

# UIS Technology

Ultrasonic Homogenizer Processor



ULTRASONIC  
HOMOGENIZER  
400 WATT

## Ultrasonic Homogenizer

UHP-400

**UHP-400**

400 watt and 20 kHz with  
40 db Soundproof Enclosure



Property	UP400
Input Voltage (V)	220
Input Current (A)	2
Input Frequency (Hz)	50-60
Output power (W)	0-400
Output Frequency (KHz)	20±1
Power Adjustable	Yes
Frequency Adjustable	No
Interface	TFT LCD (touch)
Working Mode	Pulse
Pulse ON (s)	1-20
Pulse OFF (s)	1-10
Total duration for a cycle (min)	30
Sound enclosure box	40 db
Thermometer	Yes (PT-100)
Temperature range (°C)	0-100
Horn Material	Ti-6Al-4V
Horn final diameter (mm)	13
Working volume (CC)	100-1500

Ultrasonic waves are mechanical waves whose frequency exceeds human hearing range (20 Hz- 20 kHz.). Due to their property, these waves have different and somewhat interesting applications. Using a simple calculation, if a point with a frequency of 25 KHz. and a domain of 10 micrometer oscillates, its acceleration reaches a magnitude which is 25000 times greater than that of earth gravity ( $g=9.8 \text{ m/s}^2$ ). Due to this acceleration and high speed, cavitation in liquids occur and during the phenomena of explosion of bubbles, an approximate pressure of 200 psi along with a temperature of 5000°K are observed.

On the other hand, if a relative movement with the above-mentioned condition is occurred between two layers of thermoplastic, the high temperature leads to bonding of the two layers which is called ultrasonic welding one of the industrial applications of ultrasonic technology.

Ultrasonic homogenizers are widely used in Nanotechnology to disperse nano material in to the oil and water. Besides that, phytochemistry, medicine, oil and gas are some other filed which ultrasonic homogenizer are useful.

