					FOR	M U-1 MANU	FACTURE	R'S DAT	A REP	ORT F	OR PRESS	URE \	/ESSE	LS	_					
				A	s Required	by the Provision	ns of the ASM	ME Boiler a	and Pre	essure \	essel Code Ru	ules, S	ection V	III, Divis	sion 1			Page	e 1 of 3	
1. N	/lanufacture	d and	d certifie	d by Lo	ouisville	Exchanger &	& Vessel II	nc., 3319	Gilm	nore Ir	ndustrial Bl	vd., L	ouisvi	lle, Ke	entucky	y, 40213	B, USA			
2. N	/lanufacture	d for	Daran	nic, LL	C, 5525	Hwy 2830, O	wensboro		cky, 4	2303,			urer)							
3. L	ocation of in	nstalla	ation D	arami	c, LLC, 5	525 Hwy 283	30, Owens		entuc	ky, 42		er)								
	_							Heat Ex		`	and address)								_	
4. Type Horizontal (Horizontal, vertical, or sphere)						-	(Tank, sepa		<u>19-082</u> (Manufacturer's serial number)											
							40,000,0	24	,		, ,		0.4				2019			
			N/A (CRN)				19-082 ((Drawing nu	imber)				(Nat	9 4 ional Bo		nber)					
5.	ASME Cod	e, Se	ction VII	II, Div.	1	20	017/ N/A					N/A				N/A				
						[Edition and Add	enda, if appl	icable (da	te)]		(Code Ca		mber)		[Sp	oecial Ser	vice per l	JG-120	(d)]	
	Items 6-11	incl.	to be co	mplete	d for sing	le wall vessels	s, jackets of	jacketed	vesse	els, she	ell of heat exc	chang	ers, or	chamb	er of m	ulticham	ber vess	els.		
6. S	hell: (a) Nu	ımber	of cour	se(s)	1		(b) Ove	rall length	n			119	.75"							
	Co	urse(s)		M	aterial	Thic	kness	$\overline{}$	Lor	ng. Joint (Cat. A			m .loint	(Cat A I	3 & C)	– Heat	Treatm	ent	
No.	Diameter	<u> </u>	Leng	ıth		ade or Type	Nom. Co		: -		e Full, Spot, None				n. Joint (Cat. A, E ull, Spot, None		Temp.			
1	18.0" OD		119.7			TP304LSS	.188	0.0		1	None	70%	1	None		70%	N/A	_	N/A	
						-		Body Flan	ges on	Shalle										
					Elango			Body Flair	Ĭ						В	olting				
No			Flange	Min Hub Thk	Mate	erial	l How Attach		Location	Num & Size					(- , ,		asher terial			
N/A	N/A		N/A	N/A	N/A	N/A	N/A		N/A		N/A	N/A		N/A		N/A		N/A		
7.	Heads: (a)				N	I/A					(b)				N/A					
	_	(N	laterial sp	ec. num		or type) (H.T	time and tem	ıp.)			(Ma	terial s	pec. nu	mber, g		ype) (H.T.	time ar	nd temp	0.)	
	Location (T			hickness	3	Radio	Radius Elliptical Conical A								Flat Side to Pressure			Category A		
	Bottom, En	as)	Min.		Corr.	Crown	Knuckle	Ratio	_	Angle	Radius	_			Concave	Type		pot, Nor		
N/A	N/A		N/A		N/A	N/A	N/A	N/A		N/A	N/A		N/A	N/A	N/A	N/A		N/A	N/A	
								Body Flang	ges on l	Heads										
No.	Location	1	Гуре	ID	OD	Flange Thk	Min Hub Thk Material			Но	How Attached			D 1		Bolting . , Wash	er (OD.	., ,		
()	NI/A			N1/A	NI/A	AI/A				N/A		Num & Size			Bolting Material				Material	
(a)	N/A	N/A		N/A	N/A	N/A	N/A	N/A		N/A				N/A	١	N/A	ı	N/A		
8. T	ype of jacke	et				N/A				Jacke	t closure				N/					
													(D	escribe	as ogee	& weld, b	oar, etc.)			
lf	bar, give di	mens	ions; if t	oolted,	describe (or sketch						N/A								
9. M	AWP	75 p			FV	at max. tem		00 °F		300	<u> </u>	. desi	gn met	al temp). 	-20 °F	at _	75	psi	
10 I	mpact toot	(Inter	nal)		(External)	No Mo	Inte) I terial is ex	,	,	(Externa	al)				ot.	toot tom	norotura	of	NI/A	
10. 1	mpact test					[Indicate yes		<u> </u>		_ ,	sted]				aı	test tem	perature	. 01	N/A	
11. H	ydro., pneu.,	or con	nb. test p	ressure	Hydr	o. at 98 psi	_ Proof te			•			N	/A						
1	tems 12 and	d 13 t	o be cor	npleted	for tube	sections.														
12. 1	ubesheet_				F304LSS			25.0"			1.56			0.0			Welded			
			[Statio	nary (ma	aterial spec	c. no.)]	[Diameter	(subject to	press	.)] ((Nominal thickr	ness)	(C	Corr. allo	ow.)	Attach	nment (we	elded or	r bolted)	
	_				F304LSS			25.0"			1.56			0.0			Wel			
			[Float	ing (mat	erial spec.	no.)]	(Diameter)		((Nominal thickr	ness)	(C	Corr. allo	ow.)		(Attacl	nment)		
13. T	ubes				TP304LSS			.75			.049	-		234				ight		
			(Materia	al spec. ı	no., grade	or type)		(O. D.)		((Nominal thickr	iess)		(Numbe	er)	[7	Гуре (Stra	aight or	U)]	

									FOI	RIVI U1											Page	2013	
Manı	ufactured by	,	Louis	ville Ex	change	r & '	Vessel Inc	c., 3319	9 Gilm	nore Ind	lustr	rial B	lvd., Loui	svill	le, K	entucl	(y, 40	213, l	JSA				
Manı	ufacturer's S	Serial	No. 19	9-082				CR	N N/A	4					Nati	onal Bo	oard N	o. 942	2				
																				==			
	Items 14-18 hell: (a) No				ed for inn 2	er c	hambers o	,		ssels or o		nels d	f heat excl	•	iers.								
	Сог	urse(s)		N	1ateri	ial		Thickne	ess		Lo	ng. Joint (Ca	at. A)		Circui	n. Joint	(Cat. A	, B, & C)	He	at Treatn	nent	
No.	Diameter		Len	gth	Spec./G	rade	or Type	Nom		Corr.	1	Туре	Full, Spot, No	one	Eff.	Type F	ull, Spo	, None	Eff.	Temp	D.	Time	
1	18.0" OD)	14.	.0"	SA-312	2-TP	304LSS	.188		0.0		1	None	7	70%	1	Nor	ie	70%	N/A		N/A	
1	18.0" OD		8.5	5"	SA-312	2-TP3	304LSS	.188	0.0			1	None	7	70% 1		None		70%	N/A		N/A	
									Во	dy Flange	es on	Shells	i	-									
	_				Flange	el.					Нс						_		Bolting				
No.	Туре		ID	OD	Thk		/lin Hub Thk	'	Materia	erial A		ched	Location	1	Num	& Size		olting aterial	Washer th		ID, Washer Material		
N/A	N/A		N/A	N/A	N/A	N/	/A	N/A		N	N/A		N/A	N	N/A		N/A		N/A	-7	N/A		
45 1	January (a)							1					(h)				٠				_		
15. 1	Heads: (a)	(N/	laterial s	nec num	SA-40			time and	l temn	<u> </u>			(b)	(Mate	erial e	nec nur			04LSS type) (H.T.	_ time :	and temr	2)	
	Location (To			Thickness	mber, grade or type) (H.T.						Conical Apex I			•			Side to Pressure				ory A	,, 	
	Bottom, End		Min.		Corr.		Crown	Knuc		Ratio		Angle	Radiu			11.	Convex				Spot, No	ne Eff.	
(a)	TOP		.125		0.0		N/A	N/A		2:1	1	N/A	N/A	\	+	N/A		Х	1	+	None	70%	
(b)	BOTTON	1	.125		0.0		N/A	N/A	-	2:1	+	N/A	N/A		+	N/A		X	1	-	None 70%		
(~)		.			1			1 11/2					1	•								1.070	
									Boo	dy Flange	s on l	Heads							D. III				
No.	Location	۱ ۱	Гуре	ID	OD	,	Flange Thk	Min H		Materi	ial		ow Attached	_d			- L .		Bolting terial Wash	er (OD			
			71				9	Thk	(Nur	n & Size	Bol	ing Ma	terial ID,	thk)	Washer	Material	
N/A	N/A	N/A		N/A	N/A		N/A	N/A	N	/A		N/A	1	N	N/A		N/A	١	N/A		N/A		
16.	MAWP	75		N	I/A	at ı	max. temp.	3	300 °F	:		N/A		n. de	sign	metal t	emp.	-	20 °F	_ at	75	psi	
		(Inte	rnal)	(Ext	ernal)			(1	Internal	1)	(E	Extern	al)										
17	Impact test						No Mat	erial is	eyem	npt per l	ΙΗΔ.	-51(d)	1					a	t test temp	eratur	e of	N/A	
	impaot toot				[Indic	cate yes or	no and	the co	mponen	nt(s) i	impac	t tested]					_				IV/A	
18.	Hydro., pne	eu., c	or comb	b. test p														N/A					
									•														
	Nozzles, ins	<u> </u>	 .		valve op	enir	ngs:					h	FI. 1						. D 'I				
	se (Inlet, Outlet, etc.)	Drain,	No.	Diameter or Size	Туре	Э	Nozzl	Mate		Flange	_	Nom.	Thickness Corr.		inforce Materi			tacnmen zle	t Details Flange	+	Locatio (Insp. Op		
	Inlet A		1	6"	150# D	ESU	SA-312-TP:					.280	0.0		maton			_	JW-21.1(1a)		Shell		
	Outlet B		1	3"	_		SA-312-TP:				_	.216	0.0						JW-21.1(1a)		Shell		
	Outlet C		1	2"			SA-312-TP:				_	.154	0.0					_ ` /	JW-21.1(1a)	1	Shell		
	Inlet D		1	3"			SA-312-TP:				_	.216	0.0						JW-21.1(1a)		eft Cha		
	Outlet E		1	3"	_		SA-312-TP:				_	.216	0.0						JW-21.1(1a)	_	eft Cha		
	Tube Vent F		1	3/4"	HCOI		SA-182-F3				_	000#	0.0				UW-16			_	ight Cha		
	Tube Drain G		1	3/4"	нсо	UP	1	82-F304LSS				000#	0.0					i.1(c)		+	Right Channel		
	Tube Vent J		1	3/4"	нсо		SA-182-F3				3	000#	0.0				UW-16	W-16.1(c)				nnel	
	Tube Drain K	ζ	1	3/4"	нсо	JP	SA-182-F3				3	000#					UW-16.1			Left Channel		nnel	
;	Shell Drain X		1	1/2"	HCO	JP	SA-182-F3	04LSS			3	000#	0.0				UW-16	.1(c)			Shell		
Add	itional Nozzle	s - Se	e Attach	ned U-4	•		-											1					
20	Supports:	Skirt	No	o Lu	as N	one	l ens	Τ\	WO.	Other	re		N/A	١									
۷٠.	саррона.	JKII L	(Yes o			mbe		Legs Others				N/A (Describe)									Ided to Shell /here and how)		
21. N	//anufacturer's	Partia	`	,	•		•	•	,	d Inspector	rs hav	/e beer	`	,	follow	ing items	of the	eport (I	`		,		
	ufacturer's nar						g	,		- F 2 2 4 2 1						J		(1		L 21.41		1	
	I/A																						
22. F	Remarks																						

Length of tubes: 120.0"
Pressure relief devices by others.

Daramic PO:132854

Manufactured by Louisville Exchanger & Vessel Inc., 3319 Gilmore Industrial Blvd., Louisville, Kentucky, 40213, USA

Manufacturer's Serial No. 19-082 CRN N/A National Board No. 19-082

CERTIFICATE OF SHOP COMPLIANCE We certify that the statements in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. U Certificate of Authorization Number 33385 Expires July 2, 2020												
Date	08/19/2019	Name	Louisville Exchanger & Vess	sel Inc.	Signed	Had Wan						
_			(Manufacturer)			(Representative)						
			CERTIFICATE OF SHO	P INSPECTION								
OneCl	S Insurance Com	npany, of Lynn, M	ion issued by the National Board o		ssel Inspectors	and employed by						
have in	spected the pressu	re vessel described	in this Manufacturer's Data Report o	November 12, 2019	, and state th	nat,						
VESSE concern	L CODE, Section \ning the pressure version \nine	/III, Division 1. By s essel described in th	anufacturer has constructed this pres igning this certificate neither the Insp nis Manufacturer's Data Report. Fur nage or a loss of any kind arising fro	ssure vessel in accordance bector nor his/her employer thermore, neither the Inspec	makes any wa ctor nor his/her	rranty, expressed or implied,						
Dat	te <u>11/12/2019</u>	Signed	(Authorized Inspector)	Commissions: (National Board	Authorized In	16398 spector Commission number)						
			CERTIFICATE OF FIELD ASS ort are correct and that the field asse CODE, Section VIII, Division 1. U Cel	mbly construction of all part		conforms with the requirements Expires						
Date		Name			Signed							
			(Assembler)		g <u></u>	(Representative)						
I, the un	dersigned, holding	g a valid commissio	CERTIFICATE OF FIELD ASS on issued by The National Board o		sel Inspectors	and employed by						
belief, th	e Manufacturer has	, not inclu s constructed and as	turer's Data Report with the describe ded in the certificate of shop inspect ssembled this pressure vessel in acc vas inspected and subjected to a pre	ion, have been inspected by ordance with the ASME BO	y me and to the VILER AND PRI	e best of my knowledge and ESSURE VESSEL CODE,						
Inspecto Furthern	r nor his/her employ	yer makes any warr spector nor his/her e	anty, expressed or implied, concerni employer shall be liable in any manne	ng the pressure vessel desc	cribed in this M	anufacturer's Data Report.						
Dat	re	Signed	(Authorized Inspector)	Commission (National Bo	oard Authorized	d Inspector Commission number)						

3454664 exe: v6.4.50

FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET

As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by Louisville Exchanger & Vessel Inc., 3319 Gilmore Industrial Blvd., Louisville, Kentucky, 40213, USA

. Manufactured for	Daramic, LLC	, 5525 Hw	y 2830, Owensl	boro, Kentuck	ky, 42303	, USA	of Manufacturer)						
. Location of install				4)	Name and add	ress of Pur 2303, U	SA						
Туре	Horizontal		н	leat Exchange	•	e and addre	ess)	19	9-082				
(Hor	Horizontal izontal, vertical, or sphero	ere)	(Tank,	separator, heat exch	h., etc.)	(Manufacturer's serial number)							
N/ (CF	RN)	_	19-082 (Drawing nu										
Data R Item Nu			Remarks										
itional nozzles, ins	i i	ty valve ope		terial	Nozzle T	hickness	Deinfersement	Attachme	nt Details	Location			
ose (Inlet, Outlet, Drain, etc.)	No. Diameter or Size	Туре	Nozzle	Flange	Nom.	Corr.	Reinforcement Material	Nozzle	Flange	Location (Insp. Open.)			
Shell Drain Y	1 1/2"	HCOUP	SA-182-F304LSS		3000#	0.0		UW-16.1(c)		Shell			
Certificate of Auth	orization: Type _	"U"	No. <u>:</u>	33385			_ Expires _ July 2	2, 2020	7 .	<u> </u>			
Date 08/19/2019		/	1 /	changer & Vesse			Signed		(Represent	en ative)			
Date 11/12/2019	Signed	A	(Authorized Inspector))	Comi	missions	(National E		6398 Inspector Comm	nission number)			