

# IG tank integrated gas supply device

## Technical specifications (liquid carbon dioxide)



Qingdao Sains Gas Technology Co.,Ltd

2024

## 1、Cryogenic storage tank design technical parameters

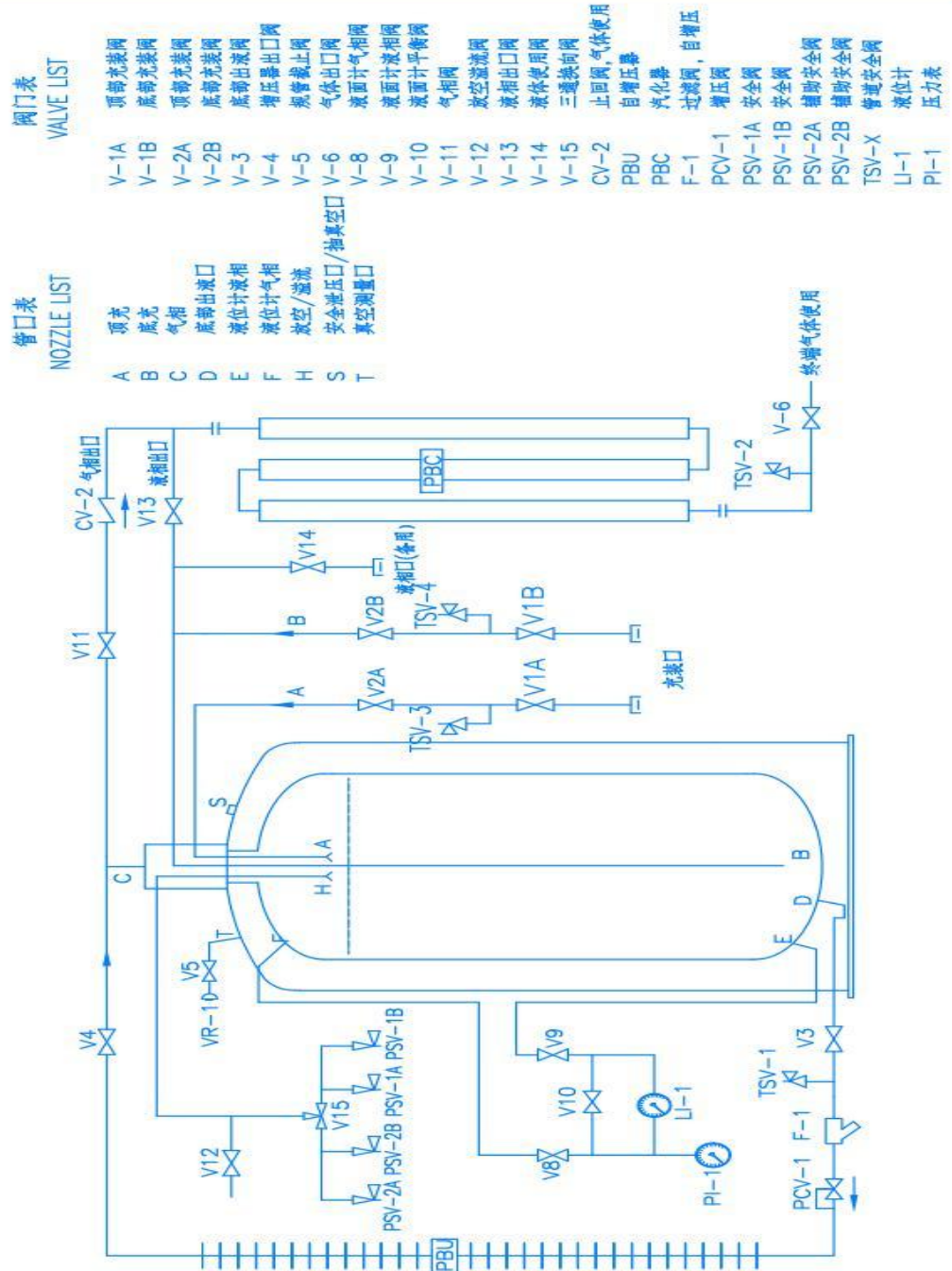
1	Model	ET3-CS	ET5-CS	ET7.5-CS	ET10-CS
2	Type	Vertical flat bottom			
3	Standard	TSG 21、GB/T150、GB/T18442(Reference)			
4	Design pressure (inner/outer)	2.25MPa/-0.1MPa	2.3MPa/-0.1MPa	2.3MPa/-0.1MPa	2.3MPa/-0.1MPa
5	Maximum work pressure (inner/outer)	2.30MPa/-0.1MPa	2.40MPa/-0.1MPa	2.40MPa/-0.1MPa	2.40MPa/-0.1MPa
6	Minimum Design Metal Temperature	-40 °C/50°C			
7	Full volume after stretching	2.91m <sup>3</sup>	4.90m <sup>3</sup>	7.40m <sup>3</sup>	9.80m <sup>3</sup>
8	Filling rate	95%			
9	Main material	Inner	16MnDR GB/T3531		
10		Outer	Q345R GB/T713 (Carbon steel housing) S30408 GB/T24511 (Stainless steel housing)	Q345R GB/T713 (Carbon steel housing)	
11	Filling Medium	LCO2			
12	Interlayer medium	High vacuum multi-layer winding			
13	Helium leak test	YES			
14	Vacuum interlayer leakage rate	≤1x10 <sup>-8</sup> Pa.m <sup>3</sup> /s			
15	Static evaporation rate (liquid nitrogen)	N/A			
16	Inner container holding pressure when leave the factory	20KPa			
17	Factory vacuum degree	≤0.01Pa			
18	Paint brand film thickness	Jordan 200um			
19	Support form	Top suspension + support			
20	Dimension (L*W*H)m	≈1.9×1.9×2.7	≈2.2×2.1×3.2	≈2.4×2.5×3.3	≈2.8×2.7×3.4
21	Chassis size (L*W) mm	1700x1700	1900x1900	2250x2250	2600x2600
22	Equipment weight (including chassis bracket)	≈2.5 Ton	≈3.4 Ton	≈5.2 Ton	≈6.3 Ton
23	Internal and external piping materials	S30408 GB/T14976			
24	Supercharger	20Nm <sup>3</sup> /h	25Nm <sup>3</sup> /h	25Nm <sup>3</sup> /h	30Nm <sup>3</sup> /h
25	Vaporizer	75Nm <sup>3</sup> /h	105Nm <sup>3</sup> /h	150Nm <sup>3</sup> /h	200Nm <sup>3</sup> /h

## 2. Valve and instrument list

Code	Name	Specification	Function	Material
V1A	Cryogenic long-axis globe valve	DN25	Top filling valve	Stainless steel
V2A	Cryogenic long-axis globe valve	DN25	Top filling valve	Stainless steel
V1B	Cryogenic long-axis globe valve	DN25	Bottom filling valve	Stainless steel
V2B	Cryogenic long-axis globe valve	DN25	Top filling valve	Stainless steel
V3	Cryogenic long-axis globe valve	DN15	Self-pressurizing inlet valve	Stainless steel
V4	Cryogenic short-axis globe valve	DN15	Self-pressurizing outlet valve	Stainless steel
V5	Corrugated tube globe valve	1/8"MPT	Regulated stop valve	Copper
V6	Cryogenic long-axis globe valve	DN20	Vaporizer outlet valve	Stainless steel
V8	Angle needle valve	1/4"M.NPT	Liquid level gauge gas phase valve	Copper
V9	Angle needle valve	1/4"M.NPT	Liquid level gauge balancing valve	Copper
V10	Angle needle valve	1/4"M.NPT	Liquid level gauge valve	Copper
V11	Cryogenic short-axis globe valve	DN15	Throttle valve	Stainless steel
V12	Cryogenic short-axis globe valve	DN15	Vent/Relief Valve	Stainless steel
V13	Cryogenic long-axis globe valve	DN15	Carburetor inlet valve	Stainless steel
V14	Cryogenic long-axis globe valve	DN15	Spare liquid valve	Stainless steel
V15	Three way ball valve	1/2"NPT	Three-way reversing valve	Stainless steel
CV-1	One-way valve	DN25	Check valve, filling line	Stainless steel
CV-2	One-way valve	DN15	Check valve, gas use	Stainless steel
PBC-1	Self turbocharger	By order	Self turbocharger	Aluminum
PBC-2	Vaporizer	By order	Vaporizer	Aluminum
PCV-1	Boost valve	1.6~3.0Mpa	Cryogenic boost pressure regulating valve	Copper
PI-1	Pressure gauge	0~0.4Mpa	Pressure Gauge	Stainless steel
LI-1	Liquid level gauge	/	Liquid level gauge	Finished products
PSV-1A	Safety valve	By order	Safety valve	Brass
PSV-1B	Safety valve	By order	Safety valve	Brass
PSV-2A	Secondary safety valve	By order	Safety valve	Brass
PSV-2B	Secondary safety valve	By order	Safety valve	Brass
TSV-1,2	Pipeline safety valve	By order	Pipeline Safety Valve	Brass
F-1	Filter valve	DN15	Filter valve	Stainless steel
VR-1	Vacuum gauge	1/8"NPT	Vacuum regulator	Finished products

3、Cryogenic Tank PID Diagram

低温液体储罐流程图  
(液态二氧化碳)



#### 4、GA picture

See attachment

#### 5、Other technical features

- (1) The tank body adopts high vacuum winding insulation design and auxiliary high-efficiency vacuum maintenance technology, which has good insulation effect and low IG evaporation;
- (2) The tank body adopts a large diameter design and a low vertical transportation height to ensure product performance and save transportation costs;
- (3) The main structure is compact, occupies a small area, and is quick and easy to install. It can be easily installed and used on the same day it arrives;
- (4) The pipeline layout is neat and beautiful. The top adopts a whole forging welding structure to prevent gas or liquid leakage caused by thermal expansion and contraction.
- (5) Compared with the traditional gas supply method of storage tank + vaporization pressure regulating skid, it has better cost performance;
- (6) Liquid level and pressure remote monitoring can be installed to achieve digital and information management.
- (7) The filling speed is 62% faster than that of peers, saving an average of 37.5% of filling time per unit.**
- (8) The external pipeline valves are reasonably located and within easy reach. No need to climb to the top of the tank to operate the valves, reducing safety risks.**

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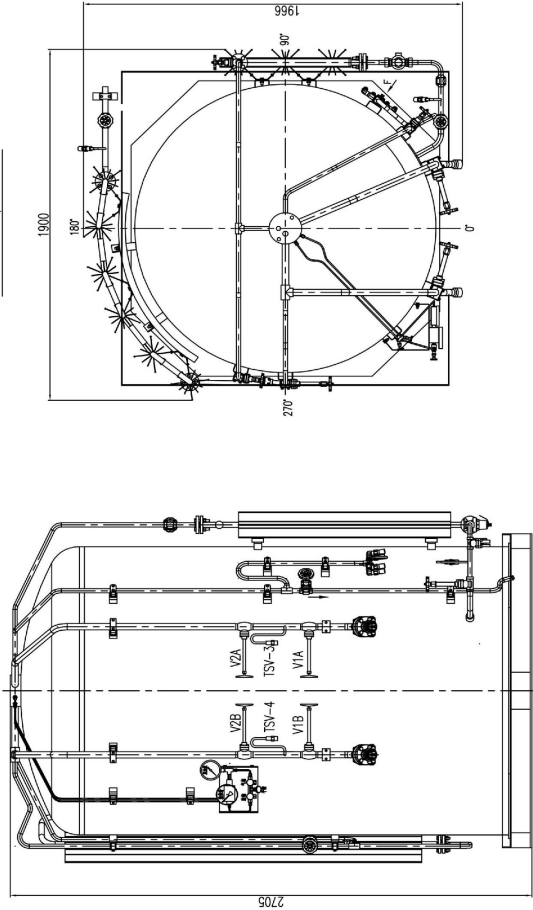
设计参数表

1	产品型号 MODEL	ET3-CS
2	放置形式 Tank Type	立式平底 Vertical & Flat-Bottom
3	设计标准 Design Standard	TSG21, GB/T150, 参照 GB/T18442-2019
4	设计压力 Design Pressure (内筒含 INNER/外套 JACKET)	2.25MPa/-0.1MPa (INNER/JACKET)
5	最大工作压力 MWP (内筒含 INNER/外套 JACKET)	2.25MPa/-0.1MPa (INNER/JACKET)
6	最低设计温度 MDWT	-40℃/50℃
7	总容积 Volume	2.91
8	充液率 FILLING RATIO	95%
9	主体结构 筒体/封头 INNER/HEAD	16MnDR GB/T3531
10	主体材料 外筒体/封头 JACKET/HEAD	Q345R GB/T713
11	充液介质 FLUID NAME	液态二氧化碳 LC02
12	夹套保温型式 Insulation Type of JACKET	真空多层缠绕 High vacuum multilayer winding
13	真空多层缠绕气密性泄漏率 of vacuum interlayer	$\leq 1 \times 10^{-5} \text{Pa} \cdot \text{m}^3/\text{s}$
14	静密封型式 NER	N/A
15	出厂真空度 VACUUM DEGREE	$\leq 0.01\text{Pa}$
16	产品外形尺寸 boundary dimension	见右图
17	底座尺寸(长*宽) pallet dimension(L*W)	1700mmx1700mm
18	设备空重 weight	≈2.5吨
19	可充液介质重量 Medium weight	液态二氧化碳 2840kg
20	工作压力+充液量 (PBU+VAP)	20Nm <sup>3</sup> /h+75Nm <sup>3</sup> /h
21	内筒管材料 (PIPE of inner)	SS30408 GB/T14976
22	外筒管材料 (PIPE of External)	SS30408 GB/T14976

接口表

接口	Function	Function
A	顶部充液 Top Fill	溢流/安全装置 VENT&Full trycock
B	底部充液 Bottom Fill	气相 Economic
C	增压气 PBU OUTLET	安全瓶/排出口 Dual Safety/Vacuum bumpout
D	底部出液 PBU INLET	测量空口 Measuring vacuum
E	仪表液相 Liquid Phase of level Gauge	液体出口 Liquid OUTLET
F	仪表气相 Vapor Phase of level Gauge	气体出口 GAS OUTLET

俯视图 top view

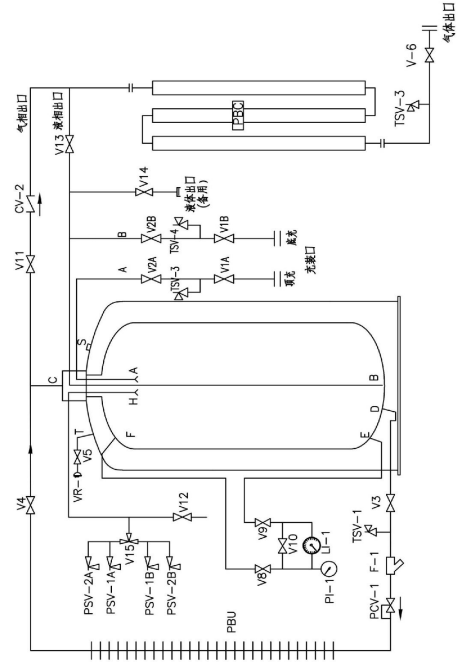


阀门表 VALVE LIST

V-1A, 2A	顶部充液阀 VALVE, Top Fill	止回阀 气体使用 Check valve, Economic
V-1B, 2B	底部充液阀 VALVE, Bottom Fill	PBU 自增压器 PBU
V-3	底部出液阀 VALVE, PBU INLET	PBC 汽化器 VAPORIZER
V-4	增压器出口阀 VALVE, PBU OUTLET	F-1 过滤器 Strainer valve, Booster valve
V-5	真空出口阀 VALVE, Measuring vacuum	PCV-1 增压阀 regulating valve, Booster valve
V-6	气体出口阀 VALVE, VAPOR OUTLET	PSV-1A 安全阀 Safety valve
V-8	液面计气相阀 VALVE, Vapor Phase	PSV-1B 安全阀 Safety valve
V-9	液面计液相阀 VALVE, Liquid Phase	PSV-2A 二级安全阀 Safety valve
V-10	液面计平衡阀 VALVE, Equilibrate	PSV-2B 二级安全阀 Safety valve
V-11	气体使用阀 VALVE, Economic	TSV-X 普通安全阀 Safety valve (pipe)
V-12	放空阀 VALVE, VENT&Full trycock	LI-1 液位计 Level gauge
V-13	液相液相阀 VALVE, Liquid Phase Outlet	PI-1 压力表 Pressure gauge
V-14	液体出口阀 VALVE, Liquid USE	
V-15	三通换相阀 Safety valve switch	

技术要求 Technical Requirements  
 1. 本设备质量要求<<固定式压力容器安全技术监察规程>>的要求定期检验、维护并抽真空。  
 1. The equipment shall be regularly inspected, maintained and vacuumed according to the requirements of the << Fixed Pressure Vessel Safety Technical Supervision Regulations >>  
 2. 焊接应符合NB/T 47014-2011《承压设备焊接工艺评定》、NB/T47015-2011《压力容器焊接规程》及制造厂焊接工艺的要求  
 2. welding should comply with NB/T 47014-2011《Pressure equipment welding process assessment》, NB/T47015-2011《Pressure vessel welding procedures》 and the manufacturer's welding process requirements.

流程图 ( P&ID )



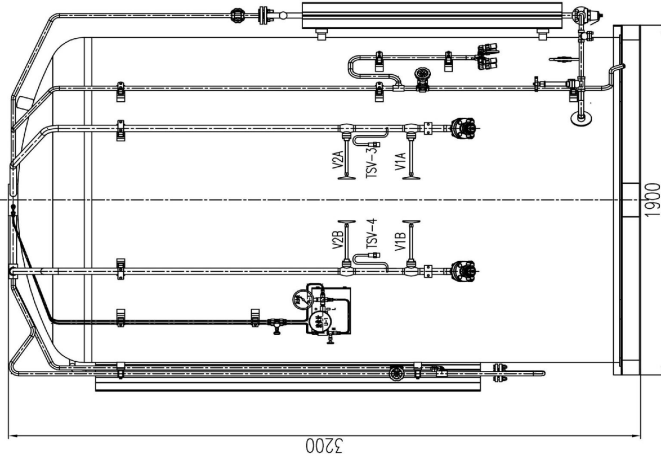
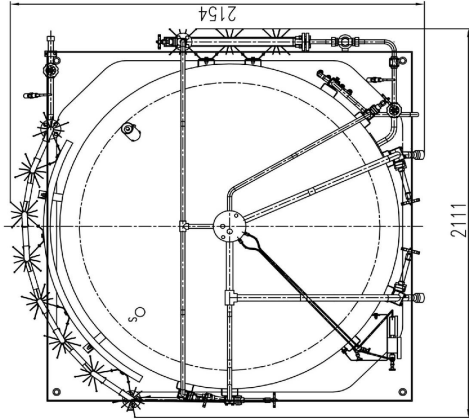
设计参数表

1	产品型号MODEL	ET5-CS
2	放置形式Tank Type	立式半截/Vertical& Flat-Bottom
3	设计标准Design Standard	TSG21. GB/T150. 参照GB/T18442-2019
4	设计压力Design Pressure (除容器INNER/夹套JACKET)	2.3MPa/-0.1MPa (INNER /JACKET)
5	夹套工作压力MAWP (除容器INNER/夹套JACKET)	2.3MPa/-0.1MPa (INNER /JACKET)
6	最低设计温度MDMT	-40℃/50℃
7	总容积Volume	4.90
8	充装率FILLING RATIO	95%
9	内筒体/封头INNER/HEAD	16MnDR GB/T3531
10	MAIN Material 外筒体/封头JACKET/HEAD	Q345R GB/T713
11	夹套介质FLUID NAME	液态二氧化碳 LC02
12	夹套保温型式Insulation Type of JACKET	真空多层缠绕高真空 multilayer winding
13	真空多层缠绕速率 leakage rate of vacuum interlayer	$\leq 1 \times 10^{-5} \text{Pa.m}^3/\text{s}$
14	静密封效率	N/A
15	出厂真空度 VACUUM DEGREE	$\leq 0.01\text{Pa}$
16	产品外形尺寸boundary dimension	见右图
17	底座尺寸(长x宽)pallet dimension(LxW)	1900mmx1900mm
18	设备空重weight	≈3.4吨
19	可充装介质重量Medium weight	液态二氧化碳 4795kg
20	可充装介质流量(PBU+WAP)	25Nm <sup>3</sup> /h+105Nm <sup>3</sup> /h
21	内筒体材料 (PIPE of inner)	S30408 GB/T14976
22	外筒体材料 (PIPE of External)	S30408 GB/T14976

管口表

管口	Function	管口	Function
A	顶部充装 Top Fill	H	溢流/安全装置 VENT&full trycock
B	底部充装Bottom Fill	K	气相 Economic
C	增压进气 PBU INLET	S	控制进气/真空接口 Dual Safety/Vacuum pumpout
D	底部出液 PBU INLET	T	真空接口Measuring vacuum
E	液相液相 Liquid Phase of level Gauge		液体出口 Liquid OUTLET
F	液相气相 Vapor Phase of level Gauge		气体出口 GAS OUTLET

俯视图 top view

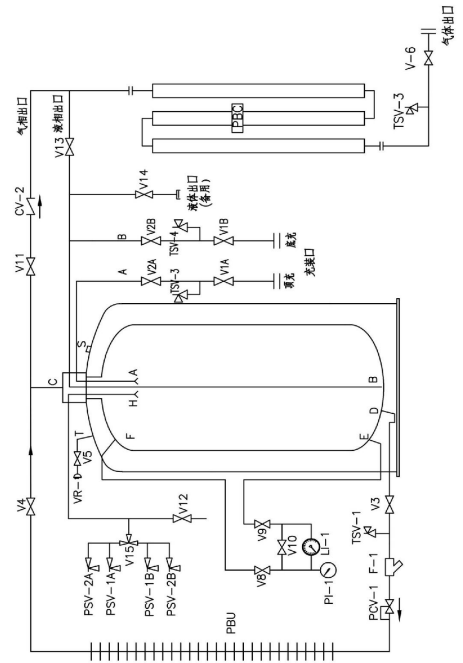


阀门表 VALVE LIST

V-1A, 2A	顶部充装阀 VALVE,Top Fill	CV-2	止回阀,气体使用 Check valve, Economic
V-1B, 2B	底部充装阀 VALVE,Bottom Fill	PBU	自增压器 PBU
V-3	底部出液阀 VALVE,PBU INLET	PBC	汽化器 VAPORIZER
V-4	增压进气阀 VALVE,PBU INLET	F-1	过滤器,自增压 Strainer valve, PBU
V-5	液相液相出口阀 VALVE,Measuring vacuum	PCV-1	增压阀 regulating valve, Booster valve
V-6	液相气相出口阀 VALVE,VAPOR OUTLET	PSV-1A	安全阀 Safety valve
V-8	液面气相阀 VALVE,Vapor Phase	PSV-1B	安全阀 Safety valve
V-9	液面液相阀 VALVE,Liquid Phase	PSV-2A	二级安全阀 Safety valve
V-10	液面平衡阀 VALVE,Equilibrate	PSV-2B	二级安全阀 Safety valve
V-11	气体使用阀 VALVE,Economic	TSV-X	管道安全阀 Safety valve (pipe)
V-12	液空阀 VALVE,VENT&full trycock	LI-1	液位计 Level gauge
V-13	液相液相阀 VALVE, Liquid Phase Outlet	PI-1	压力表 Pressure gauge
V-14	液相气相阀 VALVE, Liquid USE		
V-15	三通球阀 Safety valve switch		

技术要求 Technical Requirements  
 1. 本设备按照《固定式压力容器安全技术监察规程》的要求定期检验、维护和操作。  
 1. The equipment shall be regularly inspected, maintained and operated according to the requirements of the 《Fixed Pressure Vessel Safety Technical Supervision Regulations》.  
 2. 焊接应符合NB/T 47014-2011《承压设备焊接工艺评定》、NB/T47015-2011《压力容器无损检测》及制造厂焊接工艺规程。  
 2. welding should comply with NB/T 47014-2011《Pressure equipment welding process assessment》, NB/T47015-2011《Pressure vessel welding procedures》 and the manufacturer's welding process requirements.

流程图 (P&ID)



设计	工程名称	比例	图幅	页次	共几页
设计	低温液体贮罐	1:1.2	图幅 A1	第 1 页	共 1 页
校核					
审核					
批准					

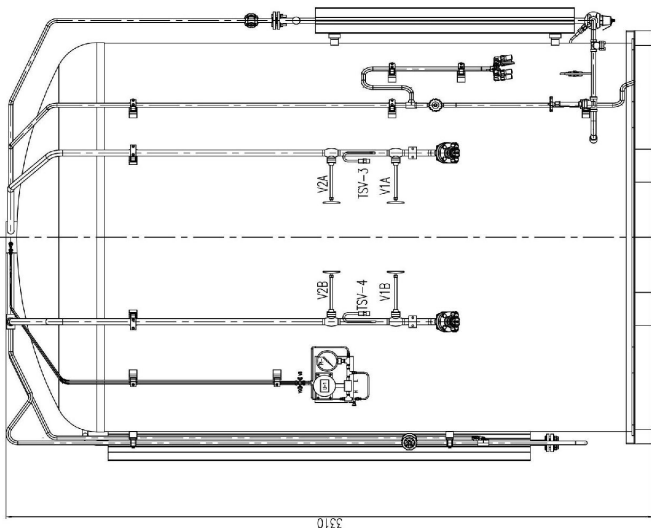
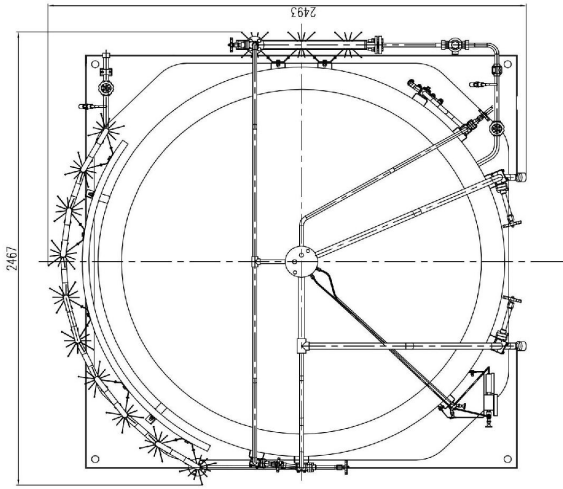
设计参数表

1	产品型号 MODEL	ET7.5-CS
2	罐型形式 Tank Type	立式单锥 Vertical& Flat-Bottom
3	设计标准 Design Standard	TS621.1, GB/T150, 参照 GB/T18442-2019
4	设计压力 Design Pressure (内筒含 INNER/夹套 JACKET)	2.3MPa/-0.1MPa (INNER /JACKET)
5	最大工作压力 MAXWP (内筒含 INNER/夹套 JACKET)	2.5MPa/-0.1MPa (INNER /JACKET)
6	最低设计温度 DMT	-40°C / 50°C
7	全容积 Volume	7.40
8	充液率 FILLING RATIO	95%
9	主材料	筒体/封头 INNER/HEAD 16MnDR GB/T3531
10	MAIN Material	外筒体/封头 JACKET/HEAD Q345R GB/T713
11	充液介质 LIQUID NAME	液态二氧化碳 LC02
12	真空保型隔热层 Insulation type of JACKET	真空多层缠绕 High vacuum multilayer winding
13	真空保型隔热层泄漏率 Leaking rate of vacuum interlayer	$\leq 1 \times 10^{-10} \text{Pa.m}^2/\text{s}$
14	静置蒸发率 NER	N/A
15	出厂真空度 VACUUM DEGREE	$\leq 0.01\text{Pa}$
16	产品外形尺寸 boundary dimension	见右图
17	底座尺寸(长x宽) base dimension(LxW)	2250mmx2250mm
18	设备自重 weight	≈5.2吨
19	可充成分重量 Medium weight	液态二氧化碳 7240kg
20	增压器+气化器 (PBU+WAP)	25Nm <sup>3</sup> /h+150Nm <sup>3</sup> /h
21	内筒壁厚材料 (PIPE of inner)	S30408 GB/T14976
22	外筒壁厚材料 (PIPE of External)	S30408 GB/T14976

管口表

管口	Function	Function
A	顶部充装 Top Fill	H 液满/安全装置 VENT&Full trycock
B	底部充装 Bottom Fill	K 气相 Economic
C	增压进气 PBU OUTLET	S 安全装置/增压器 Dual Safety/Vacuum pumpout
D	底部出液 PBU INLET	T 测量空口 Measuring vacuum
E	液相空口 Liquid Phase of level Gauge	液体出口 Liquid OUTLET
F	气相空口 Vapor Phase of level Gauge	气体出口 GAS OUTLET

俯视图 top view

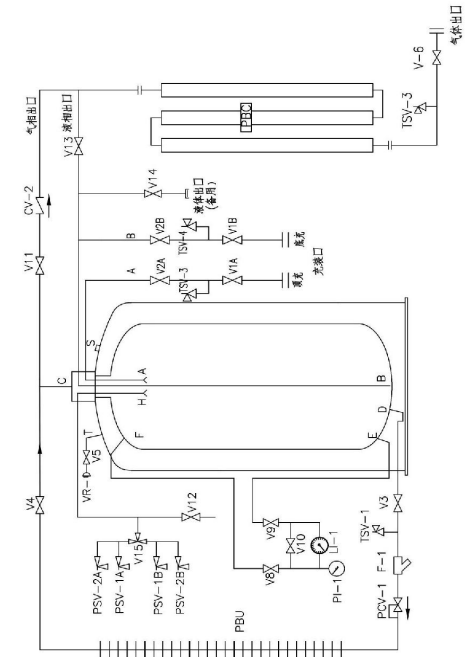


阀门表 VALVE LIST

V-1A	2A 顶部充装阀 VALVE, Top Fill	上部进气快开 Check valve, Economic
V-1B	2B 底部出液阀 VALVE, Bottom Fill	自增压器 PBU
V-3	底部出液阀 VALVE, PBU INLET	汽化器 VAPORIZER
V-4	增压器出口阀 VALVE, PBU OUTLET	PBC
V-5	液相截止阀 VALVE, Measuring vacuum	F-1 过滤器, 自增压 Strainer valve, PBU
V-6	气体出口阀 VALVE, VAPOR OUTLET	PSV-1A 安全阀 Safety valve
V-8	液面气相阀 VALVE, Vapor Phase	PSV-1B 安全阀 Safety valve
V-9	液面液相阀 VALVE, Liquid Phase	PSV-2A 安全阀 Safety valve
V-10	液面平衡阀 VALVE, Equilibrate	PSV-2B 安全阀 Safety valve
V-11	气体控制阀 VALVE, Economic	TSV-X 管道安全阀 Safety valve (pipe)
V-12	真空阀 VALVE, VENT&Full trycock	LI-1 液位计 Level gauge
V-13	液相截止阀 VALVE, Liquid Phase Outlet	PI-1 压力表 Pressure gauge
V-14	液体出口阀 VALVE, Liquid USE	
V-15	三通截止阀 Safety valve switch	

技术要求 Technical Requirements  
 1. 本设备应遵循《固定式压力容器安全技术监察规程》的要求进行设计、制造和检验。  
 2. 焊接应符合 NB/T 47014-2011《承压设备焊接工艺评定》、NB/T 47015-2011《承压设备焊接工艺评定》及《承压设备焊接工艺评定规程》的要求。  
 3. 本设备应定期进行检验、维护和校准，并符合《固定式压力容器安全技术监察规程》的要求。  
 4. 本设备应符合 NB/T 47014-2011《承压设备焊接工艺评定》、NB/T 47015-2011《承压设备焊接工艺评定》及《承压设备焊接工艺评定规程》的要求。

流程图 (P&ID)



设计	二套名称	比例	图号	图次	共几页
校核	低温液体贮罐	1:12	图 罐	A1	第 1 页
审核					
批准					



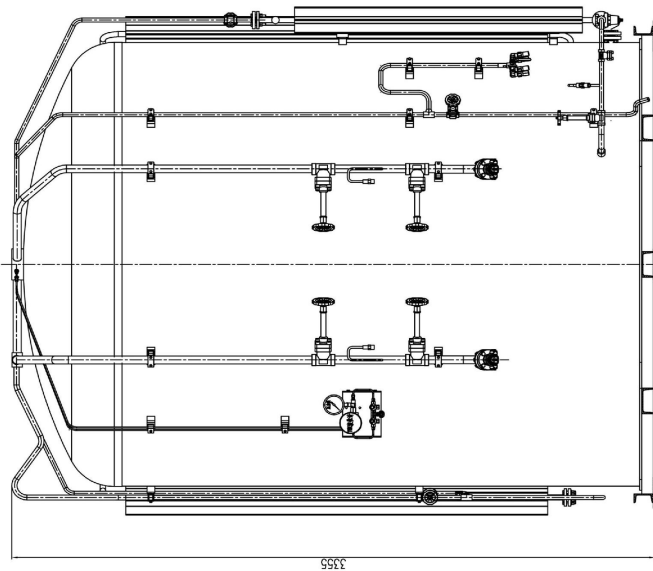
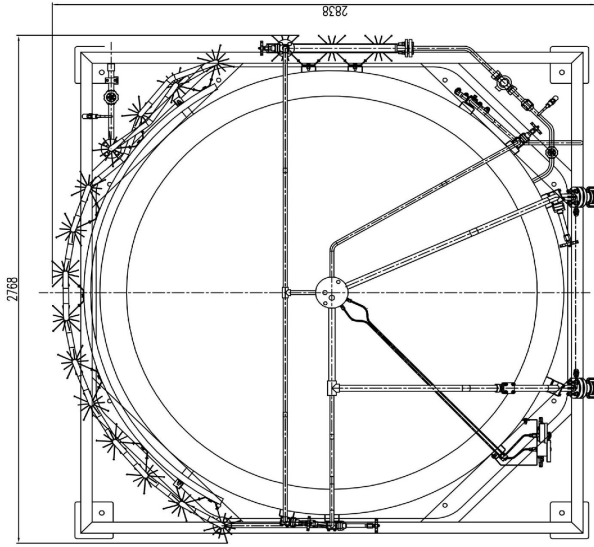
设计参数表

1	产品型号MODEL	ET10-CS
2	罐型形式Tank Type	立式单臂Vertical& Flat-Bottom
3	设计标准Design Standard	TSG21-GB/T150-GB/T18442-2019
4	设计压力Design Pressure (内筒器INNER/外套JACKET)	2.3MPa/-0.1MPa( INNER /JACKET)
5	最大工作压力MAWP (内筒器INNER/外套JACKET)	2.3MPa/-0.1MPa( INNER /JACKET)
6	最低设计温度MDMT	-196℃/50℃
7	全容积Volume	9.80
8	充装率FILLING RATIO	95%
9	主供材料	内筒体/裙头INNER /HEAD 16MnDR GB/T3531 外套筒/裙头JACKET/HEAD Q345R GB/T7173
10	MAIN Material	内筒体/裙头INNER /HEAD 16MnDR GB/T3531 外套筒/裙头JACKET/HEAD Q345R GB/T7173
11	充装介质FLUID NAME	液态二氧化碳(LCO2)
12	充装保温或隔热型式Insulation type of JACKET	聚氨酯发泡层High vacuum multilayer winding
13	真空泄漏率Leakage rate of vacuum interlayer	$\leq 1 \times 10^{-4} \text{Pa.m}^3/\text{s}$
14	真空度率 (液氮) NER (LIN)	N/A
15	出厂真空度 VACUUM DEGREE	$\leq 0.01\text{Pa}$
16	产品外形尺寸boundary dimension	见右图
17	底座尺寸(长x宽)xpallet dimension(LxW)	2600mmx2600mm
18	设备空重 weight	ET10s 6.3吨
19	可充装介质重量Medium weight	液态二氧化碳 9590kg
20	增压器+汽化器 (PBU+VAP)	30Nm <sup>3</sup> /h+200Nm <sup>3</sup> /h
21	内筒器材料 ( PIPE of inner )	S30408 GB/T14976
22	外套筒器材料 ( PIPE of External)	S30408 GB/T14976

管口表

管口	Function	管口	Function
A	顶部充装 Top Fill	H	溢流/安全装置 VENT&Full trycock
B	底部充装Bottom Fill	K	气相 Economic
C	增压器气 PBU OUTLET	S	安全装置/海空出口 Dual Safety/Vacuum pumpout
D	底部出液 PBU INLET	T	测量空口Measuring vacuum
E	液体液相 Liquid Phase of level Gauge		液体出口 Liquid OUTLET
F	投料气相 Vapor Phase of level Gauge		气体出口 GAS OUTLET

俯视图top view



阀门表 VALVE LIST

V-1A, 2A	顶部充装阀 VALVE Top Fill	CV-2	止回阀 气体专用 Check valve, Economic
V-1B, 2B	底部充装阀 VALVE Bottom Fill	PBU	增压器 PBU
V-3	底部出液阀 VALVE PBU INLET	PBC	汽化器 VAPORIZER
V-4	增压器出口阀 VALVE PBU OUTLET	F-1	过滤器, 自增压 Strainer valve, Booster valve
V-5	液体出口阀 VALVE MEASURING VACUUM	PCV-1	增压阀 regulating valve, Safety valve
V-6	气体出口阀 VALVE VAPOR OUTLET	PSV-1A	安全阀 Safety valve
V-8	液面计气相阀 VALVE VAPOR Phase	PSV-1B	安全阀 Safety valve
V-9	液面计液相阀 VALVE LIQUID Phase	PSV-2A	二级安全阀 Safety valve
V-10	液面计平衡阀 VALVE Equilibrate	PSV-2B	二级安全阀 Safety valve
V-11	气体专用阀 VALVE Economic	TSV-X	管理安全阀 Safety valve (pipe)
V-12	放空阀 VALVE VENT&Full trycock	L-1	液位计 Level gauge
V-13	液相取样阀 VALVE Liquid Phase Outlet	PI-1	压力表 Pressure gauge
V-14	液体出口阀 VALVE Liquid USE		
V-15	三通球阀 Safety valve switch		

技术要求 Technical Requirements

1. 本设备应依据《固定式压力容器安全技术监察规程》的要求定期检验、维护并抽真空。  
The equipment shall be regularly inspected, maintained and vacuumed according to the requirements of the << Fixed Pressure Vessel Safety Technical Supervision Regulations >>
2. 焊接应符合NB/T 47014-2011《承压设备焊接工艺评定》、NB/T 47015-2011《压力容器焊接规程》及制造厂焊接工艺的要求。  
welding should comply with NB/T 47014-2011《Pressure equipment welding process assessment》, NB/T 47015-2011《Pressure vessel welding procedures》 and the manufacturer's welding process requirements.

流程图 (P&ID)

