

河道湖水治理

RIVER AND LAKE WATER MANAGEMENT

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江水之美 美在兰江



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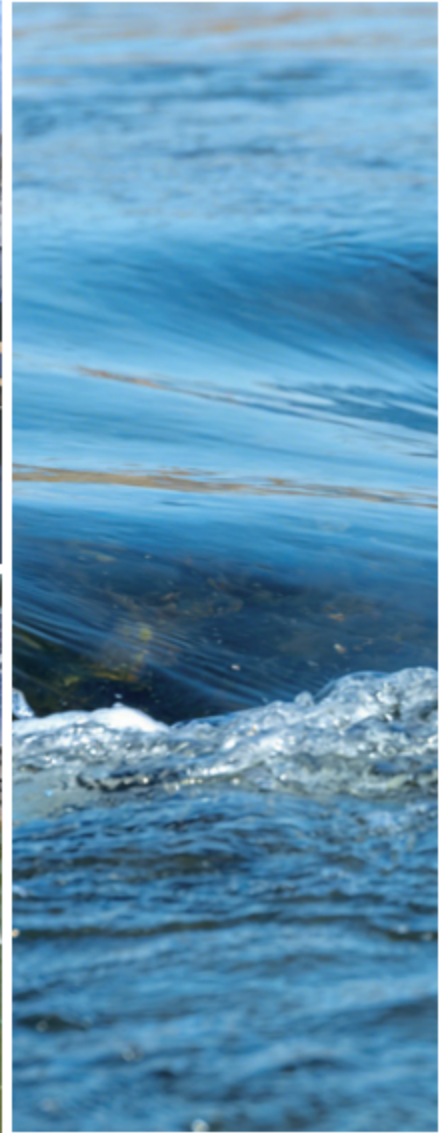


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南京兰江水处理设备有限公司

NANJING LANJIANG WATER TREATMENT EQUIPMENT CO., LTD

Company Profile

Nanjing Lanjiang is a professional manufacturer integrating the design, research and development, production, and sales of wastewater treatment equipment. The company is located at No.18 Xinyu Road, Hengliang Street, Liuhe District, in the northern suburbs of Nanjing (adjacent to the Ningtong Expressway).

The company's main products include **mixers, aeration systems, screens, conveyors, solid-liquid separation equipment, scraper suction machines, sludge treatment equipment, wastewater treatment equipment, filtration systems, comminutors, various pumps, river aeration equipment, and gates, among others.**

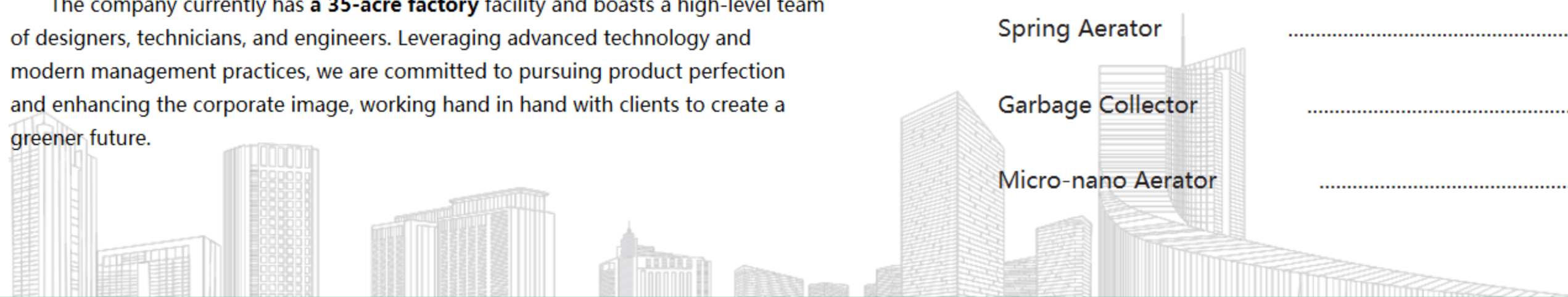
The company possesses extensive production experience and technical expertise in the field of fluid treatment systems. Its products are widely used in areas such as **water environmental protection, wastewater treatment, petrochemicals, municipal water supply and drainage, infrastructure construction, water conservancy, power stations, and agricultural irrigation.**

As a comprehensive wastewater treatment equipment manufacturer, the company provides innovative technology and product solutions to multiple countries worldwide and various provinces and cities within China. It adheres to the business philosophy of "**technological innovation, winning through quality, serving society, and returning to nature,**" as well as the marketing concept of "**seeking the market through integrity.**"

The company currently has a **35-acre factory** facility and boasts a high-level team of designers, technicians, and engineers. Leveraging advanced technology and modern management practices, we are committed to pursuing product perfection and enhancing the corporate image, working hand in hand with clients to create a greener future.

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Solar Fountain Aerator

Product Description

The SFT-LJ Solar Fountain Aerator floats on the water and adjusts with water level changes. Powered by solar energy, it drives a submersible motor to pump water up through different nozzles, forming various spray patterns. The sprays create attractive water displays and oxygenate the water. It lifts bottom water to the surface for water exchange. Surface water flows outward in a laminar flow, generating surface currents. These currents expand the coverage area, improve water surface tension, increase oxygen at the air-water interface, and raise dissolved oxygen levels across the water body. This promotes overall water homogenization.



Solar Fountain Aerator
Installation Site

Product Application

The SFT-LJ series fountain-style solar aerator oxygenates water quickly and has an attractive appearance. It provides multiple spray patterns—trumpet, central column, fountain, and chrysanthemum—for distinctive landscaping effects. It is widely used for water purification and decoration in scenic water bodies such as golf courses, waterfront residential areas, urban rivers, lakes, artificial lakes, and artificial rivers. It effectively reduces odor, black and odorous water, and blue-green algae caused by low oxygen, improving the landscape. It is especially suitable for water bodies where wiring is inconvenient and environmental requirements are high.

Product Effects

1. Spray patterns create waves, break up algae, and reduce mosquito breeding.
2. Vertical circulation quickly exchanges upper and lower water, increasing bottom dissolved oxygen.
3. Eliminates water thermoclines and reduces temperature differences between layers.
4. Quickly removes sulfides, methane, and ammonia from sediment, reducing odors.
5. Boosts microbial activity in bottom sediment, speeding up pollutant decomposition.
6. Promotes vertical water circulation, improves flow, and eliminates stagnant areas.

Product Features

1. Low cost, fast effect, easy installation, no daily manual operation.
2. Made of corrosion-resistant materials (stainless steel, engineering plastic), long service life.
3. Eco-friendly, no chemicals, no secondary pollution.
4. Combines solar aeration and microbial treatment, strong water restoration.
5. Landscape-friendly design, integrates with natural scenery and supports night visual effect.
6. Water outlet can be customized, suitable for deep lakes or reservoirs.
7. Floating type: easy to move, compact, water-level adaptive, no foundation needed.
8. Solar-powered, energy-saving and eco-friendly for long-term treatment.

Installation Instructions and Precautions

The SFT-LJ Solar Fountain Aerator has an integrated structure. It needs no special foundation and allows flexible installation position adjustment.

Installation in deep-water ponds is difficult, but floating fountain aerators make the process easy. The unit is not affected by water level changes.

Electrical work must be done by a professional electrician.

Water depth must be at least 0.6 m.

Installation Method

Pole-insert installation: Only the equipment and pole are above water.

Anchor-stone installation: Only the equipment is above water.

Notes

Follow the technical parameter table for installation depth; do not adjust randomly.

Check motor rotation direction shortly after startup. Adjust immediately if reversed.

Keep the water free of fibrous waste (wires, ropes, plastic bags) to prevent impeller tangling or inlet blockage.

Equipment Parameters and Selection

When selecting the SFT-LJ solar-powered fountain aerator, it is essential to first determine the oxygen demand of the water body, its surface area, and depth structure.

Model	Voltage	OC*(kgO ₂ /h)	CF** (m ³ /h)	Splash Height(m)	Splash Diameter (m)
SFT-LJ400	24V	0.45-0.72	760	0.6	1.8
SFT-LJ550	36V	0.73-0.82	890	1.0	2.6
SFT-LJ750	48V	0.85-1.2	1125	1.3	3.7
SFT-LJ1000	48V	1.3-1.95	1420	1.7	4.8
SFT-LJ1500	48V	2.4-2.9	1745	1.9	5.5

*OC: Oxygenation Capacity

**CF: Circulation Flux



Solar Push-flow Aerator

Product Description

The Solar Push-flow Aerator is a multifunctional oxygenation device that provides both aeration and flow propulsion. It is a lightweight, intelligent, and environmentally friendly aeration system. It is mainly used in lakes, reservoirs, rivers, water sources, oxidation ponds, and sewage ponds to effectively address issues caused by hypoxia such as odors, blackening, and cyanobacterial blooms, and is especially suitable for waters where wiring is inconvenient or environmental requirements are strict.



Solar Push-flow Aerator

Water Purification Principle

The SPS-LJ Solar Push-flow Aerator runs directly on solar power. It uses a special rotary disc reoxygenation impeller. As it rotates, it propels water horizontally to distant areas, lifting oxygen-poor bottom water to the surface. It integrates circulation, mixing, and reoxygenation functions.

Product Features

1. Landscaping design: Integrates with natural scenery during water restoration and supports night aesthetics.
2. Provides power for directional water flow in shallow water bodies.
3. Floating on water, easy to install, automatic operation, no daily manual work needed.
4. Solar-powered, energy-saving and eco-friendly for long-term restoration.
5. Combines solar aeration and blower aeration, strong water restoration ability.
6. Made of stainless steel and engineering plastics, corrosion-resistant, long service life.
7. No chemicals added, eco-friendly with no secondary pollution.
8. Supports IoT and AI technology; real-time monitoring, data query and management via mobile devices.

Product Features

Lateral Flow and Mixing Oxygenation

Circulation and mixing increase dissolved oxygen in bottom water and reduce phosphorus release.

Stimulating Water Self-Purification

Oxygen-rich flow improves the water environment, boosts sediment biological activity, and greatly enhances water self-purification.

Powerful Propulsion for Active Water Flow

It creates horizontal and vertical circulation, eliminates water stratification, and reduces temperature differences between surface and bottom layers.

Equipment parameters and selection

Before choosing the SPS-LJ Solar Push-flow Aerator, clarify the water body's oxygen demand, surface area, and depth structure.

Model	Voltage	Power(w)	O.C.(kgO ₂ /h)	R.F.(m ³ /h)
SPS-LJ400	24V	400	0.68-0.79	760
SPS-LJ550	36V	550	0.85-1.22	1050
SPS-LJ750	48V	750	1.95-2.64	1460
SPS-LJ1000	48V	1000	2.75-3.57	1650
SPS-LJ1500	48V	1500	4.0-5.0	2080

Installation Instructions and Precautions

SPS-LJ Solar Push-flow Aerator has a compact structure, needs no special foundation, and allows flexible installation positioning.

Water depth must be at least **0.6 meters**.

Installation in deep-water ponds is difficult, but this floating aerator makes installation easy and stable, unaffected by water level changes.

Fixing method

1. Pole installation: Only the equipment and pole are visible above water.
2. Anchor stone installation: Only the equipment is visible above water.

Electrical safety

Electrical installation must be done by a professional electrician.

Notes

1. Follow the technical parameter table for installation depth; do not adjust randomly.
2. Check motor rotation direction shortly after startup. Adjust immediately if reversed.
3. Keep water free of wires, ropes, plastic bags, and other fibrous debris to avoid impeller entanglement or inlet blockage.
4. The unit can be supplied with an electrical control system. If the system trips during operation, identify the cause and fix the fault before restarting. Do not restart after a short circuit.

Solar Spring Aerator

Product Description

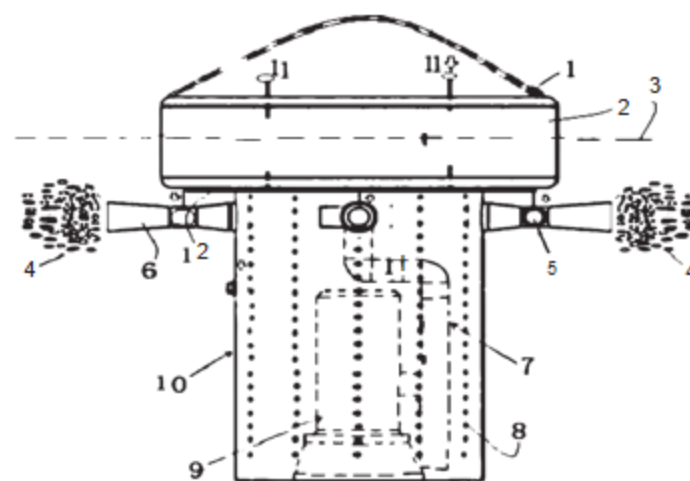
Solar spring aerator is a landscape aerator, with strong oxygenation capacity and large circulation flow, which is suitable for the purification needs of landscape water bodies in parks, landscape ponds, inland rivers and environmental ecological nature, adding flexibility and cultural atmosphere to landscape water bodies.

Working Principle

The dome-shaped solar photovoltaic panel connects the submersible pump in the pump compartment under the floating body through a cable, and then combines the intake pipeline and the pump outlet connection pipeline of the submersible pump into the venturi jet around the pump compartment, which can make more lasting and stable use of sunlight, which is conducive to the aerator to aerate more persistently and stably in the water body and form a larger landscape effect with dense nanobubbles.



Solar Spring Aerator Installation Site



- 1- Dome-shaped solar panels; 2- Floating body;
- 3- Water level line; 4- Nano bubbles;
- 5- Venturi suction port; 6- Venturi jet;
- 7- Pump outlet pipeline; 8- Filter hole array;
- 9- Submersible pump; 10- Water pump chamber;
- 11- Air inlet; 12- Main air inlet pipeline

Solar Water Wheel Aerator

Product Description

This product is suitable for shrimp farming, fish farming, crab farming, etc. It can increase dissolved oxygen in water, improve water quality, increase stocking density, enhance the living conditions of aquatic animals, prevent fish and shrimp from dying due to hypoxia, significantly improve economic benefits, and is an essential aquaculture machinery for high-yield fish ponds.

Product Features

1. Variable frequency control, energy saving and power saving!
2. No endless gear box, maintenance-free, noiseless!
3. Slow start, long service life!
4. Wide voltage operation, phase failure will not burn the motor!
5. Excellent oxygenation efficiency, strong water pushing!

Working Principle

The water wheel aerator is driven by an electric motor, which drives the impeller through a reducer. During operation, the impeller blades are partly or fully submerged. As the impeller rotates: When blades enter the water, they splash and force air into the water, pushing surface water down to the bottom and backward. When blades are perpendicular to the water surface, they create a parallel force and form directional flow. Before blades leave the water, negative pressure lifts lower-layer water. When blades exit the water, they carry and fling water upward by centrifugal force, forming splashes and droplets to dissolve more air. Airflow from the rotating impeller also speeds up air dissolution.

Equipment Parameters

Model	Power (kW)	Voltage (V)	Impellers (pcs)	Application Area (Mu)*	Noise (dB)	O.C. (kgO ₂ /h)	Weight (kg)
LJ-WHE750	0.75	220/380	2	1-5	<78	1.1-1.5	70
LJ-WHE1100	1.1	220/380	2	3-6	<79	1.3-1.8	75
LJ-WHE1500	1.5	220/380	4	3-10	<80	2.2-2.6	90
LJ-WHE2200	2.2	220/380	4	5-12	<85	2.8-3.3	95
LJ-WHE3000	3	380	6	7-15	<85	5.3-6.8	110

* 1Mu≈666.67m²



Solar Water Wheel Aerator

Solar Micro-nano Aerator

Product Description

The Solar Micro-nano Aerator is a portable river treatment machine that utilizes solar energy to operate the micro-nano aeration device. It can float on the water surface and rise or fall with the water level, primarily used for black and smelly water bodies in areas without electricity.

Product Features

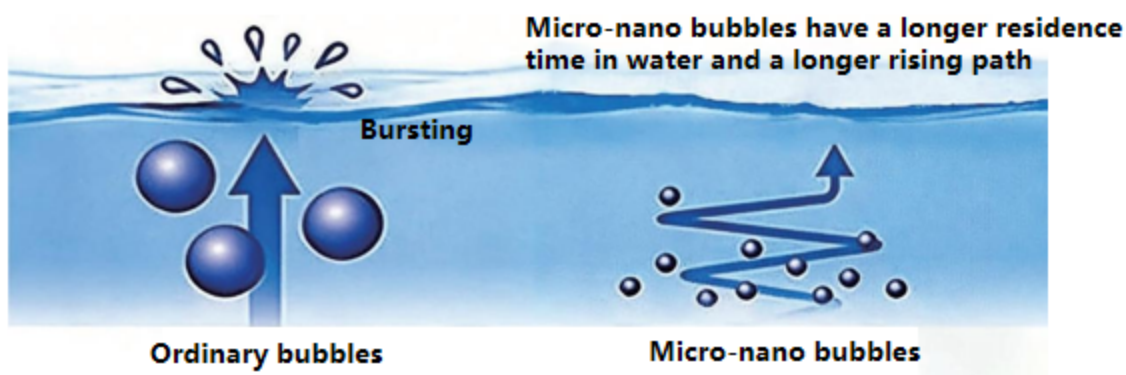
1. Decomposes pollutants, purifies sediment, increases dissolved oxygen, restores water self-purification and maintains long-term cleanliness.
2. Low energy consumption, high efficiency; nanobubbles boost oxygen transfer, with higher dissolved oxygen and BOD/ammonia nitrogen removal rates.
3. Main equipment: stainless steel, corrosion-resistant.
4. Easier to install than ordinary nanobubble machines; floating/fixed-bridge installation, no foundation, water-level adaptive, no extra facilities, no blockage.
5. Noise 30-40 dB, no impact on residents.

Equipment Parameters

Model	Power(kW)	Voltage(V)	OC(kgO ₂ /h)	CF(m ³ /h)
RSUN50RWP	0.05	24	0.88	20
RSUN150RWP	0.15	36	1.28	25
RSUN750RWP/RMT	0.75	220	3	120
RSUN1200RWP/RMT	1.2	220	3.2	150
RSUN1500RWP/RMT	1.5	220	4.0	200



Solar Micro-nano Aerator Installation Site



Solar Micro-pore Aerator

Product Features

1. Solar-powered, eco-friendly and energy-saving.
2. Integrated, lightweight, easy to install; corrosion-resistant, long service life.
3. Intelligent control, no manual monitoring; low-power flow ensures continuous circulation.
4. Floating installation, unaffected by water level.
5. Integrated solar micro-pore aerator with compatible interfaces, easy to use.
6. HDPE float (anti-oxidant, corrosion-resistant); stainless steel bracket for longer life.
7. Streamlined design prevents clogging and simplifies maintenance.
8. Oxygen conversion rate: >30% (traditional aerators <12%).
9. Effective oxygen transmission over 50m, forming strong regional water flow.
10. Large sensing flow expands oxygenation 30-50 times, low-cost & low-energy.



Solar Micro-pore Aerator Installation Site

Product Structure

Microporous pipeline aeration system includes electric blower, air storage buffer, main pipeline and aeration pipeline. Connection sequence: blower → buffer → main pipe → branch rubber hose → microporous aeration pipe. Three pipe types: PVC, aluminum-plastic and microporous (nanotube) pipes. PVC and microporous pipes are most commonly used.

Microporous pipes: better aeration effect.

PVC pipes: easier to obtain, lower cost.

Equipment Parameters

Parameters	Model	LJWK-4000
Voltage(V)		72-90
Power(W)		4000
Waterproof Rating		IP65
OC(kgO ₂ /h)		6.2-7.6
OCF(m ³ /h)		3400
Solar Panel		Monocrystalline
Fixed bracket		SS304
Floating Body		Single-suspended biofilm carrier filler
Floating Vessel		HDPE
Electrical Control Box		SS304 rainproof enclosure
Remote Control System		Device control via mobile APP, with overcurrent and overheating protection.
Photovoltaic Power Generation System		Automatic operation under sunlight; battery-powered operation (6*150Ah) in the absence of sunlight.

Working Principle

The blower sends air to the air supply pipe and then to the microporous aeration pipe, which releases mass microbubbles into the water. The microbubbles rise from the pool bottom, fully mixing with water to dissolve oxygen efficiently. They drive water rotation and vertical flow, moving oxygen-rich upper water to the bottom and spreading it outward, realizing uniform oxygenation of river water.

Solar Micropore Oxygenation Technology

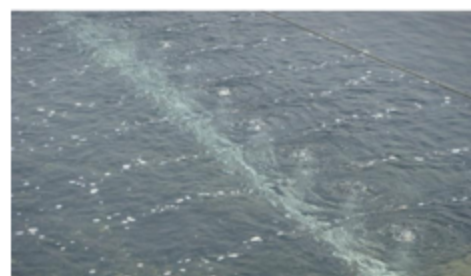
Micro-tube aeration (also called pond pipe micro-pore aeration) is a new aquaculture and wastewater treatment technology. It outperforms traditional aerators by realizing static deep aeration across the whole pond, greatly improving oxygenation efficiency. It balances temperature, salinity and dissolved oxygen in upper and lower water layers, eliminates unfavorable aquaculture conditions, helps restore river self-purification, releases toxic gases and activates water bodies.

Installation and Aeration Effect

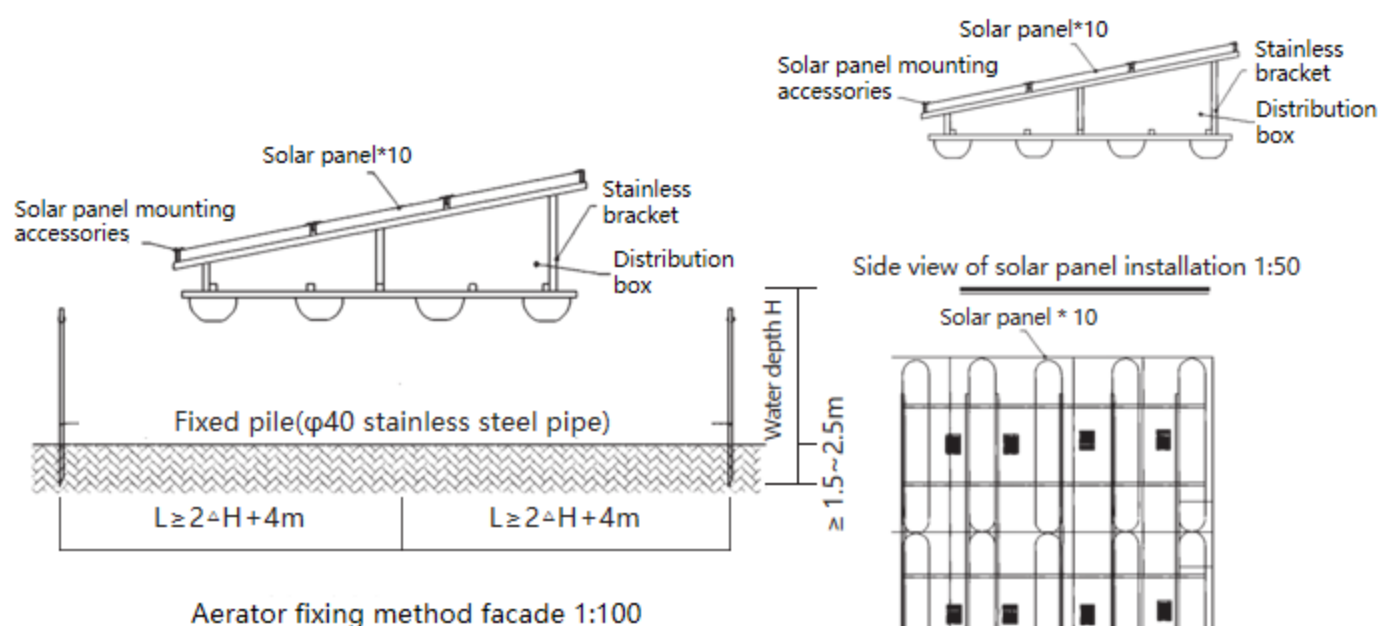
Microporous aerators have two main installation methods: strip installation and disc installation (including floating disc aeration).



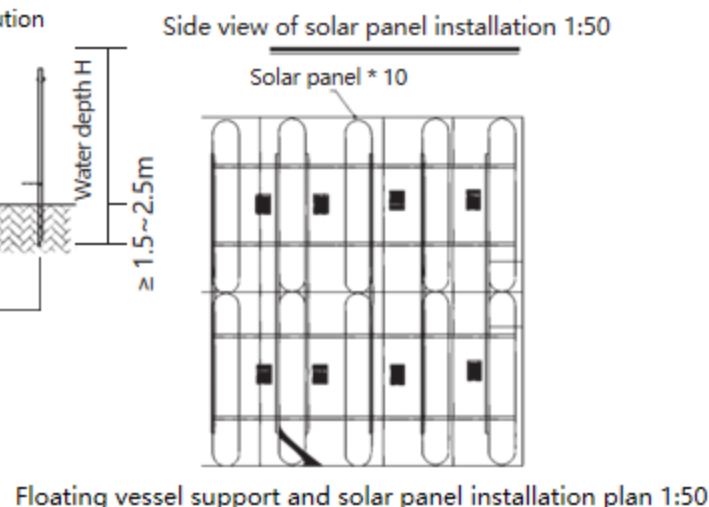
Strip microporous oxygenation effect



Disc microporous oxygenation effect



Aerator fixing method facade 1:100



Floating vessel support and solar panel installation plan 1:50

Usage and Maintenance

Aerate microporous aerators according to weather and water dissolved oxygen changes.

Maintenance notes:

1. Replace ruptured microporous tubes at once.
2. Clean algae-clogged tubes by sun-drying & patting, or soaking in 20% detergent solution for 1 hour, then wash and dry.
3. Prevent power box leakage.
4. Lubricate Roots blowers regularly.
5. Protect main unit and metal pipes from rust in rainy seasons.
6. Shield plastic pipes from direct sunlight in hot weather.
7. Fasten loose connections promptly.
8. Dismantle and store indoors when not in use.

Precautions for Use

1. Check the product for damage immediately after purchase.
2. During installation, keep the nozzle slightly above water and secure it to the pool bottom or bank with ropes.
3. Suitable for landscape water: >45cm deep (seepage-proof), >80cm deep (natural mud bottom).
4. Equip the electrical control with leakage protection; confirm wiring is correct before operation.
5. Only for landscape water aeration, oxygenation and circulation; do not use for other purposes.
6. Install in a stable position; do not lay horizontally or place heavy objects on it.
7. Wires are waterproof and cannot be repaired or replaced if damaged. Use with care.
8. Use only the company-supplied aeration impeller; other types may cause poor oxygenation and water quality.
9. Regular inspection reduces failures and extends service life.

Tips

1. Power supply must be fitted with a matching leakage protection device.
2. Disconnect power before manual operation; do not operate with wet hands.
3. Use within rated voltage range.
4. Keep power cords, plugs and sockets dry and clean.
5. Keep out of reach of children.
6. In icy winter areas, remove the unit from water or disconnect power if not running continuously (continuous operation can melt ice naturally).



Push-flow Aerator

Product Description

The push-flow aerator is a lightweight, multi-functional, adaptable device with powerful aeration, mixing and flow propulsion. It is widely used in small landscape waters (waterfront residences, artificial lakes, artificial rivers). In water restoration, it effectively reoxygenates and circulates water, stimulates water ecological functions and maintains self-purification capacity, with multiple installation methods for different water bodies.



Push-flow Aerator
Installation Site

Product Features

The push-flow aerator has four components: main unit, fixed support, air inlet pipe and impeller. It releases tiny bubbles at the water bottom for efficient circulation and oxygenation. Used in small-scale landscape water treatment, it lowers investment and simplifies operation and management.

It operates quietly with a submersible motor and integrates aeration, mixing and propulsion. Its main body uses stainless steel and high-strength engineering plastics, resisting acid, alkali and some organic solvents. With a cathodic protection block, it has a wider application range. Its spray angle is adjustable within 60° and installation water depth is flexible, supporting multi-stage combination in different water depths to keep water oxygen-rich, fresh and non-stagnant.

Working Principle

The push-flow aerator is a multi-purpose aeration and oxygenation device. Its rotating impeller displaces water to form gaps, which air fills to create an air-water mixture. The high-speed sail-shaped impeller shears the mixture into dissolved air water, pushing water forward for aeration, mixing and push-flow.

With 3-6 high-speed sail-shaped blades, the impeller cuts gas into uniform tiny bubbles. Secondary shearing by its axial thrust brings an average bubble size of 1.5 mm. The mixture forms a long gas-water diffusion column, extending contact time and greatly boosting oxygen utilization.

Equipment Parameters and Selection

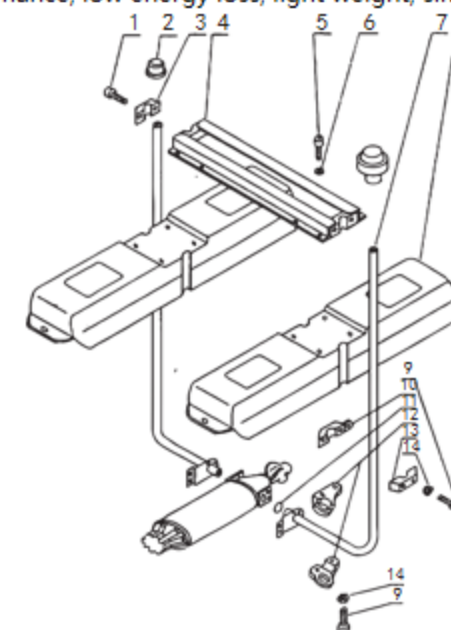
Before selecting an LJ-PSA Push-flow Aerator, it is essential to first determine the oxygen demand, surface size, and depth of the water body.

Model	Voltage (V)	Power (kw)	Speed (RPM)	Weight (kg)	OC (kgO ₂ /h)	CF(m ³ /h)	IFR*(m ³ /h)
LJ-PSA750	220/380	0.75	2850	19	1.6-1.9	280	14000
LJ-PSA1200	220/380	1.2	2850	20.5	1.8-2.1	390	19000
LJ-PSA1500	220/380	1.5	2850	22.5	2.3-2.5	450	23000
LJ-PSA2200	380	2.2	2850	26.5	3.5-4.5	610	24500
LJ-PSA3000	380	3.0	2850	30.5	4.3-5.3	720	27000
LJ-PSA4000	380	4.0	2850	36.5	5.7-6.8	815	29500
LJ-PSA5500	380	5.5	2850	42	7.4-8.3	1360	32000

*IFR:Inductive Flow Rate

Product Structure

The push-flow aerator is made of SUS304 stainless steel, making it resistant to various corrosive waters. It consists of a motor, impeller, float, float base, air intake chamber, air intake pipe, and safety switch. The product features a compact structure, high performance, low energy loss, light weight, simple installation, and convenient operation.



1. Hex socket screw 2. Suction tube cap 3. Suction tube positioning clip 4. Float plate bracket
5. Hex socket screw 6. Washer 7. Suction tube 8. Float plate
9. Socket head screw 10. Directional positioning clamp (left) 11. O-ring seal 12. Insert rod positioning clamp
13. Directional positioning clamp (right) 14. Hex nut

Installation Method

Floating installation in deep ponds is efficient, and the equipment is unaffected by water level changes.

1. Power supply must be installed by a professional electrician.
2. Water depth $\geq 0.6\text{m}$.

Installation methods

Submersible aerators have 4 options: floating, submerged, deep-water, bank-mounted.

No special foundation required; choose based on needs.

- Pole-mounted: Only equipment and pole on the water surface.
- Anchor-fixed: Only equipment visible on the water surface.

Precautions

1. Use removable rubber-sheathed waterproof power cable; reliably ground one core to the motor housing.
2. Install strictly per the technical parameter depth; do not adjust working depth randomly.
3. Check motor rotation after power-on; adjust timely if reversed.
4. Keep water free of wires, ropes, plastic bags and other fibrous debris to avoid impeller tangling and inlet clogging.
5. The unit has a built-in control system. If power cuts off automatically, fix the fault before restart. Do not start after a short circuit.



Pole-mounted



Underwater Mounting Base Bracket

Common Faults and Troubleshooting Methods

Common Faults	Reasons	Troubleshooting Methods
Fails to start with abnormal noise	1. Single-phase operation; 2. Low voltage; 3. Bearing damaged and seized; 4. Impeller jammed by foreign objects;	1.Repair the circuit; 2.Adjust the voltage; 3.Repair or replace; 4.Remove foreign objects;
No thrust flow or small thrust flow	1. Submersible pump rotating in reverse; 2. Blockage;	1.Perform phase reversal adjustment; 2.Remove debris;
Protection switch trips frequently	1. Submersible pump overloaded; 2. Unbalanced three-phase voltage; 3. Leakage in the circuit;	1.Identify and repair the cause of excessive current; 2.Adjust the power supply voltage; 3.Inspect the circuit;
Unit insulation to ground is less than 0.5 MΩ	1. Wire abrasion; 2. Damaged joint seal; 3. Degraded or damaged insulation of electromagnetic wire.	1.Locate the damaged area and wrap it; 2.Rewrap and seal the joint; 3.Replace the winding.



Waterwheel Aerator

Product Application

Waterwheel aerators are used for aquaculture, river/lake oxygenation and water quality improvement.They oxygenate and circulate water to purify it, support bottom organism growth and reduce sediment.

Working Principle

Two rectangular pontoons serve as buoyancy devices. A motor on the pontoons drives a vertical middle impeller to generate water waves for oxygenation.

advantage:

1. Lightweight, simple structure, low cost, good oxygenation for shallow ponds;
2. Strong middle and upper layer propulsion/mixing, good oxygen-water contact, high oxygenation efficiency.
3. Two or more in a pond create directional water flow throughout.

Product Features

I. New Stainless Steel Type

1. Shaft-impeller integrated design: faster assembly, higher stability.
2. Shaft made of engineering plastic + stainless steel tube: higher strength, longer service life.
3. Shaft & moving head integrally molded: better fit.
4. Corrosion-resistant, rust-proof, long service life.
5. High ductility, excellent shock absorption.

II. Easy-disassemble Engineering Plastic Impeller

1. Strong, corrosion & sun resistant.
2. More impellers: better oxygenation.
3. More stable operation, longer lifespan.
4. Detachable blades: easy replacement, less maintenance time & cost.

III. Engineering Plastic Support

1. Built-in raw material bearings: low friction, power-saving.
2. Moderate-hardness bearings: prevent shaft wear.

IV. High-density Plastic Floating Boats

1. Impact-resistant, not easy to break.
2. Corrosion & sun resistant, anti-aging.
3. One-piece molding: seamless, waterproof.

V. Low-impedance Gearbox

1. New bearings: longer lifespan.
2. Precision-designed high-quality gears with carbonitrided tooth surfaces.



Waterwheel Aerator Installation Site

Equipment Parameters and Selection

Before selecting an LJ-PSA Push-flow Aerator, it is essential to first determine the oxygen demand, surface size, and depth of the water body.

Model	Power (kW)	Voltage (V)	Impellers (pcs)	Application Area (Mu)*	Noise (dB)	O.C. (kgO ₂ /h)	Weight (kg)
LJ-WHE750	0.75	220/380	2	1-5	<78	1.1-1.5	70
LJ-WHE1100	1.1	220/380	2	3-6	<79	1.3-1.8	75
LJ-WHE1500	1.5	220/380	4	3-10	<80	2.2-2.6	90
LJ-WHE2200	2.2	220/380	4	5-12	<85	2.8-3.3	95
LJ-WHE3000	3	380	6	7-15	<85	5.3-6.8	110

Installation Method

LJ-WHE Waterwheel Aerator is a pumping aerator with multiple models, suitable for various water bodies.

Functions: oxygen supply control, oxygenation and water circulation.

Installation of aeration equipment in deep ponds is difficult, while floating waterwheel aerators feature easy installation and are unaffected by water level changes.

Installation Requirements

1. Power supply must be installed by a professional electrician.
2. Water depth $\geq 0.5\text{m}$.

Fixation Methods

1. Pole-mounted: Only equipment and poles on water surface, no other accessories.
2. Anchor-fixed: Only equipment visible on water surface.
3. Cable-fixed: Only equipment visible on water surface.

Precautions

1. Power cord: waterproof cable with movable rubber sheath.
2. Check motor rotation direction shortly after power-on; adjust timely if reversed.
3. Operating water must be free of fibers (metal wires, ropes, plastic bags) to avoid impeller entanglement and inlet blockage.
4. Equipped with electrical control system. If power cuts off automatically, troubleshoot and fix faults before restart. No short-circuit startup.

Fountain Aerator

Product Description

The fountain aerator is an efficient and energy-saving water treatment aeration device. It protects and restores water resources, water environment and aquatic ecosystems, improves water flow and self-purification capacity, and treats polluted water areas.

It is widely used in black and odorous water bodies (rivers, lakes, artificial lakes, reservoirs), landscape water treatment, rural sewage treatment, diversion canals and ecological rivers/lakes.

Efficient aeration technology is vital for eliminating black and odorous river water, purifying water quality, and promoting ecological restoration and self-purification of rivers and lakes. River aeration technology can effectively solve river pollution, improve water quality, maintain river ecosystems and promote ecological harmony.



Fountain Aerator Installation Site

Product Features

1. Body: Stainless steel, corrosion-resistant.
2. High reliability, high output efficiency and obvious water circulation effect; compact structure, high performance, low loss, low noise, low failure rate and good dissolved oxygen effect.
3. Saucer-shaped float (patented): Integrates float and buoyancy, scientifically designed, aesthetic, rational and efficient, easy, quick and flexible to assemble; made of HDPE, resistant to various corrosive water bodies.
4. No special floating installation requirements; fix the equipment by inserting 2 or 4 steel pipes into the mud bottom and using ropes.
5. Modular equipment; no machine room or piping needed, eliminating blockage risk.
6. Shaped nozzles create dynamic water features; the fountain also increases air negative ion content, purifying air, increasing humidity and lowering ambient temperature.

Working Principle

The fountain aerator uses a high-performance electric motor to drive the impeller at high speed, lifting lakebed water to the surface and expelling it into the air to form vertical water circulation. The high-speed rotating propeller agitates lake water for oxygen dissolution; the lifted water contacts air to decompose many toxic substances, realizing powerful oxygenation and rapid water quality improvement.

Accelerated vertical circulation fully aerates water, removes organic matter, eliminates stratification, reduces BOD and COD, achieves excellent phosphorus and nitrogen removal, and effectively prevents stagnant water from rotting, stinking and turning black. Its powerful spray ensures uniform reoxygenation, increases DO content, balances the aquatic ecosystem and significantly improves the aquatic environment.

Installation and Use

1. Before installation and use, check for loose fasteners, damaged cables, reliable grounding of power supply and electric pump, and whether the power supply voltage and frequency match the label.
2. Requirements for electric pump cable connectors: Wire core joints must be firm, reliable, smooth and even; wrapping must be tight, without gaps, wrinkles, dust or dirt.
3. Connect the switch, check wiring and electrical control device configuration. After confirmation, start the motor for test run (idling no more than 10 minutes) to check if the rotation direction matches the sign. If opposite, adjust any two phases of the three-phase power connector; do not change the cable wiring sequence afterward.
4. A suitable power supply is required when using the electric pump. The power supply should not be too far from the pump to avoid excessive voltage drop caused by long power cords, which may burn the motor due to low-voltage operation.
5. Voltage: 380V three-phase AC and 220V single-phase AC (allowable voltage $\pm 5\%$, maximum $\pm 10\%$); frequency: 50Hz.
6. Working water temperature: $0^{\circ}\text{C} \leq \text{temperature} \leq 40^{\circ}\text{C}$.

Common Faults and Troubleshooting Methods

Common Faults	Reasons	Troubleshooting Methods
Fails to start with abnormal noise	1. Single-phase operation; 2. Low voltage; 3. Bearing damaged and seized; 4. Impeller jammed by foreign objects;	1.Repair the circuit; 2.Adjust the voltage; 3.Repair or replace; 4.Remove foreign objects;
Abnormal water spray	1. Clogged water absorption filter 2. Electric pump reverses direction 3. Severe pipe leakage or blockage	1. Remove debris 2. Phase adjustment 3. Remove foreign objects and repair pipes.
Protection switch trips frequently	1. Submersible pump overloaded; 2. Unbalanced three-phase voltage; 3. Leakage in the circuit;	1.Identify and repair the cause of excessive current; 2.Adjust the power supply voltage; 3.Inspect the circuit;
Unit insulation to ground is less than 0.5 MΩ	1. Wire abrasion; 2. Damaged joint seal; 3. Degraded or damaged insulation of electromagnetic wire.	1.Locate the damaged area and wrap it; 2.Rewrap and seal the joint; 3.Replace the winding.



Fountain Aerator



Center Water Column Fountain Aerator



Center Water Column Aerator

Product Parameters

Fountain Aerator						
Model	PQ3	PQ8	PQ12	PQ15	PQ22	PQ30
Parameters						
Power(kW)	0.35	0.75	1.2	1.5	2.2	3.0
Voltage(V)	220	220/380	220/380	220/380	380	380
Splash Height(M)	1.3	1.5	1.6	2/2.2	2.3/2.5	3.2
Splash Diameter(M)	3-5	4-5.5	5-6	5.5-6.5	7-9	9-10
Flow Rate(m ³ /h)	90	160	210	300	360	410
OC(KgO ₂ /h)	0.8-1.5	2.0-3.0	2.8-3.6	3.2-4.0	4.0-5.0	5.3-6.2
Dimensions(mm)	900x560	900x560	900x560	900x590	900x630	900x650
Total Weight(Kg)	26	28	28	30	32	33

Center Water Column Fountain Aerator					
Model	QSP12	QSP15	QSP22	QSP30	QSP40
Parameters					
Power(kW)	1.2	1.5	2.2	3.0	4.0
Voltage(V)	380	380	380	380	380
Water Column Height(M)	4-4.5	4-5	6-7	7-8	9
Splash Diameter(M)	13	13	15	16	16.5
Lift(m)	8	12	16	18	22
Flow Rate(m ³ /h)	16	25	40	60	80
OC(KgO ₂ /h)	0.80	0.88	1.06	1.3	1.6
Dimensions(mm)	900x580	900x580	900x600	900x630	900x630
Total Weight(Kg)	30	31	35	40	46

Center Water Column Aerator				
Model	QSP12A	QSP15A	QSP22A	QSP30A
Parameter				
Power(kW)	1.2	1.5	2.2	3.0
Voltage(V)	380	380	380	380
Water Column Height(M)	5	6	7-9	8-11
Lift(m)	8	12	16	18
Flow Rate(m ³ /h)	25	30	40	60
OC(KgO ₂ /h)	0.8	0.88	1.06	1.3
Dimensions(mm)	900x580	900x580	900x600	900x630
Total Weight(Kg)	30	31	35	40

Spring Aerator

Product Application

Spring aerators are suitable for golf courses, ecological landscape lakes, rivers, etc. They purify and maintain water quality through water reoxygenation and circulation. During operation, they drive water circulation to supply oxygen for the growth of bottom-dwelling plants and animals in ecological rivers and lakes and reduce bottom sediment.

Product Effect

1. Water circulation is improved through vertical circulation, reducing water dead zones.
2. Vertical circulation rapidly exchanges upper and lower water layers, increasing dissolved oxygen in the bottom layer.
3. Enhances the activity and reproductive capacity of sediment microorganisms, accelerating pollutant decomposition.
4. Quickly removes sulfides, methane and ammonia from sediment, reducing water odor.
5. Eliminates the water body's natural thermocline, reducing the temperature difference between upper and lower water layers.
6. The spray creates a wave effect, helping disperse algae and inhibit mosquito breeding.

Product Features

The spring aerator is an integrated machine composed of an underwater motor, an engineering PE plastic float (with UV resistance, oxidation resistance and impact resistance), and an oxygenation nozzle.

1. Integrated structure, small size, easy to install; floating installation, no foundation needed.
2. Easy to fix and move as required; overall floating, not affected by water level fluctuations.
3. No easily damaged parts, shortening the maintenance cycle; multiple water splash patterns available, selectable by environment.
4. High-flow circulation and open impeller deliver 2-3 times the oxygenation effect of ordinary aerators.



Spring Aerator Installation Site



Garbage Collector

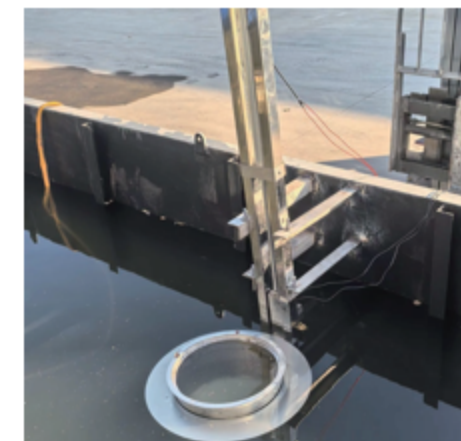
Product Description

If river debris is not cleaned timely, it will attach to aquatic plants, causing withering and water pollution. Debris collectors keep rivers clean and reduce maintenance workload.

The device has excellent corrosion resistance and can run stably underwater for a long time, operating 24 hours a day. It collects about 20 kg of surface garbage per day, reduces manual labor intensity, efficiently gathers small garbage hard to retrieve by hand, and greatly improves the water surface appearance. Shaped like a flying saucer, the collector uses the liquid level difference from its up-and-down movement to collect floating debris such as leaves. It features high collection efficiency, low energy consumption, intelligent and easy operation, silent running and convenient maintenance.

It cleans common debris including aquatic plants and leaves, and absorbs fine floating matter such as oil stains and willow catkins with high cleaning precision. It shuts down automatically when full, reducing labor costs and improving cleaning efficiency and quality.

For routine cleaning, staff only need daily inspection, shutdown, net removal for garbage emptying, then restart the device. After more than one month of trial operation, it effectively supplements traditional manual dredging and greatly improves river cleaning efficiency and quality. It will be gradually promoted and applied to major urban rivers and ponds, especially sections with a large amount of fallen leaves.



Garbage Collection Installation Site

Appearance Description

1. Floating tank: Fixes the working depth of the device underwater and keeps the garbage bin operating at a fixed position.
2. Self-priming garbage bin: Automatically adjusts buoyancy to keep the collection opening level with the water surface, ensuring normal operation within the specified water level difference.
3. Fixed support assembly: Secures the garbage bin in place.

Product Features

1. Adjustment function: The tank is equipped with an adjustment ring to maintain the ideal working height within a certain water level range.
2. Aeration function: Forcibly transfers oxygen from air into water to increase dissolved oxygen content.
3. Powerful adsorption: Uses pump suction to draw floating debris from the water surface into the internal collection basket.
4. Quiet operation: Adopts a silent submersible pump to avoid environmental noise.
5. Powerful monitoring: Monitors the water surface collection and aeration environment.
6. High-efficiency drainage: Equipped with a high-power, high-flow submersible pump for fast drainage.
7. Self-setting frequency: Automatically sets operating frequency according to different time periods and environments.

Garbage Collector Parameters

Model	Voltage(V)	Power(W)	Dimensions*(mm)	Flow Rate(L/h)	Cable Length(m)
LJ-DL100	220	100	200*600	33000	5
LJ-DL150	220	150	250*600	40000	5
LJ-DL200	220	200	300*600	45000	5
LJ-DL250	220	250	350*700	50000	5
LJ-DL350	220	350	400*700	55000	5
LJ-DL450	220	450	450*800	65000	5
LJ-DL550	220	550	500*900	75000	5
LJ-DL750	220	750	600*1000	85000	5

Lifting Type Parameters

Model	Voltage(V)	Power(W)	Dimensions*(mm)	Flow Rate(L/h)	Cable Length(m)	Lifting Bracket(m)
LJ-DLS100	220	100	200*600	33000	5	1.5-2
LJ-DLS150	220	150	250*600	40000	5	1.5-2
LJ-DLS200	220	200	300*600	45000	5	1.5-2
LJ-DLS350	220	350	400*700	55000	5	1.5-2
LJ-DLS450	220	450	450*800	65000	5	2-2.5
LJ-DLS550	220	550	500*900	75000	5	2-2.5
LJ-DLS750	220	750	600*1000	85000	5	2-2.5

Smart Type Parameters

Model	Voltage(V)	Power(W)	Dimensions*(mm)	Flow Rate(L/h)	Cable Length(m)	Lifting Bracket(m)	Smart System
LJ-DL100S	220	100	200*600	33000	5	1.5-2	RM & VM**
LJ-DL150S	220	150	250*600	40000	5	1.5-2	RM & VM
LJ-DL200S	220	200	300*600	45000	5	1.5-2	RM & VM
LJ-DL250S	220	250	350*700	50000	5	1.5-2	RM & VM
LJ-DL350S	220	350	400*700	55000	5	1.5-2	RM & VM
LJ-DL450S	220	450	450*800	65000	5	2-2.5	RM & VM
LJ-DL550S	220	550	500*900	75000	5	2-2.5	RM & VM
LJ-DL750S	220	750	600*1000	85000	5	2-2.5	RM & VM

*Dimensions:OD × H **RM&VM:Remote & Video Monitoring



Micro-nano Aerator

Product Description

The micro-nano aerator consists of a main unit, a dissolved air system and a release system.

The pump in the main unit mixes air and water. After dissolving in the dissolved air tank, the release device generates nanobubbles and jets them into water at high speed.

The jet produces mechanical ionization, breaking the colloidal bonds of pollutant clusters and the bonds between pollutants. At the same time, active oxygen and oxygen ions oxidize and decompose pollutants to purify water.

Micro-nano bubbles have a water solubility of over 85% and a supersaturated dissolved oxygen concentration. They remain in water long-term and continuously replenish active oxygen, supplying sufficient oxygen and reaction time for wastewater purification microorganisms. After treatment, dissolved oxygen in water reaches 4 ppm, giving the water a self-purification capacity far better than natural water bodies.

Product Application

It is used in wastewater treatment, aquaculture, and other fields. The pH value of the medium is 6.5 ~ 8.0, and the medium temperature is $\leq 50^{\circ}\text{C}$.

Structure Description

- 1. Water outlet pipe connector:** Connects hoses/rigid pipes to deliver atomizer's dissolved air water to the target treatment area.
- 2. Bubble Atomizer:** Releases high-pressure dissolved air water, atomizing it into $\leq 20\mu\text{m}$ bubbles to form low-pressure, high-quality dissolved air water.
- 3. Atomizer Inspection Valve:** Close to maintain clogged atomizer.
- 4. Pressure tank:** Stainless steel; converts gas-water mixture into supersaturated high-pressure dissolved air water.
- 5. Integrated Two-Phase Flow Dissolved Gas Generator:** Submersible motor-driven, draws air/water, crushes into mixture to pressure tank; coaxial motor/pump head with separate seals (prevents liquid entering motor).
- 6. Inlet Water Regulating Valve:** Adapts to different heights; adjusts air-water ratio with intake valve (initial startup/debugging only).
- 7. Water Inlet Pipe Connector:** Uses hoses/rigid pipes (-0.05MPa negative pressure-resistant) to deliver river water to the generator.
- 8. Intake Control Valve:** Adjusts air intake; cooperates with inlet valve for ideal air-water ratio.
- 9. Return water pipe:** Connects the Dissolved Gas Generator to the pressure tank.



Micro-nano Aerator Installation Site

10. Air release safety valve: Automatically opens to release pressure when tank pressure exceeds 0.7MPa; manually opened to release air if tank air ratio is too high (atomizer's dissolved air water has large bubbles).

11. Pressure gauge: Observes pressure inside the pressure tank for pressure adjustment.

Product Features

1. Decompose and oxidize all water pollutants, purify bottom silt, increase dissolved active oxygen, achieve thorough water purification, restore water self-purification capacity, and maintain long-term purified water environment.
2. Low energy consumption: Nanobubbles have much higher oxygen transfer rate than ordinary bubbles; under the same aeration intensity, micro-nano aerators produce more dissolved oxygen and higher BOD than ordinary ones.
3. Main equipment is stainless steel, resistant to various corrosive water bodies.
4. Easier to construct and install than ordinary micro-nano aerators: installable on fixed bridges/floating platforms, floats on water (no foundation, not affected by water level); no machine room, pipes, pumps or valves (no blockage); quiet operation, no disturbance to residents.

Product Functions

1. Water with micro-nano oxygen bubbles enhances biological activity. Long-lasting bubbles slowly release gas and continuously supply active oxygen, boosting aerobic microbes, plankton and aquatic life, and accelerating pollutant decomposition in water and sediment.
2. High-speed injected micro-nano bubbles ionize wastewater. Hydroxyl radicals from bursting bubbles, together with active oxygen and oxygen ions, oxidize pollutants into non-toxic small-molecule organics.
3. Sediment purification breaks organic bonds into harmless inorganic matter in three stages:
 - ① Active oxygen ions in micro-nano bubbles ionize water, breaking sludge organic bonds into inorganic substances.
 - ② Acidic oxides (NO_2 , SO_2 , P_2O_5) form inorganic acids to decompose organics.
 - ③ Active oxygen oxidizes organic matter.

Installation and Precautions

- ① Easy to install (requires installation experience); power supply installation must be done by a professional electrician.
- ② Water depth between water bottom and motor working area (on water surface) ≥ 1.50 meters.
- ③ Assemble the nanobubble generator as per instructions, place it on pool bottom or bank. Set two symmetrical fixing points with expansion bolts, secure the generator with a cable (connect the other end to the float), place it in proper water position and tighten the cable.
- ④ Power cord: movable rubber-sheathed waterproof cable, with one core reliably grounded to the motor casing.

- ④ Power cord: movable rubber-sheathed waterproof type, one core reliably grounded to motor casing.
- ⑤ Strictly control installation depth per technical parameter table; do not arbitrarily adjust working depth.
- ⑥ Check motor rotation direction within seconds of power-on; adjust in time if reversed.
- ⑦ No long fibrous debris (metal wires, ropes, plastic bags, etc.) in the pool to avoid impeller tangling and water inlet blockage.
- ⑧ Factory-equipped electrical control system; if it auto-cuts power during operation, identify causes, eliminate faults and restart (never short-circuit to start).

Product Parameters

Model	Voltage(V)	Power(kW)	OC(KgO ₂ /h)	CF(m ³ /h)
LJ-750	220V/380	0.75	2.0-3.0	120
LJ-1200	220V/380	1.2	2.4-3.2	150
LJ-1500	220V/380	1.5	3.2-4.0	200
LJ-2200	220	2.2	4.0-5.0	250
LJ-3000	380	3.0	6.5-7.2	390
LJ-4000	380	4.0	7.5-9.0	440
LJ-5500	380	5.5	9.3-12	650
LJ-7500	380	7.5	12-18	930
LJ-11000	380	11	16-22	1200
LJ-15000	380	15	19-25	1600
LJ-18500	380	18.5	23-32	2000
LJ-22000	380	22	25-36	2800

