

PROBE Sonicator



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Ultrasonic Processor (Probe Sonicator) is a tool specially designed for Pharmaceutical, Chemical Labs and various Research Institutes, Colleges, Universities.

Some of its Applications are:

- Tissue Processing (Plant & Animal Tissues)
- Emulsification of Immiscible Liquids.
- De-gassing & De-aerating of Liquids.
- Formulations.
- Particle Dispersion.

In small volume batches of about 500ml.

Advantages:

- Homogenization, Micro fined Emulsion.
- More stable compares to other processes
- Very Flexible. It can easily be transferred from one batch to other without intermediary operations like emptying, cleaning & refilling. Ultrasonic Processor can be transported to various locations of sample operations.

Ultrasonic Processor consists of:

(A) Ultrasonic Generator to produce High Electrical Energy operating at a frequency of 20Khz and an Ultrasonic Power 120watts.

(B) S.S. Velocity Horn fitted with PZT Crystals (Transducer Elements). This Velocity Horn assembly converts the electrical frequency energy fed from the Ultrasonic generator to mechanical vibrations at the rate of applied electrical frequency. The amplitude of these mechanical vibrations are magnified by this velocity Horn. This Velocity Horn is used for....

THE PROCESSING APPLICATIONS

Principle of Ultrasonic Processor:

High frequency vibrations are produced by the S.S. Velocity Horn which is immersed into the liquid to be processed. The vibrations give raise to millions to Intense Microscopic Vacuum Bubbles which form & implode at a very high rate (twenty thousand times per second). This phenomenon is known as 'CAVITATION'. Cavitation gives raise to intense Local Pressure Waves & Micro Streaming of liquid round the points of collapse. This in turn produces High Shear gradients which are responsible for the above stated applications.

Sample Capacity	Probe Size mm	Frequency	Wattage
50ml - 500ml	20, 12, 6 mm	20 khz	120 watts

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