

# Microwave Chemical Powder Drying Equipment

## Specifications :

Price	USD 100.000-8,800.00
Brand Name	LOYAL
Model Number	LY
Place of Origin	CHINA
Min.Order Quantity	1
Payment Terms	T/T, L/C
Supply Ability	30SETS/MONTH
Delivery Detail	30DAYS
Packaging Details	Wooden packages

## Detail Introduction :

### Microwave Chemical Powder Drying Equipment

In the realm of industrial drying, the Microwave Chemical Powder Drying Equipment from Shandong Loyal Industrial Co., Ltd. stands as a beacon of innovation. This advanced technology is tailored for precision drying of chemical powders, offering a transformative approach to processes involving materials like graphite, silicon carbide, and nano iron oxide. Let's delve into the intricacies of its working principles, advantages, and common FAQs surrounding this cutting-edge equipment.



**Working Principles of Microwave Chemical Powder Drying Equipment:**

The Microwave Chemical Powder Drying Equipment operates on the principle of utilizing microwave energy to efficiently and uniformly dry chemical powders. The process begins by placing the chemical powder in the drying chamber. Microwave energy is then emitted, penetrating the powder and causing the water molecules within to vibrate rapidly. This rapid vibration generates heat, facilitating the quick evaporation of moisture from the chemical powder.



**3-5min  
Extremely  
Fast Drying**



**Simultaneous  
Heating Inside  
And Outside**



**Temperature  
Sensing  
Prevents  
Overheating**



**Synchronous  
Sterilization &  
Disinfection  
Function**



**Cooling System  
Has Long  
Service Life**



**Microwave  
Anti-Leak**

**Technical Parameters Of Continuous Microwave Dryer Industrial Microwave Drying Machine**

Model	Size L*W*H(Can be customized according to the customer's requirements)	Output power	Dewaterability	Sterilization capacity	Baking and Roasting capacity (Depends on different raw material)
LY-10KW	5000mm*825mm*1750mm	10KW	10KG/Hour	100KG/Hour	30-50KG/Hour
LY-20KW	8000mm*825mm*1750mm	20KW	20KG/Hour	200KG/Hour	60-100KG/Hour
LY-30KW	8500mm*1160mm*1750mm	30KW	30KG/Hour	300KG/Hour	90-150 KG/Hour
LY-40KW	10000mm*1160mm*1750mm	40KW	40KG/Hour	400KG/Hour	120-200KG/Hour
LY-50KW	12500mm*1160mm*1750mm	50KW	50KG/Hour	500KG/Hour	150-250KG/Hour
LY-60KW	13500mm*1450mm*1750mm	60KW	60KG/Hour	600KG/Hour	180-300KG/Hour
LY-70KW	13500mm*1500mm*1750mm	70KW	70KG/Hour	700KG/Hour	210-350KG/Hour

LY-80KW	13500mm*1650mm*1750mm	?80KW	80KG/Hour	800KG/Hour	240-400KG/Hour
LY-100KW	16800mm*1650mm*1750mm	?100KW	100KG/Hour	1000KG/Hour	300-500KG/Hour
LY-150KW	22400mm*1850mm*1750mm	?150KW	150KG/Hour	1500KG/Hour	450-750KG/Hour
LY-200KW	27000mm*1850mm*1750mm	?250KW	250KG/Hour	2500KG/Hour	750-1250/Hour
LY-300KW	32000mm*1850mm*1750mm	?300KW	300KG/Hour	3000KG/Hour	900-1500KG/Hour
Power Supply	380V±10% 50Hz±1% Three-Phase Five-Wire				
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, Conductive D And Explosive Gas				
Transmission Speed	0-10m/Min(Adjustable)				



The unique aspect of this equipment lies in its ability to selectively heat the moisture within the powder without significantly affecting the temperature of the material itself. The controlled and precise nature of microwave drying ensures that the chemical powder is dried thoroughly while maintaining its chemical composition and quality.

### Industrial Microwave Dryer VS Gas Dryer Comparison

Operating Conditions	Industrial Microwave Dryer	Direct Fired Gas Dryer(Rotary Drum, Ring, Convection, FlashTypes)
Energy Source	Electricity	Gas
Heat Penetration	Volumetric(Uniform Throughout)	Surface To Interior Conduction
Heating Rate	Nearly Instantaneous	Typically Slow
Chemical Changes To Product	None	Carbonization, Maillard Reaction, Other
Dryness Control/Consistency	Precision ,<1% Possible	Non-Precision,3-5% Typical
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 Dedicated Operator



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

Advantages of Our Industrial Microwave Powder Drying:



**1. PLC control system**  


**2. Material Feeder : Customizable according to your materials, both Liquid & Powder & Pellet available**  


**3. Belt: Customizable mesh belts of various materials**  


**4. Control cabinet: Add a control box, neat and easy to clean.**  


**5. The observation window is equipped with a travel switch to prevent microwave leakage and improve safety.**  


**6. Machine Material : 304 stainless steel**  


**Rapid Drying Time:**

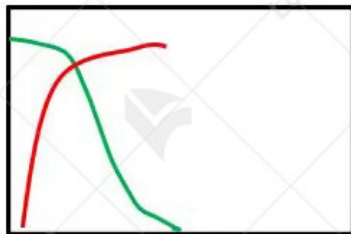
The use of industrial microwaves significantly accelerates the drying process, ensuring a quick turnaround in production. This speed not only enhances efficiency but also allows manufacturers to meet the demands of a dynamic market.

**Uniform Drying:**

Industrial microwave powder drying offers unparalleled uniformity in drying. The microwave energy is precisely controlled, ensuring each particle undergoes consistent drying, preventing issues such as over-drying or uneven moisture distribution.

# LOYAL'S MICROWAVE ADVANTAGES

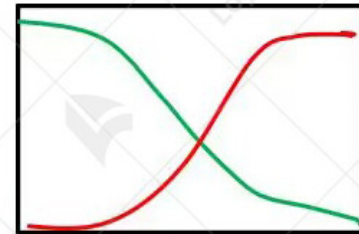
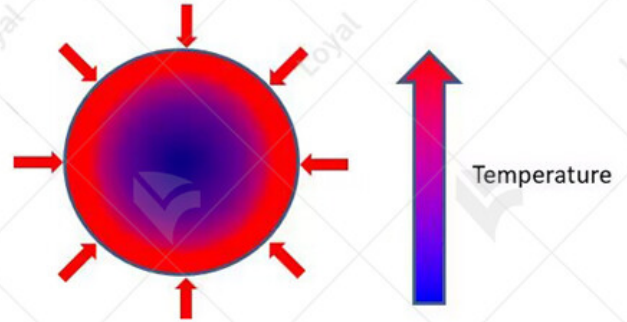
**Microwave Heating**



Time

**FASTER, MORE EVEN**

**Conductive Heating**



Time

**SLOWLY...**

### 3. Preservation of Material Quality:

The controlled and rapid nature of microwave drying helps preserve the quality of chemical powders. This is crucial for ensuring that the final product maintains its chemical properties, ensuring consistency in applications.



### 4. Energy Efficiency:

Shandong Loyal Industrial Co., Ltd. prioritizes energy efficiency in their designs. The Microwave Chemical Powder Drying Equipment minimizes energy consumption by precisely targeting the moisture within the chemical powder, reducing overall production costs and environmental impact.

### 5. Versatility in Material Handling:

This equipment is designed to handle a variety of chemical powders, including graphite, silicon carbide, and nano iron oxide. Its versatility makes it suitable for diverse industrial applications.





#### FAQs: Common Questions About Microwave Chemical Powder Drying Equipment:

Q1: Can the Microwave Chemical Powder Drying Equipment handle materials with different moisture content?

A1: Yes, the equipment is designed to handle a range of moisture content in materials. The microwave drying process can be adjusted to accommodate varying moisture levels.

Q2: Is there any risk of overheating or degradation of chemical properties during the microwave drying process?

A2: No, the controlled and precise nature of microwave drying minimizes the risk of overheating or degradation. It ensures that the chemical properties of the material remain intact.

Q3: How does the equipment ensure uniform drying across a batch of chemical powder?

A3: The industrial microwave system is equipped with advanced technology to ensure uniform energy distribution, guaranteeing that each particle in the batch undergoes consistent and uniform drying.



In conclusion, the Microwave Chemical Powder Drying Equipment by Shandong Loyal Industrial Co., Ltd. exemplifies a paradigm shift in industrial drying processes. Its innovative use of industrial microwaves not only ensures efficiency and uniformity but also addresses key concerns related to material quality and energy consumption. As manufacturers embrace this cutting-edge technology, the chemical powder processing industry is poised for enhanced quality and productivity, marking a new era in industrial drying.