



E-Chrom Tech Co., Ltd.

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B03- Ultrasonic Processor



Descriptions

Working Theory

The ultrasonic power supply generates high frequency electrical signals, which is applied to the piezoelectric crystals within the converter, where it is changed to mechanical vibration. The longitudinal vibrations are amplified by the probe and transmitted to the cleaning liquids, which consist of alternate compression and rarefactions. These pressure fluctuations create microscopic bubbles, which expand during the negative pressure excursions, and implode violently during the positive excursions. As the bubbles collapse, millions of shock waves (extreme in pressure and temperature) are generated at the implosion sites. This pressure is then used for disruption of cell structure.

Applications

This ultrasonic equipment includes a variety of applications such as disruption of cell structure, e.g. bacteria, virus, spores. Besides, it also has functions to homogenize, emulsify, intermix, degas, disintegrate, and so forth. Therefore, it has been widely used in research of biology, medical science, chemical, food, cosmetics, environmental protection, and other related industries.

Features

- A. Convenient and precise digital display and control.
- B. Variable safe control of power output to protect samples.
- C. Output amplitude can be adjusted according to the Tip size.
- D. Intensity display with max intensity control.
- E. Two operation options are available: pulse modulation and constant output.
- F. Pulse width and interval time can be set from 0.1 to 9.9 sec. during pulse working.
- G. External control interface is available for direct operation.



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Specifications



Introduction of front panel

1. Liquid crystal display
2. Max.intensity: the button is to control the ultrasonic output intensity. It has 4 levels: 5mm, 5-8mm, 8-10mm and 10mm
3. Intensity: can change according to the Tip size.
4. Number inputting button
5. Start/Stop: operate or stop button.
6. Mode: The change button between pulse modulate and constant output.
7. Pulse: To set the output amplitude in constant operation. Inputting the number can set the time. Pulse wide is from 0.1 to 9.9 secs.
8. Timer: Display shows the set time and the time remaining in minutes and seconds.

Notice: Interval pulse modulates can prevent accumulating too much heating in the liquid and so can offer more effective result. The temperature can be set and controlled.

(Notice: Over strong output power will damage the slender converter, so please choose the position according to the following demand:)

1/8" Tip set (5)

3/16" Tip set (5)

1/4" Tip set (5) or (5-8)

1/2", Tip set (5) or (5-8) or (8-10) or (10)



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Model	Power (W)	Converter	Sample Volume
UP-100	100	1/8" , 3/16", 1/4"	100ul~80ml
UP-500	500	1/8", 3/16", 1/4", 1/2"	250ul~600ml
UP-800	800	1/8", 3/16", 1/4", 1/2" , 3/4"	250ul~1200ml
UP-1200	1200	1/8", 3/16", 1/4", 1/2", 3/4"	250ul~1200ml

* Our Ultrasonic Processor is equipped with Converter, Tip (UP-100: 1/8"; UP-500: 1/2"; UP-800: 1/2"; UP-1200: 3/4"), Sound Abating Enclosure, Elevator, Temperature Control Sensor, External Pedal Switch, Power Cord.

* The watt shown is the highest power output.

Converter Model:

1/8" (3mm)

3/16" (5mm)

1/2" (13mm)

3/4" (19mm)