

Effect of Microwave Treatment on the Quality of Flaxseed Oil



People often say that grain is for food, but they do not know that the ancients said that there is "hemp" in the grain. "Flax" includes oil seeds such as flaxseed and sesame seed. Modern people's dietary habits have changed in recent years, absorbing excessive saturated fatty acids, affecting the normal operation of cells, resulting in three major degenerative diseases: cardiovascular disease, cancer, diabetes. Flaxseed is cholesterol-free, rich in fiber and omega-3 fatty acids, omega-3 fatty acids contain nutrients that help prevent heart disease and other chronic diseases.

The processing of roasting, puffing, drying and sterilization of cereal products can be accomplished by microwave ripening and sterilization equipment of flaxseed.

Mechanism of microwave ripening and sterilization equipment for flaxseed:

The heating material itself is used as a heating body. The baking function of the microwave sterilization equipment can penetrate into the material instantaneously, so that the material can be heated together inside and outside without heat conduction. Therefore, the temperature rises quickly and the heating time is greatly shortened.

The required time is usually 1/4 of that of the conventional method. Baking, like other food processing, is a complex physicochemical system, which requires orderly occurrence and suitable time/temperature conditions. The fastest heating of microwave ripening sterilizing

equipment will lead to the rupture, overexpansion or explosion of baked products.

The microwave heating speed is fast, and the temperature of gas (air) in the material increases greatly, because the mass transfer speed is slow, the heated gas is in a high pressure state, and there is a trend of expansion. When the pressure reaches a certain level, the material will expand.

Characteristics of microwave ripening and sterilization equipment for flaxseed:

1. heating faster: flaxseed microwave sterilization equipment is to make the heated object itself into a heater, without heat conduction process. Therefore, although it is a material with weak heat conductivity, it can also reach the heating temperature in a very short time.
2. Uniform heating: regardless of the shape of each part of the object, the heating of flaxseed drying and sterilization equipment can make the surface of the object permeate electromagnetic waves evenly and form heat energy. So the heating symmetry inside and outside the object is basically the same.
3. Energy saving and high efficiency: In the heating process of flaxseed ripening sterilizer, there is basically no other loss except the heating material. Therefore, it has high thermal efficiency, environmental protection and energy saving.
4. Anti-enzymatic, sterilization and preservation: Microwave sterilization equipment heating has thermal and biological effects, which can remove bacteria and prevent enzymatic preservation at lower temperature. Because the heating is faster and the time is shorter, the activity of the material and the gloss and nutritional value of the original material can be stored to the greatest extent.



Automation control can be constructed in the process: as long as the power of microwave ripening sterilization equipment is controlled, instant heating and stopping can be realized without thermal inertia. The programmable control automation control of heating process and standard specification of heating process can be realized by using man-machine interface and PLC.

6. Benefits of low-temperature baking: If it can effectively remove moisture, and prevent excessive damage to plant protein and other nutrients, the taste is also different.

Characteristics of microwave ripening and sterilization equipment for flaxseed II:

1. There is no need for preservation after sterilization, no mildew in long-term storage, no loss of nutrients, and the original color, fragrance and taste are guaranteed.
2. Microwave sterilization saves 50% of the time and 40% of the electricity compared with other electrical equipment.
3. No chemical wastewater, no environmental pollution, in line with the national green environmental protection regulations.

4. Microwave can also accelerate the ripening and brewing of liquor, reducing the storage time of cellar for 3-6 months every time catalyzed.

5. Microwave sterilizer is an ideal sterilizing equipment at present because of its small size, small area, fast production and processing speed, and convenient maintenance and operation.



These are the advantages of microwave treatment of flaxseed, and the efficacy of flaxseed is also very much. If we use it, we must process flaxseed by microwave technology and then use it. Flaxseed is not edible. Suitable microwave treatment conditions of microwave ripening sterilizer of flaxseed are conducive to the extraction of flavonoids and polyphenols, carotenoids, sterols and other nutrients in flaxseed oil. I hope you can use flaxseed correctly