Recommendation of ultrasonic machine

Industrial level

Ultrasonic Probe / Ultrasonic digital generator / Control system assembly / Reactor assembly / Rack and pipe fittings

Item No.	GS10	GS25	GS50	GS100	GS200	GS300
Annual output	10tons	25tons	30tons	100tons	200tons	300tons
Output Power	2000w	2000w	2000w	2000w	2000w	2000w
Total power	6000w (2000w*3)	12000w (2000w*6)	24000w (2000w*12)	48000w (2000w*24)	72000w (2000w*36)	96000w (2000w*48)
Frequency	20kHz ± 1kHz	20kHz ± 1kHz	20kHz ± 1kHz	20kHz ± 1kHz	20kHz ± 1kHz	20kHz ± 1kHz
Input voltage	220v or 380v, 50Hz	220v or 380v, 50Hz	220v or 380v, 50Hz	220v or 380v, 50Hz	220v or 380v, 50Hz	220v or 380v, 50Hz
Total volume	$5m^3$	$10m^3$	$20m^3$	$40m^3$	$60m^3$	$80m^3$

Recommendation of ultrasonic system (Dispersing type)

Item No.	S55B	S57B	S31B	S35B	S33B
Capacity	20L	30L	10L	30L	20L
Output power	1000W	1500W	500W	2000W	1000W
Main advantages	Uniformly dispersed, high Sonicating area				
Frequency	20kHz ± 1kHz				
Working type	Reactor / container		Recycling pipeline type		

Lab level

Recommendation of ultrasonic system (exfoliated type)

Item No.	S07B	S17B
Capacity	5L	20L
Output power	500W	2000W
Main advantages	High output intensity, high cavitation effect	
Frequency	20kHz ± 1kHz	

Altrasonic

High-power ultrasonic metal melt treatment system

High-power ultrasonic metal melt processing system plays a important role in ultrasonic metal processing, ultrasonic grain refinement, ultrasonic metal solidification, ultrasonic exhaust bubbles, ultrasonic crystal, ultrasonic cavitation, ultrasonic casting, ultrasonic coagulating tissue, ultrasonic metal casting, etc.

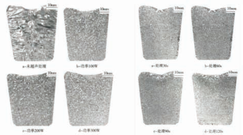
Features

* Intellectual property rights, domestic initiative;
* Temperature: maximum temperature of 800 ℃;
* Corrosion resistance: the use of high strength titanium alloy tool head;
* Power: The maximum radiated power single head up to 2500W;
* The effect is significant: between micro-molecular, direct effect, obviously;
* Easy to install: install via a standard butt flange, without changing customers' existing production equipment and processes;

Main applications

1, high-strength aluminum alloy, magnesium alloy casting;
2, aluminum, magnesium alloy bar, sheet metal production;
3, various alloy materials, and other crystalline rotor degassing;
4, metal matrix composites, high-strength aluminum piston casting;

Type	20K lab level		20K Industrial level		
Item No.	HSA-500	HSA-1000	HSA-1500	HSA-2000	HSA-2500
Power	500W	1000W	1500W	2000W	2500W
Dia. of probe	30mm	30mm	50mm	50mm	50mm
Input power	220V / 110V				



Altrasonic

ULTRASONIC SONOCHEMISTRY

Hangzhou Altrasonic Technology Co., Ltd.
Email: admin@altrasonic.com Tel. (86) 571-88638953 Cell: (86) 15158107730
www.ultrasonicweldingtransducer.com www.altrasonic.com

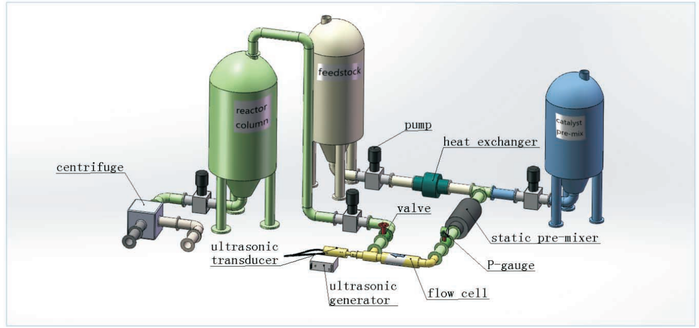
Ultrasonic Sonochemistry

Sonochemistry is the application of ultrasonic to chemical reactions and processes. The mechanism causing sonochemistry effects in liquids is the phenomenon of acoustic cavitation.

Cavitation, that is "the formation, growth and implosive collapse of bubbles in the liquid. Cavitational collapse produces intense local heating (5000K), high pressures (1000atm), and enormous heating and cooling rates(>109k/sec)" and liquid jet streams(400km/h).

Altrasonic ultrasonic laboratory and industrial devices are used in different application areas.

- Ultrasonic Mixing
- Ultrasonic Homogenizing
- Ultrasonic Extraction
- Ultrasonic Dispersion
- Ultrasonic Nano Size Encapsulation
- Ultrasonic Emulsification
- Ultrasonic Biodiesel Processor
- Ultrasonic cell crusher
- Ultrasonic Graphene production
- Ultrasonic degassing



Altrasonic

Ultrasonic perfect the graphene

The development of graphene industry demand high quality graphene urgently; (The traditional way of producing need to add more oxidant and reducing agent, while the ultrasonic exfoliation of graphite can greatly reduce the additive, greatly improve the purity and reduce the size of graphene.)

The large scale production of graphene;

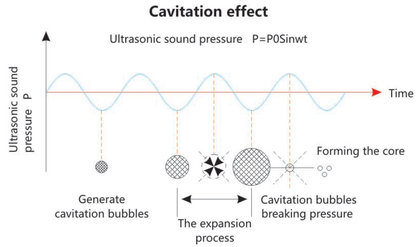
Before using Graphene. It is better to disperse by ultrasonic;

Ultrasonic dispersion for more stable graphene dispersion fluid.

In recently years, with its excellent performance and a variety of potential applications, graphene been developed fast. At the same time, people need a lot of high quality and complete structure graphene.This requires to improve the existing preparation method, explore new preparation path.And the development of preparation method require better ultrasonic equipment too.

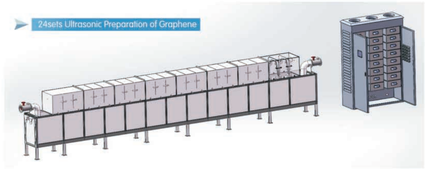
Ultrasonic

The principle of ultrasonic dispersion is make the ultrasound radiate in graphite oxide suspension, the liquid promptly flow produce a large number of tiny air bubbles, these tiny bubbles formed in the negative pressure zone along the longitudinal ultrasonic radiation and grow continuously, and quickly closed in the positive pressure area, this effect is known as "cavitation" phenomenon, in this process, closed bubbles can form thousands of instantaneous high pressure. And the instantaneous high pressure will constantly and continuously shock the graphene oxide, make graphene oxide peeling off quickly.



Theoretical basis

Some authorities and universities from home and abroad have published many references mentioned advantages of ultrasonic dispersion of graphene suspensions



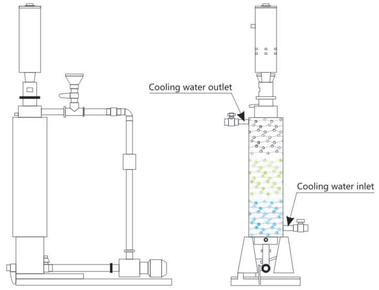
Altrasonic

Graphene With Ultrasonic

Currently we use two step exfoliation can obtain high concentration graphene dispersion, second ultrasound in 30 hours reached the max concentration ---- 20 mg/ml, the instantaneous concentration as high as 63 mg/ml.

After using various methods, the graphite expansion and the space between graphene sheets increases, the Vader waals forces between inter-layers reduce, at the same time use the liquid phase exfoliation can make graphene production rate greatly increased, and also can use water as solvent to obtain graphene, has a broad industrial prospect.Up to now, several companies use this way to achieve large production of graphene.

Through ultrasonic equipment, the surface of graphene reach 500 ~ 1000 m2 / g, thickness in 0.55 ~ 3.74 nm, the purity is more than 95 wt %, straight in: 0.5 3 microns, layer number less than 10.



Reactor of ultrasonic system

Innovation

T caps use replaceable, solve the problem of the tool head cavitation, T caps normal working hours more than 800 hours.

Using the high-power ultrasonic transducer (1500w - 3000w), More stable performance, normal service life more than 10000 hours.

Use of the digitally controlled power, to ensure that all the time in the best condition.

Dumbbell-type tool head design, greatly improving the ultrasonic radiation power per unit area.

The integrated piping made of stainless steel #316.

Overall liquid flow-controllable

Use network-Based on CAN-bus technology, all working parameters can have room remote control.

Applications

300 Tons Ultrasonic Graphene processing system