High-Performance Stainless Steel Equipment for U

Friendly HardBiscuit Production Line

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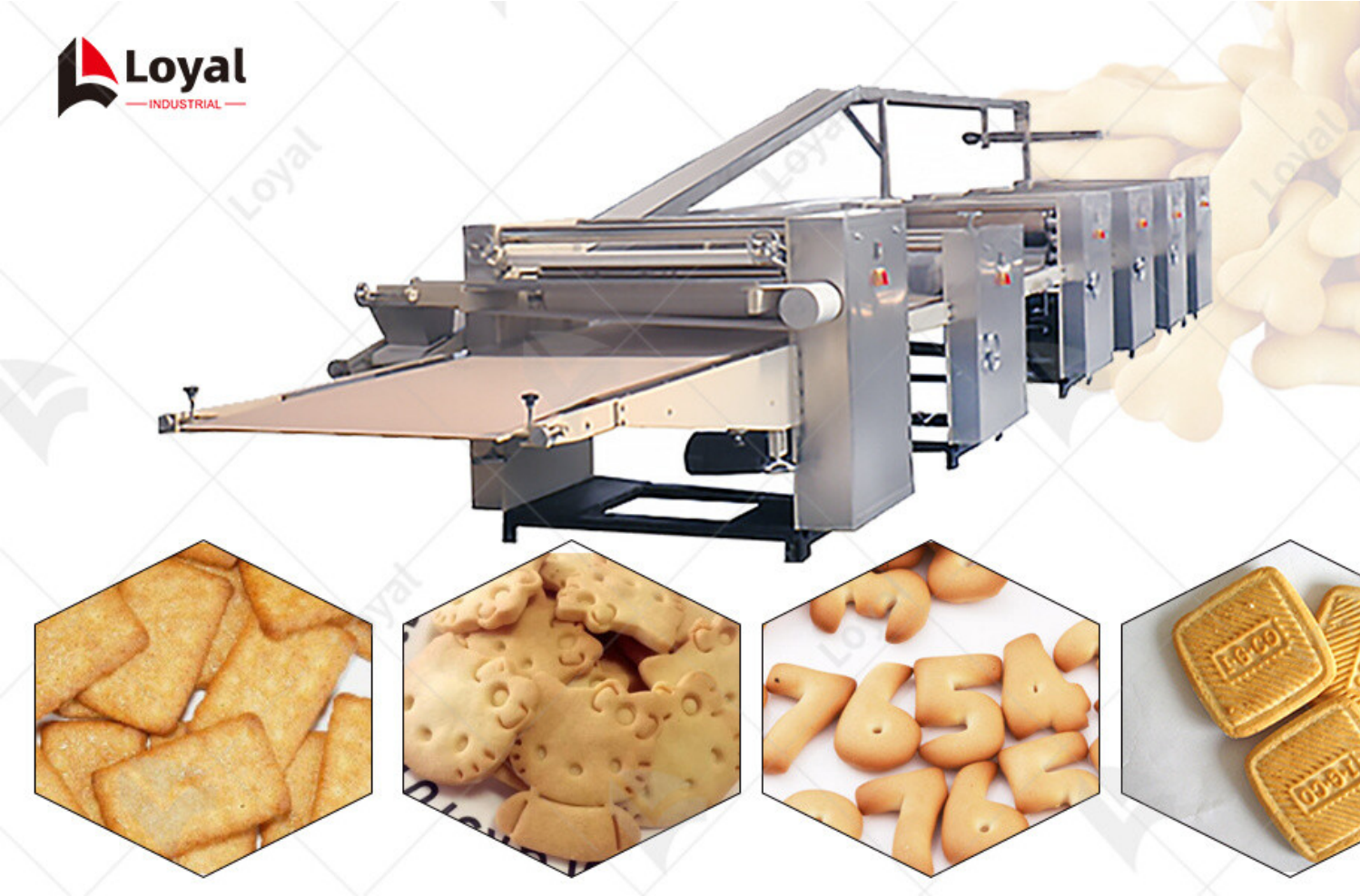
Introduction of Tough Biscuits

Hard biscuits, also known as cracker biscuits or hardtack, are a type of baked confec renowned for their distinctive crunchy texture and long shelf life. Made primarily from sugar, shortening, and leavening agents, these biscuits undergo a rigorous baking pr in a specialized hard biscuit production line, which gives them their characteristic har They often feature a simple, yet appealing shape, and can be plain or flavored with ingredients like chocolate, nuts, or spices. Widely enjoyed as a snack on their own, p with cheese, or used in desserts, hard biscuits are a staple in the global food market, cherished for their convenience and delightful taste.

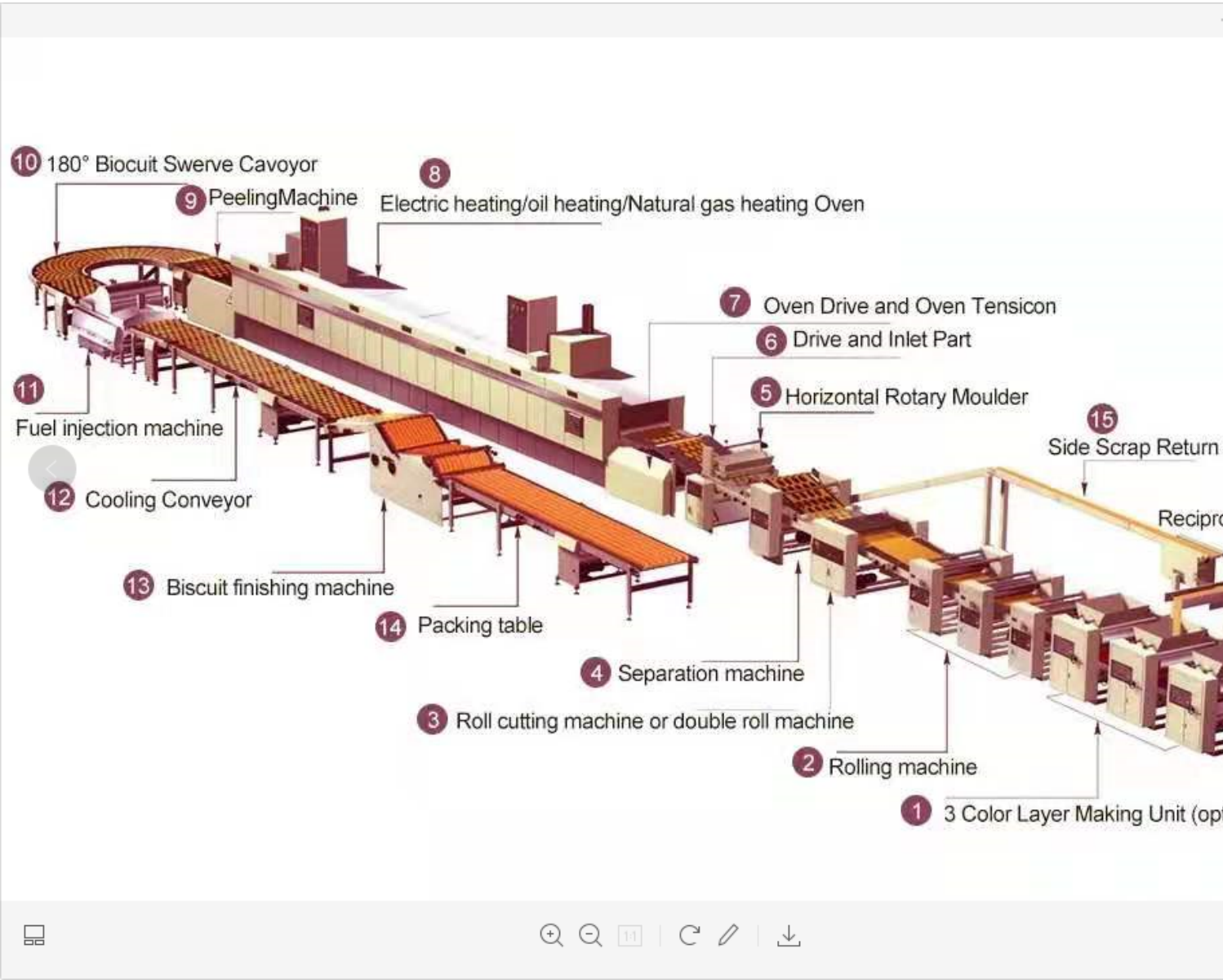


Overview of the Hard Biscuit Production Line

A typical hard biscuit production line is designed to produce a wide range of hard bisc with specific production capacities. It can handle different raw materials and is adapta various biscuit manufacturing techniques. The line is capable of producing a certain q of biscuits per hour or day, depending on its specifications. For example, some advan hard biscuit production lines can produce thousands of kilograms of biscuits daily, ca to large-scale production requirements in the food industry.

Production lineParametersof Hard Biscuit Processing Line

Host Model	LY225	LY280	LY400	LY600
Power and voltage	380V/50HZ	380V/50HZ	380V/50HZ	380V/50HZ
Installed Capacity	28.5KW	55KW	110KW	220kw(gast type25kw)
Baking temperature	200-300ºC	200-300ºC	200-300ºC	200-300ºC
Production capacity	200-300ºC	200-300ºC	200-300ºC	200-300ºC
Production line length	21000mm	30000mm	43000mm	60000mm



Equipment List of Hard BiscuitProduction Line

dough mixer?compound rolling and shaping machine?oven?oilsprayer?cooling machine?sorting machine?packaging machine

Equipment Compositionof the Hard BiscuitMaking Machine

1.Raw Material Processing Equipment

Mixer Machines: Different types of mixers, such as dough mixers, are employed to b various ingredients like flour, sugar, shortening, and water. High - quality mixers ensu uniform mixing, which is crucial for the taste and texture of the final product. They co various sizes and capacities, suitable for different production scales of the hard biscu production line.

2.Processing Equipment

Forming Machines: These machines shape the dough into the desired biscuit forms. are different types of forming methods, including wire - cutting, rotary molding, and extrusion. Each method has its own advantages, and the choice depends on the spe requirements of the biscuit product. For instance, wire - cutting machines are suitable producing biscuits with simple shapes, while rotary molding machines can create mo intricate designs.

Ovens:Biscuit ovens are the heart of the hard biscuit manufacturing line. They are de to bake the biscuits at precise temperatures and for specific durations. Modern ovens use advanced heating technologies, such as gas or electric heating, to ensure even b and consistent product quality. Conveyor - belt ovens are commonly used, allowing th biscuits to move continuously through the baking process.

3.Packaging Equipment

Sealing and Labeling Machines: After filling, the packages need to be sealed to mai the freshness of the biscuits. Sealing machines use various techniques, such as heat sealing or adhesive sealing. Labeling machines then apply product labels, which inclu information like the brand name, ingredients, and nutritional facts. This is an importan in the hard biscuit production linefor product identification and marketing.

Working Process of the Hard BiscuitMaking Machine

Dough mixing machine: This machine mixes wheat flour, sugar, oil, eggs, dairy proc and other ingredients according to precise formulas, ensuring the dough is uniform fo next production stages. During mixing, both the temperature and time are carefully controlled to avoid overheating or excessive mixing of the ingredients, preserving the desired texture and taste of the dough.

Compound rolling and shaping machine: This includes various types of machines s punching, roller cutting, and roller printing machines. These devices shape the dough different forms based on the type and design of the hard biscuits. For example, tough biscuits are typically punched or rolled, often featuring concave flower molds with pin while crisp biscuits are more commonly rolled and molded into convex flower shapes noticeable patterns. The mold's design and adjustments are critical in this stage, as c molds can create hard biscuits with diverse shapes and flavors, including round, squa animal shapes.

Oven: A tunnel hot air circulation oven is commonly used for baking. It uses precise temperature control and timing to bake the shaped hard biscuits under optimal condit Baking temperature and time are adjusted according to the biscuit type and thickness ensuring they are crisp and flavorful without overbaking. Typically, the baking temper ranges from 200-300?, with baking times varying from a few minutes to over ten minu

Oil sprayer: The oil sprayer evenly coats the surface of the baked biscuits with oil, enhancing their color and flavor, making them more visually appealing and tastier.

Cooling machine: The cooling line is used to bring the baked hard biscuits down to r temperature, preventing them from deforming or causing damage to the packaging m due to excessive heat during the packaging process.

Sorting machine: The sorting machine organizes the cooled biscuits, ensuring they a neatly arranged for efficient packaging.

Packing machine: The automatic packaging machine is responsible for packaging th biscuits, offering various packaging methods such as single or multiple biscuits per pa This process boosts production efficiency, ensures that each biscuit is preserved in o condition, and helps extend its shelf life.

Personnel Configuration

Operators:They are responsible for the day - to - day operation of the hard biscuit manufacturing line. Operators need to be familiar with the operation of each equipment, monitor the production process, and make adjustments when necessary. also ensure that the production line runs smoothly and that the production schedule i

Technicians:Technicians play a crucial role in maintaining and troubleshooting the production line. They are responsible for regular equipment maintenance, including c

for wear and tear, lubricating moving parts, and replacing faulty components. In case breakdowns or malfunctions, technicians are required to quickly diagnose and resolv issues to minimize production downtime.

Quality Inspectors:Quality inspectors are in charge of ensuring the quality of the fina product. They conduct regular inspections at different stages of the production proces checking for factors such as the appearance, taste, texture, and weight of the biscuits also ensure that the biscuits meet all relevant food safety and quality standards.

Hygiene and Safety

Maintaining high levels of hygiene is of utmost importance in the hard biscuit producti line.The production environment must be kept clean at all times to prevent contamina Equipment is regularly cleaned and disinfected using appropriate cleaning agents. Employees are required to follow strict hygiene practices, such as wearing protective clothing, hairnets, and gloves. Safety measures are also implemented to protect work from potential hazards. This includes providing safety training, installing safety guards equipment, and ensuring proper electrical and mechanical safety.

Maintenance and Upkeep of Hard Biscuit Making Machine

Regular maintenance of the hard biscuit production line is essential to ensure its long reliability and efficient operation. A comprehensive maintenance plan should be in pla which includes daily inspections, weekly cleanings, and monthly equipment check - u

Regular lubrication of moving parts, replacement of worn - out belts and seals, and calibration of sensors are all part of the maintenance routine. By following a proper maintenance schedule, potential problems can be detected and addressed early, red the risk of breakdowns and production interruptions.

Benefit Analysis of Selecting Hard Biscuit Production Line

1.Cost Analysis

Equipment Investment: The initial investment in a hard biscuit making machineinclu cost of purchasing various equipment, installation, and commissioning. The cost can depending on the scale and complexity of the production line.

Raw Material Cost:This is a significant part of the production cost, as the quality and quantity of raw materials directly affect the quality and cost of the final product.

Labor Cost:The cost of hiring and training personnel, including operators, technicians quality inspectors, also contributes to the overall production cost.

Energy Consumption:The energy required to operate the equipment, especially the is another important cost factor in the hard biscuit manufacturing line.

2.Efficiency and Profitability

An efficient hard biscuit production line can increase production output, improve prod quality, and reduce production costs. By optimizing the production process and equip operation, the line can achieve higher production speeds and lower rejection rates. T turn, leads to increased profitability for the food manufacturing company. With the gro demand for hard biscuits in the market, a well - functioning production line can help companies gain a competitive edge and expand their market share.

Development Trends and Prospects

The hard biscuit production lineis continuously evolving with the advancement of tech
The trend towards automation and intelligentization is becoming more prominent,with
integration of advanced control systems and robotics. This not only improves product
efficiency but also reduces human error. Additionally, there is a growing focus on
sustainable and environmentally friendly production methods. Manufacturers are look
ways to reduce energy consumption, minimize waste, and use more sustainable raw
materials in the hard biscuit processing line. New technologies, such as 3D printing in
forming, may also bring new possibilities to the industry in the future.