler, Inc., c/o Engineered Systems, 1000 West Ave., Rochester, NY 14611
(Name and address)

4. Type: Vertical Jacketed Vessel, RT20-30 J026878
(Horiz., vert., or sphere) (Tank separator, heat exh., etc) (Mfg's serial No.)

NA R991129 Sht 1 Rev A 49766 1999
(CRN) (Drawing No.) (Nat'l Bd. No.) (Year built)

Data Report Item Number	Remarks					
Item 19. Nozzles			Diameter	Flange	Material	
	Purpose	No.	or Size	Type	Nozzle	Flange
	Jkt. Conn.	1	1/2"	SCDCPLG	SA-105	NA
	Nozzle Thickness		Reinforcement		How Attached	
	Nom.	Corr.	Material	Nozzle	Flange	Location
	3000#	0"	None	UW-16.1c	NA	NA

Certificate of Authorization: Type U No. 408 Expires December 31, 2000

Date 6/28/99 Name PFAUDLER, INC. Signed Thomas B. Maise
(Manufacturer) (Representative)

Date 6/28/99 Name Beverly Stumper Commission N.B.# 10996 A
(Authorized Inspector) (Nat'l Board incl. endorsement, state, province and no.)

Form U-2 (Back)

15. Heads: (a) _____ (b) _____

(Matl Spec. No., Grade or Type) H.T. - Time & Temp

Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
	Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)													
(b)													

If removable, bolts used (describe other fastening) _____

16. MAWP _____ (internal) _____ (external) psi at max. temp. _____ (internal) _____ (external) ° F Mln. design metal temp. _____ ° F at _____ psi.

17. Impact test _____ (Indicate yes or no and the component(s) Impact tested)

18. Hydro., pneu., or comb. test press _____ Proof test _____

19. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Flange Type	Material		Nozzle Thickness		Reinforcement Material	How Attached		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Handhole	1	4-3/8"	LAPJT	SA-838	SA-181 Cl 60	3/8"	0"	None	Note 1	Loose	NA
Inlet	1	2-3/8"	LAPJT	SA-838	SA-181 Cl 60	5/16"	0"	None	Note 1	Loose	NA
Inlet	2	2"	LAPJT	SA-838	SA-181 Cl 60	3/8"	0"	None	Note 1	Loose	NA
Inlet	2	1-1/2"	LAPJT	SA-838	SA-181 Cl 60	5/16"	0"	None	Note 1	Loose	NA

20. Supports: Skirt _____ No _____ Lugs _____ 0 _____ Legs _____ 0 _____ Others _____ NA _____ Attached _____ NA _____

(Yes or No) (No.) (No.) (Describe) (Where and How)

21. Remarks: Constructed in Conformance With Appendix 27, Alternative Requirements for Glass-Lined Vessels. Pfaudler, Inc. has performed all design functions. Pressure relief per UG-125 to be provided by user. Note 1: Category B weld per swaged opening (e=70%).

Mfg's serial No.: J027361 Customer Order No.: G006181.

CERTIFICATE OF SHOP / FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of material, construction, and workmanship of this pressure vessel part conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

U Certificate of Authorization No. _____ 408 _____ Expires _____ December 31, _____ 2000

Date _____ 6/28/99 _____ Name _____ PFAUDLER, INC. _____ Signed _____ (Manufacturer) _____ (Representative)

CERTIFICATE OF SHOP / FIELD INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of _____ NY _____ and employed by _____ Hartford Steam Boiler Inspection and Insurance Company _____ of _____ Hartford, Connecticut _____ have inspected the pressure vessel part described in this Manufacturer's Data Report on _____ June 28, 99 _____, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part 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 part 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 _____ 6/28/99 _____ Signed _____ Commissions _____ N.B.# _____ 10496 A _____

(Authorized Inspector) (National Board Enrollment, State, Province and No.)