

Demonstration of Wastewater Treatment Technology Using Special Fiber Carrier for Excess Sludge Reduction

Implementer: The consortium of IHI Plant Services Corporation, TEIJIN FRONTIER CO., LTD., JS, and Tatsuno Town

Excess sludge reduction and LCC reduction achieved at retrofitting the existing OD process

Technology Overview

1. Retrofit an existing OD process with multistage contact aeration process

Divide OD tank into a distribution tank, reactor, and rapid mixing chamber.
Divide the reactor into 12 rooms each of that has fiber carrier.

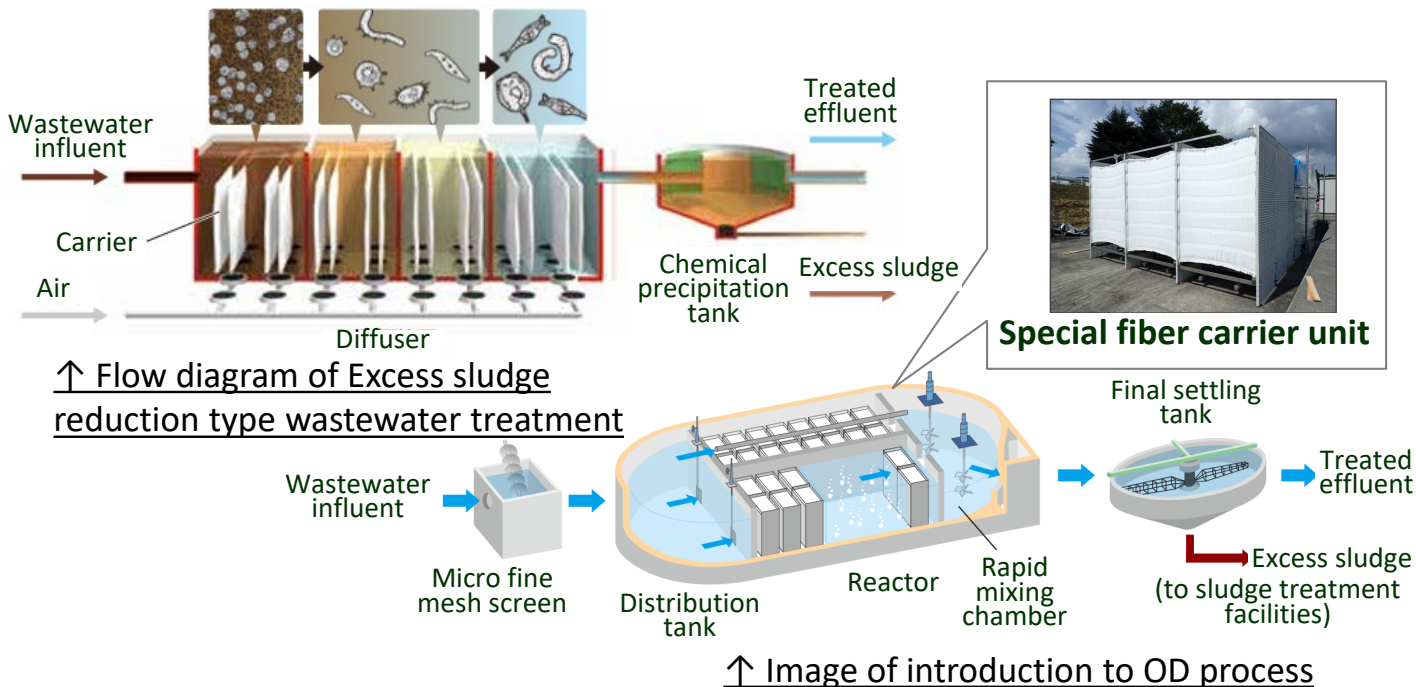
2. Substantially reduce excess sludge generation

Microbial flora generated on the surface of special fiber carriers encourage self-oxidation and increase a hierarchy of food chain.

3. Reduce costs of sludge treatment and disposal ⇒ Reduce LCC

Downsize sludge treatment facilities including dewatering device

Form an organism food chain environment



Achievements

- Reduction rate of excess sludge generation: **55%** against the OD process
*Equivalent yearly average value as an extrapolation of result between September and February.
- Reduction rate of total costs: **4-17%** against the OD process
*Equivalent yearly average value as an extrapolation of result between September and December.
- BOD of treated effluent: **less than 15mg/L** at the annual maximum value