

Microwave Sterilization Equipment

Microwave sterilization has the advantages of high efficiency, high speed and no pollution. Microwave sterilization equipment has been paid more and more attention. Sterilization is an important operation unit in food processing. It is of great significance to broaden the application of microwave sterilization technology in the field of food and improve the effect and quality of food sterilization.



Microwave sterilization equipment

Compared with traditional sterilization, microwave sterilization equipment has many incomparable advantages:

1. Sterilization temperature of Microwave sterilization machinery is low, the time is short, nutritional components maintain good effect. Generally speaking, the traditional sterilization method should be at least over 100°C, and it takes a long time, ranging from 10 to dozens of minutes.

The microwave sterilization equipment does not need preheating, the sterilization cycle is short, the speed is fast, the consistency is high, can simultaneously sterilize the whole table of sterilized materials, the temperature is 70~90°C, the time is short, generally 3-5 minutes, effectively avoid the impact of long time heating on food quality.

Microwave sterilization equipment can achieve the best results for materials that need to be sterilized while maintaining color, flavor and taste.

For example, in the sterilization of skim milk, the traditional ultra-high temperature sterilization can make the milk keep longer, but the quality of milk is greatly reduced. Microwave sterilization equipment can replace the traditional ultra-high temperature sterilization, which can not only extend the shelf life of milk, but also color, taste, nutrient loss is less, so microwave sterilization is an excellent alternative to skim milk

ultra-high temperature sterilization.



2. Microwave sterilization belongs to physical sterilization, safe and harmless.

Microwave sterilization equipment can kill bacteria, molds, eggs, viruses and other harmful microorganisms without adding chemical preservatives. When the food is sterilized, it will not cause toxic or radioactive substances to the food, nor will it change the color, aroma and nutritional composition of the food.

The microwave sterilization machine can effectively preserve the VC components in milk. In addition, microwave sterilization equipment sterilizes vegetables, meat products, baked products and prepared food, and the loss of VC is much lower than the traditional sterilization method.

3. Microwave has penetrability, acting on the surface and inside of medium at the same time, and can guarantee the internal and external temperature to reach the required value, so the sterilization is uniform and thorough, the effect is obvious. Multi-functional microwave sterilization equipment has been widely used in the fields of grain and oil products, soybean products, dairy products, condiments, fruits and vegetables, aquatic products and so on.

4. Energy-saving. Microwave energy conversion efficiency is high, generally above 70%. Microwave sterilization equipment is directly to the material processing, there is no additional heat loss, generally can save 30%-50%.

5. Equipment requirements are simple. Compared with conventional sterilization equipment, microwave sterilization equipment has no special requirements on the factory. No boiler, piping system, coal yard and transport vehicles are needed, as long as the basic conditions of water and electricity are available.

6. Continuous microwave sterilization equipment without high temperature, heat resistance,

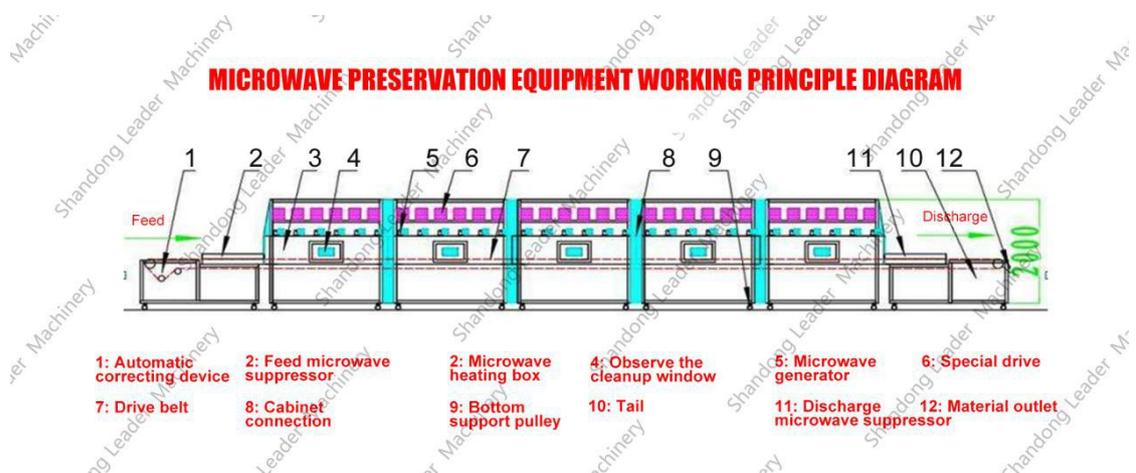
no heat radiation, can greatly improve the working conditions.

Principles of Microwave sterilization Equipment produced by Leader Microwave Equipment Company:

Microwave sterilization equipment is to use the combined effect of microwave on the thermal and non-thermal effects of microorganisms in food to achieve the purpose of insecticidal sterilization.

The thermal effect of microwave is the use of microwave instantaneous high temperature characteristics, is the destruction of the space structure of bacterial cells, so that its protein variation and achieve the purpose of sterilization;

The non-thermal effect of microwave is also called biological effect. It also uses the characteristics of instantaneous heating of microwave to make the physiological activity substances of bacteria and other microorganisms change and lead to their abnormal growth and development until death, so as to achieve the purpose of sterilization and preservation.



Application of Microwave sterilization equipment in pharmaceutical industry:

Drugs are the most taboo pollution, directly into the medicinal materials, because the growth in the environment of bacterial reproduction, which contains a lot of microorganisms, eggs, mites and so on. After conventional drying, crushing and sifting, it is difficult to meet the requirements of the Chinese pharmacopoeia on the index of miscellaneous bacteria, so they must be sterilized.

When sterilized under high temperature, the nutrients contained in the medicinal materials are easy to be destroyed, resulting in precipitation and a strong taste of burnt bitterness. Many bacteria-contaminated drugs cannot be sterilized with high-pressure steam

to prevent high temperatures from destroying the active ingredients.

Sterilization of unstable drugs, such as vitamin C, aspirin, etc, by microwave sterilization is more stable, decomposition degree reduced. By using the sterilizing equipment of microwave medicine, the original nutritive composition of oral liquid can be maintained, and the liquid color is clear without precipitation. Chinese scholars found that microwave can be used for rapid sterilization of Chinese medicinal materials, sterilization without any residue, and will not destroy the effective ingredients of drugs.



The water pellets, water honey pellets and concentrated water honey pellets were produced by microwave drying and sterilization equipment. The results showed that microwave has the advantages of uniform heating, short drying time, expansion of production, low temperature sterilization, high heat conversion efficiency, energy saving, continuous production and improved labor efficiency.

Buying Microwave sterilization Equipment of Leader Microwave Equipment Company or microwave vacuum equipment , what after-sales service can you enjoy?

Before you buy the equipment, we provide free consulting services, free for you to debug, install, after the purchase will still be timely for you to answer questions, if necessary, on-site maintenance and testing. Our regular return visit tradition is also well received by the majority of customers. Please feel free to order.

Microwave technology has many advantages that cannot be compared with traditional methods and is widely used. However, as a new technology, there are still many problems to be solved:

1. Microwave sterilization is more thorough, safe and reliable, can extend the shelf life, but some food after microwave sterilization taste will be poor.
2. Although microwave technology has been widely used in various fields, there is still a lack

of systematic theoretical basis. In particular, the understanding of the mechanism of microwave action is relatively superficial, and the explanation of it is only on the basis of experiments, which needs to be tested and verified by more accurate methods.

Microwave sterilization equipment has the advantages of high efficiency, high speed, no pollution after treatment and so on. Compared with the traditional way of heating sterilization has absolute advantages.

We should strengthen the research on the mechanism and application of microwave thermal effect and non-thermal effect, explore the technology of microwave low-temperature sterilization, develop the microwave sterilization equipment with superior performance, and make contribution to realize the application of microwave sterilization technology in more fields.