

## **What is a small output biscuit production line**

In today's diversified consumer market, the biscuit industry is undergoing a transformation from "scale" to "customization".

Compared with large-scale industrial production lines, small-scale biscuit production lines are becoming the core equipment of emerging baking brands, specialty food workshops and catering supply chains with their low investment threshold, rapid production conversion capabilities and boutique production characteristics.

## **What are biscuits?**

Biscuits are a type of portable baked food made from wheat flour (or cereal flour) as the main raw material, with sugar, oil and other auxiliary materials added, and made through dough preparation, shaping, baking and other processes. According to the Codex Alimentarius International (CODEX) standards, biscuits have the following main characteristics:



## **Physical properties:**

- (1) Moisture content is usually  $\approx 10\%$  (except for soft biscuits)
- (2) Texture is crispy, crunchy or hard and crunchy
- (3) Long shelf life (generally 6-12 months)

## **Process characteristics:**

- (1) Must undergo high-temperature baking process
- (2) Includes mechanical shaping process (roller cutting, etc.)
- (3) Can add fillings, coatings and other secondary processing

### **Taxonomic positioning:**

- (1) Belongs to non-fermented baked food (distinguished from bread)
- (2) Low fat characteristics different from pastry
- (3) Raw material composition different from confectionery

**Scientific essence:** Biscuits are a starch-lipid-protein complex system that produces a unique flavor and texture through the Maillard reaction (140-180?) and caramelization reaction. Its shelf stability is mainly due to the low water activity that inhibits microorganisms (most bacteria cannot reproduce when  $a_w < 0.6$ ).

**Note:** Definitions vary from country to country. For example, the United States also classifies some soft pastries as cookies, while the British Biscuit refers specifically to hard biscuits. Modern food science classifies biscuits as "Durable Bakery Products".



## **Benefits of biscuits: Multiple values from nutritional supplements to life enjoyment**

### **1. Convenient and efficient energy source**

The most significant advantages of biscuits are their portability and long shelf life:

(1) Rapid energy supply: The carbohydrate content is 60-75%, and a 100g biscuit can provide 400-500 calories, which is suitable for scenes that require immediate energy replenishment, such as mountaineering and long-distance driving

(2) Storage stability: The water activity ( $A_w$ ) is usually  $<0.6$ ,

and the shelf life can reach 12-24 months under vacuum packaging, which is an ideal choice for emergency reserve food

(3) Diverse consumption scenarios: It can be used for breakfast with milk, afternoon tea with coffee, travel snacks, etc.

## 2. Effective carrier of nutritional fortification

Modern biscuits achieve nutritional upgrades through formula improvement:

(1) Dietary fiber type: Add oat bran ( $\beta$ -glucan content  $\geq 4\%$ ), inulin and other ingredients, a single serving (30g) can provide 15% of the daily fiber requirement

(2) Protein fortification type: Using whey protein/plant protein formula, the protein content can reach 15-20g/100g, equivalent to the protein content of 2 eggs

(3) Trace element supplementation: Iron-fortified biscuits (containing ferrous fumarate) have an auxiliary improvement effect on people with anemia during pregnancy

## 3. Emotional regulation and social media

Biscuits have unique value at the psychological level:

(1) Sensory pleasure: The Maillard reaction produced by baking produces pyrazine aromatic substances, which trigger dopamine secretion

(2) Emotional connection: Cookie mold DIY and family baking activities enhance parent-child interaction. The related short video tag #BiscuitArt has been played more than 3 billion times on TikTok

(3) Cultural carrier: Traditional recipes such as Italian Biscotti and British Shortbread have become intangible cultural heritage

#### 4. Adaptability to special groups

Targeted formulas to solve specific needs:

(1) Gluten-free biscuits: Use brown rice flour + quinoa flour instead of wheat flour, gluten content <20ppm (EU standard)

(2) Sugar substitute biscuits: Use erythritol + stevioside combination, GI value is 65% lower than traditional biscuits

(3) Soft biscuits: Moisture content is 12-15%, suitable for the elderly with dental problems

#### 5. Economic and industrial value

(1) Cost-effectiveness ratio: Industrialized production has

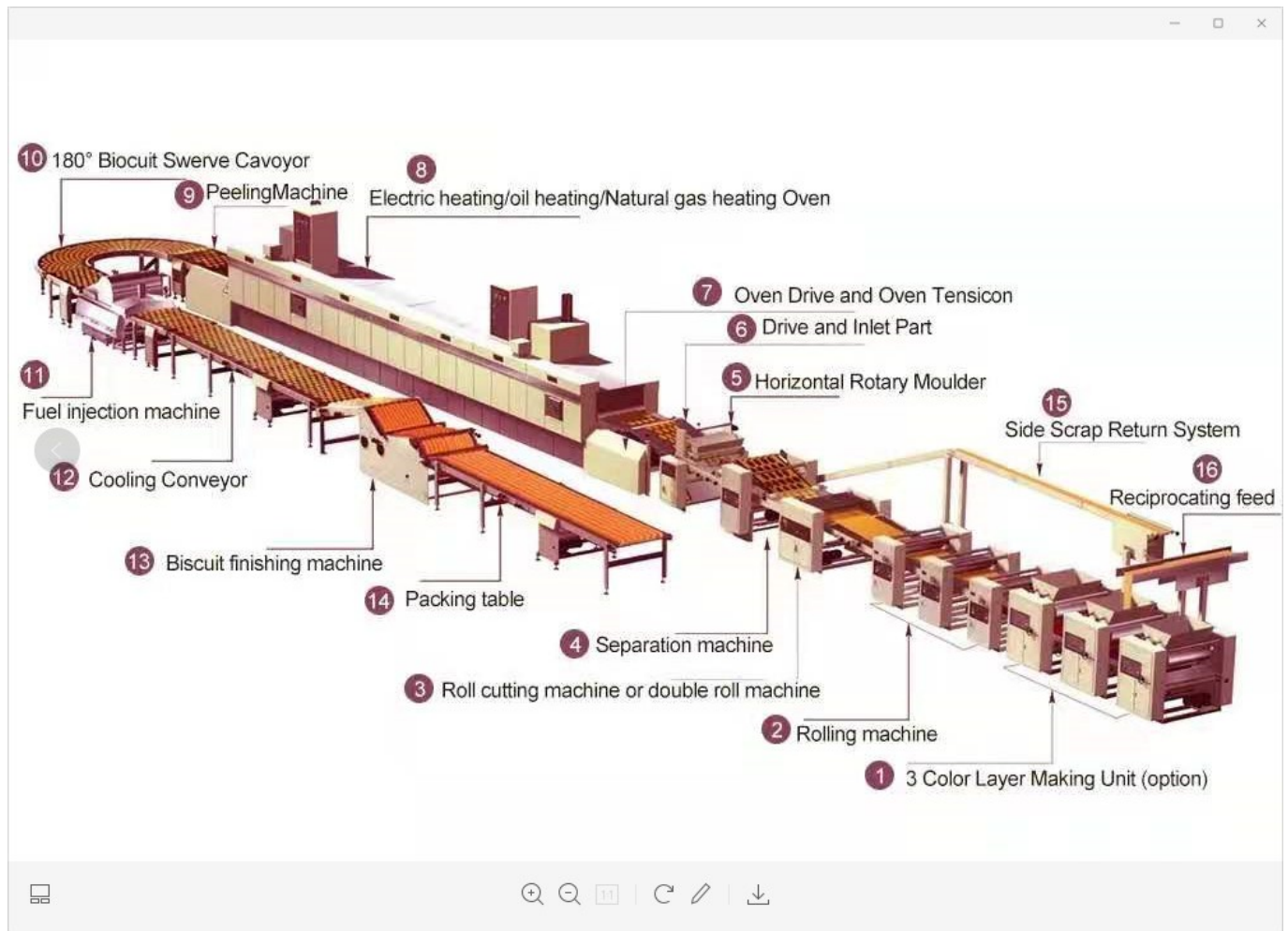
reduced the unit price of biscuits to 0.3-1.2 yuan/piece, which is one of the most cost-effective baked foods

(2) Employment promotion: The global biscuit industry directly creates more than 2 million jobs, and small bakeries account for 38%

The value of biscuits has gone beyond the simple function of satisfying hunger. In modern life, they play multiple roles, such as energy supply stations, nutrition carriers, and emotional bonds. With the emergence of innovative categories such as freeze-dried fruit biscuits and probiotic biscuits, this ancient food continues to be revitalized.

When choosing biscuits, it is recommended to pay attention to the nutritional information table, so that this convenient food can truly become a boost to healthy living.





**Small output biscuit production line: a flexible and efficient boutique production solution**



Although large-scale biscuit production lines dominate large-scale production, small-volume [biscuit equipment](#) has unique advantages in the fields of specialty biscuits, handmade baking and start-up brands due to its flexibility, low investment threshold and customization capabilities.

In the biscuit production line, the production capacity below 150kg/h is generally considered as a small output biscuit production line.

### **Small output biscuit production line flow chart**

Flour Mixing---Roll Cut Biscuit Form Machine ---Tunnel Oven---Oil Spraying ---Cooling Conveyor(---Biscuit Stacking ---Biscuit Packing)

Regarding biscuit making machine, We have small and large biscuit machines for you to choose from.If you need a packaging machine, we also provide it.

### **The function of small output biscuit production line**

1. Mixer: Dough mixer is a machine that mixes flour with water or other ingredients into dough. It is widely used in making dough for various pastries, biscuits, bread, steamed buns, etc.

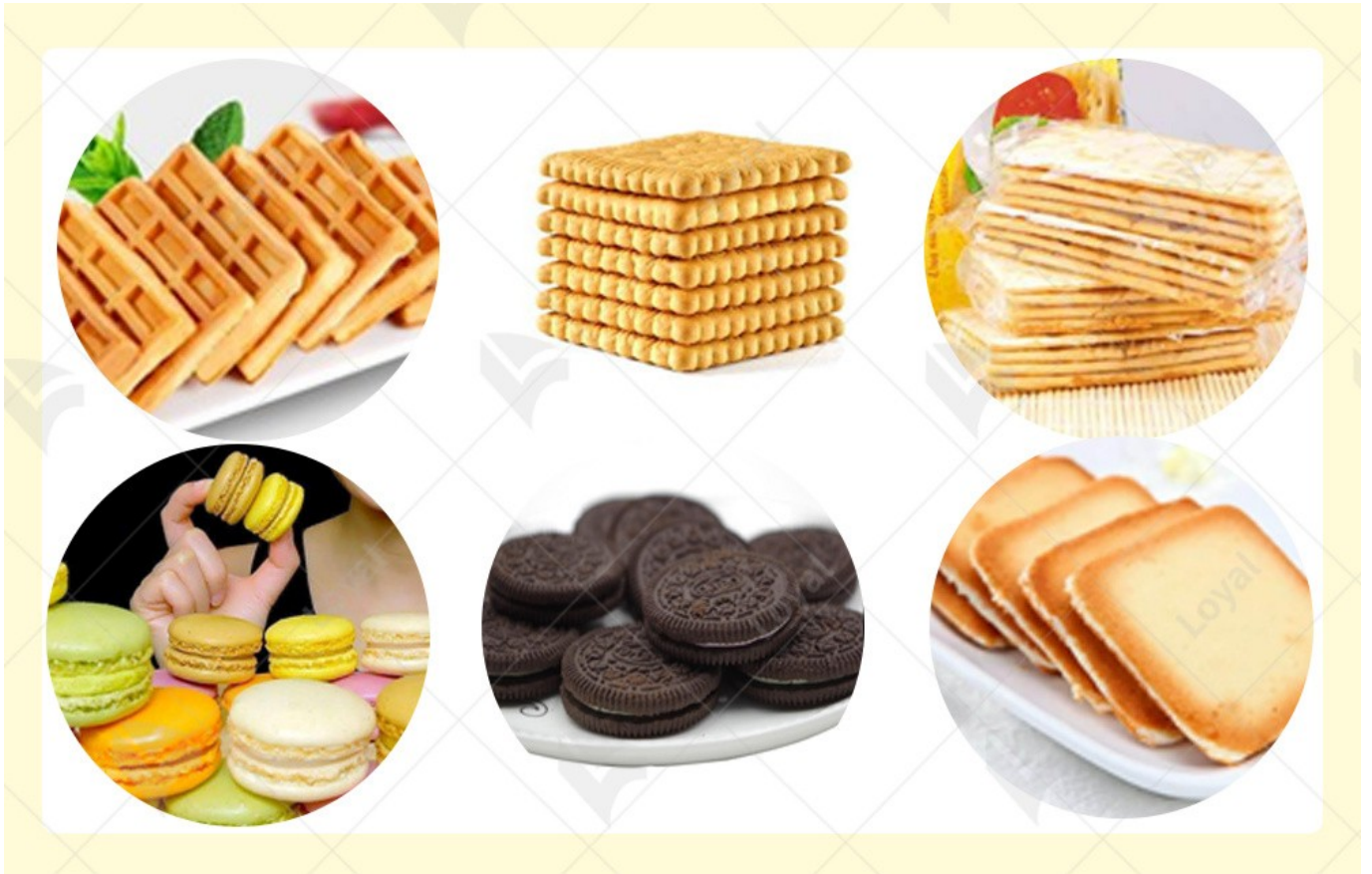
2. Roll Cut Biscuit Form Machine: After putting stirring flour powder into the machine, they are one time shaped into unripe biscuit, all kinds of middle and high grade biscuit and thin biscuit through three stages roller and roll cutting molds.
  3. Tunnel Oven: Unripe biscuit is processed with long time baking system under lower temperature after it enters into infrared ray baking furnace transmitted by belt in order to make biscuit ripe.
  4. Oil Spraying: Undry biscuit out of baking out of baking furnace immediately enters into oil-spraying machine, which is necessary for production of high-grade biscuit, to better improve grades and colors of biscuit
  5. Cooling Conveyor: This equipment fully cools the biscuits before they are conveyed to the packaging machine to ensure the quality of the biscuits after packaging and extend the shelf life.
6. Biscuit Stacking: sort biscuits and pick out unqualified products.

## **Technical specifications of small output biscuit**

## **production line**

Model	Output
LY280	100kg/h
LY-320	100-150kg/h

## **Sample of biscuit equipment**



## **Main advantages of small output biscuit production line:**

- (1) Low investment threshold: suitable for start-ups and specialty brands.
- (2) Flexible adaptation: can quickly switch product types

(crispy or tough biscuits), and the mold change time only takes 10-15 minutes.

(3) Customization capability: supports small batch customization to meet market needs such as Internet celebrity products and holiday limited products.

(4) Energy efficiency ratio optimization: designed for intermittent production.

## **Typical application scenarios**

(1) Specialty food workshop:

Produce handmade biscuits (such as Italian Cantucci almond biscuits)

Use 3D printing molds to achieve shape customization

(2) Catering central kitchen:

Supply matching biscuits to hotels and cafes, with a daily demand of 200-800kg

(3) New product R&D center:

Complete the transition from small-scale trial to pilot test, and reduce the cost of single batch verification

Small-volume biscuit production lines are reshaping the

industry ecosystem through a "small but fine" technology route. For companies that pursue product uniqueness rather than absolute scale, small-volume solutions provide more agile market response capabilities.

Mastering the key points of fine control in the production of biscuits can significantly improve product qualification rate and market competitiveness. Here we provide a full set of solutions from process guidance to equipment matching.

## **Recommended Company**

Shandong Loyal Industrial Co.,Ltd. Is a Manufacturer Of Snacks Extruder Machine , Industrial Microwave Oven , Corn Flakes Production Line , And a Standing Director Of China Food And Drying Equipment Industry Association.

The Self-developed Twin-screw Extruder And Single-screw Equipment of Shandong Loyal Machinery Have Been Used In Production: Puffed Snack Food, Breakfast Cereal Corn Flakes, Fried Pasta, Bread Crumbs, Fruit Chips, Baby Food, Textured Soy Protein (tsp) Food, Fish Feed And Pet Food. a Variety of Snack Production Line Supporting Products.at The Same Time, The Batching, Drying, Flaking, Baking, Frying And Spraying Equipment Matching The Twin-

screw Extrusion System Have All Achieved Independent Design And Production.

Our Extrusion System Is Widely Used In: Puffed Snack Foods, Breakfast Cereals, Vegetable Protein Meat Products, Soy Based Nutrition Bars, Reconstituted Rice, Grain Nutrition Powder, Modified Starch, Starch-based Sticky Music Children's Educational Toys, Degradable Starch-based Packaging Filling Materials, Bread Crumbs And Other Food Additives, Pet Food, Aquatic Feed, Biology And Chemical Industries.

## Customer-specific Food Processing Plant Project Solutions

As one of the leading manufacturers of food processing equipment, we are always searching for new solutions that benefit our snack food customers. Our experienced frying engineers always find the optimal solution for your industrial batch and continuous frying system line application. That's why we also develop, design and produce custom fried snack production line.

Close collaboration with our customer is important to us even in the early development phase. No matter what the special requirements of instant noodles production line, snack food extruder machine, pasta production line



application, we can develop a custom made food processing equipment to match your needs.

Loyal have a unique and efficient industrial continuous frying equipment for snack food extruder machine that provides the right crunch and desired moisture level.

The Industrial Microwave Sterilization Defrosting Drying Machine can be designed as a dry powder dosing system and a wet slurry dosing system as required.

Some snacks can also be fried according to taste requirements, and we also provide Fried Snack Production Line for the processing and packaging of fried extruded snacks.

Loyal Food Production Line meet the needs of customers to obtain snack food that meet the needs.

In ovens or drying units, electric or gas can be used as heating sources.

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## About packaging and after-sales service

Packing: Plastic Film Suitable For Ocean Carriage

Technical Support: The customer can inform machine

related problems to us via telephone, email or fax. All information will be recorded and will be reported to the After-sale Service team. Meanwhile, the sales person will be tracking the case until problem solved.

**Service Team:** We have a professional After-sale Service team including 10 professional engineers with at least 6 years working experience. They can handle technical consultation about manufacturing process, maintenance, fault diagnosis and troubleshooting, etc.

After-sale Service available : 1. Check & test before delivery  
2. Instruction for installation 3. On site commissioning  
4. Repair & maintenance

After the receipt the advanced payment, we will provide allocation chart at the buyer's request. When effect the shipment, we'll provide operation manual, etc. in English.

The rise of small-scale biscuit production lines marks the entry of the biscuit industry into the era of "mass customization". It not only makes up for the efficiency bottleneck of manual baking, but also avoids the rigid production mode of large-scale equipment, and shows irreplaceability in the fields of specialty biscuits (such as

gluten-free, high-protein), regional flavor products and limited edition Internet celebrity products.

For companies that pursue product differentiation rather than absolute scale, investing in small-scale intelligent production lines is not only a choice for capacity upgrades, but also a strategic layout for brand value construction.

For more information, please visit the Facebook page:

<https://www.facebook.com/Foodextruderfactory>