



ACS Material Equipment Series

NanoFX™ High Concentration Nano Bubble Generator

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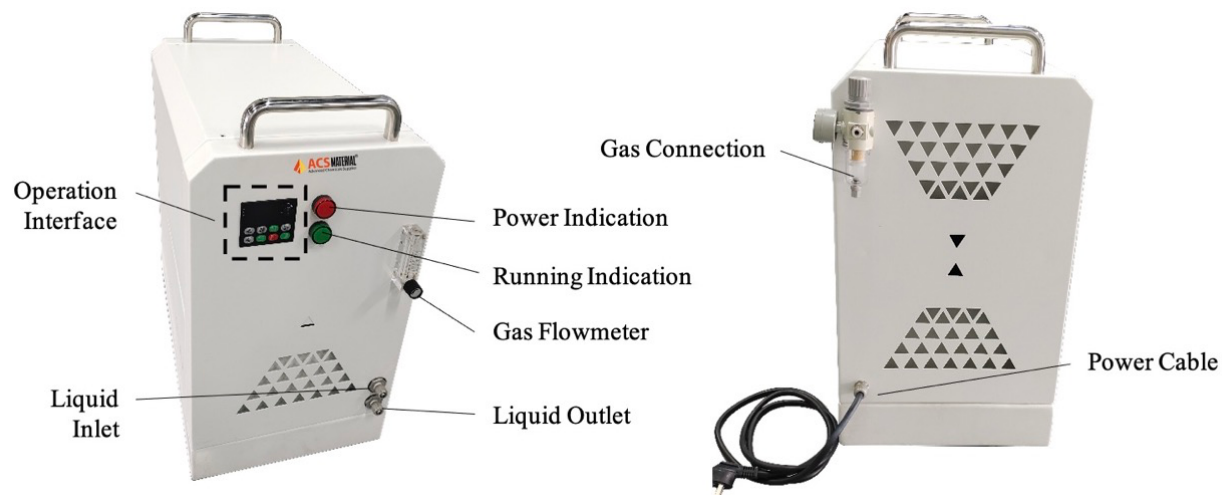
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I. Product Overview

The equipment is designed based on the principle of high-pressure microchannel turbulence, and the gas source can be connected to oxygen, nitrogen, hydrogen, and other gases externally. It is suitable for use in the ozone oxidation treatment of wastewater, oilfield recovery research, photovoltaic semiconductor cleaning, chemical gas-liquid reactions, and other research projects.



Photos of High Concentration Nano Bubble Generator

II. Product Features

Product Name	NanoFX™ High Concentration Nano Bubble Generator
Model	ENNBG001
Power	110V 1.5 kW (Customizable according to customer requirements)
Air Inlet Flow	0-0.8 L/min
Nano-bubble Water Flow Rate	3 L/min
Nano-bubble Size	151.7 nm
Nano-bubble Concentration	280 million particles/mL
Overall Dimensions	70*45*75 cm
Weight	~30 kg
Configuration Description	Includes 1 main machine, hoses for transporting liquids.

III. Product Specifications

1. **High Preparation Efficiency:** This equipment can prepare many micro and nano-scale bubbles in a short time through high-pressure turbulent shear technology. It has a flow rate of 3 L/min and a particle size of about 150 nm, with its nano-bubble particle size at 151.7 nm and a concentration of up to 280 million particles/mL, placing it at the industry-leading level.
2. **Adjustable Frequency:** The equipment uses a frequency converter to adjust the frequency, allowing it to produce nano-bubbles while effectively reducing energy consumption and improving operational efficiency. Additionally, the air inlet has a 6mm quick insert, which allows for the introduction of various gases, greatly expanding the device's range of applications.
3. **Good Size Uniformity:** The equipment can control the size distribution of micro and nano-bubbles by adjusting the shear conditions, ensuring more uniform bubbles.
4. **High Stability and Mass Transfer Efficiency:** The micro- and nano-bubbles generated by the equipment have ultra-high stability and mass transfer efficiency, improving the solubility and stability of air in water.
5. **Negatively Charged Surface:** The micro and nano-bubbles produced by the device have a negatively charged surface, providing strong adsorption capacity for hydrophobic particles and pollutants.
6. **Generation of Reactive Radicals:** Micro and nano-bubbles release chemical energy during the bursting process, generating many reactive free radicals or reactive oxygen species (ROS) radicals.
7. **Application Areas:** The equipment can be widely used in scientific research units, universities, new materials development, biomedicine, and other high-tech enterprises.
 - 1) **Water Treatment/Environmental Protection:** Nano-bubble water treatment and purification.
 - 2) **Food Additives:** Emulsification of milk, soy milk, plant-based drinks, and food additives.
 - 3) **Microchannel Reactor:** Safe and efficient microreactor; continuous synthesis of fruit acids and azo dyes.
 - 4) **New material Synthesis:** Dispersion of nanomaterials, ultrafine powder crushing, preparation of composite materials.
 - 5) **Cosmetics:** Emulsification and plant extraction.
 - 6) **Drugs, Pharmaceutical Intermediates:** Liposomes, cell fragmentation, plant extraction.

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