

Wastewater Treatment Equipment with The Cubic Latticed Contactor

- Easy-to-maintain, energy-saving equipment with very little generation of sludge.

Features

- Consumes 40% lower power than conventional wastewater treatment equipment using activated sludge.
- Generates less than half the quantity of sludge generated from equipment using activated sludge.
- Withstands inflow load changes and ensures ease of use and maintenance.



ESROTAE

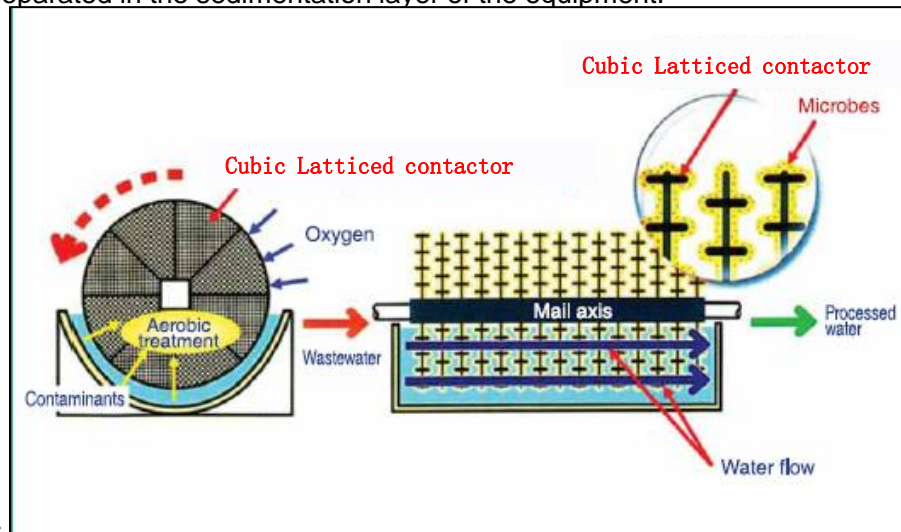
Overview (Technical principles, actions, etc.)

Principle and Structure

The ESROTAE is wastewater treatment equipment that uses the microbe film on the cubic latticed contactor.

The contactor rotates slowly while approximately 40% of the contact body is immersed in wastewater, takes in oxygen from the air, adsorbs contaminants from the wastewater, and breaks down the contaminants aerobically with the work of microbes.

The microbes proliferate in process of wastewater decomposition, and those that lose activity fall off and they are separated in the sedimentation layer of the equipment.



Structure of ESROTAE

Performance Characteristics

Compared with the conventional rotary disc contact body of existing wastewater treatment equipment, the specially designed cubic latticed contactor provides a great surface area with a large quantity of oxygen supply, and ensures high contact efficiency as a result of the water flow in the axial direction.

Therefore, the possible BOD area load on the cubic latticed contactor is two to four times heavier than that on the conventional rotary disc.

Furthermore, like wastewater treatment equipment incorporating a conventional rotary disc, the ESROTAE is superior to equipment using activated sludge in the following points.

- ① Requires power only for the rotation of the contact body because no aeration blower is used, thus resulting in the power consumption 40% lower than that of conventional wastewater treatment equipment using activated sludge.
- ② The food chain of microbes adhering to the contact body is comparatively long, thus halving the quantity of sludge generated.
- ③ Withstands load changes with no bulking, thus ensuring ease of use and maintenance.

Public Evaluation

The ESROTAE is an environmental technology proof model (with certification number 020-0407) granted by the Ministry of Environment under the Environmental Technology Verification Model Project.

Introductory Track Record

- In Japan: Approximately 200 units (model type I and type II) have been delivered mainly for the wastewater treatment of food processing factories and chemical factories.
- China: Three units (model type II) have been delivered in two different places for the wastewater treatment of factories.
- Taiwan: Four units (model type II) have been delivered for the wastewater treatment of solar wafer production facilities.
- Korea: Four units (model type II) have been delivered for the wastewater treatment of solar wafer production facilities.
- Indonesia: A unit each (model type I) has been delivered in two places for household wastewater processing.
Sixteen units (model type I) have been delivered in 16 different places for hospital wastewater treatment.

Effects

- The ESROTAE does not consume much power with very little sludge generated, thus contributing to the establishment of a low-carbon society.
- The introduction of the ESROTAE into new wastewater treatment facilities makes it possible to save the cost of electric power, the cost of sludge disposal because the ESROTAE generates very little sludge, and ensures ease of use and maintenance, thus not requiring operators who have expertise in a special knowledge of wastewater treatment.
- The introduction of the ESROTAE into existing wastewater treatment facilities makes it possible to increase the processing capacity of the facilities with ease in the case of an increase in the quantity of wastewater or the density of contaminants in wastewater from factories.

Inquiries

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