ULTRASONIC PROCESSOR - SONICATOR

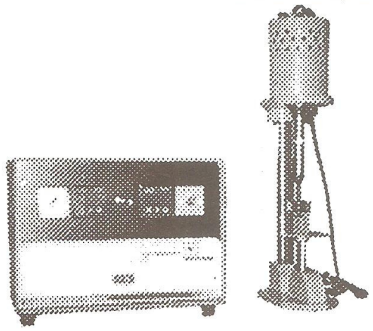
OPERATING PRINCIPLE :-

High frequency vibrations are produced by the velocity horn - generally made out of SS material, which is immersed in the liquid to be processed. These vibrations produce millions of microscopic vacuum bubbles, which form and implode at a very high rate. The normal frequency is twenty-five thousand cycles per second. This phenomenon is known as CAVITATION. Cavitation gives rise to Intense Local Pressure Waves and Micro streaming of the liquid around the point of collapse. This in turn leads to high Shear gradients that are responsible for the Chemical Process such as Homogenisation. Disintegration and Emulsification etc.

APPLICATION :-

The Ultrasonic Processor is a very useful and flexible tool to produce stable product as compared to other processes. The Ultrasonic Processor finds its application in Pharmaceutical Industries, Chemical Labs, Biotechnological Units and Research Institutes for

- Tissue Processing (Plants and Animal Tissues).
- Emulsification of Immiscible Liquids.
- De-gassing and De-aerating of liquids.
- Formulations.
- Homogenisation.
- Particle Dispersion.
- Cell Disintegration.



Ultrasonic Processor - Sonicator, consists of two parts -

1. Ultrasonic Generator - This unit produces high frequency - 22 +/-3 KHz, Ultrasonic Power and the power is fed to the Velocity Horn.
2. Velocity Horn - This is generally constructed out of SS 316 material of required dimension and contains transducer. These transducers use PZT crystals in sandwich form to convert the Electrical Power into Vibrations leading to Cavitation. This horn is used for the processing by dipping in the solutions.

SPECIFICATIONS :-

Model	EI-125UP	EI-250UP
Input Power Supply	230 VAC Single Phase	230 VAC Single Phase
Ultrasonic Power	125 watts - average	250 watts - average
Processing Horn dia	10 mm	20 mm
Timer - Digital	0 to 30 minutes	0 to 20 minutes
Accessories	Stand for Ultrasonic Horn Sonicator and Platform for sample holder.	

Optional Feature :-

1. Ultrasonic POWER Variation : from 50% to 100% by means of variac.
2. Cyclic Operation : By means of Cyclic Timers of 0 to 999 secs. for 'ON' Time and 'OFF' Time.
3. Additional Horns : SS Horns of 3 mm / 5 mm / 10 mm / 15 mm or 20 mm as required.

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