

## What is a hard biscuit production line

I have previously written about the biscuit production line as a whole. In this article, we will explain the [hard biscuit production line](#) separately.

### What are hard biscuits?

Hard biscuits (or semi-sweet biscuits) are a basic type of biscuits, in contrast to crisp biscuits (crisp, cookies, etc.). They are characterized by a tight texture, tough structure, and chewiness. They usually contain less sugar and fat, and have a hard but not fragile taste.

The following is a detailed introduction to hard biscuits:

#### I. Main features

##### 1. Texture:

(1) The surface is flat and smooth, with pinholes (for ventilation during baking).

(2) The cross-sectional structure is clearly layered, the taste is hard, and it is tough when chewed (similar to the texture

of "digestive biscuits" or "milk biscuits").

## 2. Ingredients:

(1) Low in sugar and oil (the oil content is generally  $\approx 20\%$ ), and less water.

(2) The dough is elastic and usually requires a long time to be mixed (to form gluten).

## 3. Flavor:

The taste is light, with a light sweetness or saltiness, suitable for eating with milk or coffee.

## II. Production process

### 1. Dough preparation:

(1) Use medium-low gluten flour and stir for a long time (or roll it several times) to fully form the gluten and give the biscuits toughness.

(2) Add a small amount of leavening agent (such as baking soda) to help loosen the structure, but the leavening degree is lower than that of crisp biscuits.

## 2. Forming:

After rolling into thin sheets, stamping is performed, and the surface is often pressed with patterns or words (such as "soda biscuits").

## 3. Baking:

Bake for a long time to remove moisture and make the biscuits hard.

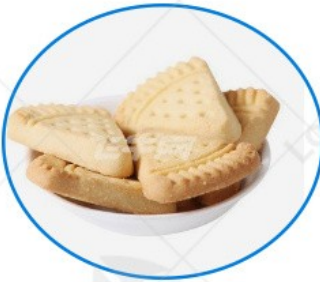
## III. Common types

(1) Soda biscuits: salty, containing yeast or chemical leavening agents, slightly crisp and tough.

(2) Digestive biscuits: made of whole wheat, high in fiber content, and firm in taste.

(3) Milk biscuits: added with milk powder, slightly sweet, and hard in texture.

(4) Animal biscuits: children's snacks, cute in shape, and relatively hard.



## Difference from soft biscuits

Characteristics	Hard Biscuits	Soft Biscuits
Texture	Hard, chewy	Crisp, crumbly
Sugar/Oil	Less	More (oil ? 30%)
Gluten	Fully formed	Inhibited formation (avoid gluten)

		formation)
Representative products	Soda crackers, digestive biscuits	Cookies, butter biscuits

Why is it called "hard"?

The name comes from the strength of the gluten network in the dough. The dough of tough biscuits is fully kneaded or rolled, and the gluten protein (gluten) forms a tight structure, making the finished product chewy and tough, while crispy biscuits block gluten formation through a high oil-sugar ratio to achieve a crispy effect.



## Advantages of hard biscuits:

### 1. Provide lasting energy

(1) Mainly complex carbohydrates: tough biscuits are mostly made of whole grains such as whole wheat and oats, which are slowly digested and absorbed, and blood sugar rises slowly, making them suitable as energy supplements

between meals.

(2) Low in fat and sugar (some products): Compared with crispy biscuits (such as cookies), traditional tough biscuits have lower oil and sugar content and are more suitable for people who control calorie intake.

## 2. Promote digestive health

(1) Rich in dietary fiber: tough biscuits made from whole wheat or cereals are rich in insoluble fiber, which can stimulate intestinal peristalsis and prevent constipation (for example, the British "digestive biscuits" are called this, but they actually rely on fiber to aid digestion).

(2) Advantages of fermentation technology: Fermented tough biscuits such as soda crackers contain a small amount of probiotic metabolites, which may slightly improve the gastrointestinal environment.

## 3. Easy to digest, reducing the burden on the stomach

(1) Alkalinity neutralizes stomach acid:

Soda crackers contain sodium bicarbonate (baking soda), which can temporarily neutralize stomach acid and relieve stomach discomfort (such as morning sickness and hunger stomach pain), but long-term dependence may disrupt stomach acid balance.

## (2) Low irritation:

Tough crackers are dry and less greasy, suitable for people with sensitive stomachs to eat in small amounts.

## 4. Partial nutritional fortification

### (1) B vitamins and minerals:

Whole wheat tough crackers retain nutrients such as B1, B2, and iron in wheat germ, and some products will additionally fortify calcium, iron, etc. (please check the ingredient list).

### (2) Gluten-free options:

Some tough crackers use gluten-free ingredients such as brown rice and quinoa, which are suitable for patients with celiac disease.





## Potential issues to note

(1) High sodium content:

Soda crackers often add more salt to adjust the taste, and patients with hypertension need to control their intake (it is recommended to choose low-sodium versions).

(2) Hidden sugar: Some "whole wheat" tough biscuits

actually contain a lot of sugar (beware of white sugar and fructose syrup in the ingredient list).

(3) Processing loss: High-temperature baking may destroy some nutrients (such as vitamin B1 is not resistant to high temperatures).

Alternative scenarios: It can be used as a portable emergency food for activities such as mountaineering and travel, or as a substitute for high-sugar snacks.

Let us now walk into the production line of hard biscuits and see how they are made.

### **Hard biscuit production line flow chart**

It is the same as mentioned in the previous article, except that its mold is a tough biscuit mold, which is rolled and formed.

Flour Mixing---Hard Biscuit Forming machine---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.

Eating hard biscuits (such as digestive biscuits, whole-wheat biscuits, etc.) has certain benefits, but you should also pay attention to eating in moderation. The following are its main advantages:

Rich in dietary fiber	Tough biscuits usually contain whole grain ingredients such as whole wheat and oats, with high dietary fiber, which helps promote intestinal peristalsis, relieve constipation, and increase satiety, making them suitable as healthy snacks between meals.
Low sugar and low fat (some products)	Some tough biscuits will reduce the addition of sugar and oil, which is healthier than other desserts (such as cream biscuits and cakes) and suitable for people who control calorie intake.

Easy to carry and store	Storable and portable, suitable for outdoor activities, overtime or travel to replenish energy.
Partially fortified nutrition	Some brands will add nutrients such as calcium, iron, vitamins, etc. to make up for the deficiencies of daily diet (need to check the ingredient list).
Suitable for light hunger	The taste is solid and the chewing time is long, which can relieve hunger and avoid overeating.



## **Hard biscuit Main features**

### **1.Texture and taste:**

The surface is smooth, the cross-section is not obvious, and the taste is hard and crisp or slightly tough. Because the gluten is fully formed, the biscuits are firm and not easy to break, suitable for long-distance transportation and storage.

### **2.Formula features:**

Low oil and sugar, high-gluten flour, long-term mixing. The dough needs to be fully stirred to form a gluten network and enhance toughness.

### 3.Process features:

?1?Multiple rolling: The dough needs to be rolled multiple times to make the dough firm and the surface smooth.

?2?High temperature baking: The baking temperature is high, the water evaporates thoroughly, and the finished product is harder and crisper.

### 4.Common types

?1?Ordinary tough biscuits: such as animal biscuits, alphabet biscuits, etc., with a light taste.

?2?Calcium-added/nutritional fortified biscuits: Add calcium or other nutrients, suitable for children or people with special needs.

?3?Fermented tough biscuits: such as soda biscuits (partially classified)

## **The function of hard 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. Hard Biscuit Forming machine: Toughness molding: put the mixed dough into this machine, press the skin through three rollers, and then roll it into biscuit embryos through the roller cutting mold, and put it into the oven to bake medium and high-end tough biscuits.
3. Oven: Suitable for baking all kinds of biscuits. Use electric heating, temperature zone control, temperature of each temperature zone can be set in advance, uniform temperature in the temperature zone, use high-quality insulation materials, good insulation performance, high thermal efficiency. Temperature control system, automatic temperature control and constant temperature, flexible operation, high safety performance.
4. Oil Spraying: Spray oil on the surface of biscuits coming out of the baking oven to make the color, aroma and taste of the biscuits more distinctive and improve the grade of the biscuits.
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.

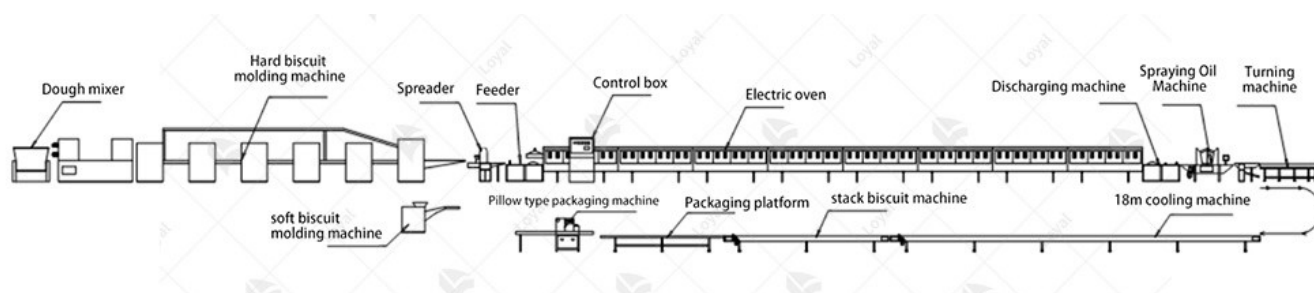
6. Biscuit Stacking: sort biscuits and pick out unqualified



products.

## Technical specifications of hard biscuit production line

Model	Output
LY-320	80-100kg/h
LY-400	150-200kg/h
LY-600	400-500kg/h
LY-800	600-800kg/h
LY-1000	1000kg/h
LY-1200	2000kg/h



## Layout for the hard biscuit production line

Our machines can be flexibly arranged according to the size and dimensions of the factory. We can also customize the size of the machine according to the data you provide.

## Sample of hard biscuit equipment



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

## **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.



## 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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Hard biscuits are a golden track that can withstand the test of the market! From a century-old military ration to a modern healthy snack, it has conquered the world with its solid taste and lasting satiety. The new formula of whole wheat, low sugar, and high fiber is more in line with the health trend, and there is a strong demand in online and

offline channels.

Every piece of hard biscuits is a testimony to quality! Your professional recommendation allows consumers to experience the perfect combination of classic and innovation. Seize the trend of healthy snacks and use this "toughness" to open up the market. Small biscuits can also make a big difference.

For more information, please visit the Facebook page:

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