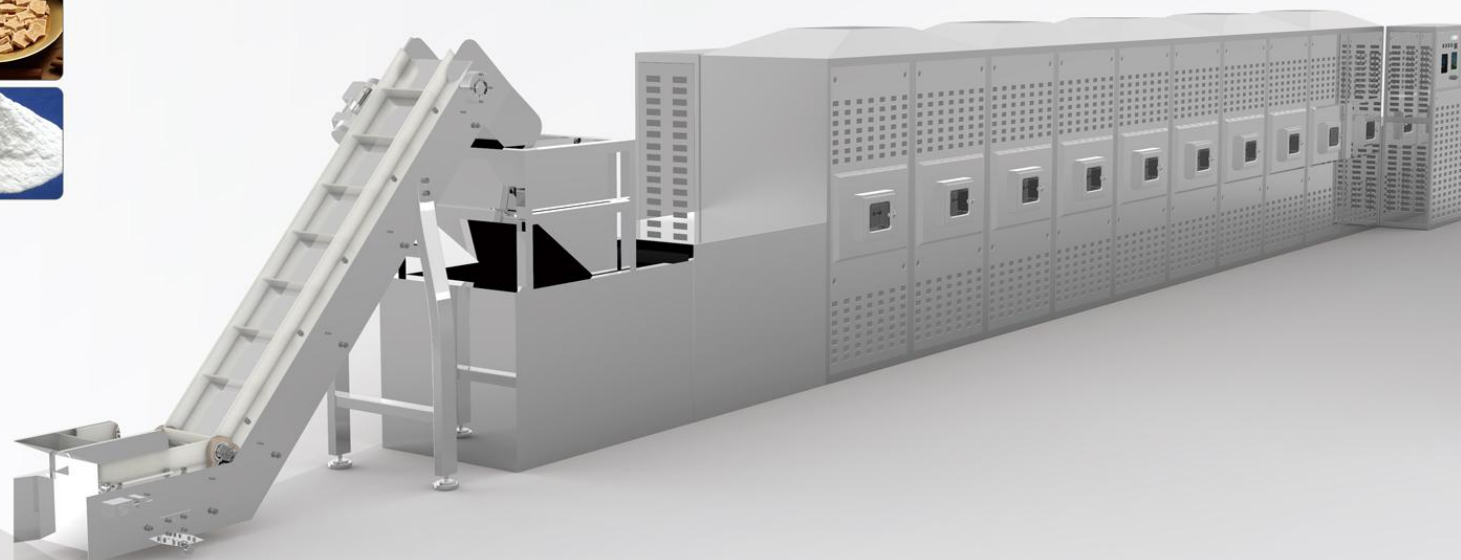


Microwave Applications



JINAN GSPRING MACHINERY CO., LTD.

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COMMITTED TO BEING THE WORLD MOST RELIABLE FOOD MACHINERY PARTNER

COMPANY PROFILE 公司介绍

Jinan Gspring Machinery Co., Ltd. is a professional food machinery manufacturer specializing in industrial microwave dryer, which is widely used in food, seasoning, pharma, chemical, paper, wood, ceramic, coal & construction material etc.

The company supply not only machines for customers, but also a total customized solution & turnkey project, like Project Feasibility Analysis, Plant Planning, Production Line Layout Design, Installation & Commissioning, Work Training & Continuous After-sales Service.

Gspring Machinery is a company with customer-first as its core-value, sincere cooperate with every customer, innovative thinking, constantly learning to find solution to improve machine quality & service, committed to being the most world's reliable food machinery partner.

Gspring Machinery is willing to work with customers to develop and progress together.

济南贵泉机械有限公司是一家专业生产工业微波干燥机的食品机械厂家，设备可广泛应用于食品、调味品、制药、化工、造纸、木材陶瓷、煤炭和建筑材料等。

公司不仅为客户提供机器，还提供整体定制解决方案和交钥匙工程，如项目可行性分析、工厂规划、生产线布局设计、安装和调试、工作培训持续售后服务。

贵泉机械是一家以客户至上为核心价值的公司，真诚与每一位客户合作，创新思维，不断学习寻找解决方案来提高机器质量和服务，致力于成为世界上最值得信赖的食品机械合作伙伴。

贵泉机械愿与客户共同发展和进步。



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工作原理及特点

WORKING PRINCIPLE AND FEATURES

THE PRINCIPLE OF MICROWAVE DRYING 微波加热干燥原理

Microwave heating is a process that uses microwave energy to heat and dry materials. Microwave is one electromagnetic waves with a wavelength range of approximately 1 mm to 1 m and a frequency range of 300 megahertz (MHz) to 300 gigahertz (GHz). The most commonly used microwave frequency in industry 2450MHZ.

1. Molecular polarization:When microwaves pass through different materials, water molecules and other polar molecules in the materials will be polarized due to the rapid change of the microwave electric field, so friction and heat will be generated.

2. Internal heating:Microwave heating is unlike traditional external heating(thermal-transfer), microwaves can directly heat the molecules inside the material. So it's more uniform and faster to reach heating result.

3. Heat conduction:When the molecules inside the material generate heat due to microwaves, the heat can be transferred to the surface and deeper areas of the material by heat conduction to accelerate whole material heating.

4. Water evaporation:Microwave heating can accelerate water evaporation. When the water in the material is heated, the movement speed of water molecules is accelerated, and it is easier to evaporate from the surface of the material, thereby achieving drying.

5. Non-thermal effects:Microwaves may produce some non-thermal effects, such as the influence of electromagnetic fields on biomolecules, which can be used for sterilization and extending shelf life in food processing.

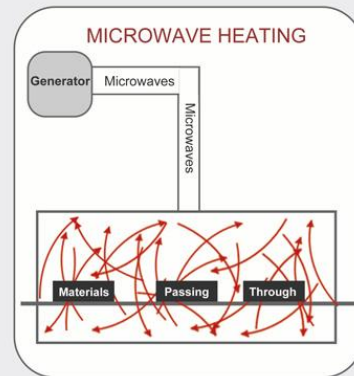
1.分子极化:当微波穿过材料时,材料中的水分子和其他极性分子会因为微波电场的快速变化而发生极化。因此产生摩擦和热量。

2.内部加热:微波加热不同于传统的外部加热(比如热传导)不同,微波能够直接对材料内部的分子进行加热。因此可以加热更均匀并且更快达到加热效果。

3.热传导:当材料内部的分子因微波而产生热量后,热量会通过热传导的方式传递到材料的表面和更深层区域。这种热传导过程有助于材料的整体干燥。

4.水分蒸发:微波加热可以加速水分的蒸发过程。当材料中的水分被加热后,水分子的运动速度加快,更容易从材料表面蒸发出去,从而实现干燥。

5.非热效应:除了热效应外,微波还可能产生一些非热效应,如电磁场对生物分子的影响,这在食品加工中可以用于杀菌和延长保质期。



MICROWAVE DRYING FEATURES 微波加热特点

1.Heating Speed Faster:Microwave heating is a kind of internal heating. The heated material itself can become a heating element. Both factors work together to heat the material in a very short time.

2.Energy-saving & Efficient:Microwaves are generated by water molecules in the material absorbing microwaves and generating heat, the thermal efficiency can reach about 90%. Except for transmission loss, there is no other loss, so it is energy-saving and efficient.

3.Uniform Heating:Materials can absorb microwaves and generate heat inside and outside at the same time. So it can achieve internal and external heating regardless of the shape.

4.Easy Control & Maintain:Microwave heating only requires basic conditions of water and electricity. As long as the microwave power is controlled, the heating process can be controlled. Auxiliary monitoring and other detection methods can achieve automatic industrial process.

5.Environmental Process:Microwave drying won't generate high environmental temperatures, smoke and noise. But also no waste water, waste gas, waste materials etc. So it truly achieves environmentally drying.

1.加热速度快:微波加热是一种内部加热,加热物料本身可成为发热体,两者共同作用,可在极短时间内加热物料。

2.节能高效:由于微波是物料中的水分子吸收微波而发热,热效可达90%左右,除传输损耗外,无其他损耗,因此节能高效。

3.加热均匀:微波加热可使物料内外同时吸收微波而发热,无论形状如何,都可实现内外共同加热。

4.易操作和保养:微波加热只需要水、电基本条件,只要控制微波功率即可控制加热流程,辅助监控等检测手段做到自动化工业化控制。

5.环保无污染:微波干燥不会产生环境高温、烟尘与噪音,运转过程无废水,废气、废料等污染产生,真正做到环保加热。



整体方案设计/生产线整体介绍（上下游设备）

OVERALL SCHEME DESIGN/PRODUCTION LINE OVERVIEW

(UPSTREAM AND DOWNSTREAM EQUIPMENT)



CRUSHING EQUIPMENT 粉碎设备



强力粗碎机
Coarse Crusher



万能粉碎机
Universal Crusher



中草药粉碎机
Herbs Grinder



超微粉碎机
Superfine Pulverizer

CONVEYOR EQUIPMENT 输送设备



螺旋输送机
Screw Conveyor



真空吸料机
Vacuum Suction Conveyor



输送机
Conveyor



Z型输送机
Z-type Conveyor

MIXING EQUIPMENT 混合设备



螺带混合机
Ribbon Mixer



V型混合机
V Type Mixer



W型双锥混合机
Model W Double Cone Mixer



双螺旋锥形混合机
Double Screw Cone Mixer



INSPECT EQUIPMENT 检测设备



金属检测机
Metal Detector



重量检测机
Weight Detector



X光异物检测机
X-Ray Inspection System



双通道金检重检 X光一体机
Dual-Channel Combo Of Md&Cw& X-Ray

FEEDING AND SCREENING EQUIPMENT 投料&筛分设备



无尘投料站
Dust Free Feeding



除铁器
Magnetic Separator



直线筛
Linear Sieve



圆振筛
Circular Vibrating Screen

PACKER 包装机



塑料袋封包机
Plastic Film Sealing Machine



量杯式包装机
Volumetric Cup Packaging Machine



双头秤灌装机
Double-heads Weigher Package Machine



多头秤包装机
Multi-heads Weigher Package Machine

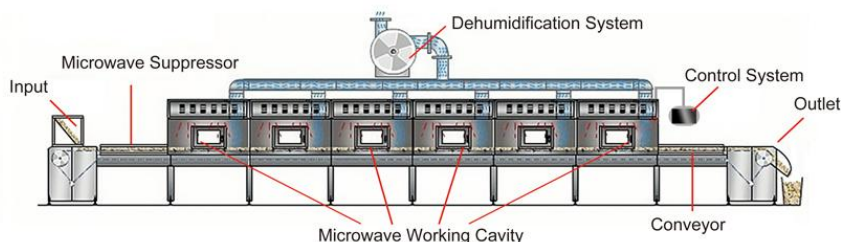
TUNNEL MICROWAVE DRYER 连续式微波干燥设备



MACHINE DESCRIPTION 设备描述

1. The tunnel microwave dryer consists of Microwave drying cavities, microwave generator, microwave leakage suppressor, material conveying system, dehumidification system, material input & output system, PLC & touch screen control system.
2. Material is conveyed on the belts going through each microwave cavities, causing water molecules to vibrate and generate heat, which evaporates the moisture.
3. This type of dryer is made of food-grade SUS304 stainless steel and is designed for continuous operation, making it suitable for large-scale production.
4. Based on different layer and application request, tunnel microwave dryer can do one layer tunnel microwave dryer & multi-layer microwave dryer.

1. 连续式微波干燥机由微波干燥腔、微波发生器、微波泄漏抑制器、物料输送系统、除湿系统、物料输入和输出系统，PLC和触摸屏控制系统组成。
2. 物料在皮带上输送通过各个微波干燥腔，使水分子振动并产生热量，从而蒸发水分。
3. 连续式干燥机由多个食品级SUS304不锈钢微波干燥腔制成，专为连续运行而设计，适合大规模生产。
4. 根据不同的层数和应用场景，连续式微波干燥机可以分为单层连续微波干燥机和多层连续干燥机。



Technology Parameter 技术参数

Machine Model	GS-20HVM	GS-40HVM	GS-60HVM	GS-100HVM	GS-200HVM
Work Frequency	2450±50MHZ	2450±50MHZ	2450±50MHZ	2450±50MHZ	2450±50MHZ
Rated Apparent Power	≤25KW	≤50KW	≤75KW	≤120KW	≤240KW
Output Power	≥20KW	≥40KW	≥60KW	≥100KW	≥200KW
Dehydration Capacity	16-20kg/hour	30-40kg/hour	48-60kg/hour	80-100kg/hour	160-200kg/hour
Work Process Temperature	70-200℃	70-200℃	70-200℃	70-200℃	70-200℃
Cooling Type	Water Cool/Air Cool				
Work Time	24h Continuously Work				
Operation	PLC & Touch Screen				
Feeding Inlet Height	40-100mm				
Belt Height	60-1000mm				
Belt Running Speed	0-4.5m/min or Customized				
Belt Width	500±100mm	800±100mm	800±100mm	1000±100mm	1200±100mm
Belt Material	Teflon Material or Customized				
Size	8640×1220×2200mm	10960×1500×2200mm	13200×1500×2200mm	15600×1700×2200mm	22560×1900×2200mm

Remark: Above parameter is for reference. All microwave dryer specific parameter need to be designed based on customer's specific industrial request



VACUUM MICROWAVE DRYER 真空微波干燥机



MACHINE DESCRIPTION 设备描述

Vacuum microwave dryer is an innovative type of drying that combines microwave heating and vacuum drying technology advantage. It can reduce water boiling point, accelerate water evaporation, and achieve drying at a lower temperature, which is especially suitable for drying heat-sensitive materials.

真空微波干燥设备是将微波加热和真空干燥技术相结合的一种新型干燥设备，兼具真空干燥和微波干燥的优点。在真空环境下，可以降低水的沸点，加速水分蒸发，在较低温度下实现干燥，尤其适合热敏性物料的干燥。

Technology Parameter 技术参数

Machine Model	GSV-6H MV	GSV-10H MV	GSV-30H MV	GSV-50H MV
Work Frequency	2450±50MHZ	2450±50MHZ	2450±50MHZ	2450±50MHZ
Rated Apparent Microwave Power	≤7KW	≤11KW	≤33KW	≤55KW
Output Microwave Power	≥6KW	≥10KW	≥30KW	≥50KW
Vacuum Pressure	-(0-99.9Kpa) customized setting			
Capacity	2-3kg/batch	≤5-6kg/batch	≤15-20kg/batch	≤20-30kg/batch
Work Process Temperature	20-60℃	20-60℃	20-60℃	20-60℃
Vacuum Pump	Rotary Vane Pump or Customized			
Cooling Type	Water Chiller System for Vacuum System			
Work Style	Batch Type/Customized Time			
Operation	PLC & Touch Screen			
Tray No.	Customized			
Tray Material	Teflon Material or Customized			
Material	SUS304 or food material			
Size	Customized Cabinet or Cylinder Microwave Vacuum Drye			

Remark: Above parameter is for reference. All microwave dryer specific parameter need to be designed based on customer's specific industrial request.

MACHINE APPLICATION 设备应用

Vacuum microwave dryer is especially used for low-temperature drying of heat-sensitive materials that are easy to decompose, polymerize and deteriorate at high temperatures.

It is widely used in fruits, vegetables, meat, seafood, Chinese medicinal materials, animal and plant specimens, etc.

1. Expensive / Luxury Herbs: Saffron, Ginseng, Cordyceps, Vanilla etc.
2. High Quality Teas & Dried Fruits Chips: Tea Flower, Wolfberry, Lemon Chips, Fig Chips etc.
3. Dried Seafood: Sea Cucumber, Shrimp, Fish etc.

真空微波干燥特别适用于热敏性物料在高温下易分解、聚合、变质的低温干燥。

广泛应用于水果、蔬菜、肉类、海产品、中药材、动植物标本等。具体应用可参考：

1. 昂贵/奢侈药材：藏红花、人参、冬虫夏草、香草等。
2. 优质茶叶和干果片：茶花、枸杞、柠檬片、无花果片等。
3. 干制海产品：海参、虾、鱼等。



LAB MICROWAVE DRYER 小型微波干燥机



MACHINE DESCRIPTION 设备描述

Lab Industrial Microwave Dryer is specially designed for lab scale research institutes & small factories. for drying, sterilization, sintering and other processing which applied in food, pharma chemical industry, ceramics and other industries; high flexibility, easy to control, high safety, easy to maintain, rapid heat.

实验室工业微波干燥机是专为实验室规模研究机构 and 小型工厂设计的，用于食品、制药化工、陶瓷等行业的干燥、灭菌、烧结等加工；灵活性高、易于控制、安全性高、易于维护、加热迅速。

1. Materials can be placed in turntable tray, hanging basket or static placement, which can be disassembled and cleaned easily;
2. Adopts imported microwave magnetron with two-stage air cooling design to ensure stability and high efficiency;
3. High flexibility, easy control and maintenance, high safety, and rapid heating;
4. Drying methods include normal pressure microwave dryer and vacuum microwave dryer.

1. 设备物料放置有：转盘，吊篮或静态放置，可任意拆装清洗；
2. 采用进口微波管，二级风冷设计，保证稳定高效；
3. 操作灵活性高，易于控制和维护，安全性高，加热迅速；
4. 干燥方式包括常压干燥和真空干燥。



Technology Parameter 技术参数



Machine Model	GSB-6H MV	GSB-10H MV	GSB-15H MV	GSB-20H MV
Work Frequency	2450±50MHZ	2450±50MHZ	2450±50MHZ	2450±50MHZ
Rated Apparent Power	≤7KW	≤11KW	≤17KW	≤23KW
Output Power	≥6KW	≥10KW	≥15KW	≥20KW
Dehydration Capacity	≤6kg/hour	≤10kg/hour	≤15kg/hour	≤20kg/hour
Work Process Temperature	70-200℃	70-200℃	70-200℃	70-200℃
Cooling Type	Air Cool			
Work Style	Batch Type/Small Capacity/ Lab Scale			
Tray No.	Customized			
Tray Material	Teflon Material or Customized			
If with dehumidification	Yes, with dehumidification system			
Material	SUS304 or food material			
Size	Customized Cabinet Microwave Dryer			

Remark: Above parameter is for reference. All microwave dryer specific parameter need to be designed based on customer's specific industrial request.



MICROWAVE DRYER FOR FOOD 食品行业微波设备



MACHINE DESCRIPTION 设备描述

1.Evaporate Water:Microwave machine can evaporate water rapidly ,30-50% more efficiency than traditional heat-transfer drying. Especially to work on kind of grains & cash crop (beans, wheat), seasoning & herbs drying (moringa leaves, pepper, cumin); Nuts (Cashews, Pistachios), Nutritional power etc.

2.Sterilization:Microwave machine directly work on food inside, it can sterilize food, kill insect eggs, bacteria & other microorganisms, especially for tea industry, grain industry, medical herbs, pickle industry etc.

1.蒸发水分:微波机可快速蒸发水分,比传统传热干燥效率高30-50%。特别适用于谷物和经济作物(豆类、小麦)、调味品和草药干燥(辣木叶、胡椒、小茴香);坚果(腰果、开心果)、营养粉等。

2.杀菌:微波机直接作用于食品内部,可对食品进行杀菌、杀灭虫卵、细菌和其他微生物,特别适用于茶叶行业、粮食行业、药材、腌制食品行业等。

3.Thawing:Microwave generator can directly work on inside & outside food, so it can be widely used to thaw frozen food, like poultry, aquatic products, prefabricated products.

4.Grill:Microwave can work on some meat to keep its own natural nutritional, such as beef, pork, shrimp, fish etc. after microwave grill, they can be a popular nutritional protein snack.

3.解冻:微波发生器可直接作用于食品内部和外部,因此可广泛用于解冻冷冻食品,如家禽、水产品、预制产品。

4.烧烤:微波可以对一些肉类进行加热,以保持其天然营养,例如牛肉、猪肉、虾、鱼等。经过微波烧烤后,它们可以成为一种受欢迎的营养蛋白质小吃。

5.Color Protect:Microwave is especially better work on heat-sensitive food compared to traditional heating, such as flower tea, spices etc.

6.Puff:Microwave can work on food inside moisture and puff food under some extrusion food, such as pellet snack, pet food etc.

7.Cook:Microwave can cook instant heat food to take a important role on the pre-prepared food industry. Box-lunch etc.

5. 保色:与传统加热相比,微波对热敏食品的效果尤其好,例如花茶、香料等。

6. 膨化:微波可以对食物内水分进行加热,也可以对一些挤压下的食物进行膨化,例如颗粒零食、宠物食品等。

7. 烹饪:微波可以烹饪即热食品,在预制食品行业中发挥重要作用。盒饭等。



Technology Parameter 技术参数

Machine Model	GS-20HVM	GS-40HVM	GS-60HVM	GS-100HVM	GS-200HVM
Work Frequency	2450±50MHZ	2450±50MHZ	2450±50MHZ	2450±50MHZ	2450±50MHZ
Rated Apparent Power	≤25KW	≤50KW	≤75KW	≤120KW	≤240KW
Output Power	≥20KW	≥40KW	≥60KW	≥100KW	≥200KW
Dehydration Capacity	16-20kg/hour	30-40kg/hour	48-60kg/hour	80-100kg/hour	160-200kg/hour
Work Process Temperature	70-200℃	70-200℃	70-200℃	70-200℃	70-200℃
Cooling Type	Water Cool/Air Cool				
Work Time	24h Continuously Work				
Operation	PLC & Touch Screen				
Feeding Inlet Height	40-100mm				
Belt Height	60-1000mm				
Belt Running Speed	0-4.5m/min or Customized				
Belt Width	500±100mm	800±100mm	800±100mm	1000±100mm	1200±100mm
Belt Material	Teflon Material or Customized				
Size	8640×1220×2200mm	10960×1500×2200mm	13200×1500×2200mm	15600×1700×2200mm	22560×1900×2200mm

Remark: Above parameter is for reference. All microwave dryer specific parameter need to be designed based on customer's specific industrial request



MACHINE DESCRIPTION 设备描述

1. Drying kinds of herbs in microwave, it can dry fast to reduce moisture, but preserve their flavor, nutrition such as Parsley, rosemary, cilantro, oregano, sage, thyme etc.
2. Drying kind of herbal slices, 50% faster than normal heating, such as Astragalus, angelica, ginseng, aconite, habitat etc.

1. 用微波炉烘干各种药材，可快速干燥以减少水分，但可保留其风味和营养，例如欧芹、迷迭香、香菜、牛至、鼠尾草、百里香等。
2. 烘干各种药材切片，比普通加热快50%，例如黄芪、当归、人参、附子、生地等。



3. Drying kinds of insects, which can be used in pharma industry, such as Tenebrio molitor, barley pest, hermetia illucens.
4. Sterilize Pharma liquid, especially liquid type medicine.

3. 各种昆虫的干燥，可用于制药工业，如黄粉虫、大麦害虫、黑水虻等。
4. 药液的灭菌，特别是液体类药物的灭菌。



Technology Parameter 技术参数

Machine Model	GS-20HVM	GS-40HVM	GS-60HVM	GS-100HVM	GS-200HVM
Work Frequency	2450±50MHZ	2450±50MHZ	2450±50MHZ	2450±50MHZ	2450±50MHZ
Rated Apparent Power	≤25KW	≤50KW	≤75KW	≤120KW	≤240KW
Output Power	≥20KW	≥40KW	≥60KW	≥100KW	≥200KW
Dehydration Capacity	16-20kg/hour	30-40kg/hour	48-60kg/hour	80-100kg/hour	160-200kg/hour
Work Process Temperature	70-200℃	70-200℃	70-200℃	70-200℃	70-200℃
Cooling Type	Water Cool/Air Cool				
Work Time	24h Continuously Work				
Operation	PLC & Touch Screen				
Feeding Inlet Height	40-100mm				
Belt Height	60-1000mm				
Belt Running Speed	0-4.5m/min or Customized				
Belt Width	500±100mm	800±100mm	800±100mm	1000±100mm	1200±100mm
Belt Material	Teflon Material or Customized				
Size	8640×1220×2200mm	10960×1500×2200mm	13200×1500×2200mm	15600×1700×2200mm	22560×1900×2200mm

Remark: Above parameter is for reference. All microwave dryer specific parameter need to be designed based on customer's specific industrial request





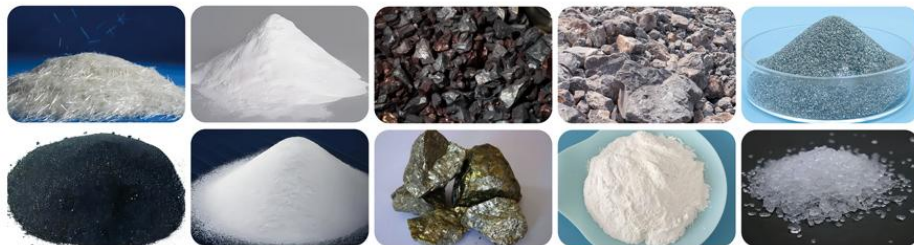
MACHINE DESCRIPTION FOR CHEMICAL 化工行业设备描述

Microwaves have become an innovative tool in the chemical industry, no need fuel, no boiler, no pollution, no energy consumption, no heat conduction, uniform heating, but can directly react on the material to heat materials rapidly and selectively.

1. Faster reaction rates;
2. High efficiency, increase yield;
3. Reduced by-products, more protect environment.

微波已成为化工干燥行业的创新设备，无需燃料、无需锅炉、无污染、无能耗、无热传导、加热均匀，而可直接作用于物料，快速、选择性地加热物料。

1. 反应速度更快；
2. 效率高，产量增加；
3. 减少副产物，更加保护环境。



MICROWAVE APPLICATION IN CHEMICAL INDUSTRY 化工行业微波应用

1. Microwave-Assisted Synthesis: Microwaves are being used to accelerate organic chemical reactions, leading to more efficient synthetic routes. Such as glass fiber drying;

The water inside and outside the glass fiber is evenly drained, which enhances the bonding strength between the coating (silicone) and the glass fiber surface, except that, still have cellulose, graphite;

2. Energy Efficiency: Microwave heating is more energy-efficient than conventional heating methods, as it directly converts electromagnetic energy into heat within certain materials. Such as quartz sand, Iron ore, copper ore, aluminum ore etc.

1. 微波辅助合成：微波被用于加速有机化学反应，从而实现更高效的合成路线。例如玻璃纤维干燥，玻璃纤维内外的水被均匀排出，增强了涂层（硅胶）与玻璃纤维表面之间的结合强度，除此之外，还有纤维素，石墨；

2. 能源效率：微波加热比传统加热方法更节能，因为它直接将电磁能转化为某些材料内的热量。例如石英砂，铁矿石，铜矿石，铝矿石等。

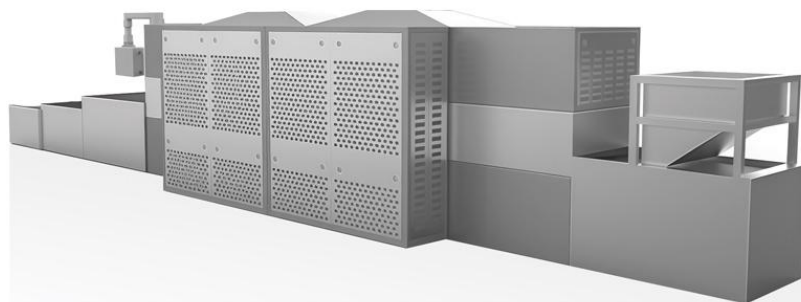
3. Process Intensification: The use of microwaves can lead to more sustainable industrial processes by reducing energy consumption, process time, and environmental remediation associated with industrial processing, such as chemical powder, silicon carbide drying, Magnesium Carbonate, Silicon dioxide, lithium hydroxide etc. it can achieve safe, energy-saving & friend environmentally;

4. Material Processing: Microwaves are used in the processing of various materials, including polymers, nanomaterials, and biomaterials. Such as drying of pigments, dyes and pre forming of paste material.

3. 工艺强化：微波的使用可以减少能源消耗、工艺时间，以及与工业加工相关的环境修复，从而实现更可持续的工业过程例如化学粉末、碳化硅干燥、碳酸镁、二氧化硅、氢氧化锂等。它可以实现安全、节能和环保。

4. 材料加工：微波用于加工各种材料，包括聚合物、纳米材料和生物材料。例如颜料、染料的干燥和糊状材料的预成型。

MICROWAVE DRYER FOR PAPER/WOOD/CERAMIC 纸业/木板/陶瓷行业微波设备



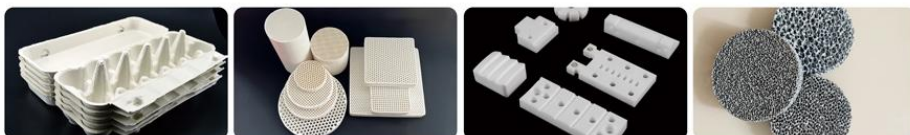
1. Microwave can directly dry both from inside & outside, even heating, not easy deformed, so widely used in paper industry, such as paper tube; paper bags, honeycomb cardboard, paper bowl.
- 1.微波可直接对物料内外进行干燥，加热均匀，不易变形，因此广泛应用于造纸工业，如纸管；纸袋、蜂窝纸板、纸碗等。



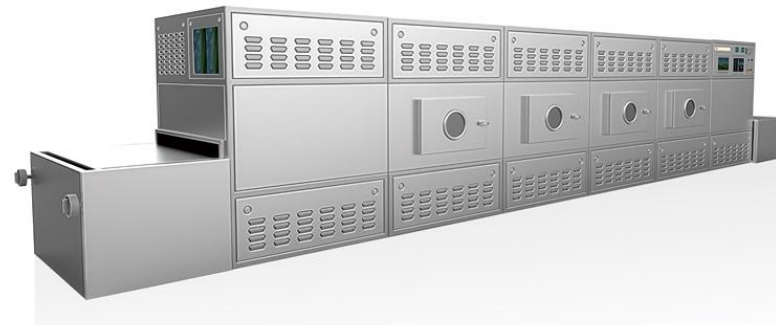
2. Microwave can dry wood rapidly & evenly, no cracker, and also kill insect eggs inside of wood, so widely used in kinds of wood product heating, like wooden plywood, pure wood, chopsticks, and other wood products, etc.
- 2.微波能使木材快速均匀地干燥，不开裂，还能杀死木材内部的虫卵，因此广泛应用于各种木制品的加热，如木质胶合板、纯木、筷子、其他木制品等。



3. Microwave can rapidly dry inside & outside of ceramics, especially honeycomb ceramics, kinds of material ceramics, special shape ceramic etc.
- 3.微波能快速干燥陶瓷内外表面，特别是蜂窝陶瓷、各种材质陶瓷、异形陶瓷等。



MICROWAVE DRYER FOR COAL/CONSTRUCTION MATERIAL 煤炭/建筑行业微波设备



- **Coal Preparation Plants:** For the continuous drying of fine coal fractions to improve their quality and market value.
- **Power Generation:** To prepare coal for use in power plants, ensuring that it meets the necessary moisture content specifications.
- **Steel Production:** In steel mills, where coal is used as a reducing agent, microwave drying can improve the quality of the coal and enhance the efficiency of the steel production process.
- **Environmental Remediation:** By reducing the levels of sulfur and other contaminants in coal, microwave drying can help to mitigate the environmental impact of coal usage.

- 煤炭厂:用于连续干燥细煤馏分，以提高其质量和市场价值。
- 发电业:准备用于发电厂的煤炭，确保其符合必要的水分含量规格。
- 钢铁生产:在钢厂中，煤被用作还原剂，微波干燥可以提高煤的质量并提高钢铁生产过程的效率。
- 环境修复:通过降低煤中的硫和其他污染物的含量，微波干燥可以帮助减轻煤炭使用对环境的影响。



Microwave dryer can heat construction material for rapid moisture removal and reducing shrinkage & wrapping, like insulation board, fireproof material etc.

工业微波干燥机还可用于加热建筑材料，快速去除水分并减少收缩和变形，如保温板、防火材料等。

