

Hiroden

Microwave Vacuum Drying System

Low
temperature
drying !
Degradation of the
material is also a
minimum !

Third Drying Method beyond
Hot Air Dry and Freeze Dry



Microwave

Low temperature and high speed dry realizes minimum drop of quality. Feature of Microwave Vacuum Dry

- 1 **High speed dry**
Microwave is absorbed in water and vibrates water molecule 2.45 billion times per second. Friction heat by vibration could create high speed fever.
- 2 **Low temperature dry**
The boiling point of dried material is lowered by vacuum condition. (Example : Water -95 Kpa Boiling Point Approx. 35°C)
- 3 **Minimum drop of quality**
Due to low temperature dry, damage of Nutrient (Vitamin C, Anthocyanin, Polyphenol etc.), Lactic Acid Bacterium is minimized, and heat damage of Addition Agent and Resin Component is controlled.
- 4 **Distilled Liquid (Extracted Liquid)**
Distilled liquid (Extracted Liquid) could be extracted by dried steam condenser.
- 5 **High performance of dry**
Compared with heat conduction method from outside like Hot Air Heating and Jacket Heating, Microwave Direct Heating from inside could shorten dry time.



Microwave Dried Example

Dried Powder	Sliced Meat	Dried Strawberry
Carrot Powder	Powder	Dried Fish

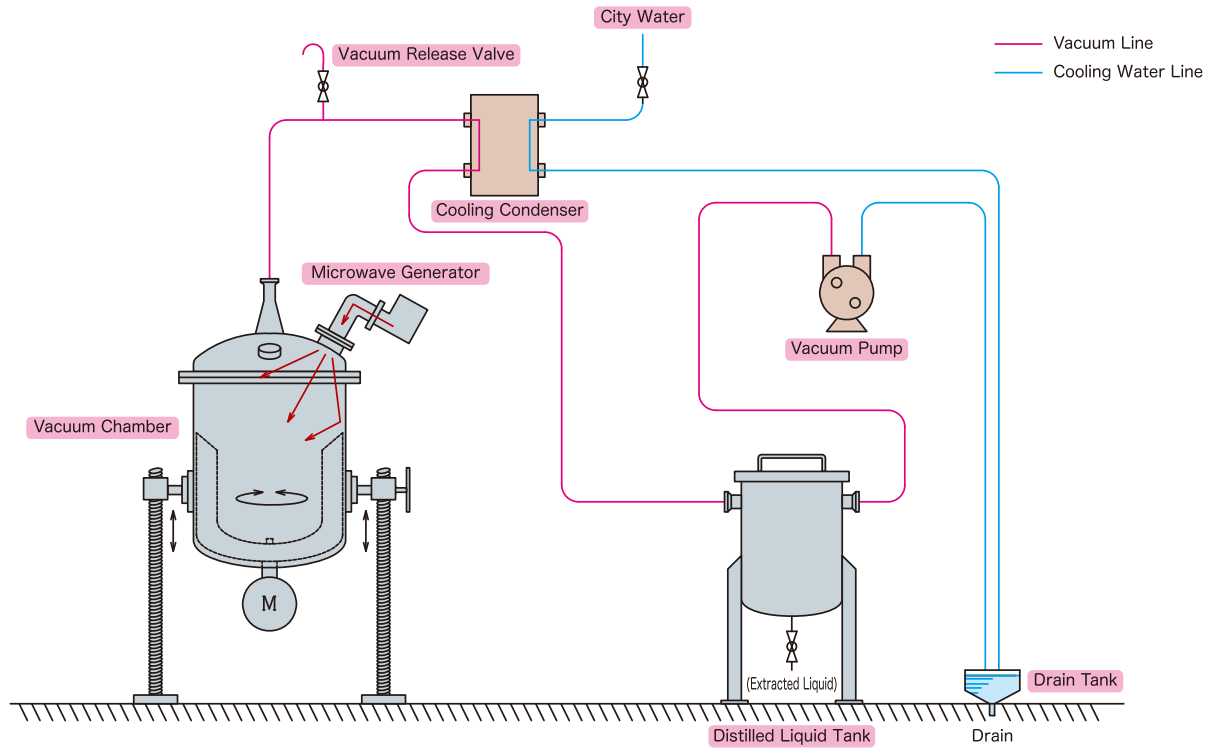
Comparison of each Dry Method

Type	Microwave Vacuum Dry	Freeze Dry	Hot Air Dry
Comparison Table			
Composition Change	○	⊗	×
Dry Time	⊗	△	○
Extraction of Distilled Material	⊗	⊗	×
Initial Cost	△	×	△
Running Cost	⊗	△	○

Application which could expect high performance

- (1) Dry of vegetable, sea weeds, fish
- (2) Dry of particles and slurry
- (3) Extraction of aroma oil
- (4) Animal Feed from leftover food

Microwave Vacuum Dry Equipment Flow

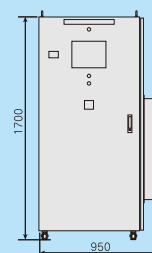


Specification

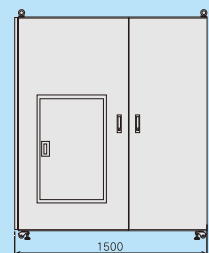
Specification		
Description	Microwave Vacuum Dry Equipment	
Type	HMVD2-1	
Maximum Input Volume	20L	
Degree of Vacuum	-97kPa	
Maximum Drain Volume	2L/h	
Chamber	60L	
Condensing Tank	18L	
Cooling Water Tank	15L	
Electric Power Supply	3Φ 200/220V (50/60Hz)	
Electric Power	Magnetron	2KW (Variable)
	Water Seal Vacuum Pump	0.4kw
	Mixer	0.1kw
	Lift	25WX 2
	Cooling Water Circulation Pump	0.1kw
Connecting Pipe Dia.	Water Supply	15A
	Drain	15A
Material	Chamber	SUS304
	Condensing Tank	SUS304
	Cooling Water Tank	SUS304
	Exterior	SUS304



Microwave Vacuum Dry Equipment HMVD2-1



Front Image



Side Image



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