



SCIENTZ-IID

ULTRASONIC HOMOGENIZER

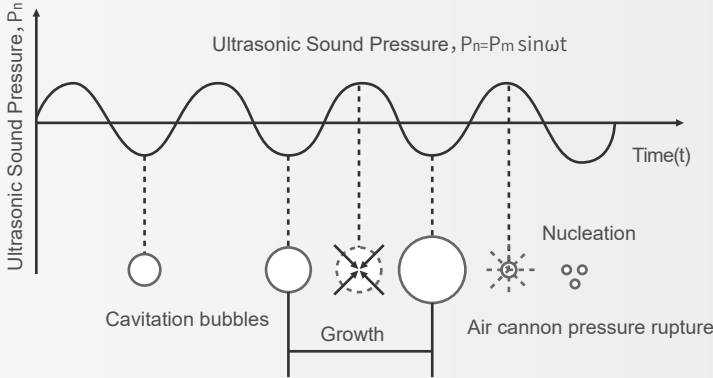


Description

SCIENTZ-IID series ultrasonic homogenizer is a multi-functional and multi-purpose instrument that utilizes the cavitation effect of ultrasonic waves to process experimental samples. It is suitable for 100μl-600ml capacity samples, with the advantages of continuously adjustable ultrasonic time and power, and is capable of crushing all kinds of animal and plant tissues, cells, bacteria, and can be used for emulsification, separation, dispersion, extraction and accelerated chemical reactions. It is widely used in the fields of life science, material science and environmental protection.

Working Principle

Based on the cavitation effect of ultrasonic waves in the liquid, the transducer will generate high intensity shear force in the liquid at the top of the tool head through the amplitude-variable rod to form high-frequency alternating water pressure, which will cause the cavity to expand and explode to break the cells. In addition, the use of ultrasonic propagation in the liquid to produce a violent perturbation effect, so that the particles produce a large acceleration, thus colliding with each other or collision with the wall to achieve the effect of crushing, emulsification and separation.



Features

Flexible parameters
Ultrasonic duration, power continuously adjustable, good stability

Smart storage
Capable of creating and storing up to 20 sets of operation programs

High safety
Equipped with over-temperature, overload, and time alarm functions

Low sample loss
Capable of handling as little as 100 μl and up to 600 ml

Selectable modes
Intermittent/Continuous pulse mode



Application Fields

- Bioengineering**
Disruption of cells, bacteria, viruses, spores, and other cell structures.
- Food engineering**
Ultrasonic homogenization of beverages. Maturation and aging acceleration techniques for wine. Accelerating dissolution and chemical reactions, such as in fat processing.
- Environmental engineering**
Homogenization of soil and rock samples. Study of the structural and physical characteristics of rocks.
- Biopharmaceuticals**
Dispersion of pharmaceutical substances for injection. Dispersion and extraction of traditional Chinese medicines. Disruption, emulsification, homogenization, and fragmentation of particles like carbon nanotubes and rare earth materials.

Technical Specifications

Frequency	20~25KHz
Power Range	1000W(20-1000W adjustable)
Processing Volume	100μl~600ml
Standard	Φ6mm
Optional Tip	Φ2, 3, 10, 15mm
Operating Modes	Intermittent/Continuous
Empty Occupation Ratio	0.1~99.9%
Alarm Temperature	0~99.9℃
Alarm	Over-temperature, overload, time
Timer	1~999min
Stored Data	20 sets
Display Mode	7-inch capacitive touch screen
Display Content	Time, function, temperature



Note: Standard equipped with a titanium alloy transducer. Compared to standard transducers, titanium alloy transducers offer advantages such as higher energy conversion efficiency, stability, durability, and suitability for long-term operation.

Application Literature

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[3]Prakit Saingam,Zenab Baig, ,et al.Effect of ozone injection on the long-term performance and microbial community structure of a VOCs biofilter[J].Journal of Environmental Sciences , 2018,69 :133 – 140.

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