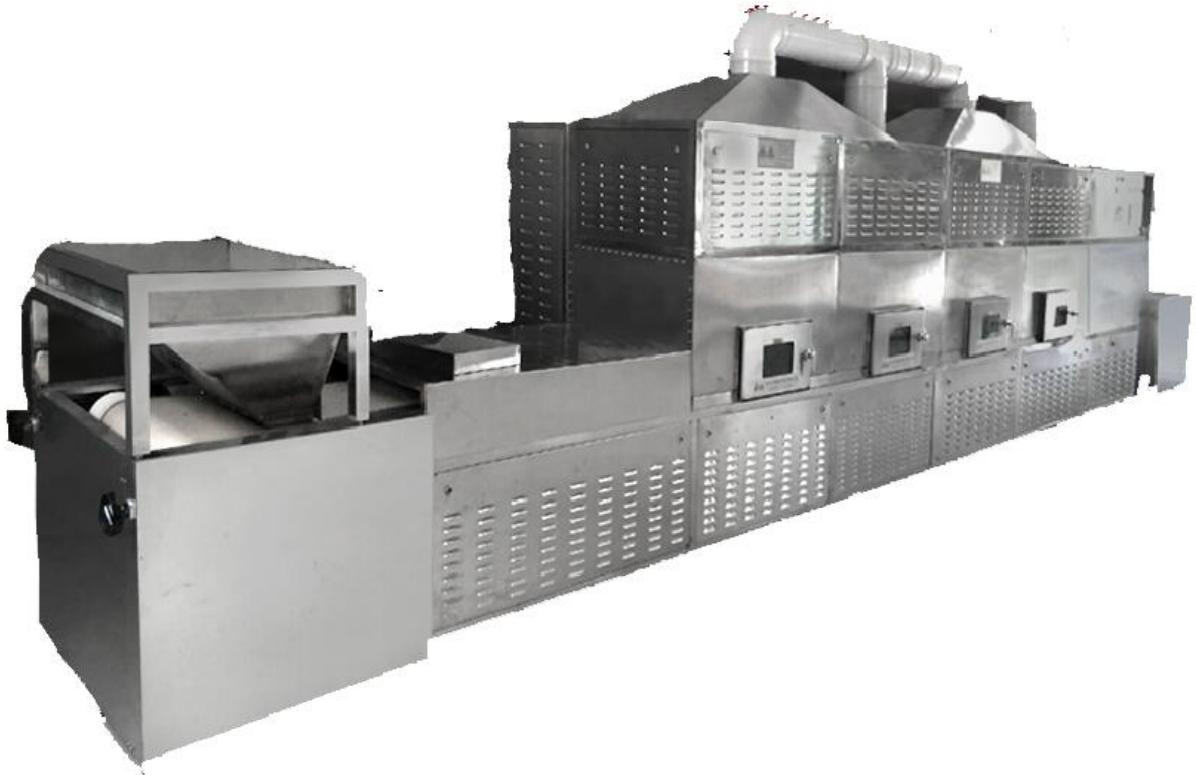


TUNNEL MICROWAVE DRYER MACHINE G-50
COOLING METHOD : WATER COOLING TYPE



Tunnel Microwave Dryer

Heating Method: Microwave drying

Design and manufacturing conditions and technical specifications:

- 1) Control Mode: Automatic PLC control and touch-screen LCD display image
- 2) Total Power: 100 KVA
- 3) Temperature during the operation: $\leq 80^{\circ}\text{C}$
- 4) Total Capacity: 1500 kg/hr to 2000kg/hr
- 5) Worker: 1~2
- 6) Equipment weight: About 5000 kg.



- 7) Equipment system components:
- The microwave drying chamber system
 - Microwave leakage suppression system
 - Heating chamber heat preservation and heat insulation system
 - Material transport system
 - Independent control and detection systems
 - Independent exhaust systems
 - Independent heat system
 - Automatic feeding system
 - Material cooling system
- 8) Operating environment:
- Input power: Three-phase and five-wire 380V±10% 50Hz±1%
The zero line and the line thickness with the same specifications.
 - Surrounding non-corrosive gases, conductive dust and explosive gases.
 - Environment temperature: -5~45°C
 - Relative humidity: ≤80%
- 9) Microwave system
- Microwave frequency: 2450±50MHz
 - Microwave output power: ≥100kw.
 - Microwave heating chambers quantity: 8
 - Microwave heating equipment dimension (LxWxH) : 19400×1700×2200mm
Conveyor width: 960mm
Conveyor standard: The cloth belt (Food Grade)
 - Microwave heating chamber is made of 2.0mm thick stainless steel plate.
Equipment racks, and power supply box are designed and manufactured of 1.5mm stainless steel skeleton.
 - Microwave fed parts: the top of the feed-in.
 - Minimum isolation between the feed ports: more than 20db
 - Bobby settled microwave feed: less than 2 (at rated load)
 - Microwave feeding and discharging opening height: 50mm
 - Cooling type: imported water-cooling magnetron, special electronic power transformer.
 - Microwave operating modes: standard rectangular wave guide.
 - Delivery forms: conveyor + Frequency
 - Equipment delivery system installed metal detector function.
 - Install strengthen magnet to remove iron grits from the materials.
- 10) Microwave Leakage: The national standard GB10436-89
In line with national GB16798-1997 hygiene of food machinery safety indicators
Comply with electrical safety standards GB5226

Equipment features:

Microwave heating chamber

Chamber quantity: 10

Microwave heating dimension: 15400×1700×2200mm

OVERALL DESIGN AND PERFORMANCE CHARACTERISTICS

1. MICROWAVE POWER SOURCES AND TRANSMISSION SYSTEMS

The device use the most advanced multi-sourced frame work for multi-cavity, with special high-performance microwave transmission 2450MHz Samsung industrial microwave magnetron excitation standard and specially designed waveguide, a cross polarization division multiple groups to microwave heating cabinet respectively. Grooves distributed feed-mouth can (and use CAD programs on the feeding ports to optimize the design and size), can achieve the best mode of distribution and excellent heating uniformity can achieve the best mode of distribution and excellent heating uniformit. The entire microwave source with perfect security locking system, long work for a stable, easy to operate. All electrical parameter ratio, commissioning process we have been through microwave specialist practice and internal control.

2. MULTI-MODE MULTI-SERIES COMBINATION OF A RECTANGULAR MICROWAVE HEATING CHAMBER

Heater for the tank structure, the entire microwave heating chamber using CAD technology to optimize the design of microwave heating cabinet, to ensure that more distribute model to improve uniformity. Continuous tunnel system uses microwave heating 1.5mm thick 304# South Korea Pohang stainless steel grinding plate, the single sided matte board, microwave rack system design and manufacture of 304 stainless steel frame. Machine design and manufacture to perfect and rigid to ensure full compliance with the requirements GMP production equipment. The device has a large opening visible anti-microwave leakage choke door, the door has automatic power protection devices, cloth-like conveyor reliable, with fine-tuning. Chamber section design a sound suppression microwave segment, ensuring the large opening status, material flow the microwave leakage fully meet national safety standards, the segment cavity machined separately, flanged to each other in order to facilitate processing, installation, commissioning and transport.

3. TO ENSURE THAT THE MICROWAVE CAVITY HEATING UNIFORMITY

We use US electromagnetic microwave network analyzer, microwave heater full range of testing and electromagnetic field distribution modular calculation to determine heating system fed broadband size, to ensure the highest microwave heating efficiency and heating uniformity. Our microwave heating efficiency is higher about 5%, more than other manufacturers for better heating uniformity, and which does not cause the phenomenon of dry material inconsistencies.

4. THE SURFACE OF THE EQUIPMENT

The overall structure is smooth, beautiful, practical, no exposed rivets ,screws and other fasteners, the board and the board have a contact position “R” rounded, more in line with GMP requirements.

• **EQUIPMENTS FEATURES :**

1. MOISTURE EXHAUST SYSTEM : Equipment in the sterilization process will produce a small amount of water vapor, moisture exhaust hole in the top surface of the device body cavities, inhalation discharged from the centrifugal fan after the water vapor rises through PVC pipe. The makes the ability to increase the influx of discharge water vapor which is discharged through a tube to outdoor.

2. MICROWAVE SUPPRESSOR : Suppressors dual structure
Suppressor Material: 3mm thick high –purity aluminum,
1.0mm suppression,
Sheet Suppression length: 1200mm,
Opening height : 40mm.
Leak Proof manner: Inductance combo sheet +absorbing material. Microwave leakage amount: Microwave measurement pitch every 5cm microwave leakage <5mw/cm²(GB)

3. SAFETY DEVICES :

Magnetron equipped with temperature control switch to prevent overheating, which can be 100,000 times start to close 130°C to 160°C.
Emergency stop switch installed in the control cabinet to run the device under abnormal conditions timely close the system.

4. CONTROL SYSTEM :

- a) The machine set the total console can be operate machine power, transmission speed, temperature and other relevant controls. Central control system: Japan's Mitsubishi Heavy Industries PLC (FX series) and touch graphics display terminal (HMI), stable performance, automatically adjust the microwave power to produce the highest yield depending on the setting temperature parameter values, and can be forced by the man-machine interface control.
- b) Ready to detect the working conditions of the magnetron and associated circuitry, damage alarm for timely troubleshooting.
- c) Far infrared temperature measuring device provided with temperature adjustment, can set the desired temperature and automatic temperature control mediation.
- d) 7-inch color LCD monitor can be set up to monitor the operation of material directly observed, and presence or absence of the microwave heater ignition, material shortages, transport cassette tape, broken belt and so on anomalies.
- e) Program to see the stop time of magnetron to help you find the if the magnetron is not working.
- f) At the discharge of microwave dryer we add a cover to prevent dust pollution.

5. MAINTENANCE DOORS :

In order to facilitate observation and the heating chamber materials cleaning or drag roller conveyors and maintenance, we fixed observation in the box with the side door, also lights in cabinets. The door opening plus casing reinforcement frame, the opening portion of the entire device to a thickness of 3.0mm to ensure that the box is not deformed with prolonged use of the device, no microwave leakage.

6. MATERIAL TRANSPORT SYSTEM :

Inverter using Delta inverter, material conveyor belt driven by mobile transmission frequency conversion motor and gear mechanism. Moving speed in the range of 0-10m/min in continuously adjustable, with stable microwave power is adjusted to achieve the desired output.

We add a program for control the speed of belt. When the temperature is too high or too low we will adjust the speed of belt.

7. TEMPERATURE MEASUREMENT AND CONTROL SYSTEM

The Raytek infrared thermometer is imported from the United States on the rational distribution of the microwave heating cabinet, the temperature signal acquired with a combination of programmable microwave source constitute automatic temperature control system and real-time machine

Control along the whole of the material temperature monitoring to ensure control of the material needs the processing temperature distribution and prevent over-temperature materials.

8. THE FEEDER OF MICROWAVE DRYER :

We will supply you a bigger size feeder for you. We put a grid with a screen in the feeder.

INSECTICIDAL MICROWAVE STERILIZATION EQUIPMENT SECTION (MAIN)
MATERIAL DESCRIPTION

ITEM	DESCRIPTION	ORIGIN	NOTE
1.Microwave heating chamber	1.5mm S.S.Scrub	China	Food Grade
2.Microwave heating chamber	1.5mm S.S.S	China	Food Grade
3.Microwave Suppressor system	High purity aluminum plate	China	Food Grade
4.Microwave generator cabinet	1.5mm thick SS scrub	China	Food Grade
5.Transmission system		China	Food Grade
6.Exhaust moisture & heat system	1.0mm S.S	China	Food Grade
7.Frame system	1.5mm thick SS scrub	China	Food Grade
8.Safety chain protection system		Samsung	

9.Control table	1.5mm S.S	China	Food Grade
10.(Microwave) Incentive cavity	High purity aluminum plate	Shanghai	
11.Magnetron (Purpose Made)	OM75P-11	Korea	Samsung
12.Electronic power transformer	1000V	China	
13.Breaker	DZ47D16	Taiwan	
14.A.C.Contactor	CJX2-0910	Taiwan	
15.PLC	Vinylon	Taiwan	
16.2500w Motor	Beder	Shanghai	
17.Touch Screen	WECON	Taiwan	
18.Infrared temperature control system	Raytek	USA	
19.Transport tape	The cloth belt	Jiangsu	Food Grade
20.All Kinds of special cables and Wires	High Temperature/high pressure	Yanggu	
21.Microwave oven Door (window)	1.5mm S.S.Scrub	LG	
22. Inverter	Delta	Taiwan	