

Sekisui Aqua Systems Co., Ltd.

Three-Dimensional Grid-Like Contactor Wastewater Treatment System

- **Energy efficient. Generates minimal sludge. Easy maintenance and operation.**

Main Features

- **Can save approximately 40% in power costs compared to activated sludge systems.**
- **Generates less than one-half the amount of sludge compared to activated sludge systems.**
- **Easy operation and maintenance; readily accommodates fluctuations in inflow load.**



Summary

Principles of Operation/Composition

This system purifies wastewater using a microbial film fixed to a special three-dimensional grid-like contactor. The contactor slowly rotates while approximately 40% of it is submerged in the wastewater. Oxygen is absorbed from the atmosphere and pollutants in the wastewater adhere to the contactor, which are then aerobically decomposed by the action of the microbes.

The microbes multiply during the decomposition process, but those with reduced activity slough off and are separated into the settling tank.

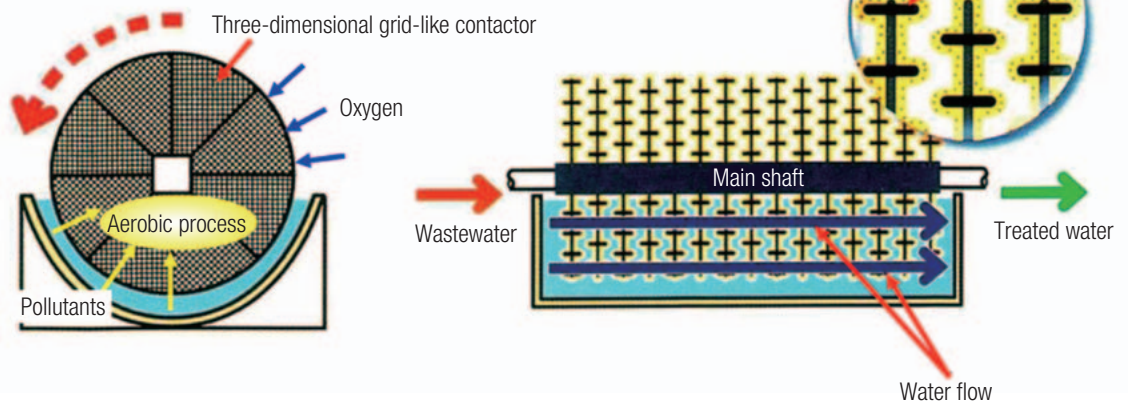
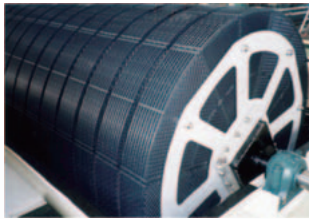
Features

Large surface area compared to conventional rotating discs thanks to the configuration of the special three-dimensional grid. The amount of oxygen supplied is larger, and the contact efficiency is greater thanks to water flow along the axial direction. As a result, the BOD loading per unit area is two to four times that of conventional discs.

Also, similar to conventional rotating disc systems, compared to activated sludge systems, it offers the outstanding features of (1) can save around 40% in power costs because no aeration blower is necessary; the system functions using only the power to rotate the contactor; (2) less than one-half the amount of sludge is generated because of the long food chain of the adherent microbes; and (3) there is virtually no bulking, and hence the system is resistant to load fluctuations, and operation and maintenance are easy.

Official Evaluation

Verified and evaluated as a 'Japan Environmental Technology Verification' of the Ministry of the Environment of Japan (Verification No. 020-0407).



Installation Examples

- Japan: Approximately 200 units mainly for wastewater treatment at food processing and chemical plants (total of Models I and II).
- Taiwan: Silicon wafer fabrication facility wastewater treatment (four Model II units)
- Korea: Silicon wafer fabrication facility wastewater treatment (four Model II units)
- Indonesia: Domestic sewage treatment (Model I at two sites)
Hospital wastewater treatment (Model I at 16 sites)



Benefits

- Lower power costs and lower amount of sludge generated allow this wastewater treatment system to contribute to a low-carbon society.
- When installed in new wastewater treatment facilities, this system saves on electricity costs, saves on sludge treatment costs because of reduced amounts of sludge generated, and eliminates the need for an operator with specialized expertise in wastewater treatment because of easy operation and maintenance.
- For already existing wastewater treatment facilities, this system can readily augment treatment capacity by using it for pre-treatment when wastewater volume or concentration levels from factories increases.

Inquiries

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