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XI'AN TOPTION INSTRUMENT CO.,LTD



Dewaxing/Filtration/Dryer

About us



TOPTION INSTRUMENT has spent 18+ years becoming a world leading manufacturer engaged in the research, development, production, sale and service of Extraction , distillation ,filtration ,drying & Pretreatment series equipment.

The headquartered is in Xi'an City, the ancient capital with 5000+ history; includes several production bases, own professional research and development team 25+ persons; the distillation production base is located in Xi'an, covering an area of 4040 m²; the drying and other production bases are located in southern China cities.

Since 2004 TOPTION'S equipment has been used and praised in many counties including United States, Canada, Poland,Spain Italy,Sweden, Switzerland, Germany, France & Colombia. We are your dependable partner in distillation and drying industry, we are flexible, intelligent, and truly care about

your benefits potential. We want your business to be remembered and welcomed by your customers.

TOPTION has passed ISO9001 & CE certification. We work closely with our clients to deliver a successful and extraordinary equipment, choose TOPTION to maximize your benefits.

TOPTION will be your TOP OPTION.





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WORKING PROCESS



Material Charging



Filtration - Solid & liquid separation



Cleaning



Drying



Material Discharging

Multi-function nutsche filter

TOPTION nutsche filter dryers is known and used worldwide for critical high purity separations of liquid and solids, and are now being used in the cannabis industry for dewaxing & filtering purpose. Multi-function filter can make the material finish filtering, washing and drying process in an airtight container equipment, utmost to improve the utilization rate of the nutsche filter. Successfully avoid the pollution to the environment, also avoid contamination to the material from the environment, reducing the loss during material handling, saving solvent usage, is suitable for the batch type volume production.



One Stop Solution

Users have strictly requirements of filtering, washing and drying process, no matter the products' quality is how great effected by the surrounding environment or the temperature, must ensure each production stage be efficiency and guarantee the quality of the products.

So TOPTION multi-function nutsche filter is developed, Sterile grade filtering washing drying multifunction nutsche filter set, Chemical grade filtering washing drying multifunction nutsche filter set, Filtering & washing combined unit, equipment's flexible configuration guarantee to meet customers' different requirements of different application fields, product characteristics and process.


Main features

- In one same container finish filtering, washing and drying whole process, continuous operation
- Operate under pressure or vacuum condition, realize the solid-liquid separation.
- During filtering process, the filter cake uniform distribution, solid-liquid separation effect is good.
- Hydraulic pressure control the rise & fall of the mixing system, has uttermost increase the solid materials space during filtration process.
- The rise & fall and stirring of mixing blade, make the cleaning fluid and filter cake intensive mixing during washing process, guarantee the filter cake full washing.
- Greatly shorten time during drying process, improve efficiency.
- Various control of liquid outlet valve, automatic material discharging of solid discharging system, reduce the labor intensity, save cost and more efficient.
- Can washing online, sterilization online, all operation process can be done under inert gas protection, safe and reliable.
- Nutsche filter baseplate is removable, help the equipment realize thoroughly cleaning, applicable to the production of sterile bulk drug, full compliance with GMP and FDA production requirements.

Standard configuration

- Transmission system
- Heating stirring system
- Discharging device
- Online cleaning, online sterilization system
- Lifting drive system
- Sealing system
- Sampling valve
- Material washing plant
- Dry dust filtration system
- Intelligent control system

Main technical parameters

Chassis structure	Fixed, unloading	
Main material	Stainless steel 304, 316L, hastelloy	
Material of filter	Metal sintered mesh plate, metal powder sintered plate, filter cloth	
Filtering fineness	3µm-500µm	
Sealing type	Double end mechanical seal, packing seal	
The distance between the blade and the cylinder wall	Single side 8-10mm	
Blade spacing with the base plate	8-10mm	
Flatness of floor	±1mm/ m²	

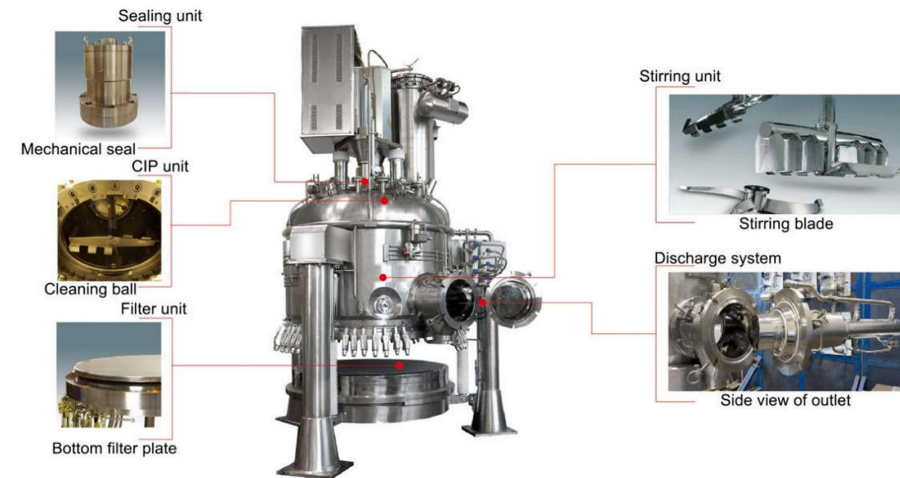
Working process

- Filtration stage:** separation of filter cake and mother liquor. The thickness of filter cake can reach 600mm.
- Washing stage:** further purification of filter cake, cleaning of residual mother liquor and pre-dehydration. Filter cake and washing were mixed layer by layer with lifting agitator. Finally, the slurry and suspension filter cake were fully washed.
- Drying stages:** filter cake dehydration processing, filter cake in the blender scratch step by step a loose at the same time, side wall, the bottom of the filter plate, and mixing blade of filter cake is heated at the same time, the wet rapid evaporation drying effect, speed up the evaporation, by using the method of equipment in vacuum by joining the media such as nitrogen after processing take wet evaporation, to accelerate the drying of material, improve the effect of drying.

- Unloading stage:** dry materials are automatically discharged from the side outlet through the reverse drive of s-type stirring paddle.

Working process diagram

Sterile grade multifunctional filter dryer



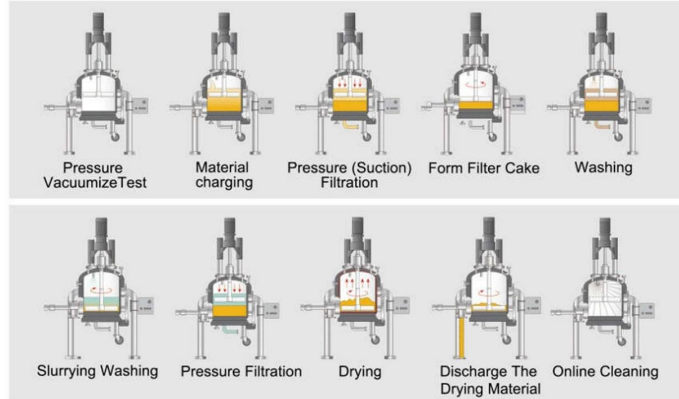
Standard configurations

- Transmission system
- Sealing system
- Heat type stirring blades
- Sampling valve
- Discharging device
- Online CIP SIP
- Material cleaning device in equipment
- Dry dust filtration system
- Lift drive system
- Intelligent control system

Your benefits

- Select suitable materials for different media.
- Suitable for material sealing production.
- Operating temperature and pressure for a wide range of applications.
- Help you to reduce investment costs.
- Help you save the labor cost.
- High utilization ratio.
- Wide application range.
- Energy saving, environmental protection, three waste can be completely recycled.

Filtration, washing & drying steps



Sterile grade multifunctional 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

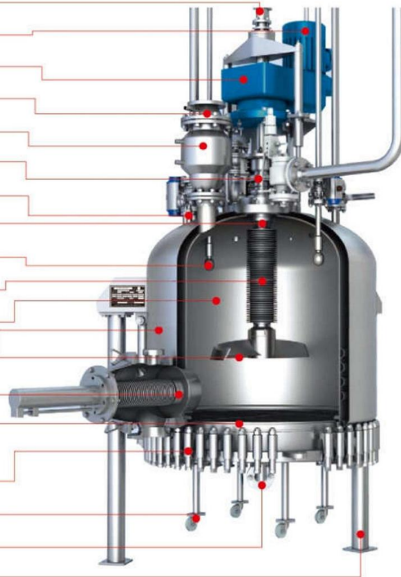
Filter plate

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.

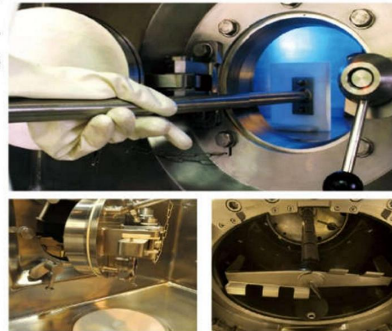
Our service

- Process guidance and process recommendations.
- Testing - testing the products which is professional customized according to your needs at our lab facility, including expanded products.
- Plan, integrate, and test products.
- Complete system design and integration of overall equipment.
- On-site service and maintenance system.
- Upgrade and improve filtration and drying systems on site.
- Welcome factory visit contact info@toptionlab.com



Your benefits

- Choose suitable materials for different media.
- Suitable for the material enclosed production.
- Wide application range of operating temperature and pressure.
- Reduce investment costs.
- Reduce labor costs.
- High utilization.
- High efficient.
- The product can be used in a wide range.
- Energy saving, environmental protection, three wastes can be completely recycled.



Technical parameters

Model	DN300	DN500	DN600	DN800	DN1000	DN1200	DN1400	DN1600	DN1800	DN2000	DN2300	DN2600	DN2800	DN3000
Filtration area (m ²)	0.07	0.2	0.3	0.5	0.8	1.0	1.5	2.0	2.5	3.0	4.0	5.0	6.0	7.0
Inner diameter (mm)	300	500	600	800	1000	1200	1400	1600	1800	2000	2300	2600	2800	3000
Effective volume (m ³)	0.03	0.12	0.22	0.45	0.80	1.19	1.78	2.55	3.32	4.17	5.86	7.74	9.18	10.3
Cylinder height (mm)	500	600	800	900	1000	1000	1100	1200	1200	1200	1200	1200	1200	1200
Paddle lifting height (mm)	100/120	120/150	120/150	200/300	200/300	250/300	300/350	350/400	400/500	400/500	450/500	450/500	450/500	500/550
Stirring motor power (KW)	1.5	2.2	3.0	5.5	5.5	7.5	11	11	15	18.5	18.5	22	22	30
Empty weight of equip (kg)	880	1150	1500	2200	3650	4300	5800	6600	8550	11350	14200	16580	18650	As design
Total height of equip (mm)	1920	2200	2530	2940	3350	3900	4360	4680	5000	5150	5280	5330	5420	As design
Inspection height (mm)	800	800	800	800	1000	1000	1000	1000	1000	1000	1000	1000	1500	1500
Cake	8KG	30KG	42KG	150KG	240KG	300KG	500KG	800KG	1.3T	1.5T	2.0T	2.5T	3.0T	3.5T

Note: 1. cake refers to the raw constant when the specific gravity of the material is 1:1.
 2. DN3200, DN3400, DN3600, DN3800 models are available.



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.
- 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.



50L

- 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.



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.



Application

Filtration types: filtration, separation, screening, closed, pressure filtration, extraction filtration, multi-function, intelligent automatic, online cleaning and sterilization.

Filtering purpose: filter crystalline or granular materials, filtering required liquid, washing required solid materials, drying required solid materials.

Application industry: pharmaceutical technology, food and beverage, fine chemicals, petrochemical, pesticides, printing and dyeing, paper, etc.

Applicable materials: polymer, vitamin, protein, antibiotics, penicillin, citric acid, pigment, nickel production, all kinds of precious metal catalyst recycling, sugar production, titanium dioxide production, melamine chlor-alkal industry production, the production, the glyphosate decoloring denitrification, activated carbon filter, polycrystalline silicon powder recovery, waste acid, hydrofluoric acid and nitric acid) filtering.

Industry Application



Water treatment

Application

- Filtration of sediment such as sand and algae in raw water.
- Iron & steel industry, air conditioning system, compressor circulation, cooling water, chilled water filtration.
- Remove incrustation or calcium compound from water pipes.
- Prefiltration of purified liquid by membrane method.
- Blocking ion exchange resin.

benefit

- Remove particles & impurities, prevent clogging, scaling and wear.
- Remove pollution particles, save energy & reduce emissions, reduce the cost of wastewater treatment.
- Save the chemical dosage such as anti-resistance agent and anti-rust agent.



Papermaking

Application

- The filtration of papermaking water: raw water, high & low pressure spray water, needle water, heat exchange water, white water, sealing water, bearing cooling water, cooling tower water, high & low pressure water, etc.
- Paper coating auxiliary filter: polymer, bentonite, starch liquid, defoamer, sizing agent, lubricant, water repellent, dye, filler, pigment, calcium carbonate, latex, etc.

benefit

- Remove particle impurities, prevent pipe clogging and scaling, protect key equipment, save maintenance cost, recycle and reuse water, save energy and reduce emission, control pollution impurities into wet parts, improve paper quality.



Petroleum chemical industry

Application

- Oil & water injection, process circulating water, cooling water filtration.
- Lubricating oil, aviation coal and other oil products filtration.
- Recycle catalyst and filter catalytic slurry.
- Intercept carbon ink and filter aid.
- The separation of polymers from benzene.
- Protect pump, heat exchanger and other key equipment.

benefit

- Reduce operating costs and energy consumption.
- Avoid product quality fluctuation.
- Reduce the corrosion to pipes.
- Maintain the activity of catalyst and extend service life.
- Removing oil, solids from water, can reduce disposal costs.



Food & beverage

Application

- The original interception of the carbon ink and filter aid in sugar production.
- Filter mixture oil and crude oil, finished oil polishing filter.
- Security filtration before filling.
- Chocolate, soy protein, jelly, beer and other process filtration.
- Filter out the suspended substances and sediments in the beverage.

benefit

- Reduce operating cost.
- Protect key equipment.
- Remove particles, improve the quality of finished products, such as gloss, purity and taste, etc.



Fine chemical industry

Application

- Resin and other raw materials filtration.
- Remove fibers and gels from paint.
- Filter solvent, large particle impurities in ink.
- Remove the aggregate impurities after the mixed reaction.
- Remove the coagulum from colloidal paint.
- Filter the large particle carbon black and filler in adhesive.

benefit

- Filter the recover solvent.
- Screening large particles to improve the operation efficiency of ball mill.
- Improve the gloss of resin and make the coating film uniform.
- Improve product quality.
- Improve heat exchange efficiency.



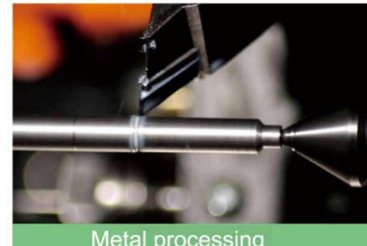
Pharmaceutical

Application

- Recovery of active materials, catalysts, removal of activated carbon.
- Filtered medicinal syrup.
- Plant extraction purification filtration.
- Filter PH value correction liquor.
- Prefiltration of crystalline liquid.

benefit

- Recovery of valuable materials.
- Protect key equipment.
- Reduce operation procedure and speed up production process.
- Improve drug purity and quality.



Metal processing

Application

- Lubricating oil filtration.
- Coolant circulation filtration.
- Recovery of precious metals.
- Filter the phosphating liquid of workpiece, clean, filter the anti-rust oil.
- Ultra fine grinding oil filtration, oil removal of cutting fluid, cleaning fluid.
- Circulating filtration of the cleaning fluid in the workpiece cleaning line.

benefit

- Keep oil clean and extend service life.
- Provide precision grades for metal working.
- Protect metal working tools.
- Reduce operation cost and improve processing efficiency.
- Improve product qualification rate.



Other

Application

- Automotive manufacturing: degreasing, phosphating, cleaning fluid filtration, electrophoretic paint, metallic paint & varnish filtration, engine processing coolant filtration, welding cooling water filtration, etc.
- Electronics industry: prefiltration of pure water and ultra-pure water, remove the impurities in copper foil electrolytic stabilization tank.
- Wafer cutting and grinding wastewater recycling filtration.

benefit

- Chemical slurry filtration, etc.
- Protect key equipment.
- Reduce operating and handling costs.
- Improve work efficiency and product quality.