

## **Unlock The Secret To Perfect nutrition power production line: A nutrition power production line Recipe Guide**

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At dawn, the factory machines have quietly started, as if responding to the call of the first ray of sunshine. The story of nutritional powder slowly unfolds in this gentle morning light. It is not a noisy industrial carnival, but a journey of warmth and care. Those seemingly ordinary grains, after crushing, maturation, crushing, and mixing, each process is like the precipitation of time, pouring out the persistent pursuit of healthy life.

The aroma of nutritional powder is a fusion of light wheat aroma and the original taste of grains. It is not strong, but has a gentleness that penetrates the heart. Just like the bowl of porridge slowly stirred in the hands of a mother, it carries the love for the family; it is also like the first taste memory of a child in the process of growing up, simple and profound.

The [nutritional powder production line](#) is not just a combination of steel and gears, it is more like a poem that resonates between machinery and human hearts. In every operation of this line, there is a persistence in quality, a protection of safety, and an expectation for the healthy future of every user.

All of this is not a cold industrial process, but a warm persistence, the result of blending the gifts of nature with the wisdom of technology. It tells a story about nutrition, growth, and love. And we are the recorders and guardians of this journey.



## Development history of nutritional powder

The origin of nutritional powder can be traced back to the early processing and utilization of grain by humans. When people found that grains were easier to preserve and digest after drying and grinding into powder, this primitive form of "nutritional powder" gradually formed. The earliest nutritional powders were mainly rice flour, wheat flour, and bean flour, and were usually used as dietary supplements for infants and the

weak.

Entering the 20th century, with the development of nutrition, scientists gradually realized the various nutrients needed by the human body, such as protein, vitamins, minerals and dietary fiber. Nutritional powder began to develop from a single grain powder to a compound formula powder, and its nutritional balance was enhanced by scientifically matching a variety of raw materials. Representative products of this stage include baby food powder, fortified rice flour and bean nutritional powder.

In the 21st century, with the continuous advancement of food processing technology, the production of nutritional powder has entered the stage of industrialization and refinement. Modern nutritional powders are not only more diverse, such as whole grain powder, protein powder, prebiotic powder, etc., but can also be formulated according to the population (such as the elderly, pregnant women, athletes, etc.). Low-temperature ripening, micro-crushing, aseptic packaging and other technologies are commonly used in the production process to retain the nutrition of the raw materials, improve the absorption rate, and ensure the safety and hygiene of the products.

In addition, as people pay more attention to healthy diet and plant-based nutrition, natural, additive-free, and organic nutritional powder products are becoming more and more popular, driving the entire industry to develop in a greener and healthier direction.

## **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.

Before purchasing a nutritional powder making machine or configuring an entire nutritional powder production line, companies should fully evaluate the following key factors to ensure that the equipment matches their own products, market positioning and production capacity

requirements, thereby improving the return on investment and ensuring product quality.

| Considerations                                        | Specific description                                                                                                                                                                                                                                            |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Production capacity requirements                      | Determine the daily or hourly output required (such as 200kg/h, 500kg/h, 1t/h) based on your target market and order volume to avoid equipment that is too large or insufficient, affecting operational efficiency.                                             |
| Product type and formula compatibility                | Different nutritional powders (such as baby rice powder, protein powder, and cereal powder) have different raw material properties. It is necessary to confirm whether the equipment supports multiple raw material processing and different formula switching. |
| Finished product fineness and solubility requirements | High-quality nutritional powders have high requirements for powder fineness and uniformity. Consider whether to equip them with fine processing modules such as multi-stage crushing, graded screening, and homogenization mixing.                              |
| Automation level                                      | High automation (automatic weighing, mixing, temperature control,                                                                                                                                                                                               |

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|                                            | packaging, etc.) can improve efficiency and reduce labor costs. Choose the appropriate level of automation according to the budget and the capabilities of the operation team.                                      |
| Hygiene standards and cleaning convenience | The equipment must meet food-grade hygiene standards (such as stainless steel 304/316), be easy to clean, and have no dead corners, especially suitable for the production of infant or special nutritional powder. |
| Energy consumption and operating costs     | Investigate the energy efficiency of the equipment and whether it is equipped with an energy-saving heating system or heat recovery device, which can significantly save operating costs in the long run.           |
| Brand and after-sales service              | Choose an equipment manufacturer with an industry reputation to ensure timely and reliable installation and commissioning, training guidance, accessories supply, and after-sales response.                         |
| Budget and return on investment            | Comprehensively consider factors such as equipment                                                                                                                                                                  |

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| price, maintenance cost,<br>production efficiency, and<br>finished product qualification<br>rate to ensure that the<br>overall investment has good<br>economic efficiency and<br>return cycle. |
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Nutritional powder manufacturing equipment is not only a technical investment, but also a guarantee of brand quality and production capacity. Before purchasing, it is recommended to communicate in depth with professional food machinery manufacturers to customize an overall solution suitable for their own product line.





## 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.

When the last process is slowly completed, the packages of nutrient powder are neatly packed and waiting to depart. They are no longer just products, but also gifts that carry heart. From the field to the workshop, from raw materials to finished products, every link is a continuation of responsibility. It is not only a respect for the ingredients, but also a respect for every family and every life.

On this nutrient powder production line, we have witnessed the power of details and also experienced the meaning of persistence. The machine runs calmly, but the heart is always warm. Because we know that behind this spoonful of nutrient powder is the health of children, the peace of mind of the elderly, and countless seemingly insignificant but deeply warm moments in daily life. I hope that this intention can quietly take root in people's lives and grow into a simple happiness.



## Reference

The following are five authoritative foreign literature websites in the field of Industrial food machinery:

1. Food Engineering Magazine

Website: <https://www.foodengineeringmag.com/>

## 2. Food Processing Magazine

Website: <https://www.foodprocessing.com/>

## 3. Journal of Food Engineering

Website: <https://www.journals.elsevier.com/journal-of-food-engineering>

## 4. Food Manufacturing Magazine

Website: <https://www.foodmanufacturing.com/>

## 5. International Journal of Food Science & Technology

Website: <https://onlinelibrary.wiley.com/>