

Short Path (Molecular) Distillation System

Molecular Distillation / Short Path Distillation is a comparatively new separation technology. It can separate liquid-liquid mixture under temperature that is far lower than boiling point by the difference of mean free path of molecules under high vacuum condition. Such separation is difficult or unable to achieve on normal distillation equipments. Molecular Distillation is especially **suitable to separate substance of high boiling point, heat sensitive and easy to be oxidized.**

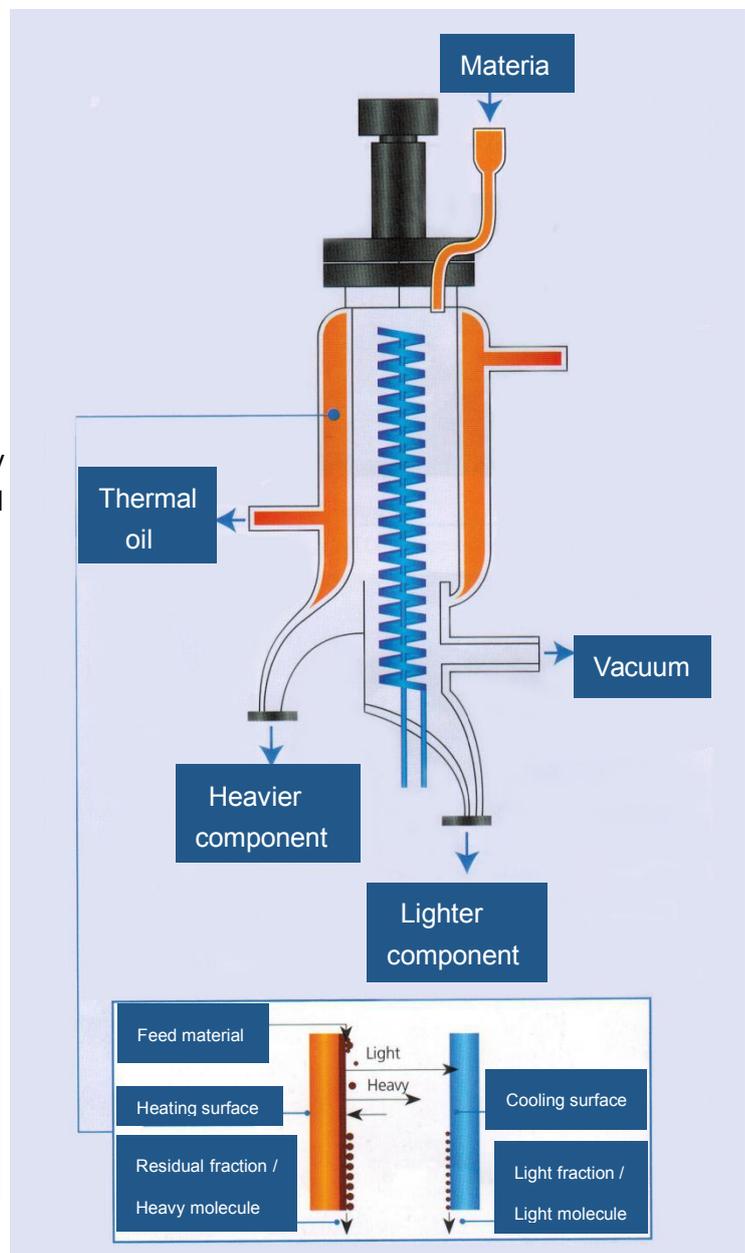
Main application field: Separation process in trades like Food, Pharmaceutical, Fine chemical, Electronic materials, Polymers (Polyols, fatty acids, Polyphenols compounds, polyurethane, epoxy resin, lactate, glycerol monostearate, flavors and fragrances, fuel oil and paraffin oil), etc.

Features and working principle of short path distillation:

- 1. Distilling temperature far lower than the material boiling temperature**
 - Has advantages on dealing with materials that is heat sensitive, of high boiling temperature, belongs to biological acids or lipids.
- 2. Heating process of material is very quick**
 - It may take only few tens of seconds to finish a separation on short path distillatory when it takes hours on a normal evaporation apparatus.
- 3. It is a physical separation process**
 - A natural and gentle separation process that is widely applied on deodorization, decolorization, and purification on materials with high value.

Technical specification:

Model	Diameter (mm)	Surface (m ²)	Processing measures (kg/h)
TWF38-1	38	0.01	0.01-0.2
TWF70-4	70	0.04	0.1-2
TWF70-5	70	0.05	0.1-2
TWF125-10	125	0.1	0.3-4
TWF125-12	125	0.12	0.4-5
TWF125-15	125	0.15	0.5-6
TWF200-45	200	0.45	0.7-8
TWF300-75	300	0.75	1.0-11



Rotary Evaporator

Scraped Film Evaporator / Short Path (Molecular) Distillation System

Chemical Glass Reactor

High Shear Homogeneous Emulsification Reactor

Pilot Ultrasonic Emulsification Reactor

Vacuum Filter / Glass Liquid Separator

Photochemical Glass Reactor

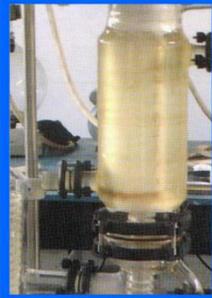
Hydrothermal Synthesis Reactor

High Pressure Reactor

Features Of TOPTION Molecular Distillation System

- 1. Transparent** - Allow an easy observation in whole experiment process on materials (color, fluidity, film effect, start point of distilling, ect.) when changing of settings of pressure, temperature, feed and rotation speed. The convenience does help to get the optimum technological parameters and the experimental data.
- 2. High Pressure tightness** - Magnetic coupling drive system plus TOPTION fine processing technics, both guarantee system vacuum down to 0.001mbar.
- 3. Cleaness** - Material can only touch glass and PTFE during separation process.
- 4. Easy Maintenance** - Quick disassemble structure and specially designed cleaning kits make maintenance job fast and simple.
- 5. Cow Distillation Receiver** - Allow user to collect 3 samples during separation process which increases experiment efficiency and assists process analysis.

Roller / Scraper
filming system



Quick disassemble
and easy clean
structure



Diffusion pump set



Whole gamut
pressure display

Glass evaporator, has no metal exposed
filming system mounted. Featured as
clean and transparent.



Magnetic drive
rotation



System Heating
/ cooling arrangement



Cow distillation
receiving



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Vacuum Filter / Glass
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Hydrothermal
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