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Taizhou Yichuan International Trade Co., Ltd.

2023

**TURNKEY CANNABIS
SOLUTION**

Technologie macht das Leben besser



Taizhou Yichuan International Trade Co., Ltd.

Turnkey Cannabis Solutions

Rapid Rollout Cannabis Cultivation, Extraction & Product Manufacture



Be confident, assured, and ready

Our turnkey solutions for seed-to-product Cannabis Plant, Extraction, Testing, and related product manufacture. With 24 / 7 online technical support and customized services, our customers can achieve success easily. Adapt quickly. Deliver with confidence. Grow with a trusted partner for regulated industries.

About Taizhou Yichuan International Trade Co., Ltd.

With several years of experience consulting on Medical and Recreational Cannabis, ETR can help you launch large-scale cannabis cultivation, extraction, and manufacturing projects successfully.

How we can help you



Grow



Extract



Produce

High Yield Cultivation

High Performance Cannabis Growth Operations

- Greenhouse Environment Management System
- Agricultural Irrigation System
- Planting Light
- Agricultural Spraying UAV
- Agricultural Tractor
- Agricultural Excavator
- Seeder
- Trenching Skid Loader
- Harvest process design

CO2 Concentrate Extraction

Supercritical CO2/Cryogenic Ethanol Extraction Cannabis Oil Laboratories to produce high-grade concentrates

- Turnkey Solution Design
- Grinder
- Glass/Stainless Steel Reactor
- Ethanol Centrifuge
- Supercritical Carbon Dioxide Extraction
- Closed Loop Extractor
- Rotary Evaporator
- Short Path Distillation
- Molecular Distillation

Infused Product Manufacture

Commercial Manufacture Facility producing Cannabis-Infused edibles, beverages, topicals and medicines

- Manufacturing Facility design
- Capsules & Tablets Producing Line
- Liquid Medication Filling System
- Packaging and delivery system
- Vacuum Drying Oven
- Intelligent Factory

Or discover our turnkey Solutions:

- Cryogenic Ethanol Extraction Solution
- Beer Brewing Plant System
- Juice Producing Line
- ...

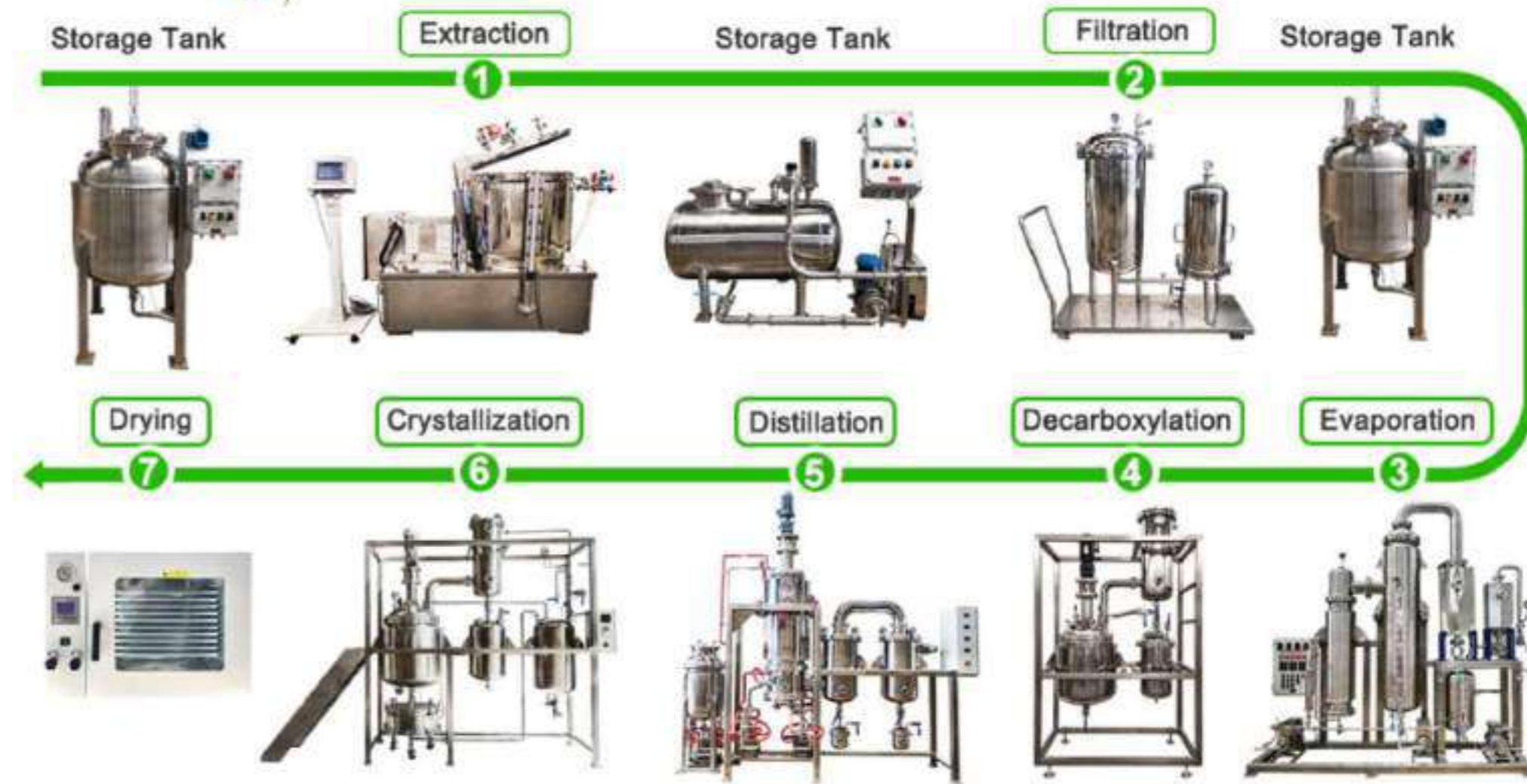


CBD Extraction | Distillation Turnkey Solution

Chemical Machinery

Committed to improving production efficiency

- 1.1 Glass/Stainless Steel Reactor
- 1.2 Ethanol Centrifuge
- 1.3 Supercritical Carbon Dioxide Extraction
- 1.4 Closed Loop Extractor
- 1.5 Rotary Evaporator
- 1.6 Short Path Distillation
- 1.7 Molecular Distillation
- 1.8 Vacuum Filter
- 1.9 Vacuum Drying Oven
- 1.10 Lyophilizer
- 1.11 Pump
- 1.12 Heating & Cooling Equipment



CBD Extraction Turnkey Solution From Seed To Oil

1.1 Glass/Stainless Steel Reactor

1.1.1 Glass Reactor

Single Layer Glass Reactor



Single layer glass reactor is through the water/oil bath or heating mantle to directly heat the kettle body, to make the material react with constant temperature and can provide a stir. Under the condition of constant temperature, in the airtight container, under atmospheric pressure or negative pressure mixing and reaction can be done through the reaction solution reflux, distillation, and extraction.

■ Technical Parameter

Single Layer Glass Reactor										
MODEL	F-1L	F-2L	F-3L	F-5L	F-10L	F-20L	F-30L	F-50L	F-80L	F-100L
Capacity(L)	1	2	3	5	10	20	30	50	80	100
Heating Power(kW)	0.8	1.5	1.8	2	3	4.5	6	9	9	9
Constant Pressure Drop Funnel	250ml			1000ml			2000ml			
Temperature Range(°C)	RT-250 (Heating in water & oil bath) RT-350 (Heating with heating mantle)									
Voltage	220V/50Hz or 380V/50Hz (110V/60Hz Optional)									
Optional	-Ex-proof Motor, Ex-proof Controller -Plug Type -PTFE spraying anti-corrosion treatment									

Dual/Triple Layer Glass Reactor

Turnkey Solutions



Dual/Triple layer glass reactor is ideal equipment for chemistry, fine-chemical, bio-pharmaceuticals, and the synthesis, test, and production of new materials. It's applied for heating and cooling synthesis reaction in vacuum conditions.

■ Technical Parameter

Dual Layer (Jacketed) Glass Reactor												
MODEL	S-1L	S-2L	S-3L	S-5L	S-10L	S-20L	S-30L	S-50L	S-80L	S-100L	S-150L	S-200L
Reaction Capacity	100ml~1L	200ml~2L	500ml~3	500ml~5	2L~10L	2L~20L	5L~30L	5L~50L	10L~80L	10L~100	25L~150L	30L~200
Jacketed Volume(L)	1	1.5	1.5	2	3	6	10	16	24	30	35	40
Port no. on the lid	4+1	4+1	4+1	4+1	5+1	5+1	5+1	5+1	5+1	5+1	5+1	5+1
Temperature Range(°C)	-120~+300											
Constant Pressure Drop Funnel	250ml				1000ml				2000ml		5L	
Stirring Speed(rpm/min)	0-1200					0-600						
Voltage	220V/50Hz or 380V/50Hz (110V/60Hz Optional)											
Dimension(mm)	440*360*1325		520*500*1510		670*690*1920	720*700*2020	650*750*2400	750*700*2450	770*720*2480	780*730*2500	1240*1140*3100	1300*950*3100
Optional	-Receiving Flask -Filter Device -Rectification System -Ex-proof Motor, Ex-proof Controller -Plug Type -PTFE spraying anti-corrosion treatment											

1.1 Glass/Stainless Steel Reactor

1.1.1 Glass Reactor



We can provide customized services according to your requirements.

■ Technical Parameter

Electric Lift Glass Reactor				
MODEL	SJ-10L	SJ-20L	SJ-30L	SJ-50L
Capacity(L)	10	20	30	50
Jacketed Volume(L)	8	7	9	16
Stirring Speed(rpm/min)	0~450			
Power(W)	130	160		
Voltage	220V/50Hz or 380V/50Hz (110V/60Hz Optional)			
Temperature Range(°C)	-80~+250			
vacuum degree	0.098MPa			
Dimension(mm)	700*850*2250	750*920*2400	750*950*2700	750*950*2950
Weight(Kg)	120	130	142	148
Optional	·Ex-proof Motor,Ex-proof Controller ·Plug Type ·PTFE spraying anti-corrosion treatment			

Product Advantages

GLASS
REACTOR

Borosilicate
glass



Double-layer
condenser



Pure copper
coil



Frequency
converter



Smart control
system



Intelligent digital
display

1.1 Glass/Stainless Steel Reactor

1.1.2 Stainless Steel Reactor



Stainless steel reactor is made of 304 or 316 stainless steel. It is composed of a tank body, tank cover, agitator, transmission device, shaft seal device, frame, etc. In addition, the heating device and three-layer vacuum insulation layer can be configured according to process requirements. Stainless steel has excellent mechanical properties, which can withstand high working pressure and the impact of block solid material feeding; Good heat resistance, wide working temperature range, good corrosion resistance, good heat transfer effect, and fast temperature rise, and fall. It is widely used in the petroleum, chemical industry, rubber, pesticide, dye, medicine, and food to complete the process of vulcanization, nitration, hydrogenation, alkylation, polymerization, and condensation. Can be designed according to customer requirements.



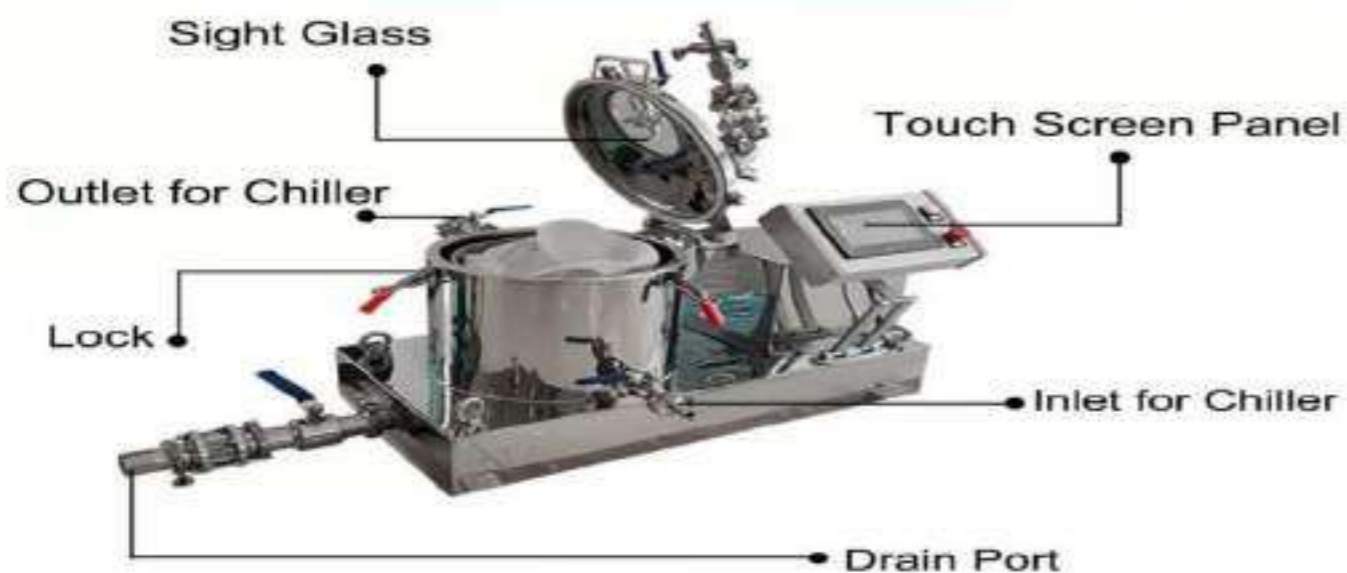
■ Technical Parameter

Stainless Steel Reactor(Frame type)					Photo
Model	SS-5L	SS-10L	SS-20L	SS-30L	
Reaction Capacity	5L	10L	20L	30L	50L
Jacketed Volume	2L	3L	6L	10L	16L
Material	SS304				
Thickness	Lining:4mm, shell:4mm				
Motor	120W	200W			
Rotating speed	0-600rpm				
Controller	Speed adjustment, temperature and speed LCD digital display				
Voltage	110V/220V, 50/60Hz				
Working pressure	-1~0.49Mpa				
Vacuum seal	0.098Mpa				
Constant pressure drop funnel	Stainless steel 500ml	Stainless steel 1L	Stainless steel 2L		
Machine size(mm)	700*600*1950	700*600*2030	750*650*2150	750*650*2450	750*650*2450

■ Application



1.2 Ethanol Centrifuge



Ethanol extraction centrifuge specification

			
97%	98%	6.5lbs-413lbs	-80°C
Alcohol Removal	Botanical Compound	Biomass per batch	Lowest Temperature

The centrifuge is to use centrifugal force to accelerate the liquid phase in the solid-liquid mixed liquid out of the rotating drum and leave the solid phase in the rotating drum so that the different materials that need to be separated can be accelerated to separate the machine. The operator should fill the filter bag with crushed plant material and places it in the machine. Then, add alcohol until the plant material is submerged. After soaking at a low temperature and setting a program to rotate at a low speed in both directions, the active ingredients in the plant are fully extracted. Rotate at high speed and open the bottom discharge valve to discharge the extract.

■ Technical Parameter

Model	Drum					Storage capacity (L)	Interlayer capacity (L)	Motor Power (KW)	Power voltage
	Hemp powder (LB/batch)	Capacity (L)	Diameter (mm)	Height (mm)	Rotary speed (rpm)				
PP-15	6.5	15	300	250	2000	30	9	1.1	220V/60Hz Single phase / three phase
PP-25	11	25	300	350	2000	40	12	1.5	
PP-45	20	45	450	300	1500	85	20	2.2	
PP-60	28	60	450	400	1500	106	25	3	
PP-110	50	110	600	400	1250	175	33	4	220V/60Hz Three phase
PP-140	65	140	600	500	1250	210	40	5.5	
PP-250	117	250	800	500	1100	380	55	11	
PP-480	225	480	1000	600	1000	748	90	15	
PP-860	413	860	1250	700	950	1250	130	18.5	

Operating Process

		
		
Materials Preparation	Materials Loading	Solvent Filling
Soaking and Washing	Dehydration	Residue Unloading

1.2 Ethanol Centrifuge

Advantage 1

Interlayer with heat insulation has a better insulation effect

Advantage 2

Intelligent process control

Advantage 3

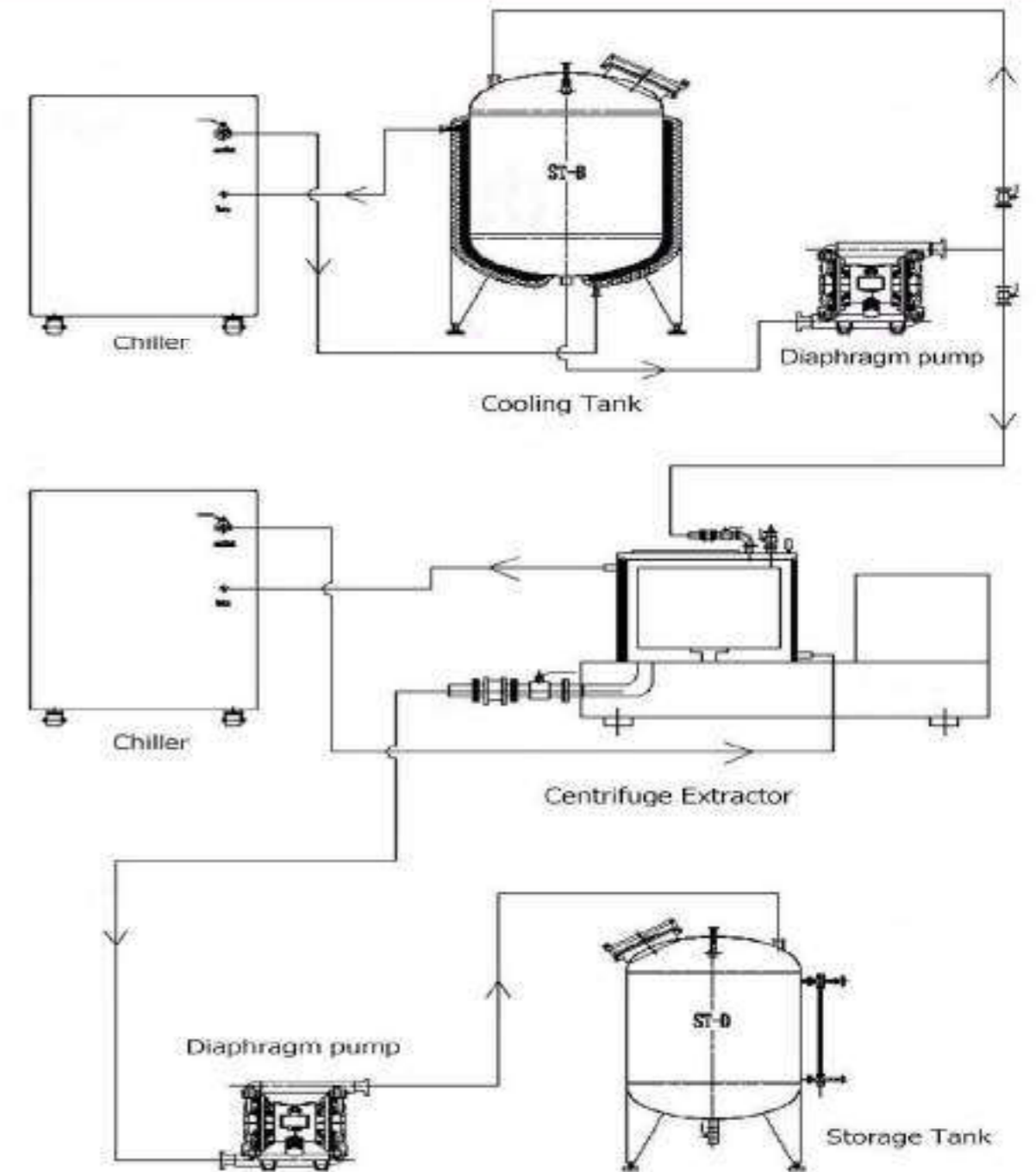
Explosion-proof motor is safer

Advantage 4

Vacuum system for easy feeding

Advantage 5

Free filter bags:
2 × 200 mesh
2 × 600 mesh



1.3 Supercritical Carbon Dioxide Extraction



Lab Scale

- Min. 5lbs per day
- Designed to get your commercial extraction business up and running fast



Pilot Scale

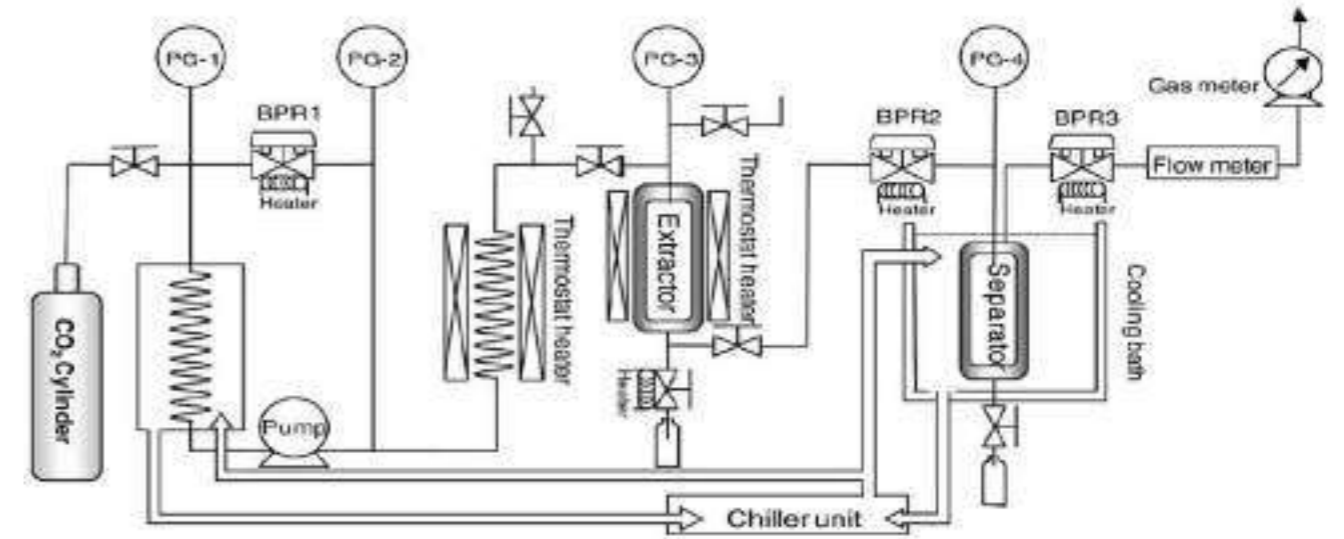
Supercritical CO2 extractors can process 20lbs - 300lbs per day, which can meet your production needs.



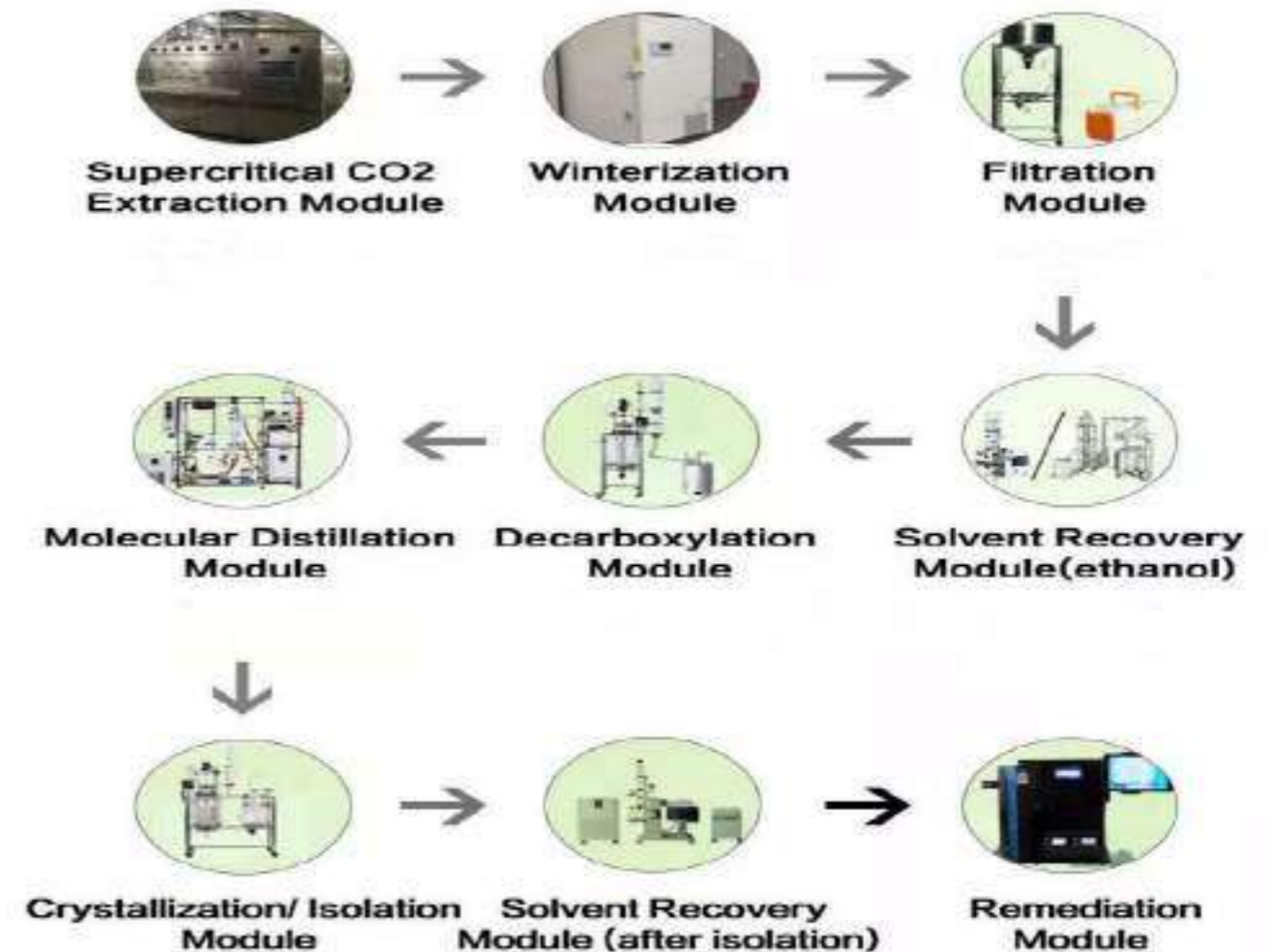
Industrial Scale

CO2 extraction systems offer stellar reliability and performance of the standard systems with greater capacity up to 1500lbs per day.

The Supercritical CO2 extraction process creates phase changes in carbon dioxide utilizing temperature and pressure. CO2 is known as a "tunable solvent" making it extremely versatile for creating a multitude of end products by controlling temperature and pressure. These phase changes create an environment to drop out differing weights of components in the plant material. Supercritical CO2 fluid extraction methodology delivers a clean, unaltered, consistent-yet-flexible product. The unique design of SFE Series systems allows for the separation and collection of these constituents during a single extraction. This enables the collection of light essential oils separately from other desirable constituents and heavier lipids.



We Offer Turnkey Solution for Herb Oil Extraction Equipment and Services



1.4 Closed Loop Extractor



The function of the closed loop extractor is mainly to extract the solvent from the solid matter. It is widely and mainly used in industry, such as the extraction of essence from plants by ethanol washing. Extracting the plant extract by ethanol washing is carried out by extracting the extract from the foliage of the plant through a closed loop extractor. During this process, the foliage is placed in a solvent and washed thoroughly with ethanol. During the washing process, the soluble essence will be removed and then collected in a tank.

PRODUCTS DESCRIPTION

Material Column

Solvent Tank

Receiving Foundation

Extraction Recycling

Filtration Separation

Boil off separation Drying



1 LB Closed loop extractor

1-lb closed loop extractor kit

50 LB Closed loop extractor



10LB Closed loop extractor

2 LB Closed loop extractor

5 LB Closed Loop Extractor

1.4 Closed Loop Extractor



In Terms Of Ways Of Solvent Injection



In Terms Of Ways Of Solvent Movement



1.5 Rotary Evaporator



The principle of rotary evaporator is that under the vacuum condition, according to the different boiling points, constant temperature heating and rotating at a constant speed to form a large area of film on the bottle wall, high-efficiency evaporation. The vapor is cooled by the efficient glass condenser and recycled into the collection bottle, then you can get the target solvent. The rotary evaporator is suitable for extracting solvent or separating mixed solutions. It's mainly used in pharmaceuticals, Biotechnology, Chemistry, Food Industry, and laboratory, etc. We can provide Manual/Electric Lift, Proof, Dual Condenser&Dual Reflex rotary evaporators. Customized services are available. Please feel free to contact us for more information.



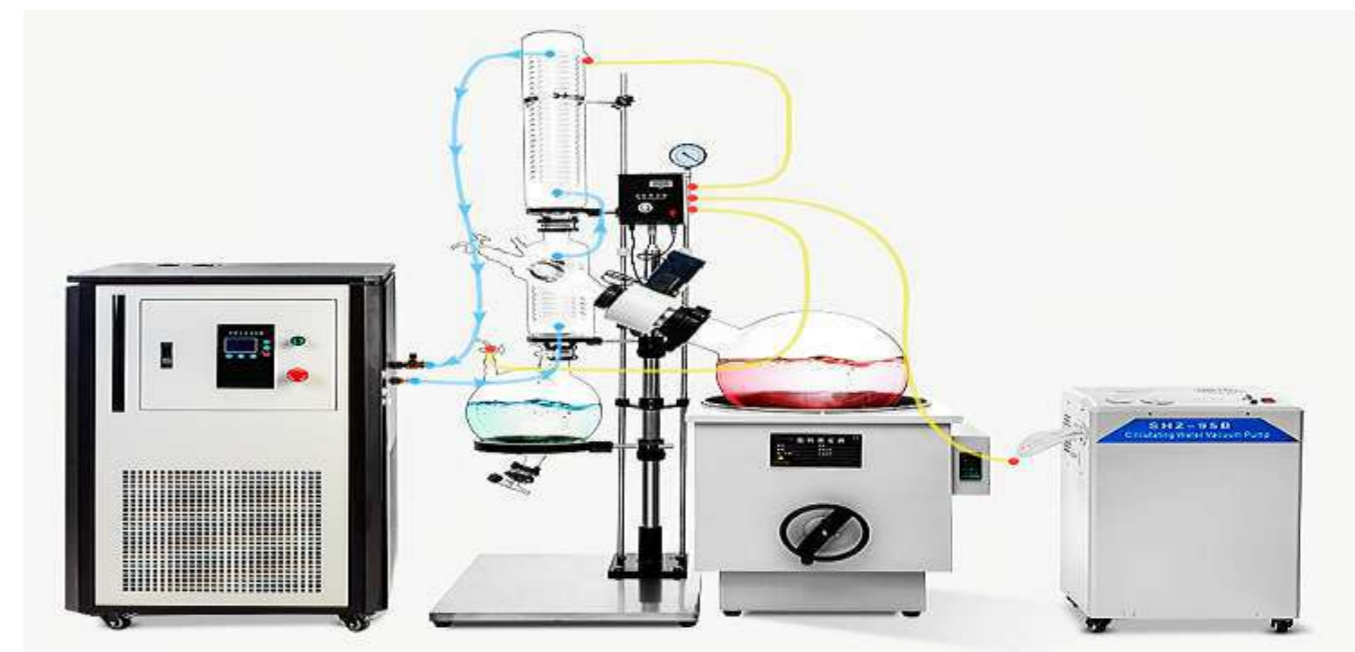
■ Technical Parameter

Model	RE-206	RE-52AA	RE-301	RE-501
Speed	0-120rpm			
Mix. Vacuum Rate	399.9Pa			
Temperature Range	Water Bath:RT-99℃ Oil Bath:RT-200℃			
Digital Display	Temperature and speed display			
Bath Lift	Manual Lift	Electric Lift	Manual Lift	Manual Lift
Motor Power	40 W	40 W	40 W	60 W
Heating Power	1.5 KW	1.5 KW	1.5 KW	2 KW
Condenser	Vertical Double Serpentine Coils			
Condenser Surface	0.15 m ²	0.15 m ²	0.2 m ²	0.3 m ²
Evaporating Speed (H ₂ O)	1.2 L/h	1.2 L/h	1.5 L/h	2 L/h
Rotary Flask	500ml-2L	500ml-2L	3L	5L
Collection Flask	1L φ35mm (Ball Joint)		2L Bottom	3L Bottom
Vacuum & Sealing	PTFE Sealing			
Bath Dimensions	φ240mm*150H	φ 260mm*150H	φ 280mm*150H	
Lift Distance	0-150mm			
Vacuum Gauge	-0.1Mpa~0Mpa			
Power Supply	Single Phase 220V/50HZ			

■ Support Equipment

The rotary evaporator is usually connected with a chiller and anti-corrosion vacuum pump.

- Chiller:
- Fast cooling of vapor to improve recovery rate.
 - Seal recycling system to save water resources.
- Vacuum Pump:
- Reduce boiling point and increase the evaporation rate.
 - Guide vapor to rise and increase recovery rate.



1.6 Short Path Distillation



Short-path distillation is a distillation technique that involves the distillate travelling a short distance, often only a few centimetres, and is normally done at reduced pressure. Molecular Distillation is applied for creating a high value clear CBD distillate from crude hemp oil that can be infused into a variety of edible products or fine oils to be used in vape cartridges or other products.

Short Path Distillation Kit



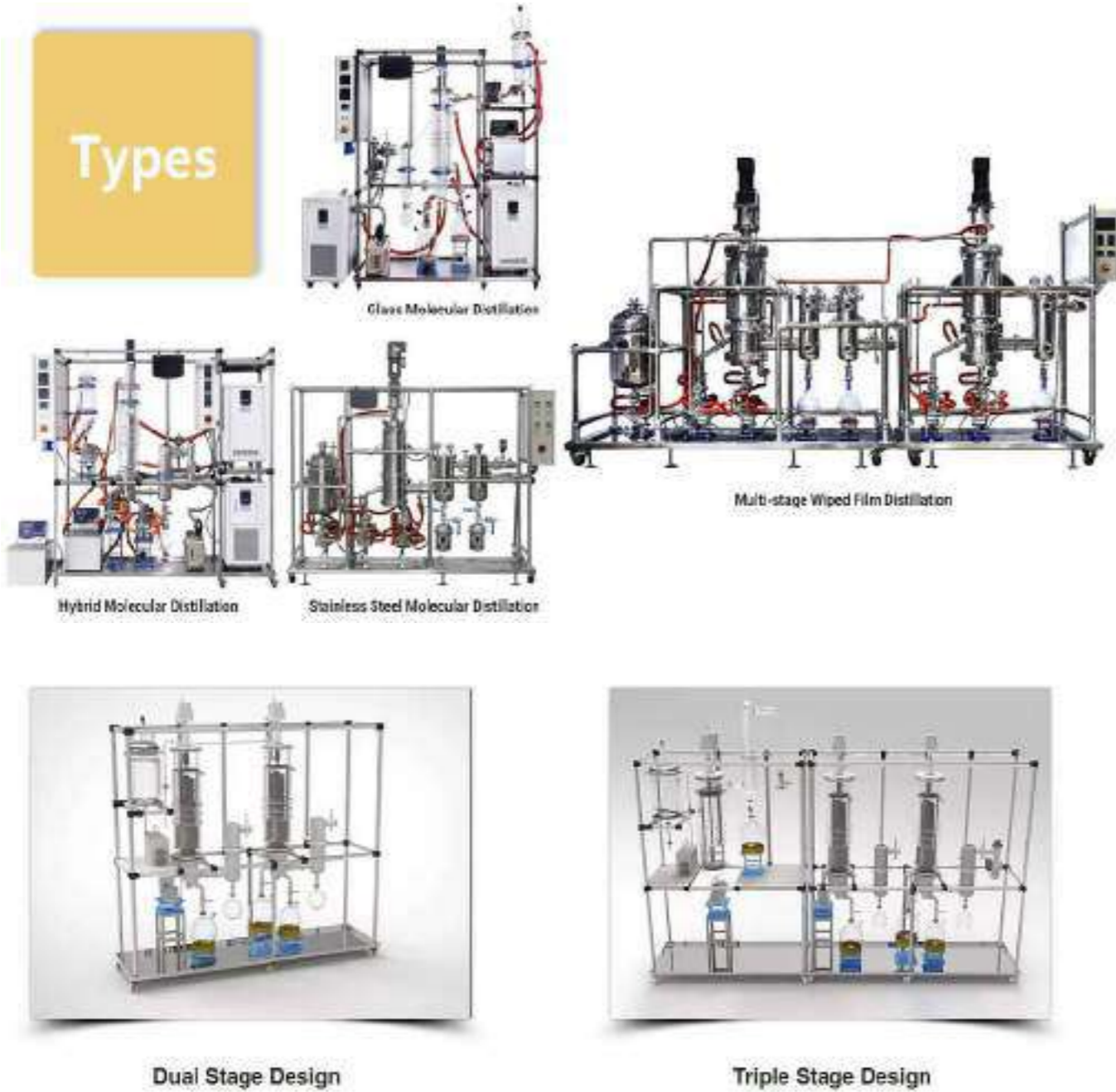
■ Technical Parameter

Name	Specification				Quantity	
	Capacity	500ml-2000 ml	5000ml	10L		20L
Heating mantle with magnetic stirrer	Capacity	500ml-2000 ml	5000ml	10L	20L	1pcs
	Heating Power	220W-650W	1100W	2100W	3000W	
	Stirring Power	40W				
	Stirring Speed	50-1800 r/min				
	Temp Range	RT-380°C				
Short path distillation kit	2 Neck Boiling Flask	500ml-2000 ml	5000ml	10L	20L	1pcs
	Thermometer Adapter	24/39				1pcs
	Short Path Distillation Head	24/39				1pcs
	Glass cock/hollow plug	24/39				1pcs
	1to 3 Distillation Cow Receiver	500ml, 24/39				1pcs
	Round Bottom Flasks	100ml/250 ml	500ml	1000ml	2000ml	3pcs
	Cold trap	Standard				1set
	Fittings	Standard				1set
Fittings	Plastic Keck Clips	Detachable plastic 3/8"(10mm) hose barbs for maximized safety during operation				6pcs
	Lab Jack	6" x 5" (150mm x 150mm) top plate				1pcs
	Bracket ring	For Round Bottom Flasks and cold trap				3pcs
	Metal Three Finger Clamp	To fixed short path distillation head				3pcs
Support Equipment (Optional)	Chiller	-80°C - RT chiller				1pcs
	Vacuum pump	Circulating water pump or oil pump				1pcs

■ Details



1.7 Molecular Distillation



Molecular (wiped film) distillation is the best thermal separation machine for heat-sensitive material because it is the gentlest type, causing the least amount of thermal degradation of the product. It is a process of separation, purification, and concentration of natural products, complex and thermally sensitive molecules. Molecular distillation is mainly used in chemical, pharmaceutical, petrochemical, spices, plastics, oil, and other fields.

■ Technical Parameter

Model	Effective evaporation area	Internal condensing area	Outer condensing area	Barrel Inside diameter	Constant pressure feeding funnel volume	Processing flow
FMD-60(B)	0.05	0.1	0.2	60	1.5	0.1~2.0
FMD-80(B)	0.1	0.15	0.25	80	1.5	0.3~4.0
FMD-100(B)	0.15	0.2	0.3	100	1.5	0.5~5.0
FMD-150(B)	0.25	0.4	0.6	150	1.5	1.0~8.0
FMD-200(B)	0.35	0.5	0.6	190	1.5	1.5~10.0
FMD-230(B)	0.5	0.65	0.6	220	1.5	2.0~15.0

■ Application



■ Features



1.8 Vacuum Filter



VF series Vacuum Filter adopts stainless steel uniform screen mesh as the filter membrane which is suitable for liquid-solid filtration, Material drying, liquid removal of impurities, and other operations. It's widely used in chemical analysis, sanitary inspection, pharmaceutical industry, agricultural machinery, etc. The stainless steel funnel can be used with filter cloth, filter paper, filter bag, etc(which are provided by the customer) for different filter materials, place the material to be filtered evenly on the filter layer and the glass filter bottle is connected with a vacuum pump, then the material in the funnel is filtered by the principle of negative pressure, the filtrate enters the collection bottle and can be discharged through the bottom discharge valve.

Basic Configuration

- *GG17 high borosilicate glass for all glass fittings, which has excellent chemical and physical properties
- *Buchner funnel adopts SS304, the welding process is smooth and beautiful;
- *SS304 Frame with universal pulley, easy to move and also can brake;
- *The PTFE discharge valve, corrosion resistance, removable and easily discharge solid materials;
- *Receiving flask with two valves, convenient vacuum exhaust.

Technical Parameter

Model	VF-10L	VF-20L	VF-30L	VF-50L
Frame material	304 Stainless Steel			
Funnel	Material: 304 Stainless Steel			
	Ø 300*200 200mm	Ø 350*220 mm	Ø 400*240 mm	Ø 520*280 mm
Receiving flask	Material: GG-17 High borosilicate glass			
	10L	20L	30L	50L
	Open mouth: Four			
	Funnel connection: Ø 80mm Flange			
Discharge valve	Valve port: 24# Straight grinding mouth			
	Bottom port: DN25(Ø45mm) Convex ball grinding mouth			
Machine size(mm)	PTFE core, Discharging port(Pagoda joint): OD28mm, ID17mm			
	500*500*1 150(1350)	500*500*1 300(1520)	530*530*1 400(1640)	600*600*1 450(1730)

Features



1.9 Vacuum Drying Oven



Vacuum drying oven is widely used in biochemical, chemical engineering, pharmaceutical, medical care and public health, agricultural scientific research, environmental protection, and other research areas. It is applicable for powder drying, and baking, as well as the disinfection and sterilization of various glass containers. In particular, it is suitable for rapid and efficient drying treatment of heat-sensitive, easily decomposed, easily oxidized materials and complex components.



Hot Circulating Air Blast Drying Oven



Electric Thermostatic Drying Ovens are suitable for industrial and mining enterprises, laboratories, scientific research units, and other departments for drying, melting wax, sterilization, etc. But it is not suitable for the inflammable and explosive materials in the drying box, so as not to cause an explosion.



1.9 Vacuum Drying Oven

■ Technical Parameter

Name	Model	Power	Inner chamber size (D*W*H) mm	Exterior size (D*W*H) mm	Voltage	Tem. range	Notes:
Hot Circulating Air Blast Drying Oven	00A	0.6KW	260x280x280	420x390x570	220V/50Hz (110V optional)	RT+5-250°C Tem. resolution: 1°C	A: Iron plate studio B: Stainless steel 201 C: Stainless steel 304
	00B						
	0A	0.8KW	350x350x350	470x680x590			
	0B						
	1A	1.5KW	350x450x450	470x760x690			
	1B						
	2A	2KW	450x550x450	570x860x730			
	2B						
3A	3KW	500x600x700	620x910x890				
3B							
DZF Series Vacuum Drying Oven	6020A	0.6KW	300x300x215	455x595x455	220V/50Hz (110V optional)	RT+0-150°C Tem. resolution: 0.1°C	A: Iron plate studio B: Stainless steel 201 C: Stainless steel 304
	6020B						
	6020C						
	6050A	1.4KW	370x415x345	555x720x535			
	6050B						
	6050C						
	6090A	2KW	450x450x450	610x790x565			
	6090B						
	6090C						
	6210A	3KW	600x650x650	820x970x1020			
6210B							
6210C							

■ Features



1 Leakage of the vacuum ball valve
2 Leakage of the pressure relief ball valve
(Air outlet Can be conned to rotary vane pump)



Push-type door lock structure



The tightness of the oven door can be adjusted and the synthetic silicon sealing ring takes shape integrally, which ensure the high vacuum degree in the oven.



The double layer toughened sight glass is bullet proof and high temperature resistance, which can be used to observe the internal working condition in real time.



1.10 Lyophilizer



Lyophilizer is widely used in medicine, pharmacy, biology research, chemical industry, food production, etc. Goods are easier for long-term preservation after freezing-drying processing, they can be restored to the original state and maintain their chemical and biological characteristics after being watered.

The vacuum freeze-drying method is a liquid → solid → gaseous process. In the freeze-drying process, the "liquid bridge" between the solution particles has been frozen into a "solid bridge". The relative position of particles has been fixed and does not exist surface tension on the gas-liquid interface between the two particles. With the continuous distillation of solvent, the "solid bridge" continuously decreases, but the relative position between two particles will no longer change until the "solid bridge" completely disappear.

■ Technical Parameter

	ZLGJ-10				Photo
Type	Standard	Top-Press	With Drying Manifold	Mixed	
Freeze-drying Area	0.1m²	0.08m²	0.1m²	0.08m²	
Capacity of Tray	1.5L	1L	1.5L	1L	
Tray Size	Ø180mm*4	Ø180mm*3	Ø180mm*4	Ø180mm*4	
Consumed Power	950W				
Cold Trap Temp	-55℃/-80℃ (Optional)				
Vacuum Degree	<5Pa				
Pumping Rate	2L/S				
Sublimation Speed	3-4kg/24h				
Net Weight	48kg				
Capacity of penicillin bottles (pcs)	Ø12mm:920 Ø16mm:480 Ø22mm:460	Ø12mm:560 Ø16mm:285 Ø22mm:165	Ø12mm:920 Ø16mm:480 Ø22mm:260	Ø12mm:560 Ø16mm:285 Ø22mm:165	
	ZLGJ-12				Photo
Type	Standard	Top-Press	With Drying Manifold	Mixed	
Freeze-drying Area	0.12m²	0.08m²	0.12m²	0.08m²	
Capacity of Tray	1.5L	1L	1.5L	1L	
Tray Size	Ø200mm*4	Ø180mm*3	Ø200mm*4	Ø180mm*3	
Consumed Power	950W				
Cold Trap Temp	-55℃/-80℃ (Optional)				
Vacuum Degree	<5Pa				
Pumping Rate	2L/S				
Sublimation Speed	3-4kg/24h				
Net Weight	63kg				
Capacity of penicillin bottles (pcs)	Ø12mm:920 Ø16mm:480 Ø22mm:260	Ø12mm:560 Ø16mm:285 Ø22mm:165	Ø12mm:920 Ø16mm:480 Ø22mm:260	Ø12mm:560 Ø16mm:370 Ø22mm:240	
	ZLGJ-18				Photo
Type	Standard	Top-Press	With Drying Manifold	Mixed	
Freeze-drying Area	0.18m²	0.09m²	0.18m²	0.09m²	
Capacity of Tray	1.5L	1L	1.5L	1L	
Tray Size	Ø240mm*4	Ø180mm*3	Ø240mm*4	Ø180mm*3	
Consumed Power	1100W				
Cold Trap Temp	-55℃/-80℃ (Optional)				
Vacuum Degree	<5Pa				
Pumping Rate	4L/S				
Sublimation Speed	6kg/24h				
Net Weight	88kg				
Capacity of penicillin bottles (pcs)	Ø12mm:1320 Ø16mm:740 Ø22mm:540	Ø12mm:880 Ø16mm:550 Ø22mm:365	Ø12mm:1320 Ø16mm:740 Ø22mm:540	Ø12mm:880 Ø16mm:550 Ø22mm:365	
	HPD-1		HPD-4		HPD-6
Photo					
Freeze-drying Area	0.1m²		0.4m²		0.6m²
Sample Tray	3pcs, 140mm*278*30mm		4pcs, 200*450*30mm		4pcs, 310*430*30mm
Shelves Spacing	45mm				
Consumed Power	750W		1100W		2300W
Cold Trap Coil Temp.	-40℃		-40℃		-50℃
Ultimate Vacuum	5Pa				
Sublimation Speed	1-2kg/batch		4-6kg/batch		6-8kg/batch
Power Supply	220V/50Hz (110V/60Hz: Optional)				
Dimension	670*600*780mm		700*630*900mm		730*810*1180mm
Weight(Kg)	50		80		120

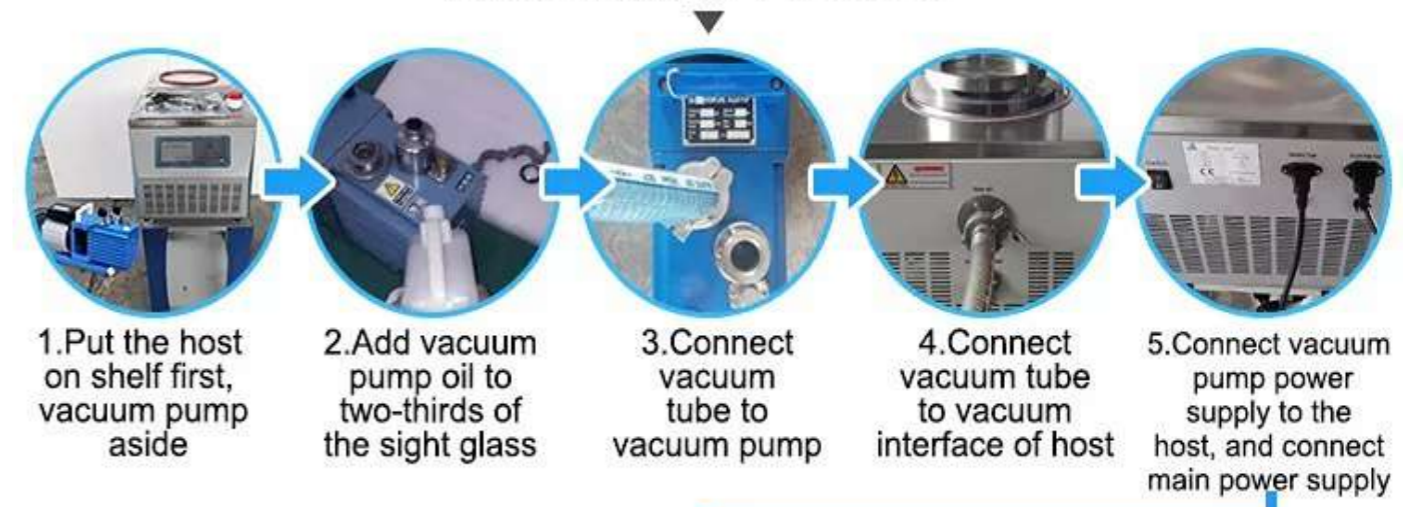
1.10 Lyophilizer

	ZLGJ-20	ZLGJ-30	ZLGJ-60	ZLGJ-80
Photo				
Freeze-drying Area	0.2m ²	0.4m ²	0.6m ²	1m ²
Sample Tray	3pcs, 265*385*30mm	4pcs, 295*335*30mm	1pcs, 350*170*30mm	6pcs, 335*175*30mm
Shelves Spacing	50mm			
Sample Shelves	3+1 Layers	4+1 Layers	4+1 Layers	6+1 Layers
Consumed Power	350W	450W	550W	650W
Cold Trap Temp	-70℃	<-75℃	<-75℃	<-75℃
Vacuum Degree	Max. 10Pa			
Pumping Rate	4L/S	6L/S	8L/S	15L/S
Sublimation Speed	4kg/24h	6kg/24h	8kg/24h	15kg/24h
Cooling Type	Air Cooling			
USB Interface	1			
Pre-freezing Function	Yes			
Power Supply	220V/50Hz(110V Optional)			380V/50Hz
Dimension	800*800*1550mm	880*735*1320mm	960*185*1460mm	1020*280*1760mm

Application

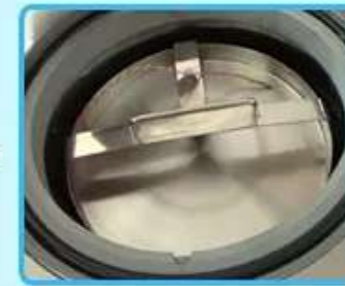


Installation Process



Pre-freezing install

6. Put pre-freeze shelf into cold trap



7. Close pre-freeze cover lid



8. Finish installation, turn on power to start pre-freezing



Freeze drying install

6. Put on the drying shelf



7. Put on the glass cover (Make sure it's sealed)



8. Installation is complete



9. Turn on the power to start drying



1.11 Pump

1.11.1 Water Ring Vacuum Pump



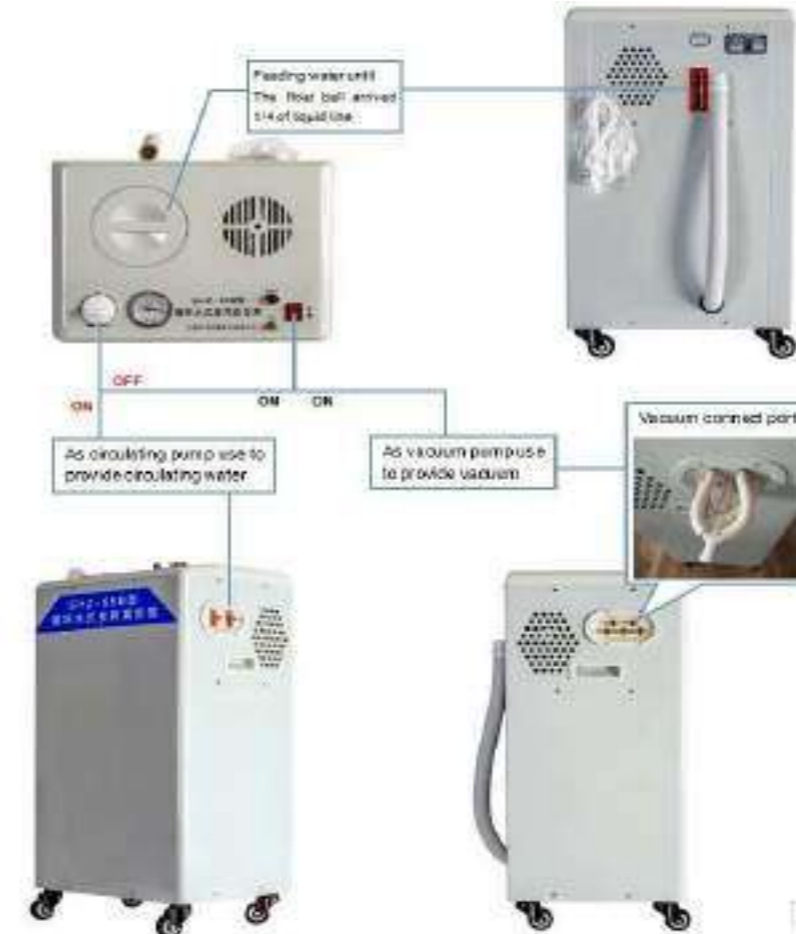
The Circulating water vacuum pump is the centrifugal mechanical pump. The impeller rotor is installed eccentrically in the cylindrical pump shell, and its blades are bent forward. When the impeller rotates, the working water forms a swirling water ring along the pump shell under the action of centrifugal force. Due to the eccentric position of the impeller, the water ring runs relative to the blade, so that the space volume between the two adjacent blades shows periodic changes. Like a liquid "piston" in the cascade for radial reciprocating movement. It is widely used in many processes of industrial production, such as vacuum filtration, vacuum water diversion, vacuum feeding, vacuum evaporation, vacuum concentration, vacuum moisture return, and vacuum degassing. We can provide a DIII water jet vacuum pump, 95B circulating vacuum pump, and industrial stainless steel water ring vacuum pump system.



■ Technical Parameter

Model		SHZ - DIII Circulating Water Vacuum Pump
Motor Performance	Power	180 W
	Pumpage	80L/Min
	Lift	8m
	Body material	Anti-corrosion
	Voltage	220V/50Hz,
Function 1	Sucking rate	10L/Min *2
	Maximum vacuum	0.098Mpa (98KPa, 735mmHg, 0.98bar, 735Torr)
	Tank capacity	15L
	Vacuum port no.	2Pcs
Function 2	As circulating pump	Circulating water temperature: 0~25°C
Dimensions		400*280*420mm
Net Weight		15KG
Noise		<50dB
Shell Material		PP

Model		SHZ-95B Circulating Water Vacuum Pump
Motor	Power	370 W
	Pumpage	90L/Min
	Lift	12m
	Body material	Anti-corrosion
Performance	Voltage	220V, 50/60HZ
	Sucking rate	10 L/Min x5pcs
Function 1	Maximum vacuum	0.098Mpa (98KPa, 735mmHg, 0.98bar, 735Torr)
	Tank capacity	60L
	Vacuum port no.	5Pcs
Function 2	As circulating pump	Circulating water temperature: 0~25°C
Safety Protection		The product includes check valve to prevent cross-flow
Shell Material		PVG with surface electrostatic spray
Dimensions		450*340*870mm
Net weight		37kg



1.11 Pump

1.11.2 Rotary Vane Vacuum Pump

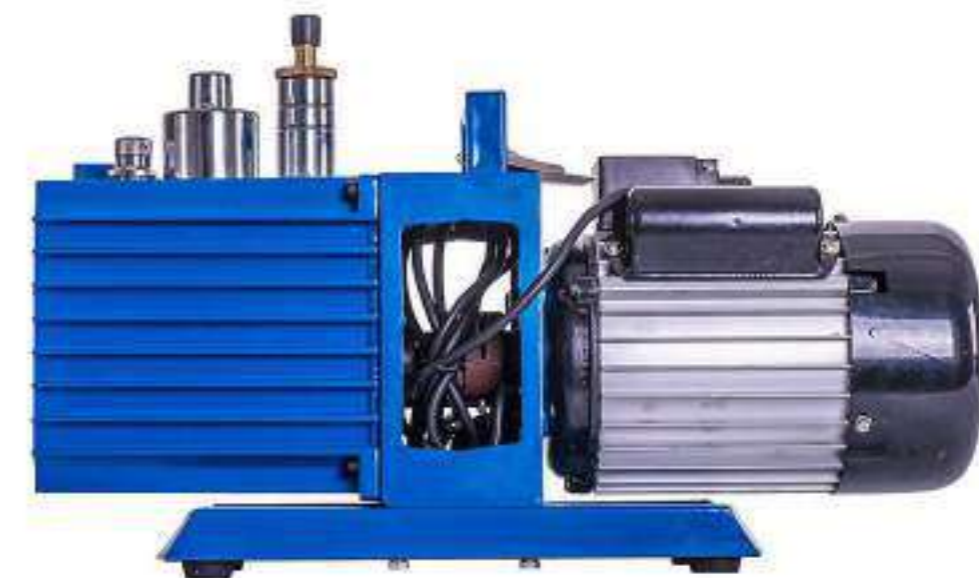


Rotary Vane vacuum pump is one of the basic equipment to pump gas, can be used alone, also can be used with a booster pump, diffusion pump, molecular pump and other ultra-high vacuum pump connected as a backing pump, widely used in electronic devices manufacturing, vacuum drying oven, filtration, impregnation, coating, welding, smelting and laboratory equipment.

■ Technical Parameter

Model	2XZ-0.5	2XZ-1	2XZ-2	2XZ-4
Sucking Rate	0.5L/S	1L/S	2L/S	4L/s
Voltage	220V/50Hz			
Ultimate vacuum	6*10 ⁻² Pa			
Motor power	180W	250W	370W	550W
Rotating speed	1400rpm			
Oil temperature rise	>40°C			
Noise	<65dB			
Oil capacity	0.40L	0.42L	0.48L	0.55L
Dimension	445*125*256mm			478*148*277mm
Weight	18kg	19kg	22kg	24kg

■ Details



1.12 Heating & Cooling Equipment

1.12.1 Low Temperature Circulating Chiller



DLSB Series Chiller is the use of fully enclosed compressor mechanical refrigeration, cooling tank wall cover much cooling copper coil, refrigerant (Freon) through the coil continuous circulation to cooling coolants (industrial alcohol) in the tank, then the built-in circulation pump and external circulation pipeline will transported refrigerant (industrial alcohol) to the supporting equipment jacketed or condensing coil to cool the material in the reactor indirectly. cool and liquefy the vapor in the condenser. It can be connected with a jacketed layer reactor, condensing coil of reactors, and rotovaps. It can also be used to put the object or container into the bath for low-temperature reaction. 5L, 10L, 20L, 30L, 50L, 100L, 160L and 200L chillers are available, lowest temperature can be -10, -20, -30, -40, -60, -80, -100, -120°C for you to choose.

■ Features



All Series

Room Temp

	5L 10L 20L 30L 50L	-10°C	
	5L 10L 20L 30L 50L 100L	-20°C	
	5L 10L 20L 30L 50L 100L	-30°C	
	5L 10L 20L 30L 50L 100L	-40°C	
	5L 10L 20L 30L 50L 100L	-60°C	
	5L 10L 20L 30L 50L 100L	-80°C	
	5L 10L 20L 30L 50L 100L	-120°C	

1.12 Heating & Cooling Equipment

1.12.2 Thermostatic Water/Oil Bath



High temperature circulating oil bath adopts stainless steel material for the bath and selects high-quality plate electrostatic spray plastic for the shell. The heating ring is placed in the oil and heats fast and efficiently. It is also energy-saving PID accurate temperature control. An efficient circulating pump is placed under the bath which can circulate hot oil/water with other instruments such as a jacketed glass reactor. The Heater also can be used as the water/oil bath. It has the advantages of fast heating, uniform temperature, accurate temperature control, and so on.

■ Technical Parameter

Model	OBC-05L	OBC-10L	OBC-20L	OBC-30L	OBC-50L	OBC-100L
Reservoir Volume	5L	10L	20L	30L	50L	100L
Range Temp	Water Bath: RT~99°C, Oil Bath: RT~180°C: ±1°C					
Voltage	200V					200V/380V
HP	1P					1P/3P
Frequency	50/60 HZ					
Total Power	1.6Kw	3.1Kw	3.1Kw	3.1Kw	5.1Kw	6.1/9.1Kw
Heating Power	1.5Kw	3Kw	3Kw	3Kw	5Kw	6/9Kw
Weight (kg)	13	17	22	27	33	33
Dimension(L*W*H mm)	480*380*630	480*380*630	550*450*780	550*450*780	680*550*840	650*800*940

■ Features



1.12 Heating & Cooling Equipment

1.12.3 High and Low Temperature Circulating Device



The GDX Series High and low temperature circulating device has three systems: A cooling system and Heating system and a Circulating system. The heating and cooling systems are used independently and can be switched to use without waiting and changing oil. The circulating system is a closed system, there is no water vapor absorption at low temperatures, and no oil mist is generated at high temperatures, improving the service life of heat conduction oil. It's widely used in the pharmaceutical, biochemical, laboratory, and other industries, and is often used to provide a heat source and cold sources for Jacketed glass reactors, reaction tanks, and other circulating lines. 10L, 20L, 50L, 100L, and 200L high and low-temperature circulating devices are available. The highest temperature is 200°C. The lowest temperature can be -10, -20, -40, -80°C for you to choose from.

■ Technical Parameter

Model	GDX-20/30	
No-load temperature range	-30℃~200℃	
Controller	Feedforward PID+Our special dynamic control circulation	
Temp. control	Process temperature control mode	
Temperature feedback	Heat-conducting medium feedback PT100	
Process Temperature feedback	Heat-conducting medium feedback PT100	
Temp. accuracy	±1℃	
Cooling capacity	200℃	3.5KW
	100℃	3.5KW
	20℃	3.5KW
	0℃	3.0KW
	-20℃	1.1KW
	-30℃	0.8KW
Circulation pump	100W, 20L/min, 4-6m	
Heating power	3KW	
Cooling power	1.5KW	
Evaporator	Plate heat exchanger	
Operation panel	7 inches LCD screen, key touch control, easy to operate, display setting temp. and measurement temp.	
Refrigerant	R404A	
Connection size	DN15 (4")	
Dimension	660*590*1070mm	
Weight	150KG	
Power	220V/50Hz, 1-phase	
Case material	SUS304, cold rolled steel painting	

■ Application

