

Aeration and the injection of live microorganisms treat waste to the standard level of sewage discharge.

AQUA HEART AERATION

Features

- Just aeration and the injection of live organisms thoroughly decompose BOD and n-hex, satisfying sewage discharge standards.
- The amount of sludge is drastically reduced, and the capital investment cost can be recovered in a few years.
- This system reduces the generation of hydrogen sulfide, prevents the deterioration of tanks and devices and protects asset values.

Overview

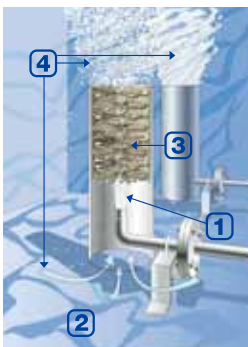
(Technical principles, actions, etc.)

The AQUA HEART AERATION wastewater treatment system is very effective for treating wastewater containing animal and plant oils such as wastewater from meal service centers with large kitchen facilities, large dining facilities in companies and public facilities, and delicatessen factories from which wastewater is discharged to sewers. This system can also be used for wastewater containing mineral oil.

The mechanism of this system is to spread fine bubbles generated inside the AQUA HEART AERATION system throughout the tank using the effect of air-lift and increasing the dissolved oxygen at the bottom of a tank. Our unique design also realizes unprecedented wastewater treatment methods such as microbiological treatment that does not use activated sludge.

This system has been adopted in various fields including the food manufacturing industry and the automobile manufacturing industry, as well as at industrial waste treatment plants and sewage treatment plants, and is highly evaluated as an unprecedented low cost, high-efficiency system. We are planning to expand sales in the Asian market in the future.

Mechanisms and structures



- High-speed injection of air from the blower nozzle
- The air-lift effect stirs up the water and sludge from the bottom
- The new uniquely formed fins developed based on fluid dynamics vigorously mix air and water and generate ultra-fine bubbles and a swirling flow.
- The generation the swirling flow sends ultra-fine bubbles to the bottom of the tank where the dissolved oxygen concentration tends to remain low.

This system can be used in an environment where MLSS (mixed liquor suspended solids) is 20,000 mg/l or in applications with high-load wastewater with more than 5,000 mg/l of BOD and submerged membrane filtration.



Fin section

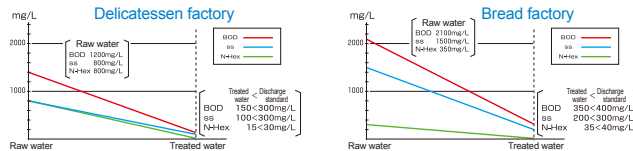
The internal mechanism is designed to easily form cavitation to generate ultra-fine bubbles. Nylon Six, which is more resistant to friction and impact than metal, is used in the internal mechanism to withstand the impact.



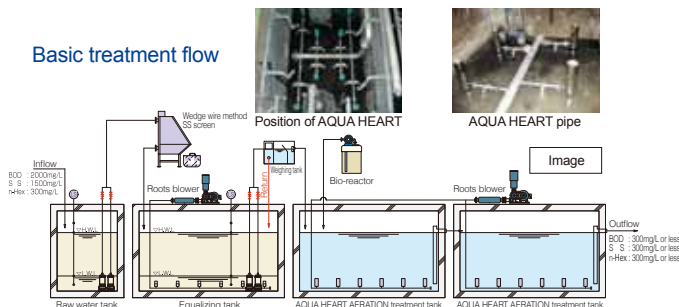
Allocation

The welding and finishing treatment are carefully designed, and the surface treatment prevents sludge from sticking to the surface.

Basic treatment flow



Basic treatment flow



Introductory Track Record

- Wastewater from delicatessen sections of supermarkets and lunch factories
- Meal service factories
- Bread plants
- Wastewater from hotel kitchens
- Wastewater from bus maintenance factories
- Wastewater from waste plastic recycling plants
- Municipal water treatment centers
- Sewage treatment plant in Yongin City, Korea etc.

Effects

- Safe and secure treatment that does not use dangerous chemicals such as hazardous substances
- No use of activated sludge results in less sludge generation, and the cost of treating industrial waste sludge is drastically reduced.
- Long service life due to the simple structures and mechanisms
- Highly durable and very easily to maintain
- Capable of reducing long-cycle cost

Applicable field
 (i) Treatment of industrial wastewater: Wastewater from food factories, Wastewater containing mineral oil, Casings of hotels and buildings etc.
 (ii) Circulating water: Circulating water for washing, Circulating water for aqueous cooling etc.

Water

Energy saving/Energy recovery

Energy storage/Energy creation

New energy

Waste disposal/Recycling/Resource saving

Air

Soil

Other