



**15+years Manufacturing
Quality is our culture!**



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TOPTION INSTRUMENT CO.,LTD



Extraction | Distillation Turnkey Solution

Quality Manufacturing 15 Years



TOPTION INSTRUMENT Co., Ltd. has spent 15+ years becoming a world leading manufacturer engaged in the research, development, production, sale and service of ethanol extraction centrifuge, molecular distillation equipment, wiped film evaporator, crystallization reactor, dewaxing / winterization filter, nutsche filter, rotary evaporator.

Since 2004 TOPTION'S equipment has been used and praised in many counties including United States, Canada, Poland, Spain, Italy, Sweden, Switzerland, Colombia. We are your dependable partner in cbd oil distillation industry, we are flexible, intelligent, and truly care about your benefits potential of a well-orchestrated vacuum distillation system. We want your cbd business brand to be remembered and welcomed by your customers, not the practicalities of cannabis market.

TOPTION has passed ISO9001 & CE certification, UL certification is in process, we work closely with our clients to deliver a successful and extraordinary cbd distillation system, choose TOPTION to maximize your benefits. TOPTION will be your TOP OPTION.



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Export Bus
Quality Assura
R & D Capacity
Production Flo
Company

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Molecular distillation equipment

Short path (molecular) distillation system is considered as the safest mode of separation and to purify the thermally unstable molecules & related compounds with low volatility & elevated boiling point. In the high vacuum environment, molecular distillation has the advantages of low distillation temperature, short heating time and rapid separation.

A complete molecular distillation plant should include

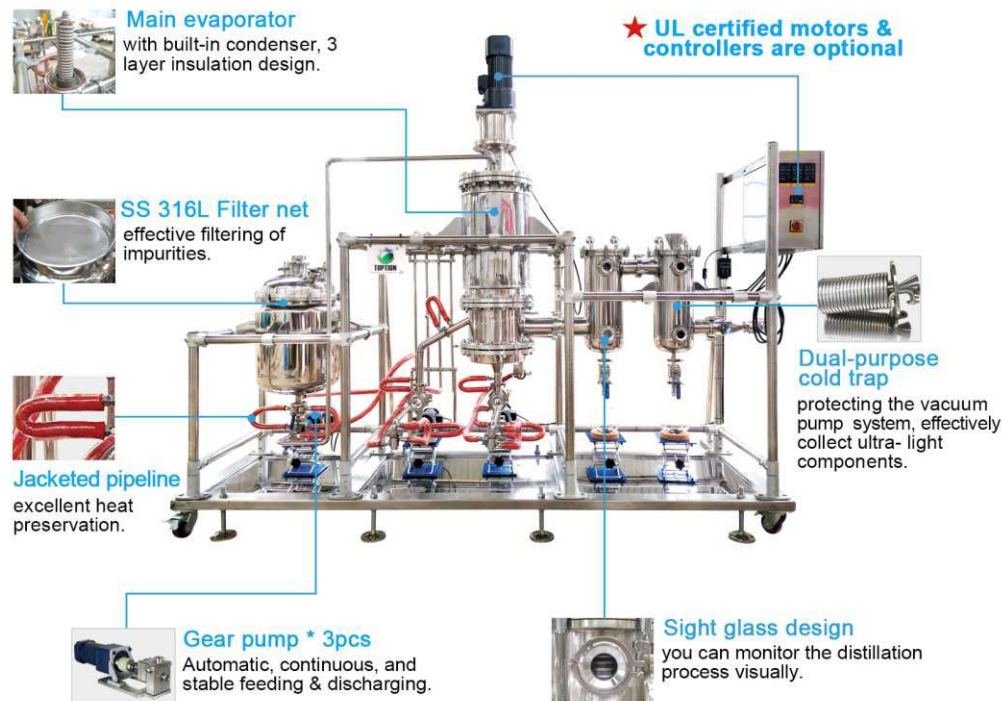
Short path evaporator	Heating system (RT-200°C or RT-300°C)
Material feeding pump	Cooling system (-20°C~180°C or -40°C~RT or -80°C~RT)
Material discharging pump	Vacuum system (0.05pa / 1pa / 10pa)

Product parameters (Lab-Pilot-Industry wide capacity range)

Model	Evaporator Area(㎡)	Internal Condenser Area (㎡)	Capacity (L/h)	Mixing Motor Power (W)	External condenser + Cold trap
MDS-10	0.10 (5 Inch)	0.15	3-15	370W	1+1
MDS-20	0.20 (7 Inch)	0.40	5-25	370W	1+1
MDS-30	0.30 (8 Inch)	0.50	5-30	550W	1+1
MDS-50	0.50 (12 Inch)	2.00	10-50	1500W	1+1
MDS-100	1.00 (14 Inch)	3.00	30-200	3000W	1+1
MDS-200	2.00 (20 Inch)	5.00	30-260	3000W	1+1
MDS-500	5.00 (32 Inch)	10.00	50-300	4000W	1+1

(MDS-10~50 For Research, MDS-100 / 200 / 500 for production.)

Quality is our culture

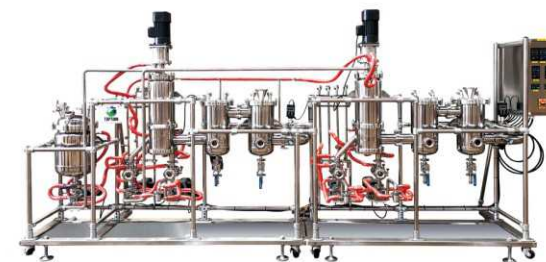


"C"(E) Series

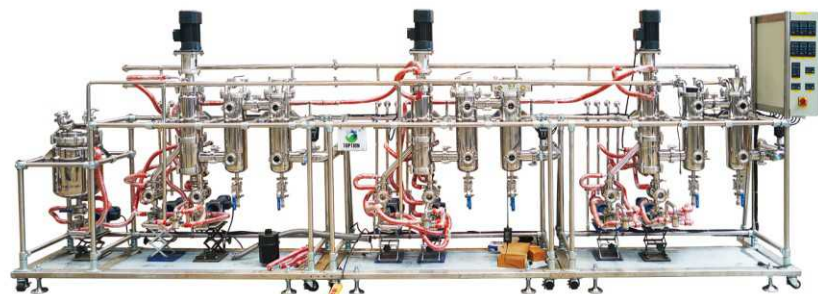
- UL certified motor & controller are optional.
- Jacketed Stainless Steel Material Feeding Tank.
- Gear Pump Material Feeding Type.
- Gear Pump Collection Type.



MDS-10CE



MDS-30CE Two stages type



MDS-10CE Three stages type



MDS-30CE



MDS-50CE



MDS-100CE



MDS-200CE Industry types customize

Heating System & Cooling System



Vacuum System-ultimate vacuum 10Pa,1Pa,0.05Pa (UL certified pumps are optional)



Oil Pump - ultimate vacuum 10Pa



Roots Pump Set - ultimate vacuum 1Pa

+



+



High Vacuum Molecular Pump - ultimate vacuum 0.05Pa

Product Analysis



1	316L stainless steel material: durable & corrosive-resistant, excellent thermal conductivity for high processing rates.
2	Filter net: effective filtering of impurities.
3	Jacketed pipeline: excellent heat preservation.
4	Full jacketed pipe (feeding and collection section)
5	Electric machinery: Magnetic sealing strong motor to drive rotation
6	Main evaporator: with built-in condenser, 3 layer insulation design
7	Material charging pump: Automatic, continuous, and stable feeding & discharging.

Delicate details

316L stainless steel

Made by food grade 316L stainless steel, durable and corrosive-resistant, with excellent thermal conductivity for high processing rates.



Filter net

effective filtering of impurities.



Wide options

Wide choices of sizes applicable to lab, pilot and industry production.



Fully jacketed

Fully jacketed design can make full insulation of whole system with circulating hot oil for precise control of insulation temperature.



Fully automatic

Fully automatic operation by feeding and collection pumps, make continuous and high efficient working process.



Shortest lead time

Shortest lead time and inventory available, strong technical support including on-line and on-site.



Turnkey solution provided

Turnkey solution provided, including main distiller, supporting thermostatic equipment and vacuum pumps for one stop service.



Application of molecular distillation equipment

Molecular distillation is applied for creating a high value clear distillate from Plant Oil Concentrates, such as refine cannabis and hemp concentrates into a golden clear distillate that can be infused into a variety of edible products or fine oils to be used in vape cartridges or other products.



Choose TOPTION to maximize your results. We believe, TOPTION will be your TOP OPTION.



Focus on detail reliable quality

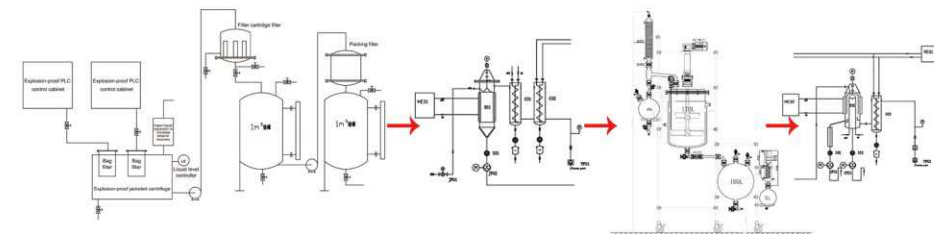


More than 15 years manufacturing experience



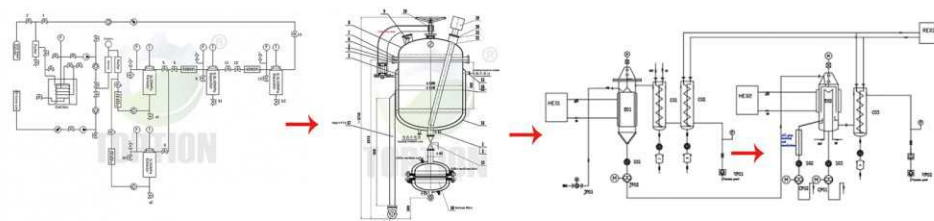
1. Cryogenic centrifugal extraction

Cryogenic centrifugal extraction - Remove reagent - Decarburization tank - Molecular distillation.



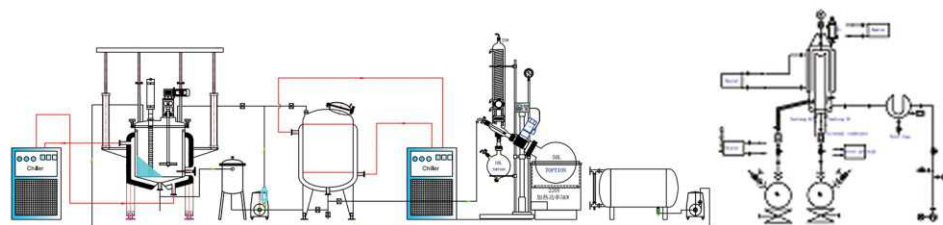
2. Supercritical Extraction

Supercritical extraction – dewaxing filtration system – concentration (scraped film equipment / rotary evaporator) – molecular distillation system.



3. Solvent Extraction Method – Ultrasonic Extraction

Ultrasonic extraction – Multi union bag-type filter - Alcohol recovery – Scraper concentration / rotary evaporator concentration – molecular distillation .



Centrifuge cbd extraction



Integrated explosion
-proof control cabinet.

EX external split
PLC operation to
meet higher
explosion-proof.



TOPTION TOP-C series ethanol extraction centrifuge has a high degree of automation, large processing capacity, convenient operation and maintenance, and can realize remote control. Its special structure allows the working temperature to be as low as -80°C , prevents the volatilization of ethanol, and improves production efficiency.



15lbs~220lbs
Of biomass/batch



98%
Extraction rate
from biomass



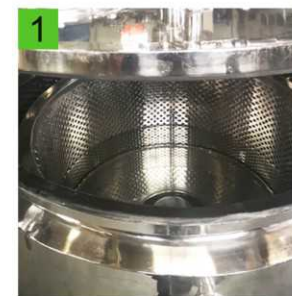
97%
Ethanol removal

Technical parameter

Main parameters	TOP-C15	TOP-C30	TOP-C50	TOP-C110	TOP-C160	TOP-C220
Vessel diameter(inch)	12	18	24	32	40	47
Vessel volume(L)	18	48	110	251	393	565
Biomass/batch (lbs)	15	30	50	110	160	220
Alcohol solvent (L)	57	110	201	377	546	745
Standard Max speed(r/min)	3000	2000	1500	1000	900	700
Optional 1:speed	4000	3000	2000	1500	1200	1000
Main motor power (kw)	2.2/3	3/4	5.5/7.5	7.5/11	11.0/15	18.5/22
Vessel load-bearing (lbs)	25	50	100	320	450	540
Dimension (L*W*H)mm	850*610*900	980*680*1000	1350*990*1300	1700*1200*1500	1970*1400*1500	2200*1700*1500
Machine weight(kg)	≈300	≈500	≈800	≈1400	≈1900	≈2500

TOP Series cbd extraction centrifuge advantages

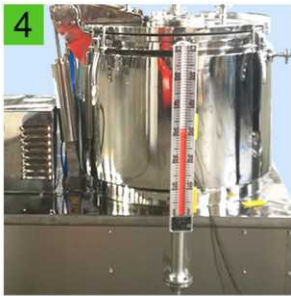
1. **Mechanical spring** - to help the operator easily open the cover.
2. **Siemens** - PLC control system & operation screen.
3. **UL inverter optional** - Variable speed governor for stepless speed regulation of centrifuges.



4. Level gauge - check if the amount of alcohol soak is enough at any time.

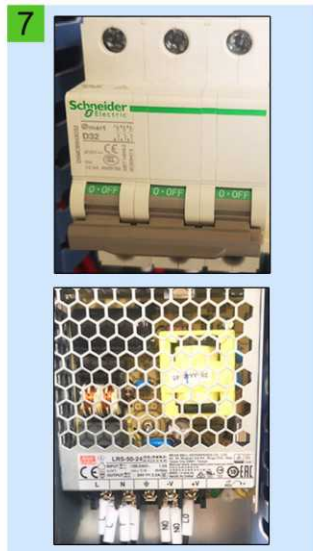
5. Nitrogen protection device - using nitrogen for "inert environmental protection"

6. Drum welds - Drum welds are 100% non-destructive inspection, strict dynamic balance test. No stiffeners, reducing sanitary dead angles, easy to clean, low running noise.



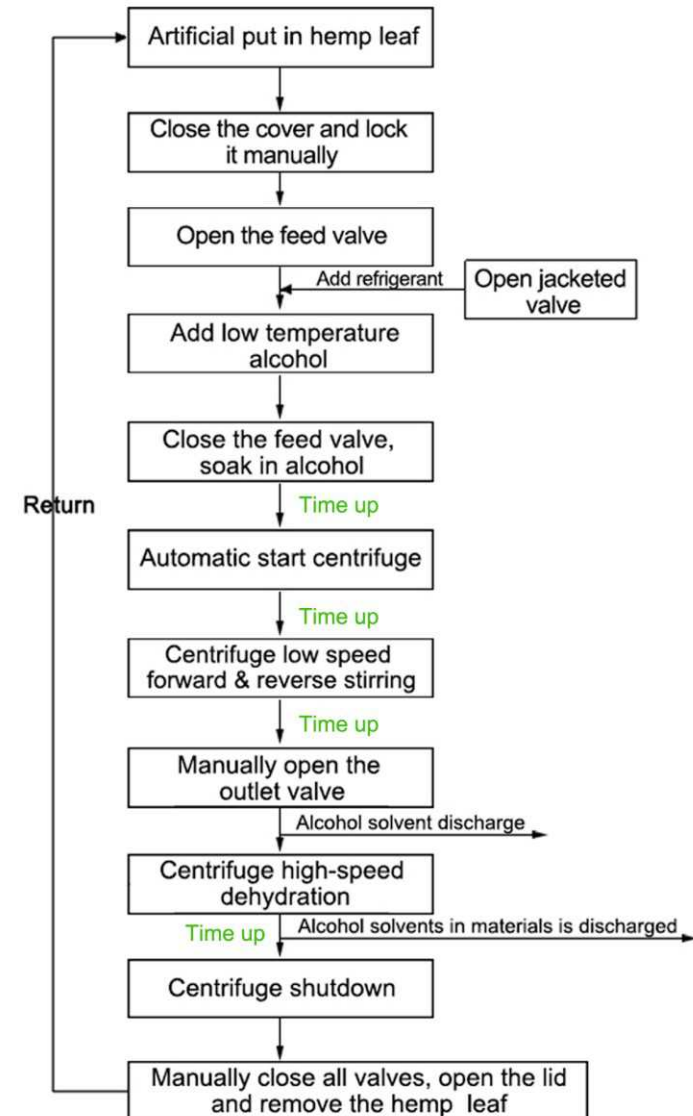
7. UL / EN - CE certified electrical appliances, UL / EN standards

8. Storage tank, -80°C Chiller-standards available..



Work Process

Centrifuge alcohol extraction process flow chart

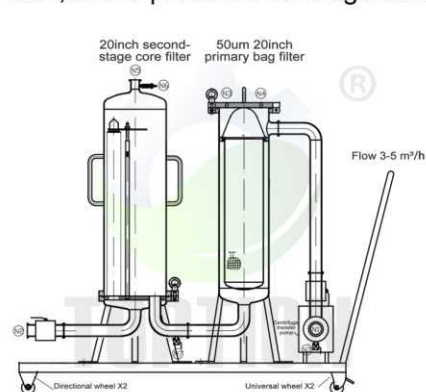


Multistage bag filter

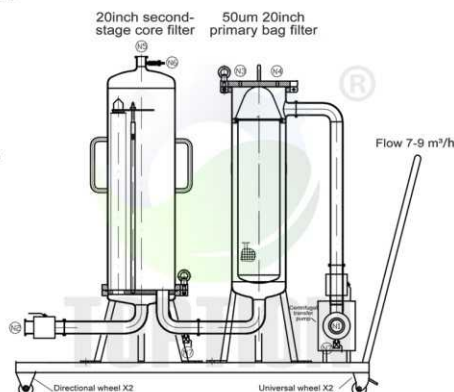
TOPTION bag & cartridge filter system is specifically used for deep fine filtration of plants crude oil after centrifugal extraction. The modular closed system has effectively solved Difficulties in the filtering process.

Product analysis

- This stacked filter system consists of three parts: a centrifugal pump, a bag filter, and a precision cartridge filter.



F50 bag & cartridge filter system



F220 bag & cartridge filter system

Technical parameters

Model	Filtration flux	Dimension	Accuracy	Number of filter bags	Number of filter elements	Pump power	Equipment size
F50	3-5m³/h	20inch, ID200mm	50um+5um	1	3	2.2KW	1100*500*1150
F220	7-9m³/h	20inch, ID273mm	50um+5um	1	7	3KW	1200*550*1350

Note: F50 type filter system is suitable for TOP-C15, TOP-C30, TOP-C50 series ethanol extraction centrifuge.



F220 type filter system is suitable for TOP-C110, TOP-C160, TOP-C220 series ethanol extraction centrifuge.

Structure design

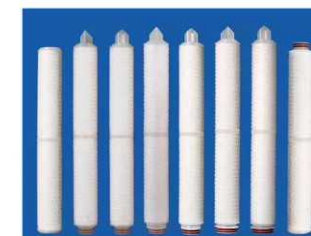
1. Integral stainless steel platform with moving wheels.



2. Side entry structure for bag filter, bottom-in, bottom-out for cartridge filter.
3. Multi-stage filter element increases the filtering effect.
4. The quick-open design of the pipe fitting valve, the complete system design has a pressure gauge port, an exhaust valve port, a discharge valve, etc., which is convenient to operate and easy to clean.
5. Centrifugal pump, suitable for conveying suspension, its structure is simple and compact. For the same delivery volume, the centrifugal pump occupies a small area, is lightweight, and consumes less material.



6. The filter is free of cleaning, and the replacement of the liquid filter bag or filter element can be completed in 30 seconds, which is convenient and fast, saving labor and time.

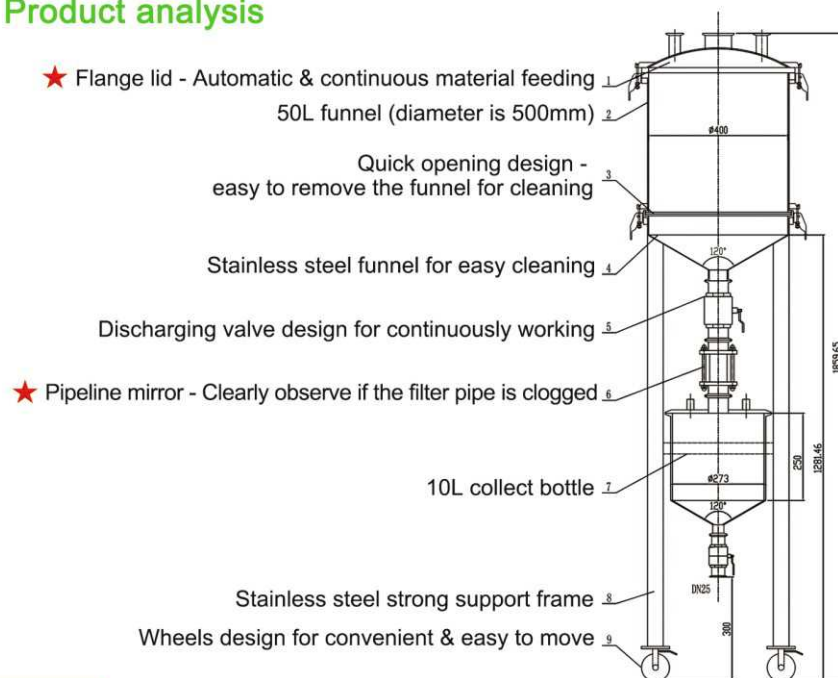


50L/100L/200L wax removal filtration equipment



TOPTION filtration equipment enables high throughput wax removal from winterized ethanol solutions, which is professional designed for our particular customers who are work in plant oil extraction industry.

Product analysis



Crystallization/Filtration to remove impurity

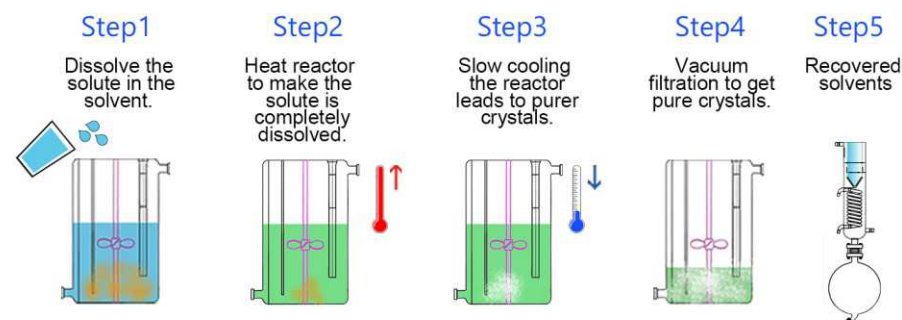


Recrystallization Vacuum Filtration

Dewaxing filter

Recrystallization is not generally thought of as a separation technique, rather, it is a purification technique in which a small amount of an impurity is removed from a compound. However, if the solubility properties of two compounds are sufficiently different, recrystallization can be used to separate them, even if they are present in nearly equal amounts. Recrystallization works best when most impurities have already been removed by another method, such as extraction or column chromatography.

Working process



50L crystallization reactor with filtration system



1 Ultrasonic emulsification customize	2 Electric automatic lifting
3 Efficient condenser	4 Strong stirring motor
5 PTFE stirring agitator	6 Sand core filter plate
7 Filtration reactor controller	8 Ultrasonic controller
9 Collection flask	10 Strong stainless steel frame
11 Condenser + collection flask, recycle organic reagents, and protect vacuum pumps	
12 Vacuum pump	13 Heating & cooling circulator bath

Main features

1. Reactor cover port customize - convenient & easy to do liquid/solid feeding, stirring, temperature & pressure, etc.

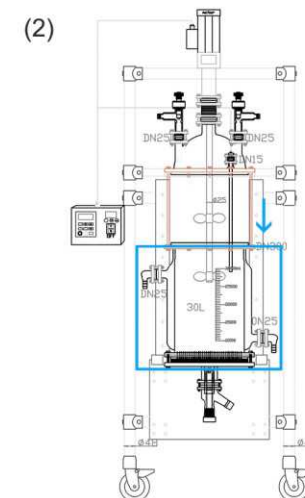
2. Sand core filter plate with PTFE fixing gland - fast flow, good chemical corrosion resistance & sealing performance.

★ 3. Ultrasonic emulsification with PTFE agitator - sample mixing is more complete, better separation of materials.

★ 4. Electric automatic lifting



(1) Filter plate can be disassembled & washed easily.



(2) Reaction vessel & filter plate as a whole part automatic lifting - Suitable for large amount of effective crystal, which are not polluted and easy to take out.



5. Cold trap & collection flask - recycle organic reagents, protect vacuum pumps.

6. Heating and cooling circulator bath (-80°C ~ 250°C) - accurate temperature control according to customer's process requirements.

7. Vacuum pump is optional to make your research more efficient.

Stainless Steel Crystallization Filter

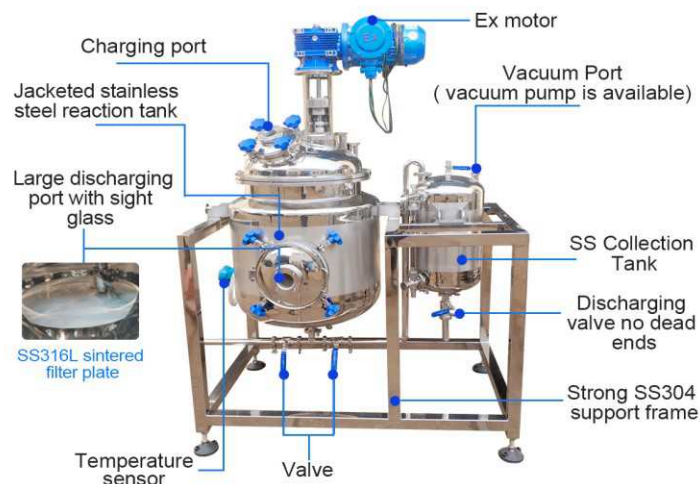


- ◀ Stainless Steel New Design
- ◀ Strong mechanical agitation
- ◀ Large discharge port with sight glass



- ▶ Glass Reactor Automatic Lifting
- ▶ Sand core filtration
- ▶ Ultrasonic homogenizer function customize

High Efficient Structure Design



Technical parameter

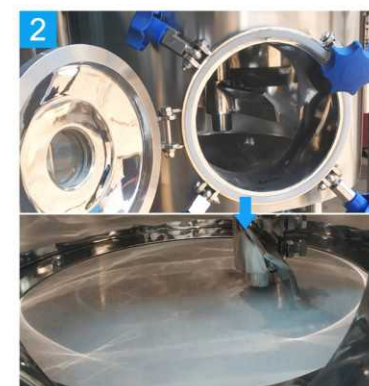
Material	Stainless Steel (glass type optional)
Capacity	50L jacketed layer (Lab – Pilot – Industry Flexible Design)
Filter plate	SS316L sintered net (Sand core / PTFE / SS316 / Titanium filter plate optional)
Motor power	Ex three phase 220V 60Hz
Stirrer motor	180W
Working voltage	220V 60Hz 1 phase
Ultrasonic power	2500W
Controller	Ex controller
Pressure design	Pressure gauge & safety automatic pressure relief design
Package	Professional wooden box package

Quality Is Our Culture

1-1. Large solid discharge port could open easily & convenient pick out. discharge port could open easily & convenient pick out.

1-2. Observation mirror is convenient for you to observe the stirring & filtration status inside the reactor at any time.

2. SS stirring paddle and SS sintered filter plate are designed at close distance to obtain more sufficient stirring effect.



Nutsche filter dryer

Rotating joint

Motor

Reduction box

Dust filter

Filter element

Mechanical seal

Signal output device

Drive shaft

Cleaning ball

Corrugated pipe

Inner wall of shell

Shell heating insulation layer

S-type stirring paddle

Solid discharge device

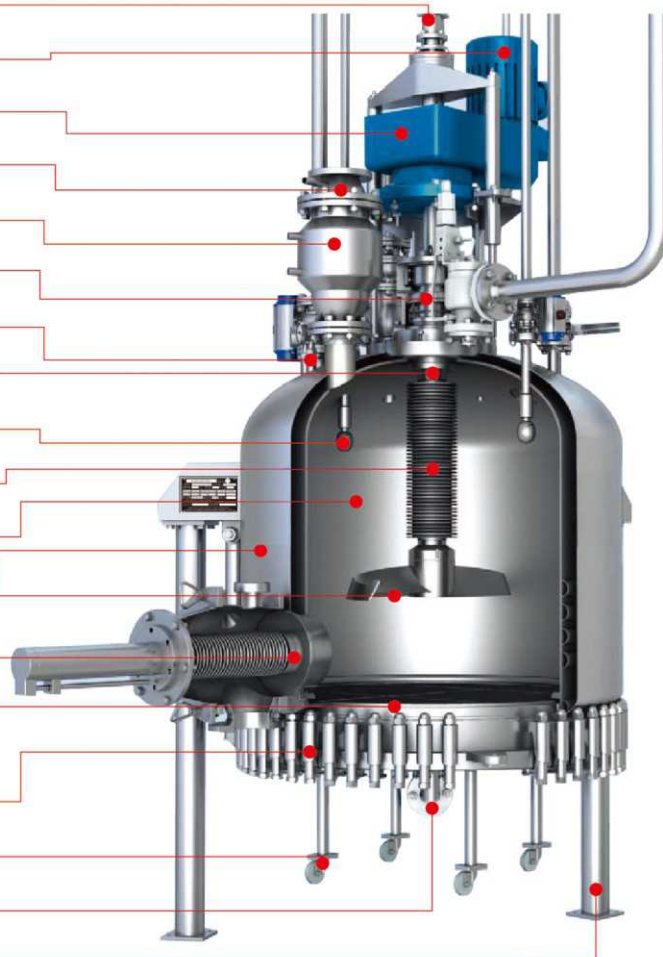
Filter plate

Site fixture

Universal wheel

Liquid outlet

Landing leg

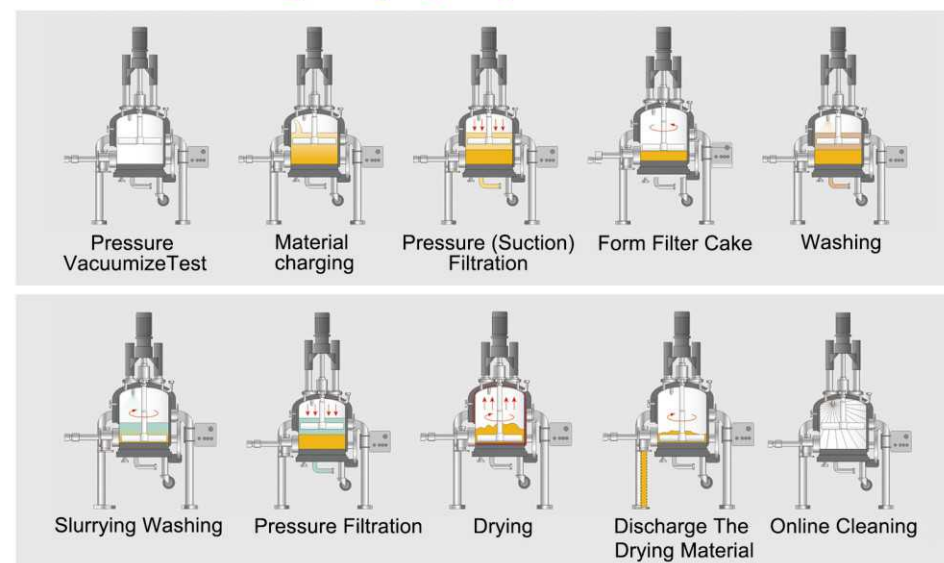


With its high cost performance, TOPTION nutsche filter dryer has successfully become an effective alternative to the filter and dryer, and has an efficient filtration and drying process. Makes the non-metallic lining products be applied to separate highly corrosive solid and liquid media.

Technical parameter

Standard type	DN500	DN600	DN800	DN1200	DN1400	DN1600	DN2000	DN2300	DN2800	DN3000	DN3200
Nominal filtration area (m²)	0.19	0.28	0.5	1.0	1.5	2.0	3.0	4.0	6.0	7.0	8.0
Internal diameter (mm)	500	600	800	1200	1400	1600	2000	2300	2800	3000	3200
Nominal volume (m³)	0.14	0.26	0.53	1.36	1.19	2.99	5.06	6.76	10.8	14.8	16.8
Barrel height (mm)	600	750	900	950	1100	1200	1200	1250	1250	1550	1550
Filter cake height (mm)	120	120	200	250	300	350	400	450	450	600	600
Blades rise height (mm)	150	150	300	300	350	400	450	500	500	550	550
Stirring motor power (KW)	2.2	3.0	5.5	7.5	11	15	18.5	18.5	22	37	45
Net weight (Kg)	1350	1560	2230	4300	5890	6630	11350	13850	16300	18650	21230
Equipment total height (mm)	2560	2890	3130	3900	4360	4680	5150	5280	5520	5750	5850

Filtration, washing & drying steps





1L-2L

- Pneumatic decelerating agitator motor, speed is adjustable.
- The stirring blades can lift manually.
- Solid discharge requires to take the chassis out together with the filter cake.
- Low noise.



5L

- Explosion-proof variable frequency electric stirring.
- Stirring blade manual lifting.
- Solid discharge requires to take the chassis out together with material.
- Variable frequency motor, through the knob precise adjust the speed.



20L

- Electric stirring.
- Hydraulic electric lifting of stirring blade.
- Hydraulic electric lifting of filter chassis.
- Material discharging valve is hydraulic automatic discharging.
- Variable frequency motor, through the knob precise adjust the speed.



50L

- Electric stirring.
- Stirring blade manual lifting.
- Remove the filter chassis manually.
- Material discharge valve is manual discharge, manually open the discharge valve and scrape out the material by the blade.
- Variable frequency motor, can adjust the frequency and speed through the speed control knob.



200L

- Electric stirring.
- Hydraulic electric lifting of stirring blade.
- Hydraulic electric lifting of filter chassis.
- Material discharging valve is hydraulic automatic discharging.
- Variable frequency motor, through the knob precise adjust the speed.

Concentration recycling ethanol

- Wiped Film Evaporator – Solvent Removing High Efficient Type



1m₂
(Wiped film evaporator)



2m₂
(Wiped film evaporator)

Technical parameter

Model	Evaporator Area(㎡)	Height (mm)	Capacity (L/H)
PWFS -0.1	0.1	2300	2-10
PWFS -0.2	0.2	2500	10-20
PWFS -0.3	0.3	2700	15-30
PWFS -0.5	0.5	3300	20-50
PWFS -1.0	1.0	4300	50-100
PWFS -2.0	2.0	4600	100-200
PWFS -3.0	3.0	5400	100-300
PWFS -5.0	5.0	6400	150-405
PWFS -6.0	6.0	7200	180-550

- Rotary Evaporator - Solvent Removing Economical Type



(1L 2L 5L 10L 20L 50L 100L Easily scalable)

Rotary evaporator is mainly used in pharmaceutical, chemistry and bio-pharmaceuticals industries, for concentration, crystallization, drying, separation and solvent recovery.

Technical parameter

Model	Rotating bottle capacity (L)	Collecting bottle capacity (L)	Temperange (°C)	Lifting method	Heating power
RE-52AA	0.5L	0.5L	RT-99±0.2	Electric lift	1.1KW
RE-2000A	2L	1L	RT-99±0.2	Electric lift	1.5KW
RE-5000A	5L	3L	RT-99±0.2	Electric lift	2.2KW
RE-5210A	10L	5L	RT-99 (170) ±0.2	Electric lift	3KW
RE-5220A	20L	10L+3L	RT-99 (170) ±0.2	Electric lift	5KW
RE-5230A	30L	10L+10L	RT-99 (170) ±0.2	Electric lift	5KW
RE-5250A	50L	20L+10L	RT-99(170) ±0.2	Electric lift	7KW
RE-52100A	100L	50L+10L	RT-99 (170) ±0.2	Electric lift	16KW

Advantage description of 50L

01 Dual condenser design

For high efficient condensation during evaporation / concentration process.



02 Dual collection flask

Easy to achieve continuous collection.



03 Large LCD display temp & rotating speed.

Automatic lifting, heating switch conveniently.



04 Check valve

Built-in automatic check valve, for better vacuum degree and good continuously operation.



05 Combination Valve

Gas guide flask unique PTFE combination valve, can control air flow & liquid flow. Material charging & discharging can be finished during rotavapor working, don't need to stop it.



06 Anti-corrosion & Wearable sealing system

Specially designed and precisely manufactured. Enable system ultimate vacuum rate reaching 1000Pa (equipped with different type vacuum pump). 90% users don't need to replace rotary seal in one year.



07 Ex-plosion proof function customize



★ 1. Explosion-proof & rotovapor integrated type



★ 2. External explosion-proof box

100L Rotary Evaporator:



- | | | |
|----------------------------------|--|-------------------------------|
| 1. Condenser | 2. Recovery Bottle | 3. Material discharging valve |
| 4. Rotating Bottle Clamp Nut | 5. Mechanical seal for excellent sealing | 6. Glass Rotating Bottle |
| 7. Explosion proof control panel | 8. Water Bath | 9. Cardan wheel |

Product Display



Technical support & flexible design



• Falling Film Evaporator

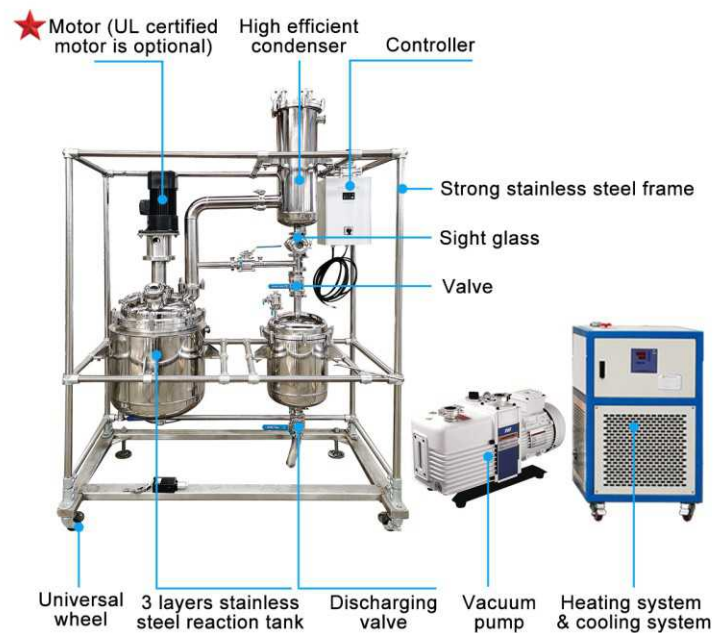


Decarboxylation



Ethanol Continuous Recovery & Decarboxylation

Product analysis



Technical parameter

Model	50L Double Jacketed Decarboxylation Reactor
Reaction vessel capacity (L)	50L (lab – pilot – industry wide capacity range)
Collection tank capacity (L)	30L
Condenser	1 m ² coil high efficient
Reaction vessel material	3 layers reaction vessel, stainless steel material
Motor power	750W, 220V 50Hz single phase
Sight glass design	Yes, could observe whole process clearly
Dimension (mm)	1400 * 800 * 2400mm
Heater and chiller	Is available
Vacuum pump	Is available
















1.Three layers reaction vessel design for better insulation effect.



2.Larger condenser area for improved recovery.



CBD Extraction | Distillation Turnkey Solution

1 E xtraction 	 Centrifuge extraction	 Supercritical CO ₂ extraction
	 Multistage bag filter	 250L / 50L Dewaxing filter
2 F iltration 	 Falling Film Evaporator	 Wiped film evaporator
	 100L / 50L Rotary evaporator	
3 E vaporation 	 Decarboxylation	 Decarboxylation
	 ★ MDS-50CE molecular distiller	 ★ Two/Three stages type Molecular distillation
4 D ecarboxylation 	 Recrystallization filtration	 50L/100L/200L Nutsche filter
5 D istillation 		
6 C rystallization 		

To be your dependable partner in cbd distillation industry, TOPTION are flexible, intelligent, and truly care about your benefits potential of a well-orchestrated cbd processing system. **TOPTION , TOP OPTION!**

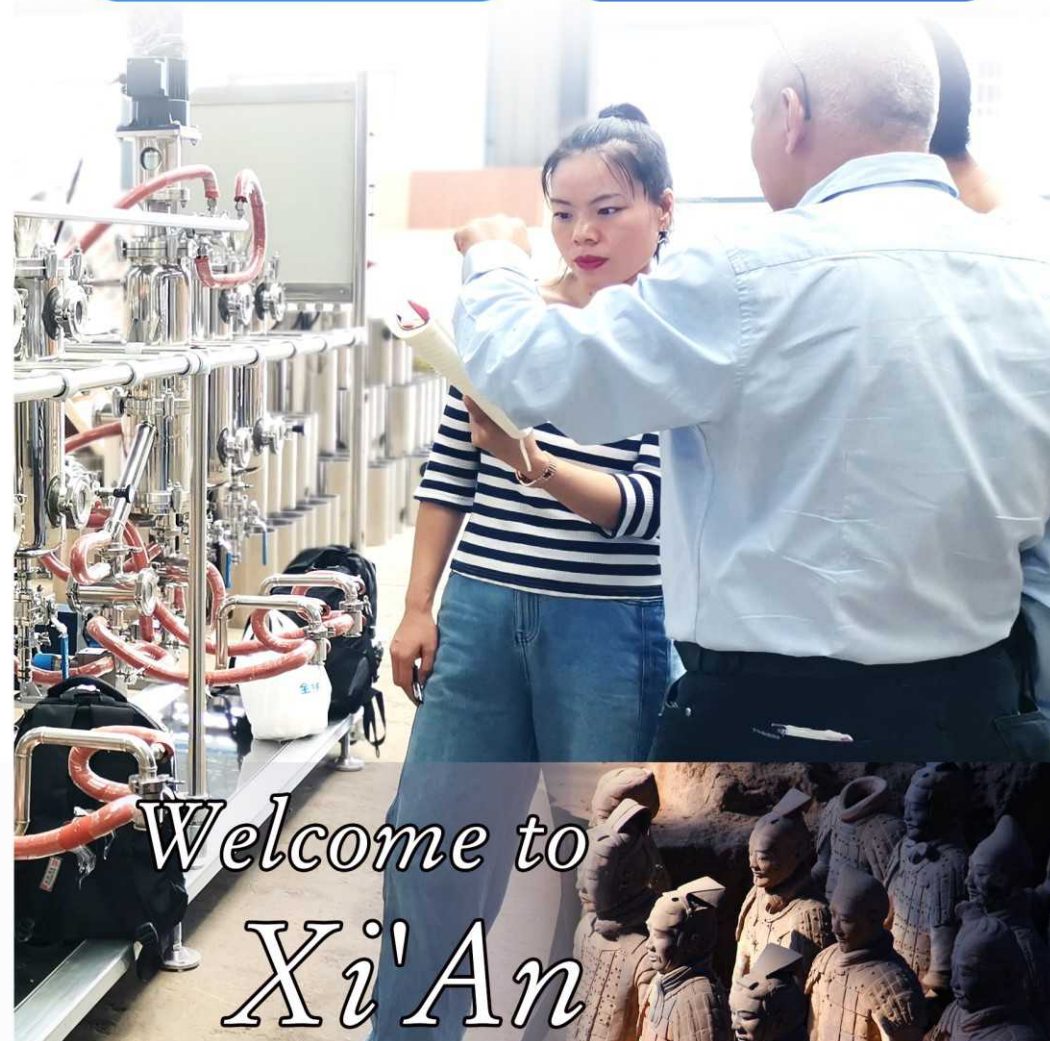
Professional Customize

Global OEM

Technical Support

Overseas Installization / Training

Welcome visit factory to negotiate



Welcome to
Xi'An