# SCIENTZ-150/150A High Pressure Homogeniser

HIGH PRESSURE HOMOGENIZER

High crushing rate

Adjustable pressure

Wide range of sample applications

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# SCIENTZ-150/150A High Pressure Homogeniser

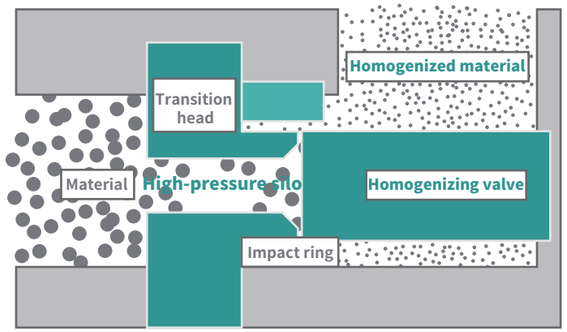
HIGH PRESSURE HOMOGENIZER

## Product Description

Our High-Pressure Homogenizer is a miniaturized bench-top biological sample processing unit. The machine has a built-in cooling circulation system to directly cool the homogenizing head, and homogenizing valves for different applications can be purchased. It is characterized by high pressure, small volume, easy operation, high processing efficiency and large sample output. It is the standard equipment for R&D and production in bioengineering and biopharmaceutical industries.

## 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

## 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;

## Product Features

- **High crushing efficiency** The material particle size can be uniformly refined to below 100nm, with a crushing rate of over 95%.
- **Adjustable pressure** Homogenization pressure adjustable from 0 to 150Mpa.
- **Versatile options** Diamond crushing valve or Stellite emulsifying valve.
- **Online exhaust** Simple operation and automatic restoration of regulated pressure after venting.
- **316L High sanitary grade** Made of 316L stainless steel material that meets food and pharmaceutical requirements.
- **Zero Residue** Built-in venting valve structure for material discharge.
- **Temperature controllable** The inlet and outlet of the cooling connector are connected with the constant temperature tank, which can effectively control the temperature rise of homogenized material.
- **Invention Patent** Built-in cooler structure design
- **Adjustable flow rate** Frequency conversion flow control system that can adjust flow rate as needed.

## Technical Parameters

| | | |
|---|---|---|
| **Model number** | SCIENTZ-150(150PS) | SCIENTZ-150A(150APS) |
| **Power supply** | 220V/50Hz | Three-phase four-wire system 380V/50Hz |
| **Flow rate** | 6-12 liters/hour | 12-25liters/hour |
| **Suction times per minute** | approx. 140 | approx. 140 |
| **Maximum working pressure** | 1500bar | 1500bar |
| **Maximum product viscosity** | 2000cP | 2000cP |
| **Motor power** | 1.5KW 8stages | 3.0KW 8stages |
| **Overall size** | L800*W460*H450mm | L840*W620*H540mm |
| **Maximum product humidity** | 90°C | 90°C |
| **Maximum vapor humidity** | 121°C | 121°C |
| **Maximum feed particles** | <500 microns | <500 microns |