

Microwave Starch Dryer

Starch drying modification, as the name implies, is based on the inherent characteristics of natural starch. We to improve the performance of starch and expand its application, physical, chemical, or microwave heating treatments are used to introduce new functional groups or change the molecular size and particle properties of starch. To improve the natural characteristics of starch, such as gelatinization temperature, thermal viscosity, stability, freeze-thaw stability, gel strength, film-forming property, transparency, and so on, make it more suitable for specific application requirements. This kind of starch, which changes its original properties after secondary processing, is called a starch modification.

Starch is also called modified starch, and chemical starch. Natural starch is made from the condensation of glucose monomers, with high molecular weight and abundant yield. In practical application, due to the low solubility, poor dispersibility, and the inability to form a stable glue solution system of natural starch. The equipment of starch modification by microwave heating is based on starch's fundamental properties to increase some functions or introduce new characteristics so that it is more suitable for particular application requirements. At present, there are more and more varieties of modified starch, which is a new field of comprehensive utilization of starch.

The initial moisture content of starch is 14.28%, and the customer requires the moisture content after drying to be within 2%. Before the experiment, 300 g samples were dried for 5 minutes with 6 kW box type equipment. The surface temperature was 101 °C, to test the properties of the samples at high heat and determine the following continuous experiment data. The starch sample is 200 mesh, needs to open the hopper vibration motor to ensure the regular cutting. To prevent the material from being too thick, and the temperature is too high, which is conducive to the rapid evaporation of water, the paving thickness is 5mm. With the automatic adjustment, the self-adjusting power is 800W, the transmission is 6Hz, the temperature is 90 °C, the microwave is 6 minutes, the moisture content is detected by sampling, the humidity is 4.12%. After turning on 6kW infrared auxiliary heating, the sample's moisture decreases to 2.8%, but the surface color is black, close to carbonization. Turn off the infrared, adjust the transmission to 4Hz, microwave for 8 minutes, sample and test the moisture content to 1.27%, and meet the customers' requirements.

According to the customer's requirement of 500kg / h, 70kw microwave drying equipment is customized for customers. Considering that starch is easy to float, and there is a lot of dust in the workshop, a water-cooling machine with a closed cooling tower is provided for customers, which can work continuously for 24 hours.

The starch microwave dryer can be used as simple drying equipment or sterilization equipment. Through appropriate process improvement, different requirements of starch drying, microwave starch modification equipment, and microwave [starch drying equipment](#) can be used in one machine.

It is widely used in corn starch dryer, potato starch dryer, bean starch dryer, sweet potato starch dryer, potato starch dryer, wheat starch dryer, etc.