

500L Liquid Heating Homogenizing Mixer



The heating homogenizing stirring tank is a multifunctional equipment that integrates heating, cooling, stirring and homogenizing functions. It is widely used in food, cosmetics, pharmaceuticals, chemicals and other industries to process materials that need homogenization, emulsification or fine mixing. The equipment ensures that the temperature of the material can be accurately controlled during the production process through efficient heating, cooling and homogenization systems to maintain product stability and quality consistency.

1. **Material**

The heating homogenizing stirring tank is made of high-quality stainless steel 304 and 316L, which has good corrosion resistance, high temperature resistance and easy cleaning, and meets the safety and hygiene standards of food and pharmaceutical grades. The material is durable and suitable for the processing of various liquids or viscous materials.

2. **Heating method**

- ****Jacket heating****: The tank body is equipped with an external jacket, which can evenly transfer heat through electric heating (100 degrees Celsius), steam heating (180 degrees Celsius) or thermal oil (300 degrees Celsius). The jacket heating efficiency is high, ensuring that the material in the tank is evenly heated, which is suitable for the process requirements of different materials.
- ****Temperature control****: The equipment is equipped with a precise temperature control system, which can accurately set the heating temperature to prevent the material from deteriorating due to overheating.

3. **Cooling method**

- **Jacket cooling**: In addition to the heating function, the jacket can also be used for cooling. The cooling medium (such as cold water or tap water) circulates through the jacket, takes away the heat, and quickly reduces the temperature of the material in the tank. It is suitable for processes that require rapid cooling.
- **Forced cooling system**: Some equipment is equipped with an independent cooling system, such as a chiller or an external cooling water system, to achieve faster and more efficient cooling of the material, ensuring that the product temperature quickly reaches the target value, especially suitable for temperature-sensitive materials.
- **Temperature sensor**: Real-time monitoring of material temperature, precise control of the cooling process, and avoidance of overcooling or uneven cooling.

4. **Stirring system**

- **Multi-stage stirring device**: The equipment is equipped with an efficient stirring device, usually including main stirring and wall scraping stirring. The main agitator is used to mix the materials evenly, while the scraper agitator ensures that the materials do not adhere to the tank wall, improves the mixing uniformity and prevents the materials from overheating or overcooling.
- **Adjustable stirring speed**: According to the process requirements of different materials, the stirring speed can be adjusted from 0-65RPM, which is suitable for processing various materials from low-viscosity liquids to high-viscosity pastes to ensure the uniformity of mixing.

5. **Homogenization system**

- **High shear homogenizer**: The equipment is equipped with an efficient homogenizing device, usually a high shear homogenizer, which shears, crushes and homogenizes the materials through high-speed rotation, making the material particles finer and forming a stable emulsion or dispersion.
- **High homogenization efficiency**: The system can effectively decompose and refine the particles in liquid or paste materials to ensure uniform distribution of ingredients. It is suitable for products that require fine emulsification, such as lotions, creams, ointments, etc.
- **Adjustable homogenization speed**: According to the process requirements of different materials, the stirring speed can be adjusted from 0-3000 RPM/0-3500RPM, which is suitable for processing various materials from low-viscosity liquids to high-viscosity pastes to ensure the uniformity of mixing.

6. **Capacity and specifications**

The capacity of the heating homogenization stirring tank can be customized according to customer needs. The common capacity ranges from tens of liters to thousands of liters, which is suitable for small-scale trial production to large-scale industrial production.

7. **Operation and control**

- **Control panel**: The equipment is equipped with an automated control panel, and users can easily set various parameters for heating, cooling, stirring and homogenization, such as temperature, stirring speed, homogenization time, etc.
- **PLC control system**: The optional PLC control system can automatically adjust various parameters to achieve precise and intelligent operation and ensure the stability and consistency of the production process.

8. **Safety devices**

- **Pressure gauge, safety valve, temperature sensor**: The equipment is equipped with a variety of safety devices to ensure that the equipment can operate safely and stably during the heating, cooling and homogenization process to prevent overpressure, overheating or temperature runaway.

Parameter

Model:	HWHM-F-500L
Working capacity:	500 Liters
Heating method:	Steam or electric 27KW
Mixing type:	Upper frame oar scraper mixer
Mixing motor power:	3KW, Siemens motor
Mixing frequency inverter:	3KW
Mixing speed:	0-65rpm
Homogenizer type:	Bottom homogenizer
Homogenizer power:	5.5KW, Siemens motor
Homogenizer frequency inverter:	5.5KW
Homogenizer speed:	0-3000rpm(50Hz)/0-3600rpm(60Hz)