stationary vacuum homogenizing emulsifier for factory

Stationary vacuum homogenizing emulsifier is an equipment designed for high viscosity materials, such as creams, emulsions, etc. It is widely used in the production process of cosmetic, pharmaceutical, food and other industries.

Stationary Vacuum Homogenizing Emulsifier

Stationary vacuum homogenizing emulsifier adopts fixed structure design, easy to operate, suitable for medium to large-scale production, suitable for high viscosity materials with strict requirements on emulsification effect. Fixed vacuum emulsifier can be customized according to the customer's process requirements, providing a variety of additional features to meet different production requirements.

Features

- **Frame-type scraping wall mixing:** frame-type scraping wall design can effectively prevent the material from adhering to the wall of the pot, ensure the uniform mixing of high-viscosity materials, and improve the mixing efficiency.
- **Teflon scraper:** Teflon material scraper has good high temperature and corrosion resistance, adapting to high temperature and high pressure working environment, prolonging the service life of the equipment and reducing the maintenance frequency.

- **Internal and external homogenization structure:** internal and external homogenization emulsification system can quickly break up the particles in the material under the action of high-speed shear, to ensure the uniformity, fineness and stability of the emulsion, suitable for the production of high-grade cosmetics and pharmaceuticals.
- **Double-end face mechanical seal:** The homogenizing head adopts double-end face mechanical seal design, even if the first seal fails, the second seal can still effectively prevent leakage to ensure the safety of the production process.
- **Vacuum defoaming function:** the built-in vacuum system can effectively extract the air bubbles in the material, reduce the impact of air bubbles on the emulsification quality, improve the appearance and stability of the product.
- **Hydraulic lifting system:** the hydraulic lifting system of the equipment makes the material discharge more convenient, saves operation time and improves the production efficiency.
- **Heating system:** provide two options of electric heating or steam heating, combined with accurate temperature control system, to ensure stable temperature in the emulsification process, to adapt to the needs of different materials.
- **Cooling system:** The circulating water cooling system can effectively dissipate the heat, prevent the equipment from overheating, and keep the equipment running efficiently and safely.

- **Intelligent control system:** the equipment can be equipped with push-button control or PLC control system, the former is suitable for simple operation, the latter has a high degree of integration and intelligent functions, according to customer needs to enter the process formula, high degree of automation, and convenient for the later production management.

Working Principle

The working principle of stationary vacuum homogenizing emulsifier is mainly based on vacuum emulsification, homogenization, shear and defoaming technologies. In the emulsification process, the material passes through the homogenizing head to produce high-speed shear, breaking up the larger particles and forming a fine and uniform emulsion. The vacuum system serves to extract the air from the material to avoid uneven or unstable emulsion due to air bubbles, thus enhancing the quality of the product. The heating system regulates the temperature of the material through electric or steam heating to ensure thermal stability during the emulsification process, helping to better disperse and dissolve the solids. The mixing system ensures the uniform mixing of the materials through low speed or variable speed movement to prevent the solid materials from settling or gathering.

Application Areas

- **Cosmetic industry:** widely used in the production of high-grade skin care products, such as face cream, lotion, serum, eye cream, etc.. The high-precision emulsification and vacuum defoaming function of the equipment ensures the delicate luster and long-term stability of the products, and enhances the market competitiveness of the brand.

- **Pharmaceutical industry:** It is used for the production of medicinal creams, ointments and other products. Through fine emulsification and homogenization, it ensures the uniform distribution of drug ingredients, so as to improve the efficacy and meet the quality standard of drugs.
- **Food industry:** suitable for the production of sauces, syrups, jams, dairy products and other food products. The equipment can ensure good emulsification of high-viscosity materials to improve the taste and appearance of food quality.
- **Chemical industry:** in the production of paints, coatings, adhesives and other high-viscosity chemicals, it can effectively disperse, emulsify, homogenize and control the temperature to ensure product uniformity and stability.
- **High-precision scientific research and laboratory research:** stationary vacuum homogenizing emulsifier is also applicable to the field of scientific research, in the drug research and development, the development of new cosmetic formulations and other experimental processes, can provide high-precision emulsification and homogenization data support.