Laboratory vacuum emulsifier for cosmetic and pharma use

Laboratory vacuum emulsifier is specially used for emulsification, homogenization, mixing and other processes of creams, emulsions and other high-viscosity materials, and is suitable for product research and development and small-scale production requiring high precision and quality.

Laboratory Vacuum Emulsifier

Laboratory vacuum emulsifier is able to disperse and emulsify materials efficiently through high shear force and precise temperature control system, which is widely used in the research development and production process of cosmetics, pharmaceuticals, food and other fields.

Features

1. Frame-type scraping wall stirring: frame-type scraping wall stirring device can reduce the adhesion of materials on the wall of the pot, ensure uniform mixing of materials and improve the working efficiency, and in the process of high viscosity materials, it can effectively reduce the material residue.
2. Teflon scraper: Teflon scraper has strong corrosion resistance and high temperature resistance, suitable for a variety of high temperature, high viscosity material mixing process, to extend the service life of the equipment and reduce maintenance costs.

3. Homogeneous emulsification structure: the use of homogeneous emulsification head, through high-speed rotation to generate high shear force, the particles in the material will be quickly broken up, to obtain a more uniform emulsion or colloid, to ensure that the fineness and stability of the product.
4. Double-end face mechanical sealing: The equipment adopts double-end face mechanical sealing technology, which avoids the leakage of materials in the emulsification process, ensures the safety and reliability of the production process, and reduces the need for maintenance of the equipment.
5. Vacuum pumping and defoaming function: vacuum pumping system can discharge the air bubbles in the material during the emulsification process, avoiding the unevenness of the product caused by air bubbles and improving the appearance quality of the product.
6. Hydraulic lifting system for lid: The hydraulic lifting system facilitates the lifting of the lid, which can discharge the material quickly, simplify the production operation and improve the working efficiency.
7. Optional heating system: electric heating or steam heating can be selected according to the needs of the precise temperature control system to ensure temperature control in the emulsification process, to avoid overheating or uneven temperature of the material.
8. Circulating water cooling: the equipment is equipped with water cooling system, which can effectively cool down the equipment and prevent the equipment from being damaged or losing efficiency due to overheating.

Working Principle

1. Laboratory Vacuum Emulsifier carries out mixing, emulsification and defoaming under vacuum environment through its core vacuum emulsification principle.
2. The materials are quickly broken up and evenly mixed by the high shear action of the stirring and homogenizing emulsifying head.
3. The liquid and oil phase mixture is emulsified by the high-speed shear of the high-shear emulsifier under the action of the water-phase pot and the oil-phase pot to form a fine emulsion.
4. Under vacuum, the system automatically draws out the air bubbles in the material to reduce the influence of air on the emulsification quality, thus improving the stability and texture of the product.
5. The hydraulic lifting system simplifies the discharging process and ensures the rapid discharge of materials to avoid waste.

Application Areas

1. Cosmetic Industry: Laboratory vacuum emulsifier is widely used in the research and development and small batch production of cosmetic products such as creams, lotions, serums and so on. It can ensure the fine texture and uniformity of cosmetics, and is suitable for the production of high-grade cosmetics that require precise formulation and quality control.
2. Pharmaceutical industry: This equipment is used for the preparation of cream, ointment and other topical drugs in pharmaceutical production. Through efficient emulsification and vacuum defoaming, it ensures uniform distribution of drug ingredients, improves drug efficacy and reduces air bubbles or impurities in the drugs.
3. Food industry: Used in the production of various food emulsions, sauces, syrups and other products, suitable for high viscosity or easy to stratify food. Through high shear emulsification, it ensures the taste and appearance quality of the products.
4. Biotechnology and chemical research: suitable for biomedicine, chemical reagents, nano-materials and other R & D fields, can finely control the particle size and dispersion of materials, to provide researchers with more accurate experimental data.
5. High-end functional product development: such as high-end skin care products, medicinal topical ointment, emulsifiers, etc., can meet the needs of laboratory scale production, help the development of new products.