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宠物食品加工 关键技术及装备

Key Technology and Equipment
for Pet Food Processing

信誉铸本优 精品迎未来

BETTER CREDIBILITY & BETTER QUALITY TO CHANGE THE FUTURE

B E Y O N D

1 鲜肉添加生产线 鲜肉添加生产线加工工艺

Fresh Meat Addition Production Line
Fresh Meat Addition Production Line Process Flow



鲜肉添加生产线关键设备 Key Equipment for Fresh Meat Addition Production Line

双轴破碎机 Twin-shaft Crusher

设备描述: 双轴破碎机, 是中、轻载荷剪切式破碎机。该产品配置了单电机减速机, 通过齿轮分速箱驱动两套刀轴同时运转。设备体型紧凑, 而其核心却十分强大, 合金刀材、多种防护、整体式减速机轴承座。

主要特点: A 双轴破碎机单机产能大, 可以满足目前不断增大的产能和规模化生产的需求;
B 适用鸡肉、鸡骨架、鸡肝、鱼等各种原料的加工需求;
C 破碎大小均匀。

应用领域: 双轴破碎机主要用于动物胴体、大型动物骨类、各种-18℃冻板的破碎。

Equipment Description: Twin-shaft crusher is a medium and light load shear crusher. It is equipped with a single motor reducer, which drives two sets of knife shafts to run at the same time through a gear splitter box. The equipment is compact in size while its core is very powerful with alloy knife material, multiple protection and integral speed reduction bearing seat.

Main features: A. Twin-shaft crusher has large capacity per machine, which can meet the increasing production capacity and large-scale production needs nowadays;

B. Applicable to the processing needs of various raw materials such as chicken meat, chicken bones, chicken livers, fish, etc;
C. Stable size of crushing.

Application areas: Twin-shaft crusher is randomized mainly used for animal carcasses, large animal bones, a variety of -18℃ frozen plate crushing.



绞肉机 Meat Grinder

设备描述: 冻肉绞肉机是依靠螺杆将料斗中的原料推送至预切板, 通过螺杆的旋转挤压使孔板与绞刀产生相对运转, 从而将原料肉切成颗粒状。

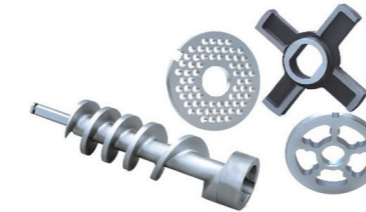
主要特点: A 设备通用性好、适用范围广、生产效率高;
B 具有冻肉绞肉功能, 省时、省力、保鲜、保质;
C 绞切过程用时短、温升低, 利于保鲜, 延长保质期;
D 多种孔板组合, 更适合不同肉制品的要求。

应用领域: 绞肉机主要应用广泛的肉类、软骨加工设备, 其可以将原料肉绞碎后用于生产, 或者用于后期的研磨, 或者去斩拌。

Equipment description: Frozen meat grinder use screw to push the raw material in the hopper to the pre-cutting plate, rotating and squeezing of the screw make the hole plate and the reamer operate relatively, so as to cut the raw meat into particles.

Main features: A. Good versatility of the equipment, wide range of application, high production efficiency;
B. Frozen meat grinding function, time-saving, labor-saving, freshness and quality preservation;
C. Short time and low temperature rise in the grinding and cutting process, which is good for freshness preservation and prolongs the shelf life;
D. A variety of hole plate combination, more suitable for the requirements of different meat products.

Application areas: Meat grinder has main application of a wide range of meat, cartilage processing equipment, which can be used to grind raw meat for production, later grinding or chopping.



精磨机 Fine Mill

设备描述: 精磨机在胶体磨基础上, 优化磨头机构, 使物料进出更加顺畅, 耐磨程度更好, 同等功率型号具有较大的处理能力。

主要特点: A 优化磨头机构, 使物料经过较短的研磨, 经过大间隙到小间隙的研磨, 同等功率型号具有较大的处理能力;
B 除磨头外全部采用SUS304材质制作, 无污染、易清洗。

应用领域: 在宠物食品加工中用于粗磨, 将物料进一步的粉碎, 同时使物料有一定的温升, 有利于输送, 解决冻板输送问题。

Equipment Description: On the basis of colloid mill, the fine mill optimizes the grinding head mechanism, which makes the material in/out more smoothly with better wear resistance and larger processing capacity for the same power model.

Main features: A. Optimizing grinding head mechanism, after a shorter grinding through the large gap to the small gap, which enables the same power model has a larger processing capacity;
B. Except for the grinding head, all the materials are made of SUS304, pollution-free and easy to clean;

Application areas: Used for coarse crushing in pet food processing. The material will be further crushed and have a certain temperature rise conducive to conveying, solving the problem of frozen plate conveyance.





骨泥磨 Bone Mud Mill

设备描述: 骨泥磨主要应用于宠物食品、香精香料、骨汤、调味料等行业；它采用的转用齿形磨头硬度更高，物料在粉碎室内通过研磨与挤压的相互作用下乳化粉碎，被加工成细腻、组织均匀的产品。

主要特点: A 专用磨头强度高，适用猪骨、牛骨、鸡骨等各种原料；

B 除磨头外全部采用SUS304材质制作，无污染、易清洗。

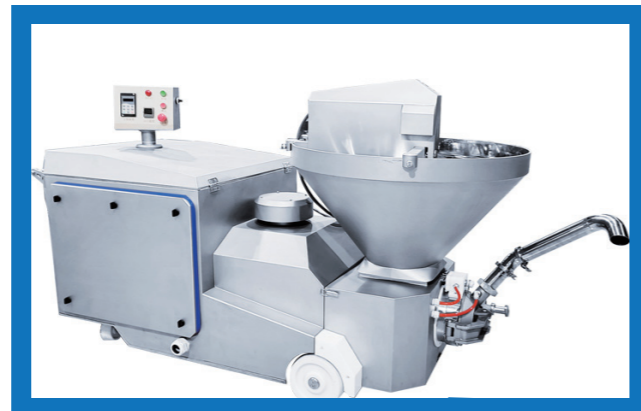
应用领域: 骨泥磨主要应用于香精香料、宠物食品等行业，其对骨类、肉类物料进行粉碎、研磨打到一定的细腻程度，满足生产要求。

Equipment Description: Bone Mud Mill is mainly used in pet food, flavors and fragrances, bone broth, seasoning and other industries. It adopts the special toothed grinding head with higher hardness. The material is emulsified and crushed into fine, uniformly organized products in the crushing chamber through the interaction of grinding and squeezing.

Main features: A. Special grinding head with high strength, suitable for pig bone, cow bone, chicken bone and other raw materials;

B. Except the grinding head, all made of SUS304 material, pollution-free and easy to clean.

Application areas: Bone mud mill is mainly used in flavors and fragrances, pet food and other industries. It crushes and grinds bone, meat materials to a certain degree of fineness to meet the production requirements.



乳化机 Emulsifier

设备描述: 乳化机较骨泥磨有更好的乳化、粉碎作用，生产的物料组织更加细腻，对骨肉加工中较难剔除的筋膜、鱼刺等有一定的粉碎细化作用，使目前较好的研磨设备。

主要特点: A 乳化后物料更细腻，有一定的乳化效果，产品体相更稳定；

B 肉类产品蛋白析出率高，从而提高了产品出品率；

C 乳化机工作时，物料一次性通过，因此产品温升小及组织破坏小，使产品品质提高；

D 机器结构紧凑，运行可靠，机体及主要零件及传动部件则采用不锈钢和优质钢材加工制造，符合食品卫生要求；

E 乳化机头总成具有较高的精密度，能有效的控制和提高乳化效果，刀组安装有严格的使用操作规范指导。

应用领域: 对骨类、肉类物料进行粉碎、细化、剪切、乳化，达到生产所需颗粒度，降低筋膜、鱼刺等对后期的影响。

Equipment description: Emulsifier has better emulsification and crushing effect than bone slurry mill and the organization of the material produced is more delicate. It has certain crushing and refining effect on the fascia and fish splinter more difficult to be removed in the processing of bone and meat, which makes it a better grinding equipment at present.

Main features: A. The material is more delicate after emulsification with certain emulsification effect, and the product phase is more stable;

B. The protein precipitation rate of meat products is high, which improves the product yield;

C. When the emulsifier working, the material passes at one time, so the temperature rise of the product and the destruction of the organization are small, which improves the quality of the product;

D. The machine has compact structure and reliable operation while the body and main parts and transmission parts are processed and manufactured by stainless steel and high quality steel, which meets the requirements of food hygiene;

E. The emulsifier head assembly has high precision, which can effectively control and improve the emulsification effect. The knife set installation is guided by strict use operation specification.

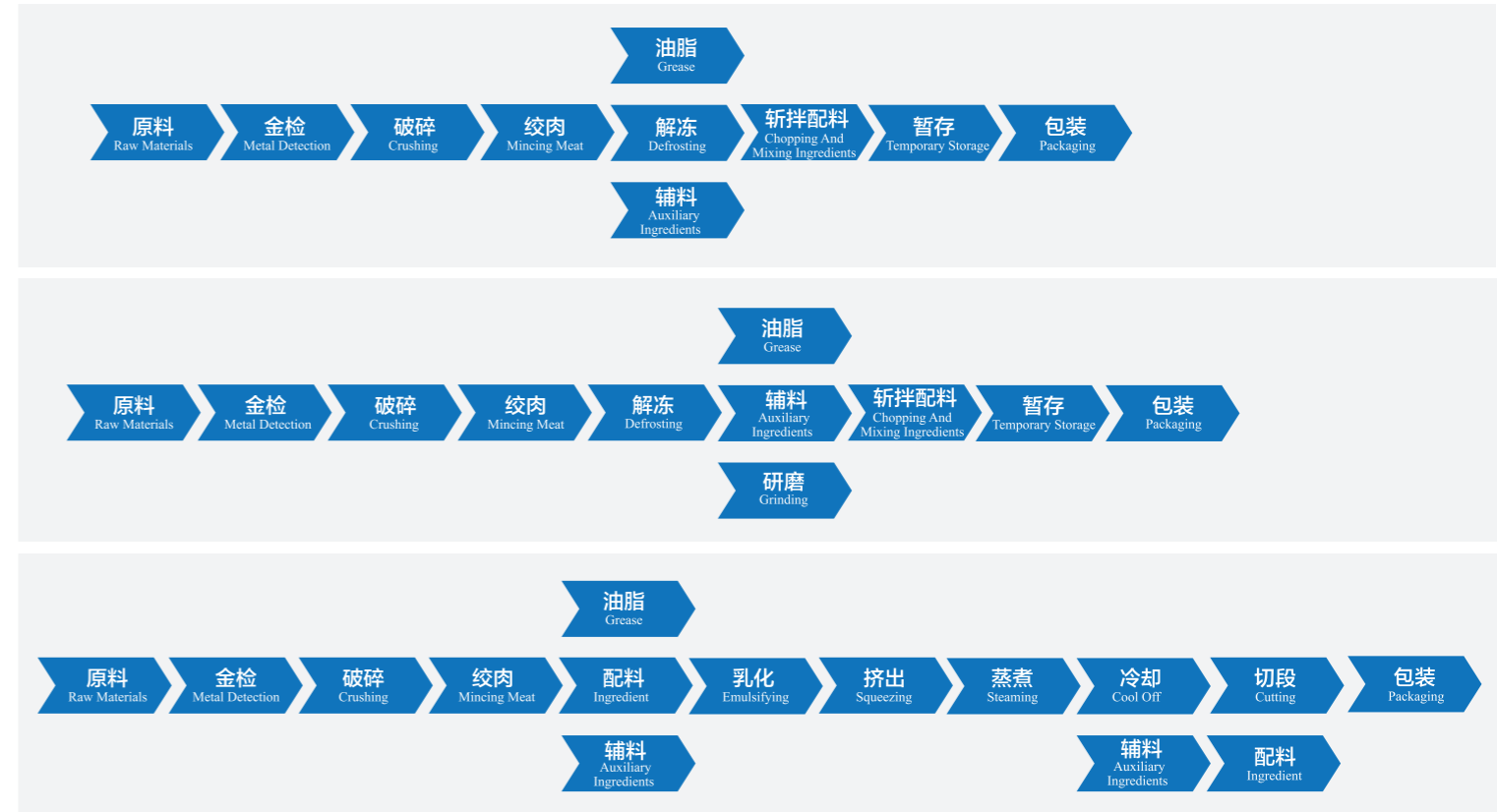
Application areas: Crushing, refining, shearing and emulsifying for bone and meat materials to achieve the required granularity for production and to reduce the impact on the later stage from fascia, fish spines, etc..

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湿粮加工生产线 湿粮加工生产线加工工艺

Wet Pet Food Production Line

Wet Pet Food Production Line Process Flow



湿粮加工生产线关键设备

Key Equipment for Wet Pet Food Process Line



双螺带混合机 Double Screw Belt Mixer

设备描述: 双螺带混合机是高粘度高固含量混料的必备设备，其效率高，便于操作，搅拌的均匀，适合各种工艺要求。

主要特点: A 采用食品级SUS304制作，符合食品卫生要求，可CIP清洗；

B 设计合理、操作灵活简便，搅拌可设定间歇时间及搅拌程序，大大提高工作效率；

C 主轴采用双轴承结构，提高了搅拌效率及搅拌效果。正反转自由控制，自动出料，桨叶形式有多种选择；

D 采用减速机齿轮链条传动/减速机直连传动，机器运动平稳可靠、噪音低，适合各种工艺要求。

应用范围: 主要应用于粉体、半固体、肉类和油脂等的搅拌混合，是宠物湿粮加工，肠类产品、丸类产品的优选设备。

Equipment Description: Double screw belt mixer is the very necessary equipment for high viscosity and high solid content mixing materials, highly efficient, easy to operate and suitable for a variety of process requirements.

Main features: A. Made of food grade SUS304, meets food hygiene requirements, CIP cleanable;

B. Reasonable design, flexible and easy operation. Mixing time and mixing programs can be set, greatly improving work efficiency;

C. The spindle adopts double bearing structure, which improves the mixing efficiency and mixing effect. Forward and reverse free control, automatic discharge, various options of paddle forms;

D. Adopting gear chain drive/reducer direct drive, the machine movement is smooth and reliable, low noise, suitable for a variety of process requirements.

Application scope: Mainly used in the mixing and blending of powder, semi-solid, meat and grease, etc. It is the preferred equipment for the processing of pet wet food, intestinal products and pills.





真空上料机 Vacuum Feeding Machine

设备描述: 真空上料机是由真空泵、真空料斗、过滤器、真空阀、脉冲反吹装置、气动放料阀、电控装置等组成;借助电动真空泵产生的负压气流带动粉、粒体物料向前流动进入真空料斗,过滤器起到物料与空气分离的作用,将干净的空气通过滤芯排入大气当中。

- 主要特点:**
- A 为粉体转运提供较清洁的转运方式;
 - B 配合无尘投料站适用,改善车间环境,物料无尘车间提供可能;
 - C 配合管风机使用可实现连续下料;
 - D 快装卡箍连接,便于拆装和清洗、符合卫生要求。

主要功能: 真空上料机广泛运用于化工、医药、食品、冶金等行业。



Equipment Description: Vacuum feeding machine is composed of vacuum pump, vacuum hopper, filter, vacuum valve, pulse blowback device, pneumatic discharge valve, electronic control devices, etc.; With the help of negative pressure air flow electric vacuum pump produces, driving the powder, granular materials flow forward into the vacuum hopper; The filter separate the material from the air and discharges clean air into the atmosphere through the cartridge.

- Main features:**
- A. Cleaner method for powder transfer;
 - B. Improve the workshop environment with dust-free feeding stations;
 - C. Continuous discharging can be realized with the use of shut-off fan;
 - D. Quick-fit clamp connection, easy to disassemble and clean, in line with sanitary requirements.

Main function: Vacuum feeding machine is widely used in chemical, pharmaceutical, food, metallurgy and other industries.



蒸煮隧道 Cooking Tunnel

设备描述: 隧道式的蒸煮机可实现连续化的物料蒸煮定性,对不同的蒸煮物料的加工蒸煮的时间和蒸煮的温度会有一定的温度的区别,温度和时间可调节。切设别密封好,避免跑汽、漏气等问题,设计保温层,起到保温保热的作用。

- 主要特点:**
- A 设备设计挡帘,进出料端加长,避免蒸汽跑汽问题;
 - B 采用不锈钢链板设计,方便清洗;
 - C 全自动控制,温度、时间可调;
 - D 分段式温度,使物料受热更加均匀。

应用领域: 蒸煮隧道主要应用在宠物食品行业重组肉粒的原料蒸煮,酿酒行业的原料蒸煮拌曲、肉品加工行业原料肉的蒸煮。

Equipment Description: The tunnel-type cooking machine can realize continuous cooking and qualitative cooking of materials. There will be a certain difference in the processing time and cooking temperature of different cooking materials, the temperature and time can be adjusted. The equipment is well sealed to avoid problems such as steam leakage and air leakage, insulation layer is designed for heat preservation.

- Main features:**
- A. Equipment designed with a curtain, the inlet and outlet ends are lengthened to avoid the problem of steam leakage;
 - B. Stainless steel chain plate design, easy to clean;
 - C. Fully automatic control, adjustable temperature and time;
 - D. Segmented temperature makes the material heated more evenly.

Application fields: The cooking tunnel is mainly used in the cooking of raw materials for recombined meat in the pet food industry, cooking of raw materials in the brewing industry, and cooking of raw meat in the meat processing industry.



风味剂生产线 风味剂生产线加工工艺 Flavor Production Line Flavor Production Line Process Flow



风味剂生产线关键设备

Key Equipment of Flavor Production Line



酶解反应罐 Enzymolysis Reaction Tank

设备描述: 酶解反应罐,其为三层夹套保温罐体,按压力容器设计,可升降温,配置多种搅拌形式,主要功能为酶解、灭酶、降温、美拉德反应等功能。

- 主要特点:**
- A 与物料接触材质为SUS316L材质;
 - B 内表面镜面抛光处理粗糙度Ra<0.4 μm;
 - C 全夹套设计,升降温速度快、效率高;
 - D 可选择配置框式刮壁搅拌、框式刮壁+顶部剪切搅拌、框式刮壁+底部剪切+偏心高速桨式搅拌、同轴框式刮壁+桨式搅拌;
 - E 罐体压力、温度、液位自动检测;
 - F 各进出管口、视镜、人孔等工艺开孔与内罐体焊接处均采用翻边工艺圆弧过渡,光滑易清洗无死角,外表美观

应用领域: 酶解反应罐广泛用于宠物食品、食品、制药、日化等行业。

Equipment description: Enzymolysis reaction tank, which is a three-layer jacket tank with insulation, designed according to the pressure vessel standard, temperature adjustable, equipped with various stirring forms, the main functions are enzymolysis, enzyme elimination, cooling, Maillard reaction and other functions.

- Main features:**
- A. Product contact part SUS316L material;
 - B. Mirror polishing treatment on the inner surface, Ra<0.4μm;
 - C. Full jacket design, fast heating and cooling, high efficiency;
 - D. Optional mixer including frame scraper agitation, frame scraper + top shear agitation, frame scraper + bottom shear + off-center high-speed paddle agitator, coaxial frame scraper + paddle agitator;
 - E. Tank pressure, temperature, liquid level automatically detected;
 - F. Flanging process arc transition is used for the welding of the inlet and outlet nozzles, sight mirrors, manholes and other process interface and the inner tank body, which is smooth and easy to clean without dead ends, beautiful appearance.

Application field: Enzymolysis reaction tank is widely used in food, pet food, pharmaceutical, daily use chemical and other industries.





水粉混合器 Water-powder Mixer

设备描述: 水粉混合器是利用磨盘高速旋转的吸力将粉体物料吸入高速旋转流通的流体中,从而实现液体和粉体的混合,可地面低位投料,避免罐体直投粘罐壁、回汽、跑粉问题,,避免直投结团问题。

主要特点: A 叶轮采用SUS304制作,卫生便于清洗;
B 皮带轮传动,机械密封密封,运行稳定,无泄露;
C 不仅解决投料问题,同时对物料进行乳化、分散混合。

应用领域: 水粉混合器主要应用在化糖,化奶粉等粉体物料。

Equipment description: The water-powder mixer uses the suction force of the high-speed rotation of the grinding disc to suck the powder material into the high-speed rotating fluid, so as to realize the mixing of liquid and powder, possible of feeding at ground level, avoid The problem of inner wall stick by direct feeding, air return and powder waste, avoiding the problem of clumping caused by direct feeding.

Main features: A. The impeller is made of SUS304, hygienic and easy to clean;

B. Pulley drive, mechanical seal, stable operation, no leakage;

C. Not only solves the problem of feeding, but also emulsifies, disperses and mixes the materials.

Application field: Water-powder mixer is mainly used in powder materials such as sugar and milk powder.



刮板过滤器 Scrape Filter

设备描述: 刮板式过滤器为动态排渣自清洁过滤器,通过气缸或电机带动刮刀自清除内表面的固体颗粒杂质,杂质被刮到排污口排出,可实现连续在线过滤。

主要特点: A 通过PLC定时清洗或压差保护清洗,保持过滤网清洁;
B 刮刀采用PTFE耐磨刮板,使用寿命长;
C 密闭过滤,防止物料泄露,确保车间环境卫生和生产安全;
D 配置上盖辅助提升机构,操作简单。

应用领域: 刮板过滤器应用广泛,在化工、生物、食品、制药、造纸、钢铁、电子、汽车等领域皆有应用。

Equipment Description: The scrape filter is the dynamic self-cleaning filter that utilizes a cylinder or motor to drive the scraper to remove solid particulate impurities from the inner surface. The impurities are scraped and discharged through the drainage outlet, allowing for continuous online filtration.

Main features: A. The PLC-timed cleaning or pressure difference protection cleaning is adopted to maintain the cleanliness of the filter screen;

B. The scraper adopts PTFE wear-resistant blade, which has a long service life;

C. Sealed filtration prevents product leakage, ensuring workshop cleanliness and production safety;

D. Equipped with an upper cover auxiliary lifting mechanism for easy operation.

Application fields: The scrape filter is widely used in various industries, including chemical, biotechnology, food, pharmaceutical, papermaking, steel, electronics, automotive and more.



液体添加系统 液体添加系统工艺

Liquid Addition System
Liquid Addition System Process Flow



液体添加系统关键设备

Key Equipment of Liquid Addition System



高剪切罐 High Shearing Tank

设备描述: 顶部剪切是在常规罐体的基础上配置了顶部高速剪切乳化头,在筒体内侧配置紊流板,运行过程中物料成双D型运行状态,尤其使用低密度粉体的化料,粉体和液体经过剪切头进行分散、剪切、乳化、混合。

主要特点: A与物料接触材质可根据客户要求进行选择SUS304/316L材质;
B 顶部剪切头转速2900 r/min;
C 可根据客户要求做加热或降温夹套;
D 采用PU聚氨酯发泡或岩棉保温;

应用领域: 顶部剪切罐在宠物食品、乳品、饮料、调味品、化工等行业的化料、混合、乳化、调配工序有比较广泛的应用。

Equipment description: The high shearing tank is equipped with the top-mounted high-speed shear emulsifying head and turbulence plates on the inner side of the tank body on a regular tank basis. During operation, the product materials exhibit a double D-shaped flow pattern. It is particularly used for blending low-density powder materials, where powders and liquids are dispersed, sheared, emulsified and mixed through the shear head.

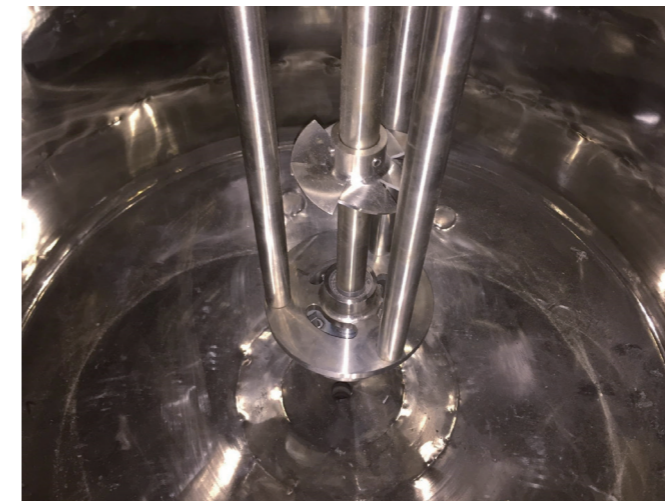
Main features: A. Parts material contact with the product can be customized, such as SUS304/316L material;

B. Top shear head speed 2900 r/min;

C. Heating or cooling jacket can be provided based on customer requirements;

D. PU or rock wool for insulation.

Application fields: The top-mounted shear tank finds extensive application in industries such as pet food, dairy products, beverages, seasonings, chemicals, and other processes involving material blending, mixing, emulsifying, and formulation.





大型室外储罐 Large Outdoor Storage Tank

设备描述: 大型室外储罐一般和槽罐车配套使用，一般配置等于或大于槽罐车的容积，采用底部裙座、底部夹套、搅拌、检查井、顶部呼吸阀、检修围栏等设计。

- 主要特点:**
- A 采用全保温设计，保温厚度100mm，保温材质PU聚氨酯发泡或岩棉保温；
 - B 根据物料不同采用内置底部环形盘管、底部半圆盘管加热；
 - C 可配置无菌氮气气压系统，放置油脂、糖浆等的酸败、氧化，有利于物料长期储存；
 - D 可配置大型牛角式清洗球，确保清洗效果。

主要功能: 室外大型储罐在宠物食品、食品领域主要室外油脂储罐、糖浆储罐、奶仓、酱油、醋等的储罐。

Equipment description: The large outdoor storage tank is typically used with tanker truck, capacity equal to or greater than tanker truck. It includes configuration such as bottom skirt, bottom jacket, agitation, inspection manhole, top breather valve and inspection fence.

- Main features:**
- A. Fully insulated design with 100mm insulation thickness, using PU or rock wool as the insulation material;
 - B. Heating options include internal bottom ring coils or bottom semi-circular coils, depending on products;
 - C. Can be equipped with the sterile nitrogen pressurization system, beneficial for preventing acidification and oxidation of oils, syrups, and other materials, ensuring long-term storage;
 - D. Can be fitted with large horn-shaped cleaning balls to ensure effective cleaning.

Main functions: Large outdoor storage tanks are mainly used in the pet food and food industries for outdoor storage of oil, syrups, dairy products, soy sauce, vinegar and other liquids.



计量添加机组 Metering and Adding Unit

设备描述: 计量添加机组，一般由计量罐、搅拌缓冲罐、供料泵组成，实现计量、缓冲、搅拌混合、添加一体化，适用小批量、多批次、多品种液体原料的添加。

- 主要特点:**
- A 配置梅特勒称重系统，与计量罐连接管道全部采用软管连接；
 - B 罐体全部为保温罐，避免室温的影响；
 - C 搅拌缓冲罐采用热水夹套设备、避免牛油等高熔点物料的添加和清洗问题。

应用领域: 主要应用于宠物食品主粮生产线喷涂机的液体添加。

Equipment description: The metering and adding unit typically consists of metering tank, mixing buffer tank and feeding pump. It achieves integration of metering, buffering, mixing and adding, making it suitable for adding small batches, multiple batches and various types of liquid raw materials.

- Key features:**
- A. Equipped with Mettler Toledo weighing system, all connecting pipes flexible hoses to the metering;
 - B. All tanks are insulated to avoid the influence of ambient temperature;
 - C. The mixing buffer tank is equipped with hot water jacket to avoid any problem during the addition and cleaning of high-melting point materials such as butter.

Application Field: Mainly used in the pet food main food production line spray machine for liquid addition.



共用关键设备 全自动CIP清洗系统

Shared Key Equipment:
Fully Automatic CIP Cleaning System

设备描述: 该系统在药品、食品、宠物食品行业有极其普遍的应用，为工业化生产解决各类清洗消毒问题，是宠物食品加工生产线（如湿粮、鲜肉、风味剂、液体添加、宠物保健品）不可缺少的设备。

- 主要特点:**
- A 全自动PLC控制、公式化流程、一键式操作；
 - B 可实现加工设备和管路系统的在线、原位清洗消毒；
 - C 可实现酸、碱、热水、回收水、清水、消毒剂等清洗介质的自动选择和清洗流程的自动切换；
 - D 可实现各介质温度和浓度的自动补偿和控制。

主要功能:

- A 对生产设备和管路系统进行在线、原位内部清洗，确保生产设备自身的干净程度
- B 对生产设备和管路系统进行在线、原位内部消毒，将生产设备自身的微生物污染降到最低

Equipment description: This system is widely used in the pharmaceutical, food, and pet food industries, providing the solutions for various cleaning and disinfection challenges in industrial production. It is an essential equipment for pet food processing production lines (such as wet pet food, fresh meat, flavorings, liquid addition and pet health products).

- Main features:**
- A. Fully automatic PLC control, standardized process flow and one-touch operation;
 - B. Enables online and in-situ cleaning and disinfection of processing equipment and pipeline systems;
 - C. Automatic selection of cleaning medium such as acid, alkali, hot water, recycled water, clean water, and disinfectants, automatic switching of cleaning processes;
 - D. Automatically control the temperature and concentration of various medium.

Main functions:

- A. Online and in-situ internal cleaning of production equipment and pipeline systems to ensure the equipment cleanliness.
- B. Online and in-situ internal disinfection of production equipment and pipeline systems, minimizing microbial contamination of the equipment.

