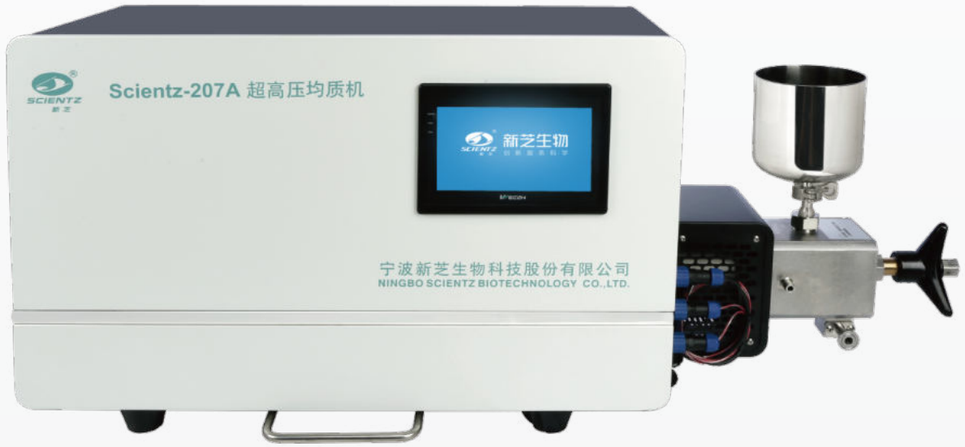
SCIENTZ-207A Ultra high pressure homogenizer

HIGH-PRESSURE HOMOGENIZER

High crushing rate

Adjustable pressure

Wide range of sample applications



Innovation,Service, Science

Listed on the Beijing Stock Exchange

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NINGBO SCIENTZ BIOTECHNOLOGY CO., LTD

SCIENTZ-207A Ultra high pressure homogenizer

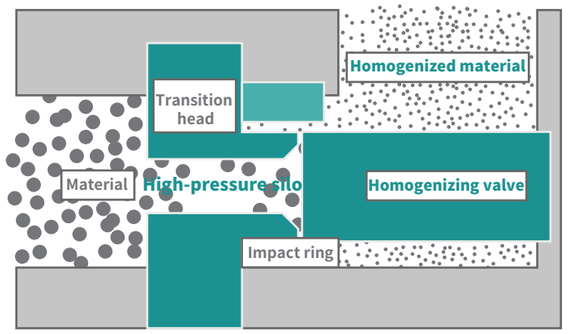
HIGH-PRESSURE HOMOGENIZER

Product Description

The SCIENTZ-207A high-pressure homogenizer is a compact desktop device designed for the processing of biological samples. It is capable of cell disruption and material homogenization in biological laboratories and small-scale production settings. Different samples can be fragmented, emulsified, and dispersed by controlling pressure, flow rate, cavitation, impact, shear, and process duration. The homogenizer is equipped with a cooling circulation system interface, which, when combined with a constant temperature bath, allows for effective temperature control and enhances homogenization efficiency. It is suitable for research and development laboratories in pharmaceuticals, biotechnology, cosmetics, food and beverage, graphene, and other fields.

Working Principle

Material from the material cup through the one-way valve into the high-pressure warehouse, through the pump body telescopic pressurization so that the sample to reach the regulated control of high pressure, through a specific width of the limited flow gap instantaneous release of the formation of micro-jet impact on the impact of the valve or homogenizing valve, in turn, through the cavity, impact, shear to achieve the emulsification of materials dispersed and the cell crusher purpose.



Working Principle Schematic

Product Features

- **High crushing efficiency** The material particle size can be uniformly refined to below 100nm, with a crushing rate of over 95%.
- **Wide range of sample applications** Bacterial cultures, fruit juices, high polymer materials
- **316L High sanitary grade** Made of 316L stainless steel material that meets food and pharmaceutical requirements.
- **Homogenization pressure** Adjustable homogenization pressure from 0 to 180 MPa
- **Temperature control** Temperature control with cooling interface connected to a constant temperature bath, effectively controlling the temperature rise of the homogenized materials
- **Automated operation** Automatic sample feeding, continuous operation
- **Online exhaust** Simple operation, pressure automatically restored after exhaust

Application Areas

Bioengineering

Handling of microbial samples and fragmentation of algal cells;
Study of the effect on the functionality of plant proteins under different homogenization conditions.

Food industry

Research on the effects of different homogenization conditions on the physicochemical properties of food and beverages.
The application of non-thermal sterilization technology in liquid food products.

Materials Engineering

Application in ultrafine powder processing and handling of pigments and dyes;
Optimization of cosmetic (nanoparticle emulsion, liposome) processes

Biopharmaceuticals

Optimization of extraction and preparation of active pharmaceutical ingredients (fat emulsions, nanosuspensions, lipid nanoparticles, liposomes, flavonoids)
Research on the integration of traditional Chinese medicine extracts with modern pharmaceutical new technologies.

Sample Examples

Plant proteins: soy protein, peanut protein, sweet potato protein, etc;

Plant tissues: psyllium sprouts, hawthorn leaves, loquat leaves, ginger plant rhizomes, etc;

Algal cells: Spirulina cells, hairy Candida cells, Chlorella cells, etc;

Microorganisms: yeast, E. coli, fission kettle bacteria, etc;

Liquid food: food and beverages, dairy products, fruit juices, etc;

Paint screed: carbon black paint screed, phthalocyanine green paint screed, phthalocyanine blue paint screed, violet 23 paint screed, etc;

Technical Parameters

Maximum design pressure	2070bar/207Mpa/30015psi
Maximum working pressure	1800bar/180Mpa/26100psi
Maximum sample throughput	15L/H
Minimum sample throughput	15ml
Motor power	3.0kW/220V/50Hz
Maximum feed particles	<500microns
Flow control	Free flow adjustment
Sensors	Imported high-precision sensors
Built-in cooler	Equipped with a cooler to control homogenization temperature without consuming material
Accessories	Standard chiller
Exhaust method	In-line exhaust
Electrical Controls	Industrial PLC Controller
Screen and Display	7inch industrial touch screen + pressure and temperature integrated digital display + pressure real-time curve
Net weight	95kg
Exterior Dimensions (L*W*H)	1100*310*460mm