

Comprehensive analysis of technology of corn flakes production line

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Introduction of corn flakes

Corn flakes are a kind of ready-to-eat food made of corn as the main raw material through extrusion, molding, baking and other processes. It was first invented by American doctor John Harvey Kellogg in the late 19th century and was initially promoted as a health food. Modern corn flakes not only retain the original nutritional value, but also develop a variety of flavors and forms, becoming a popular breakfast and snack choice around the world.



Main uses of corn flakes:

1. Breakfast food: can be eaten directly with milk, yogurt or fruit, and about 60% of households in Europe and the United States use it as a daily breakfast.
2. Snacks: can be eaten alone or as an ingredient for mixed nuts and dried fruits, and the leisure food market accounts for about 25%.
3. Deeply processed raw materials: used to make energy bars, cereal bars and other products, accounting for about 15% of the raw materials in the food industry.
4. Export market: Europe, the United States, Southeast Asia and other regions have a strong demand for corn flakes. The global market size will reach US\$10.5 billion in 2025 with an annual growth rate of about 4.3%.



Introduction of [corn flakes production line](#)

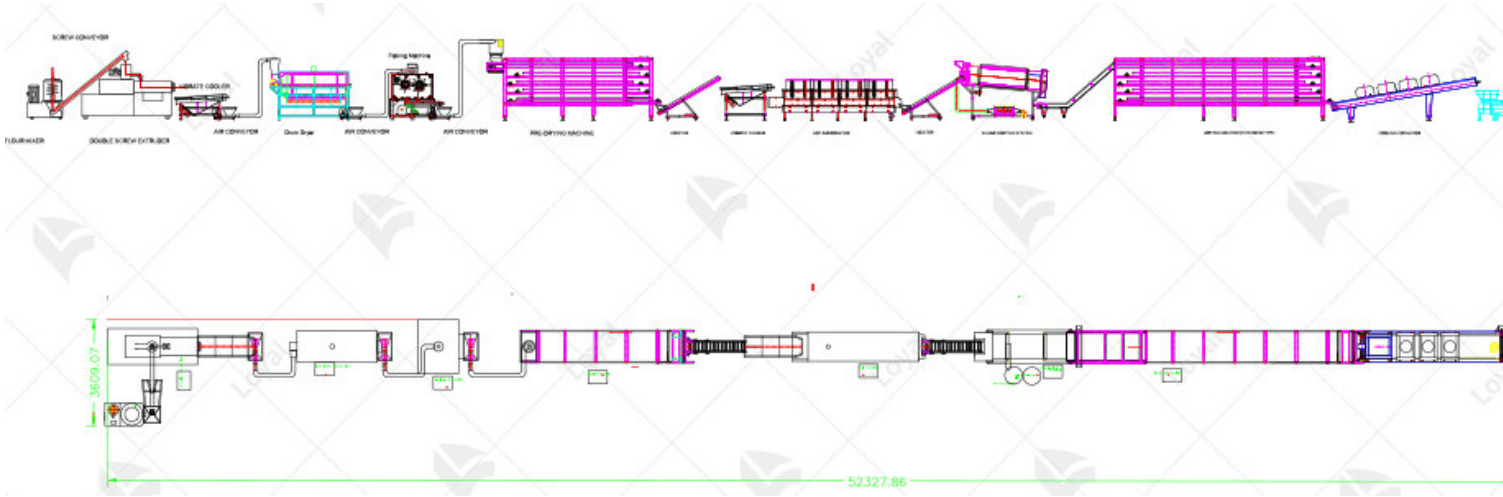
Modern [corn flakes production line](#) adopts modular and automated design. The whole length is usually 30-50 meters and covers an area of about 200-300 square meters. The production line design complies with HACCP and GMP standards, and the whole process from raw material processing to finished product packaging is controllable, ensuring superior product quality and high production efficiency.

Technical parameters of the breakfast cereals production line

Model	Installed Power	Power Consumption	Output	Size (L*W*H)
LY65	140kw	90kw	120-150kg/h	39000*1200*2200mm
LY70	160kw	120kw	180-220kg/h	41000*1500*2200mm
LY75	190kw	140kw	300-500kg/h	43000* 3500*4300mm
LY95	240kw	190kw	800-1000kg/h	65000*5000*4300mm

Equipment list of corn flakes making machine

Mixer ---Screw Conveyor---Double Screw Extruder ---Vibrate Cooler--- Air Conveyor
 Flaking Machine---Air Conveyor---Pre-dryer---Hoister --Vibrate Feeder---High Temperature
 Baking Machine---Sugar Sprayer---Multi-layer Oven---Cooling Conveyor---Packing Machine



In the corn flakes manufacturing line, the functions of each equipment are as follows

Machine name	function
Mixer	Mix corn flour and other raw materials in a certain proportion, add an appropriate amount of water, additives, etc. according to the process requirements to make the raw materials reach the appropriate humidity and properties, ready for subsequent processing.
Screw conveyor	Use the rotation of the spiral blade to push corn flour and other materials to move in a closed pipe or tank, and transport the materials from one position to another, such as transporting the materials from the mixer to the feed port of the twin-screw extruder.
Twin-screw extruder	Through the rotation of two intermeshing screws in the barrel, the materials are extruded, sheared, kneaded and heated, so that the materials undergo physical and chemical changes under high temperature and high pressure to form semi-finished products with certain shapes and properties.
Vibration cooler	Cool the high-temperature materials coming out of the twin-screw extruder, disperse the materials evenly through vibration, accelerate the cooling process, prevent the materials from deformation or deterioration due to high temperature, and facilitate subsequent processing.
Flaking machine	Press the cooled material into sheets. By adjusting the pressure of the tablet press and the gap between the rollers, the thickness and width of the corn flakes are controlled to meet the specifications required for the product.
Air conveyor	Use wind power to transport the pressed corn flakes to a designated location, such as transporting corn flakes from the tablet press to the multi-layer oven or other subsequent equipment. During the transportation process, the corn flakes can also be preliminarily screened and separated.

Multi-layer oven	Bake the corn flakes. By controlling the temperature, wind speed, and baking time in the oven, the corn flakes are further cooked during the heating process, excess moisture is removed, and crispness and aroma are increased.
Elevator	Elevate the corn flakes from a lower position to a higher position, such as lifting the corn flakes baked in a multi-layer oven to the feed point of a high-temperature baking machine or other subsequent processing equipment, so as to realize vertical transportation of materials in the production line.
Vibrating feeder	Feed corn flakes evenly and stably into the equipment of the next process, and make the material flow continuously in the hopper through vibration to avoid material accumulation and blockage, and ensure the continuity of production.
High temperature baking machine	Bake corn flakes at high temperature to further improve the crispness and color of corn flakes, so that corn flakes have a unique flavor and taste, and meet the quality requirements of the product.
Sugar sprayer	Spray syrup or other seasonings evenly on the surface of corn flakes to increase the sweetness and flavor of corn flakes, improve the taste and appearance of the product, and make corn flakes more attractive.
Cooling conveyor	Cool the corn flakes after sugar spraying and other treatments, so that the syrup or seasonings on the surface of the corn flakes can be solidified, and the temperature of the corn flakes can be reduced to facilitate subsequent packaging, and prevent the corn flakes from sticking or deteriorating due to excessive temperature.
Packaging machine	Measure and package the cooled corn flakes. According to the product specifications, a certain amount of corn flakes are put into packaging bags or boxes to achieve the final packaging of the product for storage, transportation and sales.

Advantages of corn flakes production line

1. High-precision automated control system

Equipped with an advanced PLC system, the entire production process can be automatically controlled, including the ratio of raw materials, baking temperature, pressure, etc. This not only improves the accuracy of production, but also reduces human operating errors and ensures the consistency and stability of the product.

2. Versatility and flexibility

Usually able to handle a variety of different raw materials and formulas, such as corn whole wheat, etc., different grain raw materials can be selected according to demand. At the same time, the production line can produce a variety of corn flakes with different shapes, tastes, and thicknesses by adjusting the formula, process parameters, and molds to meet the needs of different consumers.

3. Refined surface treatment and coating technology

The corn flake production line can perform fine coating treatment on the surface of the flakes, such as adding natural syrup, salt, seasonings, etc., to achieve more precise control and more uniform coating distribution. Such technology can not only improve the taste of corn flakes, but also ensure the consistent appearance of each piece of product.

4. Precise baking and puffing technology

High-end production lines are equipped with more precise puffing and baking technologies which can effectively control the expansion rate and baking degree of corn flakes to ensure the crispness and color of the product. This can avoid over-baking or under-puffing and ensure the high-quality appearance and taste of the product.

5. Personalized customization and innovation capabilities

Usually have stronger R&D and customization capabilities, and can produce customized products such as unique flavors, shapes, and nutritional ingredients according to consumer needs. For example, adding healthy formulas such as high fiber, low sugar or gluten-free to meet the needs of modern consumers for healthy food.

6. Fully automatic packaging system

Equipped with an automated packaging system, it can not only increase the packaging speed, but also ensure the accuracy and aesthetics of the packaging. High-end packaging may also include more high-end materials and designs to enhance the market image of the product.

7. Sanitary and safe design in line with international standards

The design pays more attention to hygiene and safety, and the production equipment and production environment meet international food safety standards, such as HACCP certification, etc., to ensure that the products are pollution-free and meet strict quality requirements.

Through these advanced technologies and designs, high-end corn flakes production can not only meet high-quality production needs, but also maintain competitiveness in the market.

innovation, market positioning and production efficiency. This makes them more suitable for providing consumers with high-end, healthy and innovative corn flakes products to meet ever-changing market needs.



FAQ

1. We are very concerned about the quality and stability of the equipment. Can the quality of domestic production lines be comparable to that of foreign equipment? In recent years, domestic corn flake production lines have made great progress in technology and craftsmanship, and many domestic manufacturers have been able to produce equipment comparable to international brands. We use advanced production technology and a strict quality control system. All equipment will undergo rigorous testing and quality inspection before leaving the factory to ensure the stability and efficiency of the equipment. At the same time, domestic corn flake production lines usually also meet international standards, such as ISO, CE and other certifications.

2. We have specific production requirements, such as corn flakes of different shapes and flavors. Can your company's production line meet them? Our corn flake production line is highly flexible and adjustable, and can be customized to produce different shapes, sizes and formulas according to customer needs. We have rich

customization experience and can help you adjust the configuration of the production line to meet the needs of specific flavors and nutrients (such as low sugar, gluten-free, etc.) You can choose different functional modules according to market demand to ensure that the corn flakes that meet your brand needs are produced.

3. How is the automation control system of the production line? Does it require manual operation?

Our puffed corn line has a high level of automation, equipped with a PLC control system and an HMI touch screen. All parameters in the production process (such as temperature, humidity, and time, etc.) can be accurately controlled, and most of the production process is automated. Only a small number of staff are needed to monitor and maintain the equipment, which greatly reduces labor costs, while also improving production efficiency and consistency of product quality.

4. After we purchase the equipment, what kind of after-sales support can we get in case of failure or problems?

We provide comprehensive after-sales service, including equipment installation and commissioning, operator training, regular maintenance, etc. Our technical team can provide remote support, and if necessary, we can send technicians to the site for repairs and maintenance. In addition, we also provide long-term spare parts guarantee to ensure that your production line can operate stably for a long time.

5. How is the energy efficiency of the production line? Is it environmentally friendly? Can it reduce energy consumption?

Our corn flakes production line uses advanced energy-saving technologies, such as heat recovery systems and high-efficiency heating equipment, which can effectively reduce energy consumption. Compared with traditional production lines, our equipment can save more energy and reduce production costs. In addition, the design of the production line meets environmental protection requirements to ensure that the discharge of waste gas and wastewater meets international environmental standards.



About Us

We are a professional manufacturer of food machinery and we have been manufacturing nutrition cereal bar processing line for nearly 20 years. In addition to the Nutrition Cereal Bar snack processing line, we also manufacture lines for deep-fried food, pet feed, milled starch and many more. Each of our lines has basically a variety of moulds, which can be adapted to produce a wide range of food products. We are not satisfied with the status quo but are constantly upgrading and innovating our products, adapting our production plant designs to the changing needs of the times and keeping up with the pace of progress. We are satisfied with the pursuit of excellence!

Production Market

Our products are exported to all over the world, especially Europe, the United States, and the Middle East. Through exchanges and cooperation with well-known foreign high-tech companies such as Japan, Germany, Italy, etc., we now have more and more customers from North and South America.