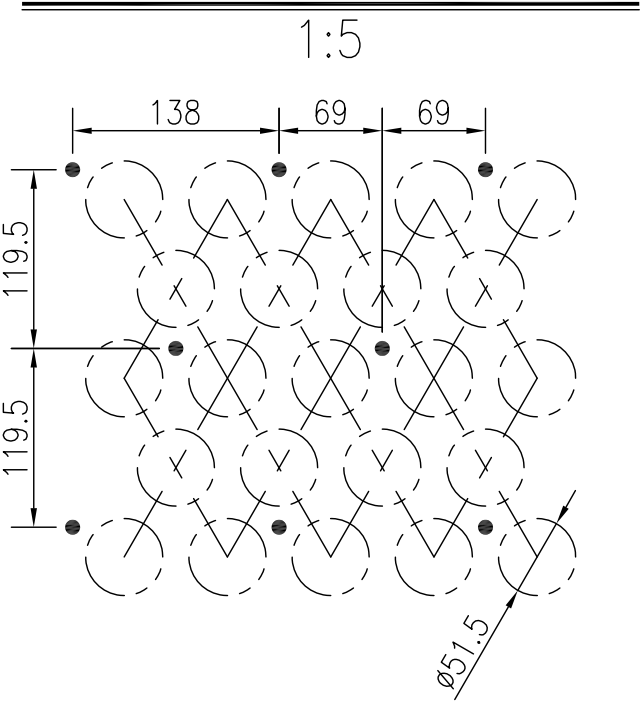


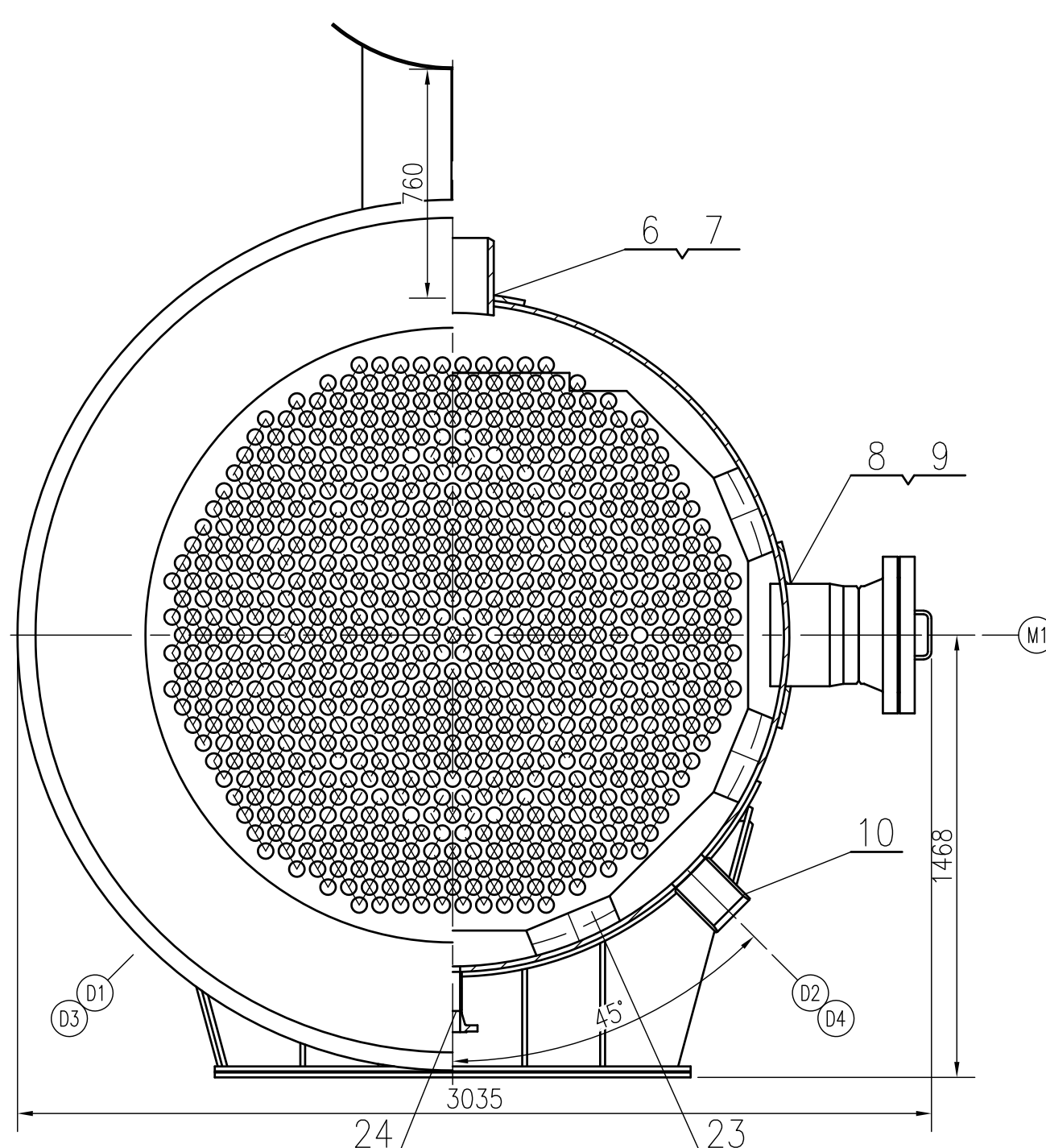
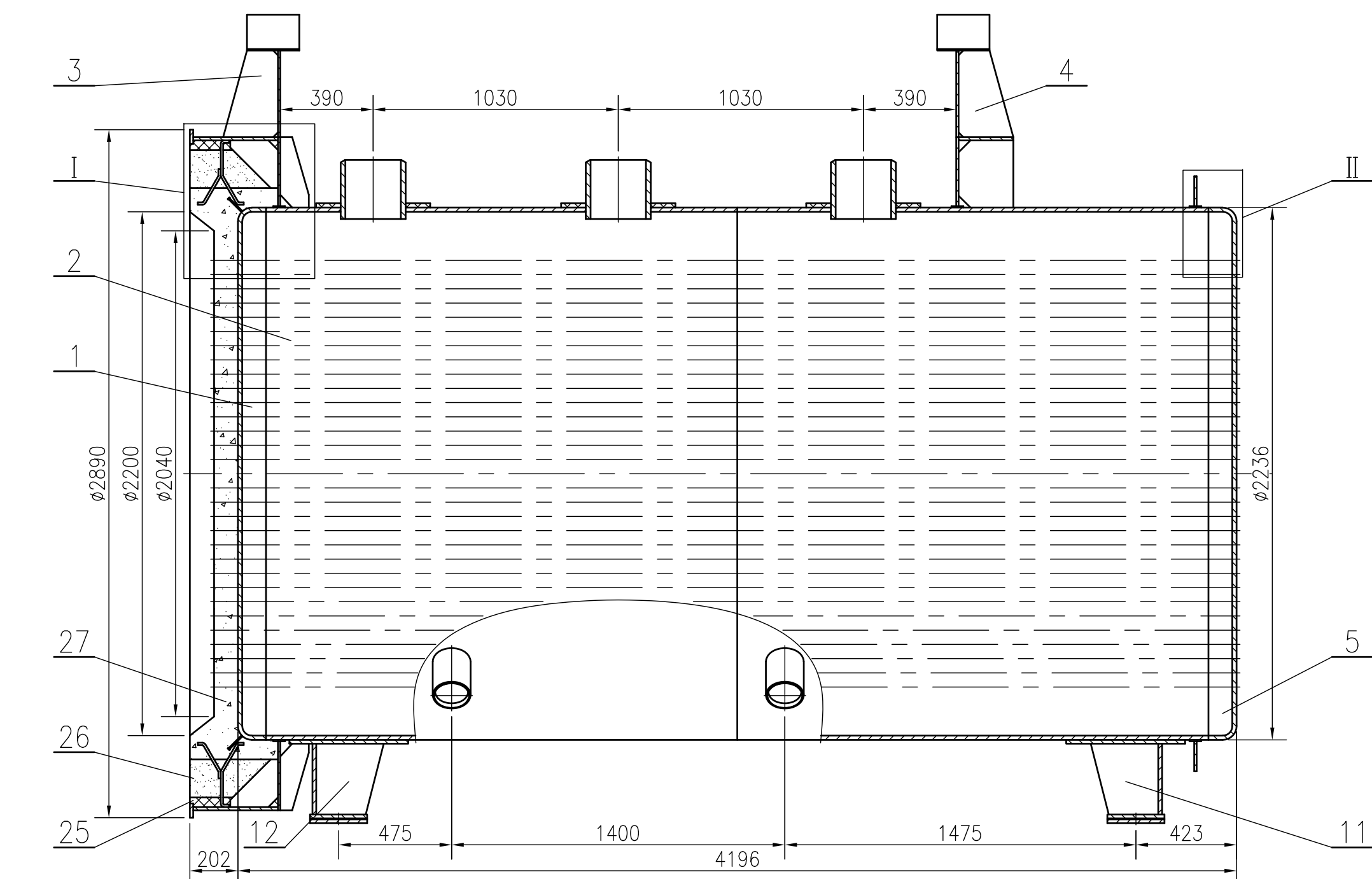
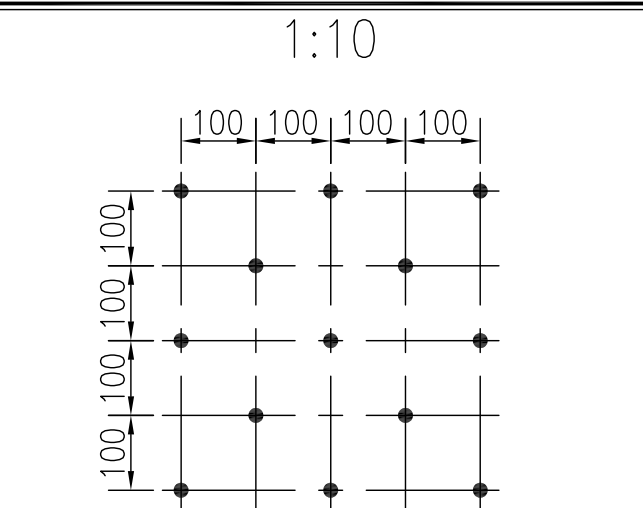
NOZZLE SCHEDULE						
MARK	SERVICE	Qty.	PN	DN	CONNECTION SIZE	REMARK
A1	Flue Gas Inlet	1	/	/		
B1	Flue Gas Outlet	1	/	/		
C1~C3	Upcomer Nozzle	3	/	250	ø273x20	
D1~D4	Downcomer Nozzle	4	/	150	ø159x10/6	
M1	Head Manway	1	300	300		HG/T 20615

Technical Requirements:

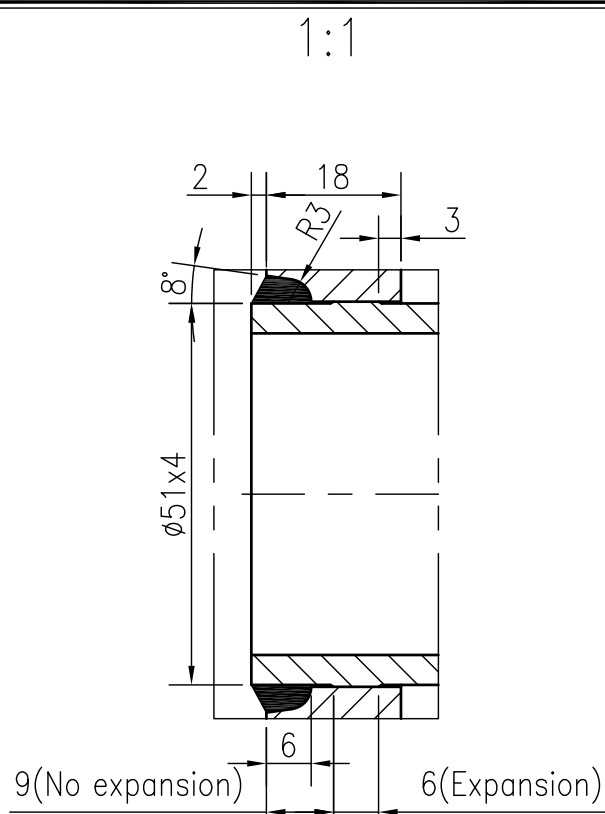
1. The evaporator shall be manufactured, inspected and accepted in accordance with TSG 11-2020 "Regulation on Safety Technology for Boiler" and GB/T 16508-2022 "Shell Boilers".
2. The Q345R steel plates used for the shell shall be supplied in normalized condition and undergo UT sheet by sheet in accordance with NB/T 47013.3-2023, with acceptance criteria meeting Level II.
3. 10% MT shall be performed on the welded joints between transition rings, saddle pads and the shell, with the weld quality not lower than Level I.
4. The longitudinal and circumferential butt joints of the shell, as well as circumferential butt joints of nozzles with an outer diameter > 159mm or a wall thickness > 20mm, shall undergo 100% RT or UT in accordance with TSG 11-2020. Other circumferential butt joints of nozzles shall undergo 10% RT. RT shall comply with NB/T 47013.2-2015, with the technical level not lower than AB and the weld quality not lower than Level II. UT shall comply with NB/T 47013.3-2023, with the technical level not lower than B and the weld quality not lower than Level I.
5. In accordance with TSG 11-2020, the full-penetration fillet welds of pipe joints with an outer diameter > 108mm shall undergo 100% UT in accordance with NB/T 47013.3-2023, with the technical level not lower than B and the weld quality not lower than Level I. For others, no less than 20% of the total welds shall undergo surface NDT, with the weld quality not lower than Level I.
6. The actual length of tubes shall be precisely adjusted based on the measured dimensions between the front and rear tube sheets, and all tubes must pass reinspection according to GB/T 5310-2023 "Seamless steel tubes and pipes for high pressure boiler" while fully complying with the technical requirements specified in NB/T 47019.3-2021.
7. The connection between tubes and the front tube sheet shall employ a combined strength welding and expansion method, where the expansion process must be completed prior to welding, with all welding operations to be performed using GTAW; additionally, 100% surface non-destructive testing shall be conducted on all welds between tubes and the tube sheet, with the weld quality not lower than Level I.
8. All welding operations shall strictly comply with the provisions of GB/T 16508.4-2022, and the selection of welding materials must conform to the technical requirements specified in NB/T 47018 "Technical specification of welding materials for pressure equipment".
9. After welding, the evaporator shall undergo hydrostatic testing as stipulated in GB/T 16508-2022, with the working pressure at 2.24MPa and the test pressure at 3.36MPa.
10. The surface treatment of the evaporator shall meet the following specifications: derusting to Sa2.5 grade, application of two coats of inorganic zinc-rich anti-corrosion primer (with temperature resistance up to 300°C), maintaining a minimum dry film thickness of 50μm per coat, and all packaging shall be executed in strict accordance with the relevant provisions of NB/T 47055-2017 "Painting and packing specification of boiler".



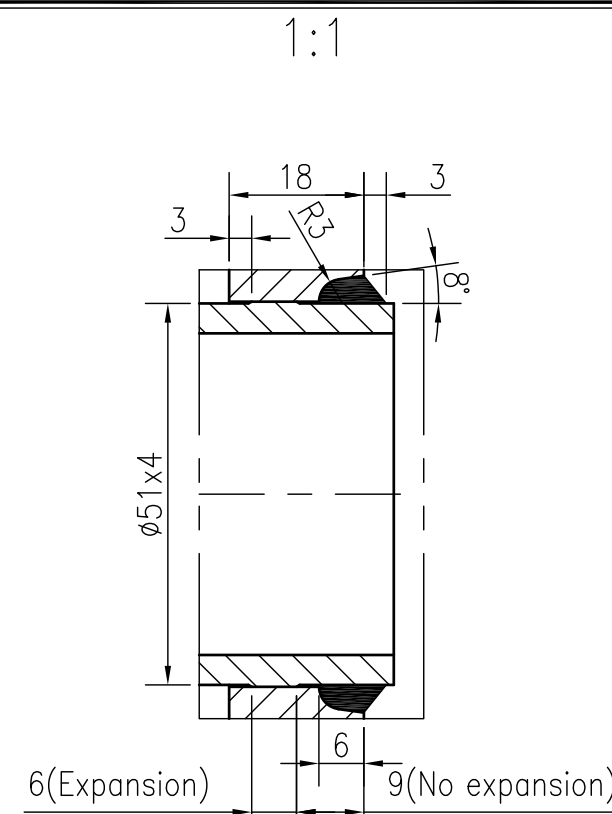
T-pins Outside Tube Bundle Area



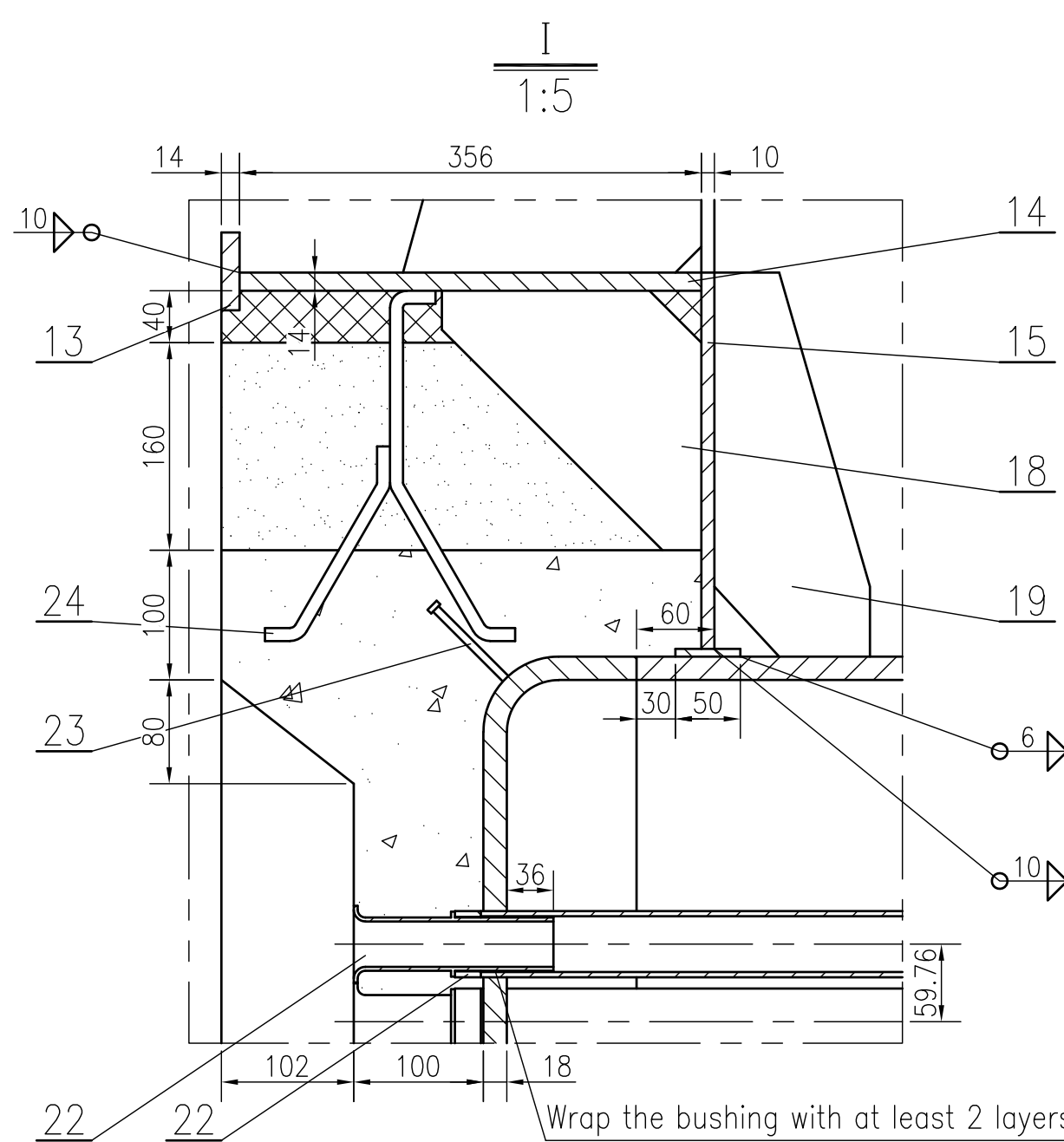
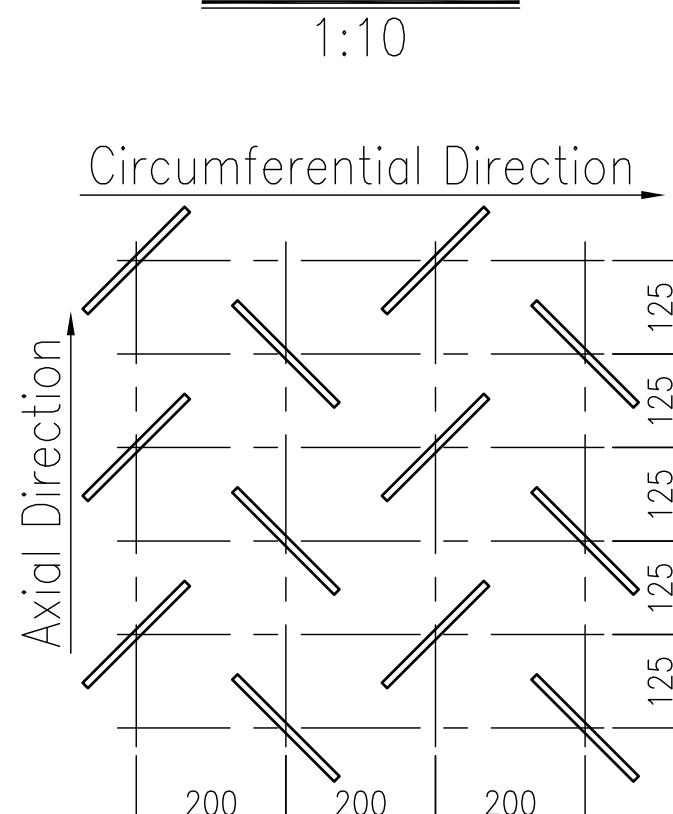
Tube-to-Front Tubesheet Weld



Tube-to-Rear Tubesheet Weld

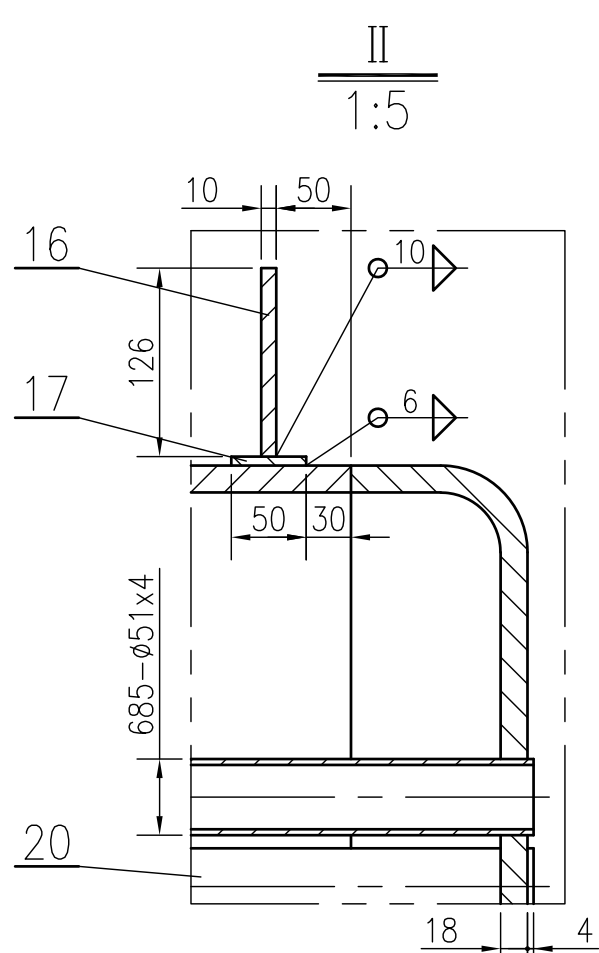


Winged Y-pins

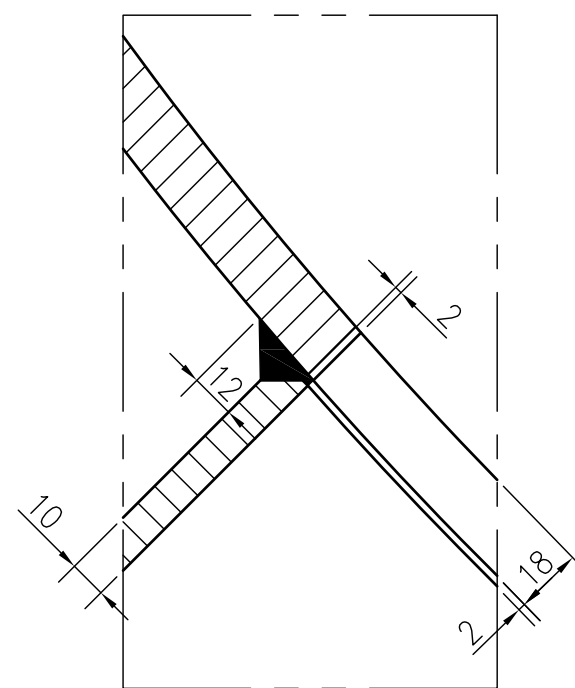


Wrap the bushing with at least 2 layers of ceramic fiber paper and pack tightly to ensure a thickness of 1mm.

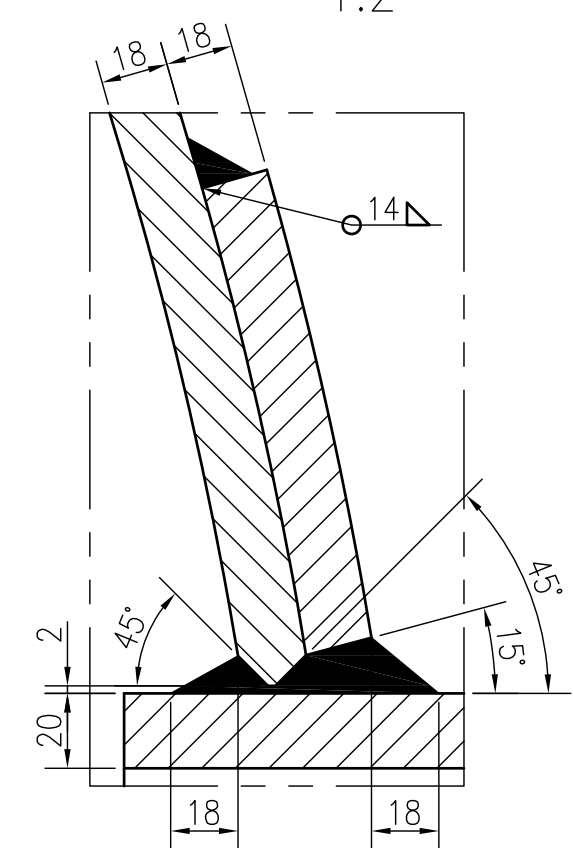
Upcomer-to-Shell Weld



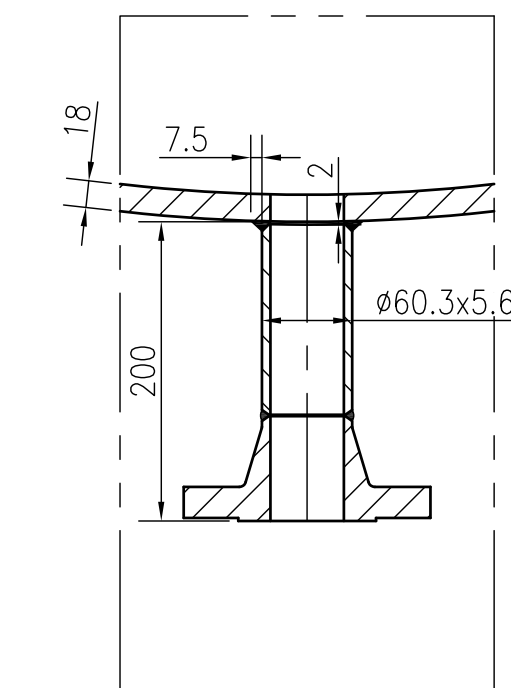
Downcomer-to-Shell Weld



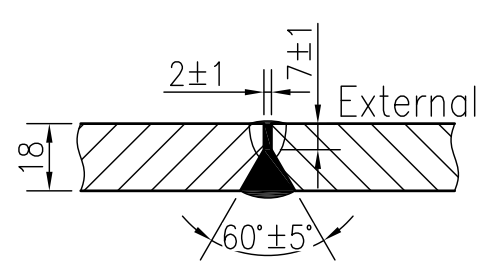
Detail Drawing of Welding between Head Opening and Cylinder



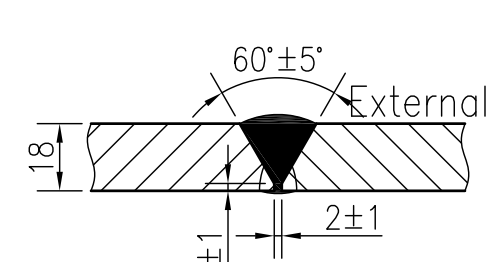
Detail Drawing of Welding between Blowdown Port and Cylinder



Front Tubesheet-to-Shell Weld



Rear Tubesheet-to-Shell Weld



27		Corundum-Mullite Castable	0.68m ³	Corundum-Mullite	3000	1980	
26		Lightweight Castable	0.48m ³	Lightweight castable	1000	480	
25		Ceramic Fiber Blanket t=40	3.26m ³	Alumina-Silica Fiber	200	652	
24	SRD-TY-GD-03	Winged Y-pin Ø10, L=270	140	S31008-GB/T20878	0.16	22.4	
23	SRD-TY-GD-01	T-pin, L=80	730	S31008-GB/T20878	0.02	14.6	
22	RD202WH7-21-22	Inner Casing	685	Corundum Ceramic	0.26	179	
21	RD202WH7-21-21	Outer Casing	685	Corundum Ceramic	0.05	34.3	
20	As Per This Drawing	Tube Ø51x4, L=4202	685	20G-CB/T5310	19.5	13358	
19	RD202WH7-21-19	External Rib Plate t=10	24	Q235B-GB/T700	2.02	48.5	
18	RD202WH7-21-18	Internal Rib Plate t=10	24	Q235B-GB/T700	1.95	46.8	
17	As Per This Drawing	Transition Ring Ø224x6, L=50	3	Q235B-GB/T700	16.6	49.8	
16	As Per This Drawing	Ring Plate Ø2500/Ø2250, t=10	1	Q235B-GB/T700	73.3	73.3	
15	As Per This Drawing	Ring Plate Ø2828/Ø2250, t=10	1	Q235B-GB/T700	181	181	
14	As Per This Drawing	Shell Ø2828x14, L=356	1	Q235B-GB/T700	346	346	
13	As Per This Drawing	Ring Plate Ø2890/Ø270, L=14	1	Q235B-GB/T700	58.7	58.7	
12	RD202WH7-21-12-0	Fixed Saddle Support	1	Assembly	467	467	
11	RD202WH7-21-11-0	Sliding Saddle Support	1	Assembly	466	466	
10	RD202WH7-21-10	Downcomer Nozzle	4	20G-CB/T5310	7.79	31.2	
9	RD202WH7-21-9	Reinforcing Pad DN350x18-C	1	Q345R-GB/T7113	26.6	26.6	NB/T 11025
8	RD202WH7-21-8-0	Head Manway DN300	1	Assembly	190	190	
7	RD202WH7-21-7	Reinforcing Pad DN250x18-C	3	Q345R-GB/T7113	17.0	51.0	NB/T 11025
6	RD202WH7-21-6	Upcomer Nozzle	3	20G-CB/T5310	31.5	94.5	
5	RD202WH7-21-5	Rear Tubesheet	1	Q345R-GB/T7113	416	416	
4	RD202WH7-21-4-0	Rear Support	1	Q235B-GB/T700	80.7	80.7	
3	RD202WH7-21-3-0	Front Support	1	Q235B-GB/T700	32.0	32.0	
2	RD202WH7-21-2	Shell	1	Q345R-GB/T7113	3899	3899	
1	RD202WH7-21-1	Front Tubesheet	1	Q345R-GB/T7113	416	416	
件号 NO.	图号 或 标准号 DWG.NO. OR STANDARD	名称 及 规格 DESCRIPTION	数量 QTY.	材 料 MATERIAL	#UNIT 重量WT.(kg)	总TOTAL	备 注 REMARK

Evaporator	Material	Assembly	比例 1:20	重量 23952kg
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版次 REV.NO.	说明 DESCRIPTION	设计 DRAWN	校核 CHKD.	审核 APPR.	审定 FINAL APPR.	日期 ISSUE DATE
	PT PETRO OXO NUSANTARA			江苏瑞鼎环境工程有限公司 JIANGSU RUIDING ENVIRONMENTAL ENGINEERING CO., LTD.		
	WUHUAN ENGINEERING CO., LTD.			上海瑞鼎环境工程技术有限公司 SHANGHAI RUIDING ENVIRONMENTAL ENGINEERING CO., LTD.		
用户 OWNER	PT PETRO OXO NUSANTARA		阶段 Detailed design 合同号 PHASE CONT. NO. SRD-205-04 比例 SCALE 第 1 张 共 1 张 1:20 项目编号 PROJ. NO. SRD2502 专业 SPECIAL Device 图号 DWG. NO. RDZ02WH7-21-0			
项目 PROJ.	30000 TPA NPG PROJECT					
装置工区 UNIT	Waste Gas & Waste Liquid Incineration					
图名 DWG. NAME	Evaporator					