

LAB1ST

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Scientific Instruments

Cannabis Distillation Equipment

TAKE YOUR PROCESS TO THE NEXT LEVEL

Molecular (short-path) distillation is the best thermal separation method for heat-sensitive material because it is the gentlest type, causing the least amount of thermal degradation of product. Our wiped film evaporator system are widely used for cannabis/hemp, garlic oil, cod liver oil and chemical and pharmaceutical industries. Shorter residence time, lower separation temperature, capability of continuous and unattended operation makes LAB1ST molecular (short-path) distillation system standing out. with many improvements incorporated over the years. This molecular short path distillation system is comprised of components carefully selected to provide the concentrate manufacturer with a complete turnkey package optimized for cannabis work.



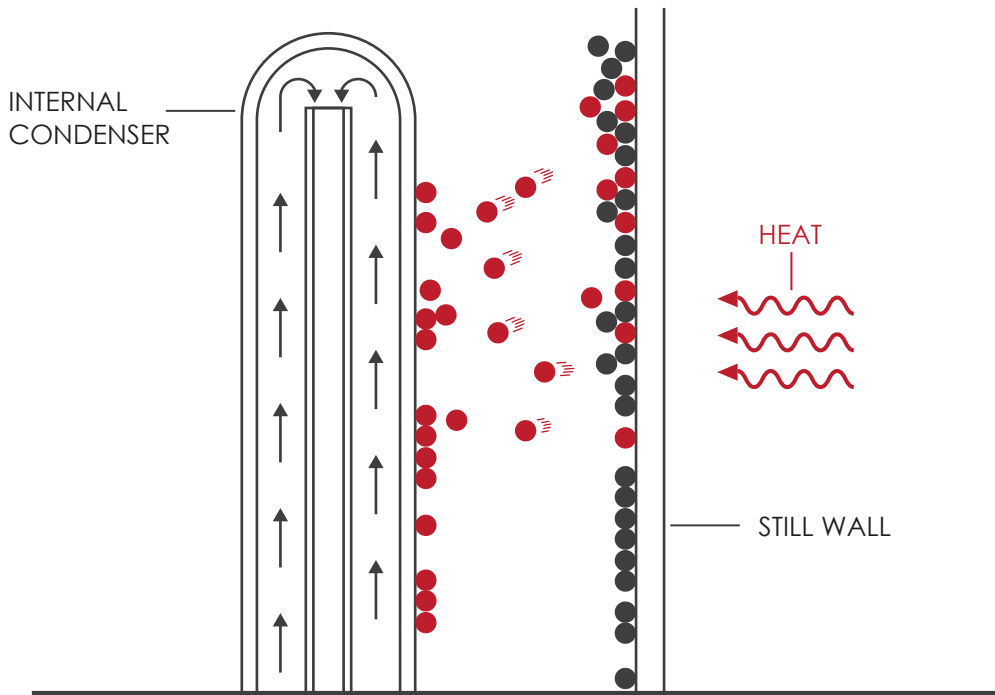
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How It Works

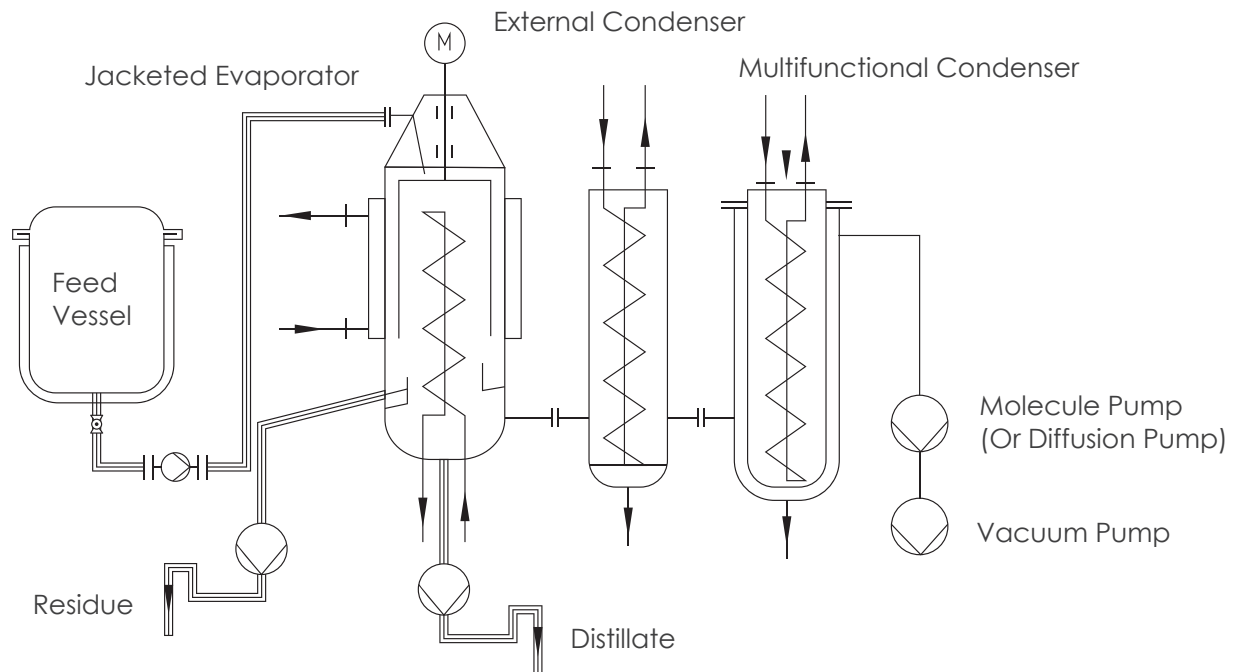
Material is delivered from a feed flask into a cylindrical evaporation section, having heating, on the outside, (either electric resistance or circulating hot fluid jacket type), and a diagonally slotted wiper mechanism forcing liquid around and downward in a thin film on the inside. In the center of the body is a closely positioned internal condenser, providing a short path for vapor molecules traveling from the heated surface to the condenser surface. For cannabinoids, the internal condenser fluid must be kept elevated (~70°C) to prevent high viscosity or freeze up of THC, CBD and related components. During the journey downward, lighter (lower boiling point) fractions of the liquid begin to vaporize, move to the internal condenser and condense, falling down as a liquid into a well that captures and separates the distilled liquid (cannabinoid) which flows into a receiver flask. Heavier residue material (Chlorophyll, salts, sugars, heavy wax fractions) does not evaporate and instead travels the length of the still body and flows into a different receiver flask.



Why It's Superior

- 1 Continuous and automated system, easy to use.
- 2 Short residence time (less than 10 seconds)
- 3 High Evaporation rates
- 4 Low processing temperature
- 5 Low vacuum (down to 0.001mbar)
- 6 Jacket design for efficient heating & excellent heat preservation
- 7 Stainless steel material, stable quality

Turnkey System



Package Includes



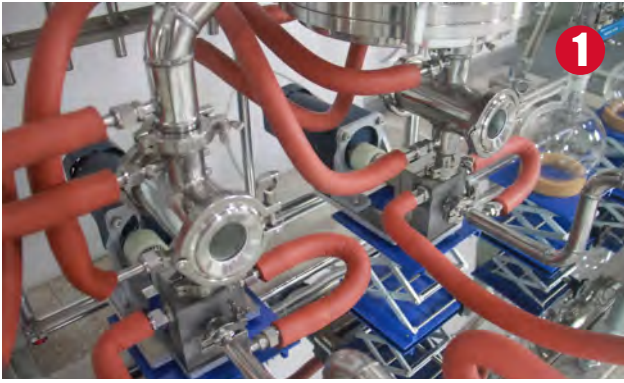
- 1 Three high precision gear pumps
- 2 Rotary vane pump and turbomolecular pump
- 3 Circulating heater (Up to 300°C) for jacketed evaporator
- 4 Circulating heater (Up to 200°C) for feeding vessel and Pipeline
- 5 Circulating heater cooler(-25°C to 200°C) for internal condenser
- 6 Circulating chiller (Down to -25°C) for external condenser
- 7 Circulating chiller (Down to -80°C) for multifunctional condenser

Specifications

Model		SMD-01	SMD-03	SMD-05
Throughput	Feeding Rates (kg/h)	2 - 10	5 - 25	10 - 50
	CBD Throughput (kg/h)	3.5~7	10~20	18~36
Vacuum Evaporator	Level		Better than 10 Pa	
	Evaporation Area (m ² /sqft)	0.1 m ² / 1.1sqft	0.3 m ² / 3.2 sqft	0.5 m ² / 5.4 sqft
	Diameter	125mm / 4.9"	210mm / 8.3"	300mm / 11.8"
	Wiper Style	Scaper		
	Material	SS316L / PTFE (wiper blade)		
	Vacuum Seal	Magnetic Sealing		
	Scraper Motor Power (w)	370	750	1500
	Speed Regulation Mode	Variable Frequency Drive		
	Max.Scraping Speed (rpm)	450		
	Max. temperature		250°C	
	Jacket Volume(L)	1.1	7.1	17.3
Internal Condenser of Evaporator	Volume(L)	0.23	1.24	3.9
	Heat Exchanging Area (m ²)	0.18	0.55	1.7
Feeding Vessel	Volume(L)	20	30	50
	Jacket Volume(L)	10	14	20
Gear Pump	Standard Feeding Rate (L/h)	1.5-12	2.5-24	2.5-24
	Drive Motor Power (w)	200	200	200
Condenser	Type	Cooling Coil Style		
	Receiving Flask (L)	2	2	5
Cold Trap	Type	Dewar		
	Receiving Flask (L)	2	2	5
Pipeline for Material	Heat Preservation Method	Jacketed Insulation		
Support Frame	Material	304 Stainless Steel		
General Information	Dimension (DxWxH mm)	2400×1000×2000	2800×1000×2400	3400×1200×2500
	Weight(kg)	400	600	1000
	Power	220V-Single Phase / Customizable		

Technical Features





Jacketed Pipeline Has A Good Heat Preservation

When the melting point of material is higher than room temperature, will not congeal in pipeline.



Continous Feeding With High Precision Gear Pump

The material flow rate does not change with the pressure difference. As long as the set speed is the same, the delivery amount is the same.



Continous Discharging With Two High Precision Gear Pumps

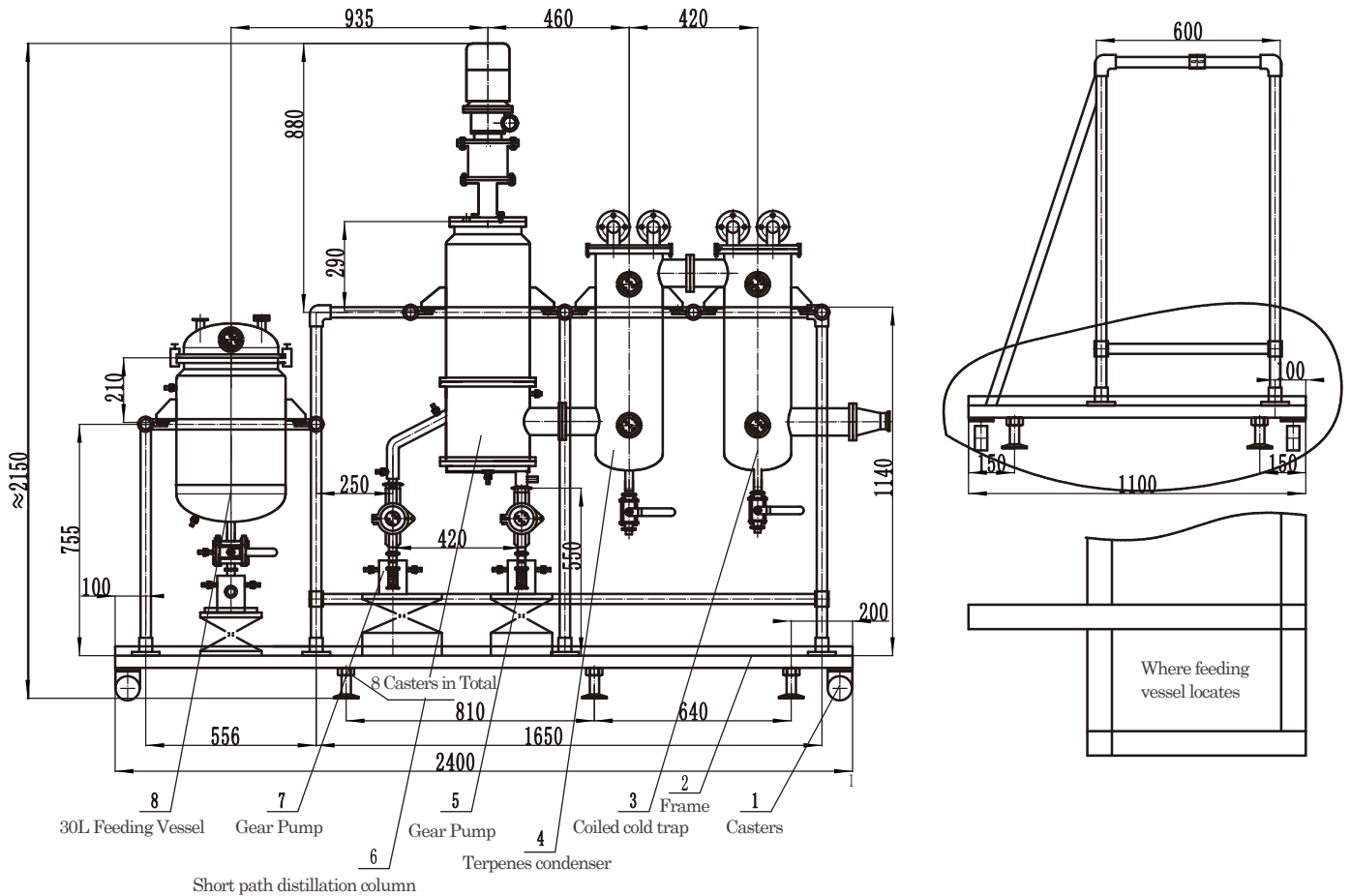


Connection with Heater And Chiller, Convenient and Ordered



Large Condenser Area, High Evaporation Rate

Design Drawings



Multistage Continuous Systems

Our multistage stainless steel fully turnkey systems serve major cannabis production installations requiring capacities anywhere from 10 kg/hr up to 100 kg/hr. We are capable of engineering and manufacturing industrial production sized stills as massive as you need.

| Single Stage Stainless Steel Molecular Distillation Machine



SMD-01

SMD-03

SMD-05

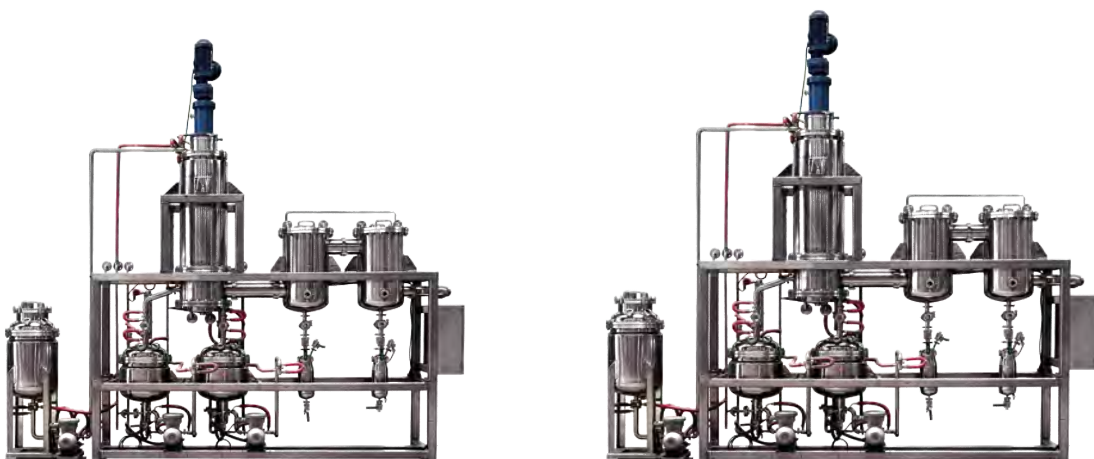
| 2-Stage Stainless Steel Molecular Distillation Machine



SMD-03-DUO

SMD-05-DUO

| Industrial Scale Stainless Steel Molecular Distillation Machine



SMD-10

SMD-20/SMD-50