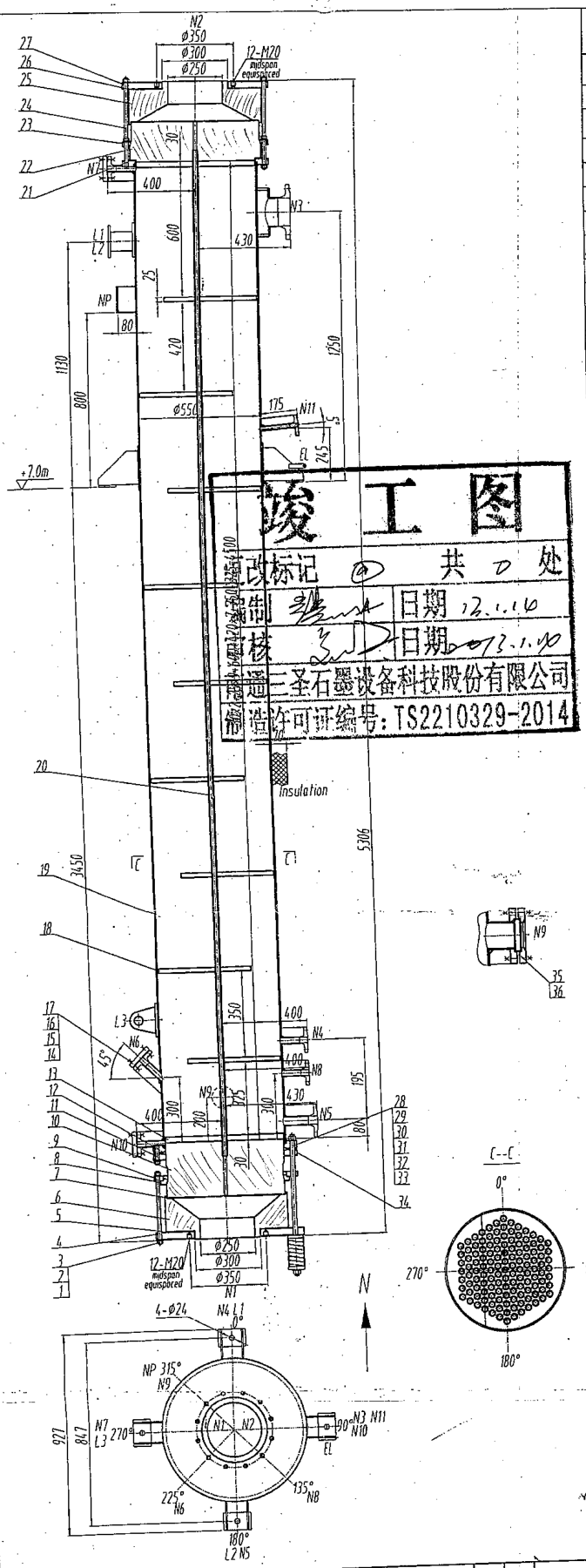

竣工图

改标记 ◎ 共 □ 处

制 日期 12.1.10

核 日期 12.1.10

编制：圣石墨设备科技股份有限公司

编制许可证编号：TS2210329-2014

Design, manufacture and inspect codes

Design parameter			Design, manufacture and inspect codes
Vessel type	Ⅳ		1.GB/T21432-2008《graphite pressure vessels》 2.97/23/EC
Item	Process Side	Service Side	
Working pressure bar	0.2	2.0	
Design pressure bar	-1/5	-1/5	
PS bar	5	5	
Working temperature max/min ℃	103.63/107.11	133.5/133.5	
Design temperature ℃	5/120	5/170	
TS min/max ℃	5/120	5/170	
Volume L	260	610	
Medium/PED Group	Salt solution /Group1	Live steam /Group2	
Medium physical state	gases	gases	
Main pressure bearing parts material	BF2 graphite with furan resin impregnation	Q345R	
Corrosion allowance mm	0	1.0	
Welding joint coefficient		0.85	
Pass	1	1	
Heat transfer area m^2	48.5		
Pipe specification	127-Φ32/Φ22×4500		
Pipe and tubesheet connecting	Cementation		
Weight (Empty) kg	1575		
Weight (Full of water) kg			

Joint type: Welding should as per the welding process. The joint and cut face should as per detailed drawing.Others are according to HGJT20583-2011.The height of the welding joints which are not noted with angle should as per the thinner plate.The flange welding should as per the flange welding requirements

Welding rod:

Welding between XX and XX	Welding rod mark
Welding between Q345R	J507

NDE:

Welding joint category	Test rate	Test std.	Qualified level
A	≥20%	JB/T 4730	RT Ⅲ
B	≥20%	JB/T 4730	RT Ⅲ
C D			

Test:

	Process Side	Service Side
Hydrostatic test pressure bar	7.2	7.2
Gas test pressure bar		

Heat treatment:

1.Nozzel, support and nameplate azimuth as per this drawing.
2.Impermeable graphite is brittle material. Impact or shock with strong force to the unit is prohibited during hoisting, handling, disassembling and transportation to prevent from bundle damage.

管口表 SCHEDULE

符号 Mark No.	公称尺寸 DN	连接法兰标准 SPEC.No.	法兰/密封面型式 Type of flange/face	用途或名称 Service
N1	250	Φ350/12-M20	RF	Process side inlet
N2	250	Φ350/12-M20	RF	Process side outlet
N3	125	DIN EN 1092-1 PN10	RF	Steam inlet
N4	25	DIN EN 1092-1 PN10	RF	Vent
N5	40	DIN EN 1092-1 PN10	RF	Condensate outlet
N6	25	DIN EN 1092-1 PN10	RF	Reserve (blind)
N7	25	DIN EN 1092-1 PN10	RF	Vent (blind)
N8	25	DIN EN 1092-1 PN10	RF	Manometer
N9	100	DIN EN 1092-1 PN10	RF	Sight glass
N10	25	DIN EN 1092-1 PN10	RF	Drain (blind)
N11	15	DIN EN 1092-1 PN40	RF	Condensate inlet

piece No.	Drawing No.	Name	Qty.	Material	Unit Weight/Total weight weight(Kg)		Remark
25	SS-GHA550-48.5-12	upper head	1	BF2 graphite with furan resin impregnation		61.8	
24		full thread bolt M16×440	20	8.8 grade	0.9	18.0	
23	SS-GHA550-48.5-11	adjunct gland	1	Q345R		13.0	
22	SS-GHA550-48.5-10	fixed tube sheet	1	BF2 graphite with furan resin impregnation		69.6	
21		gasket Φ600/Φ550×5	1	EPDM		0.3	
20	SS-GHA550-48.5-09	tube	127	TB	3.8	482.6	
19	SS-GHA550-48.5-08	shell	1	steel welder		486.7	
18	SS-GHA550-48.5-07	baffle	9	BF1 graphite with furan resin impregnation	4.1	36.9	
17		gasket Φ68/Φ28×5	3	EPDM		0.1	
16		washer 12	24	100HV		0.1	
15		nut M12	24	8 grade		0.2	
14		full thread bolt M12×80	12	8.8 grade	0.06	0.5	
13	SS-GHA550-48.5-06	adjunct tube sheet	2	BF2 graphite with furan resin impregnation	6.8	13.6	
12		O ring Φ12	1	EPDM		0.2	
11		full thread bolt M16×110	24	8.8 grade	0.147	3.5	
10	SS-GHA550-48.5-05	float tube sheet	1	BF2 graphite with furan resin impregnation		83.5	
9	SS-GHA550-48.5-04	loose flange	1	Q345R		19.0	
8	SS-GHA550-48.5-03	bisect ring	1	H200		11.7	
7		gasket 4×25	2	PTFE		0.4	
6	SS-GHA550-48.5-02	lower head	1	BF2 graphite with furan resin impregnation		53.8	
5		gasket Φ560/Φ510×3	1	acid-resistant rubber plate		0.2	
4	SS-GHA550-48.5-01	lower cover plate	1	Q345R		77.0	
3		washer 16	140	100HV		1.3	
2		nut M16	140	8 grade		4.0	
1		full thread bolt M16×330	16	8.8 grade	0.44	7.0	

piece No.	Drawing No.	Name	Qty.	Material	Unit Weight/Total weight weight(Kg)		Remark
36		gasket 4×20	2	PTFE		0.2	
35		Sight glass Φ140×20	1	borosilicate glass		0.5	
34	SS-GHA550-48.5-15	lower gland	1	Q345R		23.0	
33	SS-GHA550-48.5-14	spring housing	4	steel welder	1.3	5.2	
32		spring Φ68×130	4	60Si2MnA	1.38	5.5	
31		spring cover plate	4	HT150	0.45	1.8	
30		washer 20	8	100HV		0.1	
29		nut M20	8	8 grade		0.4	
28		full thread bolt M20×640	4	8.8 grade	1.33	5.3	
27	SS-GHA550-48.5-13	upper cover plate	1	Q345R		67.0	
26		gasket Φ606/Φ556×3	1	acid-resistant rubber plate		0.2	

处数 DISP	说明 DESCRIPTION	设计 DESD	日期 DATE	校核 CHKD	日期 DATE	审核 APPD	日期 DATE	审定 APPD	日期 DATE
			2012.10.28		2012.10.30		2012.10.30		

项目号 PROJECT
装置及工程 SUB PROJECT NO. W1003
用户 CLIENT
图号 DWG.NO
图名 DRAWING NAME: Heater
数量 Number of units: 1
处数 DISP | 设备 EQUIP | 比例 SCALE | 合同号 CONT.NO
设计阶段 STAGE: 施工图 construction drawing
第 张 SHEET | 共 张 OF