

Everything You Need To Know About pet food production line

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As the pet economy is booming, the quality and safety of pet feed have attracted much attention. As the key to producing high-quality pet feed, the [pet feed production line](#) consists of various components that work together like precision gears to create delicious food that meets the nutritional needs of pets. Next, let's take a closer look at each "capable person" in this [pet food production line](#).

Grain grinder: Pioneer in the Journey of Fine Raw Materials

Grain grinder is the startinction is to grind various raw materials into fine powder, laying the foundation for subsequent processing. In the grinding process, powder fineness is the key indicator, which can reach 60-120 mesh. Different pet feed products have different requirements for powder fineness, but for common pet feed, 60 mesh is sufficient. For example, grain raw materials such as corn and wheat are converted into uniform fine powder after high-speed grinding by grain grinder. This process not only helps to improve the taste of feed, but also promotes digestion and absorption of pets. Moreover, grain grinder is easy to operate, has high production efficiency, and can stably supply qualified raw material powder for subsequent production links.



Bone Crusher: An Efficient Crusher for Bone Raw Materials

The bone crusher plays an important role in processing animal bone raw materials in the pet food production line. It adopts a claw-type crushing structure, which makes the crushing process more efficient. Its crushing blade is made of high-quality alloy steel and has been specially treated to have excellent wear resistance and hardness.

Whether it is fresh bones of livestock such as cattle, pigs, and sheep, or dried bones, the bone crusher can easily handle it and crush it into particles of 5-80mm. In actual production, the efficient crushing capacity of the bone crusher ensures that the bone raw materials can quickly enter the next processing step. At the same time, the size of the crushed bone particles is uniform, which provides convenience for the subsequent production of high-quality bone mud.

Bone Mud Mill: A Fine Craftsman for Grinding Bone Nutrition

Bone mud mills follow the footsteps of bone crushers and further process bone raw materials. It grinds the bones processed by the bone crusher into fine powder, that is, bone mud, through the high-speed operation of mechanical blades. High-quality bone mud mills are made of special materials in the grinding blade part, which not only ensures the durability of the blade, but also ensures the grinding effect. In terms of operation, the bone mud mill is simple and easy to use, runs smoothly and reliably, is durable during use, and is very convenient to disassemble and clean. The fineness of the bone mud it grinds is usually about 200 meshes. Such fineness allows the nutrients in the bones to be fully released and better integrated into pet feed, providing pets with rich calcium, phosphorus and other minerals, which is conducive to the healthy development of pet bones.

Mixer: Precision Mixer of Nutritional Formula

The mixer is one of the core equipment in the production process of pet feed. It is responsible for mixing various raw materials according to precise formulas. In the mixer, rice powder, cocoa powder, flour, corn powder, bean powder and other grain powders, as well as a small amount of water, are mixed in specific proportions according to the needs of different products. In addition, in order to meet the nutritional needs of pets and improve the quality of products, some chemical

additives such as calcium carbonate, baking powder, pigments, etc. can also be added. The mixer has a variety of output specifications, the common ones are 25kg/time, 40kg/time, 60kg/time, etc. Taking the 25kg/time mixer as an example, each working time is about 7 minutes, and it can theoretically work 8.5 times per hour. Taking into account the rest time of workers, assuming that it can work at least 6 times per hour, its output per hour can reach 150kg. The mixer can ensure that various raw materials are fully mixed and evenly through an efficient stirring device, so that each grain of pet feed contains balanced nutrients.



Screw Conveyor: A Stable Bridge for Raw Material Transportation

The screw conveyor plays an important role in connecting various links in the pet feed process line. It is located below the powder mixer and receives the materials mixed by the powder mixer through a hopper. Its working principle is to use the motor to drive the screw inside the straight barrel to rotate, so as to smoothly convey the materials along

the spiral direction of the screw to the next equipment - the twin-screw extruder. The conveying process of the screw conveyor is stable and reliable, which can effectively avoid leakage and blockage of materials. Moreover, it can carry out continuous conveying according to production needs, ensuring the smooth operation of the production line, which is a key link in maintaining the efficient operation of the entire production process.

Twin-Screw Extruder: The Core Hub of Pet Feed Molding

The twin-screw extruder is the core equipment of the pet food production. It consists of multiple systems working together to complete the extrusion molding process of the feed.

The feeding system is the "entrance" of the twin-screw extruder. After the materials are mixed by the powder mixer, they contain a certain proportion of water. If they are not mixed, they are easy to clump and block. The feeding system is usually equipped with two stirring shafts, which can perform secondary mixing on the materials so that they can enter the extruder more evenly to ensure the continuity of the production process. The extrusion system plasticizes and extrude the materials under high temperature and high pressure. In this process, the physical and chemical properties of the materials change to form semi-finished products with specific shapes and textures. The cutter of the rotary cutting system is fixed on the die head seat and is driven by a belt to achieve rotary cutting. According to different product requirements, the corresponding mold can be replaced. The common mold diameter is 45mm, and 6 molds are usually given randomly. This enables the twin-screw extruder to produce pet feeds of various shapes, such as round, square, strip, etc., to meet the feeding habits of different pets.

The heating system provides the necessary heat for the puffing of the

material, ensuring that the material can complete the puffing process at a suitable temperature. The lubrication system ensures the smooth operation of all parts of the machine, reduces wear and extends the service life of the equipment. The control system is the "brain" of the twin-screw extruder, which is equipped with three frequency converters. The frequency converter of the rotary cutting can adjust the speed of the rotary cutting and control the cutting shape and size of the feed; the frequency converter of the main motor can adjust the screw speed, affecting the extrusion speed and puffing effect of the material; the feeding frequency converter is used to adjust the feeding speed to ensure the stable supply of the material. Through the coordinated work of these frequency converters, energy saving, speed regulation, equipment protection and other functions can be achieved, while improving the process level and quality of the product. It is worth mentioning that the screw of the twin-screw extruder has a self-cleaning function. There is no need to disassemble the screw for cleaning when the machine is stopped, which greatly saves the time and labor cost of equipment maintenance, and also avoids the product contamination caused by incomplete cleaning.



Air Conveyor: "Air Messenger" For Raw Material T ransportation

The air conveyor uses the strong wind generated by the blower to transport the raw materials processed by the twin-screw extruder to the oven. Its working principle is simple and efficient. It mixes the wind with

the raw materials through the pipeline, so that the raw materials move quickly and smoothly under the action of wind. The conveying process of the air conveyor is not only fast, but also can avoid excessive contact between the raw materials and the external environment, reducing the risk of secondary pollution. At the same time, it can be flexibly installed according to the layout of the production line and adapt to the needs of different production sites. It is an important guarantee for the continuous production of pet feed.

Dryer (Oven): "Drying Guardian" of Pet Food

Dryer, also known as oven, plays a key role in removing moisture and extending shelf life in pet food production. According to different production requirements, dryers have various specifications. In terms of the number of layers, there are single-layer, three-layer, five-layer, seven-layer, etc. to choose from; the length can also be adjusted according to actual needs, and the common ones are 6 meters, 8 meters, 12 meters, etc. In terms of heating methods, the dryer provides three options: electric heating, fuel gas heating, and steam heating. Electric heating is achieved by laying heating pipes. This method is simple to operate and heats evenly; the equipment structure of fuel gas heating is similar to electric heating, but the burner is different, and its heating efficiency is higher; the cost of steam heating is relatively high, and steam pipelines need to be laid, but its heating effect is stable and can meet the needs of large-scale production. For pet food, it is generally necessary to heat at a temperature of 100-120° for about twenty minutes to achieve the ideal drying effect. Through the treatment of the dryer, the moisture content of pet food is effectively controlled, which not only tastes better, but also can maintain stable quality during storage.



Single-Drum Seasoning Line: The "Delicious Magician" Of Pet Feed

The single-drum seasoning line is the last "flavor shaping" process in pet feed production. After the product comes out of the oven, it first enters the seasoning barrel through the elevator. In the seasoning barrel, the oil sprayer sprays oil evenly on the surface of the product. The oil not only increases the gloss of the product, but also helps the

seasoning to adhere to the product better. As the seasoning barrel rolls, the material is constantly stirred in it, so that each grain of feed can be fully coated with seasoning. The pet feed produced in this way is not only nutritious, but also has a variety of flavors, which can meet the taste preferences of different pets and increase the enthusiasm of pets to eat. Every machine in the pet food production line is indispensable. They each play a unique role and together constitute an efficient and stable production system. With the continuous development of the pet industry, this production line will continue to upgrade and innovate to provide pets with more high-quality, delicious and nutritious food to help pets grow healthily.

For food companies, choosing the Shandong Loyal Industrial Co., Ltd production line is not only about obtaining a production equipment, but also about obtaining the key to the global fast food market - from classic flavors to innovative forms, from regional brands to international giants, it has always helped customers to continue to lead the competition with stable performance and excellent quality.

The products are perfect, and the mesh belt dryer, energy room drying, drying and sterilization equipment, single and twin-screw puffed food machinery machinery and equipment equipment are becoming more and more popular now. Myanmar, Thailand, India, Pakistan, Kazakhstan, Uzbekistan, Turkmenistan , Jordan , Yemen, Iraq, Egypt , Algeria, Morocco , come Shandong Loyal Machinery has won wide acclaim at home and abroad. In the future, we will continue to provide higher quality equipment and better services.

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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/>