

Detailed process explanation of standard automated tapioca starch processing



Cassava starch

Automatic cassava starch processing is started at the same time in multiple stages, and different starch equipment is matched to form an assembly line. A one-stop production process is completed in order from cleaning-crushing and filtering-desanding and desilting-concentration and refining-dehydration-drying. All work.

Today, Goodway technicians focus on explaining the nature, importance and process principles of each section.

1. Cleaning and conveying of raw materials

Cleaning refers to the process of removing impurities such as silt, soil, rocks, and weeds on the surface of materials by mechanical or manual methods.



The purpose of cleaning is to remove impurities and ensure the pure quality and taste of starch; it is also the key to eliminating hidden dangers and ensuring the safe and continuous production of subsequent processing. There are many types of cleaning machines and cleaning processes, and you can choose according to your needs.

The transportation, transshipment, storage, etc. between each section are equally important. Automated processing is the transformation of steps originally completed by humans into machine operations, especially in the raw material conveying work. Conveying equipment such as receiving

hoppers and conveyor belts greatly increases the processing capacity.

2. Cassava crushing and filtering

1. Crushing: The cleaned raw materials are lifted and transported to the crushing section. There are many ways to crush raw materials, such as filing, hammering, overflow, squeezing and filtering, and so on. The purpose is to fully crush the raw material and release the starch granules in it. The difference is that the degree of crushing is different, and the filtration rate of free starch obtained is different.



When the cassava raw material is crushed, the process water is passed into it at the same time. The material state is expressed as a mixture of starch and water. We call it crude starch slurry, which also contains a large amount of crude fiber and other substances, which needs to be filtered and purified by multiple passes.

2. Filtration: The crude starch slurry contains starch, potato residue, crude fiber, fine fiber and protein. In the filtration work, to effectively separate and filter them, it is necessary to use a variety of starch filtration equipment, such as centrifuges, fine filters, and micro filters.



The filter has a high mesh number and excellent purification and filtration effect. Different filter equipment has different sieve holes and sieve diameters, which can effectively separate and extract various impurities and improve the filtering effect.

But it is easy to be stuck and blocked by various impurities, especially protein, so it needs to be separated. The filter screen intercepts other impurities, and the filtered starch milk flows into the next section.



3. Desanding and silt removal of starch milk

This section can also be called starch purification and impurity removal. The purpose is to remove fine gravel and sediment residues, improve starch purity, and ensure starch taste.



4. Concentrated and refined starch milk

Although a large amount of impurities have been removed after the previous separation, filtration and purification processes, it is impossible to completely separate and remove the fiber and protein. Therefore, the starch milk needs to be refined to further use water to wash away the non-starch substances, such as Oil powder, yellow powder, pectin, etc., improve starch purity, precision and whiteness.



Starch refining requires the use of a professional starch cyclone for operations. In order to more easily detect the concentration of the cyclone discharge, the cyclone discharge generally requires the use of a mass flow meter and a regulating valve to interlock.

5. Dehydration of starch

The concentrated and refined starch milk contains a lot of water, which needs to be dehydrated to obtain wet starch. Goodway starch dehydration generally uses vacuum drum and suction filtration to dehydrate the starch, which can effectively improve the purity of the starch. The moisture content of the starch after dehydration is about 40%.



6. Drying of starch

The dehydrated wet starch is conveyed through the conveyor belt into the airflow drying system. The starch airflow drying adopts negative pressure drying. The cold air passes through the filter to filter out the dust in the air. The pure air enters the heat exchanger, and the air passing through the heat exchanger The temperature rises to a certain temperature;



The wet starch enters the lifter through the feeder (using frequency conversion control), and after being accelerated by the lifter, it enters the drying pipe with hot air. Be dried

The dried starch and hot and humid air enter the cyclone separator, and the starch is separated from the air. The starch is collected by a screw conveyor and then discharged to the next packing section. The hot and humid air is drawn out by the fan and discharged outside through the drying system.

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