

Water Environment Improvement Business by Energy-Saving Industrial Organic Wastewater Treatment

Implementation systems

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Background

In Vietnam, because of industrialization and urbanization through rapid economic growth, large amount of organic compound put into the river by uninstalled or the defect of wastewater treatment facilities for both industrial and domestic drainage. [Contamination of the river in mainly urban areas is serious situation.](#) Vietnam government strengthens supervision under tightening up effluent regulations toward a water environment improvement.

Project outline

The Objective is to introduce the water treatment equipment using biofilm process (Rotating Biological Contactor; RBC) with energy-saving and easy maintenance in order to contribute to the water environment improvement .

- FY2012 : Feasibility study (FS) on wastewater treatment by RBC of food related industries from which growth can be expected in the future, such as beer, milk, and fish processing.
- FY2013 : Demonstration test at a milk factory by installing a RBC water treatment equipment. Verification of the treatment effect by measuring the water quality and the amount of power consumption, etc.. Seminar to introduce the technology.
- FY2014 : Demonstration test at a national hospital with technical guidance of the operation management. Workshop intended for engineering companies and facility managers of local companies.

Nation & Area

Hanoi city and surrounding area, Vietnam



Outline of Technology

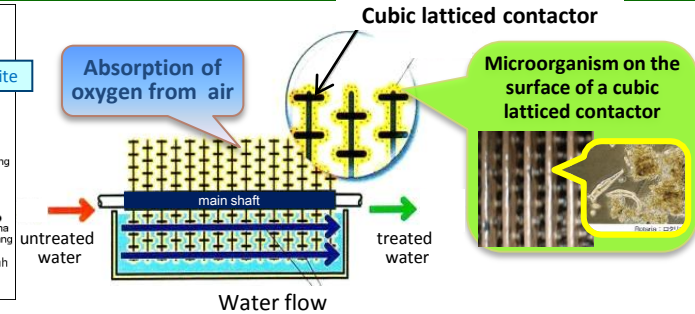
- [This system purifies wastewater using a biofilm adhering to a rotating cubic latticed contactor.](#)
- Oxygen is absorbed from air by rotating the contactor slowly with approximately 40% of surface area submerged in the wastewater.
- [Easy installation and easy maintenance.](#) The volume of excess sludge produced is around 50% less than the activated sludge process.
- [Energy-saving:](#) About 40% reduced power consumption compared with conventional processes.
- Even with changes in inlet water quality and volume, stable treatment can be achieved.
- Verified under the Environmental Technology Verification (ETV) program of MOE, Japan

Past Achievements

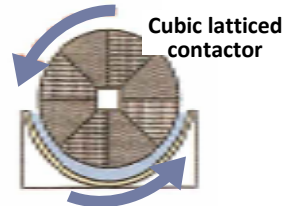
- [The treatment effects was confirmed that the demonstration test data at a milk factory was approximately less than the effluent standards.](#)
- Seminar held on September, 2013, [introduced this technologies to governments, research institutes, and industrial organizations.](#)

Expected results and business prospects

- Contributing to the water environment improvement by dissemination of wastewater treatment technology with energy-saving and easy maintenance.
- Business development at the cost suitable for the economic level of the country, by reducing both the installation cost and running cost by technology alliances with local EPC companies and contract manufacturing in the third country or Vietnam.



Supply of oxygen



Contactor is immersed in the wastewater, and pollutants are aerobically decomposed



Demonstration test data (Milk factory)

Item	Ave. mg/L	Max. mg/L	Min. mg/L	Removal %
BOD (outlet)	29.2	56	8.0	81.0
CODcr (outlet)	66.9	126	18	77.0