Page	1	of	3	

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

1. N	/lanufacture	d and ce	ertified by					han Distr	quipment Co rict, Wuxi Cit (Name and addr	ty, Jiangsu	Province 2					
2. N	/lanufacture	d for							Not know	'n	acturer)					
0.1		-4-11-4:						(Name	and address of							
3. L	ocation of in	istallatio	on						Not kno (Name and a							
			\/a-	4:!		(0	:1/-4		exchanger	D 4)/40 W	750)		10.00			
4. 1	ype	(Horizontal, ve	tical rtical, or sphe	re)	(O	(Tank,	separator,	hanger 621 jkt. vessel, heat	exch., etc.)	752)	(N	VVZA Nanufacturer	121-25 r's serial		
_		N/			WX	ZC21A18		v.1		156				2021		
5 4	SME Code,	(CR			2019 Ed	(Drawing r	number)			(National Boar IA	rd number)			Year bu	ilt)	
J. /	COVIL COde,	Section	i viii, Div. i	[Edition	and Addenda,		(date)]	-		se number)		[S	pecial servic	NA ce per U	G-120(d)]	
Iter	ns 6–11 inc	l. to be	completed	for single v	vall vessels, j	iackets of	jacketed	vessels,	shell of heat	exchanger	s, or chamb	er of multic	hamber v	essels		
6. 8	Shell: (a)	Numbe	er of course	s)		3			(b) Overall	length _		2	2914mm			
	Со	urse(s)		_	aterial c./Grade	Thick	kness	L	ong. Joint (Ca		Circum. J	oint (Cat. A,	B & C)	He	eat Treatm	nent
No.	Diamete	er	Length		Type	Nom.	Corr.	Туре	Full, Spot None	Eff.	Туре	Full, Spot, None	Eff.	Tem	np.	Time
	See attac	hed														
1	form U-4															
+	1 of 2	!														
							Body	Flanges	on Shells							
No.	Туре	ID	OD	Flange	Min Hub	Materia	al I	How	Location		. Гв	Bolti olting	ing Washe	r	Wash	ner
	-			Thk	Thk		At	ttached		Num & S		aterial	(OD, ID, t		Mate	
NA																
7. H	leads: (a)				NA				(b)			N	IA			
			(Mater	al spec. numb	er, grade or type	e) (H.T. — ti	me and tem	np.)	(12)	(N	Material spec. r	number, grade		Γ. — tim	e and temp	.)
	Location (Top,	1	Thickness		Radius	Ellipti	ical	Conical	Hamianharias	- Flot	Side to	Pressure		Cate	egory A	
	Bottom, Ends)	N	Min. Co	orr. Cro	wn Knuckl		io '	Apex Angle	Hemispherica Radius	al Flat Diameter	Convex	Concave	Туре		ull, Spot, None	Eff.
(a)	NA															
							Body	Flanges o	n Heads							
	Location	Tv	pe IE	OD	Flange	Min Hu	ıb M	laterial	How		T B	Bolti	ing Washe	-	Wash	201
		1 ,			Thk	Thk			Attached	Num & S	178	aterial	(OD, ID, t		Mate	
(a)	NA															
8. T	ype of jacke	t			NA				Jacket closur	е			NA			
14	bar, give dir	manaiar	as if baltad	doooribo or	alsatah							escribe as oge	e and weld,	bar, etc	C.)	
					MD-			2000	200	20	IA		1000		4.0	NAD -
9. N	IAWP	1.2MI (Intern			MPa a ernal)	t max. tem		220°C nternal)			design meta	ıl temp	-10℃	at	1.2	MPa
10.	Impact test					Per UHA					at t	est temperat	ure of		NA	
11	Uudra paav		nah taat nya		Indicate yes or n								NIA			
	Hydro., pnei ns 12 and 1	,			Hydro. Te	stat 1.0	/IVIPa (П	orizonta	<u>ı)</u> Pr	oof test _			NA			
nen	is iz and i	3 10 56	completed	ioi tube se	cuons.											
					_											
12.	Tubesheet		SA-240 (Top & Bo		7	90mm/79 (O.D			40mm/40n (Nominal		0mm/0mm	1	Wel	ded/M	/elded	
		[Stat	tionary (mater		[Diam	eter (subjec]	(Nominal thickr		(Corr. allow.)				ed or bolted	l)]
		[Flo	NA pating (materia	spec. no.11	_	NA (Diamete	er)		NA (Nominal thickr	ness)	NA (Corr. allow.)			NA Attachm	ent)	
13.	Tubes		A-213 TP:			19.05m	,		1.65mm		569 pcs				8000mm)	
			al spec. no., g			(O.D.)		/	(Nominal thickr	ness)	(Number)			e (straigh		
							C	neurs	hengm			Diag	my 1	an		
								2021	. 12.27	ř		, ,	ker 21	1:	21	
												Decemb	er 21	1, "		

FORM U-1

										FORM	/I U-1					F	Page	2	of _	3	
Manut	actured by							Mus	vi Zhicho	na Rioche	mical Engir	oor	ina Ec	nuinmont	+ Co. 1+	· d					
	actured by acturer's Se					A21-25				ing bloche	mical Engir NA		ilig Ec			d No		1	56		
Items	s 14–18 inc	l. to b	e com	pleted	for inn	er chai	mbers	of jacke	ted vesse	els or chan	nels of heat	excl	hanger	rs.							
14. S	hell: (a) Num	per of	course	(s)		1/	l (Top/l	Bottom)		_ (b) Ove	rall l	ength			27mm/4	27mm	(Top/B	ottom)		
	Cour	se(s)				aterial		Thick	ness	Long	g. Joint (Cat.	A)		Circu		(Cat. A, B			Heat Tre	atme	nt
No.	Diamet	er	Leng	gth	-	c./Grad Type	ie	Nom.	Corr.	Туре	Full, Spot, None	E	ff.	Туре	9	Full, Spot, None	Eff.	Т	emp.	Т	ime
1	1.D. 680mn	n	427n	nm	SA-	240 30	4	6mm	0mm	1	Spot	0.	.85	1/Man. <i>A</i> Fig. 2-4		Spot/NA	0.8 NA		NA	1	NA
2	1.D. 680mr	n	427n	nm	SA-	240 30	4	6mm	0mm	1	Spot	0.	.85	1/Man. <i>A</i> Fig. 2-4		Spot/NA	0.8 NA		NA	1	NA
										Body Flange	es on Shells										
No.	Туре	ID		DD	Flan		Min Hu Thk	b M	laterial	How Attached	Locatio	n	Num	n & Size		olting	olting W	asher	T \	Vash	er
						<u> </u>		-		Attached			Null	1 & 5126	Ma	iterial		ID, thk)	N	/lateri	al
1 FM 695 790 Nominal NA SA-182 Welded Top 24& SA-193 B8 7.5/T3.5 SA-193 B8 (mm)									-240	304											
		695	7	90	Nomi	nal			A-182				,	24&				43.5/I.D.			
2	FM	mm		nm	65m		NA		F304	Welded	Тор			X155mm	SA-	193 B8		5/T3.5 mm)	SA	-240	304
15. H	eads: (a)	То	p: SA-					type) (H.	NHT T. — time a	and temp.)	(b)	Во			04 Cold umber, grad)
	Location Thickness Radius (Top, Rettorn Min Corr County Manual Parties Apex Redius Flat Side to Pressure Category A Full, Spot, Full, Spot, Full Spot, Fu																				
	Bottom, Ends)		Min.		Corr.	Crov		nuckle	Ratio	Apex Angle	Rad			meter	Convex	Conc	ave	Туре	Full, Sp None		Eff.
(a)	Тор		5mm		0mm	R 68	1	R 68 mm	NA	NA	N/	4		NA	No	Yes	s	S	Full		0.85
(b)	Bottom		5mm		0mm	R 68		R 68 mm	NA	NA	N/	4		NA	No	Yes	s	S	Full		0.85
										Body Flange	s on Heads										
	Location	Ту	rpe	ID)	OD		nge hk	Min Hub Thk	Material	How Attache	ed	Num	n & Size		Boolting aterial		asher , ID, thk)		Nash Nater	
(a)	NA																				
16. N	IAWP	0.6N		_		0.1 (Externa	al)	at max	temp.	220°C (Internal)		220 Exter		_ Min. de	sign me	tal temp.		10℃	at _	0.6	ИРа
17. lr	npact test					[Indic			UHA-51(d)(e)(h) nent(s) impac	t tested]				at te	est temper	ature c	f	N/	4	
	ydro., pneu				-		,	Test a	t 0.84MF	a (Horizor	ntal)	Pro	oof test	t			N/	Α			
	ozzles, insp	pection	i, and s	safety	valve op	enings	:				T			T		T .			1	Loc	ation
(Inle	rpose t, Outlet, in, etc.)	No.		neter o Size	or	Туре		Non	Materia		Nozzle	Thick			orcemer aterial	11		ent Deta		(Ir	nsp. pen.)
-	attached							Noz	ZIE	Flange	Nom.	-	Corr.			IN IN	ozzle	FIE	ange		
	m U-4																				
page	e 2 of 2																				
20. S	upports: Sk	kirt -	(Yes	or no)	_ Lug		4 umber)	_ Le	gs (N	NA Ot	thers		7 Lifti (Des	ng lugs scribe)		_ Attach	ned _		Remark Where and		
	lanufacture ist the name										d Inspectors	have	been	furnished	for the t	ollowing it	tems of	the repo	ort		
	emarks										NA										
_	1, Impact t 2, PWHT a						e)(h).														
	3, The safe	ety va	lve is	to be	installe	d at p															
	1, For eac 5, UG-46(a										heat excha	ngei	rs.								
-	3,The chai	nnel fl	ange	gaske	ets:O.D	.721/I.	D.695	X3mm,	GARLO	CK 3510,2	pcs.										
_	,4 Litting	iugs v	velded	to th	e lop l	nead a	and bot	tom ch	annel sh		ers welded					21		10 11.20			
											henrhe	0		J), w	3	000	wl		
										2	JU1. 12	•	w			De	cembe	12,	WV		

		F	FORM U-1		Page 3 of 3
Manufactured by		Wuxi Zhichena F	Biochemical Engineerin	a Fauinment Co. Ltd	
Manufacturer's Serial No.	WZA21-25	CRN	NA	National Board No.	. 156
		CERTIFICATE	OF SHOP COMPLIAN	ICE	
We certify that the stateme conform to the ASME BOILER AN		are correct and that	all details of design,		n, and workmanship of this vessel
U Certificate of Authorization Nun	nber36	5,922	Expires Sept.	21, 2022	
Date 2011. 12. 21	Name —	Wuxi Zhicheng Bioch Equipment (Manufa	t Co., Ltd.	Signed Ches	(Representative)
		CERTIFICATE	E OF SHOP INSPECTI	ON	
	g a valid commission A Verification Limited		ational Board of Boile of	r and Pressure Vesse	I Inspectors and employed by UK
PRESSURE VESSEL CODE, or implied, concerning the probe liable in any manner for any post-	knowledge and be Section VIII, Division essure vessel descr ersonal injury or proper	lief, the Manufacture n 1. By signing this co ribed in this Manufac	er has constructed this ertificate neither the Ins sturer's Data Report. Fu	s pressure vessel in ac spector nor his/her emplo urthermore, neither the l	, and cordance with ASME BOILER AND oyer makes any warranty, expressed inspector nor his/her employer shall
Date Member 21, 121	Signed	Jiangang W (Authorized Insp			Al Commission No.: 14743 pard Authorized Inspector Commission number)
	(CERTIFICATE OF FI	ELD ASSEMBLY COM	//PLIANCE	
We certify that the statement of ASME BOILER AND PRESSU	· · · · · · · · · · · · · · · · · · ·		eld assembly construct	ion of all parts of this ve	essel conforms with the requirements
U Certificate of Authorization Nur	nber		Exp	ires	·
Date	Name			Signed	
		(,	Assembler)		(Representative)
		CERTIFICATE OF F	TELD ASSEMBLY INS	PECTION	
I, the undersigned, holding	a valid commission	n issued by the Nati	ional Board of Boiler a	and Pressure Vessel In	spectors and employed by
with the ASME BOILER AN hydrostatic test of	data items best of my knowled ID PRESSURE VE	ge and belief, the M SSEL CODE, Secti By signing this c ibed in this Manufac	lanufacturer has const on VIII, Division 1. T certificate neither the Ins cturer's Data Report.	not included in the cer ructed and assembled he described vessel w pector nor his/her employ Furthermore, neither t	n the described pressure vessel rtificate of shop inspection, have been this pressure vessel in accordance was inspected and subjected to a ver makes any warranty, expressed or he Inspector nor his/her employer ction.
Date	Signed			Commissions	
		(Authorized Ins	pector)	(National Bo	ard Authorized Inspector Commission number)

rage I OI Z	Page	1	of	2
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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 Wuxi Zhicheng Biochemical Engineering Equipment Co.,Ltd. No.8 Baoyuan Road Machinery Equipment Industrial Park,B Zone YangjianTown,Xishan District, Wuxi City, Jiangsu Province 214108 People's Republic of China. (Name and address of Manufacturer)												lustrial ina.		
2. Mai	nufactured for						Not known		urer)					
3. Loc	ation of installat	ion					Not known	naser)						
4. Тур	ie.					Heat e	exchanger							
1. 196		Vertice (Horizontal, vertical		(O	il/steam h	neat exchange ank, separat	anger 621B.1) or, heat exch., etc.)(19-X-7 .)	52)	WZA21-25 (Manufacturer's serial number)				
		NA (CRN)	WXZC21A18-00 Rev.1 156 (Drawing number) (National Board number)						number)			2021 ear built)		
Data I	Report												-	
Ite	em													
Nun						Re	marks							
Iter Sh														
	Course(s)	Material	Thick	ness	Lo	ng. Joint (Cat. A	4)	Circum. J	oint (Cat. A,	B, & C)	Heat T	reatment	
No.	Diameter	Length	Spec./Grade or Type	Nom.	Corr.	Туре	Full, Spot, None	Eff.	Туре	Full, Spot, None	Eff.	Temp.	Time	
1	I.D.680mm	1500mm	SA-240 304	6mm	0mm	1	Spot	0.85	1/ Fig.UW- 13.2(j)	Spot/NA	0.85/ NA	None	NA	
2	O.D.922mm/ O.D.692mm	216mm	SA-240 304	6mm	0mm	1	Full	1	1/ 1	Spot/ Spot	0.85/ 0.85	None	NA	
3	I.D.680mm	1198mm	SA-240 304	6mm	0mm	1	Spot	0.85	1/ Fig.UW- 13.2(j)	Spot/NA	0.85/ NA	None	NA	
Certi	ficate of Authori	zation: Type	U	No		36,9	922	Expire	es	S	ept. 21,	2022		
Date	ho/o mhok	2. 21 12, 20	Name	Enç	(Mi	Equipme anufacturer)	nt Co., Ltd.		Sign	(ne		ing mi]	
Date			- Jigileu	Jiangang (Authorized I			Commissions			Al Commiss and Authorized I			umber)	

Page 2 of	2
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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 cer	тіпеа бу	Park,B Zone `	YangjianTown	Xishan Distr		y, Jiangsu	Province 21						
2. Manufactured	for _				(Name	Not kno								
3. Location of ins	tallation	i			,	Not kno	own							
						Name and addre	,							
4. Type		Vertic		(Oil/st	eam heat ex	changer 621	B.1)(19-X							
	(F	lorizontal, vertic		N7001		arator, heat exch			(Manı	(Manufacturer's serial number)				
_		(CRN)		(Drawing numb			(National Bo			2021 (Year built)			
Data Report														
Item														
Number			Remarks											
Item 19	Nozzl	es, inspection	on, and safety valve	e openings:										
Purpose		Diameter		Mate	erial	Nozzle Th	nickness	Reinforce	Attachm	Location				
(Inlet, Outlet, Drain, etc)	No.	or Size (mm)	Туре	Nozzle	Flange	Nom.	Corr.	ment Material	Nozzle	Flange	(Insp. Open.)			
			ASME B16.5-											
S1	1	O.D.	2013	SA-312	SA-182	6.02mm	0mm	SA-240	Fig.UW-	Fig. UW-	NA			
Steam inlet		114.3mm	CI.150 flg.	TP304	F304			304	16.1(e)	21(1)				
			ASME B16.5-											
S2		O.D.	2013	SA-312	SA-182			SA-240	Fig.UW-	Fig. UW-				
Condensate outlet	1	114.3mm	CI.150 flg.	TP304	F304	6.02mm	0mm	304	16.1(e)	21(1)	NA			
			SO RF											
			ASME B16.5-											
S3 Shell side vent	1	O.D. 21.3mm	2013	SA-312	SA-182	2.77mm	0mm	Integral	Fig.UW-	Fig. UW-	NA			
Stiell side verit		21.311111	CI.150 flg.	TP304	F304				16.1(c)	21(1)				
			ASME B16.5-											
T1		O.D.	2013	SA-312	SA-182	7.44	0	SA-240	Fig.UW-	Fig. UW-				
Product 1+BE inlet	1	168.3mm	CI.150 flg.	TP304	F304	7.11mm	0mm	304	16.1(e)	21(1)	NA			
met			SO RF											
T2			ASME B16.5-											
Product 1+BE	1	O.D.	2013	SA-312	SA-182	7.11mm	0mm	SA-240	Fig.UW-	Fig. UW-	NA			
outlet		168.3mm	CI.150 flg. SO RF	TP304	F304			304	16.1(e)	21(1)				
			ASME B16.5-											
V1/V2/V3		O.D.	2013	SA-312	SA-182				Fig.UW-	Fig. UW-				
Tube side vent	3	21.3mm	Cl.150 flg.	TP304	F304	2.77mm	0mm	Integral	16.1(c)	21(1)	NA			
			SO RF											
			ASME B16.5-											
D1/D2/D3	3	O.D.	2013	SA-312	SA-182	3.38mm	0mm	Integral	Fig.UW-	Fig. UW-	NA			
Tube side drain		33.4mm	Cl.150 flg.	TP304	F304				16.1(c)	21(1)				
			SO RF											
Certificate of Autl	horizatio	on: Type	U	No.	36	,922	Expi	res	Se	pt. 21, 2022				
Date 2521.	12. 2	n	Name	Wuxi Zhicher Engineering E				Signe	ed Ches	nzhengn	nig			
					(Manufacture	er)				(Representat	ive			
Date Delember	22.	2021		Dir	you wan				0	- No. 4 -				
Date Deleganter		,	Signed	Jiangang Wa		Commiss	sions			n No.: 14743	on numbers			
				Authorized Inspec	ior)			(ivational Boar	u Authorized Ins	spector Commissi	on number)			

FORM U-5 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET SHELL-AND-TUBE HEAT EXCHANGERS

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

1. Manufactured	and certified		Zhicheng E k,B Zone \	Biochemical YangjianTov	n,Xishan Distri	uipment Co.,I ct, Wuxi City,	Jiangsu Prov	ince 214108 P	achinery Equence (uipment Industrial public of China.
2. Manufactured	for					Not know	vn ,			
3. Location of ins	stallation				(Name	and address of Pu Not knov	•			
4.Type	Vertica				WZA	121-25	NII .		NA	
	(Horizontal, vertica				(Manufacturer	's serial number)			(CRN	1)
	C21A18-00 F (Drawing number								202 (Year b	
			F	FIXED TUBES	SHEET HEAT EX	CHANGERS				
	Desi	gn/Operating P	ressure Ra	nges	De	sign/Operating N	Metal Temperat	ures	Allowable A	Axial
Name of Condition	Shell	Side	Tube Side		Shell	Channel	Tubes	Tubesheet	Differential Expansion	
	Min.	Max.	Min.	Max.					Min.	Max.
Danima	(MPa)	(MPa)	(MPa)	(MPa)	(°C)	(°C)	(°C)	(°C)	(mm)	(mm)
Design Operating	-0.1	0.8	-0.1	0.6	-10/220	-10/220	-10/220	-10/220	0	0
Operating	/	0.8	/	0.28	175.5/175.4	84.2/105	84.2/105	175.5/175.4	0	0
	+									
Data Repo						Remarks				
22		***************************************				Remarks 4	4			
Certificate of Auth	orization: Ty	/pe	U	No.	36	,922	Expires		Sept. 21,	2022
Date 2011.	12. 22	Name			heng Biochemi			Signed	henzhe	eng ma
	-			- nameeting	J Equipment Co (Manufacture				(Rei	presentative)
Detamb	121, 202				, aring war	1				
Pate	,	Signed		Jiangang V		Commission			nission No.:	
				(Authorized Ins	bector)		(Nat	ional Board Authori	ized Inspector (Commission number)