Hongzhou Success Ultrasonic Equipment

Established in 1995, the company is a national high-tech enterprise. Located in Hangzhou Xinhu Sci-tech City as the national high-tech industrial park, we are the first who widely apply the ultrasonic to the industrial field in China.

Over the past twenty years, the company has been engaged in application, research & development and production of high-power ultrasonic transducers, provided transducers, ultrasonic generators and other core parts and technical support for our clients, and possessed dozens of national patents. The ultrasonic series products have obtained the CE Certification (European Union).

Hangzhou Success Ultrasonic Equipment Co., Ltd, together with the national key graphene manufacturer, firstly applied the ultrasonic equipment to the industrial graphene production process, which had a good assistant effect on production of high-quality graphene materials with large scale and low cost. The ultrasonic-assisted graphene production equipment developed by the company has gained the national patent (ZL201520135433.3), regarded as the project supported by the national technical innovation fund (Project Approval Code: 12C26213302489); In addition, the ultrasonic series products have obtained the CE Certification (European Union). The company can ensure that the whole process from project research & development, production and testing to reaching the market is carried out in strict accordance with the international prevailing standard, so as to achieve the international recognized product quality and make products meet the requirements specified in safety/healthy/environmental protection/sanitation series product standards.

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**Introduction to Quick Use**

**Performance Characteristics**
- The typical application includes homogenization, emulsification, dispersion, depolymerization & wet grinding (the particle size decreases), cell disruption & disintegration, extraction, and degasification.
- With PLC and Digital Display, it can track the frequency automatically and the user can easily observe the actual operating frequency.

**Technical Parameters**

<table>
<thead>
<tr>
<th>Equipment Model</th>
<th>YPS71B-HB</th>
<th>YPS15B-HB</th>
<th>YPS311B-HB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>1000W</td>
<td>500W</td>
<td>500W</td>
</tr>
<tr>
<td>Frequency</td>
<td>20kHz</td>
<td>20kHz</td>
<td>40kHz</td>
</tr>
<tr>
<td>Amplitude/Power Adjustment Range</td>
<td>50% - 100%</td>
<td>50% - 100%</td>
<td>50% - 100%</td>
</tr>
<tr>
<td>Handling Capacity</td>
<td>0.5-2L</td>
<td>0.2-2L</td>
<td>0.2-2L</td>
</tr>
<tr>
<td>Effective Immersion Depth of the Ultrasonic Head</td>
<td>80mm</td>
<td>150mm</td>
<td>180mm</td>
</tr>
<tr>
<td>Standard Ultrasonic Head Diameter</td>
<td>Φ16mm</td>
<td>Φ14mm</td>
<td>Φ6mm</td>
</tr>
<tr>
<td>Optional Configuration</td>
<td>Ultrasonic Main Device + CNC Driving Power Source + Experiment Holder</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Higher Cost Performance**

**Performance Characteristics**
- This series refers to all items on ultrasonic liquid treatment research & test, including effective combination of ultrasonic generator, stainless steel reaction vessel and flow control system. It is able to effectively treat above 5L samples. Configuring the peristaltic pump, temperature detection and pressure detection, so as to better control of the flow direction and flow rate, simulate the on-site operating condition, monitor the system operation and carry out the data collection. The achievements obtained through this system can be easily duplicated to industrial production lines.

**Technical Parameters**

<table>
<thead>
<tr>
<th>Equipment Model</th>
<th>YPM11B-MB</th>
<th>YPM131-MB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>20kHz</td>
<td>20kHz</td>
</tr>
<tr>
<td>Amplitude/Power Adjustment Range</td>
<td>20% - 100%</td>
<td>20% - 100%</td>
</tr>
<tr>
<td>Processing Capacity of the Equipment</td>
<td>5-10L</td>
<td>5-10L</td>
</tr>
<tr>
<td>Design Temperature</td>
<td>&lt;100°C</td>
<td>&lt;100°C</td>
</tr>
<tr>
<td>Circulation Speed</td>
<td>0-10m/h</td>
<td>0-10m/h</td>
</tr>
<tr>
<td>Outline Dimension</td>
<td>1×1.5×0.5m²</td>
<td>1×1.5×0.5m²</td>
</tr>
<tr>
<td>Reaction Vessel Material</td>
<td>SS304</td>
<td>SS316</td>
</tr>
<tr>
<td>Standard Configuration</td>
<td>YPS615-BB Circular Reaction Vessel + Peristaltic Pump</td>
<td></td>
</tr>
<tr>
<td>Optional Configuration</td>
<td>Temperature Detection + Pressure Detection + Solid-liquid mixer</td>
<td></td>
</tr>
</tbody>
</table>
**Sonochemical Production Line**

**Product Features**

The combined production line is for continuous sonochemical treatment of liquid materials in flowing state, can control the flow(speed) and treatment degree, easy for installation and cleaning. This line can also be equipped with soundproof system and explosion simulation system. According to more than 30 years of experience, for different types of application, we will offer the technical support based on the final effect of the industrial production, and we have set up 200 tons and 500 tons Graphene production lines successfully.

### Model Selection Guidance

<table>
<thead>
<tr>
<th>Equipment Model</th>
<th>YP-GS100</th>
<th>YP-GS200</th>
<th>YP-GS300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Output of Graphite (Yield)</td>
<td>10 t</td>
<td>25 t</td>
<td>50 t</td>
</tr>
<tr>
<td>Rated Power of Equipment</td>
<td>3000W/440W</td>
<td>3000W/440W</td>
<td>3000W/440W</td>
</tr>
<tr>
<td>Total Rated Power</td>
<td>18000W~30000W</td>
<td>28000W~30000W</td>
<td>28000W~30000W</td>
</tr>
<tr>
<td>Current</td>
<td>18A~22A</td>
<td>28A~32A</td>
<td>28A~32A</td>
</tr>
<tr>
<td>Frequency</td>
<td>20KHz~1kHz</td>
<td>20KHz~1kHz</td>
<td>20KHz~1kHz</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>220V/50Hz</td>
<td>220V/50Hz</td>
<td>220V/50Hz</td>
</tr>
<tr>
<td>Total Installation Area</td>
<td>5 M²</td>
<td>10 M²</td>
<td>20 M²</td>
</tr>
</tbody>
</table>

### Production Line equipment

A series of serial parallel structures are used to realize continuous ultrasonic machining of pipeline system. Lots of ultrasonic heads can be work together according to the application of control and effect.

### Lab-scale Equipment

After the ultrasonic treatment (circulated), the experimental results are obtained, compared and analyzed, and then the equipment selection can be carried out according to the best treatment effect.

### Pilot-scale Equipment

The ultrasonic pilot cycle equipment is simulated in Pipeline ultrasonic treatment process, and the key parameters such as amplitude, power, flow rate, temperature and so on in industrial application are obtained by simulating the process of pipeline ultrasonic treatment.
**Graphene Equipment**

- Before ultrasonic: Graphite Abrasives
- After ultrasonic: Graphene
- Qty of ultrasonic machine: 144 sets
- Volume: 720L
- Output: 1 ton/8 hour

**Coating Dispersion**

- Before Ultrasonic: size bigger than 10 µm
- After ultrasonic: about 1 µm
- Qty of ultrasonic machine: 6 sets
- Volume: 60L
- Output: 600L/h

**Biodiesel Production**

- Before ultrasonic: Pre-catalytic material
- After ultrasonic: biodiesel
- Qty of ultrasonic machine: 1 set
- Volume: 300L
- Effect: Yield increase 30%

**Swage Treatment/High Power Cleaning**

- Before ultrasonic: Press printing and drying wastewater, microbial degradation
- After ultrasonic: Microbial disruption
- Qty of ultrasonic machine: 1 set
- Volume: 1000L
- Effect: Microbial failure and water content reduction during pressure filtration

**Graphene equipment:**
Used for Graphene Disperse, the expanded graphite is dispersed into graphene, with ultrasonic sonochemical treatment, it can increase the Preparation efficiency, this technology is one of the most important part of Graphene Production and Application.

**Coating dispersion:**
By Ultrasonic treatment, the large solid particles in the coating are dispersed into small ones, so as to achieve the effect of homogeneous coating. Instead of existing mechanical or chemical dispersion methods, Environmental protection and energy saving.

**Biodiesel production:**
Without changing the original process of biodiesel production, it can increase the output of 20-30%, reduce the amount of catalyst, with ultrasonic treatment, it can increase the production efficiency.

**Swage treatment:**
The Ultrasonic Sonochemical machine, will be equipped after Biodegradation, with ultrasonic cavitation for cell disruption, the ultrasonic sonochemistry can increase the treatment efficiency and reduce the water content of sludge.

**High power cleaning:**
Different with Ultrasonic Cleaning Machine, Ultrasonic Sonochemistry applies Focusing cleaning principle, Energy concentration, can increase the cleaning effect of Solid particles.
**Silicon Carbide Disaggregation**

Before ultrasonic: Agglomerated particle  
After ultrasonic: Completely dispersed  
Qty of ultrasonic machine: 12 sets  
Volume: 60L  
Output: 1-2 ton/h

Silicon carbide disaggregation:

In the field of solid-liquid dispersion, the material after dispersion will be reuniting again with the effect of Static electricity and Van Edward force. Ultrasonic Cavitation will disperse them and increase the contact area of solid and liquid, further improve production efficiency.

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**Demulsification of Crude Oil**

Before ultrasonic: Demulsification of crude oil  
After ultrasonic: Crude oil, water in oil  
Qty of ultrasonic machine: 4 sets  
Volume: 100L  
Output: 1.5 ton/h

Demulsification of crude oil:

With ultrasonic cavitation, the ultrasonic sonochemistry can separate the water and oil from the crude oil, reduce the consumption of demulsifier, and its pollution problem. Easy operation, fast processing speed, no need to change the processing technology, only set up our ultrasonic machines on the pipeline.

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**Oil Platform Assembly**

Before ultrasonic: Demulsification of crude oil  
After ultrasonic: no Living marine water  
Qty of ultrasonic machine: 14 sets  
Total flow: 5-8 ton/h  
Effect: kill ratio 99%

Oil platform assembly:

The cooling water on the crude oil platform is treated with ultrasonic machine to kill marine organisms, to reduce the attachment of marine organisms in the pipeline, and to avoid pipe blockage. The assembly equipment, with the ultrasonic equipment as the core, has the explosion prevention and classification society certification, and has been used in two seawater platforms in Bohai Sea.

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**Herb Extraction**

Before ultrasonic: Mixed liquid of herbal medicine  
After ultrasonic: The effective analytic liquid of Medicine  
Qty of ultrasonic machine: 4 sets  
Volume: 100L  
Output: 1.5 ton/h

Herb Extraction:

Add ultrasonic equipment in the traditional process of Chinese medicine extraction, can greatly improve the extraction efficiency, and countercurrent extraction or high temperature extraction technology on existing auxiliary adding ultrasonic equipment, can further improve the leaching rate of the effective components of the medicine, to achieve energy saving effect.
Ultrasonic Metallic Aluminum Melt Treatment System

**Product Features**
- The product is newly created in China, with proprietary intellectual property rights;
- High Temperature Resistance: The maximum allowable temperature is 900°C;
- Corrosion Resistance: The high-strength titanium alloy tool head is adopted;
- High Power: The maximum power of a single radiation head may reach 2,500W;
- Significant Effect: In the aspect of micro-molecular interaction, there is direct and significant effect;
- Simple & Convenient Installation: Carry out the installation by adopting the standard flange plate connection method, with no need of changing the existing production equipment and process flow of the customer.

**Case Application**
- Pure Aluminum Solidification Structure Not Treated with Ultrasound
- Pure Aluminum Solidification Structure Treated with Ultrasound
- Treatment for 100W
- Treatment for 1500W
- Treatment for 2000W
- Treatment for 2500W

Data from Mr. Zhai qijie's team, Foundry Research Institute, School of materials science and Engineering, Shanghai University.

**Technical Parameters**

<table>
<thead>
<tr>
<th>Classification</th>
<th>20K Experimental Level</th>
<th>20K Industrial Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>YPR1218-Z3S</td>
<td>YPR1218-Z3S</td>
</tr>
<tr>
<td>Power</td>
<td>500W</td>
<td>1500W</td>
</tr>
<tr>
<td>Enabler Head Diameter</td>
<td>30(mm)</td>
<td>50(mm)</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>220±10%(V)</td>
<td>220±10%(V)</td>
</tr>
</tbody>
</table>

**Qualification Certificate**

Based on Customer Demands, Achieve Customer Satisfaction

Certificate of Industrial Brand Products

Certificate of High-Tech Enterprise

Certificate of Small and Medium Enterprise Innovation and Entrepreneurship