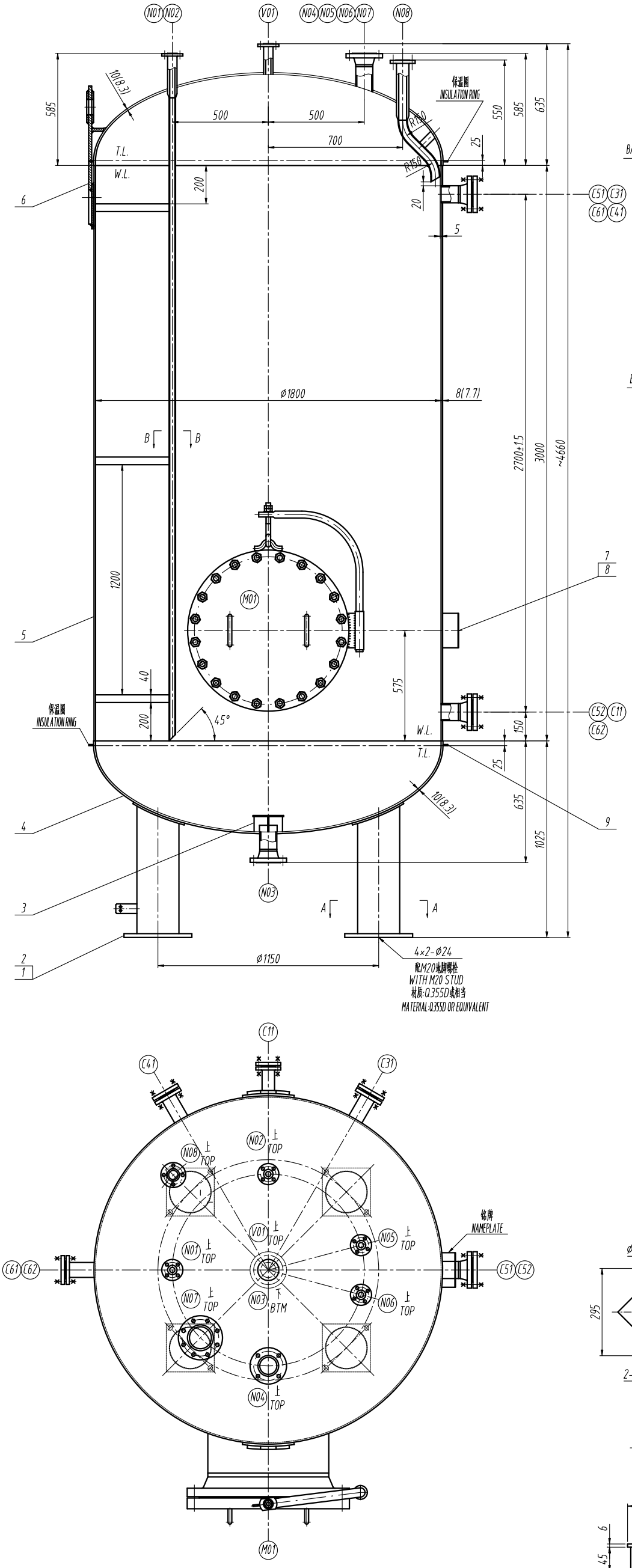
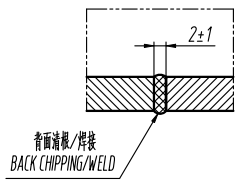
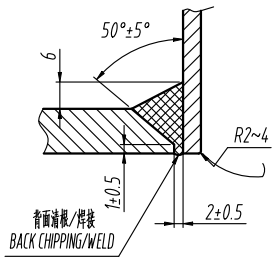


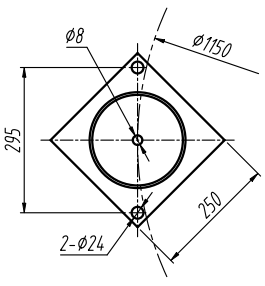
A、B类焊接接头
"A"&"B" JOINT OF SHELL
不按比例
NOT TO SCALE



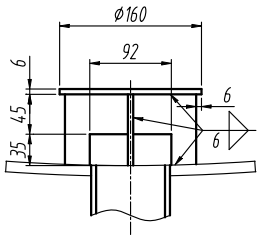
接管与壳体焊接接头
NOZZLE JOINT TO SHELL
不按比例
NOT TO SCALE



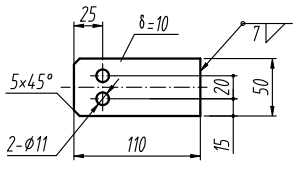
A-A
不按比例
NOT TO SCALE



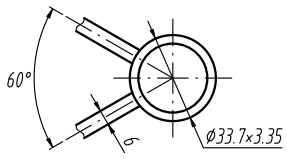
防涡流板详图
VORTEX BREAKER DETAIL
不按比例
NOT TO SCALE

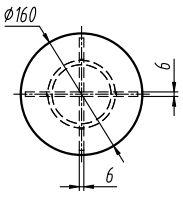


接地板详图
EARTH PLATE
不按比例
NOT TO SCALE



B-B
不按比例
NOT TO SCALE





设计、制造与检验主要数据表 THE MAIN DATA SHEET OF DESIGN、MANUFACTURE AND INSPECTION

规 范、标 准 CODE & STANDARD	《压力容器》GB/T150.1~150.4-2024 PRESSURE VESSELS	《钢制化工容器制造技术规范》HG/T20584-2020 TECHINICAL STANDARD OF FABRICATION FOR STEEL CHEMICAL VESSELS	
	参 数 PARAMETER	压力容器类别 PRESS VESSEL CLASS	
工作压力 WORKING PRESS. kg/cm²G	0.102	焊接规程 WELDING SPEC.	NB/T47015-2023
设计压力 DESIGN PRESS. kg/cm²G	5.1/-1.0	焊接材料 WELDING MATERIAL	S31603 / A022、ER316L
最高允许工作压力 MAX ADMISSIBLE OPERATING PRESS. kg/cm²G			CS AND SS / A312
工作温度 WORKING TEMP. ℃	50		Q235B / J427
设计温度 DESIGN TEMP. ℃	100	焊接接头形式 WELDING STRUCTURE	除注明外按HG/T20583-2020规定的全焊透结构 ACC.PER DESIGN AND HG/T20583-2020
介质(组分) FLUID (COMPONENT)	水、MT、FMA、NPG(备1) WATER、MT、FMA、NPG(Note1)	角焊缝最高 THICK. OF FILLET WELD	除注明外复板焊件较薄板厚度 THE THICKNESS OF THINNER PLATE JOINED
介质(密度) FLUID (DENSITY) kg/m³	2.42(气)/958(液) 2.42(GAS)/958(FLUID)	法兰与接管的焊接 WELDING BETW. PIPE AND FLANGE	按相应法兰标准 ACC.FLANGE STANDARD
介质特性 FLUID PERFORMANCE	中度危害/易爆 MODERATE TOXIC/EXPLOSIVE	产品焊接试件 PRODUCT WELDED TEST COUPONS	
安全阀整定压力 THE SET PRESS.OF SAFETY VALVES kg/cm²G	3.9	热 处 理 P.W.H.T.	
设计使用年限 DESIGN WORKING LIFE(YEARS)	10	其它 OTHERS	
主要受压元件材料 MAIN MATERIAL 牌号(钢号) NAME	S31603、S31603Ⅱ	其它 OTHERS	
主要受压元件材料 MAIN MATERIAL 标 准 STANDARD	GB/T713.7-2023、NB/T47010-2017	油漆、包装、运输 PAINT、PACKAGING、TRANSPORTATION	NB/T10558-2021、22150-00000-MC08
腐蚀裕量 CORR. ALLOW. mm	0	管口、支座等方位 NOZZLE ORIENTATION	按管口方位图 PRESS.THE NOZZLE ORIENTATION DIAGRAM
焊接接头系数 JOINT. EFF.	1.0		
耐压试验方法(压力/介质) TYPE OF PROOF PRESS TEST kg/cm²G	6.8/6.4(HYDRO.-H/V)	无损检测 N.D.E. 焊接接头类别 JOINT CATEGORY	检测率 % / 方法、局部等级 METHOD-CLASS / 级别等级 RER-CLASS / 标 准 STANDARD / 备 注 REMARK
泄漏试验方法(压力/介质) TYPE OF LEAK TEST kg/cm²G		A.B 筒体 SHELL	100% RT-Ⅱ AB NB/T47013.2-2015
容 积 CAPACITY m³	9.3	A.B 封头 HEAD	100% RT-Ⅱ AB NB/T47013.2-2015
装量系数 FULL EFF.		C.D E	100% PT-Ⅰ NB/T47013.5-2015
保温材料/厚度 INSULATION MATERIAL/THICKNESS mm	硅酸铝/30 ALUMINUM SILICATE BLANKET/30	安装环境	用于每年最低温度 MIN.MONTHLY AV.TEMP. / 基本风压 BASIC WIND PRESS. / 地震基础烈度 SEISMIC INTENSITY / 场地土类别 SOIL TYPE OF THE SITE / 室(内/外) DOOR (IN/OUT) / 防腐等级 CORROSION PROTECTION / 接地要求 GROUNDING
防火材料/厚度 FIRE PREVENTION/THICKNESS mm			21 ℃ 400 Pa 7(0.15g) Ⅲ 接地

补充技术要求:

Supplementary technical requirements:

1、除注明外，所有尺寸单位为"mm"，法兰螺栓孔应跨设备中心线或其平行线跨中均布。
All dimensions are in mm, unless otherwise specified. The flange bolt holes shall be evenly distributed across the centre line of the equipment or its parallel line.

2、设备用S31603钢板应符合GB/T713.7-2023《承压设备用钢板和钢带》的规定，且表面加工类型为1D，固溶状态供货。
S31603锻件应按NB/T47010-2017《承压设备用不锈钢和耐热钢锻件》中Ⅱ级规定进行制造、检验和验收。
S31603钢管应符合GB/T14976-2012《流体输送用不锈钢无缝钢管》的规定。无缝钢管的厚度负偏差不大于10%S(S为钢管厚度)。
The equipment used S31603 steel plate shall conform to the provisions of GB/T713.7-2023 "Steel plate,sheet and strip for pressure equipments" and the surface machining type shall be 1D, and the supply shall be in the state of solid solution.
S31603 forgings shall be manufactured, inspected and accepted in accordance with the provisions of grade II in NB/T47010-2017 "Stainless and heat-resisting steel forgings for pressure equipment".
S31603 steel tubes shall conform to the provisions of GB/T14976-2012 "Seamless stainless steel pipes for fluid transport". The negative deviation of the thickness of the seamless steel tube shall not be greater than 10% S (S is the thickness of the steel tube).

3、S31603材料及焊接接头(包括焊接工艺评定、成品焊接试件)按GB/T4334-2020方法B进行晶间腐蚀试验，平均腐蚀速率应不大于1.6g/m2.h。腐蚀试件取样和组批应按GB/T21433-2008第8条规定进行。
S31603 materials and welded joints (including welding process qualification, finished welded test pieces) shall be subject to intergranular corrosion test according to method B in GB/T4334-2020, and the average corrosion rate shall not be greater than 1.6g/m2.h, and the sampling and batching of corrosion test pieces shall be carried out in accordance with the provisions of GB/T21433-2008, Clause 8.

4、壳体组焊完毕后，应按照GB/T150.4-2024第6.5.11条检查壳体的圆度。
After the shell is fully welded, the roundness of the shell shall be inspected in accordance with Clause 6.5.11 of GB/T 150.4-2024.

5、液位计管口安装尺寸公差按HG/T20584-2020中的14.2.13第6条的规定。
The dimensional tolerance of the level gauge pipe port installation shall be in accordance with the sixth provision of 14.2.13 in HG/T20584-2020.

6、受压元件之间所有对接焊缝、角焊缝均需采用全焊透结构，焊接接头不得有表面裂纹、未熔合、未焊透、表面气孔、弧坑、未填满和飞溅物等缺陷，焊缝与母材应当圆滑过渡；角焊缝的外形应当凹形圆滑过渡；且焊缝表面不得有咬边。
All butt welds and fillet welds between pressurized elements shall be of full penetration type, and the welded joints shall be free of surface cracks, lack of fusion, incomplete penetration, surface porosity, arc pits, lack of filler and spatter, etc., and the welds shall transition smoothly to the parent metal; the fillet welds shall have a concave smooth transition; and the weld surface shall be free of undercut.

7、DN<250的接管与法兰的对接接头应按照NB/T47013.5-2015进行100%渗透检测，合格等级不低于Ⅰ级。
Manifolds and flanges with a nominal diameter NDN < 250 for butt welded joints shall be subject to 100% penetrant testing in accordance with NB/T47013.5-2015, and the qualification level shall not be lower than Grade I.

8、M01接管与壳体的焊接接头应按照NB/T 47013.3-2023进行100%超声检测，合格级别不低于Ⅰ级。
The welded joints of M01 takeover and the shell shall be subject to 100% ultrasonic testing in accordance with NB/T47013.3-2023, and the qualification level shall not be lower than Grade I.

9、不锈钢设备水压试验用水的氯离子含量应小于25mg/L，试验合格后应立即将水排净吹干。
The chloride ion content of water used for hydraulic pressure test of stainless steel equipment shall be less than 25 mg/L, and the water shall be drained and dried immediately after the test is qualified.

10、耐压试验合格后，介质接触的不锈钢表面应进行酸洗钝化处理，所形成的钝化膜按GB/T25150-2010规定的方法检测，合格后必须将酸洗介质清洗干净，不得有残留。
After the pressure test is qualified, the surface of the stainless steel in contact with the medium should be pickled and passivated, and the formed passive film should be inspected according to the specified method in GB/T25150-2010, and after qualification, the pickling medium must be cleaned thoroughly without residue.

注:(1)、介质组成(wt%):液相:甲醇 1.11，异丁醇 1.18，三甲胺0.33，水97.38;
气相:甲醇16.46，异丁醇20.2，三甲胺37.69，水25.65。

Note: (1) Medium composition (wt%): liquid phase: methanol 1.11, isobutanol 1.18, trimamine 0.33, water 97.38;
gas phase: methanol 16.46, isobutanol 0.2, trimethylamine 37.69, water 25.65.

管口表 LIST OF NOZZLE

符号 ITEM	公称尺寸 NPS	公称压力 CLASS(PN)	连接标准 COND.STD.	连接法兰形式 TYPE	连接面形式 FACING	用途或名称 SERVICE	管子规格 NOZZLE SIZE	伸入容器及带补强板的伸出长度 PROJECTION(C.L.TO E.F.)	备 注 REMARK
N01	1	150	HG/T20615-2009	LWN	RF	冷凝液入口 CONDENSATE INLET	Ø49×11	见图 SEE DRAW	
N02	1	150	HG/T20615-2009	LWN	RF	冷凝液入口 CONDENSATE INLET	Ø49×11	见图 SEE DRAW	
N03	3	150	ASME B16.5-2020	WN	RF	废水出口 WASTEWATER OULET	Ø88.9×5.7	见图 SEE DRAW	
N04	3	150	HG/T20615-2009	LWN	RF	蒸汽出口 VAPOR OULET	Ø88.9×5.7	见图 SEE DRAW	
N05	1	150	HG/T20615-2009	LWN	RF	蒸汽连接口 VAPOR CONNECTION	Ø49×11	见图 SEE DRAW	
N06	3	150	ASME B16.5-2020	WN	RF	蒸汽进口 VAPOR INLET	Ø88.9×5.7	见图 SEE DRAW	
N07	4	150	ASME B16.5-2020	WN	RF	安全阀口 PSV CONNECTION	Ø114.3×6.4	见图 SEE DRAW	
N08	1.5	150	HG/T20615-2009	LWN	RF	泵回流口 PUMP RETURN PORT	Ø65×12	见图 SEE DRAW	
C11	1.5	150	HG/T20615-2009	LWN	RF	温度计接口(带法兰盖) TI CONNECTION(W/B)	Ø65×12	1060	
C31	2	150	HG/T20615-2009	LWN	RF	测压力表接口(带法兰盖) PI CONNECTION(W/B)	Ø78×13	1060	
C41	2	150	HG/T20615-2009	LWN	RF	液位计接口(带法兰盖) PG CONNECTION(W/B)	Ø78×13	1060	
C51~52	3	150	ASME B16.5-2020	WN	RF	远传液位计接口(带法兰盖) LI CONNECTION(W/B)	Ø88.9×5.7	1060	
C61~62	2	150	HG/T20615-2009	LWN	RF	液位计接口(带法兰盖) LG CONNECTION(W/B)	Ø78×13	1060	
V01	1	150	HG/T20615-2009	LWN	RF	放空口 VENT	Ø49×11	见图 SEE DRAW	
M01	24	PN16	HG/T21521-2014	WN	RF	人孔 MANHOLE	Ø630×14	按标准 AS PER CODE	

件号 PARTS. NO.	图号或标准号 DWG. NO. OR STD.NO.	名 称 PARTS. NAME.	数量 Q'TY.	材 料 MAT'L.	重量 MASS (Kg) SINGLE	重量 MASS (Kg) TOTAL	备 注 REMARKS
GK	R25016-GK	管口零件 NOZZLE PARTS	1			625	
9		保温圈 Ø1873/Ø1823 δ=6 INSULATION RING	2	S31603	7.0	14	
8		铭牌架 H=60 NAMEPLATE BRACKET	1	S31603		1.0	
7	R25016-7	铭牌 NAMEPLATE	1	S30408			
6	HG/T21574-2018	吊耳 SP-5-15 C=61.5; L2=177.7 LIFTING LUGS	2	Q345R/S31603	26	52	标准图
5		筒体 DN1800×8 SHELL	1	S31603		1081	H=3000
4	GB/T25198-2023	封头 EHA 1800×10 (min8.3) HEAD	2	S31603	284	568	
3		防涡流板 VORTEX BREAKER	1	S31603		3.5	
2		接地板 δ=10 EARTH PLATE	2	S30408	0.5	1.0	
1	NB/T47065.4-2018	支座 B4 h=633 SUPPORT	4	10, Q235B/S31603	35	140	标准图

设备自重(供货质量) NET MASS (Kg)	2485		
空质量 EMPTY MASS (Kg)			
操作质量 OPERATING MASS (Kg)			
盛水质量 MASS OF FULL WATER (Kg)	11785		
最大可拆件质量 MAX. REMOV. PART MASS (Kg)			

标记 MARK	处数 QTY.	更改文件号 CHANGE THE FILE NO.	签字 SIGN.	日期 DATE

浙江诚泰化工机械有限公司
ZHEJIANG CHENGTAI CHEMICAL MACHINERY CO.,L TD

设计 DESIGN		真空凝液缓冲罐 VACUUMYB CONDENSATE BUFFER TANK	图号 DWG. NO. R25016-00
校核 CKD.			项目 SECTION PT PETRO OXO NUSANTARA 3万吨/年新戊二醇项目 30000 TPA NEOPENTYLGLYCOL PLANT
审核 DISC APP.			位号 ITEM NO. V-2402
标审 CODE APP.		总装配图 ASSEMBLY DWG	版次 REV. C00 / A02
工艺会签 PRO. SIGN			施工图 CONSTRUCTION DRAWING / 第二次开车修改版 SECOND REVIEW MODIFICATION EDITION
批准 APPR.			比例 SCALE 1:12 第 张 OF 共 张