



## REQUIRED AUTOCLAVE DOCUMENT CHECKLIST

National Board registered drawing #: F01J090-0 Rev. 0 NB# 1, 2, 3, 4, 5, 6

Autoclave Serial#: 18R636/37/38/39/40/41 Autoclave Type: Horizontal Date: 10 August 2018

Item	Description	OLYMSPAN QC	ASME Inspector	SICE Inspector
✓ 1	All Material Test Reports (MTR) stamped by ASME authorized inspector including nozzles, vessel walls, heads, door flange		N/A	
✓ 2	All WPS (Weld procedure specification) per ASME Section IX forms signed by authorizing authority relating to all pressure welds (i.e. vessel wall welds, nozzle welds, head welds and door flange welds)		N/A	
✓ 3	All PQR (procedure qualification records) per ASME Section IX forms signed by authorizing authority relating to all pressure welders for each WPS weld type relating to all pressure welds.		N/A	
✓ 4	External inspection table weld correlation table showing MTR heat number to weld procedure, welder number, and ASME inspector sign off for each weld		N/A	
✓ 5	NDE (Radiography) examination report signed by Authorized inspector. Calibration certificate for radiography examination.		N/A	
✓ 6	Hydrostatic shell test Report signed by Authorized inspector for each autoclave. Pressure gauge calibration certificates.		N/A	
✓ 7	Facsimile of code symbol nameplate with NB number, autoclave serial number, MAWP, MDMT, DT		N/A	
✓ 8	ASME code U-1 Manufacturer's Data Report		N/A	
✓ 9	ASME U Stamp certificate		N/A	
10	Factory Acceptance Test Report signed by Olymspan and inspector		N/A	
11	<del>Thermocouple, pressure transmitter, pressure gauge calibration certificates</del>			
12	<del>All 3<sup>rd</sup> party part manufacturer specifications (valves, terminal blocks, transformer, variable frequency converter, PLC, displays, mufflers)</del> Declaration of No Asbestos			

OLYMSPAN QC NAME: \_\_\_\_\_

SICE Inspector NAME: \_\_\_\_\_

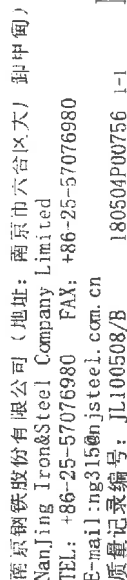


## **Item 1**









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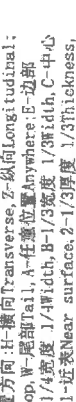
## MILL TEST CERTIFICATE

订单 ITEM NO	产品编号 PRODUCT No.	试片编号/批号 SAMPLE ID/LOT NO.	规格 (mm) DIMENSIONS	重量 WEIGHT g	分析 区域 A, A	化学成分 CHEMICAL ANALYSIS (wt%)														拉伸试验 G.L. = C				A0	B0	B.T	U.T
						C	Si	Mn	P	S	Alt	Nb	V	Ti	Cu	Cr	Ni	Mo	CEV	B	屈服 Y.S.	抗拉 T.S.	伸长 E.L.	常温 拉伸 位置	弯曲 试验 位置	弯曲 试验 位置	冲击 试验
						X10 <sup>-2</sup>	X10 <sup>-2</sup>	X10 <sup>-2</sup>	X10 <sup>-3</sup>	X10 <sup>-3</sup>	X10 <sup>-3</sup>	X10 <sup>-3</sup>	X10 <sup>-2</sup>	X10 <sup>-2</sup>	X10 <sup>-2</sup>	X10 <sup>-2</sup>	X10 <sup>-2</sup>	X10 <sup>-3</sup>	X10 <sup>-2</sup>	X10 <sup>-2</sup>	MPa	MPa	%				
003	18203467010201	18203467010201	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	370	540	30.0	THE5	THE1	THE1	OK
003	18203467010202	18203467010201	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	370	540	30.0	THE5	THE1	THE1	OK
003	18203467040102	18203467040102	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	371	535	33.0	THE5	THE1	OK	OK
003	18203467040201	18203467040102	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	371	535	33.0	THE5	THE1	OK	OK
003	18203467050101	18203467050101	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	362	555	29.0	THE5	THE1	OK	OK
003	18203467050102	18203467050101	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	362	555	29.0	THE5	THE1	OK	OK
003	18203467050201	18203467050101	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	362	555	29.0	THE5	THE1	OK	OK
003	18203467060101	18203467060101	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	368	540	31.0	THE5	THE1	OK	OK
003	18203467060102	18203467060101	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	368	540	31.0	THE5	THE1	OK	OK
003	18203467060201	18203467060101	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	368	540	31.0	THE5	THE1	OK	OK
003	18203467060301	18203467060101	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	368	540	31.0	THE5	THE1	OK	OK
003	18203467070101	18203467070101	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	372	530	31.0	THE5	THE1	OK	OK
003	18203467070102	18203467070101	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	372	530	31.0	THE5	THE1	OK	OK
003	18203467070201	18203467070101	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	372	530	31.0	THE5	THE1	OK	OK
003	18203467070202	18203467070101	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	372	530	31.0	THE5	THE1	OK	OK
003	18203467080101	18203467080101	10. 00*2000*1000	1.570	L	18	32	127	11	1	41	0.1	0.1	0.4	1	2	1	0.4	40	5	365	545	30.0	THE5	THE1	OK	OK

材料标记  
885-4C 9D 4C  
CODED MARKING

Acceptable Material

CS&I  
WIL. REV. Acc.  
Jrow Hu

交货状态=热轧 as-rolled A. 分析区域 Analysis region: L-熔炼成分 Smelting Composition: C-成品成分 Composition of product: D. L=位置方向: H-横向 Transverse, Z-纵向 Longitudinal; T-头部 Top, W-尾部 Tail, A-任意位置 Anywhere; E-边缘 Edge, B-1/4宽度 1/4Width, B-1/3宽度 1/3Width, C-中心 Center; I-近表面 Near surface, 2-1/3厚度 1/3Thickness, 3-1/4厚度 1/4Thickness, 4-1/2厚度 1/2Thickness, 5-全厚度 Through Thickness 弯曲Bending: 弯曲角度 Bending angle=180°	弯心直径 Bending diameter=15 CEV=C-Mn/6+(Cr+V+Mo)/5+(Cu+Ni)/15 A0-Tensile test sample location G-L=Gauge Length 拉伸标距 C:L0=50 mm V-S=Field Strength T-S=Tensile Strength E.L=Percentage Elongation After Fracture B0-Bend test sample location B. T=Bend Test U. T=Ultrasonic Testing	审核 日期 2018.5.7 2018.5.7  	质量负责人 检验站站长 2018.5.7	重量 尺寸 检验合格	重量 尺寸 检验合格

注: 产品牌号以质量证明书为准 Note: grade of steel with mill test certificate shall prevail





常州市鹏铠机械制造有限公司  
CHANGZHOU PENGKAI MACHINERY CO. LTD

质量证明书

QUALITY CERTIFICATE

证书编号

Certificate No:

材料名称

Name of Material:

材料标准

Matl Spec:

2018-5-31

SA-105M

ASME SA-105/SA-105M-2015



客户名称

Purchaser:

采购说明书号

Exponent No:

用户工作令号

Customer Work No:

报告日期

Date of Report:

江苏奥琳斯邦热能设备有限公司

F01J090-PS-3/Rev.0

18R636-641

2018.5.20

锻件标准 Article Standard		ASME SA-105/SA-105M-2015		级别 Class		/		锻造比 Forging		≥3		热处理状态 Heat Treatment		正火 N 920℃		热处理炉 Heat Treatment Lot		18051503											
化学成分 Chemical Composition %																													
熔炼号 Heat No		C		Si		Mn		P		S		Cr		Ni		Mo		Cu		Nb		Al		V		N		Co	
170618-1		≤0.35		0.10-0.35		0.60-1.05		≤0.035		≤0.040		≤0.30		≤0.40		≤0.12		≤0.40		/		/		≤0.08		/		/	
分析值Heat Analysis		0.21		0.23		0.94		0.018		0.005		0.03		0.01		0.004		0.03		/		/		0.006		/		/	
试样 Sample		超声波探伤检查(UT) Ultrasonic Examination		0.018		0.018		0.018		0.018		0.018		0.018		0.018		0.018		0.018		0.018		0.018		0.018		0.018	
试验取样位置 Sample Position		标准值 Requirement		试验值 Actual		550		320		30		52		≥30		≥22		≥250		≥485		550		320		30		52	
试验规格 Size of Sample		试验温度 Temp		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃	
D0(mm)		LC(mm)		50		50		50		50		50		50		50		50		50		50		50		50		50	
12.5		50		50		50		50		50		50		50		50		50		50		50		50		50		50	
拉伸试验Tensile Test																													
试验规格 Size of Sample		试验温度 Temp		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃	
D0(mm)		LC(mm)		50		50		50		50		50		50		50		50		50		50		50		50		50	
12.5		50		50		50		50		50		50		50		50		50		50		50		50		50		50	
冲击试验 Impact-Test																													
试验规格 Size of Sample		试验温度 Temp		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃	
D0(mm)		LC(mm)		50		50		50		50		50		50		50		50		50		50		50		50		50	
12.5		50		50		50		50		50		50		50		50		50		50		50		50		50		50	
硬度 Hardness (HB)																													
试验规格 Size of Sample		试验温度 Temp		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃	
D0(mm)		LC(mm)		50		50		50		50		50		50		50		50		50		50		50		50		50	
12.5		50		50		50		50		50		50		50		50		50		50		50		50		50		50	
外观及尺寸 Visual&Dim. Inspection																													
试验规格 Size of Sample		试验温度 Temp		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃	
D0(mm)		LC(mm)		50		50		50		50		50		50		50		50		50		50		50		50		50	
12.5		50		50		50		50		50		50		50		50		50		50		50		50		50		50	
试验或检验数据 Test Conclusion																													
试验规格 Size of Sample		试验温度 Temp		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃		20℃	
D0(mm)		LC(mm)		50		50		50		50		50		50		50		50		50		50		50		50		50	
12.5		50		50		50		50		50		50		50		50		50		50		50		50		50		50	
产品内容 Detailed List																													
件号 Part No.		图号标准 Standard No.		名称 Name		规格 Size		数量 Piece		件号 Part No.		图号标准 Standard No.		名称 Name		规格 Size		数量 Piece											
1		棒Bar		φ 21. 3x5 L=151		6		✓		6		✓		棒Bar		φ 45x10 L=160		18											
2		棒Bar		φ 21. 3x5 L=72		6		✓		6		✓		棒Bar		φ 25x6. 9 L=160		18											
3		棒Bar		φ 48. 3x6 L=130		6		✓		6		✓		棒Bar		φ 40x8 L=160		12											
4		棒Bar		φ 76. 2x10 L=160		36		✓		36		✓		棒Bar		φ 40x8 L=160		12											
5		棒Bar		φ 45x7. 8 L=160		18		✓		18		✓		棒Bar		φ 40x8 L=160		12											
备注 Note		本合格证中的材料是按上述标准和技术条件进行制造、取样、试验和检验，并满足要求。 The material herein described has been manufactured sample tested and inspected in accordance with above standard and specification and satisfies the requirements.																											
检验员 Inspector:		质量保证工程师 Q. C Engineer:																											
制造单位签章 Supplier Stamp:		制造单位签章 Supplier Stamp:																											





常州市鹏铠机械制造有限公司  
CHANGZHOU PENGKAI MACHINERY CO. LTD

质量证明书

QUALITY CERTIFICATE

证书编号

Certificate No:

2018-5-29

材料名称

Name of Material:

SA-105M

材料标准

Matl Spec:

ASME SA-105/SA-105M-2015



客户名称

Purchaser:

江苏奥琳斯邦热能设备有限公司

采购说明书号

Exponent No:

/

用户工作令号

Customer Work No:

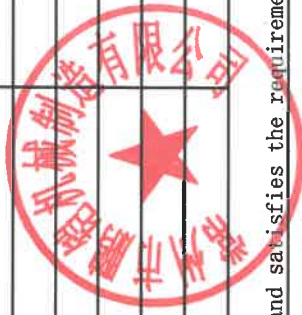
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报告日期

Date of Report:

2018.5.20

锻件标准 Article Standard		ASME SA-105/SA-105M-2015		级别 Class		/		锻造比 Forging		≥3		热处理状态 Heat Treatment		正火 N 920℃		热处理炉 Heat Treatment Lot		18051501											
化学成分 Chemical Composition %																													
熔炼号 Heat No		C		Si		Mn		P		S		Cr		Ni		Mo		Cu		Nb		Al		V		N		Co	
170618-1		标准值 Requirement		≤0.35		0.10-0.35		0.60-1.05		≤0.035		≤0.040		≤0.40		≤0.12		≤0.40		/		/		≤0.08		/		/	
		分析值 Heat Analysis		0.21		0.23		0.94		0.018		0.005		0.03		0.01		0.004		0.03		/		0.006		/		/	
试样取样位置 Sample Position		试样		Sample		超声波探伤检查 (UT) Ultrasonic Examination		合乎标准及级别 Standard and Class		其他试验 Test Item		试验结果 Test Results		Test or Evaluation Criteria															
试验或检验数据 Test Conclusion																													
拉伸试验 Tensile Test																													
试样规格 Size of Sample		试验温度 Temp		抗拉强度 T.S (MPa)		屈服强度 Y.S R <sub>p0.2</sub> (MPa)		延伸率 A (%)		断面收缩 率 Z (%)		试验温度 Temp		试样规格 Size of Sample		缺口形式 of Notch		冲击功 AkV (J)		硬度 Hardness (HB)		外观及尺寸 Visual&Dim. Inspection							
D0 (mm)		LG (mm)		20℃		标准值 Requirement		≥485		≥250		≥250		≥22		≥30		/		≤187		Acceptable							
12.5		50				试验值 Actual		550		320				30		52		/		158/155/151									
产品内容 Detailed List																													
件号 Part No.		图号标准 Standard No.		名称 Name		规格 Size		数量 Piece		件号 Part No.		图号标准 Standard No.		名称 Name		规格 Size		数量 Piece											
1				釜体法兰 Flange of Body		φ 1068/φ 900 L=130		6						名称 Name															
2				釜盖法兰 Flange of Cover		φ 992/φ 890 L=115		6						图号标准 Standard No.															
														材料标记 Acceptable Material															
														材料标记 CODED MARKING															
														审核 REVIEWED BY															
														日期 DATE															
														2018.5.20															
备注 Note		本合格证中的材料是按上述标准和技术条件进行制造、取样、试验和检验，并满足要求。 The material herein described has been manufactured sample tested and inspected in accordance with above standard and specification and satisfies the requirements.																											
检验员 Inspector: 7.3-1																			质量保证工程师 Q.C Engineer:		制造单位签章 Supplier Stamp:								







# QUALITY CERTIFICATE

Matl Spec:

ASME SA-105/SA-105M-2015



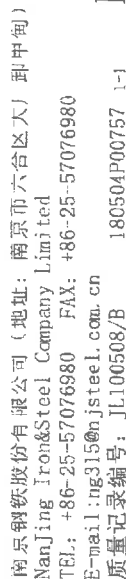
Date of Report: 2018 5 20

18R636-641

Date of Report: 2018.5.20

锻件标准 Article Standard				ASME SA-105/SA-105M-2015				级别 Class		/		锻造比 Forging		≥3		热处理状态 Heat Treatment		正火 N 920℃		热处理炉 Heat Treatment Lot		18051503									
化学成份 Chemical Composition %																															
熔炼号 Heat No				C		Si		Mn		P		S		Cr		Ni		Mo		Cu		Nb		Al		V		N		Co	
标准值 Requirement		≤0.35		0.10-0.35		0.60-1.05		≤0.035		≤0.040		≤0.30		≤0.40		≤0.12		≤0.40		≤0.08		/		/		/		/		/	
分析值 Heat Analysis		0.21		0.23		0.94		0.018		0.005		0.03		0.01		0.004		0.03		0.006		/		/		/		/		/	
试样取样位置 Sample Position				试样 Sample				超声波探伤检查 (UT) Ultrasonic Examination				合乎标准及级别 Standard and Class				其他试验 Test Item				试验结果 Test Results				试验或评定标准 Test or Evaluation Criteria							
试验或检验数据 Test Conclusion																															
拉伸试验 Tensile Test												冲击试验 Impact-Test																			
试样规格 Size of Sample		试验温度 Temp		抗拉强度 T.S (MPa)		屈服强度 Y.S Rp0.2 (MPa)		延伸率 A (%)		断面收缩 率 Z (%)		试验温度 Temp		试样规格 Size of Sample		缺口形式 Type of Notch		冲击功 AkV (J)		硬度 Hardness (HB)		外观及尺寸 Visual&Dim. Inspection									
DO (mm)		20℃		≥485		≥250		≥22		≥30		/		Wit. Rv. Acc. / Jaws Hu / May 23, 2018		/		/		≤187		Acceptable									
12.5		50		标准值 Requirement		320		30		52		/		/		/		/		158/154/151		/									
产品内容 Detailed List																															
件号 Part No.		图号标准 Standard No.		名称 Name		规格 Size		数量 Piece		件号 Part No.		图号标准 Standard No.		名称 Name		规格 Size		数量 Piece													
1		F01J090A-1-5		中心轴 Center axis		φ90 L=200		6		/		Acceptable		Material		1875-18A 18A 18C		/													
2		ASME B16.5-2013		法兰 Flange		1/2" Class 300 SO RF		12		/		料标记 LOD MARKING		X222		/		/													
3		ASME B16.5-2013		法兰 Flange		1-1/2" Class 300 SO RF		6		/		审核 REVIEWED BY		2018.5.22		/		/													
本合格证中的材料是按上述标准和技术条件进行制造、取样、试验和检验，并满足要求。 The material herein described has been manufactured sample tested and inspected in accordance with above standard and specification and satisfies the requirements.																															
备注 Note		检验员 Inspector: 70.5				质量保证工程师 Q.C Engineer: 2.2				质量单位签章 Supplier Stamp:																					





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## MILL TEST CERTIFICATE

客户名称 SOLD TO	客户编号 CUSTOMER NO.	产品名称 PRODUCT	热轧钢板 Prime Hot-rolled Steel plate		
收货单位 SEND TO	客户采购合同 CONTRACT NO.		压力容器用钢 Steel Plates for pressure vessels		
技术条件 SPEC.	ASME SA-516-2015 : SA-516Gr70 探伤标准 (Flaw Detection Standard); ASTM A 578/A578M-07 (2012) B级	发货通知单号 REFERENCE NO.	FMG1805040045	证明书编号 CERTIFICATE NO.	180504P00757
		合同编号 CONTRACT NO.	EAZB18040173	订单编号 ORDER ITEM NO.	OMG18050062
许可证书 APPROVAL CERT. NO.	交货状态 DELIVERY CONDITION	AR	车船号码 TRAIN/SHIP NO.	苏AE3816	证明书日期 T/C ISSUE DATE
					2018/05/04

订单 项次 ITEM NO	产品编号 PRODUCT No.	试样编号/批号 SAMPLE ID/LOT NO.	规格 (mm) DIMENSIONS	重量 WEIGHT t	分析 区域 A, A	化学成分 CHEMICAL ANALYSIS (wt%)															拉伸试验 G.L.=C			A0 常温 抗伸 位置	B0 弯曲 试验 取样 位置	B.T 弯曲 试验	U.T 探伤 试验																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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交货状态=热轧+rolled  
A=A-分析区域 Analysis region  
A-熔炼成分 Smelting Composition  
C=成品成分 Composition of product  
D=D-位置方向 H=横向 Transverse, Z=纵向 Longitudinal;  
E=头部 Top, W=尾部 Tail, A=任意位置 Anywhere; E=边缘  
Edge, D=1/4厚度 1/4W厚度, B=1/3宽度 1/3W宽度  
Center; 1=近表面 surface, 2=1/3厚度 1/3Thickness,  
3=1/4厚度 1/4Thickness, 4=1/2厚度 1/2Thickness,  
全厚度 Through Thickness

弯心直径 Bending diameter=1.5  
 CEV=C+Mn/6+(Cr+V+Mo)/5+(Cu+Ni)/15  
 A0=tensile test sample location  
 G0=gauge length 拉伸标距 C:L0=50 mm  
 Y.S=Yield Strength  
 T.S=Tensile Strength  
 E.L=Percentage Elongation After Fracture  
 B0=Bend test sample location  
 B.T=Bend Test  
 U.T=Ultrasonic Testing

交货状态=热轧+as-rolled

A-A=分析区域 Analysis Region:  
A-熔炼成分 Smelting Composition;  
C-成品成分 Composition of product;  
D-位置方向 H=纵向 Transverse, Z=纵向 Longitudinal;  
E-头翅 Top E=尾部 Tail, A=位置位置 Anywhere E=边缘  
Edge; D-1/4厚度 1/4Width, B-1/3厚度 1/3Width, C-中心  
Center; 1-近表面 surface, 2-1/2厚度 1/2Thickness,  
3-1/4厚度 1/4Thickness, 4-1/2厚度 1/2Thickness,  
5-全厚度 Through Thickness

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is region:  
Composition:  
tion of product:  
Transverse, Z-纵向Longitudinal;  
A-任意位置Anywhere;E-边缘  
Surface, 2-1/3厚度 1/3Width, C-中心  
Thickness, 2-1/3厚度 1/3Thickness,  
Thickness, 4-1/2厚度 1/2Thickness,

交货状态=热轧  
A=分析区域  
1=熔炼成分  
C=成品成分  
D=位置方向  
T=头部Top  
Edge, D=1/4宽度  
1/4W  
Center; 1=近表  
B=1/4厚度  
1/4Thickne  
全厚度  
Through Thick



注册码

弯曲BENDING:弯曲角度Bending angle=190°  
符合EN 10204:2004 3.1要求, 镇静钢ACCORDING TO EN 10204: 2004 3.1; Fully killed Steel.  
产品编号第8位为炉炼号: The first 8 digits of product No. are heat number 外观和尺寸都符合  
兹证明本文所列产品, 均依材料标准制造及试验, 并符合标准及订单技术要求, 不含  
WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN MANUFACTURED  
SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE MATERIAL.  
THE PRODUCTS DON'T CONTAIN RADIOACTIVE

Bending angle=180°

弯曲Bending:弯曲角度  
符合EN 10204: 2004 3  
产品编号前8位为冶炼  
兹证明本文

全圖圖圖圖

注: 产品牌号以质量证明书为准 Note: grade of steel with mill test certificate shall prevail



**Item 2, 3**



# Welding Procedure Specification

## 焊接工艺规程

No: WPS-A02

Prepared by

编制: 李祥峰 2010.4.11

Approved by

批准: 沈华军

Date 日期: 2010.4.11

Changzhou Olympan Thermal Energy Equipment Co.,Ltd.

常州市奥琳斯邦热能设备有限公司



## WELDING PROCEDURE SPECIFICATIONS (WPS) 焊接工艺规程

(In accordance with Section IX, ASME Boiler and Pressure Vessel Code)

Company Name 公司名称 Changzhou Olympan Thermal Energy Equipment Co., Ltd. 常州市奥琳斯邦热能设备有限公司

Welding Procedure Specification No. 焊接工艺规程编号 WPS-A02 Rev. No. 修改号 1

Supporting PQR No.(s) 所依据的工艺评定记录编号 PQR-A02 Welding Process(es) 焊接方法 SMAW

Type(s) (Automatic, Manual, Machine, or Semi-Automatic) 自动化等级 (自动, 手工, 机动或半自动) Manual 手工

## JOINTS (QW-402) 接头

Details (详图)

Joint Design 接头型式 See drawings 见图纸

Backing: 衬垫 ☒ With (有) ☒ Without (无)

Backing Material (Type) 衬垫材料(型式) Weld or Base Metal 焊缝或母材

☒ Metal 金属☐ Non-fusing Metal 不熔金属☐ Nonmetallic 非金属☐ Other 其它

● No retainer used. 无成形块。

● Root Spacing according to design drawings 根部间隙按设计图。

See drawings 见图纸

## \*BASE METALS (QW-403) 母材

P-No. 1 Group No 组号 All to P-No. 1 Group No 组号 All 相焊 OR 或

Specification and type/ grade or UNS Number 标准和钢号/等级或 UNS 号 /

to Specification and type/ grade or UNS Number 标准和钢号/等级或 UNS 号 / 相焊

OR 或 Chem. Analysis and Mech. Prop. 化学成分和力学性能为 /

to Chem. Analysis and Mech. Prop 与化学成分和力学性能 / 相焊

Thickness Range 厚度范围: Base Metal 母材: Groove 坡口焊 1.5~20mm Fillet 角焊 Unlimited 不限

Maximum Pass Thickness 最大焊道厚度 ≤ 1/2 in. (13mm) (Yes) 是 YES (No) 否 /

Other 其它 None 无

## \*FILLER METALS 填充金属\* (QW-404)

Spec. No. (SFA) SFA-5.1

AWS No. (Class) (分类号) E7015

F-No. 4

A-No. 1

Size of Filler Metals 填充金属尺寸 Ø3.2, Ø 4.0 mm

Filler Metal Product Form 填充金属型式 NA 不适用

Filler Metal Added 是否填丝 NA 不适用

Supplemental Filler Metal 附加填充金属 NA 不适用

Weld Metal Thickness Range: 熔敷焊缝金属厚度范围

Groove 坡口焊缝 ≤ 20mm

Fillet 角焊缝 Unlimited 不限

Electrode-Flux (Class) 焊丝—焊剂 (分类号) No permitted 不允许

Flux Type 焊剂类型 No permitted 不允许

Flux Trade Name 焊剂商标名称 NA 不适用

Consumable Insert 可熔化嵌条 No permitted 不允许

Recrushed slag 回用重碎渣 NA 不适用

Other 其它 QW-404.33 Not allowed to change electrode welding classification number. 不允许变更焊条类别号

TÜV SÜD Industrie Service GmbH

☒ reviewed☐ witnessed

by

dated

12/30/2019

\*Each base metal-filler metal combination should be recorded individually. 对于每一母材-填充金属的组合均需分别填表



POSITIONS 焊接位置 (QW-405)				POSTWELD HEAT TREATMENT 焊后热处理 (QW-407)				
Position(s) of Groove 坡口的位置 <u>All 所有位置</u>				Temperature Range 温度范围 <u>No permitted 不允许</u>				
Welding Progression: 焊接方向: <input checked="" type="checkbox"/> Up 向上 <input checked="" type="checkbox"/> Down 向下				Time Range 时间范围 <u>None 无</u>				
Position(s) of Fillet 角焊缝位置 <u>All 所有位置</u>				Other 其它 <u>None 无</u>				
Other 其它 <u>None 无</u>				GAS 气体 (QW-408)				
PREHEAT 预热 (QW-406)				Percent Composition (百分比组成)				
Preheat Temperature, Minimum 最小预热温度 <u>5 °C</u>				Gas(es) (Mixture) Flow Rate				
Interpass Temperature, Maximum 最大层间温度 <u>280 °C</u>				shielding 保护气 <u>NA 不适用</u> <u>NA 不适用</u> <u>NA 不适用</u>				
Preheat Maintenance 预热的保持方式 <u>Not Required 不需要</u>				Trailing 尾部保护气 <u>NA 不适用</u> <u>NA 不适用</u> <u>NA 不适用</u>				
(Continuous or special heating, where applicable, should be recorded) (应记载采用连续加热或特殊加热法)				Backing 背部保护气 <u>NA 不适用</u> <u>NA 不适用</u> <u>NA 不适用</u>				
Other 其它 <u>None 无</u>				Other 其它 <u>None 无</u>				
ELECTRICAL CHARACTERISTICS 电特性 (QW-409)								
Weld Layer(s) 焊层	Process 焊接方法	Filer metal 填充金属		Current 电流		Volt Range 电压范围	Travel Speed Range 焊接速度范围 cm/min	Other 其它(e.g., Remarks, Comments, Hot, Wire Addition, Technique, Torch Angle, etc.) (例如备注、说明、加热线、焊接技巧、焊矩角度等等)
		Class 牌号	Diameter 直径	Type Polarity 极性	Amp Range 电流范围			
Tack Weld 点焊	SMAW	E7015	Ø3.2	DCEP 直流反接	100-140 A	Unlimited 不限	Unlimited 不限	NA 不适用
Root pass 打底焊	SMAW	E7015	Ø3.2	DCEP 直流反接	100-150 A	Unlimited 不限	Unlimited 不限	NA 不适用
Others 其余	SMAW	E7015	Ø4.0	DCEP 直流反接	140-190 A	Unlimited 不限	Unlimited 不限	NA 不适用
Pulsing Current 脉冲电流 <u>NA 不适用</u> Heat Input (Max.) 热输入 (最大) <u>Not limited 不限</u>								
Tungsten Electrode Size and Type 钨极尺寸和型号 <u>NA 不适用</u>								
Mode of Metal Transfer for GMAW (FCAW) (Spray Arc, Short Circuiting Arc, etc.) 金属过渡型式 <u>NA 不适用</u>								
Electrode Wire Feed Speed Rang 送丝速度范围 <u>NA 不适用</u>								
Other 其它 <u>None 无</u>								
TECHNIQUE 焊接技术(QW-410)								
String or Weave Bead 直进焊或摆动焊 <u>String or Weave 直进焊或摆动焊</u>								
Orifice or Gas Cup Size 嘴孔或喷嘴尺寸 <u>NA 不适用</u>								
Initial and Interpass Cleaning 打底和层间清理 <u>Brushing or Grinding 刷理或打磨</u>								
Method of Back Gouging 背面清根方法 <u>Carbon Arc Gouging and(or) Grinding (IF NEED) or NA 碳弧气刨和(或)打磨或不适用</u>								
Oscillation 横摆方法 <u>NA 不适用</u>								
Contact Tube to Work Distance 导电嘴至工件距离 <u>NA 不适用</u>								
Multiple or Single Pass (Per Side) 多道焊或单道焊 (每侧) <u>Multiple or Single Pass 多道或单道焊</u>								
Multiple or Single Electrodes 多丝焊或单丝焊 <u>NA 不适用</u>								
Closed to Out Chamber 闭室为室外焊 <u>No permitted 不允许</u> Travel Speed (Range) 焊接速度 (范围) <u>Not limited 不限</u>								
Peening 锤击有无 <u>No Peening 不锤击</u> Electrode spacing 电极间距 <u>NA 不适用</u>								
Use of thermal processes 热过程的使用 <u>QW410.64 NA 不适用</u> Other 其它 <u>None 无</u>								

**General Note:** This procedure is not qualified for notch toughness or PWHT application.

备注: 本工艺不适用冲击韧性和焊后热处理要求。

Prepared by (编制) 陈华 Date(日期) 2014.4.11 Approved by (批准) 沈华 Date(日期) 2014.4.11



# Procedure qualification record

## 工 艺 评 定 记 录

No: PQR-A02



Prepared by

编 制: 李 祥 峰

Reviewed and Certified by

审核和认定: 沈 华 军

Date 日期: 2013.12.26

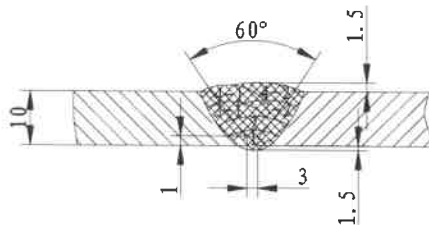
Changzhou Olympan Thermal Energy Equipment Co.,Ltd.  
常州市奥琳斯邦热能设备有限公司



## PROCEDURE QUALIFICATION RECORDS 工艺评定记录 (PQR)

Company Name 公司名称 Changzhou Olympan Thermal Energy Equipment Co.,Ltd. 常州市奥琳斯邦热能设备有限公司Procedure Qualification Record No 工艺评定记录编号 PQR-A02 Date 日期 2014.8.1WPS No. 焊接工艺规程编号 WPS-A02 Rev.1 Welding Process(es) 焊接方法 SMAWTypes (Manual, Automatic, Semi-Automatic, Machine) 自动化等级(手工,自动,半自动,机动) Manual 手工

JOINTS 接头 (QW-402) Groove Design of Test Coupon 试件坡口设计



- No deposit pass greater than 13mm in thickness 每层熔敷金属厚度不超过 13mm.
- No retainer used. 无成形块.
- No consumable insert. 无熔化性填料

## BASE METALS 母材 (QW-403)

Material Spec. 材料标准号 SA-516Type/ Grade or UNS Number 型号/等级或 UNS 号 Gr70P-No. 1 Group No. 2 to P-No. 与 P-No. 1 Group No. 2 相焊接Thickness of Test Coupon 厚度 10 mmDiameter of Test Coupon 直径 NA 不适用Maximum Pass Thickness 最大焊道厚度 4.0mmOther 其它 None 无

## FILLER METALS 填充金属 (QW-404)

SFA Specification: SFA-5.1AWS Classification: E7015Filler Metal F-No. 4Weld Metal Analysis A-No. 1Size of Filler Metal 焊条(丝)直径 Ø3.2, Ø4.0 mmFiller Metal Product Form 填充金属型式 NAFiller Metal Added 是否填丝 NASupplemental Filler Metal 附加填充金属 NAElectrode Flux Classification 焊丝焊剂分类 NAFlux Type 焊剂类别 NAFlux Trade Name 焊剂商标名称 NAConsumable Insert 可熔化嵌条 NAWeld Metal Thickness 熔敷焊缝金属厚度 10mmRecrushed slag 回用重碎渣 NAOther 其它 None 无

## PREHEAT 预热 (QW-406)

Preheat Temperature 预热温度 10°CMaximum Interpass Temperature 最大层间温度 250°COther 其它 None 无

## POSTWELD HEAT TREATMENT 焊后热处理(QW-407)

Temperature 温度 None 无Time 时间 None 无Other 其它 None 无

## GAS 气体 (QW-408)

	Percent Composition 含量百分比		
	Gas(es) 气体	Mixture 混合比	Flow Rate 流量
Shielding 保护气	<u>NA 不适用</u>	<u>NA 不适用</u>	<u>NA 不适用</u>
Trailing 尾部保护气	<u>NA 不适用</u>	<u>NA 不适用</u>	<u>NA 不适用</u>
Backing 背部保护气	<u>NA 不适用</u>	<u>NA 不适用</u>	<u>NA 不适用</u>
Other 其它	<u>None 无</u>		

## ELECTRICAL CHARACTERISTICS 电特性 (QW-409)

Current 电流 DC 直流Polarity 极性 EP 反接Amps. 安培 A See below Table 见下表Volts 伏特 V See below Table 见下表Tungsten Electrode Size 钨极尺寸 NA 不适用

Mode of Metal Transfer for GMAW (FCAW)

金属过渡型式 NA 不适用Other 其它 NA 不适用

## TECHNIQUE 焊接技巧 (QW-410)

Travel Speed 焊接速度 (cm/min) See below Table 见下表String or Weave Bead 直进焊或摆动焊 Weave Bead 摆动焊



# Welding Procedure Specification

## 焊 接 工 艺 规 程

No: WPS-A04

Prepared by

编 制: 李 祥 峰

Approved by

批 准: 沈 华 军

Date 日期: 2014.8.1

Changzhou Olympan Thermal Energy Equipment Co.,Ltd.

常州市奥琳斯邦热能设备有限公司



(In accordance with Section IX, ASME Boiler and Pressure Vessel Code)

Type(s)(Automatic, Manual, Machine, or Semi-Automatic) 自动化等级(自动,手工,机动或半自动) Machine 机动

JOINTS (QW-402) 接头		Details (详图)
Joint Design 接头型式	<u>See drawings 见图纸</u>	
Backing: 衬垫	<input checked="" type="checkbox"/> With (有) <input checked="" type="checkbox"/> Without (无)	
Backing Material (Type) 衬垫材料(型式)	<u>Metal or BaseMetal 金属或母材</u>	<u>See drawings 见图纸</u>
<input checked="" type="checkbox"/> Metal 金属		
<input type="checkbox"/> Non-fusing Metal 不熔金属		
<input type="checkbox"/> Nonmetallic 非金属		
<input type="checkbox"/> Other 其它		
<input checked="" type="checkbox"/> No retainer used. 无成形块。		
<input checked="" type="checkbox"/> Root Spacing according to design drawings 根部间隙按设计图。		
<b>*BASE METALS (QW-403) 母材</b>		
P-No <u>1</u> Group No 组号 <u>All</u> to P-No. <u>1</u> Group No 组号 <u>All</u>	相焊 OR 或	
Specification and type/ grade or UNS Number 标准和钢号/等级或 UNS 号 <u>/</u>		
to Specification and type/ grade or UNS Number 标准和钢号/等级或 UNS 号 <u>/</u>	相焊	
OR 或 Chem. Analysis and Mech. Prop. 化学成分和力学性能为 <u>/</u>		
to Chem. Analysis and Mech. Prop 与化学成分和力学性能 <u>/</u>	相焊	
Thickness Range 厚度范围: Base Metal 母材: Groove 坡口焊 <u>5~24 mm</u> Fillet 角焊 <u>Unlimited 不限</u>		
Maximum Pass Thickness 最大焊道厚度 $\leq 1/2$ in. (13mm) (Yes)是 <u>YES</u> (No)否 <u>/</u>		
Other 其它 <u>None 无</u>		
<b>*FILLER METALS 填充金属* (QW-404)</b>		
Spec. No. (SFA) <u>NB/T47018.4-2011</u> (China)		
AWS No. (Class) (分类号) <u>H10Mn2 HJ431</u>		
F-No. <u>F5A2-H10Mn2 ChangZhou HuaTong Welding Industry Co., Ltd</u>		
A-No. <u>F5A2-H10Mn2 ChangZhou HuaTong Welding Industry Co., Ltd</u>		
Size of Filler Metals 填充金属尺寸 <u>Ø4.0, Ø5.0 mm</u>		
Filler Metal Product Form 填充金属型式 <u>Solid 实芯</u>		
Alloy flux 合金焊剂成分 <u>None 无</u>		
Filler Metal Added 是否填丝 <u>Yes</u>		
Supplemental Filler Metal 附加填充金属 <u>None</u>		
Weld Metal Thickness Range: 熔敷焊缝金属厚度范围		
Groove 坡口焊缝 <u><math>\leq 24mm</math></u>		
Fillet 角焊缝 <u>Unlimited 不限</u>		
Electrode-Flux (Class) 焊丝—焊剂 (分类号) <u>H10Mn2-HJ431</u>		
Flux Type 焊剂类型 <u>Netural 中性</u>		
Flux Trade Name 焊剂商标名称 <u>洛阳牡丹焊材集团有限公司 LuoYang Peony Welding Material Group Co., Ltd</u>		
Consumable Insert 可熔化嵌条 <u>None 无</u>		
Recrushed slag 回用重碎渣 <u>No permitted 不允许</u>		
Other 其它 <u>None 无</u>		

\*Each base metal-filler metal combination should be recorded individually. 对于每一母材-填充金属的组合均需分别填表



Page 3 of 3



# Procedure qualification record

## 工 艺 评 定 记 录

No: PQR-A04

Prepared by

编 制: 李 祥 峰

Reviewed and Certified by

审核和认定: 沈 华 军

Date 日期: 2016.8.1

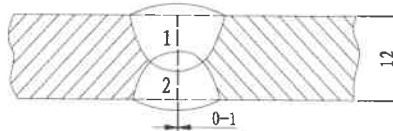
Changzhou Olympan Thermal Energy Equipment Co.,Ltd.  
常州市奥琳斯邦热能设备有限公司



## PROCEDURE QUALIFICATION RECORDS 工艺评定记录 (PQR)

Company Name 公司名称 Changzhou Olympan Thermal Energy Equipment Co., Ltd. 常州市奥琳斯邦热能设备有限公司Procedure Qualification Record No 工艺评定记录编号 PQR-A04 Date 日期 2014.8.1WPS No. 焊接工艺规程编号 WPS-A04 Rev.0 Welding Process(es) 焊接方法 SAWTypes (Manual, Automatic, Semi-Automatic, Machine) 自动化等级(手工, 自动, 半自动, 机动) Machine 机动

JOINTS 接头 (QW-402) Groove Design of Test Coupon 试件坡口设计



- No deposit pass greater than 13mm in thickness 每层熔敷金属厚度不超过 13mm.
- No retainer used. 无成形块.
- No consumable insert. 无熔活性填料

## BASE METALS 母材 (QW-403)

Material Spec. 材料标准号 SA-516M/SA-516MType/ Grade or UNS Number 型号/等级或 UNS 号 Gr.485/Gr.485P-No. 1 Group No. 2 to P-No. 与 P-No. 1 Group No. 2 相焊接Thickness of Test Coupon 厚度 12 mmDiameter of Test Coupon 直径 NA 不适用Maximum Pass Thickness 最大焊道厚度 6.0mmOther 其它 None 无

## PREHEAT 预热 (QW-406)

Preheat Temperature 预热温度 25°CMaximum Interpass Temperature 最大层间温度 240°COther 其它 None 无

## POSTWELD HEAT TREATMENT 焊后热处理(QW-407)

Temperature 温度 None 无Time 时间 None 无Other 其它 None 无

## FILLER METALS 填充金属 (QW-404)

SFA Specification: NB/T47018.4-2011 (China)AWS Classification: H10Mn2 HJ431Filler Metal F-No. F5A2-H10Mn2 ChangZhou HuaTong Welding Industry Co., Ltd.Weld Metal Analysis A-No. F5A2-H10Mn2 ChangZhou HuaTong Welding Industry Co., Ltd.Size of Filler Metal 焊条(丝)直径 Φ4.0mmFiller Metal Product Form 填充金属型式 Solid 实芯Filler Metal Added 是否填丝 YESSupplemental Filler Metal 附加填充金属 NAElectrode Flux Classification 焊丝焊剂分类 H10Mn2-HJ431Flux Type 焊剂类型 Neutral 中性Flux Trade Name 焊剂商标名称 LuoYang Peony Welding Material Group Co., LtdConsumable Insert 可熔化嵌条 NoneWeld Metal Thickness 熔敷焊缝金属厚度 12mmRecrushed slag 回用重碎渣 Not used 未使用Other 其它 None 无

## GAS 气体 (QW-408)

Percent Composition 含量百分比

Gas(es) Mixture Flow Rate

气体 混合比 流量

Shielding 保护气 NA 不适用 NA 不适用 NA 不适用Trailing 尾部保护气 NA 不适用 NA 不适用 NA 不适用Backing 背部保护气 NA 不适用 NA 不适用 NA 不适用Other 其它 None 无

## ELECTRICAL CHARACTERISTICS 电特性(QW-409)

Current 电流 DC 直流Polarity 极性 EP 反接Amps. 安培 A See below Table 见下表Volts 伏特 V See below Table 见下表Tungsten Electrode Size 钨极尺寸 NA 不适用

Mode of Metal Transfer for GMAW (FCAW)

金属过渡型式 NA 不适用Other 其它 None 无

## TECHNIQUE 焊接技巧 (QW-410)

Travel Speed 焊接速度 (cm/min) See below Table 见下表String or Weave Bead 直进焊或摆动焊 NA 不适用Oscillation 横摆参数 String 直进焊 Peening 锤击 None 无

Multipass or Single Pass (Per Side)

多道焊或单道焊 (每侧) Single Pass 单道焊Single or Multiple Electrodes 多丝焊或单丝焊 Single Electrodes 单丝Other 其它 Use of Thermal Process 使用热工艺: NA 不适用Closed Chamber/Out of Chamber 室内/室外焊: NA 不适用

## POSITION 位置 (QW-405)

Position of Groove 坡口位置 IG

Weld Progression (Uphill, Downhill)

焊接方向: (向上、向下) NA 不适用Other 其它 None 无

Jiaod Hu Sept. 18, 2014



Weld Layer(s) 焊层	Process 焊接方法	Filer metal 填充金属		Current 电流		Volt. 电压 (V)	Travel Speed Range 焊接速度 (cm/min)	Max Heat Input 最大热输入 (kJ/cm)
		Class. 牌号	Diameter 直径 (mm)	Type Polarity 极性	Amp 电流 (A)			
Root pass 打底焊	SAW	H10Mn2/HJ 431	Ø4.0	DCEP 直流反接	580~680	33~36	33~40	/
Others 其余	SAW	H10Mn2/HJ 431	Ø4.0	DCEP 直流反接	600~680	33~36	36~43	/

## Tensile Test 拉伸试验 (QW-150)

Specimen No 试样 No.	Width 宽 (mm)	Thickness 厚 (mm)	Area 面积 (mm <sup>2</sup> )	Ultimate Total Load. 极限总载荷 (kN)	Ultimate 极限 Unit Stress. 单位应力 (MPa)	Type of Failure & Location 断裂性质和位置
PQR-A04-01	19.1	12.0	228.00	119.5	525	Ductile (Weld Metal)
PQR-A04-02	19.1	12.0	229.00	118.5	515	Ductile (Weld Metal)

## Guided-Bend Tests 导向弯曲试验 (QW-160)

Type and Figure No. 类型和图号	Result 结论
PQR-A04-03 Side Bend QW-462.2(a) 侧弯	Acceptance 合格
PQR-A04-04 Side Bend QW-462.2(a) 侧弯	Acceptance 合格
PQR-A04-05 Side Bend QW-462.2(a) 侧弯	Acceptance 合格
PQR-A04-06 Side Bend QW-462.2(a) 侧弯	Acceptance 合格

## Toughness Tests 韧性试验 (QW-170) NA

Specimen No. 试样 No.	Notch Location 缺口位置	Specimen Size 试样尺寸	Test Temperature 试验温度	Impact Value 冲击吸收功			Drop Weight Break (Y/N) 落锤试验
				ft-lb or J	% Shear 剪切面 %	Mils.(in) or mm.	
/	/	/	/	/	/	/	/

## Fillet-Weld Test 角焊缝试验 (QW-180) NA

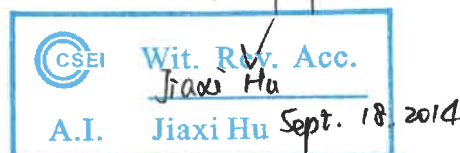
Result -- Satisfactory: 结果是否满意: Yes 是        /        No 否        /       Penetration into Parent Metal: 熔透母材: Yes 是        /        No 否        /       Macro -- Results 宏观检测结果        /       

## Other Tests 其它试验

Type of Test 试验类型        None 无Deposit Analysis 熔敷金属成分        None 无Other 其它        None 无Welder's Name 焊工姓名 Gu Xiaoming 顾晓明 Clock No. 上班考勤卡编号        /        Stamp No. 钢印号 A4Tests Conducted by 试验执行 Shen Ming 沈明 Laboratory Test No. 实验室试验编号 CE2014-02

We certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME BOILER AND PRESSURE VESSEL CODE.

兹证明本报告所述均属正确, 并且试验是根据 ASME 规范第 IX 卷的要求进行试件的准备、焊接和试验的。

Prepared by (编制) 李华 Date(日期) 2014.8.1Reviewed and Certified by (审核和认定) 洪华 Date(日期) 2014.8.1



# Welding Procedure Specification

## 焊 接 工 艺 规 程

No: WPS-A05

Prepared by

编 制: 李祥军

Approved by

批 准: 沈华军

Date 日期: 2014.8.1

Changzhou Olympan Thermal Energy Equipment Co.,Ltd.

常州市奥琳斯邦热能设备有限公司



## WELDING PROCEDURE SPECIFICATIONS (WPS) 焊接工艺规程

(In accordance with Section IX, ASME Boiler and Pressure Vessel Code)

Company Name 公司名称 Changzhou Olympan Thermal Energy Equipment Co., Ltd. 常州市奥琳斯邦热能设备有限公司

Welding Procedure Specification No. 焊接工艺规程编号 WPS-A05 Rev. No. 修改号 0

Supporting PQR No.(s) 所依据的工艺评定记录编号 PQR-A05 Welding Process(es) 焊接方法 SMAW

Type(s)(Automatic, Manual, Machine, or Semi-Automatic) 自动化等级(自动,手工,机动或半自动) Manual 手工

## JOINTS (QW-402) 接头

Joint Design 接头型式 See drawings 见图纸

Backing: 衬垫 ☒ With (有) ☐ Without (无)

Backing Material (Type) 衬垫材料(型式) Weld or Base Metal 焊缝或母材

☒ Metal 金属☐ Non-fusing Metal 不熔金属☐ Nonmetallic 非金属☐ Other 其它☒ No retainer used. 无成形块。☒ Root Spacing according to design drawings 根部间隙按设计图。

Details (详图)

See drawings 见图纸

## \*BASE METALS (QW-403) 母材

P-No 1 Group No 组号 All to Q235B 相焊 OR 或

Specification and type/ grade or UNS Number 标准和钢号/等级或 UNS 号 /

to Specification and type/ grade or UNS Number 标准和钢号/等级或 UNS 号 / 相焊

OR 或 Chem. Analysis and Mech. Prop. 化学成分和力学性能为 /

to Chem. Analysis and Mech. Prop. 与化学成分和力学性能 / 相焊

Thickness Range 厚度范围: Base Metal 母材: Groove 坡口焊 5~28mm Fillet 角焊 Unlimited 不限

Maximum Pass Thickness 最大焊道厚度 ≤ 1/2 in. (13mm) (Yes)是 YES (No)否 /

Other 其它 None 无

## \*FILLER METALS 填充金属\* (QW-404)

Spec. No. (SFA) SFA-5.1

AWS No. (Class) (分类号) E7015

F-No. 4

A-No. 1

Size of Filler Metals 填充金属尺寸 Ø3.2, Ø 4.0 mm

Filler Metal Product Form 填充金属型式 NA 不适用

Filler Metal Added 是否填丝 NA 不适用

Supplemental Filler Metal 附加填充金属 NA 不适用

Weld Metal Thickness Range: 熔敷焊缝金属厚度范围

Groove 坡口焊缝 ≤28mm

Fillet 角焊缝 Unlimited 不限

Electrode-Flux (Class) 焊丝—焊剂(分类号) No permitted 不允许

Flux Type 焊剂类型 No permitted 不允许

Flux Trade Name 焊剂商标名称 NA 不适用

Consumable Insert 可熔化嵌条 No permitted 不允许

Recrushed slag 回用重碎渣 NA 不适用

Other 其它 QW-404.33 Not allowed to change electrode welding classification number. 不允许变更焊条类别号

\*Each base metal-filler metal combination should be recorded individually. 对于每一母材-填充金属的组合均需分别填表

TUV SÜD Industrie Service GmbH

☒ reviewed☐ witnessed

by

dated 12/30/2016



## POSITIONS 焊接位置 (QW-405)

Position(s) of Groove 坡口的位置 All 所有位置Welding Progression: 焊接方向: ☒ Up 向上  
☒ Down 向下Position(s) of Fillet 角焊缝位置 All 所有位置Other 其它 None 无

## PREHEAT 预热 (QW-406)

Preheat Temperature, Minimum 最小预热温度 5 °CInterpass Temperature, Maximum 最大层间温度 280 °CPreheat Maintenance 预热的保持方式 Not Required 不需要

(Continuous or special heating, where applicable, should be recorded) (应记载采用连续加热或特殊加热法)

Other 其它 None 无

## POSTWELD HEAT TREATMENT 焊后热处理 (QW-407)

Temperature Range 温度范围 No permitted 不允许Time Range 时间范围 None 无Other 其它 None 无

## GAS 气体 (QW-408)

Percent Composition (百分比组成)

Gas(es) (Mixture) Flow Rate

shielding 保护气 NA 不适用 NA 不适用 NA 不适用Trailing 尾部保护气 NA 不适用 NA 不适用 NA 不适用Backing 背部保护气 NA 不适用 NA 不适用 NA 不适用Other 其它 None 无

## ELECTRICAL CHARACTERISTICS 电特性 (QW-409)

Weld Layer(s) 焊层	Process 焊接方法	Filer metal 填充金属		Current 电流		Volt Range 电压范围	Travel Speed Range 焊接速度范围 cm/min	Other 其它(e.g., Remarks, Comments, Hot, Wire Addition, Technique, Torch Angle, etc.) (例如备注、说明、加热丝、焊接技巧、焊矩角度等等)
		Class 牌号	Diameter 直径	Type Polarity 极性	Amp Range 电流范围			
Tack Weld 点焊	SMAW	E7015	Ø3.2	DCEP 直流反接	100-120 A	Unlimited 不限	Unlimited 不限	NA 不适用
Root pass 打底焊	SMAW	E7015	Ø3.2	DCEP 直流反接	100-130 A	Unlimited 不限	Unlimited 不限	NA 不适用
Others 其余	SMAW	E7015	Ø4.0	DCEP 直流反接	140-180 A	Unlimited 不限	Unlimited 不限	NA 不适用

Pulsing Current 脉冲电流 NA 不适用 Heat Input (Max.) 热输入 (最大) Not limited 不限Tungsten Electrode Size and Type 钨极尺寸和型号 NA 不适用Mode of Metal Transfer for GMAW (FCAW) (Spray Arc, Short Circuiting Arc, etc.) 金属过渡型式 NA 不适用Electrode Wire Feed Speed Range 送丝速度范围 NA 不适用Other 其它 None 无

## TECHNIQUE 焊接技术 (QW-410)

String or Weave Bead 直进焊或摆动焊 String or Weave Bead 直进焊或摆动焊Orifice or Gas Cup Size 嘴孔或喷嘴尺寸 NA 不适用Initial and Interpass Cleaning 打底和层间清理 Brushing or Grinding 刷理或打磨Method of Back Gouging 背面清根方法 Carbon Arc Gouging and(or) Grinding (IF NEED) or NA 碳弧气刨和(或)打磨或不适用Oscillation 横摆方法 NA 不适用Contact Tube to Work Distance 导电嘴至工件距离 NA 不适用Multiple or Single Pass (Per Side) 多道焊或单道焊 (每侧) Multiple or Single Pass 多道或单道焊Multiple or Single Electrodes 多丝焊或单丝焊 NA 不适用Closed to Out Chamber 闭室为室外焊 No permitted 不允许 Travel Speed (Range) 焊接速度 (范围) Not limited 不限Peening 锤击有无 No Peening 不锤击 Electrode spacing 电极间距 NA 不适用Use of thermal processes 热过程的使用 QW410.64 NA 不适用 Other 其它 None 无

General Note: This procedure is not qualified for notch toughness or PWHT application.

备注: 本工艺不适用冲击韧性和焊后热处理要求。

Prepared by (编制) 李华 Date(日期) 2014.8.1 Approved by (批准) 洪华 Date(日期) 2014.8.1



# Procedure qualification record 工 艺 评 定 记 录

No: PQR-A05

Prepared by

编 制: 李永平

Reviewed and Certified by

审核和认定: 沈华军

Date 日期: 2014.8.1

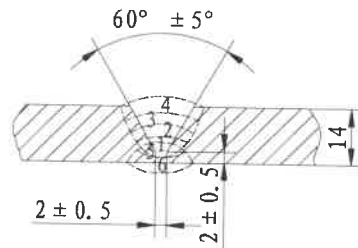
Changzhou Olympan Thermal Energy Equipment Co.,Ltd.  
常州市奥琳斯邦热能设备有限公司



## PROCEDURE QUALIFICATION RECORDS 工艺评定记录 (PQR)

Company Name 公司名称 Changzhou Olympan Thermal Energy Equipment Co., Ltd. 常州市奥琳斯邦热能设备有限公司Procedure Qualification Record No 工艺评定记录编号 PQR-A05 Date 日期 2010.8.1WPS No. 焊接工艺规程编号 WPS-A05 Rev.0 Welding Process(es) 焊接方法 SMAWTypes (Manual, Automatic, Semi-Automatic, Machine) 自动化等级(手工, 自动, 半自动, 机动) Manual 手工

JOINTS 接头 (QW-402) Groove Design of Test Coupon 试件坡口设计



- No deposit pass greater than 13mm in thickness 每层熔敷金属厚度不超过 13mm.
- No retainer used. 无成形块.
- No consumable insert. 无熔化性填料

## BASE METALS 母材 (QW-403)

Material Spec. 材料标准号 SA-516M/GB/T3274-2007(China)Type/ Grade or UNS Number 型号/等级或 UNS 号 Gr.485/Q235BP-No. 1 Group No. 2 to P-No. 1 with P-No. 1 / Group No. 1 / 相焊接Thickness of Test Coupon 厚度 14 mmDiameter of Test Coupon 直径 NA 不适用Maximum Pass Thickness 最大焊道厚度 4.0mmOther 其它 None 无

## FILLER METALS 填充金属 (QW-404)

SFA Specification: SMAWAWS Classification: SFA-5.1Filler Metal F-No. E7015Weld Metal Analysis A-No. 4Size of Filler Metal 焊条(丝)直径 1Filler Metal Product Form 填充金属型式 Ø3.2mm, Ø4.0mmFiller Metal Added 是否填丝 NASupplemental Filler Metal 附加填充金属 NAElectrode Flux Classification 焊丝焊剂分类 NAFlux Type 焊剂类别 NAFlux Trade Name 焊剂商标名称 NAConsumable Insert 可熔化嵌条 NAWeld Metal Thickness 熔敷焊缝金属厚度 14mmRecrushed slag 回用重碎渣 NAOther 其它 None 无

## PREHEAT 预热 (QW-406)

Preheat Temperature 预热温度 10°CMaximum Interpass Temperature 最大层间温度 250°COther 其它 None 无

## POSTWELD HEAT TREATMENT 焊后热处理(QW-407)

Temperature 温度 None 无Time 时间 None 无Other 其它 None 无

## GAS 气体 (QW-408)

Percent Composition 含量百分比		
Gas(es)	Mixture	Flow Rate
气体	混合比	流量
Shielding 保护气	<u>NA 不适用</u>	<u>NA 不适用</u>
Trailing 尾部保护气	<u>NA 不适用</u>	<u>NA 不适用</u>
Backing 背部保护气	<u>NA 不适用</u>	<u>NA 不适用</u>
Other 其它	<u>None 无</u>	<u>None 无</u>

## ELECTRICAL CHARACTERISTICS 电特性 (QW-409)

Current 电流 DC 直流Polarity 极性 EP 反接Amps. 安培 A See below Table 见下表Volts 伏特 V See below Table 见下表Tungsten Electrode Size 钨极尺寸 NA 不适用

Mode of Metal Transfer for GMAW (FCAW)

金属过渡型式 NA 不适用Other 其它 NA 不适用

## TECHNIQUE 焊接技巧 (QW-410)

Travel Speed 焊接速度 (cm/min) See below Table 见下表String or Weave Bead 直进焊或摆动焊 Weave Bead 摆动焊



<b>POSITION 位置 (QW-405)</b>				Oscillation 横摆参数 <u>NA 不适用</u> Peening 锤击 <u>None 无</u>				
Position of Groove 坡口位置 <u>2G</u>				Multipass or Single Pass (Per Side)				
Weld Progression (Uphill, Downhill)				多道焊或单道焊 (每侧) <u>Multiple 多道</u>				
焊接方向: (向上、向下) <u>NA 不适用</u>				Single or Multiple Electrodes 多丝焊或单丝焊 <u>NA 不适用</u>				
Other 其它 <u>None 无</u>				Other 其它 <u>Use of Thermal Process 使用热工艺: NA 不适用</u>				
				<u>Closed Chamber/Out of Chamber 室内/室外焊: NA 不适用</u>				
Weld Layer(s) 焊层	Process 焊接方法	Filer metal 填充金属		Current 电流		Volt. 电压 (V)	Travel Speed Range 焊接速度 (cm/min)	Max Heat Input 最大热输入 (kJ/cm)
		Class. 牌号	Diameter 直径 (mm)	Type Polarity 极性	Amp 电流 (A)			
Root Pass 打底层 I	SMAW	E7015	Ø3.2	DCEP 直流反接	120~130	23~25	13~15	/
Filler Pass 填充层 2~6	SMAW	E7015	Ø4.0	DCEP 直流反接	160~180	26~28	15~17	/

**Tensile Test 拉伸试验 (QW-150)**

Specimen No 试样 No	Width 宽 (mm)	Thickness 厚 (mm)	Area 面积 (mm <sup>2</sup> )	Ultimate Total Load. 极限总载荷 (kN)	Ultimate 极限 Unit Stress, 单位应力 (MPa)	Type of Failure & Location 断裂性质和位置
PQR-A05-01	20.2	14.0	282.8	141	500	Ductile (Base Metal)
PQR-A05-02	20.2	14.0	282.8	142	505	Ductile (Base Metal)

**Guided-Bend Tests 导向弯曲试验 (QW-160)**

Type and Figure No. 类型和图号	Result 结论
PQR-A05-03 Side Bend QW-462.2(a) 侧弯	Acceptance 合格
PQR-A05-04 Side Bend QW-462.2(a) 侧弯	Acceptance 合格
PQR-A05-05 Side Bend QW-462.2(a) 侧弯	Acceptance 合格
PQR-A05-06 Side Bend QW-462.2(a) 侧弯	Acceptance 合格

**Toughness Tests 韧性试验 (QW-170) NA**

Toughness Tests 韧性试验 (QW-170) NA							
Specimen No. 试样 No.	Notch Location 缺口位置	Specimen Size 试样尺寸	Test Temperature 试验温度	Impact Value 冲击吸收功			Drop Weight Break (Y/N) 落锤试验
				ft-lb or J	% Shear 剪切面 %	Mils.(in) or mm.	
/	/	/	/	/	/	/	/

**Fillet-Weld Test 角焊缝试验 (QW-180) NA**

Result -- Satisfactory: 结果是否满意: Yes 是 / No 否 /  
 Penetration into Parent Metal: 熔透母材: Yes 是 / No 否 /  
 Macro -- Results 宏观检测结果 /

**Other Tests 其它试验**

Type of Test 试验类型 None 无  
 Deposit Analysis 熔敷金属成分 None 无  
 Other 其它 None 无

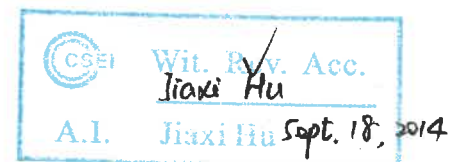
Welder's Name 焊工姓名 Qiang Huaxing 强华兴 Clock No. 上班考勤卡编号 / Stamp No. 钢印号 A5  
 Tests Conducted by 试验执行 Shen Ming 沈明 Laboratory Test No. 实验室试验编号 AR2014-02

We certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME BOILER AND PRESSURE VESSEL CODE.

兹证明本报告所述均属正确, 并且试验是根据 ASME 规范第 IX 卷的要求进行试件的准备、焊接和试验的。

Prepared by (编制) 李祥明 Date(日期) 2014.8.1

Reviewed and Certified by (审核和认定) 强华兴 Date(日期) 2014.8.1

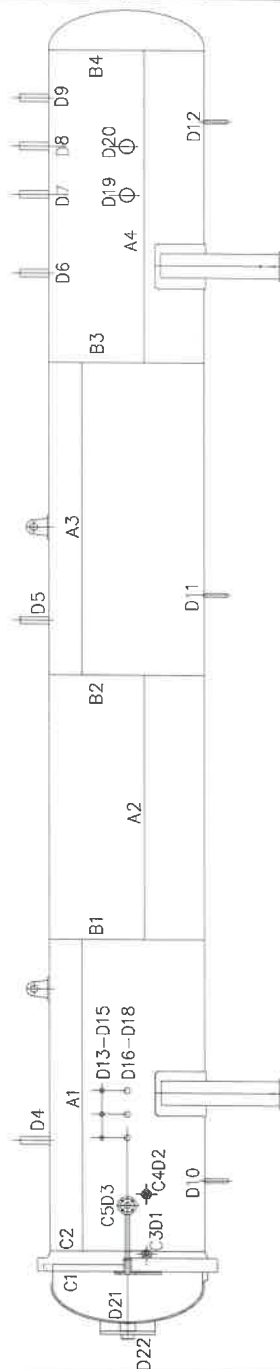




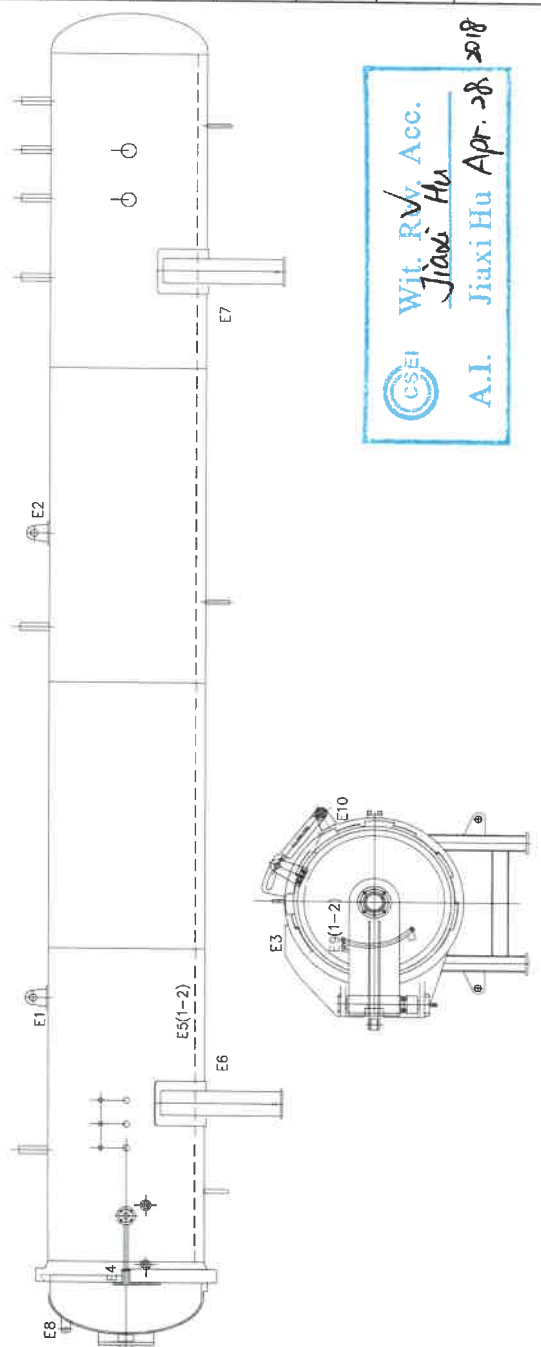
## **Item 4**



OLYMPSPAN		焊 缝 识 别 卡 JOINT IDENTIFICATION CARD		文件编号/版本号 Doc. No./Rev.		JIC-18R636~18R641 Rev.0
工作令号 Job No.	18R636~18R641	产品名称 Prod. Name	FJZCY0.861-0.9×7.62 AUTOCLAVE	图 号 Drawing No.	F01J090-0 Rev.0	第 1 页 共 9 页 Page 1 of 9
产品焊缝编号及分布位置示意图 Welds Location Sketch				焊缝编号 Weld No.	接头数量 Joint Quantity	
				A1~A4	4	
				B1~B4	4	
				C1,C2	2	
				C3~C5	3	
				D1~D22	22	
				<div style="border: 1px solid blue; padding: 5px; display: inline-block;">             Wit. Rev. Acc.              Jiaxi Hu              A.I. Jiaxi Hu Apr. 28 2018           </div>		
2						
1						
0	First issue		2018.4.28			
修改 Rev.	说明 Description	编制 Pre .By	日期 Date	批准 App. By	日期 Date	





OLYMPUS		焊 缝 识 别 卡		JOINT IDENTIFICATION CARD		文件编号/版本号 Doc. No./Rev.	JIC-18R636~18R641 Rev.0
工作令号 Job No.	18R636~18R641	产品名称 Prod. Name	FJZCY0.861-0.9×7.62 AUTOCLAVE	图 号 Drawing No.	F01J090-0 Rev.0	页 数 Page	第 2 页 共 9 页 Page 2 of 9
产品焊缝编号及分布位置示意图 Welds Location Sketch				焊缝编号 Weld No.	接头数量 Joint Quantity		
 <div style="border: 1px solid blue; padding: 5px; margin-top: 10px;"> CSEI Wit. RV Acc. Jiaxi Hu A.I. Jiaxi Hu Apr. 28 2018 </div>				E1~E4	4		
				E5~E10	36		
2							
1							
0	First issue		2018.4.28	2018.4.28			
修改 Rev.	说明 Description	编制 Pre .By	日期 Date	批准 App. By	日期 Date		



OLYMPIAN		焊 缝 识 别 卡 JOINT IDENTIFICATION CARD					文件编号/版本号 Doc. No./Rev.	JIC-18R636~18R641 Rev.0
工作令号 Job No.	18R636~18R641	产品名称 Prod. Name	FJZCY0.861-0.9×7.62 AUTOCLAVE		图 号 Drawing No.	页 数 Page	第 3 页 共 9 页 Page 3 of 9	
焊缝编号 Joint No.	母材材料标准及牌号 Mat'l spec. & Designation	焊接工艺编号/更改号 WPS No./Rev. No.	焊接方法 Welding Process	焊接材料标准或牌号 W.M. Spec./Designation	焊接位置 Welding Position	备 注 Remarks		
A1~A4	SA-516M Gr.485 + SA-516M Gr.485	WPS-A04 Rev.0	SAW	NB/T47018-2011 H10Mn2 Φ4.0mm HJ431 8-40 目	平焊 F	筒体 Shell δ 10		
B1~B3	SA-516M Gr.485 + SA-516M Gr.485	WPS-A04 Rev.0	SAW	NB/T47018-2011 H10Mn2 Φ4.0mm HJ431 8-40 目	平焊 F	筒体 Shell δ 10		
B4	SA-516M Gr.485 + SA-516M Gr.485	WPS-A04 Rev.0	SAW	NB/T47018-2011 H10Mn2 Φ4.0mm HJ431 8-40 目	平焊 F	筒体与封头 Shell and Head δ 10/ δ 10		
C1	SA-516 Gr.485+ SA-266M Gr.4	WPS-A04 Rev.0	SAW	NB/T47018-2011 H10Mn2 Φ4.0mm HJ431 8-40 目	平焊 F	釜盖与法兰 Door and Flange δ 10/ δ 10		
C2	SA-516M Gr.485 + SA-266M Gr.4	WPS-A04 Rev.0	SAW	NB/T47018-2011 H10Mn2 Φ4.0mm HJ431 8-40 目	平焊 F	筒体与法兰 Shell and Flange δ 10/ δ 10		
C3~C4	SA-105M +SA-105M	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 Φ3.2mm	横焊 H	接管与法兰 Nozzle and Flange Φ21.3×4.78/SO1/2" CLASS300		
C5	SA-105M +SA-105M	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 Φ3.2mm	横焊 H	接管与法兰 Nozzle and Flange Φ48.3×5/SO1-1/2" CLASS300		
2								
1								
0	First issue			2018.4.28	批准 App. By	2018.4.18	日期 Date	
修改 Rev.	说明 Description	编制 Pre .By						

备注：筒节点焊按照 WPS-A02 Rev.1 执行，焊点长 50~60mm，间隔 200~250mm。管与法兰点焊按照 WPS-A02 Rev.1 执行，焊点长 5~8mm，数量为 3~4(均布)。



OLYMSPAN		焊 缝 识 别 卡 JOINT IDENTIFICATION CARD					文件编号/版本号 Doc. No./Rev.	JIC-18R636~18R641 Rev.0
工作令号 Job No.	18R636~18R641		产品名称 Prod. Name	FJZCY0.861-0.9×7.62 AUTOCLAVE		页 数 Page	第 4 页 共 9 页 Page 4 of 9	
焊缝编号 Joint No.	母材材料标准及牌号 Mat'l spec. & Designation e	焊接工艺编号/更改号 WPS No./Rev. No.	焊接方法 Welding Process	焊接材料标准或牌号 W.M. Spec./Designation	焊接位置 Welding Position	图 号 Drawing No.	F01J090-0 Rev.0	
D1	SA-105M+SA-266M Gr.4	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 Φ3.2mm	横焊 H		接管与法兰 Nozzle and Flange Φ21.3×4.78/δ 130	
D2	SA-105M+SA-516 Gr.485	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 Φ3.2mm	平焊+横焊 F+H		接管与筒体 Nozzle and Shell Φ21.3×4.78/δ 10	
D3	SA-105M+SA-516 Gr.485	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 Φ3.2mm	平焊+横焊 F+H		接管与筒体 Nozzle and Shell Φ48.3×5/δ 10	
D4.D6	SA-105M+SA-516 Gr.485	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 Φ3.2mm	平焊+横焊 F+H		接管与筒体 Nozzle and Shell Φ40×8/δ 10	
D5. D7~D9. D19.D20	SA-105M+SA-516 Gr.485	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 Φ3.2,Φ4.0mm	平焊+横焊 F+H		接管与筒体 Nozzle and Shell Φ76×10/δ 10	
D10~D12	SA-105M+SA-516 Gr.485	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 Φ3.2,Φ4.0mm	平焊+横焊 F+H		接管与筒体 Nozzle and Shell Φ45×7.8/δ 10	
2								
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0	First issue			2018.4.28			2018.4.28	
修改 Rev.	说明 Description		编制 Pre .By	日期 Date	批准 App. By		日期 Date	

备注：点焊按照 WPS-A02 Rev.1 执行，焊点长 5~10mm，数量为 4~6(均布)。



OLYMPSPAN		焊 缝 识 别 卡 JOINT IDENTIFICATION CARD						文件编号/版本号 Doc. No./Rev.	JIC-18R636~18R641 Rev.0
工作令号 Job No.		18R636~18R641		产品名称 Prod. Name	FJZCY0.861-0.9×7.62 AUTOCLAVE		图 号 Drawing No.	F01J090-0 Rev.0	
焊缝编号 Joint No.		母材材料标准及牌号 Mat'l spec. & Designation	焊接工艺编号/更改号 WPS No./Rev. No.	焊接方法 Welding Process	焊接材料标准或牌号 W.M. Spec./Designation	焊接位置 Welding Position	备 注 Remarks	页 数 Page	
D13~D15	SA-105M+SA-516 Gr.485	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 $\Phi$ 3.2mm	平焊+横焊 F+H	接管与筒体 Nozzle and Shell $\Phi$ 25×7/ $\delta$ 10	第 5 页 共 9 页 Page 5 of 9		
D16~D18	SA-105M+SA-516 Gr.485	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 $\Phi$ 3.2, $\Phi$ 4.0mm	平焊+横焊 F+H	接管与筒体 Nozzle and Shell $\Phi$ 45×10/ $\delta$ 10			
D21	SA-516M Gr.485+ SA-516M Gr.485	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 $\Phi$ 3.2, 4.0mm	横焊 H	圆垫与釜盖圆顶 Round cushion and Door dome $\delta$ 10/ $\delta$ 10			
D22	SA-266M Gr.4+ SA-516M Gr.485	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 $\Phi$ 4.0mm	横焊 H	短轴与圆垫和釜盖圆顶 Short shaft, Round cushion and Door dome $\Phi$ 70/ $\delta$ 10/ $\delta$ 10			
E1~E2	SA-516M Gr.485+ SA-516M Gr.485	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 $\Phi$ 4.0mm	横焊 H	吊耳和筒体 Lug and Shell $\delta$ 10/ $\delta$ 10			
2									
1									
0	First issue				2018.4.28	2018.4.28			
修改 Rev.	说明 Description		编制 Pre. By	批准 App. By	日期 Date	日期 Date			

备注：管子与筒体点焊按照 WPS-A02 Rev.1 执行，焊点长 5~10mm，数量为 3~6(均布)。其它点焊按照 WPS-A02 Rev.1 执行，焊点长 8~12mm。



OLYMPSPAN		焊 缝 识 别 卡 JOINT IDENTIFICATION CARD					文件编号/版本号 Doc. No./Rev.	JIC-18R636~18R641 Rev.0
工作令号 Job No.	18R636~18R641	产品名称 Prod. Name	FJZCY0.861-0.9×7.62 AUTOCLAVE		图 号 Drawing No.	页 数 Page	第 6 页 共 9 页 Page 6 of 9	
焊缝编号 Joint No.	母材材料标准及牌号 Mat'l spec. & Designation	焊接工艺编号/更改号 WPS No./Rev. No.	焊接方法 Welding Process	焊接材料标准或牌号 W.M. Spec./Designation	焊接位置 Welding Position	备 注 Remarks		
E3	GB/T3274 Q235B +SA-266M Gr.4	WPS-A05 Rev.0	SMAW	ASME SFA-5.1 E7015 $\Phi$ 4.0mm	横焊 H	圆弧板与釜体法兰 Arc board and Shell flange $\delta$ 12/ $\delta$ 130		
E4	GB/T3274 Q235B +SA-266M Gr.4	WPS-A05 Rev.0	SMAW	ASME SFA-5.1 E7015 $\Phi$ 4.0mm	横焊 H	安全装置与釜体法兰 Safety device and Shell flange $\delta$ 26/ $\delta$ 130		
E5(1-2)	GB/T3274 Q235B +SA-516M Gr.485	WPS-A05 Rev.0	SMAW	ASME SFA-5.1 E7015 $\Phi$ 4.0mm	横焊 H	轨道装置与筒体 Track and Shell $\delta$ 5/ $\delta$ 10		
E6,E7	SA-516M Gr.485+ SA-516M Gr.485	WPS-A02 Rev.1	SMAW	ASME SFA-5.1 E7015 $\Phi$ 4.0mm	横焊 H	支座与筒体 Support and Shell $\delta$ 6/ $\delta$ 10		
E8	GB/T3274 Q235B +SA-516M Gr.485	WPS-A05 Rev.0	SMAW	ASME SFA-5.1 E7015 $\Phi$ 4.0mm	横焊 H	吊耳与釜盖圆顶 Lug and Door dome $\delta$ 18/ $\delta$ 10		
E9(1-2)	GB/T3274 Q235B +SA-516M Gr.485	WPS-A05 Rev.0	SMAW	ASME SFA-5.1 E7015 $\Phi$ 4.0mm	横焊 H	螺杆与釜盖圆顶 Screw and Door dome $\Phi$ 20/ $\delta$ 10		
E10	GB/T3274 Q235B +SA-516M Gr.485	WPS-A05 Rev.0	SMAW	ASME SFA-5.1 E7015 $\Phi$ 4.0mm	横焊 H	釜门转板与釜盖法兰 Kettle door rotating plate and Cauldron flange $\delta$ 16/ $\delta$ 115		
2								
1								
0	First issue			2018.11.28	批准 App. By	2018.11.28		
修改 Rev.	说明 Description	编制 Pre .By		日期 Date		日期 Date		

备注：点焊按照 WPS-A02 Rev.1 执行，焊点长 8~12mm。

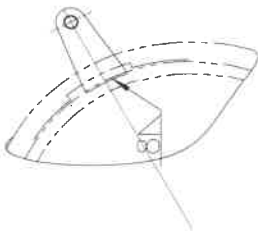






<b>OLYMPSPAN</b>		<b>焊 缝 识 别 卡</b>		<b>JOINT IDENTIFICATION CARD</b>		文件编号/版本号 Doc. No./Rev.	JIC-18R636~18R641 Rev.0
工作令号 Job No.		18R636~18R641		产品名称 Prod. Name	FJZCY0.861-0.9×7.62 AUTOCLAVE	页 数 Page	第 8 页 共 9 页 Page 8 of 9
E5(1-2)		E1, E2		E3		E4	
E6, E7		E8		E9(1-2)			
2							
1							
0	First issue		2018.4.28		2018.4.28		2018.4.28
修改 Rev.	说明 Description		编制 Pre .By		批准 App. By		日期 Date



OLYMSPAN		焊 缝 识 别 卡 JOINT IDENTIFICATION CARD			文件编号/版本号 Doc. No./Rev.	JIC-18R636~18R641 Rev.0
工作令号 Job No.	18R636~18R641	产品名称 Prod. Name	FJZCY0.861-0.9×7.62 AUTOCLAVE	图 号 Drawing No.	第 9 页 共 9 页 Page 9 of 9	F01J090-0 Rev.0
E10						
	其它焊脚尺寸按较薄件母材厚度					
2						
1						
0	First issue		2018.4.28	2/11		2018.4.28
修改 Rev.	说明 Description	编制 Pre.By	日期 Date	批准 App.By	日期 Date	



## Item 5



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT			报告编号 Report No.					
					18R636-RTBG01					
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R636		F01J0900 Rev.0		18R636-RT01A				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R636/0				
工序卡号/版次 PCL No./Rev.		PCL-18R636/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXQ-2505/ 205	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C				显影时间 Developing Time :    5    min						
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件距离 mm	O.F.D 工件-胶片距离 mm	kV / mA 管电压/管电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
A1	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
A2	10	2	700	12	140/5	1	6	7(0.33)	6	1680/280
A3	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
A4	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
RT 结论 Result of Examination: 合格										
编制 Prepared by		审核 Reviewed & Approved by		AI 授权检验师		Jian Hu Jun. 23, 2018				
级别 Level:		级别 Level:		日期 Date		2018年6月1日				
日期 Date:		日期 Date:		日期 Date		2018年6月1日				

2018.7.12



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT				报告编号 Report No.				
						18R636-RTBG02				
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R636		F01J0900 Rev.0		18R636-RT01B				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R636/0				
工序卡号/版次 PCL No./Rev.		PCL-18R636/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXH-3005/ 197	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:		20±1	℃	显影时间 Developing Time :		5	min			
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件距离 mm	O.F.D 工件-胶片距离 mm	kV / mA 管电压/管电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
B1	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B2	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B3	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B4	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
RT 结论 Result of Examination: 合格										
编制 Prepared by		审核 Reviewed & Approved by		AI 授权检验师		Jiaod Hu Jun. 23, 2018				
级别 Level:		级别 Level:								
日期 Date:		日期 Date:		日期 Date:		2018 年 6 月 1 日				

2018.7.12



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT			报告编号 Report No.					
					18R636-RTBG03					
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R636		F01J0900 Rev.0		18R636-RT01C				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		<input checked="" type="checkbox"/> ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 <input type="checkbox"/> ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R636/0				
工序卡号/版次 PCL No./Rev.		PCL-18R636/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXQ-2505/ 205	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1                      °C			显影时间 Developing Time :                      5                      min							
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件距离 mm	O.F.D 工件-胶片距离 mm	kV / mA 管电压/管电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
C1	10	2	700	12	140/5	1	15	7(0.33)	15	3645/243
RT 结论 Result of Examination: 合格										
编 制 Prepared by	许晓刚		审 核 Reviewed & Approved by		李 强		AI 授权检 验师	Jianni Hu Jun. 23, 2018		
级 别 Level:	RT II		级 别 Level:		RT II					
日 期 Date:	2018 年 6 月 1 日		日 期 Date:		2018 年 6 月 1 日		日期 Date	2018 年 6 月 1 日		

 2018.7.12



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT			报告编号 Report No.					
					18R636-RTBG04					
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R636		F01J0900 Rev.0		18R636-RT02C				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		<input checked="" type="checkbox"/> ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 <input type="checkbox"/> ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R636/0				
工序卡号/版次 PCL No./Rev.		PCL-18R636/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure		<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing						
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXH-3005/ 197	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1                      °C			显影时间 Developing Time :                      5                      min							
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件 距离 mm	O.F.D 工件-胶片 距离 mm	kV / mA 管电压/管 电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
C2	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
RT 结论 Result of Examination: 合格										
编 制 Prepared by	许建刚		审 核 Reviewed & Approved by		施炳		AI 授权检 验师	Jiand Hu Jun. 23, 2018		
级 别 Level:	RT II		级 别 Level:		RT II					
日 期 Date:	2018 年 6 月 1 日		日 期 Date:		2018 年 6 月 1 日		日期 Date	2018 年 6 月 1 日		

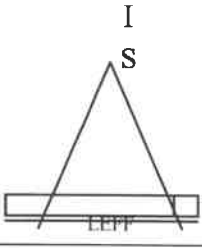
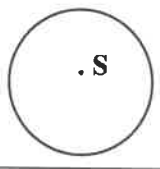
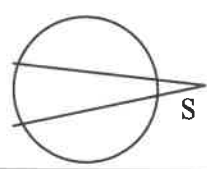
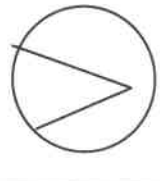
2018.7.12



<b>OLYMSPAN®</b>	射线照相定位记录 RADIOGRAPHIC SKETCH OF LOCATION		射线报告编号 RT Report No.		
			18R636-RTBG01-04		
产品名称 Product Name	图 号 Drawing No.	产品编号 Product No.	工艺卡号 Instruction No./Rev.		
FJZCS0.9-0.9×7.62 AUTOCLAVE	F01J0900 Rev.0	18R636	RTGY-18R636/0		
焊缝及布片示意图 Welds & Film Arrangement:					
备注 Note:					
摄片者 Radiographer	级别 Level	日期 Date	批准 Approved by	级别 Level	日期 Date
许光利	R7E	2018年6月1日	李德西	R7E	2018年6月1日

2018.7.12



OLYMSPAN®		射线检测专用工艺卡 RT INSTRUCTION CARD			工艺卡号/版次 Instruction Card No./Rev.:	
					RTGY-18R636/0	
产品名称 Product Name	FJZCS0.9-0.9×7.62 AUTOCLAVE	产品编号 Product No.	18R636	图号/版次 Drawing No./Rev.	F01J0900 Rev.0	
坡口型式 Groove Type	I	材质 Material	SA-516 Gr.485	焊接方法 Weld Method	SAW	
验收标准 Acceptance Standard	ASME Code Sect. VIII-1 2015Ed.	应用规范 Applicable Code	ASME Code Sect. V 2015Ed.	检验规程/版次 Procedure No./Rev.:	QCD-08-02 2016 Ed./Rev.0	
仪器型号及编号 Equip. Type & No.	XXH-3005/197 XXQ-2505/205	焦点尺寸 Focus Size (mm)	2.0*2.0mm	黑度范围 Density Range	1.8≤Di≤4.0 0.85DIQI≤Di≤1.3DIQI	
胶片牌号及类型 Film Brand & Type	Agfa C7	胶片尺寸 Film Size (mm)	360*80mm	胶片制造厂名 Film manufacturer	爱克发(无锡)影像有限公司	
丝型象质计 Wire IQI	1B11	应显丝径/丝号 Accept. Wire size/No.	7#/0.33mm	增感屏 Screen	Pb.	前 Front 0.03 mm 后 Back 0.03 mm
透照方法 Radiographic Technique						
						
透照条件及参数 Radiographic Condition and Parameters						
节点号 Joint No.	A1A3A4	A2	B1-B4	C1	C2	
焊缝长度 Welding Length (mm)	1980	1680	2891	3645	2891	
厚度 Thickness(mm)	10	10	10	10	10	
透照厚度 Pent Thk (mm)	10+2	10+2	10+2	10+2	10+2	
射源工件距离 S.O.D (mm)	700	700	450	700	450	
工件胶片距离 O.F.D (mm)	10+2	10+2	10+2	10+2	10+2	
管电压 Tube Voltage (KVp)	140	140	200	140	200	
管电流 Tube Current (mA)	5	5	5	5	5	
曝光时间 Exposure Time (mm)	1	1	0.8	1	0.8	
透照方法 Radiographic Technique	I	I	II	I	II	
有效长度 LEFF (mm)	283	280	2891	243	2891	
探伤比例 Inspection Proportion	FULL	FULL	FULL	FULL	FULL	
冲洗条件 Film Processing	方式 Method	<input checked="" type="checkbox"/> Manu. 手工 <input type="checkbox"/> Auto. 自动	显影温度及时间 Developing Temperature & Time		20±1℃	
编制 Prepared by:	级别 Level:	日期 Date:	批准 Reviewed & Approved by:	级别 Level:	日期 Date:	
许晓刚	RTI	2018年6月1日	李德丙	灯应	2018年6月1日	

2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.					
								18R636-RTBG01					
工艺卡号 Instruction No./Rev.		RTGY-18R636/0				评片记录号 Interpretation Record No.		18R636-01A					
产品名称 Product Name		图 号/版次 Drawing No./Rev.				产品编号 Product No.		验收标准 Accept. Standard					
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0				18R636		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I					
厚度:Thickness		坡口型式 Groove Type				焊缝类别:Weld Name							
10mm		I				<input checked="" type="checkbox"/> L 纵 <input type="checkbox"/> C 环 <input type="checkbox"/> H 封头							
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result		
	DIQL min	DIQL max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格	
A1-1	2.80	3.88	2.72	3.89							√		
-2	2.64	3.72	2.52	3.89							√		
-3	2.73	3.59	2.60	3.68							√		
-4	2.73	3.81	2.63	3.93	1mm						√		
-5	2.75	3.70	2.72	3.86							√		
-6	2.70	3.30	2.62	3.46							√		
-7	2.71	3.58	2.58	3.73							√		
A2-1	2.49	3.12	2.41	3.23		2mm					√		
-2	2.33	3.12	2.31	3.15							√		
-3	2.30	2.90	2.16	2.99		1mm					√		
-4	2.48	2.96	2.38	3.12		2mm					√		
-5	2.38	2.93	2.14	3.13	1mm						√		
-6	2.38	3.37	2.38	3.41							√		
评片 Examined by:		许建刚				审核 Reviewed by:		李永成					
级别 Level:		RT II				级别 Level:		RT II					
日期 Date:		2018 年 5 月 22 日				日期 Date:		2018 年 5 月 22 日					

李永成 RT-II  
2018.7.12




<b>OLYMSPAN®</b>		<b>RT 评片记录</b> <b>RT INTERPRETATION SHEET</b>						射线报告编号 RT Report No.					
								18R636-RTBG01					
工艺卡号 Instruction No./Rev.		RTGY-18R636/0		评片记录号 Interpretation Record No.		18R636-01A							
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard							
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R636		<input checked="" type="checkbox"/> ASME Sect.VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I							
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name									
10mm		I		<input checked="" type="checkbox"/> L 纵 <input type="checkbox"/> C 环 <input type="checkbox"/> H 封头									
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result		
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格	
A3-1	2.05	2.56	2.01	2.63	2mm						√		
-2	2.16	2.67	2.07	3.72							√		
-3	2.01	2.51	1.95	2.62		1mm					√		
-4	2.19	2.58	2.06	2.81							√		
-5	2.14	2.70	1.99	2.92							√		
-6	2.18	2.66	2.02	2.89							√		
-7	2.17	2.64	1.95	2.85		2mm					√		
A4-1	2.68	3.57	2.57	3.66							√		
-2	2.69	3.45	2.48	3.75							√		
-3	2.85	3.72	2.79	3.87							√		
-4	2.88	3.67	2.81	3.75							√		
-5	2.67	3.84	2.53	3.93							√		
-6	3.06	3.58	2.81	3.87	1mm						√		
-7	2.55	3.23	2.34	3.33							√		
评片 Examined by:		许晓刚				审核 Reviewed by:				王德成			
级别 Level:		RT II				级别 Level:				RT II			
日期 Date:		2018 年 5 月 22 日				日期 Date:				2018 年 5 月 22 日			

王德成 RT-II  
2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET				射线报告编号 RT Report No.						
						18R636-RTBG02						
工艺卡号 Instruction No./Rev.		RTGY-18R636/0		评片记录号 Interpretation Record No.		18R636-01B						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R636		<input checked="" type="checkbox"/> ASME Sect.VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQL min	DIQL max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
B1-1	3.06	3.48	2.91	3.51							√	
-2			3.19	3.98							√	
-3	3.13	3.79	3.05	4.00		1mm					√	
-4			3.30	3.61							√	
-5	2.72	3.12	2.66	3.32							√	
-6			2.68	3.36							√	
-7	2.70	3.47	2.49	3.25							√	
-8			3.01	3.49		1mm					√	
-9			2.56	3.52							√	
B2-1	2.52	3.11	2.44	3.22							√	
-2			2.60	3.13							√	
-3			2.66	3.13		4mm					√	
-4	2.67	3.13	2.47	3.15							√	
-5			2.58	3.16							√	
-6	2.63	3.03	2.61	3.05		2mm					√	
-7			2.72	3.57							√	
-8	2.56	3.02	2.49	3.07		1mm					√	
-9			2.55	3.13							√	
评片 Examined by:		许晓刚		审核 Reviewed by:		施娟						
级别 Level:		RTⅡ		级别 Level:		RTⅡ						
日期 Date:		2018年5月29日		日期 Date:		2018年5月29日						

 RT-Ⅱ  
 2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.				
								18R636-RTBG02				
工艺卡号 Instruction No./Rev.		RTGY-18R636/0		评片记录号 Interpretation Record No.		18R636-01B						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R636		<input checked="" type="checkbox"/> ASME Sect.VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
B3-1	2.58	3.08	2.33	3.14		2mm					√	
-2			2.44	3.06							√	
-3	2.68	3.05	2.53	3.19							√	
-4			2.58	3.10							√	
-5	2.58	3.07	2.57	3.12		5mm					√	
-6			2.54	3.35		2mm					√	
-7	2.62	3.35	2.48	3.42							√	
-8			2.69	3.39							√	
-9			2.52	3.23							√	
B4-1	3.04	3.73	3.03	3.84							√	
-2			3.20	3.98							√	
-3	3.11	3.83	2.92	3.91							√	
-4			2.85	3.71							√	
-5	2.63	3.26	2.48	3.37							√	
-6			1.86	2.62							√	
-7	1.91	2.42	1.81	2.55							√	
-8	2.85	3.29	2.81	3.43							√	
-9			2.88	3.61							√	
评片 Examined by:		34501				审核 Reviewed by:				11601		
级别 Level:		RT II				级别 Level:				RT II		
日期 Date:		2018 年 5 月 29 日				日期 Date:				2018 年 5 月 29 日		

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2018.7.12

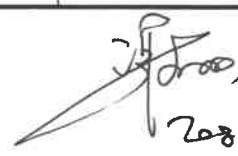


OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.				
								18R636-RTBG03				
工艺卡号 Instruction No./Rev.		RTGY-18R636/0		评片记录号 Interpretation Record No.		18R636-01C						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18F5-36		<input checked="" type="checkbox"/> ASME Sect.VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
C1-1	2.19	3.86	1.85	3.87							√	
-2	2.80	3.87	2.37	3.92							√	
-3	2.39	3.92	2.24	3.93							√	
-4	2.55	3.86	2.53	3.92							√	
-5	2.47	3.87	2.33	3.95							√	
-6	2.59	3.72	2.31	3.86		5mm					√	
-7	2.64	3.86	2.27	3.87							√	
-8	2.50	3.92	2.01	3.95							√	
-9	2.69	3.95	2.39	3.96		1mm					√	
-10	2.58	3.72	2.25	3.75							√	
-11	2.63	3.85	2.15	3.86							√	
-12	2.76	3.95	2.04	3.97		1mm					√	
-13	2.62	3.88	2.37	3.89							√	
-14	2.86	3.92	2.36	3.93		2mm					√	
-15	2.68	3.93	2.24	3.97							√	
评片 Examined by:		许晓明		审核 Reviewed by:				施伟				
级别 Level:		RT II		级别 Level:				RT II				
日期 Date:		2018 年 5 月 28 日		日期 Date:				2018 年 5 月 28 日				

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 2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.				
								18R636-RTBG04				
工艺卡号 Instruction No./Rev.		RTGY-18R636/0		评片记录号 Interpretation Record No.		18R636-02C						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R636		<input checked="" type="checkbox"/> ASME Sect.VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
C2-1	2.71	3.08	2.59	3.14							√	
-2			2.77	3.13							√	
-3			2.45	2.95							√	
-4	2.55	3.36	2.50	3.40							√	
-5			2.57	3.05							√	
-6	3.10	3.52	3.10	3.62							√	
-7			3.10	3.98							√	
-8	3.10	3.71	2.99	3.98							√	
-9			3.32	3.46							√	
评片 Examined by:		许晓利		审核 Reviewed by:				李海兵				
级别 Level:		RT II		级别 Level:				RT II				
日期 Date:		2018 年 5 月 29 日		日期 Date:				2018 年 5 月 29 日				

 RT-II  
 2018.7.11



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT				报告编号 Report No.				
						18R641-RTBG01				
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R641		F01J0900 Rev.0		18R641-RT01A				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R641/0				
工序卡号/版次 PCL No./Rev.		PCL-18R641/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXQ-2505/ 205	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C				显影时间 Developing Time :    5    min						
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件距离 mm	O.F.D 工件-胶片距离 mm	kV / mA 管电压/管电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
A1	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
A2	10	2	700	12	140/5	1	6	7(0.33)	6	1680/280
A3	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
A4	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
RT 结论 Result of Examination: 合格										
编制 Prepared by	许晓刚		审核 Reviewed & Approved by	施为		AI 授权检验师	Jian Hu Jun. 23, 2018			
级别 Level:	RT II		级别 Level:	RT II						
日期 Date:	2018 年 6 月 2 日		日期 Date:	2018 年 6 月 2 日		日期 Date	2018 年 6 月 2 日			

2018.7.12



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT			报告编号 Report No.					
					18R641-RTBG02					
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R641		F01J0900 Rev.0		18R641-RT01B				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R641/0				
工序卡号/版次 PCL No./Rev.		PCL-18R641/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发 (无锡) 影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure		<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing						
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXH-3005/ 197	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C			显影时间 Developing Time :    5    min							
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件 距离 mm	O.F.D 工件-胶片 距离 mm	kV / mA 管电压/管 电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
B1	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B2	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B3	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B4	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
RT 结论 Result of Examination: 合格										
编制 Prepared by		审核 Reviewed & Approved by		AI 授权检 验师		Jiani Hu Jun. 23, 2018				
级别 Level:		级别 Level:								
日期 Date:		日期 Date:		日期 Date:		日期 Date:				
2018 年 6 月 2 日		2018 年 6 月 2 日		2018 年 6 月 2 日		2018 年 6 月 2 日				

2018.7.12



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT			报告编号 Report No.					
					18R641-RTBG03					
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R641		F01J0900 Rev.0		18R641-RT01C				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R641/0				
工序卡号/版次 PCL No./Rev.		PCL-18R641/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure		<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing						
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXQ-2505/ 205	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing: <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C			显影时间 Developing Time:    5    min							
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件 距离 mm	O.F.D 工件-胶片 距离 mm	kV / mA 管电压/管 电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
C1	10	2	700	12	140/5	1	15	7(0.33)	15	3645/243
RT 结论 Result of Examination: 合格										
编 制 Prepared by	[Signature]		审 核 Reviewed & Approved by		[Signature]		AI 授权检 验师	Jiaoxi Hu Jun. 23, 2018		
级 别 Level:	RT II		级 别 Level:		RT II					
日 期 Date:	2018 年 6 月 2 日		日 期 Date:		2018 年 6 月 2 日		日期 Date	2018 年 6 月 2 日		

[Signature]  
2018.7.12



OLYMPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT			报告编号 Report No.					
					18R641-RTBG04					
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R641		F01J0900 Rev.0		18R641-RT02C				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R641/0				
工序卡号/版次 PCL No./Rev.		PCL-18R641/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXH-3005/ 197	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C				显影时间 Developing Time :    5    min						
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件距离 mm	O.F.D 工件-胶片距离 mm	kV / mA 管电压/管电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
C2	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
RT 结论 Result of Examination: 合格										
编 制 Prepared by	张晓明		审 核 Reviewed & Approved by		李德明		AI 授权检验师	Jiani Hu Jun. 23, 2018		
级 别 Level:	RT II		级 别 Level:		RT II					
日 期 Date:	2018 年 6 月 2 日		日 期 Date:		2018 年 6 月 2 日		日期 Date	2018 年 6 月 2 日		

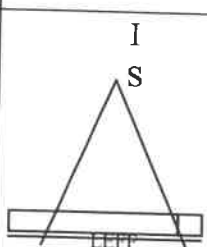
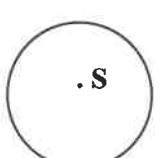
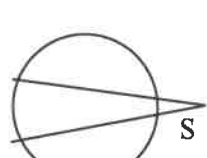

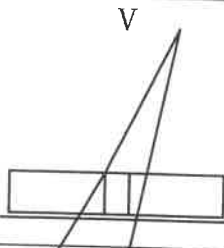
2018.7.12



<b>OLYMSPAN®</b>	<b>射线照相定位记录</b> <b>RADIOGRAPHIC SKETCH OF LOCATION</b>		射线报告编号 RT Report No.		
			18R641-RTBG01-04		
产品名称 Product Name	图号 Drawing No.	产品编号 Product No.	工艺卡号 Instruction No./Rev.		
FJZCS0.9-0.9×7.62 AUTOCLAVE	F01J0900 Rev.0	18R641	RTGY-18R641/0		
焊缝及布片示意图 Welds & Film Arrangement:					
备注 Note:					
摄片者 Radiographer	级别 Level	日期 Date	批准 Approved by	级别 Level	日期 Date
张晓明	RTⅡ	2018年6月2日	施林	RTⅢ	2018年6月2日

2018.7.12



OLYMSPAN®		射线检测专用工艺卡 RT INSTRUCTION CARD			工艺卡号/版次 Instruction Card No./Rev.:	
				RTGY-18R641/0		
产品名称 Product Name	FJZCS0.9-0.9×7.62 AUTOCLAVE	产品编号 Product No.	18R641	图号/版次 Drawing No./Rev.	F01J0900 Rev.0	
坡口型式 Groove Type	I	材质 Material	SA-516 Gr.485	焊接方法 Weld Method	SAW	
验收标准 Acceptance Standard	ASME Code Sect. VIII-1 2015Ed.	应用规范 Applicable Code	ASME Code Sect. V 2015Ed.	检验规程/版次 Procedure No./Rev.:	QCD-08-02 2016 Ed./Rev.0	
仪器型号及编号 Equip. Type & No.	XXH-3005/197 XXQ-2505/205	焦点尺寸 Focus Size (mm)	2.0*2.0mm	黑度范围 Density Range	1.8≤Di≤4.0 0.85DIQI≤Di≤1.3DIQI	
胶片牌号及类型 Film Brand & Type	Agfa C7	胶片尺寸 Film Size (mm)	360*80mm	胶片制造厂名 Film manufacturer	爱克发(无锡)影 像有限公司	
丝型象质计 Wire IQI	1B11	应显丝径/丝号 Accept. Wire size/No.	7#/0.33mm	增感屏 Screen	Pb.	
透照方法 Radiographic Technique						
						
						
透照条件及参数 Radiographic Condition and Parameters						
节点号 Joint No.	A1A3A4	A2	B1-B4	C1	C2	
焊缝长度 Welding Length (mm)	1980	1680	2891	3645	2891	
厚度 Thickness(mm)	10	10	10	10	10	
透照厚度 Pent Thk (mm)	10+2	10+2	10+2	10+2	10+2	
射源工件距离 S.O.D (mm)	700	700	450	700	450	
工件胶片距离 O.F.D (mm)	10+2	10+2	10+2	10+2	10+2	
管电压 Tube Voltage (KVp)	140	140	200	140	200	
管电流 Tube Current (mA)	5	5	5	5	5	
曝光时间 Exposure Time (mm)	1	1	0.8	1	0.8	
透照方法 Radiographic Technique	I	I	I	I	I	
有效长度 LEFF (mm)	283	280	2891	243	2891	
探伤比例 Inspection Proportion	FULL	FULL	FULL	FULL	FULL	
冲洗条件 Film Processing	方式 Method	<input checked="" type="checkbox"/> Manu.手工 <input type="checkbox"/> Auto.自动	显影温度及时间 Developing Temperature & Time		20±1°C	
编制 Prepared by:	级别 Level:	日期 Date:	批准 Reviewed & Approved by:	级别 Level:	日期 Date:	
许晓明	RTII	2018年6月2日	施明	RTIV	2018年6月2日	

2018.7.12



OLYMSPAN®				RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R641-RTBG01			
工艺卡号 Instruction No./Rev.				RTGY-18R641/0		评片记录号 Interpretation Record No.				18R641-01A			
产品名称 Product Name				图 号/版次 Drawing No./Rev.		产品编号 Product No.				验收标准 Accept. Standard			
FJZCS0.9-0.9×7.62 AUTOCLAVE				F01J0900 Rev.0		18R641				<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I			
厚度: Thickness				坡口型式 Groove Type		焊缝类别: Weld Name							
10mm				I		<input checked="" type="checkbox"/> L 纵 <input type="checkbox"/> C 环 <input type="checkbox"/> H 封头							
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)							结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格	
A1-1	2.92	3.58	2.85	3.77		1mm					✓		
-2	3.00	3.63	2.80	3.82							✓		
-3	3.22	3.67	3.14	3.87							✓		
-4	3.24	3.58	2.79	3.75		3mm					✓		
-5	2.87	3.41	2.75	3.61							✓		
-6	2.85	3.52	2.61	3.71							✓		
-7	2.78	3.52	2.75	3.74							✓		
A2-1	3.14	3.75	2.96	3.98							✓		
-2	2.76	3.58	2.58	3.74							✓		
-3	2.96	3.71	2.89	3.88							✓		
-4	2.62	3.48	2.60	3.68							✓		
-5	2.56	3.40	2.45	3.56							✓		
-6	2.54	3.54	2.54	3.66							✓		
评片 Examined by:				审核 Reviewed by:									
级别 Level:				级别 Level:									
日期 Date:				日期 Date:									

2018.7.22



OLYMSPAN®

# RT 评片记录

## RT INTERPRETATION SHEET

射线报告编号  
RT Report No.

18R641-RTBG01

工艺卡号  
Instruction No./Rev.

RTGY-18R641/0

评片记录号  
Interpretation Record No.

18R641-01A

产品名称  
Product Name图号/版次  
Drawing No./Rev.产品编号  
Product No.验收标准  
Accept. StandardFJZCS0.9-0.9×7.62  
AUTOCLAVE

F01J0900 Rev.0

18R641

☒ ASME Sect. VIII, Div. 1-2015, UW-51  
☐ ASME Sect. I

厚度: Thickness

坡口型式 Groove Type

焊缝类别: Weld Name

10mm

I

☒ L 纵☐ C 环☐ H 封头片号  
Film No.黑度  
Density缺陷性质及尺寸  
Type and Size of Defect (mm)结论  
ResultDIQI.  
minDIQI.  
maxDi.  
minDi.  
maxPorosity  
气孔Slag  
夹杂Incomplete  
Penetration  
未焊透Incomplete  
Fusion  
未熔合Crack  
裂缝Others  
其它Acc.  
合格Rej.  
不合格

A3-1

2.85

3.81

2.78

3.97

4mm

✓

-2

3.43

3.84

3.05

3.89

✓

-3

3.38

3.93

3.11

3.95

✓

-4

2.71

3.44

2.42

3.63

✓

-5

2.82

3.57

2.75

3.71

✓

-6

2.49

3.46

2.49

3.56

✓

-7

3.00

3.79

3.00

3.80

✓

A4-1

2.99

3.72

2.94

3.98

✓

-2

2.98

3.72

2.98

3.78

2mm

✓

-3

3.05

3.68

2.83

3.89

1mm

✓

-4

2.86

3.70

2.78

3.89

✓

-5

2.64

3.25

3.46

3.56

✓

-6

2.66

3.49

2.50

3.59

✓

-7

2.65

3.52

2.58

3.62

✓

评片 Examined by:

审核 Reviewed by:

级别 Level:

级别 Level:

日期 Date:

2018年5月22日

日期 Date:

2018年5月22日

RT-12

2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R641-RTBG02				
工艺卡号 Instruction No./Rev.		RTGY-18R641/0		评片记录号 Interpretation Record No.		18R641-01B						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R641		<input checked="" type="checkbox"/> ASME Sect.VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
B1-1	2.66	3.98	2.55	3.98							√	
-2			2.77	3.94							√	
-3	2.89	3.63	2.63	3.67							√	
-4			2.48	3.53							√	
-5	2.50	3.54	2.50	3.74	2mm						√	
-6			2.67	3.72							√	
-7			2.68	3.83							√	
-8	2.45	3.07	2.40	3.72							√	
-9			2.28	3.59							√	
B2-1	2.49	3.11	2.11	3.32							√	
-2			2.44	3.35							√	
-3			2.71	3.55		3mm					√	
-4	2.64	3.26	2.57	3.35							√	
-5			2.69	3.10							√	
-6	2.43	3.03	2.28	3.07	2mm						√	
-7			2.63	3.00							√	
-8	2.73	3.00	2.43	3.01							√	
-9			2.53	3.07							√	
评片 Examined by:		24081001		审核 Reviewed by:		24081001						
级别 Level:		RTⅡ		级别 Level:		RTⅡ						
日期 Date:		2018 年 6 月 1 日		日期 Date:		2018 年 6 月 1 日						

2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R641-RTBG02				
工艺卡号 Instruction No./Rev.		RTGY-18R641/0		评片记录号 Interpretation Record No.		18R641-01B						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R641		<input checked="" type="checkbox"/> ASME Sect.VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
B3-1	2.39	3.29	2.28	3.41		2mm					✓	
-2			2.34	3.47							✓	
-3	2.30	3.24	2.15	3.39							✓	
-4			2.01	3.24		2mm					✓	
-5	2.24	3.16	2.20	3.26		2mm					✓	
-6			2.19	3.25							✓	
-7			2.33	3.54							✓	
-8	2.16	3.12	2.16	3.18							✓	
-9			2.27	3.21							✓	
B4-1	1.94	2.81	1.89	2.89							✓	
-2			1.92	2.80							✓	
-3			1.93	2.85							✓	
-4	1.81	2.92	1.80	3.21							✓	
-5			2.02	3.28		1mm					✓	
-6	1.84	2.99	1.82	2.99							✓	
-7			1.87	2.83							✓	
-8			1.97	2.86		2mm					✓	
-9			1.96	2.95		1mm					✓	
评片 Examined by:		3/10/2018		审核 Reviewed by:		3/10/2018						
级别 Level:		RT II		级别 Level:		RT II						
日期 Date:		2018年6月1日		日期 Date:		2018年6月1日						

3/10/2018 RT-II  
2018.7.12




OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R641-RTBG03				
工艺卡号 Instruction No./Rev.		RTGY-18R641/0		评片记录号 Interpretation Record No.		18R641-01C						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18F5-35		<input checked="" type="checkbox"/> ASME Sect.VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂纹	Others 其它	Acc. 合格	Rej. 不合格
C1-1	2.90	3.96	2.47	3.97							✓	
-2	2.74	3.87	2.61	3.95							✓	
-3	2.95	3.92	2.67	3.96							✓	
-4	2.90	3.86	2.34	3.96		2mm					✓	
-5	2.72	3.88	2.35	3.95							✓	
-6	2.77	3.95	2.49	3.97							✓	
-7	2.86	3.75	2.36	3.89		1mm					✓	
-8	2.52	3.82	2.02	3.93							✓	
-9	2.80	3.82	2.78	3.92							✓	
-10	2.87	3.73	2.23	3.85		3mm					✓	
-11	2.58	3.76	2.48	3.95							✓	
-12	2.68	3.82	2.36	3.89		3mm					✓	
-13	2.80	3.52	2.29	3.76							✓	
-14	2.71	3.67	2.28	3.72							✓	
-15	2.72	3.82	2.68	3.89		2mm					✓	
评片 Examined by:		[Signature]		审核 Reviewed by:		[Signature]						
级别 Level:		RT II		级别 Level:		RT II						
日期 Date:		2018 年 5 月 28 日		日期 Date:		2018 年 5 月 28 日						

2018.5.28



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.				
								18R641-RTBG04				
工艺卡号 Instruction No./Rev.		RTGY-18R641/0		评片记录号 Interpretation Record No.		18R641-02C						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R641		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度: Thickness		坡口型式 Groove Type		焊缝类别: Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
C2-1			2.33	3.34							√	
-2	2.09	3.21	2.06	3.27		2mm					√	
-3			2.04	3.20							√	
-4	1.88	3.23	1.87	3.35							√	
-5			2.59	3.28	2mm						√	
-6			2.22	3.24		1.5mm					√	
-7	1.82	3.19	1.80	3.34		1mm					√	
-8			2.13	3.27							√	
-9	2.33	3.11	2.23	3.35							√	
评片 Examined by:		许晓刚		审核 Reviewed by:		施大为						
级别 Level:		RTⅡ		级别 Level:		RTⅡ						
日期 Date:		2018年6月1日		日期 Date:		2018年6月1日						

 许晓刚 RTⅡ  
 2018.7.12



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT				报告编号 Report No.				
						18R640-RTBG01				
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R640		F01J0900 Rev.0		18R640-RT01A				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R640/0				
工序卡号/版次 PCL No./Rev.		PCL-18R640/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXQ-2505/ 205	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C				显影时间 Developing Time :    5    min						
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件 距离 mm	O.F.D 工件-胶片 距离 mm	kV / mA 管电压/管 电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
A1	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
A2	10	2	700	12	140/5	1	6	7(0.33)	6	1680/280
A3	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
A4	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
RT 结论 Result of Examination: 合格										
编制 Prepared by		审核 Reviewed & Approved by		AI 授权检 验师		Jiaqi Hu Jun. 23, 2018				
级别 Level:		级别 Level:								
日期 Date:		日期 Date:		日期 Date:		2018 年 6 月 2 日				

2018.7.12.



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT			报告编号 Report No.					
					18R640-RTBG02					
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R640		F01J0900 Rev.0		18R640-RT01B				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R640/0				
工序卡号/版次 PCL No./Rev.		PCL-18R640/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXH-3005/ 197	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C				显影时间 Developing Time :    5    min						
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件 距离 mm	O.F.D 工件-胶片 距离 mm	kV / mA 管电压/管 电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
B1	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B2	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B3	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B4	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
RT 结论 Result of Examination: 合格										
编制 Prepared by		审核 Reviewed & Approved by		AI 授权检 验师		Jiawei Hu Jun. 23, 2018				
级别 Level:		级别 Level:		RT II						
日期 Date:		日期 Date:		2018 年 6 月 2 日		日期 Date		2018 年 6 月 2 日		

2018.7.12



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT			报告编号 Report No.					
					18R640-RTBG03					
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R640		F01J0900 Rev.0		18R640-RT01C				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R640/0				
工序卡号/版次 PCL No./Rev.		PCL-18R640/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXQ-2505/ 205	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C				显影时间 Developing Time :    5    min						
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件距离 mm	O.F.D 工件-胶片距离 mm	kV / mA 管电压/管电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
C1	10	2	700	12	140/5	1	15	7(0.33)	15	3645/243
RT 结论 Result of Examination: 合格										
编 制 Prepared by	[Signature]		审 核 Reviewed & Approved by		[Signature]		AI 授权检 验师	Jiawu Hu Jun. 23, 2018		
级 别 Level:	RT II		级 别 Level:		RT II					
日 期 Date:	2018 年 6 月 2 日		日 期 Date:		2018 年 6 月 2 日		日期 Date	2018 年 6 月 2 日		

2018.7.12



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT			报告编号 Report No.	
					18R640-RTBG04	
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R640		F01J0900 Rev.0		18R640-RT02C
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R640/0
工序卡号/版次 PCL No./Rev.		PCL-18R640/00				
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing	
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:		
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double		
探伤设备 Examination Equipment						
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)	
1	X 射线探伤机	XXH-3005/ 197	250Kv/5mA	2.0×2.0	0.03/0.03	
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动						
显影温度 Developing Temperature:    20±1    °C			显影时间 Developing Time :    5    min			
曝光条件 Exposure Condition						
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件距离 mm	O.F.D 工件-胶片距离 mm	kV / mA 管电压/管电流	Exposure Time 曝光时间 min.
C2	10	2	450	12	200/5	0.8
RT 结论 Result of Examination: 合格						
编 制 Prepared by	审 核 Reviewed & Approved by		AI 授权检 验师		Jiawei Hu Jun. 23, 2018	
级 别 Level:	级 别 Level:					
日 期 Date:	日 期 Date:		日 期 Date:		日 期 Date:	
2018 年 6 月 2 日	2018 年 6 月 2 日		2018 年 6 月 2 日		2018 年 6 月 2 日	

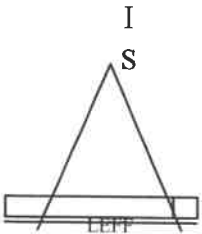
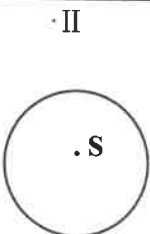
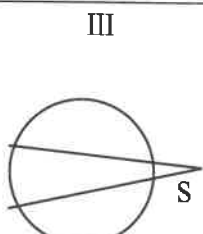

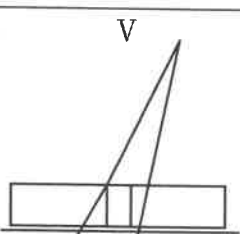
2018.6.12



<b>OLYMSPAN®</b>	射线照相定位记录 <b>RADIOGRAPHIC SKETCH OF LOCATION</b>		射线报告编号 RT Report No.		
			18R640-RTBG01-04		
产品名称 Product Name	图 号 Drawing No.	产品编号 Product No.	工艺卡号 Instruction No./Rev.		
FJZCS0.9-0.9×7.62 AUTOCLAVE	F01J0900 Rev.0	18R640	RTGY-18R640/0		
焊缝及布片示意图 Welds & Film Arrangement:					
备注 Note:					
摄片者 Radiographer	级别 Level	日期 Date	批准 Approved by	级别 Level	日期 Date
张晓明	RT II	2018年6月2日	张晓明	RT II	2018年6月2日

张晓明 RT II  
2018.7.12



OLYMSPAN®		射线检测专用工艺卡 RT INSTRUCTION CARD			工艺卡号/版次 Instruction Card No./Rev.:	
				RTGY-18R640/0		
产品名称 Product Name	FJZCS0.9-0.9×7.62 AUTOCLAVE	产品编号 Product No.	18R640	图号/版次 Drawing No./Rev.	F01J0900 Rev.0	
坡口型式 Groove Type	I	材质 Material	SA-516 Gr.485	焊接方法 Weld Method	SAW	
验收标准 Acceptance Standard	ASME Code Sect. VIII-1 2015Ed.	应用规范 Applicable Code	ASME Code Sect. V 2015Ed.	检验规程/版次 Procedure No./Rev.:	QCD-08-02 2016 Ed./Rev.0	
仪器型号及编号 Equip. Type & No.	XXH-3005/197 XXQ-2505/205	焦点尺寸 Focus Size (mm)	2.0*2.0mm	黑度范围 Density Range	1.8≤Di≤4.0 0.85DIQI≤Di≤1.3DIQI	
胶片牌号及类型 Film Brand & Type	Agfa C7	胶片尺寸 Film Size (mm)	360*80mm	胶片制造厂名 Film manufacturer	爱克发(无锡)影 像有限公司	
丝型象质计 Wire IQI	1B11	应显丝径/丝号 Accept. Wire size/No.	7#/0.33mm	增感屏 Screen	Pb. 前 Front 0.03 mm 后 Back 0.03 mm	
透照方法 Radiographic Technique						
						
						
透照条件及参数 Radiographic Condition and Parameters						
节点号 Joint No.	A1A3A4	A2	B1-B4	C1	C2	
焊缝长度 Welding Length (mm)	1980	1680	2891	3645	2891	
厚度 Thickness(mm)	10	10	10	10	10	
透照厚度 Pent Thk (mm)	10+2	10+2	10+2	10+2	10+2	
射源工件距离 S.O.D (mm)	700	700	450	700	450	
工件胶片距离 O.F.D (mm)	10+2	10+2	10+2	10+2	10+2	
管电压 Tube Voltage (KVp)	140	140	200	140	200	
管电流 Tube Current (mA)	5	5	5	5	5	
曝光时间 Exposure Time (mm)	1	1	0.8	1	0.8	
透照方法 Radiographic Technique	I	I	I	I	I	
有效长度 LEFF (mm)	283	280	2891	243	2891	
探伤比例 Inspection Proportion	FULL	FULL	FULL	FULL	FULL	
冲洗条件 Film Processing	方式 Method	<input checked="" type="checkbox"/> Manu.手工 <input type="checkbox"/> Auto.自动	显影温度及时间 Developing Temperature & Time		20±1°C	
编制 Prepared by:	级别 Level:	日期 Date:	批准 Reviewed & Approved by:	级别 Level:	日期 Date:	
许明	R72	2018年6月2日	李成	RT III	2018年6月2日	

2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.				
								18R640-RTBG01				
工艺卡号 Instruction No./Rev.		RTGY-18R640/0		评片记录号 Interpretation Record No.		18R640-01A						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R640		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input checked="" type="checkbox"/> L 纵 <input type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
A1-1	2.80	3.43	2.75	3.43							√	
-2	2.72	3.31	2.66	3.37							√	
-3	2.67	3.38	2.57	3.53							√	
-4	2.53	3.31	2.26	3.45							√	
-5	2.45	3.22	2.38	3.34							√	
-6	2.43	3.02	2.37	3.27							√	
-7	2.57	3.42	2.34	3.57							√	
A2-1	3.07	3.77	2.70	3.96							√	
-2	2.72	2.98	2.30	3.38							√	
-3	2.95	3.79	2.93	3.83							√	
-4	2.70	3.34	2.50	3.50							√	
-5	2.51	3.33	2.26	3.48							√	
-6	2.32	3.40	2.32	3.63							√	
评片 Examined by:		许晓刚		审核 Reviewed by:		王德成						
级别 Level:		RT II		级别 Level:		RT II						
日期 Date:		2018 年 5 月 22 日		日期 Date:		2018 年 5 月 22 日						

王德成 RT II  
2018.7.12




OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.					
								18R640-RTBG01					
工艺卡号 Instruction No./Rev.		RTGY-18R640/0				评片记录号 Interpretation Record No.		18R640-01A					
产品名称 Product Name		图 号/版次 Drawing No./Rev.				产品编号 Product No.		验收标准 Accept. Standard					
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0				18R640		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I					
厚度: Thickness		坡口型式 Groove Type				焊缝类别: Weld Name							
10mm		I				<input checked="" type="checkbox"/> L 纵 <input type="checkbox"/> C 环 <input type="checkbox"/> H 封头							
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result		
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格	
A3-1	2.83	3.61	2.74	3.83							√		
-2	2.82	3.48	2.72	3.64							√		
-3	2.88	3.60	2.77	3.65							√		
-4	2.64	3.42	2.45	3.81	1mm						√		
-5	2.72	3.43	2.65	3.58							√		
-6	2.56	3.34	2.43	3.49							√		
-7	2.69	3.43	2.58	3.66							√		
A4-1	2.21	2.73	2.11	2.75							√		
-2	2.24	2.82	2.20	2.98							√		
-3	2.23	2.73	2.00	2.82							√		
-4	2.12	2.39	2.10	2.61		2mm					√		
-5	2.43	2.90	2.20	2.97							√		
-6	2.45	2.90	2.30	3.07							√		
-7	2.20	2.88	2.14	3.02							√		
评片 Examined by:		许晓刚				审核 Reviewed by:				施大为			
级别 Level:		RTⅡ				级别 Level:				RTⅡ			
日期 Date:		2018 年 5 月 22 日				日期 Date:				2018 年 5 月 22 日			

2018.7.12




OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R640-RTBG02				
工艺卡号 Instruction No./Rev.		RTGY-18R640/0		评片记录号 Interpretation Record No.		18R640-01B						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R640		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度: Thickness		坡口型式 Groove Type		焊缝类别: Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
B1-1	3.02	3.57	2.97	3.65	1mm						√	
-2			2.08	3.74							√	
-3	2.76	3.90	2.73	3.98	1.5mm						√	
-4			2.85	3.83		4mm					√	
-5	2.79	3.44	2.79	3.66		2mm					√	
-6			2.91	3.55							√	
-7			2.68	3.58							√	
-8	3.02	3.89	2.99	3.98	1mm						√	
-9			2.84	3.82	1mm						√	
B2-1	2.89	3.46	2.83	3.52	1mm						√	
-2	2.66	3.57	2.57	3.68	2mm						√	
-3	2.96	3.74	2.90	3.74							√	
-4			3.00	3.65							√	
-5	2.81	3.44	2.80	3.74		1mm					√	
-6			2.86	3.64		2mm					√	
-7			2.82	3.55							√	
-8	2.62	3.30	2.52	3.38							√	
-9			2.67	3.42							√	
评片 Examined by:		许晓刚		审核 Reviewed by:		施雨						
级别 Level:		RTⅡ		级别 Level:		RTⅡ						
日期 Date:		2018 年 6 月 1 日		日期 Date:		2018 年 6 月 1 日						

 RTⅡ  
 2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R640-RTBG02				
工艺卡号 Instruction No./Rev.		RTGY-18R640/0		评片记录号 Interpretation Record No.		18R640-01B						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R640		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度: Thickness		坡口型式 Groove Type		焊缝类别: Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
B3-1	2.63	3.45	2.30	3.47							√	
-2			2.04	3.48	2mm						√	
-3			2.57	3.44							√	
-4	2.33	3.33	2.30	3.36							√	
-5	2.55	3.34	2.38	3.35							√	
-6	2.39	3.09	2.26	3.13		1mm					√	
-7	2.87	3.83	2.74	3.96	1mm						√	
-8	2.29	3.18	2.27	3.21							√	
-9			2.15	3.09							√	
B4-1	1.82	2.98	1.80	3.18		2mm					√	
-2			1.89	3.18							√	
-3	2.20	3.09	2.12	3.13							√	
-4			2.08	3.10	1mm						√	
-5			1.98	3.10		2mm					√	
-6	2.08	3.14	1.97	3.46		1mm					√	
-7			2.31	3.45	1.5mm						√	
-8	2.08	3.05	2.04	3.11	2mm						√	
-9			1.99	3.23		2mm					√	
评片 Examined by:		[Signature]		审核 Reviewed by:		[Signature]						
级别 Level:		RT II		级别 Level:		RT II						
日期 Date:		2018 年 6 月 1 日		日期 Date:		2018 年 6 月 1 日						

 RT-II  
 2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET								射线报告编号 RT Report No. 18R640-RTBG03		
工艺卡号 Instruction No./Rev.		RTGY-18R640/0		评片记录号 Interpretation Record No.		18R640-01C						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18F5-40		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度: Thickness		坡口型式 Groove Type		焊缝类别: Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
C1-1	2.63	3.92	2.36	3.95							√	
-2	2.70	3.91	2.67	3.93							√	
-3	2.72	3.82	2.59	3.95							√	
-4	2.67	3.71	2.55	3.82							√	
-5	2.81	3.85	2.42	3.96							√	
-6	2.47	3.72	2.36	3.92							√	
-7	2.68	3.68	2.36	3.91							√	
-8	2.54	3.65	2.46	3.72							√	
-9	2.68	3.82	2.24	3.94							√	
-10	2.61	3.79	2.48	3.89							√	
-11	2.44	3.62	2.26	3.91							√	
-12	2.49	3.65	2.24	3.87							√	
-13	2.63	3.85	2.24	3.92							√	
-14	2.68	3.74	2.48	3.91							√	
-15	2.64	3.75	2.29	3.86							√	
评片 Examined by:		3408101		审核 Reviewed by:		3408101						
级别 Level:		RT II		级别 Level:		RT II						
日期 Date:		2018 年 5 月 28 日		日期 Date:		2018 年 5 月 28 日						

3408101  
2018.7.12







OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT				报告编号 Report No.				
						18R639-RTBG01				
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R639		F01J0900 Rev.0		18R639-RT01A				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R639/0				
工序卡号/版次 PCL No./Rev.		PCL-18R639/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXQ-2505/ 205	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C				显影时间 Developing Time :    5    min						
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件 距离 mm	O.F.D 工件-胶片 距离 mm	kV / mA 管电压/管 电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
A1	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
A2	10	2	700	12	140/5	1	6	7(0.33)	6	1680/280
A3	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
A4	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
RT 结论 Result of Examination: 合格										
编 制 Prepared by			审 核 Reviewed & Approved by			AI 授权检 验师	Jiaowu Hu Jun. 23, 2018			
级 别 Level:	RT II		级 别 Level:	RT II						
日 期 Date:	2018 年 6 月 8 日		日 期 Date:	2018 年 6 月 8 日		日期 Date	2018 年 6 月 8 日			

2018.7.12



<b>OLYMSPAN®</b>		<b>射线照相检测报告</b> <b>RADIOGRAPHIC EXAMINATION REPORT</b>			报告编号 Report No.					
					18R639-RTBG02					
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R639		F01J0900 Rev.0		18R639-RT01B				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R639/0				
工序卡号/版次 PCL No./Rev.		PCL-18R639/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXH-3005/ 197	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C			显影时间 Developing Time :    5    min							
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件 距离 mm	O.F.D 工件-胶片 距离 mm	kV / mA 管电压/管 电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
B1	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B2	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B3	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B4	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
RT 结论 Result of Examination: 合格										
编制 Prepared by	许晓刚		审核 Reviewed & Approved by		王海		AI 授权检 验师	Jiaohu Hu Jun. 23. 2018		
级别 Level:	RT II		级别 Level:		RT II					
日期 Date:	2018 年 6 月 8 日		日期 Date:		2018 年 6 月 8 日		日期 Date	2018 年 6 月 8 日		

  
 2018.7.12



<b>OLYMSPAN®</b>		<b>射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT</b>						报告编号 Report No.		
								18R639-RTBG03		
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R639		F01J0900 Rev.0		18R639-RT01C				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 <input type="checkbox"/> ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R639/0				
工序卡号/版次 PCL No./Rev.		PCL-18R639/00								
■ Full RT   全部 RT <input type="checkbox"/> Spot RT   局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		■ 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			■ 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				■ 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXQ-2505/ 205	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:			20±1      ℃	显影时间 Developing Time :			5	min		
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件距离 mm	O.F.D 工件-胶片距离 mm	kV / mA 管电压/管电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Scam/Eff Length 缝长/有效长 mm
C1	10	2	700	12	140/5	1	15	7(0.33)	15	3645/243
RT 结论 Result of Examination: 合格										
编 制 Prepared by		审 核 Reviewed & Approved by		AI 授权检 验师		Jiawu Hu Jun. 23, 2018				
级 别 Level:		级 别 Level:		日期 Date		2018年6月8日				
日期 Date:		日期 Date:		日期 Date		2018年6月8日				

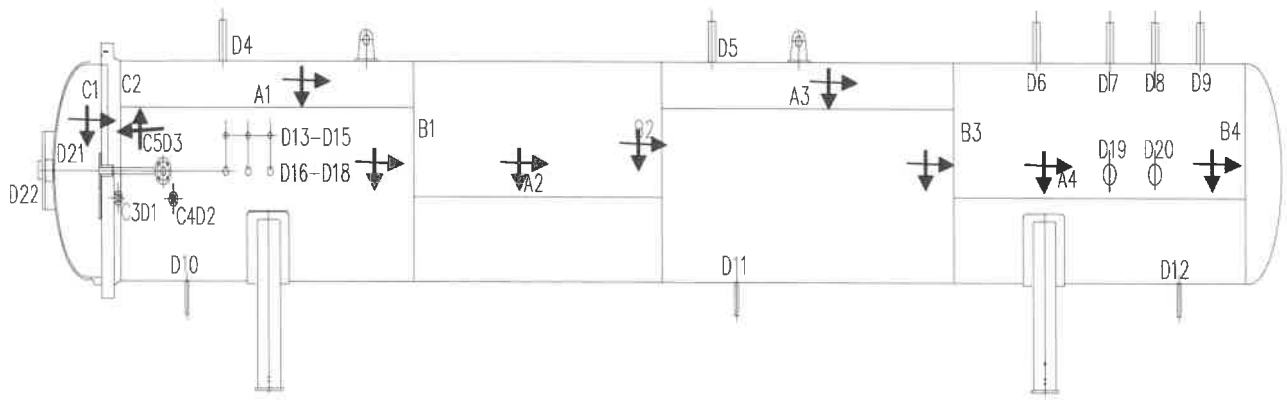
2/10/12 RT-12  
2008.7.12




OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT			报告编号 Report No.					
					18R639-RTBG04					
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R639		F01J0900 Rev.0		18R639-RT02C				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R639/0				
工序卡号/版次 PCL No./Rev.		PCL-18R639/00								
■ Full RT 全部 RT □ Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		■ 单壁 Single-Wall Exposure □ 双壁 Double-Wall Exposure			■ 单影 Single-Wall Viewing □ 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				■ 单 Single □ 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXH-3005/ 197	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : ■ Manual 手动 □ Automatic 自动										
显影温度 Developing Temperature: 20±1 °C				显影时间 Developing Time : 5 min						
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickness 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件距离 mm	O.F.D 工件-胶片距离 mm	kV / mA 管电压/管电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Number of Film. 片数	Seam/Eff Length 缝长/有效长 mm
C2	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
RT 结论 Result of Examination: 合格										
编制 Prepared by	许晓刚		审核 Reviewed & Approved by	王德明		AI 授权检验师	Jiandi Hu Jun. 23, 2018			
级别 Level:	RT II		级别 Level:	RT II						
日期 Date:	2018 年 6 月 8 日		日期 Date:	2018 年 6 月 8 日		日期 Date	2018 年 6 月 8 日			

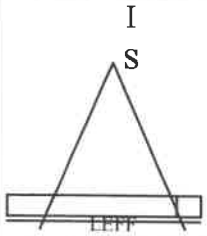
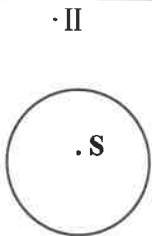
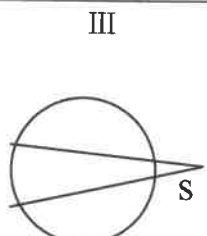

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<b>OLYMSPAN®</b>	<b>射线照相定位记录</b> <b>RADIOGRAPHIC SKETCH OF LOCATION</b>		射线报告编号 RT Report No.		
			18R639-RTBG01-04		
产品名称 Product Name	图 号 Drawing No.	产品编号 Product No.	工艺卡号 Instruction No./Rev.		
FJZCS0.9-0.9×7.62 AUTOCLAVE	F01J0900 Rev.0	18R639	RTGY-18R639/0		
焊缝及布片示意图 Welds & Film Arrangement: 					
备注 Note:					
摄片者 Radiographer	级别 Level	日期 Date	批准 Approved by	级别 Level	日期 Date
许晓刚	RTⅡ	2018 年 6 月 8 日	施大为	RTⅢ	2018 年 6 月 8 日

 RTⅡ  
 2018.7.12



OLYMSPAN®		射线检测专用工艺卡 RT INSTRUCTION CARD			工艺卡号/版次 Instruction Card No./Rev.:	
					RTGY-18R639/0	
产品名称 Product Name	FJZCS0.9-0.9×7.62 AUTOCLAVE	产品编号 Product No.	18R639	图号/版次 Drawing No./Rev.	F01J0900 Rev.0	
坡口型式 Groove Type	I	材质 Material	SA-516 Gr.485	焊接方法 Weld Method	SAW	
验收标准 Acceptance Standard	ASME Code Sect. VIII-1 2015Ed.	应用规范 Applicable Code	ASME Code Sect. V 2015Ed.	检验规程/版次 Procedure No./Rev.:	QCD-08-02 2016 Ed./Rev.0	
仪器型号及编号 Equip. Type & No.	XXH-3005/197 XXQ-2505/205	焦点尺寸 Focus Size (mm)	2.0*2.0mm	黑度范围 Density Range	1.8≤Di≤4.0 0.85DIQI≤Di≤1.3DIQI	
胶片牌号及类型 Film Brand & Type	Agfa C7	胶片尺寸 Film Size (mm)	360*80mm	胶片制造厂名 Film manufacturer	爱克发(无锡)影 像有限公司	
丝型象质计 Wire IQI	1B11	应显丝径/丝号 Accept. Wire size/No.	7#/0.33mm	增感屏 Screen	Pb.	前 Front 0.03 mm 后 Back 0.03 mm
透照方法 Radiographic Technique						
						
透照条件及参数 Radiographic Condition and Parameters						
节点号 Joint No.	A1A3A4	A2	B1-B4	C1	C2	
焊缝长度 Welding Length (mm)	1980	1680	2891	3645	2891	
厚度 Thickness(mm)	10	10	10	10	10	
透照厚度 Pent Thk (mm)	10+2	10+2	10+2	10+2	10+2	
射源工件距离 S.O.D (mm)	700	700	450	700	450	
工件胶片距离 O.F.D (mm)	10+2	10+2	10+2	10+2	10+2	
管电压 Tube Voltage (KVp)	140	140	200	140	200	
管电流 Tube Current (mA)	5	5	5	5	5	
曝光时间 Exposure Time (mm)	1	1	0.8	1	0.8	
透照方法 Radiographic Technique	I	I	I	I	I	
有效长度 LEFF (mm)	283	280	2891	243	2891	
探伤比例 Inspection Proportion	FULL	FULL	FULL	FULL	FULL	
冲洗条件 Film Processing	方式 Method	<input checked="" type="checkbox"/> Manu.手工 <input type="checkbox"/> Auto.自动	显影温度及时间 Developing Temperature & Time		20±1℃	
编制 Prepared by:	级别 Level:	日期 Date:	批准 Reviewed & Approved by:	级别 Level:	日期 Date:	
许晓刚	RTⅡ	2018年6月8日	丁世炳	RTⅡ	2018年6月8日	

2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R639-RTBG01				
工艺卡号 Instruction No./Rev.		RTGY-18R639/0		评片记录号 Interpretation Record No.		18R639-01A						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R639		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input checked="" type="checkbox"/> L 纵 <input type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
A1-1	2.67	3.34	2.61	3.38							√	
-2	2.47	3.00	2.37	3.02							√	
-3	2.44	2.98	2.34	2.98							√	
-4	3.13	3.48	2.91	3.63							√	
-5	2.39	2.93	2.18	3.13							√	
-6	2.84	3.39	2.79	3.52		2mm					√	
-7	2.88	3.77	2.46	3.86		4mm					√	
A2-1	2.90	3.60	2.88	3.62							√	
-2	2.62	3.58	2.53	3.59							√	
-3	2.91	3.50	2.49	3.60							√	
-4	2.66	3.47	2.48	3.63							√	
-5	2.26	3.29	2.24	3.43							√	
-6	2.73	3.41	2.66	3.46							√	
评片 Examined by:		许晓刚		审核 Reviewed by:		徐西						
级别 Level:		RT II		级别 Level:		RT II						
日期 Date:		2018 年 5 月 22 日		日期 Date:		2018 年 5 月 22 日						

 RT-II  
 2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R639-RTBG01				
工艺卡号 Instruction No./Rev.		RTGY-18R639/0		评片记录号 Interpretation Record No.		18R639-01A						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R639		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度: Thickness		坡口型式 Groove Type		焊缝类别: Weld Name								
10mm		I		<input checked="" type="checkbox"/> L 纵 <input type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
A3-1	2.27	2.52	2.19	2.56							√	
-2	2.30	2.71	2.16	2.71							√	
-3	2.22	2.60	2.07	2.60							√	
-4	2.86	3.51	2.82	3.58	1mm						√	
-5	3.08	3.54	2.88	3.82							√	
-6	3.30	3.69	2.92	3.88							√	
-7	2.57	3.27	2.47	3.44							√	
A4-1	2.35	2.67	2.21	2.67							√	
-2	2.24	2.63	2.03	2.73							√	
-3	2.23	2.68	2.28	2.76							√	
-4	2.66	3.16	2.58	3.32							√	
-5	2.58	3.17	2.53	3.48							√	
-6	2.69	3.13	2.51	3.40							√	
-7	2.30	3.04	2.30	3.36							√	
评片 Examined by:		许晓明		审核 Reviewed by:		李德炳						
级别 Level:		RT II		级别 Level:		RT III						
日期 Date:		2018 年 5 月 22 日		日期 Date:		2018 年 5 月 22 日						

2018.7.12  
 李德炳 RT-III




OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R639-RTBG02				
工艺卡号 Instruction No./Rev.		RTGY-18R639/0		评片记录号 Interpretation Record No.		18R639-01B						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R639		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度: Thickness		坡口型式 Groove Type		焊缝类别: Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
B1-1	2.70	3.77	2.59	3.83							√	
-2			2.91	3.98	1mm						√	
-3	2.77	3.78	2.77	3.89							√	
-4			2.98	3.82		1mm					√	
-5			2.65	3.75							√	
-6	2.32	3.10	2.26	3.11	1mm						√	
-7			2.67	3.73							√	
-8	2.66	3.64	2.47	3.78	1mm						√	
-9			2.53	3.67		3mm					√	
B2-1	2.17	3.39	2.10	3.54		2mm					√	
-2			2.09	3.18		1mm					√	
-3			2.39	3.36	2mm						√	
-4	2.48	3.72	2.38	3.85	1mm						√	
-5			2.70	3.99	1mm						√	
-6	2.80	3.17	2.73	3.67	1mm						√	
-7			2.75	3.84							√	
-8	2.79	3.71	2.56	3.73							√	
-9			2.29	3.82	1mm						√	
评片 Examined by:		许晓利		审核 Reviewed by:		施大为						
级别 Level:		RT II		级别 Level:		RT II						
日期 Date:		2018 年 6 月 7 日		日期 Date:		2018 年 6 月 7 日						

 RT-II  
 2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R639-RTBG02				
工艺卡号 Instruction No./Rev.		RTGY-18R639/0		评片记录号 Interpretation Record No.		18R639-01B						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R639		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度: Thickness		坡口型式 Groove Type		焊缝类别: Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
B3-1	2.32	3.31	2.32	3.47							√	
-2	2.32	3.10	2.16	3.18							√	
-3			2.08	3.12	1mm						√	
-4			3.09	3.98	2.5mm						√	
-5	2.86	3.80	2.85	3.97	2mm						√	
-6			3.02	3.92							√	
-7	2.44	3.10	2.21	3.31	1mm						√	
-8			2.26	3.72	2mm						√	
-9			2.48	3.22							√	
B4-1	2.92	3.45	2.82	3.59							√	
-2			2.59	3.57		4mm					√	
-3	2.89	3.49	2.84	3.59							√	
-4			2.68	3.55		3mm					√	
-5	2.61	3.05	2.43	3.06							√	
-6			2.67	3.06							√	
-7			2.58	3.95							√	
-8	2.97	3.72	2.51	3.74		2mm					√	
-9			2.53	3.35							√	
评片 Examined by:		许晓刚		审核 Reviewed by:		施大勇						
级别 Level:		RTⅡ		级别 Level:		RTⅢ						
日期 Date:		2018 年 6 月 7 日		日期 Date:		2018 年 6 月 7 日						

 RT-Ⅱ  
 2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R639-RTBG03				
工艺卡号 Instruction No./Rev.		RTGY-18R639/0		评片记录号 Interpretation Record No.		18R639-01C						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18F5-39		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
C1-1	2.18	3.31	1.82	3.38							√	
-2	2.15	3.32	2.01	3.38							√	
-3	2.06	3.38	2.03	3.47							√	
-4	2.12	3.34	1.93	3.38							√	
-5	2.14	3.58	2.05	3.59							√	
-6	2.58	3.96	2.40	3.98							√	
-7	2.18	3.58	2.03	3.58							√	
-8	2.51	3.49	2.26	3.39							√	
-9	2.43	3.48	2.00	3.53		2mm					√	
-10	2.56	3.40	2.32	3.41							√	
-11	2.39	3.40	2.27	3.45							√	
-12	2.32	3.53	1.95	3.63							√	
-13	2.27	3.95	2.10	3.96							√	
-14	2.46	3.97	2.22	3.97							√	
-15	2.14	3.42	1.94	3.30							√	
评片 Examined by:		许晓刚		审核 Reviewed by:		李德炳						
级别 Level:		RTⅡ		级别 Level:		RTⅡ						
日期 Date:		2018 年 5 月 30 日		日期 Date:		2018 年 5 月 30 日						

李德炳 RTⅡ  
2018.7.11







<b>OLYMSPAN®</b>		<b>射线照相检测报告</b> <b>RADIOGRAPHIC EXAMINATION REPORT</b>			报告编号 Report No.					
					18R638-RTBG01					
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R638		F01J0900 Rev.0		18R638-RT01A				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R638/0				
工序卡号/版次 PCL No./Rev.		PCL-18R638/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure		<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing						
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXQ-2505/ 205	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:		20±1      °C		显影时间 Developing Time :		5      min				
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickness 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件距离 mm	O.F.D 工件-胶片距离 mm	kV / mA 管电压/管电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
A1	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
A2	10	2	700	12	140/5	1	6	7(0.33)	6	1680/280
A3	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
A4	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
RT 结论 Result of Examination: 合格										
编制 Prepared by		审核 Reviewed & Approved by		AI 授权检验师		Jiawei Hu Jun. 23, 2018				
级别 Level:		级别 Level:								
日期 Date:		2018 年 6 月 9 日		日期 Date:		2018 年 6 月 9 日		日期 Date		

2018.7.12



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT			报告编号 Report No.						
					18R638-RTBG02						
产品名称 Product Name		产品编号 Product No.	图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.						
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R638	F01J0900 Rev.0		18R638-RT01B						
应用规范 Applicable Code		验收标准 Acceptance Standard	规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev						
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I	QCD-08-02 2016Ed./Rev.0		RTGY-18R638/0						
工序卡号/版次 PCL No./Rev.		PCL-18R638/00									
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material	材料厚度 (mm) Material Thickness	胶片制造厂名 Film manufacturer							
		SA516MGr.485	10mm	爱克发(无锡)影像有限公司							
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure		<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing							
胶片牌号或型号 Film Brand & Class			每个暗盒胶片数 Number of Film Per Cassette:								
Agfa C7			<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double								
探伤设备 Examination Equipment											
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)						
1	X 射线探伤机	XXH-3005/ 197	250Kv/5mA	2.0×2.0	0.03/0.03						
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动											
显影温度 Developing Temperature:    20±1    °C			显影时间 Developing Time :    5    min								
曝光条件 Exposure Condition											
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件距离 mm	O.F.D 工件-胶片距离 mm	kV / mA 管电压/管电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm	
B1	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891	
B2	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891	
B3	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891	
B4	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891	
RT 结论 Result of Examination: 合格											
编制 Prepared by		许晓刚	审核 Reviewed & Approved by		[Signature]	AI 授权检验师	Jianxi Hu Jun. 23, 2018				
级别 Level:		RT II	级别 Level:		RT II						
日期 Date:		2018 年 6 月 9 日	日期 Date:		2018 年 6 月 9 日	日期 Date	2018 年 6 月 9 日				

 RT-II  
 2018.7.2







<b>OLYMSPAN®</b>		<b>射线照相检测报告</b> <b>RADIOGRAPHIC EXAMINATION REPORT</b>				报告编号 Report No.				
						18R638-RTBG04				
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R638		F01J0900 Rev.0		18R638-RT02C				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R638/0				
工序卡号/版次 PCL No./Rev.		PCL-18R638/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure		<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing						
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXH-3005/ 197	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing: <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C				显影时间 Developing Time:    5    min						
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickness 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件距离 mm	O.F.D 工件-胶片距离 mm	kV / mA 管电压/管电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Number of Film. 片数	Seam/Eff Length 缝长/有效长 mm
C2	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
RT 结论 Result of Examination: 合格										
编制 Prepared by	[Signature]		审核 Reviewed & Approved by	[Signature]		AI 授权检验师	Jiawu Hu Jun. 23, 2018			
级别 Level:	RT II		级别 Level:	RT II						
日期 Date:	2018 年 6 月 9 日		日期 Date:	2018 年 6 月 9 日		日期 Date	2018 年 6 月 9 日			

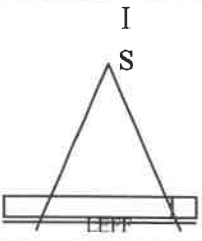
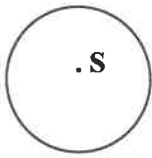
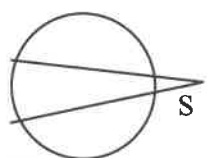
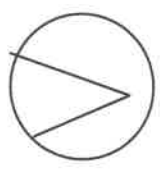
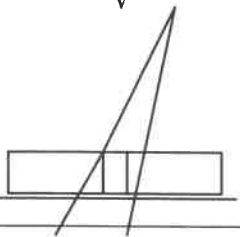
 RT-II  
2018.7.11



<b>OLYMSPAN®</b>	射线照相定位记录 <b>RADIOGRAPHIC SKETCH OF LOCATION</b>		射线报告编号 RT Report No.		
			18R638-RTBG01-04		
产品名称 Product Name	图 号 Drawing No.	产品编号 Product No.	工艺卡号 Instruction No./Rev.		
FJZCS0.9-0.9×7.62 AUTOCLAVE	F01J0900 Rev.0	18R638	RTGY-18R638/0		
焊缝及布片示意图 Welds & Film Arrangement:					
备注 Note:					
摄片者 Radiographer	级别 Level	日期 Date	批准 Approved by	级别 Level	日期 Date
王明刚	RT II	2018年6月9日	施大为	RT II	2018年6月9日

施大为 RT II  
2018.7.12




OLYMSPAN®		射线检测专用工艺卡 RT INSTRUCTION CARD		工艺卡号/版次 Instruction Card No./Rev.: RTGY-18R638/0	
产品名称 Product Name	FJZCS0.9-0.9×7.62 AUTOCLAVE	产品编号 Product No.	18R638	图号/版次 Drawing No./Rev.	F01J0900 Rev.0
坡口型式 Groove Type	I	材质 Material	SA-516 Gr.485	焊接方法 Weld Method	SAW
验收标准 Acceptance Standard	ASME Code Sect. VIII-1 2015Ed.	应用规范 Applicable Code	ASME Code Sect. V 2015Ed.	检验规程/版次 Procedure No./Rev.:	QCD-08-02 2016 Ed./Rev.0
仪器型号及编号 Equip. Type & No.	XXH-3005/197 XXQ-2505/205	焦点尺寸 Focus Size (mm)	2.0*2.0mm	黑度范围 Density Range	$1.8 \leq Di \leq 4.0$ $0.85DIQI \leq Di \leq 1.3DIQI$
胶片牌号及类型 Film Brand & Type	Agfa C7	胶片尺寸 Film Size (mm)	360*80mm	胶片制造厂名 Film manufacturer	爱克发(无锡)影 像有限公司
丝型象质计 Wire IQI	1B11	应显丝径/丝号 Accept. Wire size/No.	7#/0.33mm	增感屏 Screen	Pb. 前 Front 0.03 mm 后 Back 0.03 mm
透照方法 Radiographic Technique					
I 		II 		III 	
IV 		V 			
透照条件及参数 Radiographic Condition and Parameters					
节点号 Joint No.	A1A3A4	A2	B1-B4	C1	C2
焊缝长度 Welding Length (mm)	1980	1680	2891	3645	2891
厚度 Thickness(mm)	10	10	10	10	10
透照厚度 Pent Thk (mm)	10+2	10+2	10+2	10+2	10+2
射源工件距离 S.O.D (mm)	700	700	450	700	450
工件胶片距离 O.F.D (mm)	10+2	10+2	10+2	10+2	10+2
管电压 Tube Voltage (KVp)	140	140	200	140	200
管电流 Tube Current (mA)	5	5	5	5	5
曝光时间 Exposure Time (mm)	1	1	0.8	1	0.8
透照方法 Radiographic Technique	I	I	I	I	I
有效长度 LEFF (mm)	283	280	2891	243	2891
探伤比例 Inspection Proportion	FULL	FULL	FULL	FULL	FULL
冲洗条件 Film Processing	方式 Method	<input checked="" type="checkbox"/> Manu.手工 <input type="checkbox"/> Auto.自动	显影温度及时间 Developing Temperature & Time		20±1℃
编制 Prepared by:	级别 Level:	日期 Date:	批准 Reviewed & Approved by:	级别 Level:	日期 Date:
李小明	RTI	2018年6月9日	李小明	RTI	2018年6月9日

李小明 RTI-16  
2018.7.12




OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.				
								18R638-RTBG01				
工艺卡号 Instruction No./Rev.		RTGY-18R638/0		评片记录号 Interpretation Record No.		18R638-01A						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R638		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度: Thickness		坡口型式 Groove Type		焊缝类别: Weld Name								
10mm		I		<input checked="" type="checkbox"/> L 纵 <input type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
A1-1	3.19	3.95	3.15	3.98							√	
-2	3.53	3.98	3.18	3.98							√	
-3	3.26	3.93	3.22	3.97							√	
-4	3.47	4.00	3.26	4.00							√	
-5	3.31	3.74	3.29	3.94							√	
-6	2.83	3.78	2.83	3.85							√	
-7	2.78	3.81	2.62	3.89							√	
A2-1	2.70	3.45	2.66	3.45							√	
-2	2.83	3.47	2.69	3.50							√	
-3	2.75	3.37	2.63	3.51							√	
-4	2.42	3.03	2.33	3.31							√	
-5	2.40	3.22	2.38	3.53							√	
-6	2.69	3.60	2.64	3.73							√	
评片 Examined by:		许建刚		审核 Reviewed by:		施林						
级别 Level:		RTⅡ		级别 Level:		RTⅡ						
日期 Date:		2018 年 5 月 22 日		日期 Date:		2018 年 5 月 22 日						

 RT-Ⅱ  
 2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.				
								18R638-RTBG01				
工艺卡号 Instruction No./Rev.		RTGY-18R638/0				评片记录号 Interpretation Record No.		18R638-01A				
产品名称 Product Name		图 号/版次 Drawing No./Rev.				产品编号 Product No.		验收标准 Accept. Standard				
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0				18R638		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I				
厚度:Thickness		坡口型式 Groove Type				焊缝类别:Weld Name						
10mm		I				<input checked="" type="checkbox"/> L 纵 <input type="checkbox"/> C 环 <input type="checkbox"/> H 封头						
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
A3-1	2.49	3.28	2.48	3.48							√	
-2	2.49	3.16	2.34	3.29							√	
-3	2.49	3.25	2.49	3.40							√	
-4	2.42	3.19	2.32	3.34							√	
-5	2.32	3.14	2.13	3.27	2mm						√	
-6	2.53	3.13	2.39	3.28	1mm						√	
-7	2.25	3.08	2.06	3.24							√	
A4-1	2.91	3.70	2.78	3.89	1mm						√	
-2	2.69	3.69	2.69	3.86							√	
-3	2.92	3.72	2.86	3.83							√	
-4	3.01	3.92	2.89	3.98							√	
-5	3.05	3.82	2.98	4.00							√	
-6	2.92	3.66	2.87	3.91							√	
-7	3.04	3.79	3.02	3.98							√	
评片 Examined by:		许晓利				审核 Reviewed by:		施炳				
级别 Level:		RT II				级别 Level:		RT II				
日期 Date:		2018 年 5 月 22 日				日期 Date:		2018 年 5 月 22 日				


  
 2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.				
								18R638-RTBG02				
工艺卡号 Instruction No./Rev.		RTGY-18R638/0				评片记录号 Interpretation Record No.		18R638-01B				
产品名称 Product Name		图 号/版次 Drawing No./Rev.				产品编号 Product No.		验收标准 Accept. Standard				
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0				18R638		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I				
厚度:Thickness		坡口型式 Groove Type				焊缝类别:Weld Name						
10mm		I				<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头						
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQL min	DIQL max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
B1-1	2.77	3.53	2.43	3.55							√	
-2			2.54	3.64							√	
-3	2.72	3.52	2.70	3.60							√	
-4			2.35	3.63							√	
-5	2.38	3.60	2.38	3.70							√	
-6			2.33	3.64							√	
-7	2.69	3.94	2.06	3.98		2mm					√	
-8			2.27	3.89		1mm					√	
-9			2.61	3.76							√	
B2-1	2.60	3.74	2.60	3.88		1mm					√	
-2			2.61	3.78							√	
-3	2.83	3.56	2.64	3.68							√	
-4			2.82	3.66							√	
-5	2.65	3.62	2.46	3.70		1mm					√	
-6			2.54	3.74							√	
-7	2.26	3.45	2.10	3.55							√	
-8			2.25	3.54							√	
-9			2.48	3.86							√	
评片 Examined by:		许晓利				审核 Reviewed by:		陈时雨				
级别 Level:		RT II				级别 Level:		RT II				
日期 Date:		2018 年 6 月 7 日				日期 Date:		2018 年 6 月 7 日				

陈时雨 RT-II  
2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.				
								18R638-RTBG02				
工艺卡号 Instruction No./Rev.		RTGY-18R638/0		评片记录号 Interpretation Record No.		18R638-01B						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R638		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
B3-1	2.39	3.47	2.21	3.49		1mm					√	
-2	2.78	3.80	2.74	3.98		4mm					√	
-3			2.73	3.94							√	
-4	2.83	3.81	2.58	3.89							√	
-5			2.42	3.59		3mm					√	
-6	2.25	3.59	2.15	3.62							√	
-7			2.43	3.92		2mm					√	
-8	2.62	3.93	2.37	3.98							√	
-9			2.86	3.99							√	
B4-1	2.09	3.03	2.06	3.15							√	
-2			2.36	3.11		1mm					√	
-3	2.17	3.26	2.16	3.43							√	
-4			2.13	3.36		2mm					√	
-5	2.22	3.07	2.06	3.23							√	
-6			2.06	3.11							√	
-7	2.20	3.01	2.08	3.02							√	
-8			2.06	3.06		3mm					√	
-9			2.12	3.13		1mm					√	
评片 Examined by:		3/4 王明		审核 Reviewed by:		1 施大为						
级别 Level:		RTII		级别 Level:		RTII						
日期 Date:		2018 年 6 月 7 日		日期 Date:		2018 年 6 月 7 日						

2018.7.12




OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET				射线报告编号 RT Report No.						
						18R638-RTBG03						
工艺卡号 Instruction No./Rev.		RTGY-18R638/0		评片记录号 Interpretation Record No.		18R638-01C						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18F5-38		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度: Thickness		坡口型式 Groove Type		焊缝类别: Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
C1-1	2.26	3.63	2.26	3.65							√	
-2	2.22	3.39	2.15	3.47							√	
-3	2.33	3.52	1.96	2.58							√	
-4	2.28	3.48	1.95	3.50							√	
-5	2.20	3.49	2.01	3.57							√	
-6	2.23	3.50	2.06	3.55							√	
-7	2.27	3.61	1.91	3.62							√	
-8	2.40	3.61	2.27	3.62							√	
-9	2.25	3.42	2.14	3.42							√	
-10	2.32	3.36	1.92	3.39							√	
-11	1.99	3.26	1.82	3.27							√	
-12	2.21	3.26	1.91	3.29							√	
-13	2.20	3.38	2.05	3.42		1mm					√	
-14	2.36	3.38	2.15	3.38							√	
-15	1.87	3.20	1.80	3.21							√	
评片 Examined by:		许晓刚		审核 Reviewed by:		李敏						
级别 Level:		RT II		级别 Level:		RT II						
日期 Date:		2018 年 5 月 30 日		日期 Date:		2018 年 5 月 30 日						

 RT-II  
 2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.				
								18R638-RTBG04				
工艺卡号 Instruction No./Rev.		RTGY-18R638/0		评片记录号 Interpretation Record No.		18R638-02C						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R638		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度: Thickness		坡口型式 Groove Type		焊缝类别: Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
C2-1	2.78	3.75	2.73	3.89							✓	
-2			2.91	3.79							✓	
-3	2.43	3.14	2.43	3.47							✓	
-4			2.24	3.19							✓	
-5	2.06	3.13	2.06	3.14							✓	
-6			2.25	3.15							✓	
-7			2.42	3.05							✓	
-8	2.63	3.04	2.63	3.11							✓	
-9			2.94	3.53							✓	
评片 Examined by:		许晓刚		审核 Reviewed by:				陈大刚				
级别 Level:		RT II		级别 Level:				RT II				
日期 Date:		2018 年 6 月 7 日		日期 Date:				2018 年 6 月 7 日				

 RT-II  
 2018.7.12



<b>OLYMSPAN®</b>		<b>射线照相检测报告</b> <b>RADIOGRAPHIC EXAMINATION REPORT</b>				报告编号 Report No.				
						18R637-RTBG01				
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R637		F01J0900 Rev.0		18R637-RT01A				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R637/0				
工序卡号/版次 PCL No./Rev.		PCL-18R637/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXQ-2505/ 205	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C				显影时间 Developing Time :    5    min						
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件 距离 mm	O.F.D 工件-胶片 距离 mm	kV / mA 管电压/管 电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
A1	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
A2	10	2	700	12	140/5	1	6	7(0.33)	6	1680/280
A3	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
A4	10	2	700	12	140/5	1	7	7(0.33)	7	1980/283
RT 结论 Result of Examination: 合格										
编 制 Prepared by		审 核 Reviewed & Approved by		AI 授权检 验师		Jidao Hu Jun. 23, 2018				
级 别 Level:		级 别 Level:								
日 期 Date:		日 期 Date:		日 期 Date:		2018 年 6 月 1 日				

2018.7.12



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT				报告编号 Report No.				
						18R637-RTBG02				
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R637		F01J0900 Rev.0		18R637-RT01B				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R637/0				
工序卡号/版次 PCL No./Rev.		PCL-18R637/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure			<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXH-3005/ 197	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:      20±1      °C				显影时间 Developing Time :      5      min						
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件 距离 mm	O.F.D 工件-胶片 距离 mm	kV / mA 管电压/管 电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
B1	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B2	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B3	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
B4	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
RT 结论 Result of Examination: 合格										
编 制 Prepared by		审 核 Reviewed & Approved by		AI 授权检 验师		Jiaoxi Hu Jan. 23, 2018				
级 别 Level:		级 别 Level:								
日 期 Date:		日 期 Date:		日 期 Date:		2018 年 6 月 1 日				

2018.7.12



OLYMSPAN®		射线照相检测报告 RADIOGRAPHIC EXAMINATION REPORT				报告编号 Report No.				
						18R637-RTBG03				
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R637		F01J0900 Rev.0		18R637-RT01C				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev.				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R637/0				
工序卡号/版次 PCL No./Rev.		PCL-18R637/00								
■ Full RT 全部 RT □ Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发 (无锡) 影像有限公司				
透照方法 Radiographic Technique		■ 单壁 Single-Wall Exposure □ 双壁 Double-Wall Exposure			■ 单影 Single-Wall Viewing □ 双影 Double-Wall Viewing					
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				■ 单 Single □ 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXQ-2505/ 205	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing :      ■ Manual 手动      □ Automatic 自动										
显影温度 Developing Temperature:			20±1      °C	显影时间 Developing Time :			5      min			
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件 距离 mm	O.F.D 工件-胶片 距离 mm	kV / mA 管电压/管 电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
C1	10	2	700	12	140/5	1	15	7(0.33)	15	3645/243
RT 结论 Result of Examination: 合格										
编 制 Prepared by		审 核 Reviewed & Approved by		AI 授权检 验师		Jiawu Hu Jun. 23, 2018				
级 别 Level:		级 别 Level:								
日 期 Date:		日 期 Date:		日 期 Date:		日 期 Date:				
2018 年 6 月 1 日		2018 年 6 月 1 日		2018 年 6 月 1 日		2018 年 6 月 1 日				

208.7.12



<b>OLYMSPAN®</b>		<b>射线照相检测报告</b> <b>RADIOGRAPHIC EXAMINATION REPORT</b>			报告编号 Report No.					
					18R637-RTBG04					
产品名称 Product Name		产品编号 Product No.		图号/版次 Drawing No./Rev.		评片记录号 Interpretation Record No.				
FJZCS0.9-0.9×7.62 AUTOCLAVE		18R637		F01J0900 Rev.0		18R637-RT02C				
应用规范 Applicable Code		验收标准 Acceptance Standard		规程号/版次 Procedure No./Rev.		工艺卡号 Instruction Card No./Rev				
■ ASME Code Sect. V-2015		■ ASME Code Sect. VIII, Div. 1-2015Ed, UW-51 and App. 4 □ ASME Sect. I		QCD-08-02 2016Ed./Rev.0		RTGY-18R637/0				
工序卡号/版次 PCL No./Rev.		PCL-18R637/00								
<input checked="" type="checkbox"/> Full RT 全部 RT <input type="checkbox"/> Spot RT 局部 RT		材质 Material		材料厚度 (mm) Material Thickness		胶片制造厂名 Film manufacturer				
		SA516MGr.485		10mm		爱克发(无锡)影像有限公司				
透照方法 Radiographic Technique		<input checked="" type="checkbox"/> 单壁 Single-Wall Exposure <input type="checkbox"/> 双壁 Double-Wall Exposure		<input checked="" type="checkbox"/> 单影 Single-Wall Viewing <input type="checkbox"/> 双影 Double-Wall Viewing						
胶片牌号或型号 Film Brand & Class				每个暗盒胶片数 Number of Film Per Cassette:						
Agfa C7				<input checked="" type="checkbox"/> 单 Single <input type="checkbox"/> 双 Double						
探伤设备 Examination Equipment										
序号 No.	名称 Name	仪器型号/编号 Equip./ID No.	额定功率 Rating Power	焦点尺寸 Focus Size	增感屏, 铅箔厚度 mm Screen(Pb) Thickness (Front/ Back)					
1	X 射线探伤机	XXH-3005/ 197	250Kv/5mA	2.0×2.0	0.03/0.03					
胶片冲洗方式 Film Processing : <input checked="" type="checkbox"/> Manual 手动 <input type="checkbox"/> Automatic 自动										
显影温度 Developing Temperature:    20±1    °C			显影时间 Developing Time :    5    min							
曝光条件 Exposure Condition										
Seam No. 焊缝号	Weld Thickne ss 焊缝厚度 mm	Weld Reinforcement thickness 焊缝余高	S.O.D. 射源-工件 距离 mm	O.F.D 工件-胶片 距离 mm	kV / mA 管电压/管 电流	Exposure Time 曝光时间 min.	Exposure Numbers 曝光次数	IQI Wire No. & Diameter 丝号/线径	Numb er of Film. 片数	Seam/Eff Length 缝长/有效长 mm
C2	10	2	450	12	200/5	0.8	1	7(0.33)	9	2891/2891
RT 结论 Result of Examination: 合格										
编制 Prepared by	许晓明		审核 Reviewed & Approved by		施大为		AI 授权检 验师	Jiaof Hu Jun. 23, 2018		
级别 Level:	RT II		级别 Level:		RT II					
日期 Date:	2018 年 6 月 1 日		日期 Date:		2018 年 6 月 1 日		日期 Date	2018 年 6 月 1 日		

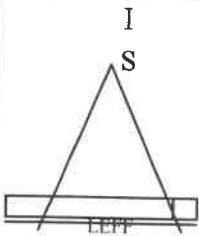
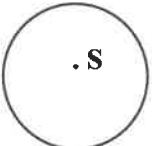
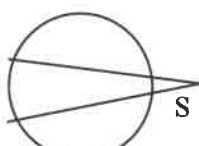
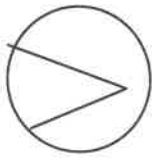
2018.7.12



<b>OLYMSPAN®</b>	<b>射线照相定位记录</b> <b>RADIOGRAPHIC SKETCH OF LOCATION</b>		射线报告编号 RT Report No.		
			18R637-RTBG01-04		
产品名称 Product Name	图 号 Drawing No.	产品编号 Product No.	工艺卡号 Instruction No./Rev.		
FJZCS0.9-0.9×7.62 AUTOCLAVE	F01J0900 Rev.0	18R637	RTGY-18R637/0		
焊缝及布片示意图 Welds & Film Arrangement:					
备注 Note:					
摄片者 Radiographer	级别 Level	日期 Date	批准 Approved by	级别 Level	日期 Date
许晓刚	RT II	2018年6月1日	李敏	RT II	2018年6月1日

2018.7.12  
 RT II

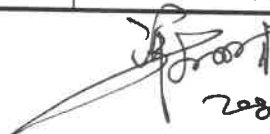


OLYMSPAN®		射线检测专用工艺卡 RT INSTRUCTION CARD			工艺卡号/版次 Instruction Card No./Rev.: RTGY-18R637/0	
产品名称 Product Name	FJZCS0.9-0.9×7.62 AUTOCLAVE	产品编号 Product No.	18R637	图号/版次 Drawing No./Rev.	F01J0900 Rev.0	
坡口型式 Groove Type	I	材质 Material	SA-516 Gr.485	焊接方法 Weld Method	SAW	
验收标准 Acceptance Standard	ASME Code Sect. VIII-1 2015Ed.	应用规范 Applicable Code	ASME Code Sect. V 2015Ed.	检验规程/版次 Procedure No./Rev.:	QCD-08-02 2016 Ed./Rev.0	
仪器型号及编号 Equip. Type & No.	XXH-3005/197 XXQ-2505/205	焦点尺寸 Focus Size (mm)	2.0*2.0mm	黑度范围 Density Range	1.8≤Di≤4.0 0.85DIQI≤Di≤1.3DIQI	
胶片牌号及类型 Film Brand & Type	Agfa C7	胶片尺寸 Film Size (mm)	360*80mm	胶片制造厂名 Film manufacturer	爱克发(无锡)影像有限公司	
丝型象质计 Wire IQI	1B11	应显丝径/丝号 Accept. Wire size/No.	7#/0.33mm	增感屏 Screen	Pb.	前 Front 0.03 mm 后 Back 0.03 mm
透照方法 Radiographic Technique						
						
透照条件及参数 Radiographic Condition and Parameters						
节号 Joint No.	A1A3A4	A2	B1-B4	C1	C2	
焊缝长度 Welding Length (mm)	1980	1680	2891	3645	2891	
厚度 Thickness(mm)	10	10	10	10	10	
透照厚度 Pent Thk (mm)	10+2	10+2	10+2	10+2	10+2	
射源工件距离 S.O.D (mm)	700	700	450	700	450	
工件胶片距离 O.F.D (mm)	10+2	10+2	10+2	10+2	10+2	
管电压 Tube Voltage (KVp)	140	140	200	140	200	
管电流 Tube Current (mA)	5	5	5	5	5	
曝光时间 Exposure Time (mm)	1	1	0.8	1	0.8	
透照方法 Radiographic Technique	I	I	II	I	II	
有效长度 LEFF (mm)	283	280	2891	243	2891	
探伤比例 Inspection Proportion	FULL	FULL	FULL	FULL	FULL	
冲洗条件 Film Processing	方式 Method	<input checked="" type="checkbox"/> Manu.手工 <input type="checkbox"/> Auto.自动		显影温度及时间 Developing Temperature & Time		20±1℃
编制 Prepared by:	级别 Level:	日期 Date:	批准 Reviewed & Approved by:	级别 Level:	日期 Date:	
李俊刚	RT II	2018年6月1日	李俊刚	RT II	2018年6月1日	

李俊刚 RT II  
2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No.				
								18R637-RTBG01				
工艺卡号 Instruction No./Rev.		RTGY-18R637/0		评片记录号 Interpretation Record No.		18R637-01A						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R637		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度: Thickness		坡口型式 Groove Type		焊缝类别: Weld Name								
10mm		I		<input checked="" type="checkbox"/> L 纵 <input type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
A1-1	2.85	3.53	2.74	3.66							√	
-2	2.99	3.50	2.78	3.62	1.5mm						√	
-3	2.80	3.56	2.73	3.58							√	
-4	2.96	3.64	2.67	3.81							√	
-5	2.90	3.52	2.88	3.73							√	
-6	2.70	3.31	2.65	3.38							√	
-7	2.58	3.41	2.39	3.47							√	
A2-1	2.85	3.63	2.69	3.82							√	
-2	2.87	3.54	2.78	3.66							√	
-3	2.92	3.64	2.84	3.71							√	
-4	2.60	3.37	2.43	3.64							√	
-5	2.83	3.45	2.66	3.56							√	
-6	2.57	3.50	2.52	3.68							√	
评片 Examined by:		3408101		审核 Reviewed by:		施炳						
级别 Level:		RT II		级别 Level:		RT II						
日期 Date:		2018 年 5 月 21 日		日期 Date:		2018 年 5 月 21 日						

 RT-II  
 2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R637-RTBG01				
工艺卡号 Instruction No./Rev.		RTGY-18R637/0		评片记录号 Interpretation Record No.		18R637-01A						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R637		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input checked="" type="checkbox"/> L 纵 <input type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQL min	DIQL max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
A3-1	2.18	2.84	2.12	2.87	2mm						✓	
-2	2.20	3.00	2.18	3.04							✓	
-3	2.29	2.96	2.28	2.99		1mm					✓	
-4	2.36	2.95	2.23	3.10							✓	
-5	2.40	2.94	2.32	3.10							✓	
-6	2.38	2.87	2.32	2.97							✓	
-7	2.33	3.11	2.11	3.24		2mm					✓	
A4-1	2.45	3.57	2.29	3.85	2mm						✓	
-2	2.67	3.75	2.57	3.89	3mm						✓	
-3	2.62	3.68	2.56	3.80		2.5mm					✓	
-4	2.48	3.34	2.39	3.68							✓	
-5	2.72	3.59	2.56	3.80		2mm					✓	
-6	2.53	3.38	2.41	3.61							✓	
-7	2.70	3.57	2.29	3.72							✓	
评片 Examined by:		2018.5.21		审核 Reviewed by:		2018.5.21						
级别 Level:		RT II		级别 Level:		RT II						
日期 Date:		2018 年 5 月 21 日		日期 Date:		2018 年 5 月 21 日						

2018.7.12



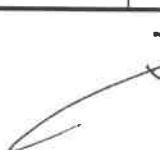
OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R637-RTBG02				
工艺卡号 Instruction No./Rev.		RTGY-18R637/0		评片记录号 Interpretation Record No.		18R637-01B						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R637		<input checked="" type="checkbox"/> ASME Sect.VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQL min	DIQL max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
B1-1	2.81	3.37	2.80	3.41							√	
-2			2.69	3.08	2mm						√	
-3			2.70	3.23							√	
-4	2.53	3.01	2.53	3.05		2mm					√	
-5			2.46	3.04							√	
-6			2.42	2.91							√	
-7			2.74	3.22							√	
-8	2.75	3.25	2.50	3.37							√	
-9			2.82	3.23		2mm					√	
B2-1	2.99	3.68	2.88	3.68							√	
-2			3.31	3.94							√	
-3	3.30	3.81	2.96	3.97							√	
-4			2.80	3.80							√	
-5	2.58	3.64	2.46	3.69							√	
-6			2.96	3.61							√	
-7	2.73	3.23	2.73	3.53							√	
-8			2.87	3.55							√	
-9			2.96	3.62							√	

评片 Examined by:	许晓刚	审核 Reviewed by:	李德丙
级别 Level:	RT II	级别 Level:	RT II
日期 Date:	2018 年 5 月 30 日	日期 Date:	2018 年 5 月 30 日

2018.7.12




OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R637-RTBG02				
工艺卡号 Instruction No./Rev.		RTGY-18R637/0		评片记录号 Interpretation Record No.		18R637-01B						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18R637		<input checked="" type="checkbox"/> ASME Sect.VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQI. min	DIQI. max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
B3-1	2.66	2.93	2.63	3.14							√	
-2			2.49	3.07							√	
-3	2.24	2.69	2.24	2.90							√	
-4			2.29	2.74							√	
-5	2.46	2.87	2.33	2.89							√	
-6			2.46	2.81							√	
-7			2.69	3.04							√	
-8			2.73	3.07							√	
-9			2.70	3.04							√	
B4-1	2.75	3.31	2.69	3.55							√	
-2			3.13	3.84	1mm	4mm					√	
-3	2.99	3.66	2.94	3.67							√	
-4			2.82	3.42							√	
-5	2.39	2.99	2.31	3.02							√	
-6			1.90	2.62							√	
-7	1.97	2.62	1.95	2.78	1mm						√	
-8			2.53	3.06							√	
-9			2.57	3.47							√	
评片 Examined by:		许晓刚		审核 Reviewed by:		李成						
级别 Level:		R7 II		级别 Level:		R7 II						
日期 Date:		2018 年 5 月 30 日		日期 Date:		2018 年 5 月 30 日						

 R7-II  
 2018.7.12



OLYMSPAN®		RT 评片记录 RT INTERPRETATION SHEET						射线报告编号 RT Report No. 18R637-RTBG03				
工艺卡号 Instruction No./Rev.		RTGY-18R637/0		评片记录号 Interpretation Record No.		18R637-01C						
产品名称 Product Name		图 号/版次 Drawing No./Rev.		产品编号 Product No.		验收标准 Accept. Standard						
FJZCS0.9-0.9×7.62 AUTOCLAVE		F01J0900 Rev.0		18F5-37		<input checked="" type="checkbox"/> ASME Sect. VIII, Div. 1-2015, UW-51 <input type="checkbox"/> ASME Sect. I						
厚度:Thickness		坡口型式 Groove Type		焊缝类别:Weld Name								
10mm		I		<input type="checkbox"/> L 纵 <input checked="" type="checkbox"/> C 环 <input type="checkbox"/> H 封头								
片号 Film No.	黑度 Density				缺陷性质及尺寸 Type and Size of Defect (mm)						结论 Result	
	DIQL min	DIQL max	Di. min	Di. max	Porosity 气孔	Slag 夹杂	Incomplete Penetration 未焊透	Incomplete Fusion 未熔合	Crack 裂缝	Others 其它	Acc. 合格	Rej. 不合格
C1-1	2.60	3.91	2.55	3.94		2mm					√	
-2	2.48	3.95	2.19	4.00							√	
-3	2.84	3.87	2.55	3.89							√	
-4	3.11	3.98	2.78	3.99							√	
-5	2.84	3.91	2.53	3.98							√	
-6	2.88	3.90	2.69	3.95							√	
-7	2.82	3.81	2.77	3.83							√	
-8	2.62	3.70	2.22	3.79		3mm					√	
-9	2.70	3.75	2.53	3.95							√	
-10	2.67	3.76	2.55	3.87		1mm					√	
-11	2.72	3.82	2.55	3.95							√	
-12	2.80	3.71	2.56	3.89							√	
-13	2.50	3.72	2.24	3.93		2mm					√	
-14	2.64	3.82	2.32	3.95		2mm					√	
-15	2.64	3.71	2.41	3.75							√	
评片 Examined by:		许世刚		审核 Reviewed by:		施文内						
级别 Level:		R7II		级别 Level:		R7II						
日期 Date:		2018 年 5 月 28 日		日期 Date:		2018 年 5 月 28 日						

 R7II  
 2018.7.02



[illegible]

~~2450~~ 127-2  
20.8.7.12



## Item 6



OLYMPAN®

## 压力试验报告

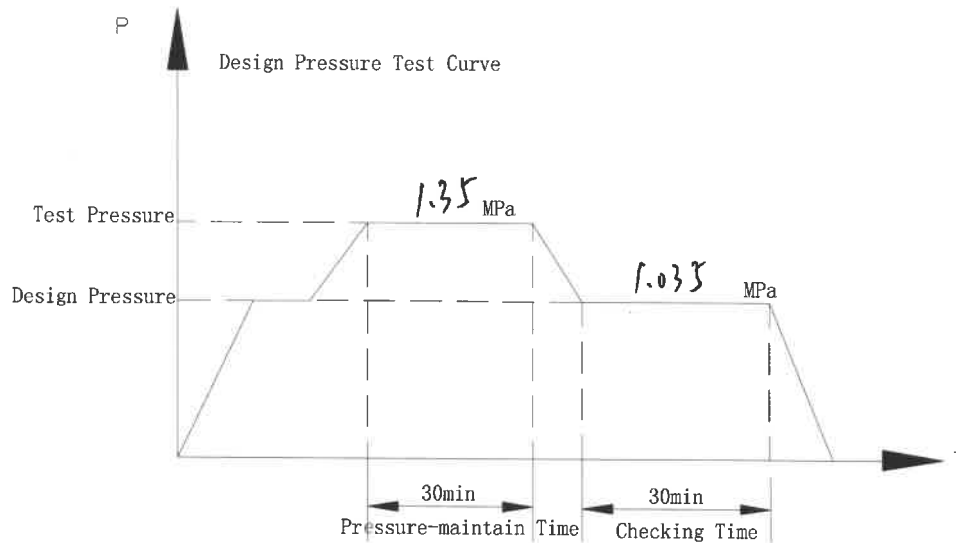
## Pressure Test Report

记录号 Record No.: 1 Page of 1

图号 Drawing No./Rev.	F01J090-0 Rev.0	检验表号 PCL-18R636-00 Rev.0 PCL No.
产品名称 Product Name	FJZCY0.861-0.9X7.62 Autoclave	产品编号 18R636 Job No.
试验部位 Location of Test	整体 Whole	出厂编号 18R636 Manuf. Serial No.
设计压力 Design Pressure	MPa 1.035/-0.1MPa	压力表量程 0-2.5 MPa Range of Gages
试验压力 Test Pressure	MPa 1.35MPa	压力表计量编号 FP-086 FP-026 Control No. of Gages
介质温度 Medium Temp.	℃ 31	介质 水 Medium Water
金属壁温 Metal Temp.	℃ 31	保压时间 30min. Pressure Holding Time

压力试验曲线:

Chart of Pressure Test



结论 Judgement: Accept  
合格

检验员 Examiner	日期 Date	检验责任工程师 Examining Engineer	日期 Date	授权检验师见证 AI Witness	日期 Date
徐利明	18.6.29		2018.6.29	Jiang Hu	Jun. 29, 2018

Tany Tang



OLYMSPAN'

## 压力试验报告

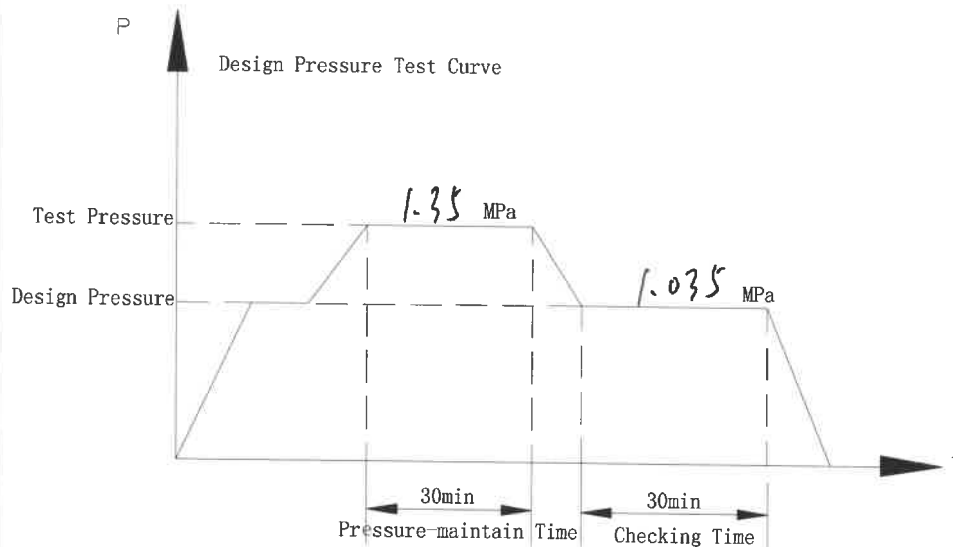
## Pressure Test Report

记录号 Record No.: 1 Page of 1

图号 Drawing No./Rev.	F01J090-0 Rev.0		检验表号 PCL-18R637-00 Rev.0 PCL No.
产品名称 Product Name	FJZCY0.861-0.9X7.62 Autoclave		产品编号 18R637 Job No.
试验部位 Location of Test	整体 Whole		出厂编号 18R637 Manuf. Serial No.
设计压力 Design Pressure	MPa	1.035/-0.1MPa	压力表量程 0-2.5 MPa Range of Gages
试验压力 Test Pressure	MPa	1.35MPa	压力表计量编号 FP-091 FP-092 Control No. of Gages
介质温度 Medium Temp.	℃	31	介质 水 Medium Water
金属壁温 Metal Temp.	℃	31	保压时间 30min. Pressure Holding Time

压力试验曲线:

Chart of Pressure Test



结论 Judgement: Accept  
合格

检验员 Examiner	日期 Date	检验责任工程师 Examining Engineer	日期 Date	授权检验师见证 AI Witness	日期 Date
徐志明	18.6.29	张世杰	2018.6.29	Jiwei Hu	Jun. 29, 2018

Tany Tang



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## 压力试验报告

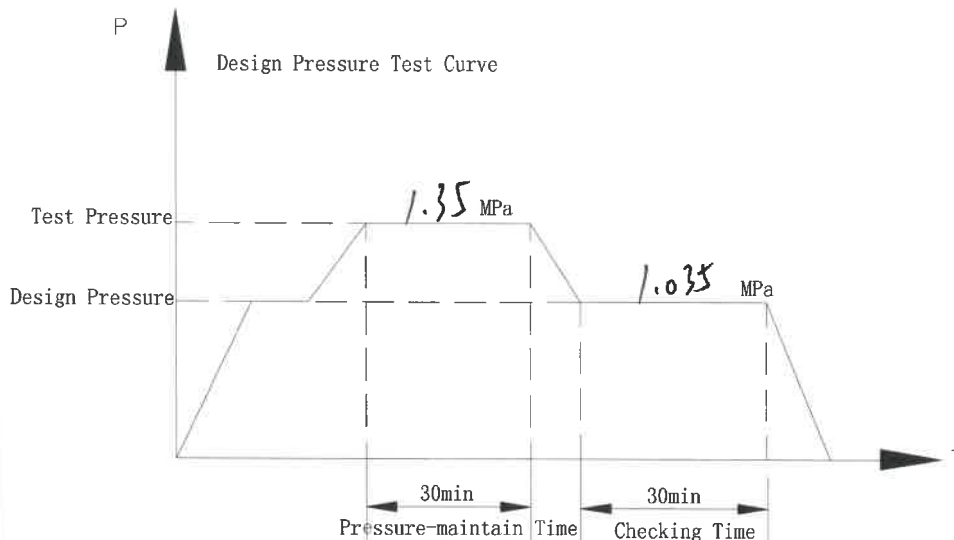
## Pressure Test Report

记录号 Record No.: 1 Page of 1

图号 Drawing No./Rev.	F01J090-0 Rev.0	检验表号 PCL-18R638-00 Rev.0 PCL No.
产品名称 Product Name	FJZCY0.861-0.9X7.62 Autoclave	产品编号 18R638 Job No.
试验部位 Location of Test	整体 Whole	出厂编号 18R638 Manuf. Serial No.
设计压力 Design Pressure	MPa 1.035/-0.1MPa	压力表量程 0-2.5 MPa Range of Gages
试验压力 Test Pressure	MPa 1.35MPa	压力表计量编号 FP-086 FP-026 Control No. of Gages
介质温度 Medium Temp.	℃ 30	介质 水 Medium Water
金属壁温 Metal Temp.	℃ 30	保压时间 30min. Pressure Holding Time

压力试验曲线:

Chart of Pressure Test



结论 Judgement: Accept  
合格

检验员 Examiner	日期 Date	检验责任工程师 Examining Engineer	日期 Date	授权检验师见证 AI Witness	日期 Date
徐光明	7.5	胡志	18-7.5	Jiaofu Hu	Jul. 5, 2018

*[Signature]*  
Jul. 5. 2018



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## 压力试验报告

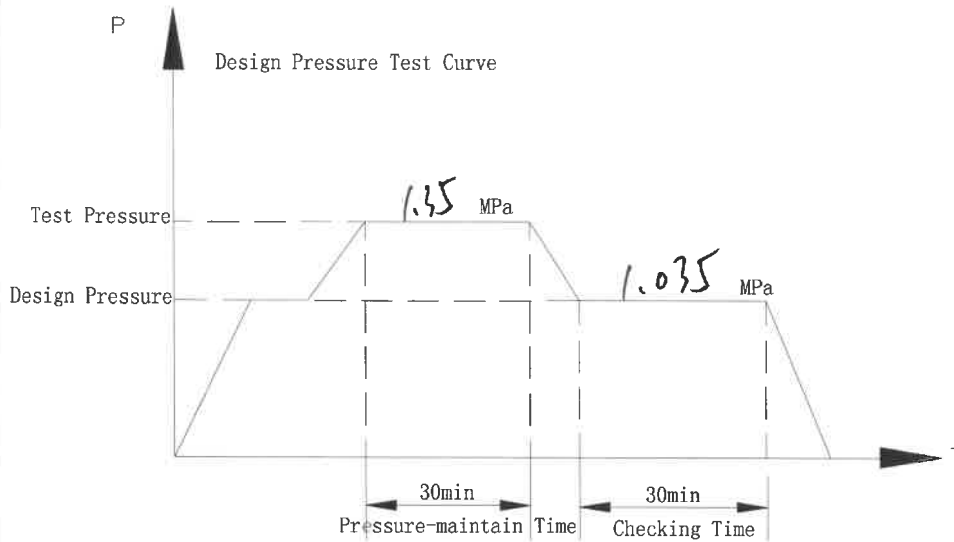
## Pressure Test Report

记录号 Record No.: 1 Page of 1

图号 Drawing No./Rev.	F01J090-0 Rev.0		检验表号 PCL-18R639-00 Rev.0 PCL No.
产品名称 Product Name	FJZCY0.861-0.9X7.62 Autoclave		产品编号 18R639 Job No.
试验部位 Location of Test	整体 Whole		出厂编号 18R639 Manuf. Serial No.
设计压力 Design Pressure	MPa	1.035/-0.1MPa	压力表量程 0-2.5 MPa Range of Gages
试验压力 Test Pressure	MPa	1.35MPa	压力表计量编号 FP-091 FP-092 Control No. of Gages
介质温度 Medium Temp.	℃	30	介质 水 Medium Water
金属壁温 Metal Temp.	℃	30	保压时间 30min. Pressure Holding Time

压力试验曲线:

Chart of Pressure Test



结论 Judgement: Accept  
合格

检验员 Examiner	日期 Date	检验责任工程师 Examining Engineer	日期 Date	授权检验师见证 AI Witness	日期 Date
张利明	7.5	张利明	18.7.5	Jiaow Hu	Jul. 5, 2018

*[Signature]*  
Jul. 5, 2018



OLYMSPAN®

## 压力试验报告

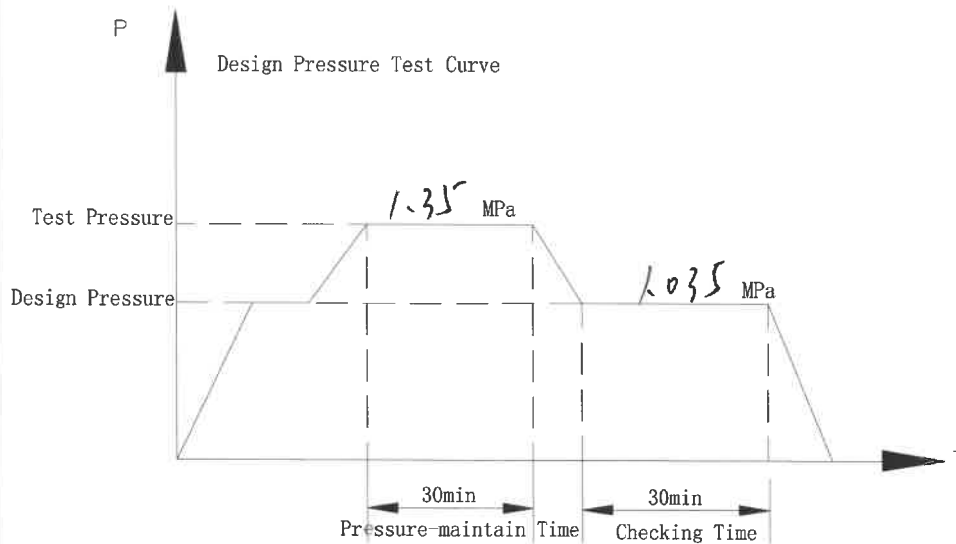
## Pressure Test Report

记录号 Record No.: 1 Page of 1

图号 Drawing No./Rev.	F01J090-0 Rev.0		检验表号 PCL-18R640-00 Rev.0 PCL No.
产品名称 Product Name	FJZCY0.861-0.9X7.62 Autoclave		产品编号 18R640 Job No.
试验部位 Location of Test	整体 Whole		出厂编号 18R640 Manuf. Serial No.
设计压力 Design Pressure	MPa	1.035/-0.1MPa	压力表量程 0-2.5 MPa Range of Gages
试验压力 Test Pressure	MPa	1.35MPa	压力表计量编号 FP-091 FP-092 Control No. of Gages
介质温度 Medium Temp.	℃	29	介质 水 Medium Water
金属壁温 Metal Temp.	℃	29	保压时间 30min. Pressure Holding Time

压力试验曲线:

Chart of Pressure Test



结论 Judgement: Accept  
合格

检验员 Examiner	日期 Date	检验责任工程师 Examining Engineer	日期 Date	授权检验师见证 AI Witness	日期 Date
徐志明	18.7.3	张世杰	7.3	Jiaow Hu	Jul. 3, 2018

Tany Tang



OLYMSPAN'

## 压力试验报告

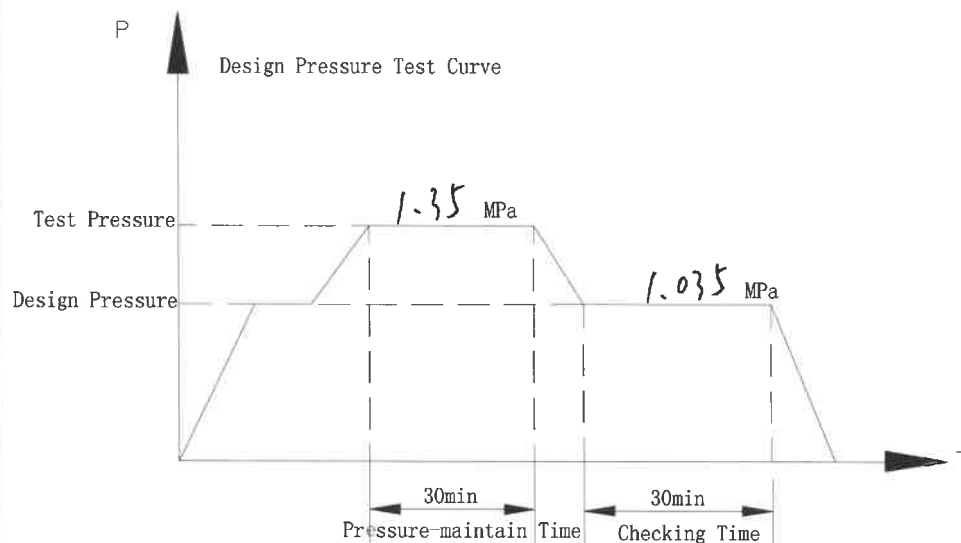
## Pressure Test Report

记录号 Record No.: 1 Page of 1

图号 Drawing No./Rev.	F01J090-0 Rev.0		检验表号 PCL-18R641-00 Rev.0 PCL No.
产品名称 Product Name	FJZCY0.861-0.9X7.62 Autoclave		产品编号 18R641 Job No.
试验部位 Location of Test	整体 Whole		出厂编号 18R641 Manuf. Serial No.
设计压力 Design Pressure	MPa	1.035/-0.1MPa	压力表量程 0-2.5 MPa Range of Gages
试验压力 Test Pressure	MPa	1.35MPa	压力表计量编号 FP-086 FP-026 Control No. of Gages
介质温度 Medium Temp.	℃	29	介质 水 Medium Water
金属壁温 Metal Temp.	℃	29	保压时间 30min. Pressure Holding Time

压力试验曲线:

Chart of Pressure Test



结论 Judgement: Accept  
合格

检验员 Examiner	日期 Date	检验责任工程师 Examining Engineer	日期 Date	授权检验师见证 AI Witness	日期 Date
徐光明	7.3	<i>[Signature]</i>	18.7.3	Jiaoxi Hu	Jul. 3, 2018

Tany Tany



## Item 8



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

1. Manufactured and certified by Jiangsu Olymspan Thermal Energy Equipment Co., Ltd.  
No.29, Changhong Dong Road, Henglin Town, Changzhou City, Jiangsu Province, 213101, People's Republic of China.  
 (Name and address of Manufacturer)

2. Manufactured for DRECO ENERGY SERVICES ULCDOWNHOLE CANADA1507 - 4TH STREETNISKU, ALBERTA T9E 7M9CANADA  
 (Name and address of Purchaser)

3. Location of installation Unknown  
 (Name and address)

4. Type Horizontal, Autoclave 18R636 TBA F01J090-0 Rev.0 6 2018  
 (Horizontal or vertical, tank) (Manufacturer's serial number) (CRN) (Drawing number) (National Board number) (Year built)

5. ASME Code, Section VIII, Division 1 2017 N/A N/A  
 [Edition and Addenda, if applicable (date)] (Code Case numbers) [Special Service per UG-120(d)]

6. Shell SA516M Gr.485 10mm 1.6mm 900mm 7620mm  
 (Material Spec. number, grade) (Nominal Thickness) (Corr. allow.) (Inner diameter) [Length (overall)]

**Body Flanges on Shells**

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
1	Welding neck	900mm	1068mm	130mm	10mm	SA-105M	Welded	Left side	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	N/A	N/A

7. Seams UW-12 Type 1 dbl Full 100 N/A N/A UW-12 Type 1 dbl Full 100 4  
 [Long. (welded, dbl., sngl., lap, butt)] [R.T. (spot or full)] (Eff., %) (H.T. temp.) (Time, hr) Girth (welded, dbl., sngl., lap, butt)] [R.T. (spot or full)] (Eff., %) (No. of Courses)

8. Heads: (a) Material SA516M Gr.485 (Spec. no., grade) (b) Material SA516M Gr.485 (Spec. no., grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Left	9mm	1.6mm	N/A	N/A	2:1	N/A	N/A	N/A	Convex/Concave
(b)	Right	9mm	1.6mm	N/A	N/A	2:1	N/A	N/A	N/A	Convex/Concave

**Body Flanges on Heads**

	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
(a)	Left head	Hub	890mm	992mm	115mm	10mm	SA-105M	Welded	N/A	N/A	N/A	N/A
(b)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

9. MAWP 1035 KPa -100KPa at max. temp. 232 °C 232 °C  
 (Internal) (External) (Internal) (External)  
 Min.design metal temp. -28 °C at 1035 KPa Hydro., pneu., or comb. test pressure Hydro., 1350KPa  
 Proof test N/A

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp.Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet for sealing packing	1	OD.21.3mm	CL300.SORF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
By-passage for sealing packing	1	OD.21.3mm	CL300.SORF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
Outlet for ball valve exhaust air	1	OD.48.3mm	CL300.SORF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
Steam inlet NPT2	1	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Steam outlet NPT2	1	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter of safety valve NPT2	2	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for spare NPT2	2	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for drain NPT1	3	OD.45mm	N/A	SA-105M	N/A	7.8mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for spare NPT3/4	3	OD.45mm	N/A	SA-105M	N/A	11mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for thermocouple M27X2	3	OD.40mm	N/A	SA-105M	N/A	8mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Pressure outlet NPT1/4	3	OD.25mm	N/A	SA-105M	N/A	7mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A

11. Supports: Skirt No Lugs 2 Legs N/A Other 2 Saddles Attached Welded to the shell  
 (Yes 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:  
N/A

(Name of part, item number, Manufacturer's name and identifying stamp)

(1) Impact test is exempted as Per UCS-66(a) (c) and UG-20 (f) (2) No inspection opening furnished as for UG-46(c).

(3) Body flange see drawing NO.:F01J090E-1 Rev.0 and Cover device see dwg.No.: F01J090B-0 Rev.0.

(4) Closures shall be equipped with an audible or visible warning device that will warn the operator if pressure is applied to the vessel before the holding elements and locking components are fully engaged in their intended position or if an attempt is made to disengage the locking mechanism before the pressure within the vessel is released.



Date Aug. 9, 2018 Signed Jiayi Hu Commissions NB 14196 A1  
(Authorized Inspector) (National Board Authorized Inspector Commission number)



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

1. Manufactured and certified by Jiangsu Olymspan Thermal Energy Equipment Co., Ltd.  
No.29, Changhong Dong Road, Henglin Town, Changzhou City, Jiangsu Province, 213101, People's Republic of China.  
 (Name and address of Manufacturer)

2. Manufactured for DRECO ENERGY SERVICES ULCDOWNHOLE CANADA1507 - 4TH STREETNISKU, ALBERTA T9E 7M9CANADA  
 (Name and address of Purchaser)

3. Location of installation Unknown  
 (Name and address)

4. Type Horizontal, Autoclave 18R637 TBA F01J090-0 Rev.0 7 2018  
 (Horizontal or vertical, tank) (Manufacturer's serial number) (CRN) (Drawing number) (National Board number) (Year built)

5. ASME Code, Section VIII, Division 1 2017 N/A N/A  
 [Edition and Addenda, if applicable (date)] (Code Case numbers) [Special Service per UG-120(d)]

6. Shell SA516M Gr.485 10mm 1.6mm 900mm 7620mm  
 (Material Spec. number, grade) (Nominal Thickness) (Corr. allow.) (Inner diameter) [Length (overall)]

**Body Flanges on Shells**

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
1	Welding neck	900mm	1068mm	130mm	10mm	SA-105M	Welded	Left side	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	N/A	N/A

7. Seams UW-12 Type 1 dbl Full 100 N/A N/A UW-12 Type 1 dbl Full 100 4  
 [Long. (welded, dbl., sngl., lap, butt)] [R.T. (spot or full)] (Eff., %) (H.T. temp.) (Time, hr) Girth (welded, dbl., sngl., lap, butt)] [R.T. (spot, or full)] (Eff., %) (No. of Courses)

8. Heads: (a) Material SA516M Gr.485 (b) Material SA516M Gr.485  
 (Spec. no., grade) (Spec. no., grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Left	9mm	1.6mm	N/A	N/A	2:1	N/A	N/A	N/A	Convex/Concave
(b)	Right	9mm	1.6mm	N/A	N/A	2:1	N/A	N/A	N/A	Convex/Concave

**Body Flanges on Heads**

	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
(a)	Left head	Hub	890mm	992mm	115mm	10mm	SA-105M	Welded	N/A	N/A	N/A	N/A
(b)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

9. MAWP 1035 KPa -100KPa at max. temp. 232 °C 232 °C  
 (Internal) (External) (Internal) (External)  
 Min.design metal temp. -28 °C at 1035 KPa Hydro., pneu., or comb. test pressure Hydro., 1350KPa  
 Proof test N/A

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp.Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet for sealing packing	1	OD.21.3mm	CL300.SORF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
By-passage for sealing packing	1	OD.21.3mm	CL300.SORF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
Outlet for ball valve exhaust air	1	OD.48.3mm	CL300.SORF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
Steam inlet NPT2	1	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Steam outlet NPT2	1	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter of safety valve NPT2	2	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for spare NPT2	2	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for drain NPT1	3	OD.45mm	N/A	SA-105M	N/A	7.8mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for spare NPT3/4	3	OD.45mm	N/A	SA-105M	N/A	11mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for thermocouple M27X2	3	OD.40mm	N/A	SA-105M	N/A	8mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Pressure outlet NPT1/4	3	OD.25mm	N/A	SA-105M	N/A	7mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A

11. Supports: Skirt No Lugs 2 Legs N/A Other 2 Saddles Attached Welded to the shell  
 (Yes 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:  
N/A

(Name of part, item number, Manufacturer's name and identifying stamp)

(1) Impact test is exempted as Per UCS-66(a) (c) and UG-20 (f) (2) No inspection opening furnished as for UG-46(c).

(3) Body flange see drawing NO.:F01J090E-1 Rev.0 and Cover device see dwg.No.: F01J090B-0 Rev.0.

(4) Closures shall be equipped with an audible or visible warning device that will warn the operator if pressure is applied to the vessel before the holding elements and locking components are fully engaged in their intended position or if an attempt is made to disengage the locking mechanism before the pressure within the vessel is released.



Date Aug. 9, 2018 Signed Joan Hu Commissions NB 14196 AI  
(Authorized Inspector) (National Board Authorized Inspector Commission number)



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

1. Manufactured and certified by Jiangsu Olymspan Thermal Energy Equipment Co., Ltd.  
No.29, Changhong Dong Road, Henglin Town, Changzhou City, Jiangsu Province, 213101, People's Republic of China.  
 (Name and address of Manufacturer)

2. Manufactured for DRECO ENERGY SERVICES ULCDOWNHOLE CANADA1507 - 4TH STREETNISKU, ALBERTA T9E 7M9CANADA  
 (Name and address of Purchaser)

3. Location of installation Unknown  
 (Name and address)

4. Type Horizontal, Autoclave 18R638 TBA F01J090-0 Rev.0 8 2018  
 (Horizontal or vertical, tank) (Manufacturer's serial number) (CRN) (Drawing number) (National Board number) (Year built)

5. ASME Code, Section VIII, Division 1 2017 N/A N/A  
 [Edition and Addenda, if applicable (date)] (Code Case numbers) [Special Service per UG-120(d)]

6. Shell SA516M Gr.485 10mm 1.6mm 900mm 7620mm  
 (Material Spec. number, grade) (Nominal Thickness) (Corr. allow.) (Inner diameter) [Length (overall)]

**Body Flanges on Shells**

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
1	Welding neck	900mm	1068mm	130mm	10mm	SA-105M	Welded	Left side	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	N/A	N/A

7. Seams UW-12 Type 1 dbl Full 100 N/A N/A UW-12 Type 1 dbl Full 100 4  
 [Long. (welded, dbl., singl., lap, butt)] [R.T. (spot or full)] [Eff. (%) (H.T. temp.) (Time, hr) Girth (welded, dbl., singl., lap, butt)] [R.T. (spot, or full)] [Eff. (%) (No. of Courses)]

8. Heads: (a) Material SA516M Gr.485 (b) Material SA516M Gr.485  
 (Spec. no., grade) (Spec. no., grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Left	9mm	1.6mm	N/A	N/A	2:1	N/A	N/A	N/A	Convex/Concave
(b)	Right	9mm	1.6mm	N/A	N/A	2:1	N/A	N/A	N/A	Convex/Concave

**Body Flanges on Heads**

	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
(a)	Left head	Hub	890mm	992mm	115mm	10mm	SA-105M	Welded	N/A	N/A	N/A	N/A
(b)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

9. MAWP 1035 KPa -100KPa at max. temp. 232 °C 232 °C  
 (Internal) (External) (Internal) (External)  
 Min.design metal temp. -28 °C at 1035 KPa Hydro., pneu., or comb. test pressure Hydro., 1350KPa  
 Proof test N/A

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet for sealing packing	1	OD.21.3mm	CL300.SO RF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
By-passage for sealing packing	1	OD.21.3mm	CL300.SO RF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
Outlet for ball valve exhaust air	1	OD.48.3mm	CL300.SO RF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
Steam inlet NPT2	1	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Steam outlet NPT2	1	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter of safety valve NPT2	2	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for spare NPT2	2	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for drain NPT1	3	OD.45mm	N/A	SA-105M	N/A	7.8mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for spare NPT3/4	3	OD.45mm	N/A	SA-105M	N/A	11mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for thermocouple M27X2	3	OD.40mm	N/A	SA-105M	N/A	8mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Pressure outlet NPT1/4	3	OD.25mm	N/A	SA-105M	N/A	7mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A

11. Supports: Skirt No Lugs 2 Legs N/A Other 2 Saddles Attached Welded to the shell  
 (Yes 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:  
N/A

(Name of part, item number, Manufacturer's name and identifying stamp)

(1) Impact test is exempted as Per UCS-66(a) (c) and UG-20 (f) (2) No inspection opening furnished as for UG-46(c).

(3) Body flange see drawing NO.: F01J090E-1 Rev.0 and Cover device see dwg.No.: F01J090B-0 Rev.0.

(4) Closures shall be equipped with an audible or visible warning device that will warn the operator if pressure is applied to the vessel before the holding elements and locking components are fully engaged in their intended position or if an attempt is made to disengage the locking mechanism before the pressure within the vessel is released.



Date Aug. 9, 2018 Signed Itaxi Hu Commissions NB14196 AI  
(Authorized Inspector) (National Board Authorized Inspector Commission number)



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

1. Manufactured and certified by Jiangsu Olymspan Thermal Energy Equipment Co., Ltd.  
No.29, Changhong Dong Road, Henglin Town, Changzhou City, Jiangsu Province, 213101, People's Republic of China.  
(Name and address of Manufacturer)

2. Manufactured for DRECO ENERGY SERVICES ULCDOWNHOLE CANADA1507 - 4TH STREETNISKU, ALBERTA T9E 7M9CANADA  
(Name and address of Purchaser)

3. Location of installation Unknown  
(Name and address)

4. Type Horizontal, Autoclave 18R639 TBA F01J090-0 Rev.0 9 2018  
(Horizontal or vertical, tank) (Manufacturer's serial number) (CRN) (Drawing number) (National Board number) (Year built)

5. ASME Code, Section VIII, Division 1 2017 N/A N/A  
[Edition and Addenda, if applicable (date)] (Code Case numbers) [Special Service per UG-120(d)]

6. Shell SA516M Gr.485 10mm 1.6mm 900mm 7620mm  
(Material Spec. number, grade) (Nominal Thickness) (Corr. allow.) (Inner diameter) [Length (overall)]

**Body Flanges on Shells**

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
1	Welding neck	900mm	1068mm	130mm	10mm	SA-105M	Welded	Left side	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	N/A	N/A

7. Seams UW-12 Type 1 dbl Full 100 N/A N/A UW-12 Type 1 dbl Full 100 4  
[Long. (welded, dbl., singl., lap, butt)] [R.T. (spot or full)] (Eff., %) (H.T. temp.) (Time, hr) Girth (welded, dbl., singl., lap, butt)] [R.T. (spot or full)] (Eff., %) (No. of Courses)

8. Heads: (a) Material SA516M Gr.485 (b) Material SA516M Gr.485  
(Spec. no., grade) (Spec. no., grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Left	9mm	1.6mm	N/A	N/A	2:1	N/A	N/A	N/A	Convex/Concave
(b)	Right	9mm	1.6mm	N/A	N/A	2:1	N/A	N/A	N/A	Convex/Concave

**Body Flanges on Heads**

	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
(a)	Left head	Hub	890mm	992mm	115mm	10mm	SA-105M	Welded	N/A	N/A	N/A	N/A
(b)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

9. MAWP 1035 KPa -100KPa at max. temp. 232 °C 232 °C  
(Internal) (External) (Internal) (External)  
 Min.design metal temp. -28 °C at 1035 KPa . Hydro., pneu., or comb. test pressure Hydro., 1350KPa  
 Proof test N/A

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp.Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet for sealing packing	1	OD.21.3mm	CL300.SORF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
By-passage for sealing packing	1	OD.21.3mm	CL300.SORF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
Outlet for ball valve exhaust air	1	OD.48.3mm	CL300.SORF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
Steam inlet NPT2	1	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Steam outlet NPT2	1	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter of safety valve NPT2	2	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for spare NPT2	2	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for drain NPT1	3	OD.45mm	N/A	SA-105M	N/A	7.8mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for spare NPT3/4	3	OD.45mm	N/A	SA-105M	N/A	11mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for thermocouple M27X2	3	OD.40mm	N/A	SA-105M	N/A	8mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Pressure outlet NPT1/4	3	OD.25mm	N/A	SA-105M	N/A	7mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A

11. Supports: Skirt No Lugs 2 Legs N/A Other 2 Saddles Attached Welded to the shell  
(Yes 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:  
N/A

(Name of part, item number, Manufacturer's name and identifying stamp)

(1) Impact test is exempted as Per UCS-66(a) (c) and UG-20 (f) (2) No inspection opening furnished as for UG-46(c).

(3) Body flange see drawing NO.:F01J090E-1 Rev.0 and Cover device see dwg.No.: F01J090B-0 Rev.0.

(4) Closures shall be equipped with an audible or visible warning device that will warn the operator if pressure is applied to the vessel before the holding elements and locking components are fully engaged in their intended position or if an attempt is made to disengage the locking mechanism before the pressure within the vessel is released.



## FORM U-1A

Manufactured by Jiangsu Olymspan Thermal Energy Equipment Co., Ltd.Manufacturer's Serial No. 18R639 CRN TBA National Board No. 9

## CERTIFICATE OF SHOP/FIELD 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 BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. "U" Certificate of Authorization Number 46645 expires April 24, 2020.

Date Aug. 9, 2018 Co.name Jiangsu Olymspan Thermal Energy Equipment Co., Ltd. Signed [Signature]  
(Manufacturer) (Representative)

## CERTIFICATE OF SHOP/FIELD INSPECTION

Vessel constructed by Jiangsu Olymspan Thermal Energy Equipment Co., Ltd. at No.29.Changhong Dong Road .Henglin Town.Changzhou City, Jiangsu Province, 213101, P. R. China. I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by China Special Equipment Inspection & Research Institute of \_\_\_\_\_ have inspected the component described in this Manufacturer's Data Report on July 5, 2018, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her 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 Aug. 9, 2018 Signed Jiayi Hu Commissions NB 14196 AI  
(Authorized Inspector) (National Board Authorized Inspector Commission number)



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

1. Manufactured and certified by Jiangsu Olymspan Thermal Energy Equipment Co., Ltd.  
No.29, Changhong Dong Road, Henglin Town, Changzhou City, Jiangsu Province, 213101, People's Republic of China.  
(Name and address of Manufacturer)

2. Manufactured for DRECO ENERGY SERVICES ULCDOWNHOLE CANADA1507 - 4TH STREETNISKU, ALBERTA T9E 7M9CANADA  
(Name and address of Purchaser)

3. Location of installation Unknown  
(Name and address)

4. Type Horizontal, Autoclave 18R640 TBA F01J090-0 Rev.0 10 2018  
(Horizontal or vertical, tank) (Manufacturer's serial number) (CRN) (Drawing number) (National Board number) (Year built)

5. ASME Code, Section VIII, Division 1 2017 N/A N/A  
[ Edition and Addenda, if applicable (date) ] (Code Case numbers) [ Special Service per UG-120(d) ]

6. Shell SA516M Gr.485 10mm 1.6mm 900mm 7620mm  
(Material Spec. number, grade) (Nominal Thickness) (Corr. allow.) (Inner diameter) [ Length (overall) ]

**Body Flanges on Shells**

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
1	Welding neck	900mm	1068mm	130mm	10mm	SA-105M	Welded	Left side	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	N/A	N/A

7. Seams UW-12 Type 1 dbl Full 100 N/A N/A UW-12 Type 1 dbl Full 100 4  
[ Long. (welded, dbl., sngl., lap, butt) ] [ R.T. (spot or full) ] (Eff., %) (H.T. temp.) (Time, hr) Girth (welded, dbl., sngl., lap, butt) [ R.T. (spot, or full) ] (Eff., %) (No. of Courses)

8. Heads: (a) Material SA516M Gr.485 (b) Material SA516M Gr.485  
(Spec. no., grade) (Spec. no., grade)

	Location ( Top, Bottom, Ends )	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Left	9mm	1.6mm	N/A	N/A	2:1	N/A	N/A	N/A	Convex/Concave
(b)	Right	9mm	1.6mm	N/A	N/A	2:1	N/A	N/A	N/A	Convex/Concave

**Body Flanges on Heads**

	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
(a)	Left head	Hub	890mm	992mm	115mm	10mm	SA-105M	Welded	N/A	N/A	N/A	N/A
(b)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

9. MAWP 1035 KPa -100KPa at max. temp. 232 °C 232 °C  
(Internal) (External) (Internal) (External)

Min.design metal temp. -28 °C at 1035 KPa Hydro., pneu., or comb. test pressure Hydro., 1350KPa

Proof test N/A

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp.Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet for sealing packing	1	OD.21.3mm	CL300.SO RF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
By-passage for sealing packing	1	OD.21.3mm	CL300.SO RF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
Outlet for ball valve exhaust air	1	OD.48.3mm	CL300.SO RF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	Fig.UW-21(1)	N/A
Steam inlet NPT2	1	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Steam outlet NPT2	1	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter of safety valve NPT2	2	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for spare NPT2	2	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for drain NPT1	3	OD.45mm	N/A	SA-105M	N/A	7.8mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for spare NPT3/4	3	OD.45mm	N/A	SA-105M	N/A	11mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Adapter for thermocouple M27X2	3	OD.40mm	N/A	SA-105M	N/A	8mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A
Pressure outlet NPT1/4	3	OD.25mm	N/A	SA-105M	N/A	7mm	1.6mm	N/A	Fig.UW-16.1 (y-1)	N/A	N/A

11. Supports: Skirt No Lugs 2 Legs N/A Other 2 Saddles Attached Welded to the shell  
(Yes 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:  
N/A

(Name of part, item number, Manufacturer's name and identifying stamp)

(1) Impact test is exempted as Per UCS-66(a) (c) and UG-20 (f) (2) No inspection opening furnished as for UG-46(c).

(3) Body flange see drawing NO.:F01J090E-1 Rev.0 and Cover device see dwg.No.: F01J090B-0 Rev.0.

(4) Closures shall be equipped with an audible or visible warning device that will warn the operator if pressure is applied to the vessel before the holding elements and locking components are fully engaged in their intended position or if an attempt is made to disengage the locking mechanism before the pressure within the vessel is released.



## FORM U-1A

Manufactured by Jiangsu Olymspan Thermal Energy Equipment Co., Ltd.  
Manufacturer's Serial No. 18R640 CRN TBA National Board No. 10

## CERTIFICATE OF SHOP/FIELD 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 BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. "U" Certificate of Authorization Number 46645 expires April 24, 2020

Date Aug. 9, 2018 Co.name Jiangsu Olymspan Thermal Energy Equipment Co., Ltd. Signed [Signature]  
(Manufacturer) (Representative)

## CERTIFICATE OF SHOP/FIELD INSPECTION

Vessel constructed by Jiangsu Olymspan Thermal Energy Equipment Co., Ltd. at No.29, Changhong Dong Road, Henglin Town, Changzhou City, Jiangsu Province, 213101, P. R. China. I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by China Special Equipment Inspection & Research Institute of \_\_\_\_\_ have inspected the component described in this Manufacturer's Data Report on July 3, 2018, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her 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 Aug. 9, 2018 Signed Jiaxi Hu Commissions NB 14196 A1  
(Authorized Inspector) (National Board Authorized Inspector Commission number)



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

1. Manufactured and certified by Jiangsu Olymspan Thermal Energy Equipment Co., Ltd.  
No.29, Changhong Dong Road, Henglin Town, Changzhou City, Jiangsu Province, 213101, People's Republic of China.  
 (Name and address of Manufacturer)
2. Manufactured for DRECO ENERGY SERVICES ULCDOWNHOLE CANADA1507 - 4TH STREETNISKU, ALBERTA T9E 7M9CANADA  
 (Name and address of Purchaser)
3. Location of installation Unknown  
 (Name and address)
4. Type Horizontal, Autoclave 18R641 TBA F01J090-0 Rev.0 11 2018  
 (Horizontal or vertical, tank) (Manufacturer's serial number) (CRN) (Drawing number) (National Board number) (Year built)
5. ASME Code, Section VIII, Division 1 2017 N/A N/A  
 [Edition and Addenda, if applicable (date)] (Code Case numbers) [Special Service per UG-120(d)]
6. Shell SA516M Gr.485 10mm 1.6mm 900mm 7620mm  
 (Material Spec. number, grade) (Nominal Thickness) (Corr. allow.) (Inner diameter) [Length (overall)]

**Body Flanges on Shells**

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
1	Welding neck	900mm	1068mm	130mm	10mm	SA-105M	Welded	Left side	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	N/A	N/A

7. Seams UW-12 Type 1 dbl Full 100 N/A N/A UW-12 Type 1 dbl Full 100 4  
 [Long. (welded, dbl., singl., lap, butt)] [R.T. (spot or full)] [Eff., %] (H.T. temp.) (Time, hr) Girth (welded, dbl., singl., lap, butt) [R.T. (spot, or full)] [Eff., %] (No. of Courses)

8. Heads: (a) Material SA516M Gr.485 (b) Material SA516M Gr.485  
 (Spec. no., grade) (Spec. no., grade)
- |     | Location (Top, Bottom, Ends) | Minimum Thickness | Corrosion Allowance | Crown Radius | Knuckle Radius | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure (Convex or Concave) |
|-----|------------------------------|-------------------|---------------------|--------------|----------------|------------------|--------------------|----------------------|---------------|--------------------------------------|
| (a) | Left                         | 9mm               | 1.6mm               | N/A          | N/A            | 2:1              | N/A                | N/A                  | N/A           | Convex/Concave                       |
| (b) | Right                        | 9mm               | 1.6mm               | N/A          | N/A            | 2:1              | N/A                | N/A                  | N/A           | Convex/Concave                       |

**Body Flanges on Heads**

	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
(a)	Left head	Hub	890mm	992mm	115mm	10mm	SA-105M	Welded	N/A	N/A	N/A	N/A
(b)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

9. MAWP 1035 KPa -100KPa at max. temp. 232 °C 232 °C  
 (Internal) (External) (Internal) (External)  
 Min.design metal temp. -28 °C at 1035 KPa . Hydro., pneu., or comb. test pressure Hydro., 1350KPa  
 Proof test N/A

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp.Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet for sealing packing	1	OD.21.3mm	CL300.SORF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig. UW-16.1 (y-1)	Fig.UW-21(1)	N/A
By-passage for sealing packing	1	OD.21.3mm	CL300.SORF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig. UW-16.1 (y-1)	Fig.UW-21(1)	N/A
Outlet for ball valve exhaust air	1	OD.48.3mm	CL300.SORF	SA-105M	SA-105M	5mm	1.6mm	N/A	Fig. UW-16.1 (y-1)	Fig.UW-21(1)	N/A
Steam inlet NPT2	1	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig. UW-16.1 (y-1)	N/A	N/A
Steam outlet NPT2	1	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig. UW-16.1 (y-1)	N/A	N/A
Adapter of safety valve NPT2	2	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig. UW-16.1 (y-1)	N/A	N/A
Adapter for spare NPT2	2	OD.76mm	N/A	SA-105M	N/A	10mm	1.6mm	N/A	Fig. UW-16.1 (y-1)	N/A	N/A
Adapter for drain NPT1	3	OD.45mm	N/A	SA-105M	N/A	7.8mm	1.6mm	N/A	Fig. UW-16.1 (y-1)	N/A	N/A
Adapter for spare NPT3/4	3	OD.45mm	N/A	SA-105M	N/A	11mm	1.6mm	N/A	Fig. UW-16.1 (y-1)	N/A	N/A
Adapter for thermocouple M27X2	3	OD.40mm	N/A	SA-105M	N/A	8mm	1.6mm	N/A	Fig. UW-16.1 (y-1)	N/A	N/A
Pressure outlet NPT1/4	3	OD.25mm	N/A	SA-105M	N/A	7mm	1.6mm	N/A	Fig. UW-16.1 (y-1)	N/A	N/A

11. Supports: Skirt No Lugs 2 Legs N/A Other 2 Saddles Attached Welded to the shell  
 (Yes 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:  
N/A  
 (Name of part, item number, Manufacturer's name and identifying stamp)

- (1) Impact test is exempted as Per UCS-66(a) (c) and UG-20 (f) (2) No inspection opening furnished as for UG-46(c).

- (3) Body flange see drawing NO.:F01J090E-1 Rev.0 and Cover device see dwg.No.: F01J090B-0 Rev.0.

- (4) Closures shall be equipped with an audible or visible warning device that will warn the operator if pressure is applied to the vessel before the holding elements and locking components are fully engaged in their intended position or if an attempt is made to disengage the locking mechanism before the pressure within the vessel is released.



## FORM U-1A

Manufactured by Jiangsu Olymspan Thermal Energy Equipment Co., Ltd.Manufacturer's Serial No. 18R641 CRN TBA National Board No. 11

## CERTIFICATE OF SHOP/FIELD 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 BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. "U" Certificate of Authorization Number 46645 expires April 24, 2020

Date Aug. 9, 2018 Co.name Jiangsu Olymspan Thermal Energy Equipment Co., Ltd. Signed [Signature]  
(Manufacturer) (Representative)

## CERTIFICATE OF SHOP/FIELD INSPECTION

Vessel constructed by Jiangsu Olymspan Thermal Energy Equipment Co., Ltd. at No.29 Changhong Dong Road, Henglin Town, Changzhou City, Jiangsu Province, 213101, P. R. China. I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by China Special Equipment Inspection & Research Institute of \_\_\_\_\_ have inspected the component described in this Manufacturer's Data Report on July 3, 2018, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her 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 Aug. 9, 2018 Signed Jiayi Hu Commissions NB 14196 A1  
(Authorized Inspector) (National Board Authorized Inspector Commission number)



## Item 9





# CERTIFICATE OF AUTHORIZATION

The named company is authorized by the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the certification mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with this certification mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

**COMPANY:**

**Jiangsu Olymspan Thermal Energy Equipment Co., Ltd.  
No. 29, Changhong Dong Road, Henglin Town,  
Changzhou City, Jiangsu Province 213101  
People's Republic of China**

**SCOPE:**

**Manufacture of pressure vessels at the above location only**

**AUTHORIZED: March 27, 2017**  
**EXPIRES: April 24, 2020**  
**CERTIFICATE NUMBER: 46,645**

  
Board Chair, Conformity Assessment

  
Managing Director, Conformity Assessment

