

Best Quality is our Business



Ultrasonic Cleaning Systems



Ultrasonic Probe Sonicator



Ultrasonic Atomiser

**CE 14774
CE 14772**

**ISO 13485:2003
ISO 9001:2008**

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Ultrasonic Probe Sonicator / Homogenizer



ENUP - 250 Watts



LC - 750 Watts



ENUP - 150 Watts

Technology

A Sonicator System is comprised of 3 major components: U/S Generator, Converter and Horn (also known as a probe). During operation, the probe's tip longitudinally expands and contracts. In liquid, the high freq vibration of the tip causes cavitation, the formation and violent implosion of microscopic bubbles. The implosion of thousands of cavitation bubbles releases tremendous energy in the cavitation field thus objects and surfaces within the cavitation field are processed. The probe tip diameter and power dictates the amount of sample that can be effectively processed. It is important to select the appropriate generator and probe to match the volume, viscosity and other parameters of each particular application

Features

Digital amplitude / intensity control	Output intensity can be set from 20 - 100%
Programmability	10 Programmes Maximum upto90 (Optional)
Pulse Mode:	Adjustable pulse On and Off times to prevent a heat build-up in temperature sensitive samples
Temperature Monitoring	An optional temperature probe is also available
Run Multiple Programs in Sequence (optional)	Multiple programs can be run in sequence
Total Energy Output Display	Energy delivered to the probe is displayed in both Watts or Joules (Optional)
Trully Auto Tuning	The Sonicator digitally tracks frequency changes & maintains electrical efficiency at all times.
Overload Protection	The unit is equipped with fault detection circuitry to shut down sonication in the event that a fault occurs.
Graphic LCD Display Control	A large, MONO CHROME LCD screen clearly display all operating parameters and options.
Pulse mode	Prevent heat build-up in temperature sensitive samples
Elapsed time indicator	Displays duration of sonication, maximum 99 hrs.

Models	Output Power	Processing Volume rang with different Tips	Standard Probes
150	150 Watts	1 To 70 ml	6 mm
250	250 Watts	1 To 200 ml	12.7 mm
500	500 Watts	20 To 450 ml	12.7 / 19 mm
750	750 Watts	50 To 750 ml - 1000ml	19 / 25 mm

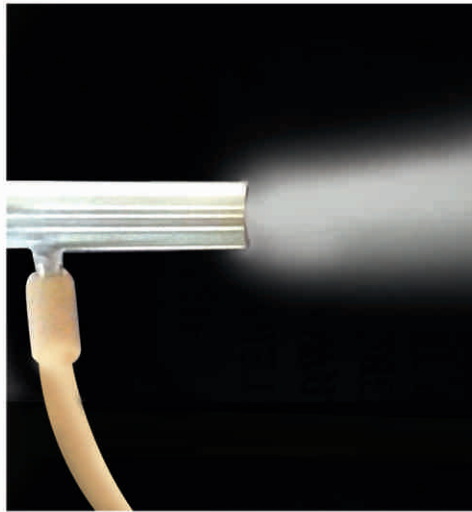
Probes (Titanium Alloy)

Tip Diameter	Processing Volume range with different Tips
3 mm Micro Tip	1 To 10 ml
6 mm Micro Tip	5 To 70 ml
6 mm Stepped Tip	5 To 70 ml
12.7 mm Replaceable Button Tip	20 To 200 ml
19 mm Replaceable Button Tip	20 To 450 ml
25 mm Replaceable Button Tip	50 To 750 ml - 1000ml

Area of Application:

- Disruption of cell, bacteria, virus, tissue, e.g. for extraction of cell content
- Homogenizing of substances
- Deagglome / ration of nano / particles
- Producing of finest emulsions
- Acceleration of chemical reactions
- Production of dispersions

Specifications are subject to change without prior notice due to continuous up gradation process



Technology & Discription

The Ultrasonic Atomiser uses Ultrasonic energy (Low/Medium) to generate low velocity, gentle spray unlike the conventional atomizing nozzle which depends on pressure & high velocity motion to shear a fluid into small droplets. The fluid (Liquid) is dispensed to the atomizing probe by either gravity or low - pressure small pumps & atomize continuously or intermittently as per requirement. The sample can be accurately delivered to the target area & over spray is virtually eliminated thus, resulting in material savings. The atomizer can runs continuously or be programmed to pulse On & Off.

The rate of atomization depends within limits solely on the volume that is been delivered onto the atomizing surface & the frequency it operates. Typically higher the frequency, the lower the processing capability. With water the average droplet size is 50 microns and the minimum sample volume that can be effectively at omized is 2 μ l/sec. To optimize atomization, the viscosity below 50cps & solid concentration must be below 30%.

The atomization of liquids containing long - chained polymer molecules is problematic, even in diluted form, due to highly cohesive nature of the material. Drop size is primarily a function of frequency, and the higher the frequency, the smaller the drop diameter, E.g. : frequency 20 kHz the drop size is 100 microns & frequency is 40 KHz the drop size is 50 microns.

How does it works?

The Ultrasonic power supply converts 50/60 Hz to frequency electrical energy. This electrical energy is transmitted to the piezoelectric transducer within the converter, where it is changed to mechanical vibrations. The ultrasonic vibrations are intensified by the probe and focused at the tip where the atomization takes place. The liquid travels through the probe, and spreads out as a thin film on the atomizing surface. The oscillating tip disintegrates the liquid into micro - droplets, and ejects them to form a gentle, low velocity spray.

Summary of Features

- From micro - liters to liters - continuous or intermittent
- Dispenses material with virtually no over spray
- Pressure-less atomization - low velocity mist
- Low cost atomization probe replacement
- Minimal atmospheric contamination
- Virtually uncloggable
- Programmable operation
- Multiple probe operation
- No heating / No temperature rise

Typical Applications

- Increase of humidity level
- Coating non - woven fabric, paper, etc...
- Laboratory spray drying
- Injection moisture into a gas stream
- Applying minute amount of oil, fragrance or flavor onto a product
- Injecting small volume of reagents into a reactor

Ultrasonic Cleaning Systems

Benchtop Models

Model No.	Tanks Size	Tank Cap.	U/S Power	U/S Freq
EN 20 US	8" X 4" X 4" (H) / 6" X 6" X 3.5"(H)	2 Ltrs.	60 Watts	33 ± 3 Khz
EN 30 US	9" X 6" X 4" (H)	3.3 Ltrs.	100 Watts	33 ± 3 Khz
EN 50 US	8" X 8" X 5" (H)	5 Ltrs.	120 Watts	33 ± 3 Khz
EN 60 US	12" X 6" X 6" (H)	6.5 Ltrs.	150 Watts	33 ± 3 Khz
EN 100 US	12" X 9" X 6"(H)	10 Ltrs.	250 Watts	33 ± 3 Khz
EN 200 US	14" X 12" X 8"(H)	20 Ltrs.	400 Watts	33 ± 3 Khz
EN 200 (L) US	24" X 9" X 6"(H)	20 Ltrs.	400 Watts	33 ± 3 Khz
EN 250 US	16" X 16" X 6"(H)	25 Ltrs.	500 Watts	33 ± 3 Khz
EN 300 US	15" X 15" X 8"(H)	30 Ltrs.	500 Watts	33 ± 3 Khz
EN 350 US	16" X 16" X 8"(H)	35 Ltrs.	500 Watts	33 ± 3 Khz
EN 500 US	20" X 12" X 12"(H)	47 Ltrs.	600 Watts	33 ± 3 Khz



Moulded Tanks

Model No.	Tanks Size	Tank Cap.	U/S Power	U/S Freq
MT 1	150 X 135 X 65 mm (H)	1 Ltrs.	50 Watts	40 ± 3 Khz
MT 2	176 X 162 X 100 mm (H)	2 Ltrs.	60 Watts	40 ± 3 Khz
MT 3	240 X 135 X 100 mm (H)	3 Ltrs.	80 Watts	40 ± 3 Khz
MT 4	300 X 150 X 100 mm (H)	4.5 Ltrs.	100 Watts	40 ± 3 Khz
MT 6	300 X 150 X 150 mm (H)	6.5 Ltrs.	150 Watts	40 ± 3 Khz
MT 10	300 X 238 X 150 mm (H)	10 Ltrs.	250 Watts	40 ± 3 Khz
MT 20	500 X 300 X 150 mm (H)	20 Ltrs.	400 Watts	40 ± 3 Khz



Cooling Tank

Model No.	Tanks Size	Tank Cap.	U/S Power	U/S Freq
EN 200 US (C)	14" X 12" X 8" (H)	20 Ltrs.	400 Watts	33 ± 3 Khz
EN 250 US (C)	16" X 16" X 6" (H)	25 Ltrs.	500 Watts	33 ± 3 Khz
EN 300 US (C)	15" X 15" X 8" (H)	30 Ltrs.	500 Watts	33 ± 3 Khz
EN 350 US (C)	16" X 16" X 8" (H)	35 Ltrs.	500 Watts	33 ± 3 Khz
EN 500 US (C)	20" X 12" X 12" (H)	47 Ltrs.	600 Watts	33 ± 3 Khz
	18" X 16" X 10" (H)			



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Some of our esteemed Clients :



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