

## **Nutritional powder: a portable revolution of scientific formula**

### **Nutrition evolution from laboratory to life scenes**

The emergence of nutritional powder marks another innovation in the way humans take in nutrition. Whether it is protein powder brewed by fitness enthusiasts, formula milk powder for infants and young children, or complete nutritional powder supplemented by middle-aged and elderly people, this seemingly simple powdered product is a deep combination of nutrition, food engineering and consumer demand. Next, I will introduce the types of nutritional powder and [nutritional powder production lines](#).

Nutritional powder is a powdered supplement made by concentrating nutrients such as protein, vitamins, and minerals through modern food technology. It has the characteristics of precise nutrition, rapid absorption, and convenient consumption.

According to its formula and purpose, nutritional powder is mainly divided into three categories: protein powder, meal replacement powder, and complete nutrition powder. Each category has significant differences in ingredients, applicable populations, and usage scenarios.



## Protein powder

### 1. What is protein powder?

Protein powder is protein extracted from food (such as milk,

soybeans, peas, etc.), processed into powder, and convenient to replenish at any time. It is not a "chemically synthesized product" but a concentrated form of natural protein.

## 2. Common types of protein powder

(1) Whey protein powder: comes from milk, absorbs quickly, and is suitable for drinking after exercise.

(2) Plant protein powder: comes from soybeans, peas, etc., suitable for vegetarians or people who are allergic to milk.

(3) Casein powder: digests slowly, suitable for drinking before bedtime to help muscle repair at night.

## 3. Who needs protein powder?

(1) Fitness people: help muscle growth and recovery.

(2) People with unbalanced diets: If you usually eat less meat, eggs, and milk, you can supplement appropriately.

(3) Middle-aged and elderly people: prevent muscle loss and maintain physical vitality.

(4) People who want to lose weight: a high-protein diet can increase satiety and reduce hunger.

#### 4. How to drink protein powder?

Preparation method: 1 scoop of protein powder + 200-300ml of water/milk, shake well.

Best time:

(1) Within 30 minutes after exercise (whey protein)

(2) Before bedtime (casein)

(3) Breakfast or snack (meal replacement supplement)



## 5. Is protein powder safe?

(1) Normal drinking is risk-free: as long as it is not excessive (usually 1-2 scoops per day), it will not hurt the kidneys or the body.

(2) Choose a regular brand: avoid inferior products with added sugar or flavors.

## 6. Protein powder cannot completely replace food

Although protein powder is convenient, natural foods such as meat, eggs, beans, etc. in the daily diet are still important. They also contain other vitamins and minerals.

## **Meal replacement powder**

### 1. Meaning:

The main feature is "easy to eat and filling", which is used to temporarily replace a meal. The focus is on "low intake", which helps you control calories or deal with situations where you don't have time to eat.

### 2. Common types:

(1) Cereals and grains: such as oatmeal meal replacement powder and red bean and coix seed powder, which taste like porridge;

(2) Milkshake flavors: chocolate and matcha flavors, like desserts but low in calories;

(3) High fiber: with chia seeds and konjac powder, you

won't feel hungry easily after drinking it.

### 3. Who needs it?

(1) People who want to lose weight in the short term and need to control their food intake;

(2) People who are too busy at work and often miss meal times;

(3) Lazy people who are too lazy to cook and want to just have a bite.

### 4. How to drink it?

(1) Which meal to replace: It is recommended to replace breakfast or dinner;

(2) What to pair with: Add an egg and a handful of nuts to supplement protein and fat;

(3) Don't make a mistake: Avoid those with high pure sugar content.





## Complete Nutrition Powder

### 1. Meaning:

The goal is to "complete nutrition", a "meal replacement" designed for people who don't eat enough or eat poorly. The calories are close to a normal meal, and the nutrition is



more balanced.

## 2. Common types:

- (1) Basic all-round type: protein + vitamins + minerals, similar to "liquid nutrition meal";
- (2) Targeted population type: Special for the elderly (easy to digest), special for patients (high protein and low fat);
- (3) Function-enhanced type: Add probiotics, calcium, iron, zinc, etc., suitable for specific needs.

## 3. Who needs it?

- (1) People with weak chewing or digestive abilities such as the elderly and patients;
- (2) Workers who eat takeout for a long time and do not consume enough vegetables and meat;
- (3) People who need to quickly supplement nutrition after recovery from surgery.

## 4. How to drink it?

- (1) Replace a meal: It can be eaten directly as a meal, but it should not be too diluted when brewed with warm water;

(2) Flexible combination: Add it to porridge when you have a poor appetite, or mix it with yogurt;

(3) Pay attention to taboos: People with diabetes should choose sugar-free products, and those with special diseases such as kidney disease should follow the doctor's advice.

The advantages are:

(1) Accurate quantification: The nutritional content of each serving is clear to avoid insufficient or excessive intake;

(2) Efficient absorption: Small molecule processing improves bioavailability;

(3) Flexible scenarios: Ready to drink, adapt to fast-paced life.

From raw materials to finished products, how is the nutritional powder production line produced? What equipment does it require? How does it work? Please continue to follow this article.

## **Nutrition power production line flow chart**

(Raw material crusher)--Powder mixer---Screw conveyor---Twin screw extruder--Air conveyor--Oven--Crusher---Horizontal mixer---Hoister---(Packaging machine)



## The function of nutrition power production line

1. Powder mixer: Mixer makes the raw material adding to water and other chemical additive fully mixed
2. Screw conveyor: Screw conveyor is advantage is suit for powder item that is bad fluidity. In food processing industry, it is for conveying flour, powder additives, seasoning powder ect. Here is used to elevate the mixed raw materials to extruder.
3. Twin screw extruder: The extrusion system in a large nutrition powder process line is designed to handle a high volume of product and may include multiple

extruders running in parallel. These extruders are typically larger than those used in a smaller process line, and can produce a wide range of shapes and sizes.

4. Air conveyor: Used to carry products to the next machine.
5. Oven: This machine is used to dry the snacks food. The heating temperature and the drying speed can be adjust. The temperature can be controlled willfully and designed according to the need.
6. Crusher: Grinding the extruded granules into required sizes of powder or smaller granules with the help of mesh screen.
7. Horizontal mixer: The powder is mixed with other ingredients to create a homogeneous blend. The mixing process is important to ensure that the powder has a consistent nutrient profile, texture, and flavor.
8. Packaging machine: Finally, the dried powder is packaged in a suitable container and labeled for distribution. Packaging is an important step to ensure that the product remains fresh and free from contamination during transportation and storage.

## **Samples Produced By Nutrition Powder Equipment**



## **Key Evaluation Characteristics of Nutrition Powder Making Machine**

Nutrition powder making machines are important equipment in the fields of health food industry, fitness studio, and

personalized nutrition supplement for families. Choosing a suitable machine requires comprehensive consideration of production efficiency, raw material compatibility, finished product quality, safety, and intelligence. The following is a detailed analysis of the evaluation characteristics to help you make a scientific decision.

## 1. Core production capacity

### 1. Production capacity and efficiency

Hourly/daily output: small equipment (10-50kg/day) is suitable for families or small studios, and large equipment (100-1000kg/day) is suitable for OEMs or brand owners.

Batch processing volume: Single mixing capacity (such as 5kg/time vs. 50kg/time) affects production flexibility.

Automation level: Fully automatic equipment (one-button operation) is more efficient than semi-automatic (requiring manual intervention).

## 2. Raw material compatibility

Powder type: Can it handle different ingredients such as



protein powder, dietary fiber, vitamin premixes, etc.?

Particle size requirements: Does it support ultra-fine grinding (such as 200 mesh or above) to meet high solubility requirements?

If the above introduction makes you interested in the nutritional powder production line and want to find a supplier, I will introduce it to you next.

## **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.

In this era of pursuing efficiency and health, nutritional powder has become an ideal choice for modern people to supplement nutrition with its scientific formula and convenient characteristics. And a high-quality production line is the key to ensuring that every serving of nutritional powder is safe, pure and efficient!

Choosing our production line means choosing quality and



trust! Let us work together to bring more high-quality nutritional products to the market and help more people embrace a healthy life!

For more information, please visit the Facebook page:

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