

Research on processing technology and equipment for cashew nuts (2)

Cashew Processing Technology and Equipment Design Features Currently, the world's cashew processing methods are mainly divided into cooking and frying methods. Cooking methods are commonly used in India and Southeast Asian countries, and frying methods are used in Japan and European countries.

[Microwave drying machine](#)



The cooking method is further divided into atmospheric cooking and pressure cooking. The pressure cooking is to put the cashew nuts into a cylindrical cooking pot. The steam pressure in the tank is 0.2-0.25 Mpa, the cooking time is about 2 min, and the steaming amount per pot is steamed. About the cover, the loading and unloading materials are all manually operated, labor intensive, and prone to work accidents. [Cashew processing machine](#)

Deep-fried method, high degree of automation, complicated equipment, cashew nuts after washing, before frying, must be parked in the humidity control for three days, to ensure that the moisture content of the shell is in the range of 3 % ~ 8 %, then use the key belt The cashews are brought into the oil tank with CNSL as medium and the oil temperature is kept at 190 ~ 200 °C for 2~3min.

Both methods have their own characteristics:

In the frying method, the moisture of the shell is evaporated under high temperature oil, the shell is made crisp, the nut is quickly shrunk, and the shell is separated by a large degree, and the shell can be broken by using a highly efficient centrifugation method. The shell has been deoiled during the frying process, which can eliminate the shell oil frying process, and can obtain the high quality CN SL flavor frying process suitable for large-scale mechanized processing, but the equipment is complicated, the investment is large, and the frying degree is difficult to control. It is more difficult to obtain white nuts. If the centrifugal shell is used, the nuts are prone to pollution and the breaking rate is high.

The cooking method is heated by steam. The shell and the nut are different in thermal expansion coefficient. After cooling, the shell is separated from the nuts. At the same time, the toughness is increased after the nuts are cooked, and the nuts are not easily broken when the shell is peeled. There is a difference in cooking time, which has no significant effect on the quality of the nuts, and the nuts can maintain the original color. The cooking method is simple, the investment is small, and the process is easy to grasp.

Mechanized atmospheric cooking equipment At present, all domestic cashew processing plants use atmospheric cooking. The equipment is very simple. Generally, a large iron pan is used. Several steamed fruit cages are stacked on top of each other. In the cage, boil water in a wok to produce steam for steaming the fruit in the same way as steamed buns and steamed buns.

This method of steaming fruit, fruit filling and fruit unloading are all manual operations, labor intensity is high, production efficiency is low, and work accidents are prone to occur. Generally, the shell slag is used as fuel. Due to the unreasonable structure of the stove, the shell cannot be completely burned, and the exhaust fumes are discharged, which is extremely serious to the environment. In response to these problems, we have developed an atmospheric pressure cooking equipment that has been mechanized for handling. The equipment is mainly composed of a lifting mechanism, a steamer, a steamer, a combustion chamber, a self-propelled fuel blast combustion mechanism, and a balance water tank.

The functions of the lifting mechanism are as follows: First, the cashew nuts are automatically lifted and dumped in the steamer; secondly, the steamer is lifted and tilted after the steaming is completed, and the steamed fruit is automatically discharged. The bottom of the cooking kettle is concave, and the water is heated to generate steam for steaming the fruit.

The steamer is a cylindrical body with a porous plate at the bottom for holding cashew nuts. The steamer is hinged to the steamer and can be unloaded. The inner layer of the combustion chamber is refractory brick, the middle is a 50 ~ expanded perlite thermal insulation layer, and the outer layer is ordinary red brick. The hull is separated by a ring-shaped fixed grate into two upper and lower layers, the upper part is the combustion chamber, and the lower part is the ash. The center of the annular fixed grate is a tender burning plate connected to the automatic feeding combustion mechanism.

The feeding speed can be adjusted according to the combustion condition of the fuel (shell slag) to ensure complete burning of the shell. The balance tank ensures that the water level in the retort is maintained at a certain level.