



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



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TOPTION INSTRUMENT CO.,LTD



**Molecular Distillation One Stop 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 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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## 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

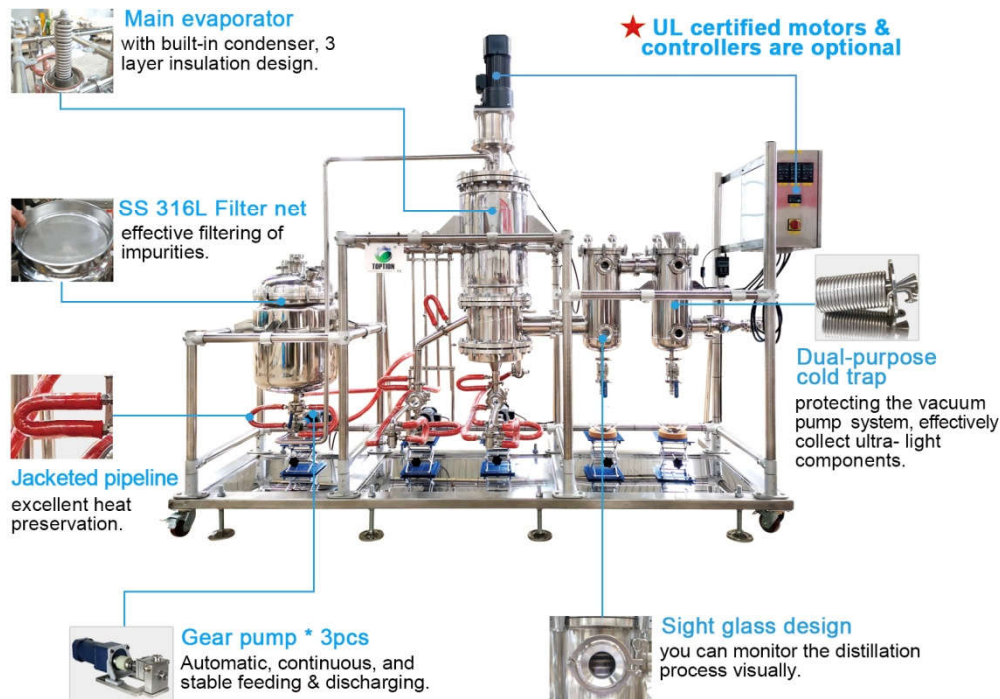
Short path evaporator	Heating system (RT-200°C or RT-300°C)
Material feeding pump	Cooling system (-20°C~180°C or -40°C~RT or -80°C~RT)
Material discharging pump	Vacuum system (0.05pa / 1pa / 10pa)

### 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

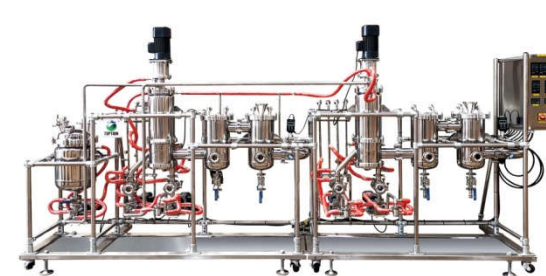


#### "C"(E) Series

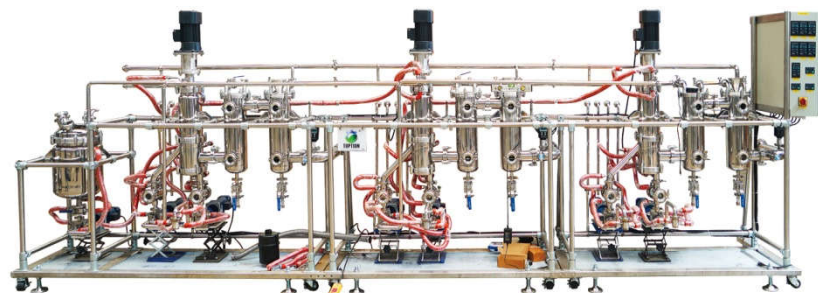
- UL certified motor & controller are optional.
- Jacketed Stainless Steel Material Feeding Tank.
- Gear Pump Material Feeding Type.
- Gear Pump Collection Type.



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



## Delicate details

### 316L stainless steel

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



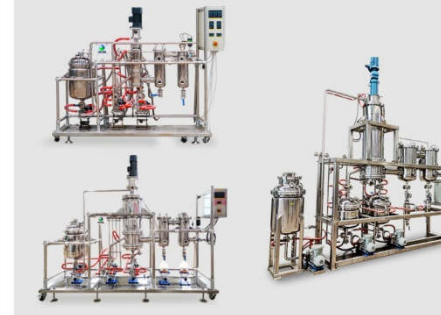
### Filter net

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.



1	316L stainless steel material:durable & corrosive-resistant, excellent thermalconductivity 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.



## 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



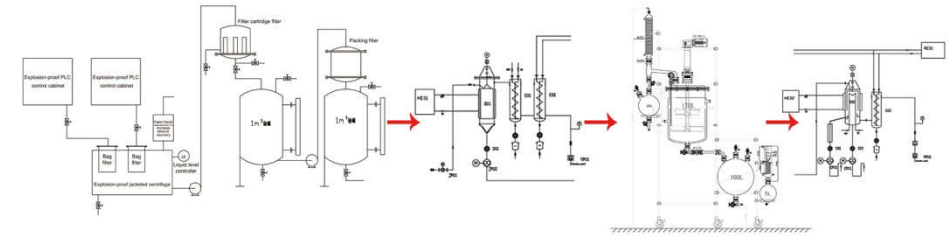


More than 15 years manufacturing experience



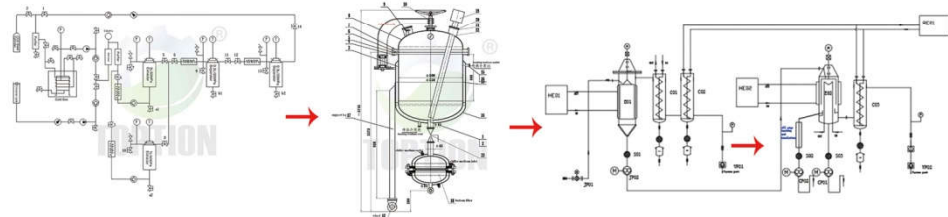
## 1. Cryogenic centrifugal extraction

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



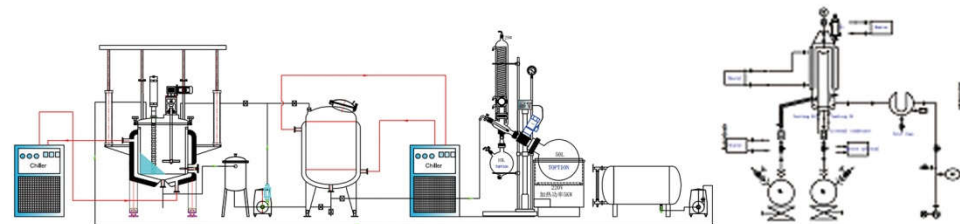
## 2. Supercritical Extraction

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℃, prevents the volatilization of ethanol, and improves production efficiency.



**15lbs~220lbs**  
Of biomass/batch



**98%**  
Extraction rate  
from biomass



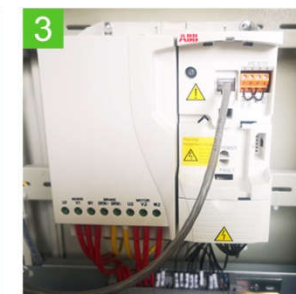
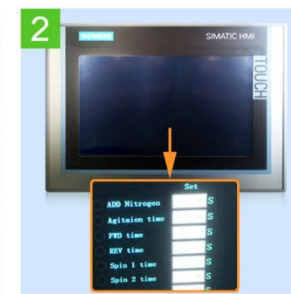
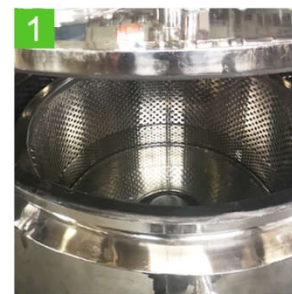
**97%**  
Ethanol removal

## 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.

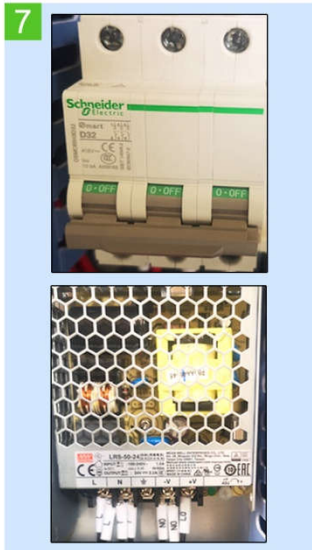
5. **Nitrogen protection device** - using nitrogen for "inert environmental protection"

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.



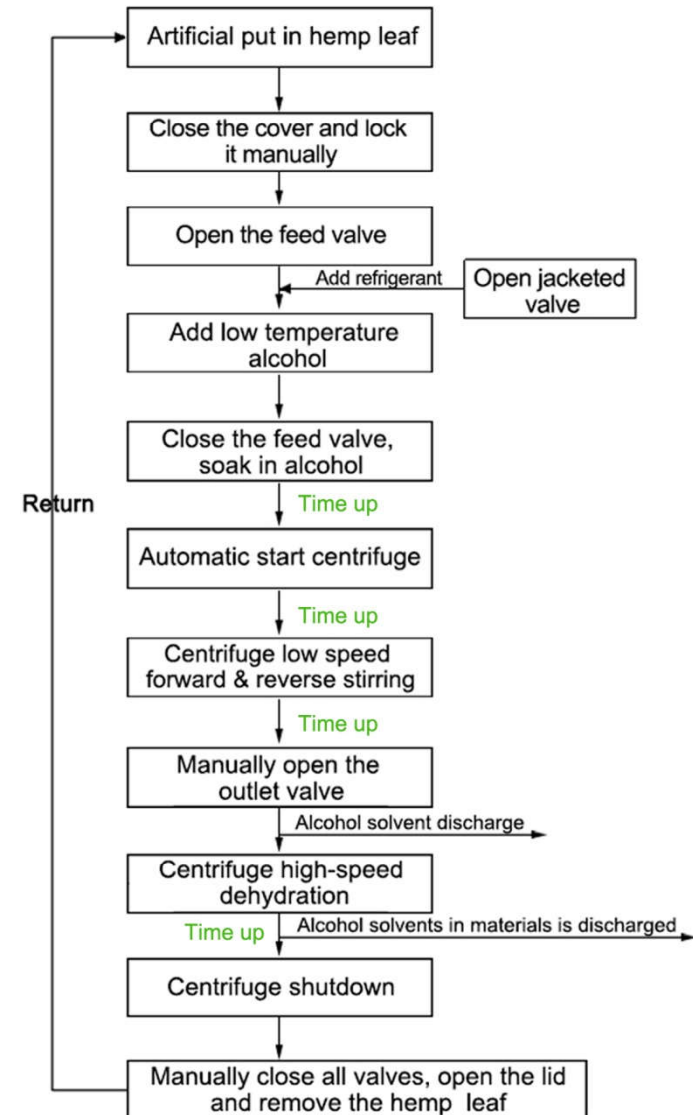
7. **UL / EN - CE certified electrical appliances**, UL / EN standards

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



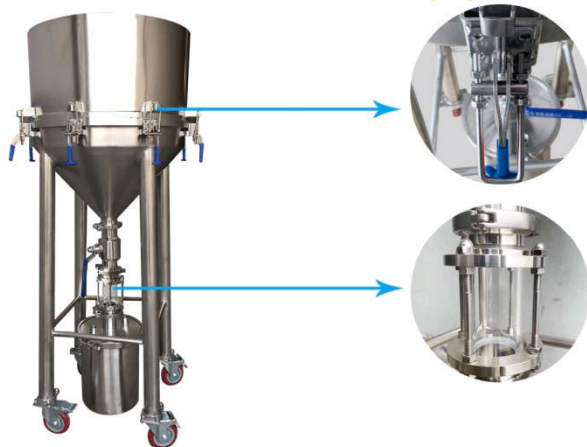
## Work Process

### Centrifuge alcohol extraction process flow chart



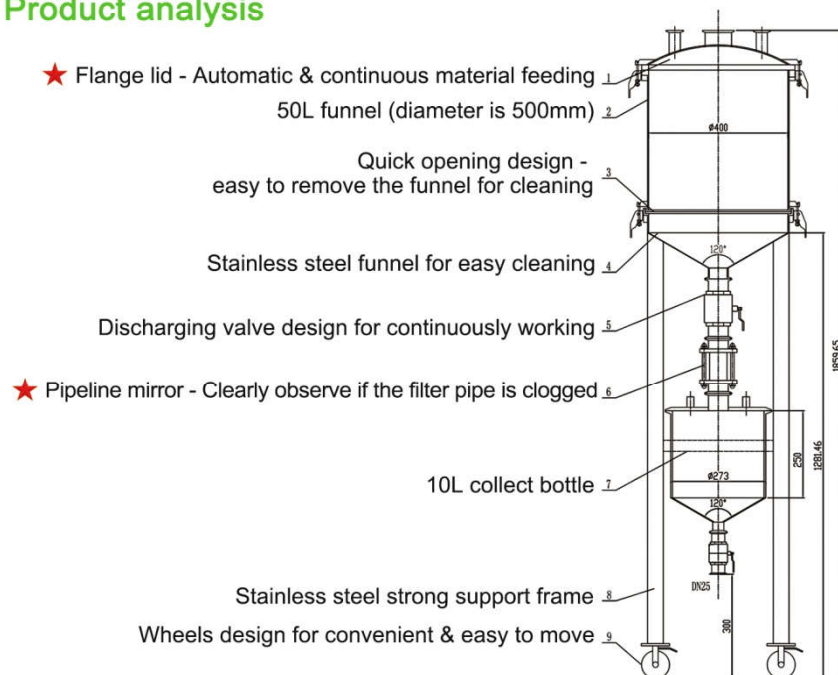


## 50L/100L/200L wax removal filtration equipment



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



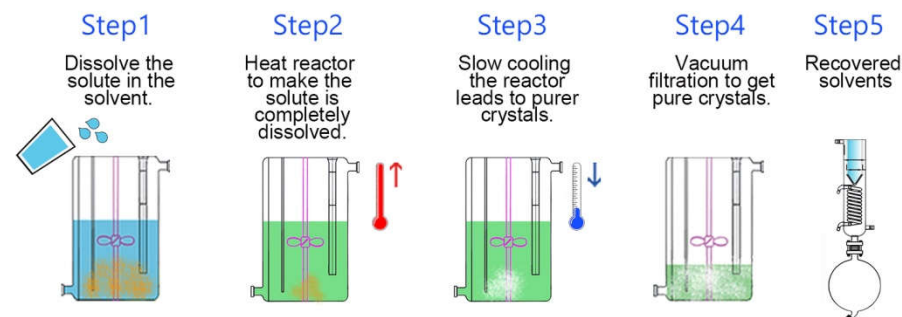
Recrystallization Vacuum Filtration



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



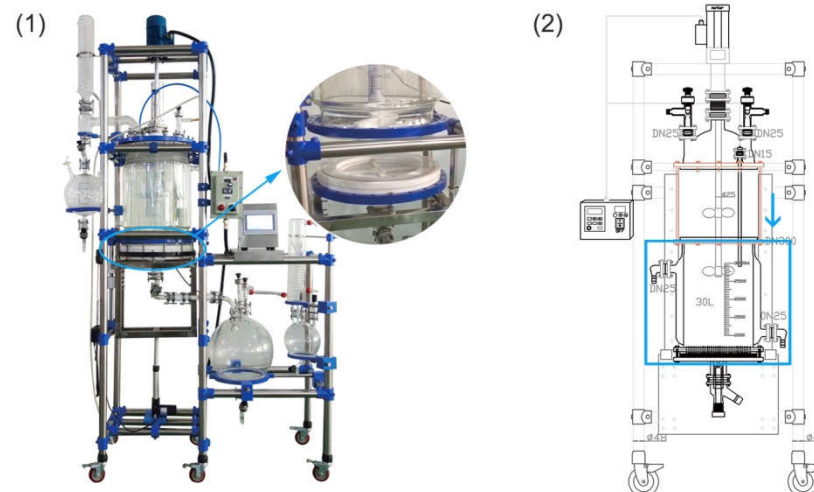
1 Ultrasonic emulsification customize	2 Electric automatic lifting
3 Efficient condenser	4 Strong stirring motor
5 PTFE stirring agitator	6 Sand core filter plate
7 Filtration reactor controller	8 Ultrasonic controller
9 Collection flask	10 Strong stainless steel frame
11 Condenser + collection flask, 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 measurement, etc.
- 2. Sand core filter plate with PTFE fixing gland** - fast flow, good chemical corrosion resistance & sealing performance.

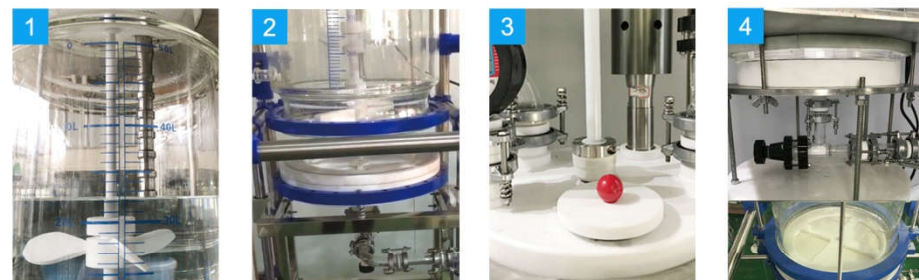
- 3. Ultrasonic emulsification with PTFE agitator** - sample mixing is more complete, better separation of materials.

- 4. Electric automatic lifting**



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

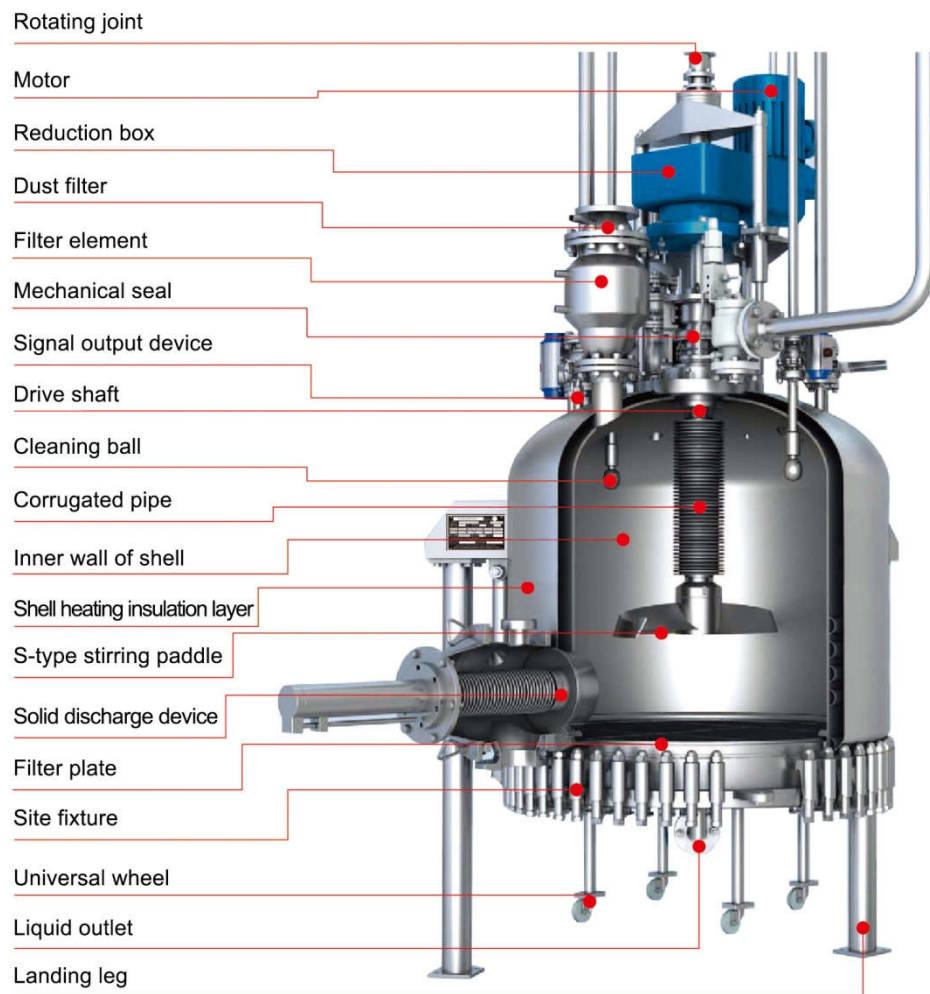
(2) Reaction vessel & filter plate as a whole part automatic lifting - Suitable for large amount of effective crystal, which are not polluted and easy to take out.



- 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.



## Nutsche filter dryer

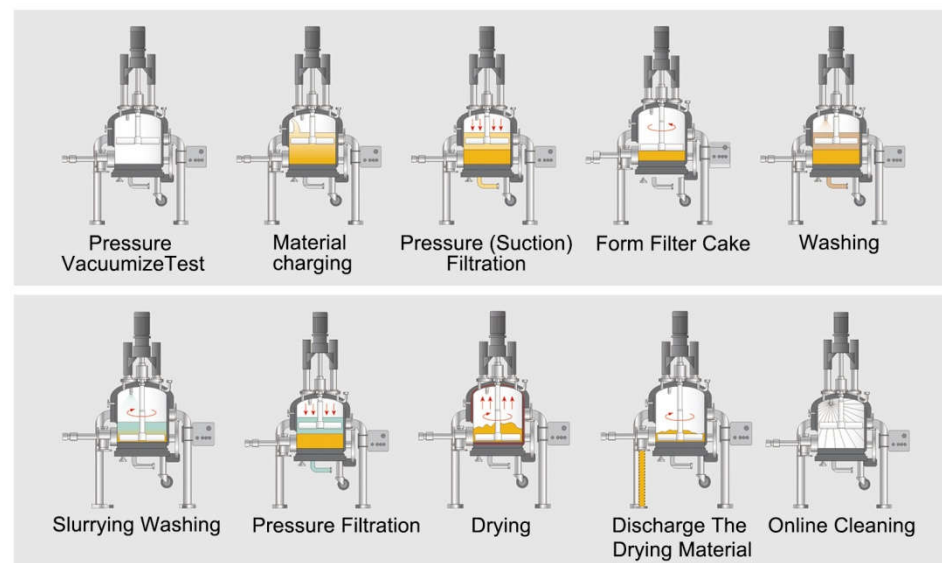


With its high cost performance, TOPTION nutsche filter dryer has successfully become an effective alternative to the filter and dryer, and has an efficient filtration and drying process. Makes the non-metallic lining products be applied to separate highly corrosive solid and liquid media.

## Technical parameter

Standard type	DN500	DN600	DN800	DN1200	DN1400	DN1600	DN2000	DN2300	DN2800	DN3000	DN3200
Nominal filtration area (m <sup>2</sup> )	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 (m <sup>3</sup> )	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



1m<sub>2</sub>  
(Wiped film evaporator)



2m<sub>2</sub>  
(Wiped film evaporator)

### Technical parameter

Model	Evaporator Area(m <sup>2</sup> )	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.



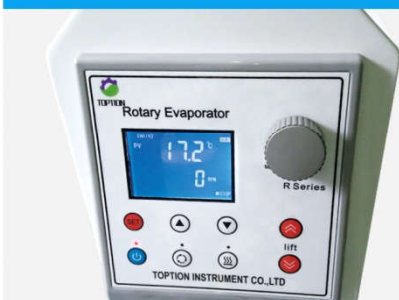
### 02 Dual collection flask

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

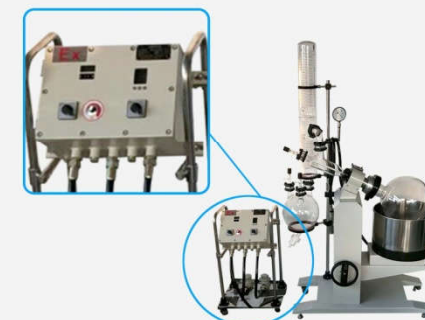
Specially designed and precisely manufactured. Enable system ultimate vacuum rate reaching 1000Pa (equipped with different type vacuum pump). 90% users don't need to replace rotary seal in one year.



## 07 Ex-plosion proof function customize



★ 1. Explosion-proof & rotovapor integrated type



★ 2. External explosion-proof box

## 100L Rotary Evaporator:



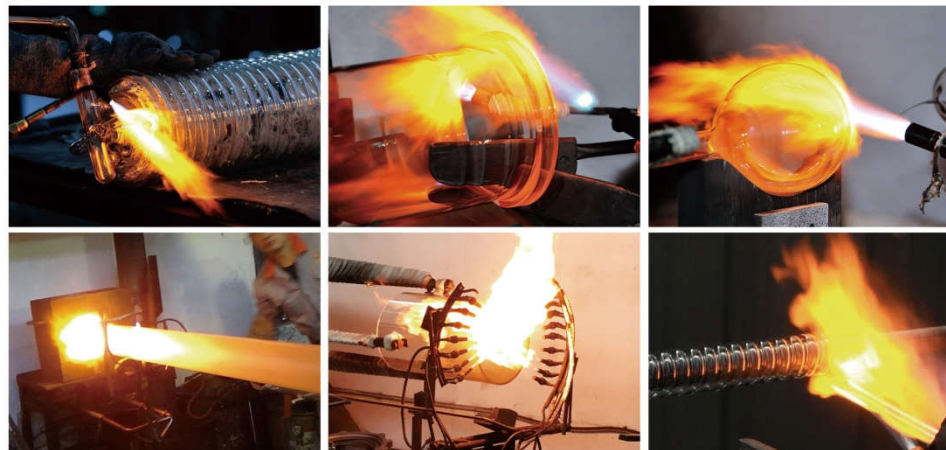
- |                                  |                                          |                               |
|----------------------------------|------------------------------------------|-------------------------------|
| 1. Condenser                     | 2. Recovery Bottle                       | 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





## CBD oil distillation one stop solution



Recrystallization filtration

Crystallization  
cbd oil purity



Distillation  
cbd oil separate



★ MDS-50CE molecular distillation

Concentration  
recover solvent



Economical rotavapor

Dewaxing /  
Filtration  
remove impurity



Dewaxing filter

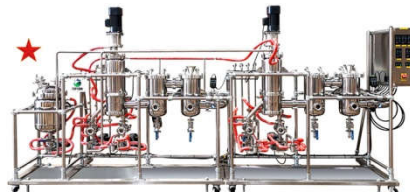
Extraction  
extract crude oil  
from hemp



Centrifuge extraction



50L/100L/200L Nutsche filter



★ MDS-50CE two stages customize



High efficient wiped film evaporator



Nutsche filter dryer



Supercritical CO2 extraction

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

