

Revolutionizing the whole concept of decontamination facilitie



Aience Innovative System

Making the impossible possible! The AIS eliminates sludge treatment and achieves zero hydrogen sulfide

Until now, it would have been thought unbelievable: Compliance with sewage discharge standards achieved with only the Aquablaster aeration diffusion apparatus and bio-drip! Plus, no generation of sludge or hydrogen sulfide!!

Revolutionizing the whole concept of decontamination facilities*



Aience Innovative System resolves all

kinds of wastewater issues simultaneously,

and achieves significant cost reductions.

* Decontamination facilities are installed in advance at the entryways to sewers to accept sewer water

What is the AIS?

The AIS (Aience Innovative System) is an unprecedented wastewater treatment technology that uses the Aquablaster aeration diffusion apparatus to carry out milling / stirring aeration, promoting the totally aerobic respiration of high-performance bacteria so that sludge treatment is unnecessary and zero hydrogen sulfide is achieved.



*Bio: Refers to high-performance fat-degrading bacteria. *Wastewater standards: Wastewater standards differ depending on the municipality, so please check the standard of the relevant area. *Guarantee of no odor generation: A guarantee that odors of hydrogen sulfide or decay are undetectable to human olfaction. Not a guarantee of the absence of all substance odors. * No pressurized flotation device required: However, when the normal-hexane extract level exceeds several thousand mg / L, it may be necessary to use a pressurized flotation device or chemicals in combination with the system. * No sludge treatment required: Please verify with a preliminary test.

We offer optimal systems, whether for newly established or existing facilities.

The AIS processing flow

We can handle not only new construction but also renovation work.



Installation of AIS facilities

We comprehensively manage the installation process, from proposing optimum equipment to design, construction, and maintenance. Also leave the follow-up to Aience, including guarantees of meeting wastewater

standards and generating no hydrogen sulfide.



Processing capacity greatly improved, costs greatly reduced.

AIS processing capacity

Processing of high-load wastewater from chicken processing proceeds as shown in the photograph.



AIS cost reduction examples

AIS drastically reduces the cost of wastewater treatment, by eliminating the need for pressurized flotation unit, reducing time spent on tank washing and maintenance work, etc. And since pressure loss is minimal, power consumption is reduced by 45%*.



If you still can't believe that "SS and unpleasant odors can be removed with no pressurized flotation device...?

Seeing is believing! Have a look at one of the sites where the AIS is installed.

This is the new common sense of Aience.



Special aeration and Bio-drip Sewage discharge standard value Below wastewater standard value Compliance with sewage discharge standards achieved with only aeration and bio-drip! Plus, no need for sludge processing, because SS* can be brought into compliance with wastewater discharge standards.

*SS (Suspended Solids):

Insoluble matter suspended in water, referred to in the JIS (Japan Industrial Standards) as "suspended solids" and in environmental and wastewater discharge standards as "floating solids."



How does the [AIS Arree] process wastewater so effectively?

	Conventional decontamination facilities	AIS
Design concept	Because a conventional air volume formula are used, there is no margin of error, and issues cannot be resolved if they arise.	With our own original theory based on our experience and track record, we created an energy-efficient design that leaves ample breathing room, achieving optimal power-down, without generat- ing sludge and hydrogen sulfide.
Air volume	It conforms to the conventional design formula, and there is no risk of insufficient air even if hydrogen sulfide is generated.	With this original theoretical formula derived from actual results, the system can deal with the actual load at each site.
Air diffuser	In a conventional diffuser, oxygen dissolution efficiency and convective stirring power inside the tank are low, and the pres- sure loss is high, resulting in high consumption of electricity.	By contrast, the milling / stirring aeration of our patented technology Aquablaster supplies oxygen efficiently supplied with almost zero pressure loss and minimal power consumption.
Pre- processing	Relies on pressurized flotation, and sludge treatment costs are incurred. In addition, the equalizing tank often generates hydro- gen sulfide.	Pre-processing begins with Aquablaster milling / stirring aeration in the equalizing tank, so hydrogen sulfide is not generated.
Degrading bacteria	Conventional activated sludge bacteria: High-performance bacteria are sometimes used, but if oxygen is scarce, it is useless and decomposition is only partial.	Here, activated sludge is not used, but introduction of high-perfor- mance bacteria by intravenous drip enables totally aerobic respira- tion, thoroughly converting organic matter to ATP.
SS (Suspended Solids)	People believe it is natural for sludge to be generated, and that SS (suspended solids) cannot be eliminated.	However, with Aquablaster milling / stirring aeration SS (suspended solids) are easily reduced to below wastewater discharge levels, and we have an 18-year track record to prove it.

Examples of system installations

Site	Problematic issue	Туре	Result of introducing AIS	Cost reduction
Major luxury hotel	Troubles with hydrogen sulfide and processing failure.	Reno- vation	Hydrogen sulfide was eliminated, and it was found that with AIS alone could bring waste in line with wastewater discharge standards. There was no more need for pressurized flotation units or sludge discharge. As a result, two full-time night maintenance personnel were rendered redundant.	19 million yen / year
Ultra-luxury hotel	Hydrogen sulfide was flowing into guest rooms and restau- rants.	Reno- vation	Hydrogen sulfide was eliminated, and sewer surcharge fees paid to local governments due to poor processing were reduced to zero.	15 million yen / year
Shimadzu Corporation	Wanted to stabilize kitchen wastewater treatment and eliminate industrial waste in the form of mineral oil-containing water.	New installa- tion	Succeeded in decomposing mineral oil, which previously had to be processed as industrial waste, as well as kitchen wastewater. (See the company's 2006 environmental report, page 5)	No comparison target
Major corporation's boxed lunch factory	Pressurized flotation device caused stench (leading to complaints from neighbors), and sludge processing costs were high.	New installa- tion	Pressurized flotation device eliminated, for totally aerobic treatment that does not generate bad smells. As a result, sewer surcharge fees were also reduced.	12 million yen / year
Major bread factory	A major company's process- ing facilities completely	Reno- vation	A facility installed by a major company received a local government directive to improve due to its poor processing. An Aquablaster system was added to the existing 60-ton water tank, and with a blaster tank installed in the latter stage, approved wastewater discharge levels were achieved. Severe putrefaction odors were also eliminated, and floating oils and fats caught by the grease trap in the preceding stage were also dissolved in the treatment tank.	8 million yen / year
Major supermarket's central kitchen	A major water treatment company's equipment was not functioning, and there was an improvement order from the local government.	Reno- vation	Existing water tank was halved and divided into six tanks with the AIS installed. As a result, sludge generation was eliminated, and the maintenance team went from two persons to zero. Aience guarantees 24-hour aeration, but it is used for 16-hour aeration at this site. The system's performance was evaluated highly, and a special order was given for it to be introduced at a second new factory.	15 million yen / year
Shimanaka Co., Ltd (Chicken processing plant)	To establish a new factory, a wastewater treatment facility was needed.	Reno- vation	The client was uneasy after being told by one of our major competitors that elimination of SS (suspended solids) was impossible, but felt confident introducing the system after seeing the wastewater treatment performance at the above-mentioned central kitchen. As a result, no sludge at all was generated for a year and a half, and BOD / SS are in the double digits and N-hex in the single digits.	No comparison target 12 million yen / year when compared with use of pressured flotation device

Sales agent



Aience Inc.

https://www.aience.co.jp

OsakaOffice / Kowa Edobori Bldg.3F, 1-21-7, Edobori,Nishi-ku, Osaka, 550-0002, Japan TEL.+81-6-6225-2323 FAX.+81-6-6225-2552

TokyoOffice / Taiseikigyou Bldg.6F, 3-14-19, Shibaura, Minato-ku, Tokyo, 108-0023, Japan TEL. +81-3-6869-9189 FAX. +81-3-6893-3931

VEGETABLE This pamphlet is printed with vegetable-based ink.

Inquiries / Requests



https://www.aience.co.jp/en/