

Applications of Sonicator Ultrasonic Processor

<https://www.bjultrasonic.com/applications-of-sonicator-ultrasonic-processor/>

A [sonicator](#) can be utilized to break up, disperse and shear target material samples through its focused ultrasonic frequencies. It plays a great role in chemical, biological, industrial and environmental fields. Focused sound waves are produced by the sonicator unit, these waves reverberate in the chamber and increase the vibration strength of target materials, breaking up these material samples efficiently. What you need to do is just placing the sample in the water bath and turn on the sonicator.

Environmental

A sonicator can help to treat sediment and soil samples efficiently in an environmental testing lab, with a sonification of eight to ten minutes per sample. This protocol is more convenient and easier than the traditional Soxhlet extraction process, which involves repeatedly wash solids into a flask using glassware and solvents for four to eighteen hours.

Biological

[caption id="attachment_841" align="alignnone" width="288"] Ultrasonic Cell Disruptor[/caption]
DNA, RNA, protein and cellular components can be extracted through breaking up bacteria, tissue cells and yeast by a sonicator. The high-strength ultrasound waves can expand and contract the liquid around the sample and produce bursting bubbles, which help to pull adjacent molecules away from each other and create sheering forces to tear apart the biomolecules.

Cleaning

A sonicator can be used to clean a variety of substances. The focused ultrasound generated by the sonicator unit is about 10 times stronger than a normal ultrasonic bath. A large number of powerful bubbles generated during sonification can scrub many types of substance efficiently and quickly. As a result, a sonicator can remove dirt from inner and outer surfaces of the target materials, clear residual solder from PC pads, remove grease strip from wire dies and so on.

Industrial

A sonicator can be used to decrease the particle size of a material, speed up reactions, extract compounds, and produce emulsions in industry. For example, sonification can help to disperse inks and dyes in painting industry, it can also help to produce dense castings in ceramics industry.

Chemical

A sonicator helps to speed up chemical reactions, allowing researchers to synthesize catalysts and prepare new alloys. When used in the hydrolysis of esters or microencapsulate proteins, sonification process gives the benefits of low energy, high yields and efficiency.

Beijing Ultrasonic

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