



MARKSTRONICS LLC  
VIRGINIA USA

# ULTRASONIC SONICATOR

## MK 9500 SONICATOR



**Introduction** Ultrasonic processor is one of the commonly used equipment for laboratory sample pretreatment. It is widely used in nano-industry, biology, chemical, pharmaceutical, dye, optics, jewelry, aerospace, hardware, automobile manufacturing and other fields. Ultrasonic homogenizers are multi-function and multi-purpose instruments that utilize intense high frequency sound to induce cavitation in liquid. As the cavitation bubbles collapse, high shearing energies disrupt animal and plant tissue, and lyse yeast, bacteria and spores. The ultrasonicator can also be used for non-biological applications such as emulsification, nanoparticle dispersion, intense washing or acceleration of chemical reactions (sonochemistry).

**Features** 1. Automatic resonance point and power control, no need to manually adjust energy manually.

2. 99 hour process control timer, control total working time: from 1 second to 99 hours, suspend the current running task in real time.

3. Working time display, in the cumulative state.

4. On/Off Pulse Timer: Ensure high-intensity processing of temperature sensitive samples. The on and off cycles can be selected from 1 second to 99 minutes.

5. Automatic amplitude compensation to ensure that the probe amplitude does not change due to load changes during the ultrasound process.

6. Sample overload / over temperature protection device.

7. The frequency is automatically tracked and the fault is automatically alarmed.

8. Easy to operate, type directly.

### **Common applications**

1. Chinese medicine extraction, cell, bacteria, viral tissue fragmentation. For example, the extraction of cell contents.

2. Dispersion, homogeneity of the material particles, and emulsification of the product. For example, dispersion of nanomaterials (silica, carbon dioxide, carbon nanotubes, graphene, etc.).

3. Accelerate the dissolution and accelerate the chemical reaction. For example for chemical synthesis.

**Parameter:**

- Dispersing, Deagglomerating, Particle size reduction, Particle synthesis and precipitation, Surface functionalization.
- System with microprocessor-based control
- Automatic tuning and frequency control
- Option to set the time and amplitude
- Should capable of simultaneous monitoring and controlling of both the temperature of the sample and the amount of energy that is being delivered
- Pulse mode with full function ON and OFF cycle.
- Continuous mode up to 30 minutes or preferably more.
- With sound abating enclosure and jack stand
- Power rating: 700-1000-watt, Frequency: Up to 40 kHz or more. 20 kHz model is quoted.
- Processing Capacity: up to 1000 ml
- Digital amplitude / Intensity control: Output amplitude can be set from 10 to 100%
- Display: Energy monitor, Watt meter, Amplitude, Time indicator, Pulser and Temperature.