Product Specifications

Handling capacity	500m³/d	800m³/d	1000m³/d
Equipment power	4.84kw	5.77kw	6.12kw
Equipment occupied area	21m²	28m²	32m²
Applicable pond area	115 to 150 mu (approximately 76,666 to 100,000 m²)	150 to 220 mu (approximately 100,000 to 146,666 m²)	220 to 275 mu (approximately 146,666 to 183,333 m²)

Handling capacity	1500m³/d	2000m³/d	2500m³/d
Equipment power	7.12kw	8.6kw	9.78kw
Equipment occupied area	46m²	53m²	63m²
Applicable pond area	275 to 413 mu (approximately 183,333 to 275,333 m²)	413 to 550 mu (approximately 275,333 to 366,666 m²)	550 to 688 mu (approximately 366,666 to 458,666 m²)

Product Patents



A multi-functional ecological processor



A cyclone contaminant-collecting protein skimmer



A method and device for recirculating and purifying aquaculture water



A pond recirculating aquaculture and tail water treatment system



A pipe foam separation and aeration oxygenation device



An anaerobic-anoxic-oxic (A-A-O) microorganism nitrogen and phosphorus removal filter

Guangdong Lesso Agricultural Facilities Technology Co., Ltd.

Address:
6/F, Zone A, Jibei Industrial Zone, Shunde District, Foshan City, Guangdong Province

Company Tel.: 0757-29383058
Business Contact: 18826255019/ Mr. Xu, the Manager

LESSO Agriculture

LESSO Group

Release Date: 2024.10

LESSO

Integrated
Shore-based Equipment

Aquaculture Tail Water Purification Treatment System



Guangdong Lesso Agricultural Facilities Technology Co., Ltd.

Company Introduction

CHINA LESSO GROUP HOLDINGS LIMITED

Established in 1986, LESSO (Stock Code: 02128.HK) is a global leader in home furnishings and building materials. The Group's business portfolio spans plastic piping, building materials and home furnishings, environmental protection, new energy, supply-chain service platforms and others. It offers a wide range of products such as pipes, photovoltaics, plumbing and sanitary ware, integral kitchen materials, integral doors and windows, aluminum formwork and smart scaffolds, water purifiers, water-proofing materials and sealants, fire-fighting equipment, valves, cables, lighting, hygiene materials, items for environmental protection, agricultural facilities, and oceanic aquaculture cages. In 2023, LESSO's sales revenue reached over USD 4.38 billion.

Since implementing a strategy of globalization and expanding its global presence, LESSO has evolved into a sophisticated multinational. It boasts more than 30 advanced production bases worldwide, broadening its industrial and sales networks to cover Asia, North America, South America, Europe, Africa, and Oceania. This enables LESSO to provide quality products and services for global customers in accordance with its continuously improved strategic layout in a timely and efficient way.

Guangdong LESSO Agricultural Facilities Technology Co., Ltd.

Guangdong Lesso Agricultural Facilities Technology Co., Ltd., a wholly-owned subsidiary of China LESSO Group Holdings Limited, mainly specializes in the development and promotion of standardized agricultural facilities. The products that the company has developed to date include integrated shore-based aquaculture tail water treatment systems, industrial recirculating aquaculture systems, intelligent integrated machines of water and fertilizer, high-pressure sprayers, as well as energy-saving and noise-reducing aerators. The company aims to achieve a lower carbon and green power agriculture and explore the models of multiple and high production in a single piece of land by combining fishery-solar and agricultural-solar hybrid projects.

Guangdong Lesso Agricultural Facilities Technology Co., Ltd. holds dozens of patents for aquaculture and tail water treatment systems, among which the integrated shore-based aquaculture tail water treatment system, developed by collaborative research and development, was included in the Recommended Models of Comprehensive Treatment Technologies for Aquaculture Tail Water in Guangdong Province. The cumulative area of fishpond aquaculture tail water treatment projects served by the company in the Pearl River Delta area has now exceeded 100,000 mu (approximately 66.67 km^2).

USD 4.38 billion
Operating revenues in 2023

30+
Production bases

10000+
Product categories

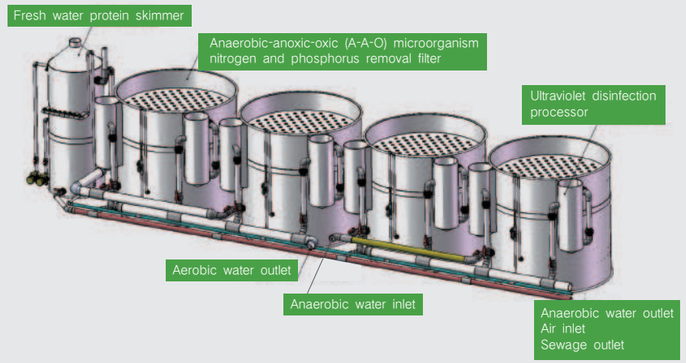
3000+
Patented products



Integrated Shore-based Equipment: Aquaculture Tail Water Purification Treatment System

Aquaculture tail water purification treatment system is designed specifically for the sources and characteristics of aquaculture tail water pollution. Featured by the independently developed new patented technology, the system can separate water-soluble organics and suspended particles through foam separation. A diverse treatment environment can be provided for anaerobic-anoxic-oxic microorganism by adopting the anaerobic-anoxic-oxic (A-A-O) microorganism purification technology to achieve efficient nitrogen and phosphorus removal. After further treatment with ultraviolet and ozone disinfection, the water can be discharged in compliance with standards or recycled for reuse.





Product Strengths

Efficient operation

The daily treatment capacity of the aquaculture tail water purification treatment system is as high as 2500 m^3, and the system can be used to effectively treat and discharge aquaculture tail water up to the required standards.

Low operating costs

Reagents may not be required when the aquaculture tail water purification treatment system is running. Since the equipment has a relatively low power consumption, its main operating cost is only electricity expenses, resulting in integrally low operational costs.

Small occupied area

The aquaculture tail water purification treatment system occupies an area ranging from 21 to 63 m^2, and can be placed between pond banks for use. Its footprint is much smaller than that of the three-pond-two-dam tail water treatment system

Simple operation, and easy maintenance

All functional valves in the aquaculture tail water purification treatment system are controlled by automatic timers, with no need for manual operation. The system is designed with a built-in backwashing function, providing easy daily cleaning and maintenance.

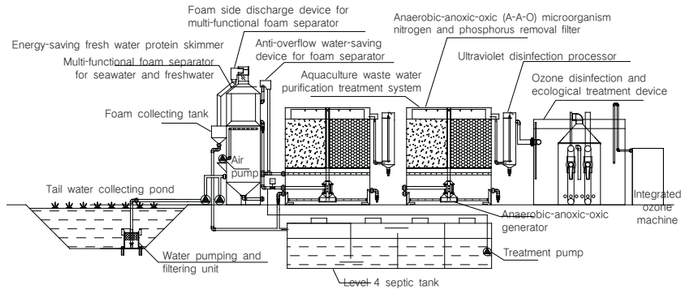
Low cost per unit area

The adoption of the equipment can solve the critical issues of fishpond tail water treatment according to standard requirements. Its investment cost requires only CNY 2,000 to 2,500 per mu (a traditional Chinese unit of area, approximately equal to 666.67 m^2), which is significantly lower than that of other tail water treatment technologies.

Flexible combinations

The aquaculture tail water purification treatment system can improve its treatment capacity of tail water by adding supporting combinations according to water quality requirements, in order to meet most water quality requirements for tail water discharge.

Technical Process



The system extracts the tail water into the equipment, and the water then is directed into the protein skimmer. The protein skimmer utilizes the air flotation method to generate a large number of microbubbles in the water and allow these microbubbles to adhere to the suspended particles in the water. Once the particles are attached to the bubbles, the floating flocs that have an apparent density less than that of water are formed. These floating flocs rise to the water surface, and form a scum layer that needs to be scraped off; in this way, the suspended particles are removed from the water.

The system uses a biofilm technology to immobilize aerobic microorganisms through membranes, and it also utilizes the metabolism of the microorganisms to consume organics in sewage. The application of this technology increases the surface area of microorganisms, and is more efficient in actual sewage disposal. At the same time, the tail water is further treated by the A-A-O microorganism nitrogen and phosphorus removal filter. After the tail water enters into the filter, it first passes into the underlying activated sludge treatment area. In order to increase the diverse environment of the activated sludge area, the system is provided with an anaerobic-anoxic-oxic generator to regularly supplement the tail water with oxygen, create an anaerobic, anoxic and oxic environment, and also replenish carbon sources for anaerobic microorganisms. Subsequently, the tail water is further treated through the biological filtering membranes. Finally, the tail water is disinfected by ultraviolet and ozone before being discharged, and recycled for reuse.