1/9

1. M	lanufactured a	nd certifie	d by PFA	UDLER, INC.	, 1000 WEST	AVENUE,	ROCHESTE										
2. M	lanufactured fo	r Plaud	ler, Inc., c	o Engineered	Systems, 1	000 West A		ster, NY	1461		urer)						
3, L	ocation of Insta	allation	Pfaudler, I	nc., c/o Engl	neered System	ms, 1000 V			NY	14611							
4. T	vpe: Ve	ertical	Ja	cketed Vesse	I. RT20-30		J026878	(Name )	and ed	ddress) NA		R991129	Sht 1 Rev	, Δ	497	68	1999
-	(Horiz., ve	t, or sphere	(Tark s	eparator, Jkt. vass	al, heat exh., etc		(N/g's seriel N	ō.)	-	(CRN)	-		ing No.)		Natl. B	7070	(Year built)
5. A	SME Code, Se	ection VIII	, Div. 1		98, Addenda			NA .					NA				
Item	s 6 - 11 Incl. to	o be comp	oleted for s		and Addenda (dat ssels, Jackets			Casa No. nell of heat	excl	hangers, or	cham	special ber of mult	Service pe -chambe	r vessel:	o) 3.		
	hell (a) No. of				1		) Overall le						1' 2-13/				
	Cour	se(s)		Ma	lerial	Thick	ness	Long.	. Join	d (Cal. A)		Circum,	Joint (Cal	. A, B & (	<b>;</b> )	Heat Tr	ealment
No			(ft & in.)		de or Type	Nom.	Corr.	Турв	Full,	, Spot, None		Туре		ot, None	_	Temp.	Time
1	24" ID	1'2.	13/16"	SA-51	6 Gr 70	1/4"	0"	2	-	None	65%	2	N	ona	65%	NA	NA
-		-							_		-						
7. H	eads: (a)				None			(b)	<u> </u>				SA-516 G	e 70			J
				Spec. No., Grad	e or Type) H.T. •	Time & Temp					(Mat	I Spec. No., G			me å T	етр	
	Location (Top,	-	kness		dius	Elliptical	Conical	Hemispher		Flat	_	Side to Pres				legory A	
(2)	Bottom, Ends) None	Min. NA	Corr.	Crown	Knuckie NA	Ratio NA	Apex Angle	Radius NA		Diameter	C		Concave	Туре	F	ull, Spot, N	
(a) (b)	Bottom	.25*	0,	24*	1.1/2*	NA NA	NA NA	NA NA	-	NA NA	-	NA   NA	NA Yes	NA S	-	None	NA 85%
				J	1 1 1/2	1	1 111	107			-1	1	103			110110	100%
it tet	novable, bolts	usea (aes	schoe othe	er tastening)	•				-0	Mail Spec. No	NA ., Grade	Sze, No.)					
8. Ty	pe of Jacket		G	Flg. 9-2,	Туре 2		Ja	icket closu					Flg. 9-5(	b-2)			
If	bar, give dime	nslons					NA					(Describ	as ogea &			scribe or	sketch.
	(1	125 w/FV nternal)	N/ (exten		max. temp.	450 (Internal	) (ex	NA ° F				al temp.	-20	°F	at _	125	psl.
10, 1	mpact test					NO, 6	xempt from	Impact tes	onenti	per UCS-68 (a) Impact tests	6(a). ed)						
11. F	łydro., ####################################	, or with	t test pres	9	14			Proof					NA	<u> </u>			
Item:	s 12 and 13 to	be compl	eted for tu	be sections.				12									
12. T	ubesheet:		Items 1	2-13 NA art Spec. No.)				-									
	1.00		Stationary (M.	arti Spec. No.)		Dia., in (subject	to press.)	Nom. the,	in.	Con	, Allow.	, in.		Attachme	n (weld	ed or bolted)	
12 T	ubes:	aling (Mat1	Spec. No.)		Oa, i	١.	No	m, thk, in.			Corr. Alk	7#., h.			Attachr	ent	
		Mat1 Sp	ec. No., Grad	e or Type		0., h		Nom. thk., ir	n. or g	gange		Num	ber		Type	(Straight or	U)
Items	3 14 - 18 Incl. t	o be com	pleted for i	inner chambe	rs of Jacketed	d vessels or	channels o	f heat exch	nang	ers.							
14. S	hell (a) No. of	course(s)	:		1		(b) Over	all length (	ft & I	in.):			1'4	1/2"			
	Cours				erial	Thick				t (Cat. A)			Joint (Cat.			Heat Tr	eatment
No.	Diameter, in.			Spec./Gra	de or Type		Corr.	Туре	Full,	Spot, None		Туре	Full, Sp	ol, None	Eff.	Temp.	Time
1	20° ID	1'4-	1/2*	SA-51	6 Gr 65	7/16"	0"	1		None	70%	1	No	one	70%	27-6	27-6
						+			_				+				
15. H	leads: (a)			SA-516	Gr 65 Per 27	-6		(b	)			SA-2	35 Gr C P	er 27-6			
		~.··		Spec. No., Grad			1-2					Spec, No., G		) H.T. • Ti			
	Location (Top, Bottom, Ends)	Thick Min.	Corr.	Crown	dius Knuckle	Eliptical Ratio	Conical Apex Angle	Hemispher Redius	ical	Flat	-	Side to Pres		T		egory A	000 F#
(a)	Top	.59*	0"	20"	NA	NA	NA NA	NA	-	Diameter NA	-	nvex C	Yes	Type S		II, Spot, N None	85%
(b)	Bottom	.375"	0*	NA NA	NA NA	2:1	NA NA	NA		NA	-	Yes	Yes	8	+	None	85%
-	novable, bolts		cribe other	1			-			SA-449,	7/8",	20					كنجنا
							4 2 5	111111111111111111111111111111111111111	().	Mari Spec. No.	, Grade	, Size, No.)					

												5 T. 3
16. MAWP	150		140	psi at max, temp,	450	450	°F	Min. des	ign metal temp.	-20 ° F	at .	150 . psl.
17. Impact test		rnal) exempt from	(external) n Impact tes	ting per UCS-66(a)	(lemakri)	(external)						
10 Unidea moun	ш.	ar wanted for	Inmonues	150 ps		e or no end the		impact teste	ed)	NA		
18. Hydro., #### 19. Nozzles, insp						PI	oof test			NA		
Purpose (In/et,	T	Diameter	·	Male	dal		Nozzie Ti	leboses	Reinforcement	How Al	lashed	Location
Outlet, Drain, etc.)	No	or Size	Flange	Nozzie		nge	Nom.	Corr.	Material	Nozzie	Flange	G-23-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-
Handhole	1	4-3/8"	LAPJT	SA-836		1 CI 60	3/8"	0"	None	Note 1	Loose	(insp. Open.) NA
Inlet	1	2-3/8"	LAPJT	SA-836	2 THE REAL PROPERTY.	1 Cl 60	5/16"	0,	None	Note 1	Loose	NA NA
Inlet	2	2"	LAPJT	SA-836		1 Cl 60	3/8"	0,	None	Note 1	Loose	NA NA
Outlet	1	2*	LAPJT	SA-836		3 Gr 70	3/8"	0,	None	Note 1	Loose	NA NA
Inlet	3	1-1/2"	LAPJT	SA-838		1 Cl 60	5/16*	0"	None	Note 1	Loose	NA NA
Jkt, Conn.	2		SCDCPLG	SA-216 Gr WCA		ne	3000#	0,	None	UW-16.1c	NA	NA NA
Jkt, Conn.	2		SCDCPLG	SA-216 Gr WCA		ne	3000#	0,	None	UW-18.1c	NA	NA NA
l			L							12.00		
20. Supports: Ski	n	(Yes or No.)	_ Lugs _	0 Legs	3 C	others		NA secribe)	Attached		Welded to (Where and	
Inner vess Jacket for	noi	hydrotes n-corros	sted in sive ser	ormance With Ap the vertical po vice. Note 1: C customer Order N	sition. Category	Pressu B weld	181 81	lef pe	r UG-125 to b	e provi	ded by	user.
the ASME Code	o for l	Pressure Ve	ssels, Secti	CER1 ils report are correct and on VIII, Division 1.				construc			vessel co	
U Certificate of		orization No.			408					nber 31,	1	2000
Date6/28	/99	Name		PFAL (M	JOLER, INC.	L			Signed There	Represe	Muls edative)	
				CER	TIFICATE C	F SHOP IN	ISPECTIO	N				
I, the undersign	ed, h	olding a valk	d commissk	on issued by The National	Board of Bo	oiler and Pre	ssure Ves	sel Inspec	tors and the State or	Province o	f	NY
and employed b	٧	Н	artford Stea	m Boiler Inspection and I	nsurance Co	mpany	of		Hartford, Connec	cticut	h	ave Inspected
the pressure ve Manufacturer h employer make nor his employe Date 6/3	as cos any	described in onstructed the warranty, ea il be liable in	xpressed or any manne	cturer's Data Report on vessel in accordance wit implied, concerning the per or for any personal injury of (Authorized Inst	ressure ves property d	sel describe amage or a	d in this M loss of any	9 , ar skon 1. By anufactur kind aris nissions	er's Data Report. Fur lng from or connected	thermore, no d with this in 6 A	aither the f aspection.	nspector
We certify that t	he st	alements on	this report	CERTIFICAT are correct and that the	E OF FIEL	D ASSEME	LY COM					
Code, Section V U Certificate of								Expl	res			
Dale		Nar	me						igned			
				CERTIFICA	(Assembler)		ol V Ilion			(Represen	(ekita)	
		olding a valid	d commissio	n Issued by The National	Board of Bo	iler and Pre	ssure Ves	sel Inspec		Province of		
and employed by have compared		statements	In this M	anufacturer's Data Rep	ort with th	e described	pressure	vessel		rts referred	to as da	ta items
and bellef, the	Man	ufacturer ha	is construc	, not includ ted and assembled this p	ed in the cer ressure yess	rtificate of si sel in accord	hop Inspection	tion, have ASME Co	been inspected by node, Section VIII, Divi	ne and to the	e best of n	ny knowledge I vessel
was inspected a expressed or im-	nd su	ibjected to a concerning	hydrostatic		ps Manufactu	sl. By signin	g this cert Report. F	ificate nel	ther the Inspector nor	hls employ	er makes	any warranty
Date		Sign	ed	(Authorized Ins	ovetor)		Comm	issions _	(Nati Board Incl. end		- n	-10-5
				(AUCOOTZED INS	pecion				(Nati Board Incl., end	onement, Sta	e, Province a	no 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

3. Location of Installation Pfaudier, Inc.,  4. Type: Vertical (Horiz, vert., or sphere) NA (CRR)  Data Report Item Number  Item 19. Nozzles   Purpose   Jkt. Conn.    Nozzle Th   Nom.   3000#	R, INC., 1000 WEST AVE	) West Ave., Roches	ame and address of Man ter, NY 14611	ufacturer)		
4. Type: Vertical (Horiz., vert., or ephere) NA (CRN)  Data Report Item Number Item 19. Nozzies  Purpose Jkt.Conn.  Nozzie Th Nom. 3000#	c/o Engineered Systems	(Name	and address of Purchase			
(Horiz, vert, or sphere) NA (CRN)  Data Report Item Number Item 19. Nozzles  Purpose Jkt. Conn.  Nozzle Th Nom. 3000#	No Engineere of trains	Jacketed Ve	(Name and address) ssel, RT20-30		J026878	
Data Report Item Number Item 19. Nozzies  Purpose Jkt.Conn.  Nozzie Th Nom. 3000# I	2004400 01		r, heat exh., etc)	700	(Mig's serial No.)	
Item Number Item 19. Nozzies    Purpose   Jkt.Conn.     Nozzie Thi   Nom.     3000#	R991129 Sh (Orawing			766 Bd. No.)	1999 (Year built	)
Item 19. Nozzies    Purpose   Jkt.Conn.     Nozzie Th   Nom.     3000#	***************************************		Remarks			
Purpose Jkt.Conn.  Nozzle Th Nom. 3000#			Kellidika			
Nozzie Th Nom. I 3000# I	Diamete		Materi			
Nozzle Th   Nom.     3000#	No.   or Siz		Nozzle	Flange		
Nom.   3000#	1   1/2"	SCDCPLG	SA-105	NA		
Nom.   3000#	lckness Reinfor	cement! How A	ittached			
	Corr.   Mater	ial   Nozz	e  Flange L			
ertificate of Authorization: Type	O"   None	UW-16.	1c  NA	NA		
ertificate of Authorization: Type						
ertificate of Authorization: Type						
ertificate of Authorization: Type						
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ertificate of Authorization: Type						
******	U	No.	408	Expires	December 31,	, 20
Date 6/28/99 Name	//	UDLER, INC.		Signed 7/1	gree B. Nach	e
Date 6 08/99 Name -	1/111 2	(aperacturer)	Commission	N.B.# 1099	(Representative)	

## 3/3

## FORM U-2 MANUFACTURER'S PARTIAL DATA REPORT A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

R001916

-																
1. Ma	anufactured and	certified	by PF	AUDLER, INC.	1000 WEST	AVENUE,	ROCHESTE	R, NEW YO	ORK 14811 dress of Manufac							
2. Ma	anufactured for	Pfau	dler, Inc.	, c/o Englneere	ed Systems,	1000 West	Ave., Roch		14611	core:j						
3. Lo	cation of Install	ation	Pfaudk	er, Inc., c/o En	gineered Sys	tems, 1000		Rochester,	NY 14611							
4. Ty	De:	20" (	Diameter	Clamped Top	Head		JO	27361	nd address)				NA			
	(Des	enption of	vessel part i	shed, two-piece he	ad, tube bundle)) Sht.1 Rev.B			(Ufgs serial N	(o.) Pfaudler, Inc				(CRN)		1999	
357 20 103	(Nat'L B	d. No.)		(On	rwing No.)			(0	Drawing prepared				NA	- 98310	(Year bulh)	
	SME Code, Sec			Ed	ition and Addend	a (date)		NA Code Case I				pecial Servi	ce per UG-			
	s 6 - 11 Incl. to	- 200								chambe	r of multi-	chamber	vessels			
6. St	nell (a) No. of c	ourse(s):		Item 6	not applicable	6	(6) C	verall length	H & In.:							
	Course	(8)		Mate	erial	Thick			olnt (Cat. A)			Joint (Cat.				ealment
No.	Diameter, In.	Length	(N & in.)	Spec /Grad	de or Type	Nom.	Corr.	Туре F	ull, Spot, None	Eff.	Туре	Full, Sp	ot, None	Eff.	Temp.	Time
-	-															
							LL_									-
7. H	eads: (a)		- NI-	SA-516 ( 1 Spec. No., Grade	Gr 65 Per 27-			(b)		7Vat15	nec. No. G	None	e) H.T. • Ti	na & T	emp	
			(88)	11 Spec. No., Grace	or type) n.t	I I I I I I I I I I I I I I I I I I I							,,			
	Location (Top,		kness		dius	Elliptical	Conical	Hemispheric	1000 1000		le lo Press	oncave	Tuna	-	tegory A ull, Spot, N	lona Eff
(a)	Bollom, Ends) Top	Min.	Corr.	Crown 20*	Knuckie NA	Ratio	Apex Angle	Radius NA	Diameter NA	Yes		Yes	Type	1	None	85%
(b)	NA NA	NA	NA	` NA	NA	NA	NA	NA	NA	NA		NA	NA		None	NA
If rer	novable, bolts t	ised (des	do edho	er fastening)	SA-449	7/8*, 20			-01-2/0 W	0-1-6	5. 0.1					
я т	pe of Jacket			Items 8 not ap	olicable		Jacket clos	ure	(Ma(1 Spec. No							
	bar, give dimen	elone								(Des	go ea ednog	os & weld, t	ar, etc.)	ted, d	lescribe o	r sketch
	3.5			45 00			450	NA	°F Min.	design m	netal temi	20	_		150	
	(1	50/FV nternal)		demai)	l at max. tem	(i	450 nternal)	(external)	r tviai.	uosigii n	rotal tolli			u.	100	F
10.1	mpact test _ I	lo, exem	pt from i	mpact testing p	er UCS-66(a	). (In	icale ves or no	and the compor	nent(s) Impact tes	eted)						
11.1	lydro., piness,	Of ANOTH	nb. test p	ress.	1	50 psi		Proof t				_N	Α			
	s 12 and 13 to								-							
12.	Fubesheel:	Ite	ems 12-1	8 NA												
100000	-	Statio	nary (Mat1)	Spec. No.)	Dia., in. (sul	olect to press.)	Nort	n, thk., in.	Corr.	Mow., h.			Attachmen	t (weld	ed or botted	1
=		lat Spec. I	Vo.)	Die	i, h		om, thk, in		Corr. A	low., In.		tel b		Attac	ment	
13.	Tubes:	Mañ Soe	c. No., Grad	e or Type	O. D.,	in.	N	iom. thk., in. or	gauge		Number			Type (	Straight or L	J)
Item	is 14 - 18 Incl. to	o be com	pleted fo	r inner chambe	ers of Jackete	d vessels o	or channels o	of heat excha	angers.							
14.	Shell (a) No. of	course(s	):				(b) Ove	rall length (ft	t & in.):							
	Cours	e(s)		Ma	lerial	Thic	kness	Long J	foint (Cat. A)		Circum,	Joint (Cal	. A, B & C	· ()	Heal T	realment
No	1		ft. & in.		de or Type	Norn.	Corr.		Full, Spot, None	e Eff.	Туре	Full, S	pol, None	Eff.	Temp.	Time
		-				-				+-		-				
-		+				-				1		-		-		

## Form U-2 (Back)

15. Heads: (a)			(Mart Spe	No a	rada or Tural H T	Yma L Yem		(b)		-07.He	VI. 6	V		
Location (To	0,	Thicknes						Hamlenharical	Fiel			Type) H.T.		
Boltom, Ends	-	r-					The state of the s					F	-	
a)	4-				1014010	11000	han saide	110005	Digitioner	COLLARY	Concave	1 197	oe Full,	Spot, None
b)	-													
					L		J	L	l	J	L			
removable, bo	its us	ed (descri	be other fast	ening)	100000 WWW.									
e Mauo									(Wat1 Spec. )	lo., Grade, Size, I	Yo.)			
6. MAWP	- 10	nternal)	- Jastan		psi at max. te	mp			F Min	ı. dəsign meta	il temp.	۰	Fat	
7. Impact test		normal)	(existing)	*/		(	nternar)	(external)						
· · · · · · · · · · · · · · · · · · ·						(63	cate yes or no	and the compone	relia) Impacilites	theth				
8. Hydro., pne	O	or comb. te	est press			11.82.000				,				
9. Nozzles, ins	pection	on, and saf	ety valve op	enings:			<del></del>							
Purpose (Inlet,		Diameter	Flange			Material		Nozz	le Thickness	Reinforc	ement	Hau A	Hachad	Location
outlet, Drain, etc.)	No.	or Size	Type		Nozzie		Flance		-	-				CO. 20100000000000000000000000000000000000
Handhole	1	4-3/8"	LAPJT		SA-836									(Insp. Ope
Inlet	1	2-3/8*	LAPJT		SA-836								-	NA NA
Inlet	2	2"	LAPJT				T							NA NA
In/et	2	1-1/2"	LAPJT								rex Concave Type Full, Spot,  Size, No.) In metal temp.  Size, No. In	NA NA		
			-	1			071 101 010	010		1101	10	140/9 1	L0028	INA
									-	-				<del> </del> -
				-						<del> </del>				
	1		·	<del>                                     </del>										
	1		1	-										
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	$\vdash$		-	<del> </del>										
Coursed to Ol	Ļ.											2000		
). Supports: SI	ai C	No (Yes or		Ja	U L	egs	0 0	thers	NA NA		Allached	j		
Romarke: Co	nei			4 a . m.			(no.)		(Describ	6)			(Where an	d How)
foudles	Ina	haa	111 0011	101111	ince with	Appen	21 X 27,	Alterna	IVe Re	quiremen	s for	Glass-	Lined	Vessels
te 1: Co	1110	. IIds p	91101119	u aı	1 design	TUNCTI	ons. Pr	essure r	ellef p	er UG-12	5 to be	provi	ded by	user.
716 1. Ua	109	UIY B Y	ela ber	swa	gea open	ing(e=/	0%).							
										1 1 1000000		3		
g's serla	1 1	10.: JO	27361 C	ustor	ner Order	No. : (	3006181.	ř.						
					CER	TIFICATE	OF SHOP	FIELD COM	PLIANCE					
Ve certify that t	he st	atements r	nade in this	report a	re correct an	d that all de	talls of mate	erial, construc	tion, and w	orkmanshlo of	this pressi	m vaccal	nart confe	Vm1
J did Moine of	2010	1 1 1033010	1033013' 01	ection \	/III, Division 1			, , , , , , , , , , , , , , , , , , , ,	and and the	and anomp of	una presau	NO 103301	part conte	AIII.
J Certificate of	Autho	orization No	0,		_	408			E	xolras	Decem	her 31		2000
ale 6/28	/99	Name	1			DEALIDI ED	INC				-	0	1115	2000
			·							_ Signed _Z	Las VV	13.1	Miles	
					CEE	-		IFIFI D INA	PARIAL			[Represe	ntatve)	
the understand	d h	ddiaa a yal	id commissi	an lanu	つるり でしょ ひょ	Para LO	OF SHOP	FIELD INSI	ECTION	8				
ulo ulidelsigik	70, IR	nung a va	id commissi	on issu	ed by the Na	nousi Rosu	of Boller ar	nd Pressure V	essel inspe	ectors and the	State or Pr	rovince of	<u> </u>	NY
nd employed b					1000		ompany	of		Hartford, Conr	recticut		have l	Inspected U
essure vessel	part	described l	n this Manu	facture	r's Data Rec	ort on	June	28	99	and state that	to the hee	t of my kn	muladaa a	and hallof th
lanufacturer ha	S CO	structed ti	ds pressure	vessel	nart in accord	lance with	ASME Code	e. Section VIII	Distolan 4	Dustantan	1L1	-1		
s employer ma	kes a	any warran	ty, expresse	d or Im	plied concern	ing the pres	ssure vesse	part describe	ed in this M	anufactimer's	Data Reno	d. Fudha	amore re	lther the
spector nor his	emp	loyer shall	be liable in	any ma	nner for any p	ersonal inju	ry or proper	ty damage or	a loss of ar	y kind arising	from or co	nnected v	with this in	spection.
ale 6/8	19	Signe	d	Redus										
						Inspector	_/_			(Nat I Bo	ard Incl. endor	sement, Stat	e, Province a	nd No.1