

SCIENTZ-F series ultrasonic disperser



INNOVATION, SERVICE, SCIENCE

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NINGBO SCIENTZ BIOTECHNOLOGY CO., LTD

SCIENTZ-F series ultrasonic disperser

ULTRASONIC DISPERSER

Product Description

The SCIENTZ-F series ultrasonic disperser utilizes the cavitation effect of liquids to achieve dispersion in liquid-liquid, solid-liquid, and gas-liquid systems. Compared to traditional dispersion methods, it boasts powerful output and superior dispersion effects, making it suitable for dispersing various materials, particularly nanomaterials (such as carbon nanotubes, graphene, and silica). It is widely used in biochemistry, microbiology, food science, pharmaceutical chemistry, and zoology.

Working Principle

The device consists of two main parts: the ultrasonic generator and the ultrasonic transducer. The ultrasonic generator converts 220VAC, 50Hz single-phase power into alternating power of 20-25kHz and approximately 600V using frequency conversion devices. It matches impedance and power to drive the transducer, generating longitudinal mechanical vibrations. These vibrations create a cavitation effect through a titanium alloy horn immersed in the sample solution, achieving ultrasonic dispersion.

Application Areas



Coating Industry

Dispersion of titanium oxide, iron oxide, carbon black, etc., in water or solvents;
Dispersion of fluorescent materials in CRT coatings;
Dispersion of photosensitive materials;
Dispersion of fuels in molten paraffin.



Bio-pharmaceuticals

Dispersion preparation of injectable drugs;
Vaccine preparation.



Cosmetics

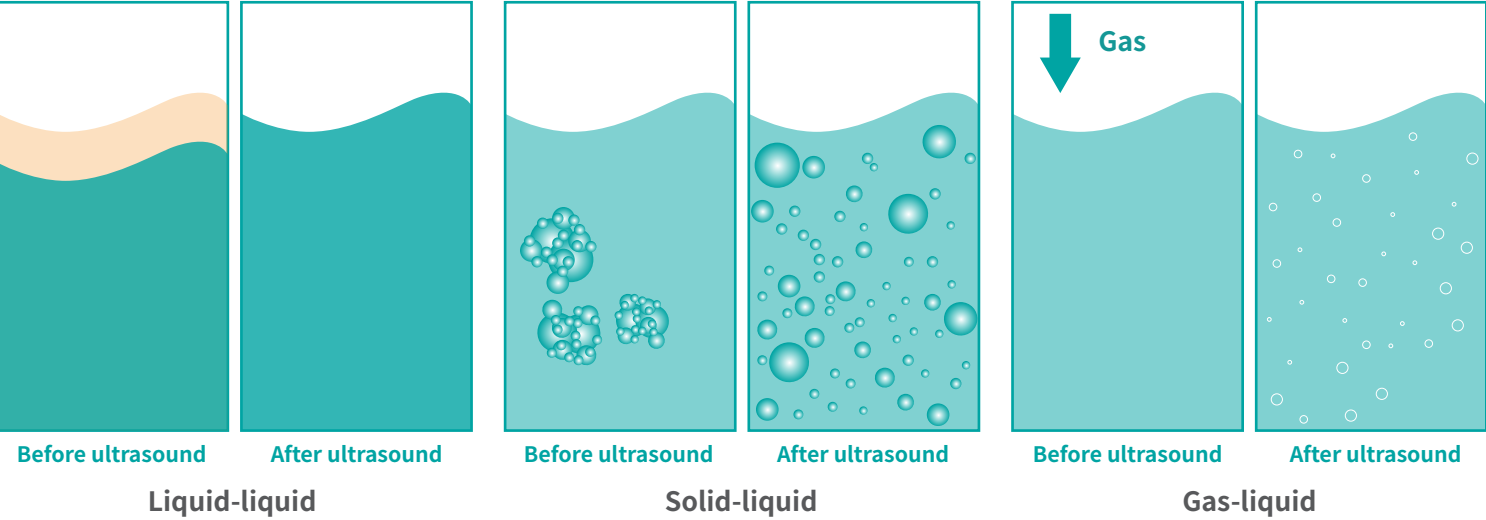
Emulsification of wax, paraffin, etc.; dispersion of micro-particles in detergents, shampoos, and toners;
emulsification of butter for high-quality lactose preparation.



Food Engineering

Dispersion of raw materials in sauce production;
Dispersion of milk powder.

Effect Visualization



Product Features



High Safety

Features time, temperature, and overload alarm functions.



Flexible Parameters

Ultrasonic time and power are continuously adjustable with good stability.



Good Stability

Dispersion particles have uniform size distribution and slow sedimentation rates.



Selectable Modes

Includes pulse and continuous operation with testing functionality.



Omnidirectional Emission

Unique gourd-shaped dispersing component for both lateral and longitudinal wave emission.

Technical Parameters

Model	SCIENTZ-750F	SCIENTZ-1500F	SCIENTZ-2400F	SCIENTZ-3000F
Ultrasonic Frequency	20.0KHz±0.5 KHz	20.0KHz±0.5 KHz	20.0KHz±0.5 KHz	20.0±0.5 KHz
Display	7-inch touchscreen	7-inch touchscreen	7-inch touchscreen	digital display
Timing Setting	1-999 min	1-999 min	1-999 min	1-999 min or work long hours
Ultrasonic Power	750w(1%-100%)	1500W (1%-100%)	2400W (1%-100%)	3000W (20%-100%)
Included Dispersing Head	10mm	18mm	25mm	38mm
Dispersion Capacity	10-700ml	100-1500 ml	500-2000 ml	1000-5000ml
Duty Ratio	0.1-99.9%	0.1-99.9%	0.1-99.9%	Frequency sweep or no gap operation
Alarm Functions	Timing, temperature, overload	Timing, temperature, overload	Timing, temperature, overload	Timing, overload
Power Supply Dimensions	416*244*300 (mm)	416*244*300 (mm)	416*244*300 (mm)	355*390*142(mm)
Standard Configuration	One main unit, one dispersing head, one soundproof box	One main unit, one dispersing head, one soundproof box	One main unit, one dispersing head, one soundproof box	One main unit, one dispersing head, one soundproof box
Power Supply	AC220V/50Hz	AC220V/50Hz	AC220V/50Hz	AC220V/50Hz