

Insect and Bug microwave drying oven

Specifications :

Price	10000-100000USD
Brand Name	LOYAL
Model Number	LY
Place of Origin	JINAN,CHINA
Min.Order Quantity	1 SET
Payment Terms	T/T, L/C...
Supply Ability	1 month 5 set
Delivery Detail	30-35 working days
Packaging Details	Film wrapping/wooden box packaging

Detail Introduction :

Insect and Bug microwave drying oven

Black soldier fly larvae industrial microwave dryer has reasonable price, reliable quality and professional service! Our company provides customers full set service. Cost accounting, dryer design, raw material recipes, machine installation and debugging, design molds according to customer requirements.

Mealworm microwave drying machine, this type of equipment belongs to the Insect and Bug microwave drying oven, especially used for black soldier flies, mealworm, silkworm chrysalis, fly maggots, grasshoppers and other insects. The Microwave insect dryer adopts fully automatic assembly line drying, and the feeding adopts hopper type feeding. Free on-site production operations are provided, and one-stop technical solutions are provided in combination with user products.



What Are The Advantages Of Insect And Bug Microwave Drying Oven?

Because the overall radiation heating method of the microwave directly acts on each black soldier fly molecule, the drying is uniform, and the black soldier fly can be dried within a few minutes. In addition, due to the "water-loving" characteristics of microwaves, black soldier flies with more water content absorb more microwave energy than those with low water content. In addition, the electromagnetic field uniformity of black soldier fly larvae industrial microwave dryer is optimized to ensure excellent uniformity of microwave heating and drying.

Advantages Of Microwave drying of insects

1	Microwave insect dryer can sterilize, prevent mildew, kill insects and keep fresh, and effectively improve shelf life of black soldier flies. Therefore, the black soldier fly larvae industrial microwave dryer can be used for multiple purposes, effectively shortening the process flow.
2	Microwave drying has a puffing effect on black soldier flies. If there is a subsequent process of crushing black soldier flies, it will be of great help to the crushing. Because the direction of water vapor in microwave drying and dehydration is from the inside to the outside, and the characteristics of microwave heating and drying can rapidly form water vapor pressure inside the black soldier flies, microwave heating and drying can puff black soldier flies.
3	Advanced technology and continuous production. The continuous black soldier fly microwave drying equipment has adjustable power, adjustable speed, instant start and stop, no thermal inertia, no radiation, and can be continuously produced 365 days a year.
4	Energy saving and environmental protection. Microwave drying of black soldier flies is a process that converts electrical energy into microwave energy and then acts on the black soldier flies to convert them into heat energy to complete the drying process.

DETAIL CHARACTERISTICS



01 ENVIRONMENTAL POLLUTION-FREE

Microwave drying equipment does not produce environment of high temperature, dust and noise, without waste water and exhaust gas in the process of operation, no waste is generated.



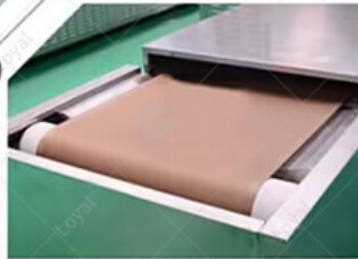
03 ADVANCED TECHNOLOGY EASY TO CONTROL

Microwave heating just have the basic conditions of water, electricity, as long as control power of microwave which can realize the automatic control of heating process immediately.

HEATING UNIFORMITY

02

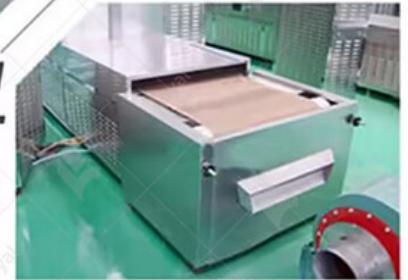
Material can generate heat at the same time under the action of electromagnetic waves from microwave, there will be no coke endogenous phenomenon.



SMALL FOOTPRINT SAFE AND HARMLESS

04

Because the microwave energy is control in metal heating indoor and work in the waveguide tube, so rarely microwave leak, no radiation damage and harmful gas emissions, and does not produce waste heat and dust pollution.



Working Principle of the Insect and Bug Microwave Drying Oven

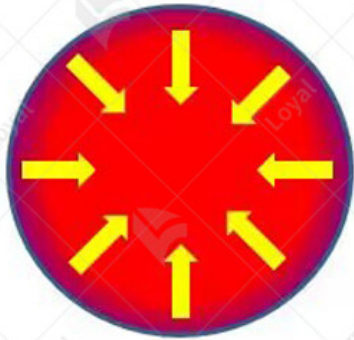
The Microwave drying of insects utilizes the power of microwave radiation to rapidly and uniformly dry insects such as black soldier fly larvae and mealworm. Within the oven's chamber, a high-powered microwave generator emits electromagnetic waves, which penetrate the insect's body, causing water molecules to vibrate and generate heat. This process effectively removes moisture from the insects, preserving their nutritional integrity and quality.

Industrial Microwave Dryer VS Gas Dryer Comparison

Operating Conditions	Industrial Microwave Dryer	Direct Fired Gas
Energy Source	Electricity	Gas
Heat Penetration	Volumetric(Uniform Throughout	Surface To Interior
Heating Rate	Nearly Instantaneous	Typically Slow
Chemical Changes To Product	None	Carbonization, M
Dryness Control/Consistency	Precision ,<1% Possible	Non-Precision,3-5
Color Change To Product	None	May Darken*
Nutrient loss in product	None	Possible
Reliability	Very High	Poor To Moderate
Labor Requirements	Minimal, Fully Automatic	Usually Requires
Fire/Explosion Hazard*	None	Possible
Energy Efficiency		
Overall Energy Efficiency	75%+	<50%**
Heat Energy Delivered To Load	95%+	<50%
Water Removal Energy	1000 - 1200 Btu/ Lb	1800-2400 Btu/b*
		4200-5600
	2300-2800 Kj/Kg	Kj/Kg**
Emissions		
Control Equipment Required?	No	Yes
Generates Vocs ?	No	Yes
Generates Cox And Nox ?	No	Yes
Generates Particulates ?	No	Yes

LOYAL'S MICROWAVE ADVANTAGES

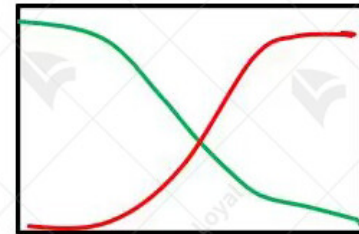
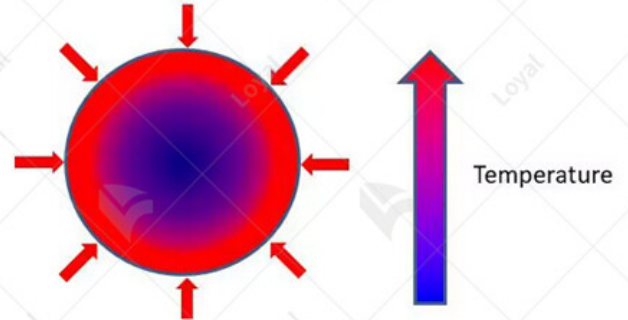
Microwave Heating



Time

FASTER, MORE EVEN

Conductive Heating



Time

SLOWLY...



Technical Parameters Of Yellow Mealworm Microwave Dryer Machine

Technical Parameters Of Yellow Mealworm Microwave Dryer Machine					
Model	Size L*W*H(Can be customized according to the customer's requirements)	Output power	Dewaterability	Sterilization capacity	
LY-10KW	5000mm*825mm*1750mm	?10KW	10KG/Hour	100KG/Hour	
LY-20KW	8000mm*825mm*1750mm	?20KW	20KG/Hour	200KG/Hour	
LY-30KW	8500mm*1160mm*1750mm	?30KW	30KG/Hour	300KG/Hour	
LY-40KW	10000mm*1160mm*1750mm	?40KW	40KG/Hour	40KG/Hour	
LY-50KW	12500mm*1160mm*1750mm	?50KW	50KG/Hour	500KG/Hour	

LY-60KW	13500mm*1450mm*1750mm	~60KW	60KG/Hour	600KG/Hour	
LY-70KW	13500mm*1500mm*1750mm	~70KW	70KG/Hour	700KG/Hour	
LY-80KW	13500mm*1650mm*1750mm	~80KW	80KG/Hour	800KG/Hour	
LY-100KW	16800mm*1650mm*1750mm	~100KW	100KG/Hour	1000KG/Hour	
LY-150KW	22400mm*1850mm*1750mm	~150KW	150KG/Hour	1500KG/Hour	
LY-200KW	27000mm*1850mm*1750mm	~250KW	250KG/Hour	2500KG/Hour	
LY-300KW	32000mm*1850mm*1750mm	~300KW	300KG/Hour	3000KG/Hour	
Power Supply		380V±10% 50Hz±1% Three Phase			
Microwave Output Frequency		2450±50MHz			
Microwave Input Apparent Power		~168Kva			
Microwave Output Power		~120Kw			
Microwave Power Adjustment Range		0-30Kw(Adjustable)			
Ambient Temperature		-5-40°C			
Relative Humidity		~80%, Surrounding Environment:No Corrosive Gas			
Transmission Speed		0-10m/Min(Adjustable)			

Advantages of the Microwave drying of insects Compared with traditional drying

Enhanced Efficiency: Shandong Loyal's mealworm microwave drying machine boasts exceptional efficiency, significantly reducing drying times compared to traditional methods. Its advanced technology ensures uniform drying, resulting in superior product quality.

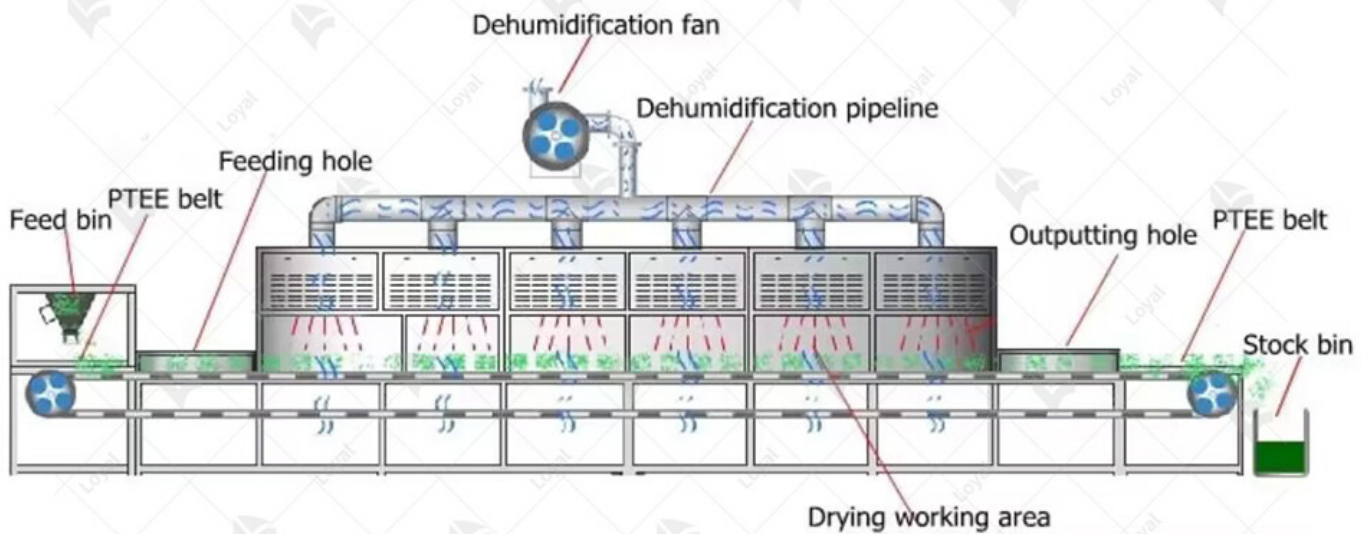
Nutritional Preservation: Unlike conventional drying techniques that may degrade nutritional content, microwave drying preserves the nutritional value of insects. This is crucial for applications in animal feed, pet food, and human consumption.

Versatility: The mealworm microwave drying machine is designed to accommodate various insect species and sizes, offering flexibility to manufacturers in diverse industries. Its adjustable settings allow precise control over drying parameters for optimal results.

Cost-Effectiveness: By reducing energy consumption and minimizing product waste, Shandong Loyal's yellow mealworm microwave dryer machine technology offers a cost-effective solution for insect processing operations.

Environmental Sustainability: With its energy-efficient design and reduced carbon footprint, the Insect and Bug microwave drying oven aligns with sustainable manufacturing practices, contributing to environmental conservation efforts.

Continuous Microwave Equipment Working Process



FAQs: Insect and Bug Microwave Drying Oven

Q1: Can the Insect and Bug microwave drying oven accommodate large volumes of insects?

A1: Yes, Shandong Loyal's microwave insect dryer is available in various sizes to meet the production needs of different manufacturers, from small-scale operations to large-scale industrial facilities.

Q2: Is microwave drying suitable for all types of insects?

A2: While microwave drying is highly effective for many insect species, it's essential to consult with experts or conduct trials to determine the optimal drying conditions for specific insects.

In conclusion, the Insect and Bug microwave drying oven by Shandong Loyal Industrial Co., Ltd., represents a game-changing solution for the efficient and high-quality drying of insects. Its innovative technology, combined with the expertise of the manufacturer, ensures superior performance and reliability. Whether for animal feed, pet food, or human consumption, this advanced equipment sets the standard for insect processing in the modern age.