

vacuum emulsifier with internal and external circulation

Through the internal and external circulation system, the vacuum emulsifier is able to efficiently process the materials with large viscosity under vacuum environment to ensure the stability and consistency of product quality.

Internal and External Circulation Vacuum Emulsifier

Internal and external circulation vacuum emulsifier is widely used in cosmetic, pharmaceutical, food and other industries, suitable for the production of products with strict requirements on particle fineness and dispersion uniformity. Through highly customized configuration, it can meet the needs of different industries and products.

Features

- **Frame-type wall scraping mixing:** the frame-type wall scraping mixing structure can effectively prevent the material from adhering to the container wall, to ensure the uniformity of mixing, suitable for emulsification and mixing of high-viscosity materials.
- **Teflon scraper:** Teflon material scraper is not only high-temperature resistant and corrosion-resistant, which ensures that the scraper still maintains excellent performance under long-time and high-intensity work, and reduces the cost of maintenance and replacement.



- **Internal and external circulation emulsification:** through the internal and external circulation design, the liquid can flow repeatedly during the emulsification process to ensure the uniformity and fineness of the material, which greatly improves the emulsification efficiency.
- **Double-end face mechanical sealing:** The homogenizing head is equipped with double-end face mechanical sealing to ensure that the material does not leak, and even if the sealing fails, the leakage can be avoided by the second sealing stage, which improves the safety and stability of the equipment.
- **Vacuum pumping and defoaming:** The internal and external circulation vacuum emulsifier has powerful vacuum pumping and defoaming functions, which can remove air bubbles during emulsification, avoiding the influence of air bubbles on the quality of the emulsion, and ensuring a more stable and delicate product.
- **Hydraulic lifting system of pot cover:** the hydraulic lifting system makes the operation of the pot cover easier, and it can discharge the material conveniently, improve the working efficiency and reduce the manual operation.
- **Diversified heating methods:** the equipment can choose electric heating or steam heating, to ensure precise control of material temperature, to adapt to different production needs. Meanwhile, it is equipped with circulating water cooling system to avoid overheating and damage to the equipment.
- **Control system:** the equipment can be equipped with push-button control box or PLC control system. Push-button control box is suitable for simple operation with low cost, while PLC control system is suitable for production environment with high requirements for automation and precise control, PLC system also supports the recording of production formula, which is convenient for precise control and repeated use of the production process.

Working Principle

The working principle of the Internal and External Circulation Vacuum Emulsifier is based on the technologies of vacuum emulsification, internal and external circulation and homogenizing shear. During the emulsification process, the material flows repeatedly through the internal and external circulation system to ensure the uniform mixing of high viscosity materials. Under the vacuum environment, the equipment can effectively remove air bubbles in the material to avoid the negative impact of air bubbles on the emulsion quality. Through the high shear homogenizing head, the particles in the material are quickly broken up and evenly distributed, thus forming a fine emulsion or colloid. The hydraulic lifting system facilitates the discharge of materials and the lifting and lowering operation of the lid, which simplifies the production process and improves the working efficiency.

Application Areas

- **Cosmetic industry:** internal and external circulation vacuum emulsifier is widely used in the production of creams, lotions, skin creams, serums and other cosmetics. Through homogenized emulsification and vacuum defoaming, it ensures the smoothness and fineness of the products and is suitable for the production of high-grade skin care products.
- **Pharmaceutical industry:** In the pharmaceutical field, the equipment is mainly used for the production of ointment, ointment, cream and other external drugs. The internal and external circulation system ensures the uniform distribution of the drug ingredients, improves the efficacy and reduces the influence of air bubbles and impurities on the drugs.

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- **Food industry:** internal and external circulation vacuum emulsifier is suitable for the production of food emulsions, syrups, sauces and other high-viscosity food. Its efficient emulsification and mixing ability can ensure the smoothness and stability of food taste.
- **Chemical industry:** the equipment is widely used in the chemical industry, in the production of paints, coatings, adhesives and other high-viscosity chemicals, it can effectively disperse the material and maintain the stability of product quality.
- **High-precision experiments and pilot production:** It is suitable for high-precision experiments and pilot production, and can provide customized configuration according to customers' needs, supporting the research and development of various products and small batch production.