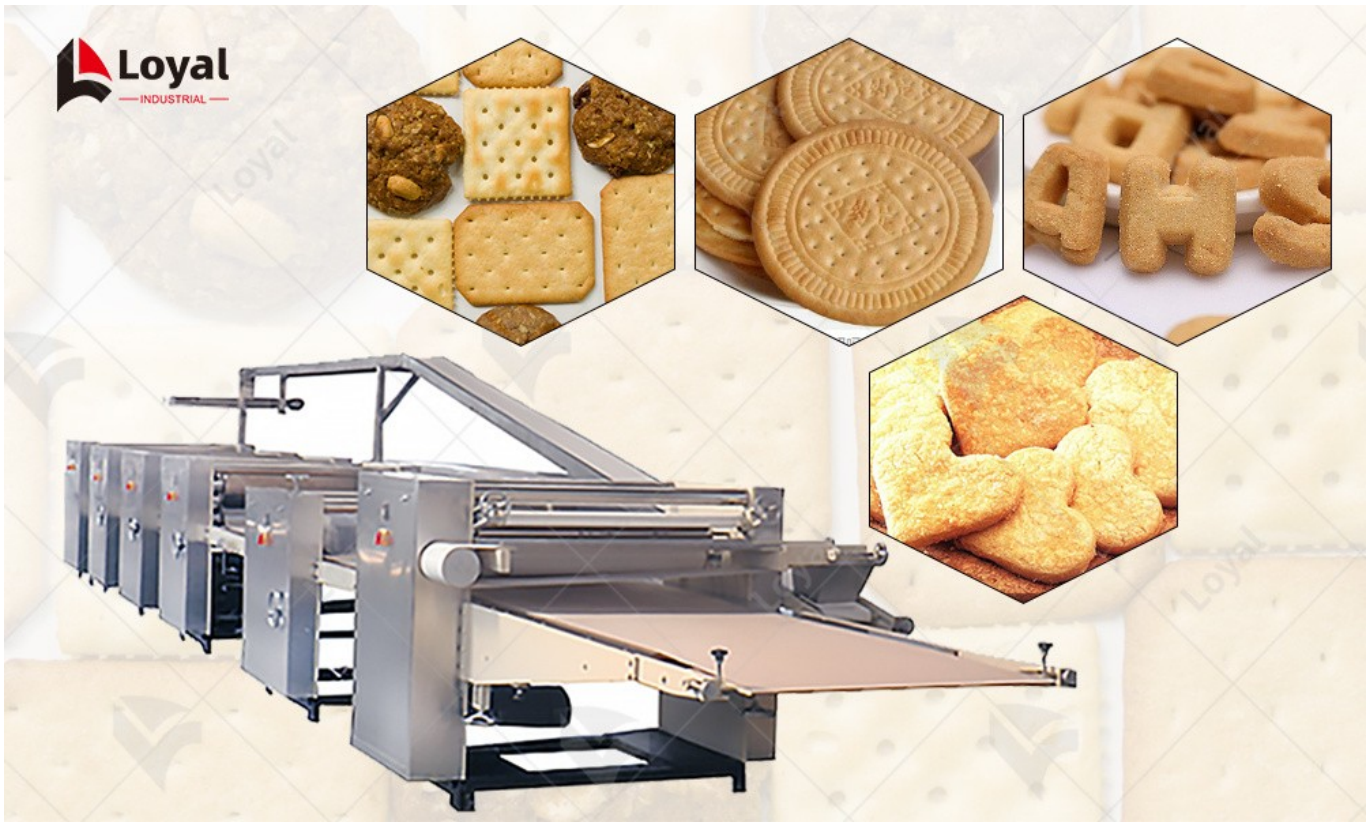
Intelligent and efficient biscuit production line: creating the perfect combination of quality and speed

Biscuit making machines, fully automatic lines and other equipment for the production of various biscuit types: soft biscuits, hard biscuits, biscuit with filling crackers and many others. Commercial biscuit machines ensure all processes of biscuit (cookie) production including dough preparation, proofing, forming, cutting, molding, baking, decorating, coating and cooling. The biscuit Process Line offers an all-in-one solution for creating high-quality, different-shape biscuit with minimal energy consumption.

The biscuit production line is composed of cookie forming machine, electric baking oven, oil spraying machine, turning machine, cooling line, cookie finishing machine, packing table and so on. The whole line is controlled by CPU module, back hung motor drive, compact structure and high degree of automation. The machine can also produce various flavors of high quality cookies, such as cream, jam,

etc.

Biscuit making machines adopts advanced technology at home and abroad, uses the best quality food-grade materials, and is equipped with many different models, allowing manufacturers to produce various types of chocolate sandwich cookies, hard cookies, and soda cookies according to market demand. The equipment has very mature technology, the critical components of the control and operation more accurate and safe, while the manufacturer can provide perfect after-sales service. This machine is the major manufacturers are competing to buy the equipment.



Biscuit Production Process

Mixing (flour, eggs, sugar and seasonings) ? Biscuit forming (roller cutting and roller stamping) ? Oven ? Oil sprayer ? Cooling and conveying ? Packing

1.Flour mixer: mixing the flour, eggs, sugar and seasonings

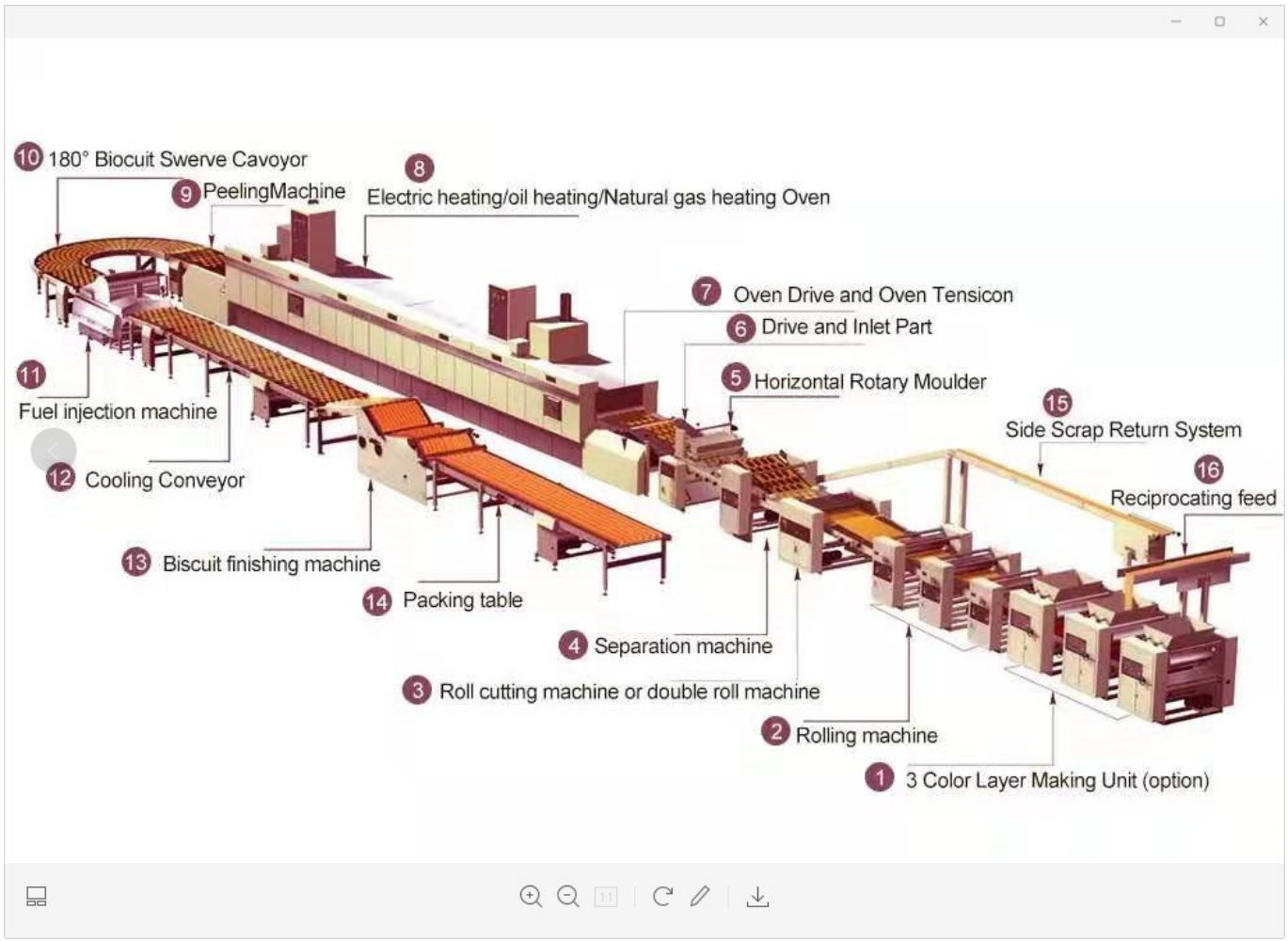
2.Hard biscuit form machine/ soft biscuit form machine: roller cutting and roller stamping, form the biscuit

3.Oven: baking the biscuit

4.Oil sprayer: spraying the oil

5.Cooling conveyor: cooling and conveying

6.Packaging machine: packaging the biscuit



The cookie production process is a precise manufacturing procedure that integrates food science with mechanical automation. The entire

production line, from raw material mixing to finished product packaging, is meticulously designed to ensure the product achieves optimal taste and quality standards.

The production process begins with the flour mixing stage, which is carried out by professional mixers. The mixer combines high-quality wheat flour, fresh eggs, fine sugar, and various seasonings according to strict proportions. Through the rotational movement of dual stirring paddles, all ingredients are thoroughly blended. Modern mixing equipment typically includes temperature control systems that maintain the mixture's temperature within an ideal range, ensuring the dough has the perfect elasticity and consistency. After 10-15 minutes of thorough mixing, the uniform dough is automatically conveyed to the next stage.

The shaping process varies depending on the type of product. For hard biscuits, a roller cutting machine is used, where the dough is pressed through multiple rollers to form a uniformly thick

sheet, which is then cut using specially designed molds. Soft biscuits, on the other hand, are made using a roller imprinting machine, where the dough is shaped on rollers with engraved patterns, creating beautiful three-dimensional designs on the surface of the biscuits. During the shaping process, an advanced visual inspection system continuously monitors the shape integrity of each biscuit, automatically removing any substandard semi-finished products.

Baking is the critical step that determines the final quality of the biscuits. Tunnel ovens are designed with multiple temperature zones, and the biscuits are conveyed through preheating, baking, and coloring sections. The preheating zone maintains temperatures between 120-150°C to initially set the internal structure of the biscuits; the baking zone raises the temperature to 180-220°C to promote the Maillard reaction, producing unique aromas and colors; finally, the coloring zone precisely controls the surface color. Modern ovens are equipped with hot air circulation systems to ensure uniform temperature distribution within the

oven, with a temperature difference not exceeding ±3°C.

After baking, the cookies undergo an oil spraying process that imparts a unique flavor and sheen. The automatic oil spraying system uses high-pressure atomization technology to evenly spray edible oil on the cookie surface, with the amount of oil controlled by a precise metering pump to be between 0.5 and 1.2 grams per cookie. Some premium products also add flavored oils or nutritional enhancers at this stage to increase their added value.

The cooling process is equally crucial, as freshly baked cookies need to pass through a cooling conveyor belt that is 15 to 20 meters long. This specially designed conveyor system is equipped with temperature and humidity control devices, using a combination of natural convection and forced ventilation to gradually reduce the cookie temperature from around 80°C to room temperature. During this process, moisture inside

the cookies continues to distribute evenly, ultimately achieving the ideal crispy texture. At the end of the conveyor belt, a metal detector performs the final quality check.

The Main Features Of Biscuit Making Machine

Feature	1.a variety of different molds and different formulas.
	2.good cooling effect
	3.big output(from 100kg/h to 2000kg/h)
	4.PLC screen touch control
	5.easy operation
	6.smooth work

1. Versatile Molds & Customizable Formulas

The machine supports interchangeable molds, enabling the production of different shapes (round, square, animal shapes, etc.).

Adjustable dough thickness and cutting mechanisms allow for flexibility in product design.

Compatible with various recipes, including sweet, savory, gluten-free, and high-fiber formulations.

2. High-Efficiency Baking & Good Cooling Effect

The multi-zone tunnel oven ensures even baking with precise temperature control (160°C–250°C).

After baking, the biscuits pass through an advanced cooling conveyor with forced-air circulation, reducing temperature gradually to maintain crispness and prevent breakage.

The cooling system prevents moisture retention, ensuring a longer shelf life.

3. Large Production Capacity (100kg/h to 2000kg/h)

Suitable for small, medium, and large-scale biscuit manufacturers.

Adjustable speed settings to match production demands.

Continuous operation minimizes downtime, maximizing output.

4. PLC Touch Screen Control for Easy Operation

User-friendly interface with automated adjustments for dough thickness, baking time, and conveyor speed.

Real-time monitoring of temperature, speed, and production status.

Error alarms and troubleshooting guides for quick maintenance.

5. Smooth & Reliable Performance

Precision-engineered components ensure low vibration and noise.

Stainless steel construction for hygiene and durability.

Minimal manual intervention required, reducing labor costs.

This advanced biscuit-making machine combines high efficiency, customizable production, and intelligent control to meet diverse manufacturing needs. With its large output range (100kg/h–2000kg/h), excellent cooling system, and PLC automation, it ensures consistent quality while reducing operational complexity. Whether for artisanal bakeries or industrial-scale factories, this production line delivers smooth, reliable, and profitable biscuit manufacturing.

Description Of Biscuit Making machine

This automatic biscuit making machine of the digestion and absorption Japanese technology developed from the new equipment design,

compact structure, high degree of automation, from the feed rolling, forming, waste recycling, drying, coating, cooling automatic one-time completion of the Company, to provide users with hundreds of kinds of molds and dozens of craft formula, by changing the mold and process recipe can produce market popular high-end cookies.

The Different Of Hard Biscuit And Soft Biscuit

Hard biscuit	The dough for this cookie is elastic and stretchy, requires long

	multi-stage rolling with resting between stages.
Soft biscuit	Soft biscuits are made from crumbly and fragile short bread dough.

1. Dough Characteristics

?Hard Biscuits

The dough has high elasticity and stretchiness, similar to bread dough.

Contains more gluten development, giving it a chewy, layered texture when baked.

Requires careful gluten formation during mixing to achieve proper structure.

Often uses less fat and sugar compared to soft biscuits, focusing more on flour strength.

?Soft Biscuits (Shortbread/Cookies)

The dough is crumbly, tender, and fragile with minimal gluten development.

Contains higher fat (butter/shortening) and sugar content, which inhibits gluten formation.

Has a short, melt-in-the-mouth texture due to the high fat ratio.

More delicate to handle, as overmixing can make it tough rather than flaky.

2. Dough Processing Methods

?Hard Biscuits

Requires multi-stage rolling and resting to relax gluten between passes.

Typically sheeted multiple times (3-5 passes) with resting periods in between.

The dough is elastic and shrinkable, so gradual rolling prevents deformation.

Often laminated (folded) to create flaky layers (e.g., crackers, puff biscuits).

?Soft Biscuits

Mixed just until combined—overmixing makes them tough.

Usually sheet-rolled once (no lamination needed) and cut directly.

The dough is non-elastic, so it holds its shape well after cutting.

Some recipes may require chilling before forming to prevent sticking.

3. Baking Process Differences

?Hard Biscuits

Baked at higher temperatures (180–250°C) to create a crisp texture.

Often drier and harder, requiring precise moisture control.

May undergo multi-zone baking to ensure even crispness without burning.

?Soft Biscuits

Baked at lower temperatures (160–190°C) to retain moisture and softness.

Shorter baking time to prevent over-drying.

Some varieties (like chewy cookies) remain slightly underbaked in the center for softness.

4. Final Product Texture & Applications

?Hard Biscuits

Crispy, crunchy, or layered (e.g., soda crackers, digestive biscuits).

Often used for dunking in tea/coffee due to sturdy structure.

Longer shelf life due to low moisture content.

?Soft Biscuits

Tender, crumbly, or chewy (e.g., shortbread, butter cookies, chocolate chip cookies).

Best enjoyed fresh; may soften over time due to higher fat content.

Popular as snack biscuits or dessert items.

The Detail Descriptions Of Biscuit Production Line

No.	Item	Detail descriptions

1	Raw materials	Plain flour, Baking powder, Soft white sugar,Year of the ox egg, Odorless vegetable oil
2	Consumption	Low power and labor consumption
3	Capacity	100kg/h, 150-200kg/h, 300-350kg/h, 400-500kg/h, 600-900kg/h, 1000kg/h, 2000kg/h
4	Machine material	Stainless steel?Food contact parts are made of 304 food-grade stainless steel?
5	Products	This line can produce hard biscuit, soft biscuit and sandwich biscuit

How to Fully Automatic Biscuit Making Machines

The Fully Automatic Biscuit Making Machines is for chocolate deposit forming. The whole process is fully automatic including depositing, mould plate vibrating, cooling, demoulding, conveying and plate

heating. You can choose one head semi-automatic, one head, two heads or three heads moulding line for different products. The line is suitable for pure chocolate, center filled chocolate, two colors chocolate, four color chocolate, amber or agate chocolate, etc.

Our fully automatic biscuit production line is the ideal solution for businesses looking to expand their product range, improve efficiency, and reduce costs. With customizable configurations, multiple heating choices, and smart automation, it ensures high-quality biscuit manufacturing with maximum profitability.

What are the advantages of this line?

1. A complete soft and hard biscuit production line , which can make all kinds of biscuits of various shapes, just change the mold.

?Soft & Hard Biscuits: Adjust dough consistency, baking time, and temperature to produce chewy, crispy, or layered biscuits.

?Multiple Shapes & Designs: Simply change the

mold to switch between round, square, animal-shaped, or custom-designed biscuits.

?Wide Recipe Compatibility: Works with various dough types, including sugar-based, savory, gluten-free, and high-fiber recipes.

2. The biscuit production line can be customized according to the customer's workshop or biscuit making technical requirement

?Adaptable Layout: The machine can be adjusted in size, conveyor length, and configuration to fit small, medium, or large workshops.

?Tailored Technical Specifications: Customize baking time, temperature zones, and cooling speed based on your biscuit type.

?Optional Add-ons: Additional modules like chocolate coating, cream filling, or double-layer

baking can be integrated.

3. Have different heating sources for your operation (Electric, gas, Diesel oil)

?Electric Heating: Best for stable temperature control, suitable for indoor factories with electricity supply.

?Gas Heating: Cost-effective for large-scale production with consistent heat distribution.

?Diesel Oil Heating: Ideal for areas with limited gas or electricity access, providing high thermal efficiency.

4. It is full automatic, advanced technology, easy to operation, high quality,save energy & labor, reasonable price to win customer reply and reputation.

?PLC Touch Screen Control: Easy-to-use interface for adjusting speed, temperature, and baking time.

?Energy-Saving Design: Optimized heat circulation and insulation reduce power consumption.

?Minimal Labor Requirement: Automated feeding, forming, baking, and packaging reduce manual work.

?Smooth & Stable Performance: Precision-engineered components ensure low maintenance and long service life

For more information, please visit the Facebook page:
https://www.facebook.com/Foodextruderfactory