

COMPLETE BREWHOUSE ITEMS



MAY 2023

COMPLETE COMMERCIAL BREWHOUSE

ITEM	QUANTITY
1000L Two Vessel/HLT Brewhouse	x 1 (Including All Associated Equipment)
500L Fermentation Tank/Unitank (673L Gross Volume)	x 2
1000L Fermentation Tank/Unitank (+25% Headspace minimum)	x 3
2000L Fermentation Tank/Unitank (+25% Headspace minimum)	x 2
2000L Fermentation Tank/Unitank (2662L Gross Volume)	x 3
2000L Bright Beer Tank (+20% Headspace minimum)	x 1
2000L Beer Bright Tank (2720L Gross Volume)	x 1
Glycol Chilling Unit. [1000L GWT+2000L CLT+2x5HP Chiller]	x 1 (Including All Accessories)
200L Portable CIP Cart [Two Tanks], x1 heated, x1 ambient	x 1 (Including All Accessories)
2-Station 2-Tank Semi-Auto Keg Rinser	x 1 (Including All Accessories)
Brewery Instrument Control Cabinet	x 1
Fermentation Instrument Control Cabinet	x 2
Flexible Auger	x 1
900L Grist Silo	x 1
Grain Milling Unit [300~500kg/hr]	x 1
Dixon sanitary food hoses	x 6
Pall Lenticular Filter Housing	x 1

1000L Two Vessel/HLT Brewhouse

1000L Lauter Tun

- Function: Grain Lautering and sparging
- Tank Capacity: 1000L (+25% Headspace minimum)
- Dimension: $\Phi 1460\text{mm} \times 2600\text{mm}$
- Interior Shell: SUS304 full welded; TH=3mm
- Exterior Shell: SUS304 full welded; TH=2mm
- Inside polishing to 0.4~0.6 μm without dead corner
- Insulation: Rock wool; TH=80mm
- Dished top and conical bottom
- Grain rake with Danfoss VFD controlled 2.2KW ABB motor and turbine reducer on top of tank
- Spent grain dozer manual lifted
- Top mounted Glass manhole door
- Side mounted grain out door with grain chute
- Top mounted 360° coverage CIP spraying ball and port TC
- Easyclean and detachable sparging spray ring and port TC on top
- Wort circulation inlet TC on top
- With lamp
- Stainless steel laser cutting False Bottom/Filter
- Wort outlet TC
- Thermowell for high accuracy temperature sensor
- 4pcs completely SUS304 heavy duty legs with leveling pad



1000L Mash/Kettle/Whirlpool Tun

- Function: Grain mashing, Wort boiling, hopping and whirlpool
- Tank Capacity: 1000L (+30% Headspace minimum)
- Dimension: $\Phi 1460\text{mm} \times 2720\text{mm}$
- Interior Shell: SUS304 full welded; TH=3mm
- Exterior Shell: SUS304 full welded; TH=2mm
- Dish head: SUS304 full welded; TH=3mm
- Inside polishing to 0.4~0.6 μm without dead corner
- Insulation: Rock wool; TH=80mm
- Heating: direct fire heating with firebox
- Agitator with Danfoss VFD controlled 1.5KW ABB motor and turbine reducer on top of tank
- Dished top and conical bottom
- Top mounted Glass manhole door
- Top mounted 360° coverage CIP spraying ball and port TC
- Glass liquid level c/w sample valve
- Steam condenser with spray nozzles
- Thermowell for high accuracy temperature sensor
- Wort inlet TC on top
- Side tangential whirlpool inlet TC
- Wort outlet TC on side of the bottom cone
- With lamp
- Discharge port TC and arm with butterfly valve
- 4pcs completely SUS304 heavy duty legs with leveling pad



2000L Hot Liquor Tank

- Function: Hot water supply for mashing, sparging, cleaning
- Tank Capacity: 2000L (+15% Headspace minimum)
- Dimension: $\Phi 1460 \times 2900$ mm
- Interior Shell: SUS304 full welded; TH=3mm
- Exterior Shell: SUS304 full welded; TH=2mm
- Inside polishing to 0.4~0.6 μm without dead corner
- Insulation: Rock wool; TH=80mm
- Heating: direct fire heating with firebox
- Conical top and conical bottom
- Stainless steel top mounted manhole and door
- Top mounted 360° coverage CIP spraying ball and port TC
- Glass liquid level c/w sample valve
- Thermowell for high accuracy temperature sensor
- Recovery water inlet TC
- Water injection inlet TC with end cap
- Overflow port TC
- Discharge port TC and arm
- 4pcs completely SUS304 heavy duty legs with leveling pad



4-Sanitary Wort and Hot /Cold Water Transfer pump

- Model: SFB5-1.5 -140
- Flow 5m³/h, lift 24m
- Sanitary SUS304
- Capacity: 5000L/h
- Power: 1.5KW, motor Brand is ABB, TEFC Motor (totally enclosed, fan cooled), with CE certification
- open impeller
- Inlet $\Phi 51$, outlet $\Phi 38$, tri-clamp quick-installed
- Voltage: 380V/3phase/50HZ
- With heat dissipation channel
- Hard pipings: Sanitary SUS304; Self-draining
- Complete valves, fittings and all parts
- Brand: Liyang Sifang



Sanitary transfer configuration

- Inline sight glass for checking wort clarity and color
- 15 meter sanitary reinforced brewery hose with TC adaptors
- Every weld to a smooth sanitary finish
- Stainless steel pneumatic valve connect brewhouse pipeline.
- NOTE: Hoses have wear and tear from regular use.

1000L Two Vessel/HLT Brewhouse (cont.)

Work Platform

- Non Slip design
- Material is SUS304
- Match the brewhouse and HLT structure
- Integrated and evenly height stairs or ladder
- Platform can be detachable
- the leg with adjustable bolt and base plate
- The distance between platform and tank is 10mm, and with 50mm height baffle
- With controller bracket on the platform, in order to place controller.
- Grate platform



10M2 Heat Exchanger

- Function: Wort cooling
- Single stages for cold water
- BR0.1/ 10m²
- Design Structure: Suspension type
- screw material is SUS304, nut material is brass
- Stainless steel 304 material
- Design pressure:1.0 Mpa;
- Working temperature:140°.
- Wort inlet and outlet diameter is $\varphi 38$
- Cold water inlet and outlet diameter is $\varphi 38$



IFM flow meter

- Position: one is on cold and hot water mix, one is for circulation process of lauter tun, one is on the heat exchanger.
- Flow:6M3/h
- U:10-30V DC
- Out:200mA



500L Fermentation Tank/Unitank (673L Gross Volume)

- Tank Capacity: 500L (+25% Headspace minimum)
- Dimension: $\Phi 960 \times 2400$ mm
- Interior Shell: SUS304 full welded; TH=3mm
- Exterior Shell: SUS304 full welded; TH=2mm
- Dish head: SUS304 full welded; TH=3mm
- Inner Cone: SUS304 full welded; TH=3mm
- Insulated with high density Polyurethane foam; TH=80mm
- Glycol Jacket: Dimpled plate on cone and side
- Stringent tank leakage test by water and pressured gas
- Stringent Jacket leakage test by water and pressured gas
- Dished head and 60 degree cone bottom
- Sanitary top mounted $\phi 400$ mm flange manway
- TC connected CIP arm with 360° coverage spraying ball
- CO2 blow-off arm with butterfly valve
- Two sample ports with sterile sampling valves, the size of one port is $\phi 25$ mm, another $\phi 38$ mm.
- Spunding valve on CO2 blow-off arm
- Diaphragm pressure gauge on CO2 blow-off arm
- Rotating racking arm and port on cone with butterfly valve
- Tri clamp discharge arm with butterfly valve
- Thermowell for high accuracy temperature sensor
- 3pcs completely SUS304 heavy duty legs with leveling pad and legs support
- Complete valves, fittings and all parts
- Dry hopping port 4" TC with solid end cap on the manway
- Two-way safety valve on the top of tank



1000L Fermentation Tank/Unitank (+25% Headspace minimum)

- Tank Capacity: 1000L (+25% Headspace minimum)
- Dimension: $\Phi 1060 \times 3200$ mm
- Interior Shell: SUS304 full welded; TH=3mm
- Exterior Shell: SUS304 full welded; TH=2mm
- Dish head: SUS304 full welded; TH=4mm
- Inner Cone: SUS304 full welded; TH=3mm
- Interior full polished to 0.4-0.6 μm without dead corner
- Insulated with high density Polyurethane foam; TH=80mm
- Glycol Jacket: Dimpled plate on cone and side
- Stringent tank leakage test by water and pressured gas
- Stringent Jacket leakage test by water and pressured gas
- Dished head and 60 degree cone bottom
- Sanitary side mounted manway with pressured door
- TC connected CIP arm with 360° coverage spraying ball
- CO2 blow-off arm with butterfly valve
- Full sanitary metallic sealed sampling valve
- Spunding valve on CO2 blow-off arm
- Hydraulic shock pressure gauge on CO2 blow-off arm
- Rotating racking arm and port on cone with butterfly valve
- Tri clamp discharge arm with butterfly valve
- Thermowell for high accuracy temperature sensor
- 4pcs completely SUS304 heavy duty legs with leveling pad and legs support
- Complete valves, fittings and all parts
- Dry hopping port 4" TC with solid end cap
- PVRV on the top of tank
- NOTE: Some damaged racking arms from regular use.



Fermentation Tank/Unitanks

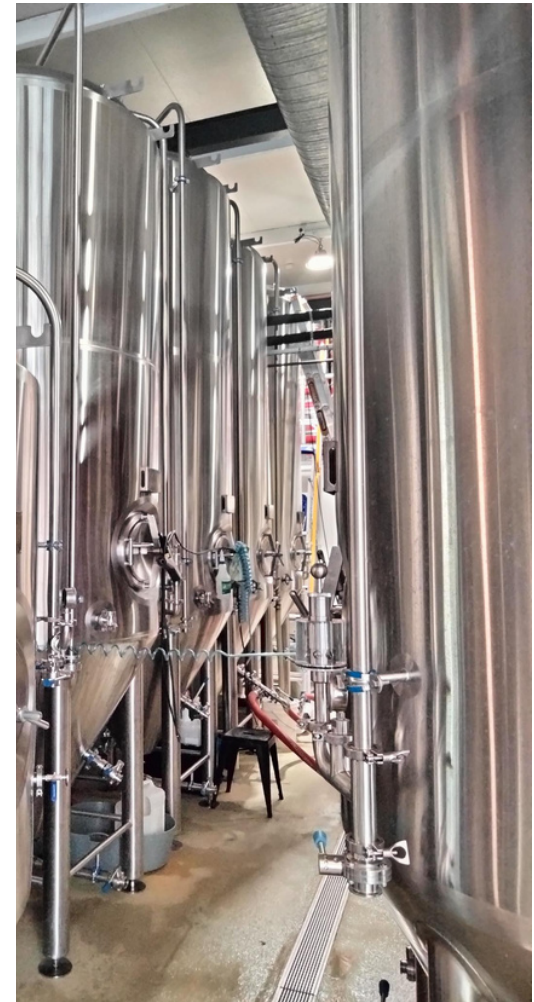
2000L Fermentation Tank /Unitank (+25% Headspace minimum)

- Tank Capacity: 2000L (+25% Headspace minimum)
- Dimension: $\Phi 1600 \times 3300$ mm
- Interior Shell: SUS304 full welded; TH=3mm
- Exterior Shell: SUS304 full welded; TH=2mm
- Dish head: SUS304 full welded; TH=5mm
- Inner Cone: SUS304 full welded; TH=3mm
- Interior full polished to 0.4~0.6 μm without dead corner
- Insulated with high density Polyurethane foam; TH=100mm
- Glycol Jacket: Dimpled plate on cone and side
- Stringent tank leakage test by water and pressured gas
- Stringent Jacket leakage test by water and pressured gas
- Dished head and 60 degree cone bottom
- Sanitary side mounted $\phi 340 \times 440$ mm manway
- TC connected CIP arm with 360° coverage spraying ball
- CO2 blow-off arm with butterfly valve
- Full sanitary metallic sealed sampling valve
- Spunding valve on CO2 blow-off arm
- Diaphragm pressure gauge on CO2 blow-off arm
- Rotating racking arm and port on cone with butterfly valve
- Tri clamp discharge arm with butterfly valve
- Thermowell for high accuracy temperature sensor
- 4pcs completely SUS304 heavy duty legs with leveling pad and legs support
- Complete valves, fittings and all parts
- Dry hopping port 6" TC with solid end cap
- Two-way safety valve on the top of tank



2000L Fermentation Tank/Unitank (2662L Gross Volume)

- Function: Wort Fermentation or maturation
- Tank Capacity: 2000L (+25% Headspace minimum)
- Dimension: $\Phi 1210 \text{mm} \times 4250$ mm
- Interior Shell: SUS304 full welded; TH=3mm
- Exterior Shell: SUS304 full welded; TH=2mm
- Dish head: SUS304 full welded; TH=5mm
- Inner cone: SUS304 full welded; TH=3mm
- Interior full polished to 0.4~0.6 μm without dead corner
- Insulated with high density Polyurethane foam; TH=100mm
- Glycol Jacket: Dimpled plate on cone and side
- Stringent tank leakage test by water and pressured gas
- Stringent Jacket leakage test by water and pressured gas
- Dished head and 60 degree cone bottom
- Sanitary side mounted manway with pressured door
- TC connected CIP arm with 360° coverage spraying ball
- CO2 blow-off arm with butterfly valve
- Full sanitary metallic sealed sampling valve
- Spunding valve on CO2 blow-off arm
- Hydraulic shock pressure gauge on CO2 blow-off arm
- Rotating racking arm and port on cone with butterfly valve
- Tri clamp discharge arm with butterfly valve
- Thermowell for high accuracy temperature sensor
- 4pcs completely SUS304 heavy duty legs with leveling pad and legs support
- Complete valves, fittings and all parts
- Dry hopping port 4" TC with solid end cap
- PVRV on the top of tank



Bright Beer Tanks

2000L Bright Beer Tank (+20% Headspace minimum)

- Function: Beer maturation/conditioning/serving/filtered beer receiving
- Design Pressure: 0.25 Mpa
- Working Pressure: 0.15 Mpa
- Tank Capacity: 2000L (+20% Headspace minimum)
- Dimension: $\Phi 1600 \times 2500$ mm
- Interior Shell: SUS304 full welded; TH=3mm
- Exterior Shell: SUS304 full welded; TH=2mm
- Double Dish head: SUS304 full welded; TH=5mm
- Interior full polished to 0.4~0.6 μm without dead corner
- Insulated with high density Polyurethane foam; TH=100mm
- Glycol Jacket: Dimple plate on side wall
- Stringent tank leakage test by water and pressured gas
- Stringent Jacket leakage test by water and pressured gas
- Dished head and bottom
- Sanitary side mounted $\phi 340 \times 440$ mm manway
- TC connected CIP arm with 360° coverage spraying ball
- Full sanitary metallic sealed sampling valve
- PVRV 2 bar on CIP arm
- Mechanical safe valve on the top of tank
- Carbonation port TC with stone
- Hydraulic shock pressure gauge on CIP arm
- Tri clamp discharge arm with butterfly valve
- Thermowell for high accuracy temperature sensor
- 4pcs completely SUS304 heavy duty legs with leveling pad
- With PU liquid level sight tube
- Complete valves, fittings and all parts



2000L Beer Bright Tank (2720L Gross Volume)

- Function: Beer maturation/conditioning/ serving/filtered beer receiving
- Tank Capacity: 2000L (+20% Headspace minimum)
- Dimension: $\Phi 1600 \text{mm} \times 2550 \text{mm}$
- Interior Shell: SUS304 full welded; TH=3mm
- Exterior Shell: SUS304 full welded; TH=2mm
- Double Dish head: SUS304 full welded; TH=5mm
- Interior full polished to 0.4~0.6 μm without dead corner
- Insulated with high density Polyurethane foam; TH=100mm
- Glycol Jacket: Dimple plate on side wall
- Stringent tank leakage test by water and pressured gas
- Stringent Jacket leakage test by water and pressured gas
- Dished head and bottom
- Sanitary side mounted manway with pressured door
- TC connected CIP arm with 360° coverage spraying ball
- Full sanitary metallic sealed sampling valve
- PVRV 2 bar on CIP arm
- Mechanical safe valve on the top of tank
- Carbonation port TC with stone
- Hydraulic shock pressure gauge on CIP arm
- Tri clamp discharge arm with butterfly valve
- Thermowell for high accuracy temperature sensor
- 4pcs completely SUS304 heavy duty legs with leveling pad
- With glass liquid level
- Complete valves, fittings and all parts



Glycol Chilling Unit

[1000L GWT+2000L CLT+2x5HP Chiller]

1000L Glycol Water Tank

- Function: Glycol water supply for wort cooling and fermentation cooling
- Tank Capacity: 1000L (+15% Headspace minimum)
- Dimension: $\Phi 1260 \times 2100$ mm
- Interior Shell: SUS304 full welded; TH=3mm
- Exterior Shell: SUS304 full welded; TH=2mm
- Interior full polished to 0.4~0.6 μ m without dead corner
- Insulated with high density Polyurethane foam; TH=80mm
- Stringent tank leakage test by water
- Insulated conical top and bottom
- Top mounted stainless steel manway with door
- Thermowell for high accuracy temperature sensor
- Glass liquid level c/w sample valve
- Discharge arm with butterfly valve
- 4pcs completely SUS304 heavy duty legs with leveling pad
- Glycol water inlet and outlet



2000L Cold Liquor Tank

- Function: Cold water supply for wort cooling
- Tank Capacity: 2000L (+10% Headspace minimum)
- Dimension: $\Phi 1460 \times 2650$ mm
- Interior Shell: SUS304 full welded; TH=3mm
- Exterior Shell: SUS304 full welded; TH=2mm
- Insulated with high density Polyurethane foam; TH=80mm
- Glycol Jacket: Dimple plate on bottom and side
- Conical top and conical bottom
- Stainless steel top mounted manhole and door
- Top mounted 360° coverage CIP spraying ball and port TC
- Glass liquid level c/w sample valve
- Thermowell for high accuracy temperature sensor
- Recovery water inlet TC
- Water injection inlet TC with end cap
- Overflow port TC
- Discharge port TC and arm with butterfly valve
- 4pcs completely SUS304 heavy duty legs with leveling pad



Glycol Water Transfer

- Function: Glycol water and cold water circulation
- Flow 3m³/h, lift 18m
- Sanitary SUS304
- Capacity: 3000L/h
- Power: 0.75KW, motor Brand is Fangli
- open impeller
- Inlet $\Phi 38$, outlet $\Phi 38$, tri-clamp quick-installed
- Voltage: 380V/3phase/50HZ
- With heat dissipation channel



Glycol Chilling Unit

[1000L GWT+2000L CLT+2x5HP Chiller]

5P Glycol Water Chiller

- Model: CA-5L
- Refrigerating capacity: 6364Kcal/h,(7.4KW)
- Input power: 4.86KW
- Voltage: 380V/3Phases/50HZ;
- Refrigerant: R407;
- Controlling way: External balance thermostatic expansion valve;
- Compressor type: Hermetic Scroll type (Piston);
- Power: 3.75KW;
- Condenser type: High efficient finned copper tube+ low noise outer rotor fan;
- Air flow rate of condenser: 5000m³/h;
- Evaporator: Plate heat exchanger;
- Chilled fluid flow: 2.22m³/h;
- Inlet/outlet pipe caliber: 1";
- Water pump power: 0.75KW; Lift: 20m;
- Protection: Compressor overheating, over current, high and low pressure, over temperature, flow switch, phase sequence, phase-missing, exhaust overheating, anti-freezing;
- Compressor with CE certification
- Weight: 175KG;
- Dimension: 1140×560×1040mm;
- Brand: COOLSOON brand



200L Portable CIP Cart [Two Tanks]

200L Caustic Tank

- Function: Caustic liquid heating and mixing
- Tank Capacity: 200L
- Dimension: $\Phi 1600 \times 700 \times 1550$ mm
- Shell: SUS304 full welded; TH=2.0mm
- Single wall without insulation
- Exterior Finish: Oil brushed finish
- Interior full polished to 0.4~0.6 μm without dead corner
- Heating: Electric heating with 8Kw
- IFM level sensor, in order prevent heating without water
- Cone top and bottom
- Top mounted stainless steel manhole with end cap
- temperature probe (PT100) on side wall



200L Sterilization Tank

- Function: Sterilization liquid mixing
- Tank Capacity: 200L
- Dimension: $\Phi 1600 \times 700 \times 1550$ mm
- Shell: SUS304 full welded; TH=2.0mm
- Exterior Finish: Oil brushed finish
- Interior full polished to 0.4~0.6 μm without dead corner
- Single wall without insulation
- Cone top and bottom
- Top mounted stainless steel manhole with end cap

Liquid Transfer

- Flow 5m³/h, lift is 24m
- Inlet $\phi 38$, outlet $\phi 38$
- Stainless steel; power is 1.5kW
- Complete circulation piping and fittings
- semi-open impeller
- Brand: Liyang Sifang



CIP Controlling Cabinet

- Function: CIP controlling
- Cabinet Material: stainless steel
- Assembling Style: hanging
- Electrical Components: World wide brand CE certificated
- CIP pump on/off
- Temperature can be showed on controller
- IFM level sensor for anti dry-burner



Miscellaneous Equipment

Brewery PLC Control Carbinet

- Function: Brewhouse controlling
- Cabinet Material: SUS304
- PLC Siemens S7-200 Control System
- Siemens touch screen display
- Assembling Style: on the brewhouse platform
- Electrical Components: World wide brand CE certification
- Show and control the temperature of the Brewhouse, hot water tank, cold water tank
- Brewhouse pump, hot water pump, cold water pump and valves are actuated from control panel
- With 5pcs VFD, one pcs works for raker, one pcs works for agitator, one pcs works for one wort pumps, one pcs works for hot liquor pump, one pcs works for cold liquor pump
- No automation (recipe) control
- VFD brand is Danfoss
- Low-voltage electrical brand is Schneider



Fermentation PLC control panel x 2

- Function: Brewery controlling
- Cabinet Material: SUS304
- PLC Siemens S7-200 Control System
- Siemens touch screen display
- Assembling Style: Floor Type/Wall hanging
- Electrical Components: World wide brand CE certification
- Show and control the temperature of Fermenters, BBTs and glycol water tank.
- glycol water pumps and solenoid valves are actuated from control panel
- No automation (recipe) control
- Low-voltage electrical brand is Schneider



2-Station 2-Tank Semi-Auto Keg Rinsers

- Function: Keg rinsing
- Water Tanks: 2 Tanks (water tank+caustic tank)
- Washing capacity : 40-60 Kegs/Hour
- Applicable kegs: 5L-60L (Keg with Diameter 250-500mm Height 360-600mm)
- Power: Electric heating: 18kw, Steam heating: 3Kw
- Washing Method: Invert Washing
- Automatically Washing, Sterilizing(steam heating), and CO2 pressure preparation
- These parts with CE certificate :
- Siemens PLC&Touch screen, Water Pump, Heating element(if electric heating), Low-voltage Apparatus
- Weight: 450kg
- Dimensions: 1220*1640*2220mm



Miscellaneous Equipment

Flexible Auger

- Function: conveyor the malt from miller to mash tun
- Material is stainless steel;
- Filling height is based on the brewhouse height
- Filling ability: 1.0-1.5T/h;
- PVC pipe
- ABB Motor
- 380V/3phase/50HZ

Auger controller

- Control the malt miller on / off
- Adjust the rate of auger transfer machine
- Achieve the positive and negative rotation of auger transfer machine
- Prevent the grain leave over the auger transfer machine



Grain Milling Unit [300~500kg/hr]

- Function: Holding milled malted on top of mash tun
- Tank Capacity: 900L
- Shell: SUS304 full welded; TH=2mm
- Top mounted manway with stainless steel door
- 3pcs completely SUS304 support legs on top of tank



900L Grist Silo

- Function: Holding milled malted on top of mash tun
- Tank Capacity: 900L
- Shell: SUS304 full welded; TH=2mm
- Top mounted manway with stainless steel door
- 3pcs completely SUS304 support legs on top of tank



Dixon sanitary food hoses x6

- Sanitary food hoses are used to transfer water, mash, wort, beer, cleaning fluids and sanitisers around the brewery

Pall Lenticular Filter Housing

- This device is used to hold filter cartridges while filtering beer from one tank to another (typically from a fermentation tank to a bright beer tank). Filtration process is used in some beers to polish and remove yeast or protein haze.

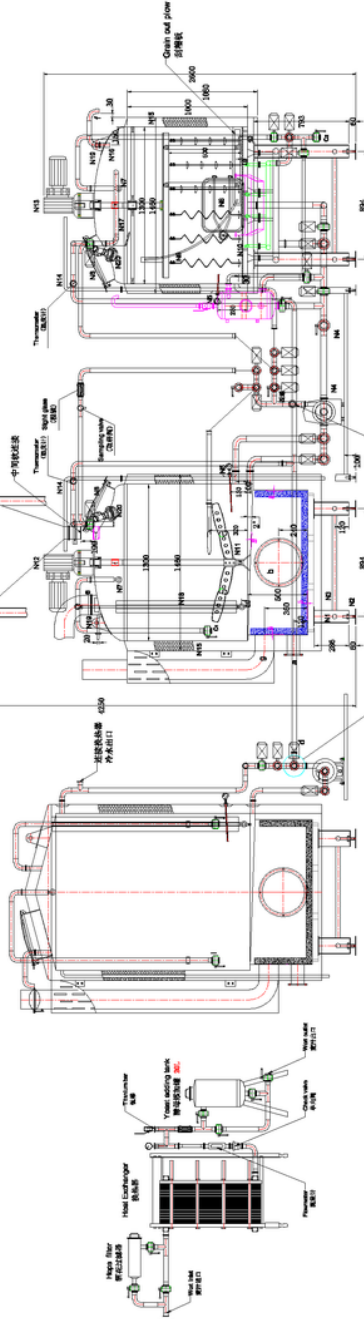
报价图纸	
Drawing number	02RH0100520
版本	R0
设计师	高玉芹 (Lucy)
技术员	
审核员	
验证员	

10HL (室内排气)

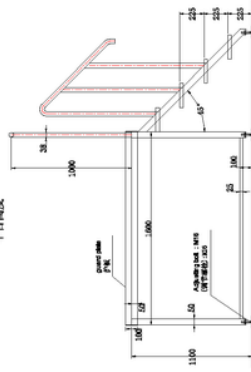
Hot water tank
热水罐

Mash/kettle/whirlpool tank
糖化/煮沸/旋沉罐

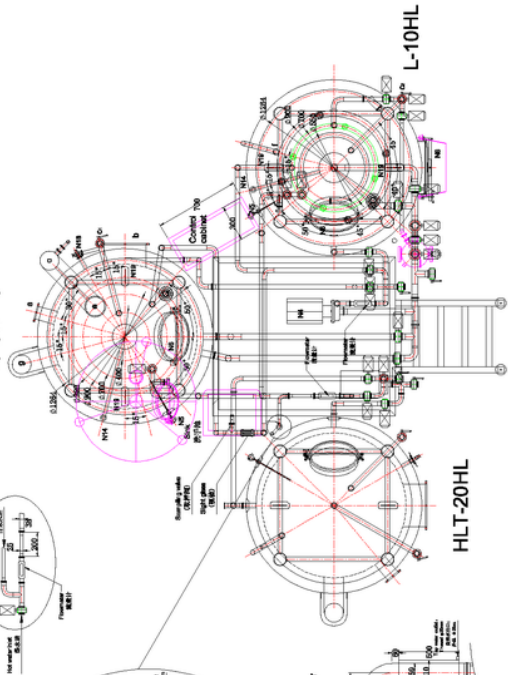
Lauter tank
过滤罐



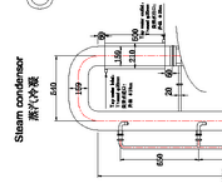
A-A
Height of platform
平台高度



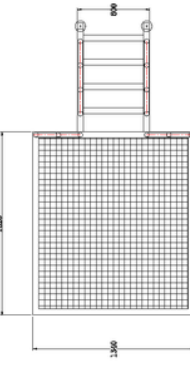
M/KW-10HL



HLT-20HL



Steam condenser
蒸汽冷凝器



L-10HL



N20	Lamp light (投灯)	Thread (螺纹)	Ø89mm	2	/	SUS304
N19	Hoisting ring (吊环)	Welding (焊接)	/	4	/	SUS304
N18	Level gauge (液位计)	Clamp (卡箍)	Ø38mm	1	/	SUS304
N17	Spraying ring (环管喷淋)	Welding (焊接)	/	2	/	SUS304
N16	Dished head (碟形封头)	Thermal insulation layer (保温层)	80mm	/	/	Rockwool
N15	Thermal insulation layer (保温层)	Clamp (卡箍)	Ø25mm	2	/	SUS304
N14	Spool (穿线管)	Flange (法兰)	2.2kw/59	1	/	Assembly
N13	Rake knife motor (耙刀电机)	Flange (法兰)	1.5kw/23	1	/	Assembly
N12	Agitator motor (搅拌电机)	Flange (法兰)				

Technical Standards (技术标准):

- 罐体焊缝应保证平齐，不得有凹凸棱角及划痕。The welding line should be smooth and tidy, concave & convex edges and scratches are not allowed.
- 焊缝抛光到Ra小于等于0.6微米。The polishing accuracy of welding line should be ≤0.6µm

Technical Parameters (技术参数)

Material (材质)	Interior (内胆)	Exterior (外胆)
Storage liquid (储存介质)	SUS304	SUS304
Working pressure (工作压力) Mpa	Wort (麦汁)	
Tank size (罐尺寸) mm	Ordinary pressure (常压)	
Quantity (数量)	Ø1460*2600	
Heating method (加热方式)	1	
Insulation material (保温材料)	Direct fire heating (直火加热)	
Insulation thickness (保温层厚度) mm	Rockwool (岩棉)	
Outer tank thickness (外胆厚度) mm	80	
Inner tank thickness (内胆厚度) mm	2.0	
Cover tank thickness (封头厚度) mm	3.0	
Cone angle (锥角)	3.0	
Effective volume (有效容积) HL	150°/2°	
Total volume (总容积) HL	10	
	> 12.5	

Table of pipe connection (管口表)

NO. (序号)	Size (尺寸)	Purpose (用途)	Connecting style (连接方式)
a	Ø102	Burner interface (燃烧器接口)	Flange (法兰)
b	Ø350	Check hole (观察口)	Flange (法兰)
c-2	Ø38*1.5	CIP port (CIP接口)	Clamp (卡箍)
d	Ø38*1.5	Hot water port (热水接口)	Clamp (卡箍)
e	Ø159	Steam outlet (蒸汽出口)	Clamp (卡箍)
f	Ø38*1.5	Vent hole (排气孔)	Clamp (卡箍)
g	Ø159	Chimney (烟囪)	Welding (焊接)

N11	Agitator (搅拌)	/	/	1	SUS304
N10	Sieve plate (筛板)	/	Milling (铁粉)	1	SUS304
N9	Rake knife (耙刀)	/	/	1	SUS304
N8	Vinasse door (出糟门)	Quick-open (快开)	430*330mm	1	SUS304
N7	Cleaning ball (清洗球)	Thread (螺纹)	Ø32mm	2	SUS304
N6	Full glass manway (全玻璃人孔口)	Quick-open (快开)	Ø400mm	2	SUS304
N5	Temperature probe (温度探头)	Thread (螺纹)	Ø25mm	2	SUS304
N4	Wort pump (麦汁泵)	Clamp (卡箍)	1.5kw	1	Assembly
N3	Leg braced (支腿拉撑)	Welding (焊接)	Ø38mm	8	SUS304
N2	Adjusting bolt (调节螺栓)	Thread (螺纹)	M20	8	SUS304
N1	Supporting leg (支腿)	Welding (焊接)	Ø108mm	8	SUS304
NO.	Name (名称)	Connecting style (连接方式)	Size (尺寸)	Qty (数量)	Material (材料)

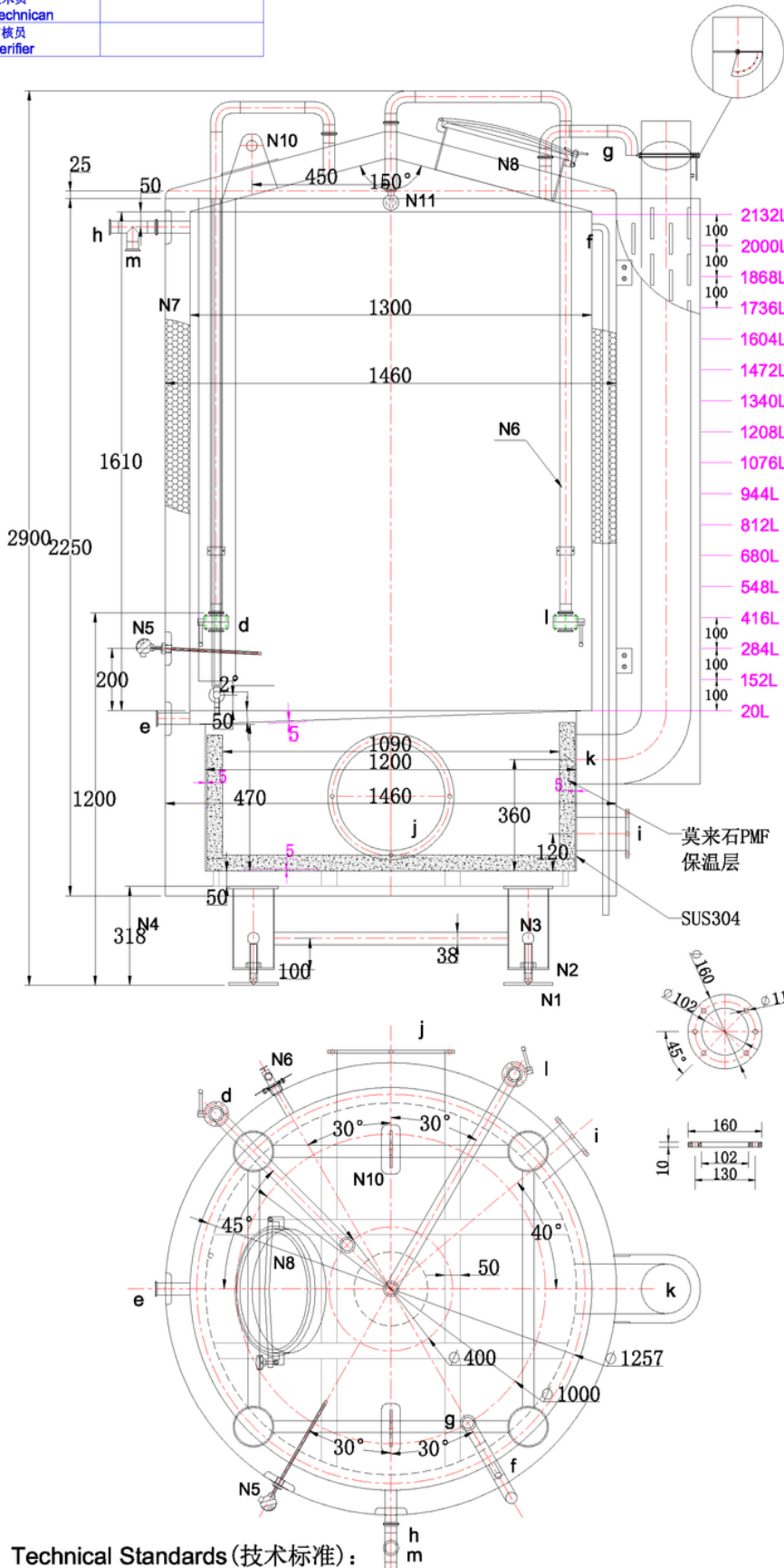


山东申东发酵装备有限公司
Shandong Shendong Fermentation Equipment Co. Ltd.

Assembly Diagram	10HL 糖化 10HL Brewhouse
Scale	1 : 55
Weight	Date
	NO.2019-11-01

报价图纸 Drawing for quotation	
图纸编号 Drawing number	02HT020HL0300
版本 Version	R0
设计师 Designer	高玉芹 (Lucy)
技术员 Technican	
审核员 Verifier	

2000L (热水罐)



Technical Parameters (技术参数)		
	Interior (内胆)	Exterior (外胆)
Material (材质)	SUS304	SUS304
Working pressure (工作压力) Mpa	Ordinary pressure (常压)	
Design pressure (设计压力) Mpa	Ordinary pressure (常压)	
Tank size (罐尺寸) mm	Ø1460*2900	
Quantity (数量)	1	
Heating method (加热方式)	Direct fire heating (直火加热)	
Storage medium (储存介质)	Hot water (热水)	
Insulation material (保温材料)	Rockwool (岩棉)	
Insulation thickness (保温层厚度) mm	80	
Outer tank thickness (外胆厚度) mm	2.0	
Inner tank thickness (内胆厚度) mm	3.0	
Cone angle (锥角)	150°/2°	
Effective volume (有效容积) L	2000	
Total volume (总容积) L	2250	

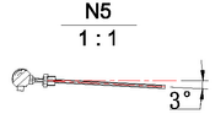


Table of pipe connection (管口表)			
NO. (序号)	Size (尺寸)	Purpose (用途)	Connecting style (连接方式)
a	/	/	/
b	/	/	/
c	/	/	/
d	Ø38*1.5	Add water entry (自来水进口)	Clamp (卡箍)
e	Ø38*1.5	Hot water outlet (热水出口)	Clamp (卡箍)
f	Ø20*1.5	Overflow port (溢流口)	Welding (焊接)
g	Ø38*1.5	Vent hole (换气口)	Clamp (卡箍)
h	Ø38*1.5	Circulation port (循环口)	Clamp (卡箍)
i	Ø102*2	Burner interface (燃烧室接口)	Flange (法兰)
j	Ø350	Check hole (观察口)	Flange (法兰)
k	Ø159	Chimney (烟囱)	Welding (焊接)
l	Ø38*1.5	CIP port (CIP 口)	Clamp (卡箍)
m	Ø38*1.5	Recycling port (回收口)	Clamp (卡箍)

Burner interface (燃烧室接口)

Specification (规格)					
N11	Cleaning ball (清洗球)	Thread (螺纹)	Ø32mm	1 SUS304	
N10	Hoisting ring (吊耳)	Welding (焊接)	/	2 SUS304	
N9	/	/	/	/	
N8	Manhole door (常压人孔门)	Quick-open (快开)	Ø400mm	1 SUS304	
N7	Thermal insulation layer (保温层)	/	80mm	/ Rockwool	
N6	Level gauge (玻璃液位计)	/	/	1 /	
N5	Temperature probe (温度探头)	Thread (螺纹)	Ø25mm	1 PT100	
N4	/	/	/	/	
N3	Supporting leg (支腿)	Welding (焊接)	Ø133mm	4 SUS304	
N2	Adjusting bolt (调节螺栓)	Thread (螺纹)	M24	4 SUS304	
N1	Baseboard (底板)	/	Ø119*8mm	4 SUS304	
NO.	Name (名称)	Connecting style (连接方式)	Size (尺寸)	Qty (数量)	Material (材料)

Technical Standards (技术标准):

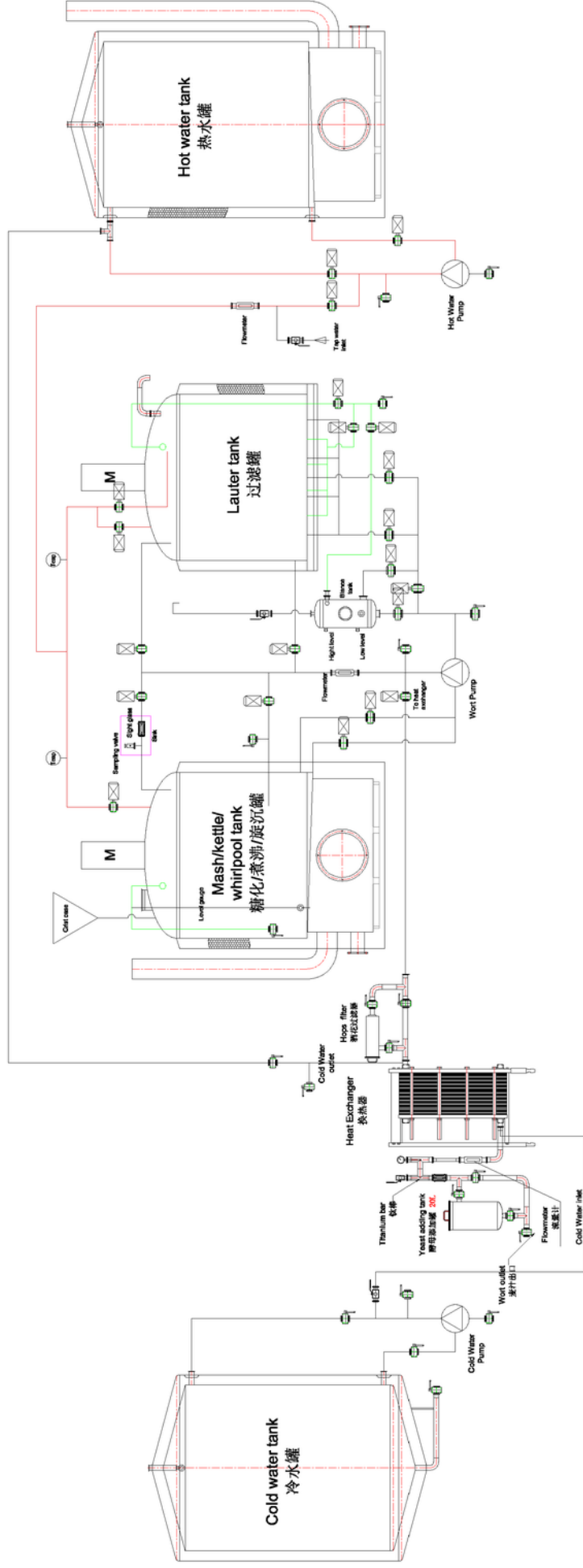
- 罐体焊缝应保证平齐，不得有凹凸棱角及划痕。
The welding line should be smooth and tidy, concave & convex edges and scratches are not allowed.
- 焊缝抛光到Ra小于等于0.6微米
The polishing accuracy of welding line should be ≤0.6µm

山东申东发酵装备有限公司
Shandong Shendong Fermentation Equipment Co. Ltd.

	Assembly Diagram	2000L 热水罐 2000L Hot water tank
Scale	1 : 22	Date
Weight		NO.2019-11-01

报价图纸	
Drawing for quotation	
图纸编号	02BH010HL0320
版本	R0
设计师	高玉芹(Lucy)
技术人员	
审核员	
Verifier	

Piping and Instruments Diagram



山东申东发酵装备有限公司
Shandong Shending Fermentation Equipment Co. Ltd.

Scale	Weight	Date	NO.2019-11-01
Assembly Diagram		PID	

500L(发酵罐)

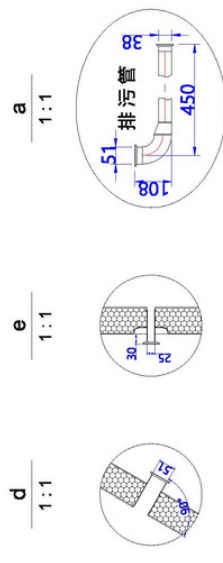
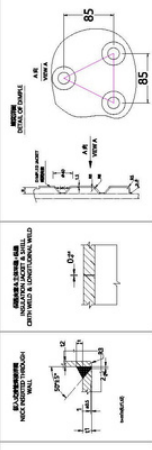


Table of pipe connection (管口表)

NO. (序号)	Size (尺寸)	Purpose (用途)	Connecting style (连接方式)
a	Ø38*1.5	Drainage port (排污口)	Clamp (卡箍)
b	Ø25*1.5	Glycol water inlet (乙二醇水进口)	Clamp (卡箍)
c	Ø25*1.5	Glycol water outlet (乙二醇水出口)	Female (内螺纹)
d	Ø51/Ø8	Reaching arm port (取样臂接口)	Clamp (卡箍)
e	Ø25*1.5	Sampling port (取样口)	Clamp (卡箍)
f	Ø63*2.0	CIP port (CIP接口)	Clamp (卡箍)
g	Ø102*2.0	Dry hops adding port (雪花添加口)	Clamp (卡箍)
h	Ø32*1.5	Safety valve port (安全阀口)	Clamp (卡箍)
i	Ø38*1.5	Sampling port (取样口)	Clamp (卡箍)

封头: 抛砂光
 外胆: 拉丝
 内胆: 酸洗钝化
 焊缝: 抛砂光带

Technical Parameters (技术参数)

Design code (设计代码)	Interior (内胆)	Jacket (夹套)
Material (材质)	SUS304	SUS304
Operating pressure (操作压力) Mpa	0 - 0.15	0 - 0.15
Design pressure (设计压力) Mpa	0 - 0.25	0 - 0.25
Storage medium (储存介质)	Beer (啤酒)	Glycol water (乙二醇水)
Operating temperature (操作温度) °C	0 - 40	(-5) - 40
Design temperature (设计温度) °C	0 - 50	(-5) - 50
Inner tank radiography (内胆探伤)	Spot	
Dished end joint (封头末端接头)	EFF=1	
Tank (罐体)	EFF=0.85	
Tank dimension (罐尺寸) mm	Ø960*2200	
Quantity (数量)	2	
Cooling method (制冷方式)	Glycol water cooling (乙二醇水制冷)	
Insulation material (保温材料)	Polyurethane (聚氨酯)	
Insulation thickness (保温层厚度) mm	80	
Outer tank thickness (外胆厚度) mm	2.0	
Inner cylinder thickness (内胆筒体厚度) mm	3.0	
Cover tank thickness (封头厚度) mm	3.0 (mm2.4)	
Inner cone thickness (内胆下锥厚度) mm	3.0	
Cone angle (锥角)	70°	
Cone volume (锥部容积) L	108	
Cylinder volume (筒体容积) L	502	
Cover volume (封头容积) L	63	
Effective volume (有效容积) L	500	
Total volume (总容积) L	673	

N14	外购	外购	双向安全阀	Clamp (卡箍)	Ø32mm	1	SUS304	180°
N13	外购	外购	碟形封头	Welding (焊接)	/	1	SUS304	/
N12	本图	本图	焊接(焊缝)	Welding (焊接)	/	1	SUS304	/
N11	外购	外购	无影人孔门Quick-open(快开)	280*380	1	SUS304	270°	
N10	外购	外购	清洗球(清洗球)	Ø25mm L=200mm	1	SUS304	Center	
N9	外购	外购	温度探头(温度探头)	1" NPT L=300mm	1	PT100	135°	
N8	本图	本图	热绝缘层(保温层)	/	80mm	/	PU	/
N7	本图	本图	支撑腿(支腿)	Welding (焊接)	Ø108mm	3	SUS304	90° 210°/730°
N6	本图	本图	支脚(支脚)	Welding (焊接)	Ø32mm	3	SUS304	/
N5	外购	外购	调节阀(调节阀)	Tthread (螺纹)	M20	3	SUS304	210°/730°
N4	本图	本图	基板(底座)	/	Ø133*6mm	3	SUS304	210°/730°
N3	外购	外购	出料阀(水封阀)	Clamp (卡箍)	Ø38mm	1	SUS304	315°
N2	外购	外购	压力表(压力表)	Clamp (卡箍)	Ø38mm	1	SUS304	315°
N1	本图	本图	CIP arm (CIP 臂)	Clamp (卡箍)	Ø38mm	1	SUS304	315°
NO.	Mark (代号)	Name (名称)	Connecting style (连接方式)	Size (尺寸)	Qty (数量)	Material (材料)	Remark (备注)	



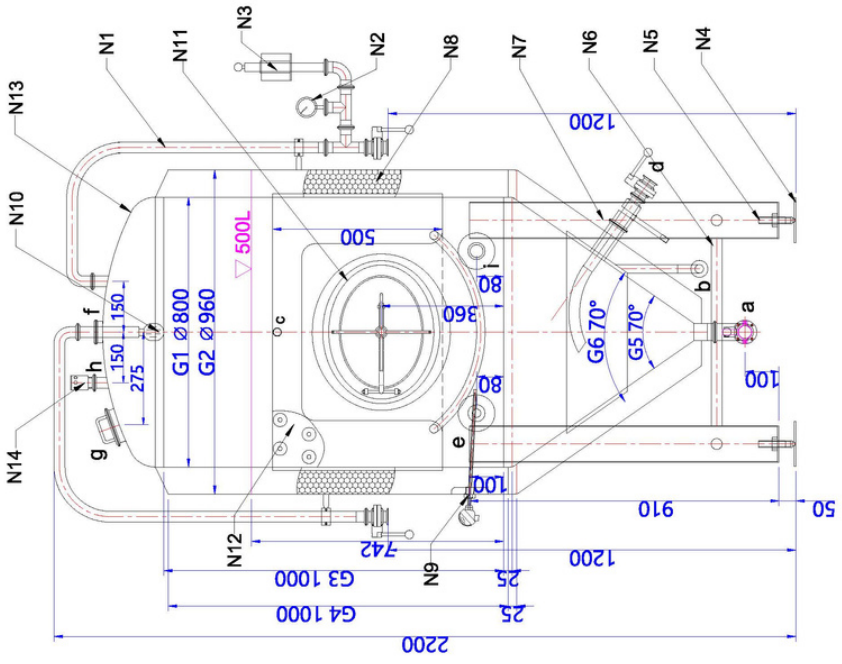
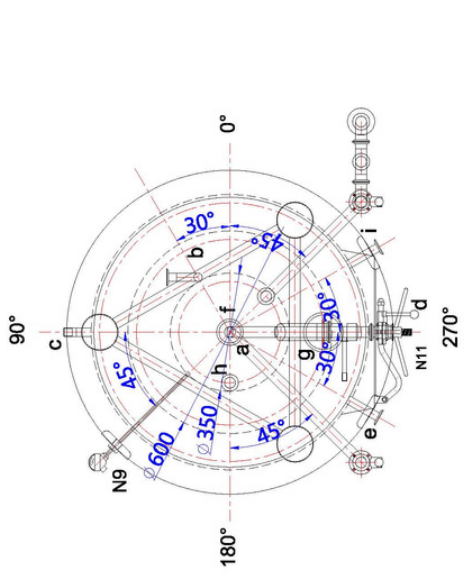
山东申东发酵装备有限公司
 Shandong Shendong Fermentation Equipment Co. Ltd.

Version	R2
Designer	高玉芹 (Lucy)
Technician	
Verifier	
Scale	1 : 22
Weight	
Date	NO.2021-10-25

NO. (序号)	Name (名称)	Size (尺寸)
G1	Interior tank dia (内胆直径)	Ø800
G2	Exterior tank dia (外胆直径)	Ø960
G3	Interior tank height (内胆高度)	H=1000
G4	Exterior tank height (外胆高度)	H=1000
G5	Interior tank cone (内胆角度)	70°
G6	Exterior tank cone (外胆角度)	70°

All ports keep away from any welding lines

Technical Standards(技术标准):
 1. 罐体焊缝应保证平整, 不得有凹凸棱角及划痕。
 The welding line should be smooth and tidy, concave & convex edges and scratches are not allowed.
 2. 焊缝抛光到Ra1.6小于等于0.8微米
 The polishing accuracy of welding line should be ≤0.8µm
 3. 制造完毕后, 设备内及夹套打水试漏, 压力3.58Bar, 保持≥6小时
 After completion, the tank and jackets should be hydrostatic tested, filled for ≥6 hours under 3.58Bar pressure.
 4. 自动焊接的焊缝, 直径 > 1000mm的, 自动焊焊缝保留; 直径≤1000mm, 自动焊焊缝应抛光处理, 所有焊缝应抛光处理, 所有焊缝应抛光处理, 宽度40mm。
 The welding seam that the diameter is > 1000mm is welded by machinery, it will be kept; The welding seam that the diameter is ≤1000mm is welded by machinery, it will be polished; The welding seam is welded by manually, it will be polished; All welds are sanded with a width of 40mm.
 5. 罐子带保温, 外胆下锥背面/底部需要开一个10mm的排气孔, 位置由生产控制。
 The tanks with insulation needs to open a 10MM air hole on the back or bottom of the lower cone of the outer tank. The position of the hole is determined by manufacturer.



Technical Parameters (技术参数)

Design code (设计代码)	GB150.3-2011
Material (材质)	Interior (内层) SUS304 Jacket (夹套) SUS304
Working pressure (工作压力) Mpa	0.15
Design pressure (设计压力) Mpa	0.25
Storage medium (储存介质)	Beer (啤酒)
Design temperature (设计温度)	50°C
Working temperature (工作温度)	50°C
Radiography (X光照射, 射线)	Spot
Dished end joint (封头末端接头)	EFF=1
Tank (罐体)	EFF=0.85
Tank size (罐尺寸) mm	Ø1060*3220
Quantity (数量)	3
Cooling method (制冷方式)	Glycol water cooling (乙二醇水制冷)
Insulation material (保温材料)	Polyurethane (聚氨酯)
Insulation thickness (保温层厚度) mm	80
Outer tank thickness (外层厚度) mm	2.0
Inner cylinder thickness (内胆管体厚度) mm	3.0
Cover tank thickness (封头厚度) mm	3.0 (min2.7)
Inner cone thickness (内胆下锥厚度) mm	3.0
Cone angle (锥角)	60°
Cone volume (锥筒容积) L	165
Cylinder volume (筒体容积) L	1093
Cover volume (封头容积) L	88
Effective volume (有效容积) L	1000
Total volume (总容积) L	1346

NO.	Mark (代号)	Name (名称)	Connecting style (连接方式)	Size (尺寸)	Qty (数量)	Material (材料)	Remark (备注)
N16	外角	Safety valve (双向安全阀)	Clamp (卡箍)	Ø20mm	1	SUS304	
N15	本图	Ladder hook (挂梯钩)	Welding (焊接)	/	2	SUS304	
N14	本图	Holding ring (吊耳)	Welding (焊接)	/	2	SUS304	
N13	外角	Dished head (碟形封头)	Welding (焊接)	/	1	SUS304	
N12	本图	Jacket (夹套)	Welding (焊接)	/	1	SUS304	
N11	外角	Shadowless manway (无影人孔) Quick-open (快开)	Welding (焊接)	260*360	1	SUS304	4.5/4.5
N10	外角	Cleaning ball (清洗球)	Clamp (卡箍)	Ø22mm	1	SUS304	
N9	外角	Temperature probe (温度探头)	Thread (螺纹)	Ø22mm	1	PT100	
N8	本图	Thermal insulation layer (保温层)	/	80mm	/	PU	
N7	本图	Supporting leg (支腿)	Welding (焊接)	Ø102mm	4	SUS304	
N6	本图	Leg brace (支腿拉索)	Welding (焊接)	Ø22mm	4	SUS304	
N5	外角	Adjusting bolt (调节螺栓)	Thread (螺纹)	M20	4	SUS304	
N4	本图	Baseboard (底板)	/	Ø133*6mm	4	SUS304	
N3	外角	Spunding valve (泄压阀)	Clamp (卡箍)	Ø22mm	1	SUS304	
N2	外角	Pressure gauge (压力表)	Clamp (卡箍)	Ø22mm	1	SUS304	
N1	本图	Blow off arm (排气管)	Clamp (卡箍)	Ø22mm	1	SUS304	
NO.							

Shandong Shending Fermentation Equipment Co. Ltd.

Assembly Diagram

S191029-10HL-FV
Scale 1 : 28
Weight

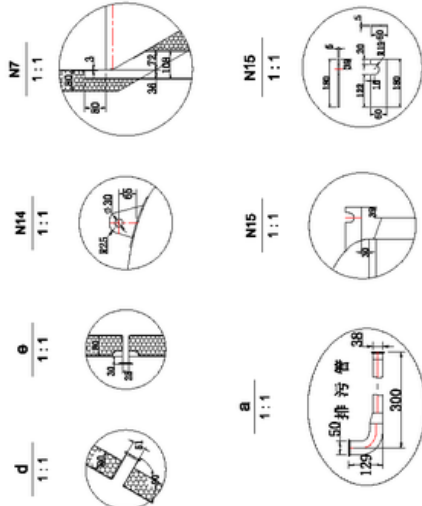
1000L Fermentation tank

Date NO.2019-11-01

NO. (序号)	Size (尺寸)	Purpose (用途)	Connecting style (连接方式)
a	Ø38*1.5	Drainage port (排污口)	Clamp (卡箍)
b	Ø25*1.5	Glycol water inlet (乙二醇水进口)	Clamp (卡箍)
c	Ø25*1.5	Glycol water outlet (乙二醇水出口)	Thread (螺纹)
d	Ø25*1.5	Reading arm port (视镜接口)	Clamp (卡箍)
e	Ø25*1.5	Sampling port (取样口)	Clamp (卡箍)
f	Ø32*1.5	CIP port (CIP接口)	Clamp (卡箍)
g	Ø102*2	Dry hop adding port (假底加料口)	Clamp (卡箍)

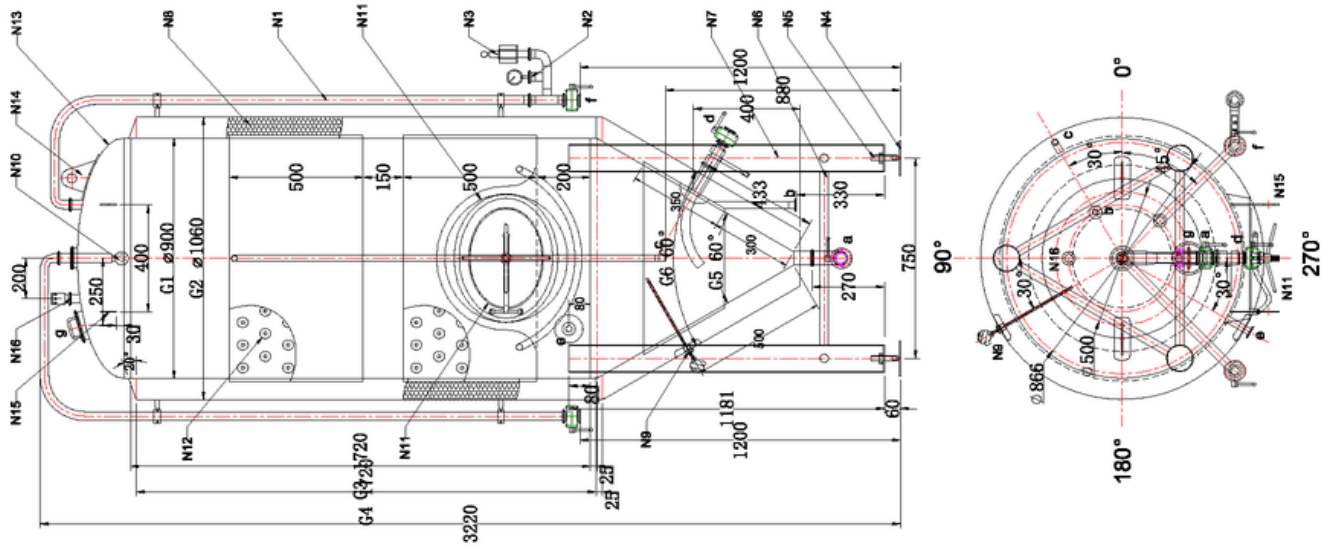
NO. (序号)	Name (名称)	Size (尺寸)
G1	Interior shell dia (内胆直径)	Ø900
G2	Exterior shell dia (外胆直径)	Ø1060
G3	Interior shell height (内胆高度)	H=1720
G4	Exterior shell height (外胆高度)	H=1720
G5	Interior shell cone (内胆锥度)	60°
G6	Exterior shell cone (外胆锥度)	60°

All ports keep away from any welding lines



Technical Standards (技术标准):

- 罐体焊缝应保证平齐, 不得有凹凸棱角及划痕。
The welding line should be smooth and tidy, concave & convex edges and scratches are not allowed.
- 焊缝抛光到Ra小于等于0.6微米
The polishing accuracy of welding line should be $\leq 0.6\mu\text{m}$
- 制造完毕后, 设备内及夹套打水压检漏, 压力3.58Bar 保持24小时
After completion, the tank and jackets should be hydrostatic tested, filled for 24 hours under 3.58Bar pressure.



Technical Parameters (技术参数)

Design code (设计代码)	GB150.3-2011		
Material (材质)	Interior (内胆)	Jacket (夹套)	SUS304
Working pressure (工作压力) Mpa	0.15		0.15
Design pressure (设计压力) Mpa	0.25		0.25
Storage medium (储存介质)	Beer (啤酒)		Glycol water (乙二醇水)
Design temperature (设计温度)	50°C		50°C
Working temperature (工作温度)	50°C		-5°C
Radiography (X光照射, 探伤)	Spot		
Dished end joint (封头连接头)	EFF=1		
Tank (罐体)	EFF=0.85		
Tank size (罐尺寸) mm	Ø1210*4250		
Quantity (数量)	3		
Cooling method (制冷方式)	Glycol water cooling (乙二醇水制冷)		
Insulation material (保温材料)	Polyurethane (聚氨酯)		
Insulation thickness (保温层厚度) mm	80		
Outer tank thickness (外层厚度) mm	2.0		
Inner cylinder thickness (内胆厚度) mm	3.0		
Cover tank thickness (封头厚度) mm	4.0(min3.15)		
Inner cone thickness (内胆下锥厚度) mm	3.0		
Cone angle (锥角)	60°		
Cone volume (锥体容积) L	262		
Cylinder volume (筒体容积) L	2258		
Cover volume (封头容积) L	136		
Effective volume (有效容积) L	2000		
Total volume (总容积) L	2656		

N16	外筒	Safety valve (双背安全阀)	Clamp (卡箍)	Ø28mm	1	SUS304
N15	本图	Ladder hook (扶梯钩)	Welding (焊接)	/	2	SUS304
N14	本图	Hoisting ring (吊耳)	Welding (焊接)	/	2	SUS304
N13	外筒	Dished head (碟形封头)	Welding (焊接)	/	1	SUS304
N12	本图	Jacket (夹套)	Welding (焊接)	/	1	SUS304
N11	外筒	Shallow manway (浅人孔)	Quick-open (快开)	280*380	1	SUS304
N10	外筒	Cleaning ball (清洗球)	Clamp (卡箍)	Ø22mm	1	SUS304
N9	外筒	Temperature probe (温度探头)	Thread (螺纹)	Ø25mm	1	PT100
N8	本图	Thermal insulation layer (保温层)	/	80mm	/	PU
N7	本图	Supporting leg (支腿)	Welding (焊接)	Ø108mm	4	SUS304
N6	本图	Leg brace (支腿加强)	Welding (焊接)	Ø22mm	4	SUS304
N5	外筒	Adjusting bolt (调节螺栓)	Thread (螺纹)	M20	4	SUS304
N4	本图	Baseboard (底座)	/	Ø133*6mm	4	SUS304
N3	外筒	Spunding valve (水封阀)	Clamp (卡箍)	Ø28mm	1	SUS304
N2	外筒	Pressure gauge (压力表)	Clamp (卡箍)	Ø28mm	1	SUS304
N1	本图	Blow off arm (排气管)	Clamp (卡箍)	Ø28mm	1	SUS304
NO.	Mark (代号)	Name (名称)	Connecting style (连接方式)	Size (尺寸)	Qty (数量)	Material (材料)
						依件 总件 重量 (kg)

Shandong Shendong Fermentation Equipment Co. Ltd.

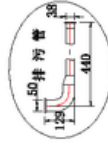
S1910-29-20HL-FV	Assembly Diagram	2000L 发酵罐
Scale 1:32	Weight	Date NO.2019-11-01

Table of pipe connection (管口表)

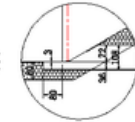
NO. (序号)	Size (尺寸)	Purpose (用途)	Connecting style (连接方式)
a	Ø38*1.5	Drainage port (排污口)	Clamp (卡箍)
b-1	Ø25*1.5	Glycol water inlet (乙二醇水进口)	Clamp (卡箍)
c-1	Ø25*1.5	Glycol water outlet (乙二醇水出口)	Clamp (卡箍)
d	Ø32*1.5	Reading arm port (液位测量口)	Clamp (卡箍)
e	Ø25*1.5	Sampling port (取样口)	Clamp (卡箍)
f	Ø38*1.5	CIP port (CIP接口)	Clamp (卡箍)
g	Ø102*2	Dry hops adding port (麦穗添加口)	Clamp (卡箍)

NO. (序号)	Name (名称)	Size (尺寸)
G1	Interior shell dia (内胆直径)	Ø1050
G2	Exterior shell dia (外壁直径)	Ø1210
G3	Interior shell height (内胆高度)	H=2610
G4	Exterior shell height (外壁高度)	H=2810
G5	Interior shell cone (内胆锥度)	60°
G6	Exterior shell cone (外壁锥度)	60°

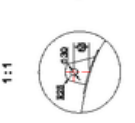
1:1



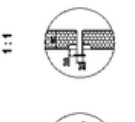
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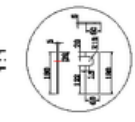
N4 1:1



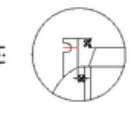
a 1:1



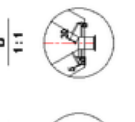
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N5 1:1

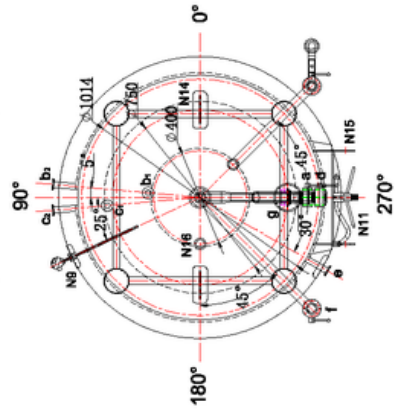
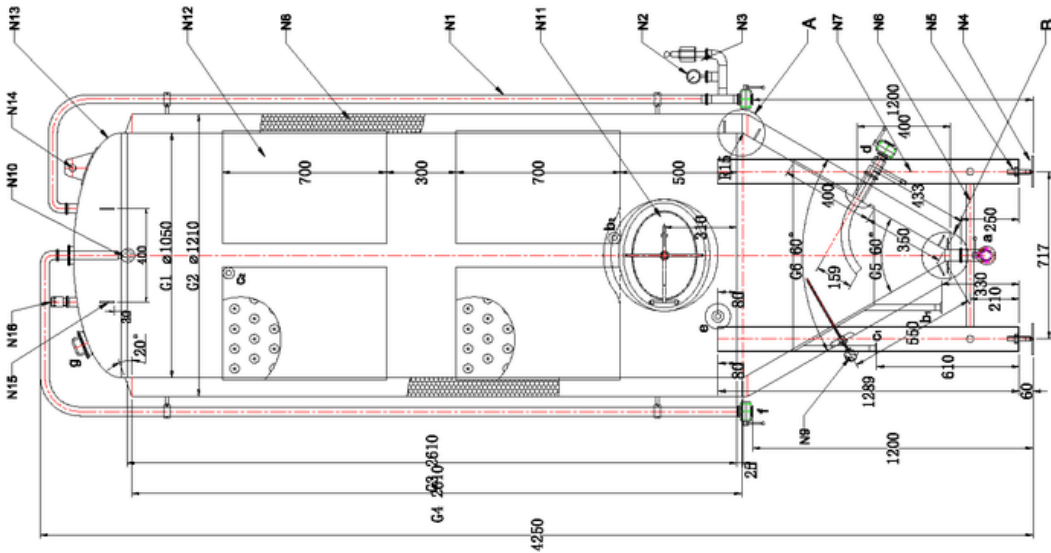


B 1:1

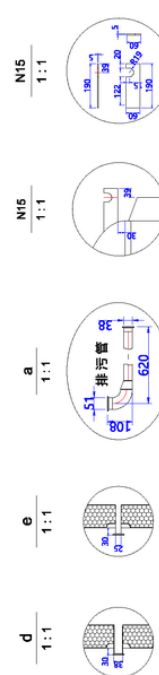
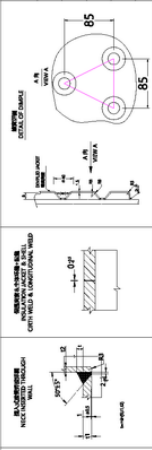
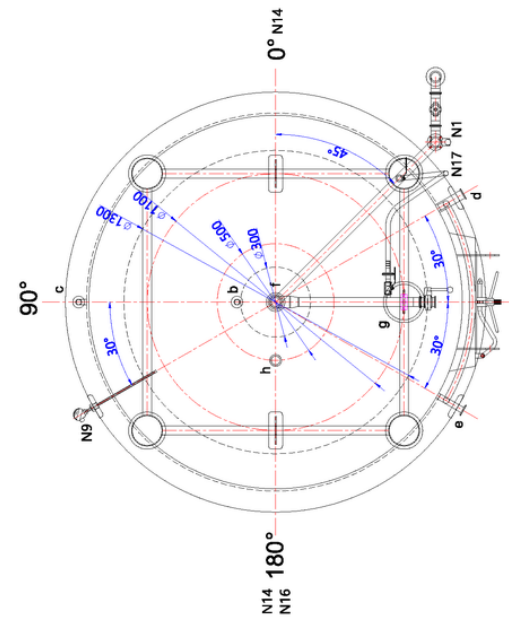
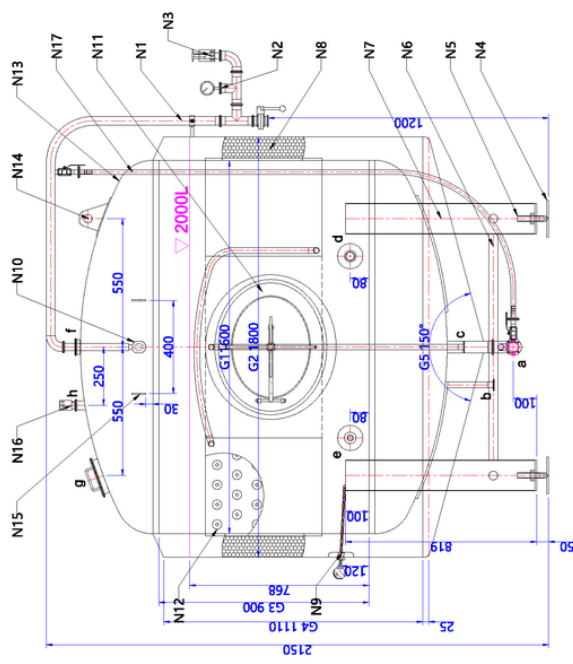


Technical Standards (技术标准):

- 罐体焊缝应保证平齐, 不得有凹凸棱角及划痕。The welding line should be smooth and tidy, concave & convex edges and scratches are not allowed.
- 焊缝抛光到Ra小于等于0.6微米。The polishing accuracy of welding line should be ≤0.6μm
- 制造完毕后, 设备及内及夹套打水压检漏, 压力3.58Bar 保持24小时。After completion, the tank and jackets should be hydrostatic tested, filled for 24 hours under 3.58Bar pressure.



2000L(清酒罐)



NO. (序号)	Size (尺寸)	Purpose (用途)	Connecting style (连接方式)
a	Ø38*1.5	Drainage port (排污口)	Clamp (卡箍)
b	Ø25*1.5	Glycol water inlet (乙二醇水进口)	Clamp (卡箍)
c	Ø25*1.5	Glycol water outlet (乙二醇水出口)	Clamp (卡箍)
d	Ø38*1.5	Carbonation port (碳化口)	Clamp (卡箍)
e	Ø25*1.5	Sampling port (取样口)	Clamp (卡箍)
f	Ø63*2.0	CIP port (CIP接口)	Clamp (卡箍)
g	Ø6*1.52	Dry hop adding port (麦花添加口)	Clamp (卡箍)
h	Ø38*1.5	Safety valve port (安全阀口)	Clamp (卡箍)

封头: 抛砂光
 外胆: 拉丝
 内胆: 酸洗钝化
 焊缝: 抛砂光带



Design code (设计代码)	/
Interior (内胆)	Jacket (夹套)
SUS304	SUS304
Operating pressure (操作压力) Mpa	0-0.15
Storage medium (储存介质)	Beer (啤酒)
Operating temperature (操作温度) °C	0-50
Design temperature (设计温度) °C	(-5) - 50
Radiotherapy (X光照射, 探伤)	Spot
Dished end joint (封头未端接头)	EFF=1
Tank (罐体)	EFF=0.85
Tank dimension (罐尺寸) mm	Ø1800*2150
Quantity (数量)	1
Cooling method (制冷方式)	Glycol water cooling (乙二醇水制冷)
Insulation material (保温材料)	Polyurethane (聚氨酯)
Insulation thickness (保温层厚度) mm	100
Outer tank thickness (外胆厚度) mm	2.0
Inner cylinder thickness (内胆厚度) mm	3.0
Cover tank thickness (封头厚度) mm	6.0(min4.8)
Cone angle (锥角)	150°
Cylinder volume (筒体容积) L	1808
Cover volume (封头容积) L	456
Effective volume (有效容积) L	2000
Total volume (总容积) L	2720

N17	外筒	Level gauge (软管液位计)	/	Ø12mm	1	PU	/
N16	外筒	Safety valve (双向安全阀)	Clamp (卡箍)	Ø38mm	1	SUS304	180°
N15	本图	Ladder hook (挂梯钩)	Welding (焊接)	/	2	SUS304	270°
N14	本图	Lifting lug (吊耳)	Welding (焊接)	t=8mm	2	SUS304	0°/180°
N13	外筒	Dished head (碟形封头)	Welding (焊接)	/	2	SUS304	/
N12	本图	Jacket (夹套)	Welding (焊接)	/	/	SUS304	/
N11	外筒	Shadowless manway (无影人孔/Quick-open快开)	340°/440	Ø32mm L=300mm	1	SUS304	4.5/4.0
N10	外筒	Cleaning ball (清洗球)	Clamp (卡箍)	Ø82mm L=300mm	1	SUS304	Center
N9	外筒	Temperature probe (温度探头)	Thread (螺纹)	NPT L=300mm	1	PT100	120°
N8	本图	Thermal insulation layer (保温层)	/	100mm	/	PU	/
N7	本图	Supporting leg (支腿)	Welding (焊接)	Ø133mm	4	SUS304	45°/135° 225°/315°
N6	本图	Leg braced (支腿拉撑)	Welding (焊接)	Ø88mm	4	SUS304	/
N5	外筒	Adjusting bolt (调节螺栓)	Thread (螺纹)	M24	4	SUS304	45°/135° 225°/315° 265°/315°
N4	本图	Baseboard (底座)	/	Ø159*9mm	4	SUS304	315°
N3	外筒	Pressure relief valve (呼吸阀)	Clamp (卡箍)	Ø98mm	1	SUS304	315°
N2	外筒	Pressure gauge (压力表)	Clamp (卡箍)	Ø98mm	1	SUS304	315°
N1	本图	CIP arm (CIP 臂)	Clamp (卡箍)	Ø98mm	1	SUS304	315°
NO.	Mark (代号)	Name (名称)	Connecting style (连接方式)	Size (尺寸)	Qty (数量)	Material (材料)	Remark (备注)

NDLCRAFT
 Rev.0
 Designer: 高五芹 (Lucy)
 Technician
 Verifier

山东申东发酵装备有限公司
 Shandong Shendong Fermentation Equipment Co. Ltd.

S210923-20HL-BT
 Scale: 1 : 32
 Weight
 Date: NO.2021-09-23

Technical Standards (技术标准):
 1. 罐体焊缝应保证平齐, 不得有凹凸棱角及杂质。
 2. 焊缝抛砂到Ra2/小于等于0.6微米
 3. 制造完后, 设备内及支腿力水压试验, 压力3.58Bar, 保持≥6小时
 4. 自动焊接的焊缝, 焊缝处理; 所有焊缝抛砂光带, 宽度40mm。
 处理。手动焊接的焊缝, 焊缝处理; 所有焊缝抛砂光带, 宽度40mm。
 The welding seam that the diameter is > 1000mm is welded by machinery, it will be kept; The welding seam that the diameter is ≤ 1000mm is welded by machinery, it will be polished; The welding seam is welded by manually, it will be polished; All welds are sanded with a width of 40mm.
 5. 罐子带保温, 外胆下部侧面/底部需要开一个10mm的排气孔, 位置由生产控制。
 The tanks with insulation needs to open a 10MM air hole on the back or bottom of the lower cone of the outer tank. The position of the hole is determined by manufacturer.

The welding line should be smooth and tidy, concave & convex edges and scratches are not allowed.
 The polishing accuracy of welding line should be ≤0.6µm
 After completion, the tank and jackets should be hydrostatic tested, filled for ≥6hours under 3.58Bar pressure.

Technical Parameters (技术参数)

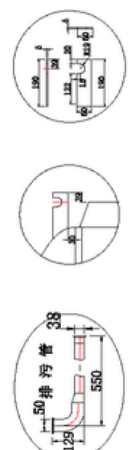
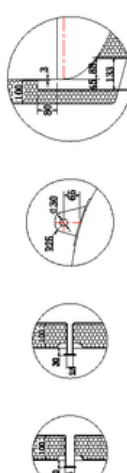
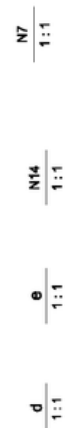
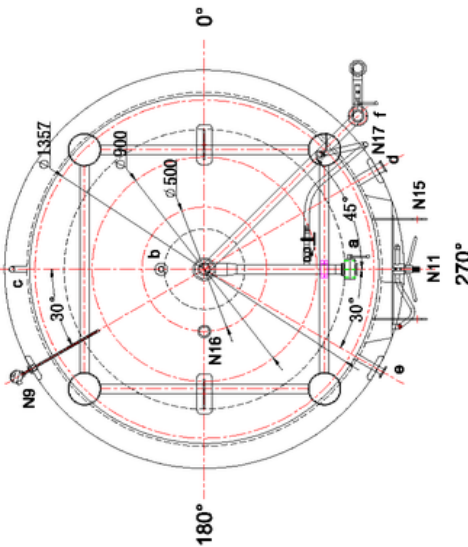
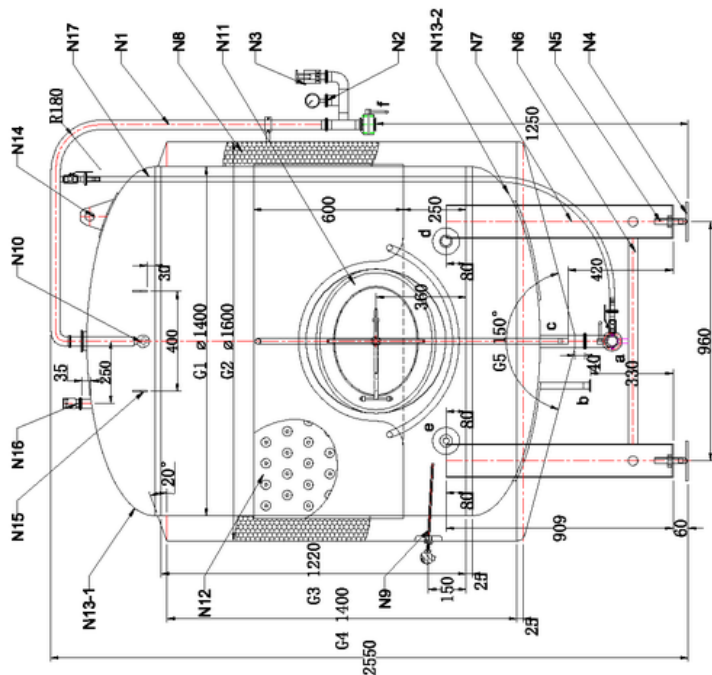
Design code (设计代码)	GB150.3-2011	Jacket (夹套)	SUS304
Material (材质)	SUS304	Interior (内里)	SUS304
Working pressure (工作压力) Mpa	0.15	Beer (啤酒)	50°C
Design pressure (设计压力) Mpa	0.25	Chilled water (乙二醇水)	50°C
Storage medium (储存介质)	Beer (啤酒)	Spot	
Design temperature (设计温度)	50°C	EFF=1	
Working temperature (工作温度)	50°C	EFF=0.85	
Radiography (X光照射, 探伤)		Ø1600*2550	
Dished end joint (封头未焊接头)		1	
Tank (罐体)		Glycol water cooling (乙二醇水制冷)	
Tank size (罐尺寸) mm		Polyurethane (聚氨酯)	
Quantity (数量)		Insulation thickness (保温层厚度) mm	100
Cooling method (制冷方式)		Outer tank thickness (外罐厚度) mm	2.0
Insulation material (保温材料)		Inner cylinder thickness (内罐筒体厚度) mm	3.0
Insulation thickness (保温层厚度) mm		Cover tank thickness (封头厚度) mm	5.0 (min4.2)
Outer tank thickness (外罐厚度) mm		Cone angle (锥角)	150°
Inner cylinder thickness (内罐筒体厚度) mm		Cylinder volume (筒体容积) L	1877
Cover tank thickness (封头厚度) mm		Cover volume (封头容积) L	310
Cone angle (锥角)		Effective volume (有效容积) L	2000
Cylinder volume (筒体容积) L		Total volume (总容积) L	2497
Cover volume (封头容积) L			
Effective volume (有效容积) L			
Total volume (总容积) L			

Table of pipe connection (管口表)

NO. (序号)	Size (尺寸)	Purpose (用途)	Connecting style (连接方式)
a	Ø38*1.5	Drainage port (排污口)	Clamp (卡箍)
b	Ø25*1.5	Glycol water inlet (乙二醇水进口)	Clamp (卡箍)
c	Ø25*1.5	Glycol water outlet (乙二醇水出口)	Thread (螺纹)
d	Ø38*1.5	Carbonation port (碳化口)	Clamp (卡箍)
e	Ø25*1.5	Sampling port (取样口)	Clamp (卡箍)
f	Ø38*1.5	CIP port (空洗接口)	Clamp (卡箍)
g	Ø102*2	Dry hops adding port (麦粒添加口)	Clamp (卡箍)

NO. (序号)	Name (名称)	Size (尺寸)
G1	Interior shell dia (内胆直径)	Ø1400
G2	Exterior shell dia (外胆直径)	Ø1600
G3	Interior shell height (内胆高度)	H=1220
G4	Exterior shell height (外胆高度)	H=1400
G5	Interior shell cone (内胆角度)	/
G6	Exterior shell cone (外胆角度)	150°

All ports keep away from any welding lines



Technical Standards (技术标准):

- 罐体焊缝应保证平齐, 不得有凹凸棱角及划痕。
The welding line should be smooth and tidy, concave & convex edges and scratches are not allowed.
- 焊缝抛光到Ra小于等于0.6微米
The polishing accuracy of welding line should be ≤0.6μm
- 制造完毕后, 设备内及夹套打水压检漏, 压力3.58Bar 保持24小时
After completion, the tank and jackets should be hydrostatic tested, filled for 24 hours under 3.58Bar pressure.

NO.	Mark (代号)	Name (名称)	Connecting style (连接方式)	Size (尺寸)	Qty (数量)	Material (材料)	Weight (重量) (kg)	Remark (备注)
N17	外附	Level gauge (液位计)	/	Ø12mm	1	PU		
N16	外附	Safety valve (安全阀)	Clamp (卡箍)	Ø38mm	1	SUS304		
N15	本图	Ladder hook (梯梯钩)	Welding (焊接)	/	2	SUS304		
N14	本图	Hoisting ring (吊耳)	Welding (焊接)	/	2	SUS304		
N13-2	外附	Dished head (碟形封头)	Welding (焊接)	/	2	SUS304		
N12	本图	Jacket (夹套)	Welding (焊接)	/	/	SUS304		
N11	外附	Shadowless manway (无影人孔/门/观察孔)	340°/440	340°/440	1	SUS304	4.5/4.0	
N10	外附	Cleaning ball (清洗球)	Clamp (卡箍)	Ø22mm	1	SUS304		
N9	外附	Temperature probe (温度探头)	Thread (螺纹)	Ø25mm	1	PT100		
N8	本图	Thermal insulation layer (保温层)	/	100mm	/	PU		
N7	本图	Supporting leg (支腿)	Welding (焊接)	Ø133mm	4	SUS304		
N6	本图	Log bracket (支腿托架)	Welding (焊接)	Ø38mm	4	SUS304		
N5	外附	Adjusting bolt (调节螺栓)	Thread (螺纹)	M24	4	SUS304		
N4	本图	Baseboard (底座)	/	Ø150*6mm	4	SUS304		
N3	外附	Spunding valve (气封阀)	Clamp (卡箍)	Ø38mm	1	SUS304		
N2	外附	Pressure gauge (压力表)	Clamp (卡箍)	Ø38mm	1	SUS304		
N1	本图	CIP pipe (CIP管)	Clamp (卡箍)	Ø38mm	1	SUS304		

Shandong Shending Fermentation Equipment Co. Ltd.

Assembly Diagram

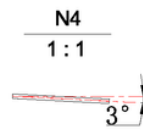
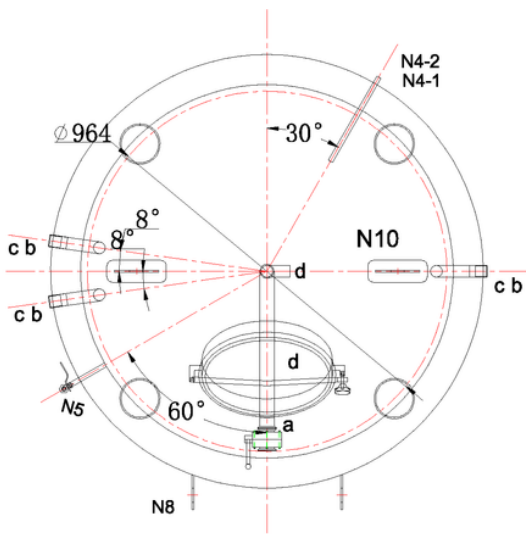
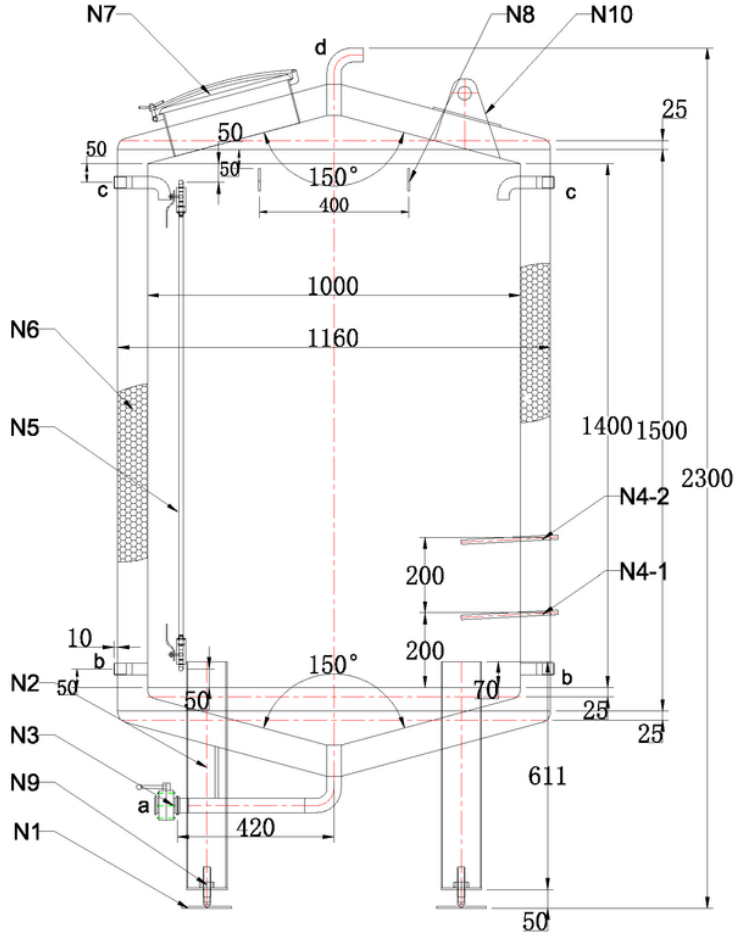
2000L 清酒罐
2000L Bright tank

Scale 1 : 30
Weight

Date NO.2019-11-01

报价图纸 Drawing for quotation	
图纸编号 Drawing number	02GT010HL0800
版本 Version	R0
设计师 Designer	高玉芹 (Lucy)
技术员 Technican	
审核员 Verifier	

1000L (乙二醇罐)



	Interior (内胆)	Exterior (外胆)
Material (材质)	SUS304	SUS304
Working pressure (工作压力) Mpa	Ordinary pressure (常压)	
Tank size (罐尺寸) mm	Ø1160*2300	
Quantity (数量)	1	
Cooling method (制冷方式)	Chiller (制冷机)	
Storage medium (储存介质)	Glycol water (乙二醇水)	
Insulation material (保温材料)	Polyurethane (聚氨酯)	
Insulation thickness (保温层厚度) mm	80	
Outer tank thickness (外胆厚度) mm	2.0	
Inner tank thickness (内胆厚度) mm	3.0	
Cone angle (锥角)	150°	
Effective volume (有效容积) L	1000	
Total volume (总容积) L	1150	

NO. (序号)	Size (尺寸)	Purpose (用途)	Connecting style (连接方式)
a	Ø38*1.5	Drainage port (排污口)	Clamp (卡盘)
b	Ø32*1.5	Glycol water outlet (乙二醇水出口)	Thread (内螺纹)
c	Ø32*1.5	Glycol water inlet (乙二醇水进口)	Thread (内螺纹)
d	Ø38*1.5	Vent hole (换气口)	Welding (焊接)

NO.	Name (名称)	Connecting style (连接方式)	Size (尺寸)	Qty (数量)	Material (材料)
N10	Hoisting ring (吊耳)	Welding (焊接)	/	2	SUS304
N9	Adjusting bolt (调整螺栓)	Thread (螺纹)	M20	4	SUS304
N8	Ladder hock (挂梯钩)	Welding (焊接)	/	2	SUS304
N7	Manhole door (常压人孔门)	Quick-open (快开)	Ø350mm	1	SUS304
N6	Thermal insulation layer (保温层)	/	80mm	/	PU
N5	Level gauge (液位计)	/	Ø12mm	1	PU
N4-1,2	Thermowell blind pipe (温度盲管) (外丝反卡)	/	Ø12mm	2	PT100
N3	Drainage valve (排污阀)	Clamp (卡盘)	Ø38mm	1	SUS304
N2	Supporting leg (支腿)	Welding (焊接)	Ø108mm	4	SUS304
N1	Baseboard (底板)	Welding (焊接)	Ø133*6mm	4	SUS304

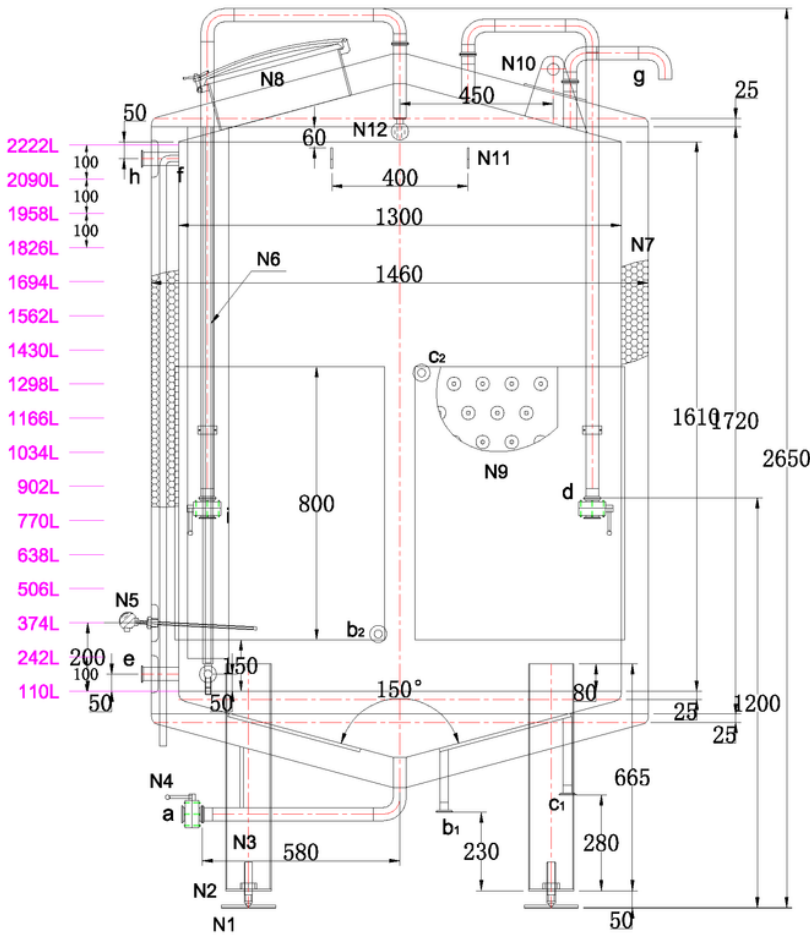
Technical Standards (技术标准):

- 罐体焊缝应保证平齐，不得有凹凸棱角及划痕。
The welding line should be smooth and tidy, concave & convex edges and scratches are not allowed.
- 焊缝抛光到Ra小于等于0.6微米
The polishing accuracy of welding line should be $\leq 0.6\mu\text{m}$

		山东申东发酵装备有限公司 Shandong Shendong Fermentation Equipment Co. Ltd.	
		Assembly Diagram	1000L 乙二醇罐 1000L Glycol tank
Scale	1 : 20	Date	NO.2019-11-01
Weight			

报价图纸 Drawing for quotation	
图纸编号 Drawing number	02CT020HL0500
版本 Version	R0
设计师 Designer	高玉芹 (Lucy)
技术员 Technican	
审核员 Verifier	

2000L (冷水罐)

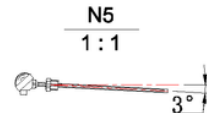
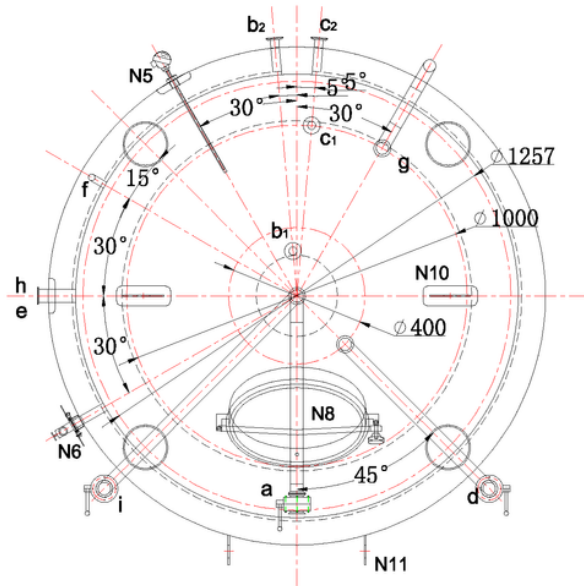


Technical Parameters (技术参数)

	Interior (内胆)	Jacket (夹套)
Material (材质)	SUS304	SUS304
Working pressure (工作压力) Mpa	Ordinary pressure (常压)	0.15
Design pressure (设计压力) Mpa	Ordinary pressure (常压)	0.3
Tank size (罐尺寸) mm	Ø1460*2650	
Quantity (数量)	1	
Cooling method (加热方式)	Glycol water (乙二醇水)	
Storage medium (储存介质)	Cold water (冷水)	
Insulation material (保温材料)	Polyurethane (聚氨酯)	
Insulation thickness (保温层厚度) mm	80	
Outer tank thickness (外胆厚度) mm	2.0	
Inner tank thickness (内胆厚度) mm	3.0	
Cone angle (锥角)	150°	
Effective volume (有效容积) L	2000	
Total volume (总容积) L	2250	

Table of pipe connection (管口表)

NO. (序号)	Size (尺寸)	Purpose (用途)	Connecting style (连接方式)
a	Ø38*1.5	Drainage port (排污口)	Clamp (卡箍)
b ₁₋₂	Ø25*1.5	Glycol water inlet (乙二醇进口)	Clamp (卡箍)
c ₁₋₂	Ø25*1.5	Glycol water outlet (乙二醇出口)	Clamp (卡箍)
d	Ø38*1.5	Add water entry (补水口)	Clamp (卡箍)
e	Ø38*1.5	Hot water outlet (热水出口)	Clamp (卡箍)
f	Ø20*1.5	Overflow port (溢流口)	Welding (焊接)
g	Ø38*1.5	Vent hole (换气口)	Clamp (卡箍)
h	Ø38*1.5	Circulation port (循环口)	Clamp (卡箍)
i	Ø38*1.5	CIP port (CIP 口)	Clamp (卡箍)



Technical Standards (技术标准):

- 罐体焊缝应保证平齐, 不得有凹凸棱角及划痕。
The welding line should be smooth and tidy, concave & convex edges and scratches are not allowed.
- 焊缝抛光到Ra小于等于0.6微米
The polishing accuracy of welding line should be $\leq 0.6\mu\text{m}$
- 制造完毕后, 夹套打压检漏, 压力3.0Bar 保持24小时
After completion, jackets should be tested by air, filled for 24 hours under 3Bar pressure.

Specification (规格)

NO.	Name (名称)	Connecting style (连接方式)	Size (尺寸)	Qty (数量)	Material (材料)
N12	Cleaning ball (清洗球)	Thread (螺纹)	Ø32mm	1	SUS304
N11	Ladder hook (挂梯钩)	Welding (焊接)	/	2	SUS304
N10	Hoisting ring (吊耳)	Welding (焊接)	/	2	SUS304
N9	Jacket (夹套)	Welding (焊接)	/	1	SUS304
N8	Manhole door (常压人孔门)	Quick-open (快开)	Ø400mm	1	SUS304
N7	Thermal insulation layer (保温层)	/	80mm	/	PU
N6	Level gauge (玻璃液位计)	/	/	1	/
N5	Temperature probe (温度探头)	Thread (螺纹)	Ø25mm	1	PT100
N4	Drainage valve (排污阀)	Clamp (卡箍)	Ø38mm	1	SUS304
N3	Supporting leg (支腿)	Welding (焊接)	Ø133mm	4	SUS304
N2	Adjusting bolt (调节螺栓)	Thread (螺纹)	M24	4	SUS304
N1	Baseboard (底板)	/	Ø159*8mm	4	SUS304

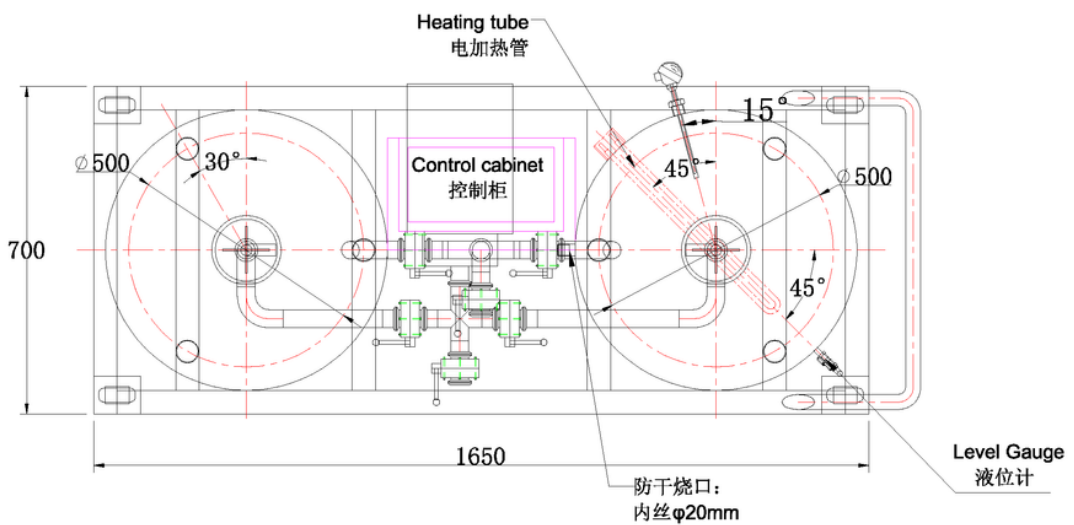
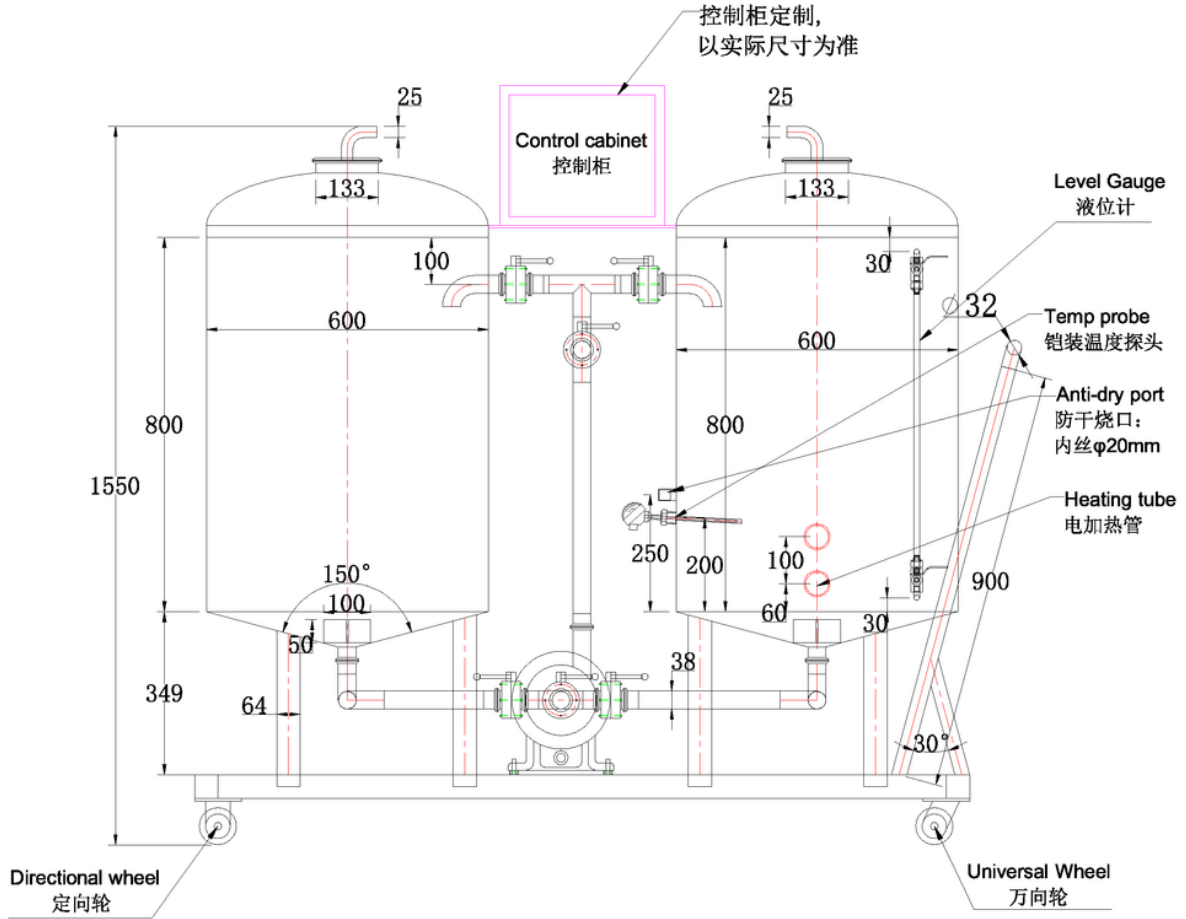


山东申东发酵装备有限公司
Shandong Shendong Fermentation Equipment Co. Ltd.

Scale	1 : 22	Assembly Diagram	2000L 冷水罐 2000L Cold water tank
Weight		Date	NO.2019-11-01

报价图纸 Drawing for quotation	
图纸编号 Drawing number	02CP200AL0100
版本 Version	R0
设计师 Designer	高玉芹 (Lucy)
技术员 Technician	
审核员 Verifier	

200L CIP



Technical Standards (技术标准):

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Assembly Diagram		200L CIP	
Scale	1 : 16	Date	NO.2019-11-01
Weight			