## FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS PO #: PO18100F-REVISED:2 (Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only) Item #: HRS-ACC-1 As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

Manufactured for   Frew Process Group, LLC 19305 Story Creek May Noblesville IN 46560 United States	1. Ma	nufactured and	d certi	fied by			Kel	ion, Inc	. Thermal	Solut					atoosa, Oklah	oma 7	4015		
1. Location of installation	2. Mar	nufactured for				Fre	w Proce	ss Grou	p, LLC 15	305 5		om on on the		over resonant control &	6060 United S	tates			
Type   Rectangular Vessel   R-10746-1-A   N/A   1074001HDR REV. 2   10110   2015   2015   201			883,19							(Nam	ne and addre	ess of I	Purchase	er)			United	States	
Comparison   Com	3. LUC	ation of mstall	allon		Aei	neige Rec	ipak oe	I VICES O	C, LLC 90	00 L				44 #3331400	Tiespella OA	32343	Office	Otates	
5. ASME Code, Section VIII, Division 1	4. Tyr	oe Rectar	ngular	Vesse	el	ì	R-10746	5-1-A			N/A		1074	6010HDR REV	. 2	10110		2017	
Shell   SA516-70		(Horizonta	al or ver	tical, tan	ik)	(Manufa	acturer's s	erial numb	er)					Drawing number) (National			number)	(Year built)	
Shell   SA516-70   Type   ID   OD   Flarge This   Min Hub This   Material   How Attached   Location   Num & Size   Boling Material   (OD, ID) esk   Washer Material   How Attached   Location   Num & Size   Boling Material   (OD, ID) esk   Washer Material   How Attached   Location   Num & Size   Boling Material   (OD, ID) esk   Washer Material   How Attached   Location   Num & Size   Boling Material   (OD, ID) esk   Washer Material   How Attached   Location   Num & Size   Boling Material   (OD, ID) esk   Washer Material   How Attached   Location   Num & Size   Boling Material   (OD, ID) esk   Washer Material   How Attached   Location   Num & Size   Boling Material   (OD, ID) esk   Washer Material   How Attached   Location   Num & Size   Boling Material   (OD, ID) esk   Washer Material   How Attached   Location   Num & Size   Boling Material   How Attached   Location   Num & Size   Boling Material   How Attached   Location   Num & Size   Boling Material   How Attached   Location   Num & Size   Soling Material   How Attached   Location   Num & Size   Soling Material   How Attached   Location   Num & Size   Soling Material   How Attached   Num & Size   Soling Material   Location   Num & Size   Soling Material   How Attached   Num & Size   Soling Material   Location   Num   First Num	5. ASM	IE Code, Secti	ion VII	II, Divis	sion 1_					_						10		77.71	
No.   Type   ID   OD   Flarge The   Mn Hub The   Material   How Attached   Location   Num & Size   Botting Material   (Q0, ID, Ha)   Wesher Material	0.01	- 11		0454	0.70	[Edition and	Addenda	i, if applica						e numbers)	6 3/4"	[Spec	iai cervice	per UG-120(d)]	
No.   Type	6. Sn	2000				rade)		(Nom		5)				-				[Length (overal!)]	
No												0,120,000	regio for						
No.   Type   ID   OD   Flarge Tink   Min Hub Tink   Malerial   Now Atlached   Location   Num & Size   Boting Material   OO, ID, Pay   Wesher Material   Num & Size   Boting Material   OO, ID, Pay   Wesher Material   Num & Size   Solidor (Fig. 15)   NiA   NiA   Fig. 15   NiA   NiA   Fig.			Г			T				Ī					В				
7. Seams   Corner Joint   N/A   100%   N/A   N/A	No.	Туре		D	OD	Flange T	hk Min	Hub Thk	Material	How	How Attached		cation	Num & Size	Bolting Material	10.000000000000000000000000000000000000		Washer Material	
7. Seams   Corner Joint   N/A   100%   N/A   N/A   N/A   N/A   N/A   100%   N/A   N/A   N/A   N/A   100%   N/A   N/A   N/A   N/A   100%   N/A		-														(0.1)			
7. Seams   Corner Joint   N/A   100%   N/A   N/A   N/A   N/A   N/A   100%   N/A   N/A   N/A   N/A   100%   N/A   N/A   N/A   N/A   100%   N/A			$\vdash$	-		+	_	-+		-		_	_					_	
8. Heads: (a) Material SA516-70 (b) Material SA516-70 (b) Material SA516-70 (catton (Top. [kspec. roc. grade))    Control (Top. [kspec. roc. grade))	7. Sea								-		and the second second								
8. Heads: (a) Material					, [	R.T. (spot or f	ull)]	(Eff., %)	(H.T. tem	p.)	(Time, hr)				[R.T. (spot or ful	1)]	(Eff., %)	(No. of courses)	
Content   Cont	8 Hea			1000		SA	4516-70				(b) M	ateria		, pa.,,,	SA51	6-70			
Bottom, Ends   Thickness   Allowance   Radius   Radius   Radius   Radius   Radius   Radius   Radius   Flat Diameter   (Convex of Concave)	0. 1100	do. (d) mater									- (5)		_				)		
(a) Top & Bottom 7/8" / 3/4" 1/16" SPAN ** N/A N/A N/A N/A FT: 9 1/2" X 13" 3/6" X 13" 3/6" N/A N/A FT: 9 1/2" X 13" 3/6" X 13" 3/6" N/A N/A N/A FT: 9 1/2" X 13" 3/6" X 13" 3/6" N/A N/A N/A N/A N/A FT: 9 1/2" X 13" 3/6" X 13" 3/6" N/A N/A N/A N/A N/A FT: 9 1/2" X 13" 3/6" X 13" 3/6" N/A N/A N/A N/A N/A FT: 9 1/2" X 13" 3/6" X 13" 3/6" N/A N/A N/A N/A N/A N/A FT: 9 1/2" X 13" 3/6" X 13" 3/6" N/A N/A N/A N/A N/A N/A N/A FT: 9 1/2" X 13" 3/6" X 13" 3/6" N/A N/A N/A N/A N/A N/A N/A N/A N/A FT: 9 1/2" X 13" 3/6" X 13" 3/6" N/A	T.	ocation (Top,	Minimo	um	Corrosion	n Crown	Knuckle	Elliptic	al Conica	1 1	Hemispheric	al					Sid	e to Pressure	
Body Flanges on Heads		Bottom, Ends)	Thickne	ess	Allowance	e Radius	The Call of	Ratio	Apex Ang	gle	Radius						(Conv	rex or Concave)	
Body Flanges on Heads    Construction   Type   ID   OD   Flange Thk   Min Hub Thk   Material   How Attached   Num & Size   Bolting   Washer   Washer   Min Hub Thk   Material   How Attached   Num & Size   Bolting Material   (OD, ID, thk)   Washer Material																			
Bolting   Washer	(b)	End Plates	7/8" / 3	3/4"	1/16"	SPAN	**	N/A	N/A		N/A		FT: 9 1	1/2" X 1' 1 7/8" F	RT: 7 3/8" X 1' 1	7/8"	_	N/A	
Bolting   Washer									Body Flai	nges	on Head	ls					-		
Location   Type   ID   OD   Flange Thik   Min Hub Thik   Material   How Altached   Num & Size   Bolting Material   (OD, ID, thik)   Washer Material   (O)		$\neg$	Г			T	T		Dody i idi	lgcs	T T				В	olting			
(a) (b)   NI/A   at max. temp.   475°F   NI/A   (Internal)   (External)   (External)   (Internal)   (External)   (External)   (Internal)   (Internal													2			Wa	asher		
(b)   9. MAWP   340 PSI   N/A   at max. temp.   475°F   N/A   (Internal)   (External)   (Internal)   (External)   (External)   (External)   (External)   (Internal)   (External)   (External)   (External)   (Internal)   (External)   (External)   (External)   (External)   (Internal)   (Internal)   (Internal)   (Internal)   (Internal)   (External)   (Internal)   (External)   (Internal)   (Internal)   (External)   (Internal)   (Interna	Location		Туре		ID	OD	Fla	nge Thk	Min Hub Thk	Material Ho		Attached		Num & Size	Bolting Material	(OD, ID, thk)		Washer Material	
9. MAWP 340 PSI (Internal) (External)  Min. design metal temp. 25°F at 340 PSI Hydro., pneu., or comb. Test pressure 442 PSI  Proof test N/A  10. Nozzles, inspection, and safety valve openings:    Purpose (Inlet, Outlet, Drain, ect.)   No. or Size   Type   Nozzle   Flange   Nom.   Corr.   Material   Nozzle   Flange   (Insp. Open.)				-						<u> </u>		1.78							
Cexternal   Cext		1								<u> </u>					505			N//A	
Min. design metal temp. 25°F at 340 PSI Hydro., pneu., or comb. Test pressure  Proof test N/A  10. Nozzles, inspection, and safety valve openings:    Purpose									at max. temp.							7.755.75.75			
Proof test N/A  10. Nozzles, inspection, and safety valve openings:    Purpose	Min	design meta	and the same		25°F	at	130		-	lvdro	nneu	or co	mb T						
10. Nozzles, inspection, and safety valve openings:    Purpose						_ " —		0 1 01		.,	,, p.1.0u.,	0. 00		oot procours	<del> </del>			- 1000	
Purpose (Inlet, Outlet, Drain, ect.) No. or Size Type Nozzle Flange Nom. Corr. Material Nozzle Flange (Insp. Open.)  INLET 2 10"-300# PIPE/RFWN SA106-B SA105 SCH 140 1/16" INTEGRAL UW16.1(a) N/A FT HEADER OUTLET 2 8"-300# PIPE/RFWN SA106-B SA105 SCH 120 1/16" INTEGRAL UW16.1(a) N/A RT HEADER VENT/DRAIN 2/2 1" CPLG SA105 N/A 6000# 1/16" INTEGRAL UW16.1(a) N/A FT/RT HEADER AUXILLARY 8 3/4" CPLG SA105 N/A 6000# 1/16" INTEGRAL UW16.1(a) N/A INLET/OUTLET NOZZLES  11. Supports: Skirt N/A Lugs N/A Legs N/A (Number) (Number) (Describe) (Where and how)  12. 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 pert, item number, Manufacturer's name and identifying stamp)  TUBES: (336) SA-214 1" O.D. X 0.083" MW X 32' STRAIGHT & FINNED / BUNDLE: 6 ROW 1 PASS  CONSTRUCTED IN ACCORDANCE WITH APPENDIX 28 / CHARPY IMPACT EXEMPT PER UG-20(f) UCS-66(c)		-	S-135-1		foty val	lva ananin	201												
(Inlet, Outlet, Drain, ect.)   No.   or Size   Type   Nozzle   Flange   Nom.   Corr.   Material   Nozzle   Flange   (Insp. Open.)			1011, 2			ive opening	<del>J</del> S.	Ma	terial	$\overline{}$	Nozzie Th	cknes	s T	Reinforcement	Attachme	nt Detai	ls	Location	
INLET 2 10"-300# PIPE/RFWN SA106-B SA105 SCH 140 1/16" INTEGRAL UW16.1(a) N/A FT HEADER  OUTLET 2 8"-300# PIPE/RFWN SA106-B SA105 SCH 120 1/16" INTEGRAL UW16.1(a) N/A RT HEADER  VENT/DRAIN 2/2 1" CPLG SA105 N/A 6000# 1/16" INTEGRAL UW16.1(a) N/A FT/RT HEADER  AUXILLARY 8 3/4" CPLG SA105 N/A 6000# 1/16" INTEGRAL UW16.1(a) N/A INLET/OUTLET  AUXILLARY 8 3/4" CPLG SA105 N/A 6000# 1/16" INTEGRAL UW16.1(a) N/A INLET/OUTLET  NOZZLES  11. Supports: Skirt N/A Lugs N/A Lugs N/A (Number) (Describe) (Where and how)  12. 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 pert, item number, Manufacturer's name and identifying stamp)  TUBES: (336) SA-214 1" O.D. X 0.083" MW X 32' STRAIGHT & FINNED / BUNDLE: 6 ROW 1 PASS  CONSTRUCTED IN ACCORDANCE WITH APPENDIX 28 / CHARPY IMPACT EXEMPT PER UG-20(f) UCS-66(c)	I		No.	1000		Туре						7.50	_					NO 224 YORK ON THE POST OF THE	
VENT/DRAIN  2/2  1"  CPLG  SA105  N/A  6000#  1/16"  INTEGRAL  UW16.1(a)  N/A  FT/RT HEADER  AUXILLARY  8  3/4"  CPLG  SA105  N/A  6000#  1/16"  INTEGRAL  UW16.1(a)  N/A  INLET/OUTLET  NOZZLES  11. Supports: Skirt  N/A  (Yes or no)  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 pert, item number, Manufacturer's name and identifying stamp)  TUBES: (336) SA-214 1" O.D. X 0.083" MW X 32' STRAIGHT & FINNED / BUNDLE: 6 ROW 1 PASS  CONSTRUCTED IN ACCORDANCE WITH APPENDIX 28 / CHARPY IMPACT EXEMPT PER UG-20(f) UCS-66(c)			2	10"-3	300#	PIPE/RFW	/N :	SA106-B	SA105	5 5	SCH 140	1/1	6"	INTEGRAL	UW16.1(a)	١	N/A	FT HEADER	
AUXILLARY 8 3/4" CPLG SA105 N/A 6000# 1/16" INTEGRAL UW16.1(a) N/A INLET/OUTLET  11. Supports: Skirt N/A Lugs N/A Legs N/A Other N/A Attached N/A  (Yes or no) (Number) (Describe) (Where and how)  12. 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 pert, item number, Manufacturer's name and identifying stamp)  TUBES: (336) SA-214 1" O.D. X 0.083" MW X 32' STRAIGHT & FINNED / BUNDLE: 6 ROW 1 PASS  CONSTRUCTED IN ACCORDANCE WITH APPENDIX 28 / CHARPY IMPACT EXEMPT PER UG-20(f) UCS-66(c)		OUTLET	2	8"-3	00#	PIPE/RFW	/N :	SA106-B	SA105	5 5	SCH 120	1/1	6"	INTEGRAL	UW16.1(a)	١	N/A	RT HEADER	
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(Ves or no) (Number) (Number) (Describe) (Where and how)  12. 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 pert, item number, Manufacturer's name and identifying stamp)  TUBES: (336) SA-214 1" O.D. X 0.083" MW X 32' STRAIGHT & FINNED / BUNDLE: 6 ROW 1 PASS  CONSTRUCTED IN ACCORDANCE WITH APPENDIX 28 / CHARPY IMPACT EXEMPT PER UG-20(f) UCS-66(c)			-		-+		-	_		+		_	-					NOZZLES	
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items of the report  N/A  (Name of pert, item number, Manufacturer's name and identifying stamp)  TUBES: (336) SA-214 1" O.D. X 0.083" MW X 32' STRAIGHT & FINNED / BUNDLE: 6 ROW 1 PASS  CONSTRUCTED IN ACCORDANCE WITH APPENDIX 28 / CHARPY IMPACT EXEMPT PER UG-20(f) UCS-66(c)				es or no						r)			(Des	cribe)			(Where an	d how)	
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CONSTRUCTED IN ACCORDANCE WITH APPENDIX 28 / CHARPY IMPACT EXEMPT PER UG-20(f) UCS-66(c)	TURES	: (336) SA 24	4 1" 0	D V 0	0 083" 1	MMV X 22'	STDAI								stamp)				
									A STATE OF THE STA					785	\ .	-1-1		- 22-2-	
FT: T 3 5/6 A 13 3/8" KT: T 3 3/8" X 13' 3/8" / FT: 9 1/2" RT: 7 3/8"	TATALON DAY			/ EEE 9						ULE	VEINIBI	EK	06-20	)(1) 0C2-00(C	)				
	F1; 1'	3 3/6 X 13 3/	o RI	. 1 3 3	0/8 X 1	3 3/8" / F	1: 9 1/2	KI: 73	0/8		-						THE ST		

## FORM U-1A (Back)

1	CERTIFICATE OF SHOP/FIELD COI	MPLIANCE							
We certify that the statements made in this i	eport are correct and that all details of de	sign, material, construction a	nd workmanship of this vessel						
conform to the ASME BOILER AND PRESSU	JRE VESSEL CODE, Section VIII, Division	on 1. "U" Certificate of Authori	zation Number 12007						
expires 3 June 2017	CONTROL CONTROL AND SECTION OF COORDINATED AND AND COORDINATED AND AND SECTION OF CONTROL CONT		12007						
	K-1 I TI 10-1-"		//_						
Date 1/5/17 Co. name	Kelvion, Inc. Thermal Solutions	Signed	Col						
	(Manufacturer)		(Representative)						
	CERTIFICATE OF SHOP/FIELD INS	PECTION							
Vessel constructed by Kelvion	n, Inc. Thermal Solutions	at 5202 West Channel	Road Catoosa, Oklahoma 74015						
I, the undersigned, holding a valid comm	nission issued by the National Board of B	oiler and Pressure Vessel Ins	pectors and employed by						
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by ONECIS INSURANCE COMPANY OF LYNN, MA									
		. / . / . / .							
have inspected the component described in t		//5/17	, and state that,						
to the best of my knowledge and belief, the Manu									
VESSEL CODE, Section VIII, Division 1. By signi	ng this certificate neither the Inspector no	r his/her employer makes an	y warranty, expressed or						
implied, concernin the pressure vessel described	in this Manufacturer's Data Report. Furth	ermore, neither the Inspector	nor his/her employer						
shall be liable in any manner for any personal inju									
- 10/14	/ 1 1		OF AMERICAN SER						
Date //9//7 Signed	-X- 1)0811	Commissions	NB12736A OK914						
	(Authorized Inspector)		[National Board (incl. endorsements)]						

(07/13)