

# Innovation, Service, Science

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# Pilot type high-pressure homogenizer

MEDIUM TEST TYPE HIGH PRESSURE HOMOGENIZER







High crushing Adjustable rate pressure

Wide range of sample applications



NINGBO SCIENTZ BIOTECHNOLOGY CO., LTD

# Pilot type high-pressure homogenizer

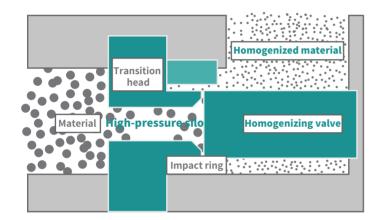
MEDIUM TEST TYPE HIGH PRESSURE HOMOGENIZER

#### **Product Description**

Scientz Biotechnology has launched a pilot-scale high-pressure homogenizer that can handle processing capacities ranging from 50L/H to 500L/H. These instruments are suitable for research and development as well as small to medium-scale production requirements in various industries such as biotechnology, pharmaceutical engineering, and food. They are characterized by their ease of operation and high processing efficiency.

#### **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%.



Adjustable pressure Homogenization pressure adjustable from 0 to 150Mg



Safe and reliable Equipped with a mechanical safety valve for overload shutdown.



**Corrosion-resistant** 

Sealing components mad



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 Control** Cooling plunger components to increase single-use time.



Wear-resistant Valve body made of diamond ma



Adjustable flow rate Frequency conversion flow control system that can adjust flow rate as needed.

## **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.



#### **Materials Engineering**

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



#### **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.



#### **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**

Model number	PHA-060I	PHA-100I	PHA-200I	PHA-300I	PHA-400I	PHA-500I	
Treatment capacity (L/H)	60	100	200	300	400	500	
Number of Plungers	2	3			3		
Transmission	Belt pulley	Belt pulley			Gearbox		
Motor power	7.5kW 8stages	15kW 8stages			37kW 6stages		
Maximum working pressure	1500bar						
Variable frequency flow control system	Frequency converter regulates flow rate						
Pressure gauge	High-precision pressure sensor + display panel or sanitary diaphragm digital pressure gauge						
Mean value rating	Level 1						
Residue	zero residue						
Pressure regulating mode	manual pressure regulating/pneumatic pressure regulating						
Cooling method	plunger cooling						