

Demonstration of Flow Fluctuation Adaptive Wastewater Treatment Technology using DHS System

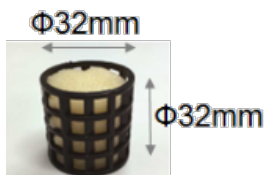
Implementer: The consortium of Sanki Engineering Co.,Ltd., Tohoku University, National Institute of Technology, Kagawa College, National Institute of Technology, Kochi College, JS, and Susaki City

Alternative to the Conventional Activated Sludge (CAS) Process, flow fluctuation tracking wastewater treatment technology that enables efficient downsizing

Technology Overview: The combination of DHS* filter bed and biological filtration tank can track flow fluctuation tracking

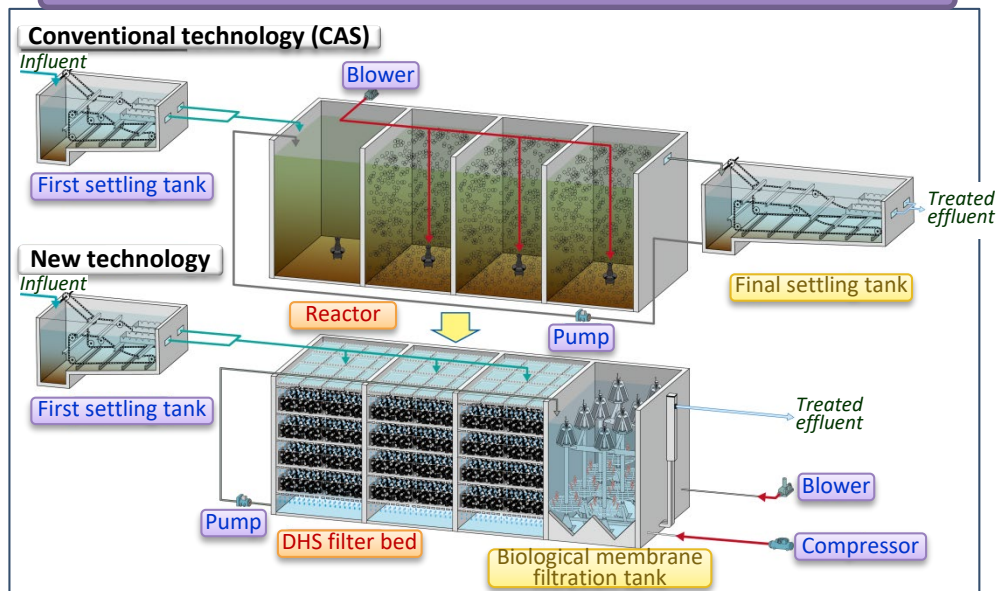
- The reduction of power consumption and sludge generation reduce LCC.
- Generate treated effluent of equivalent quality to CAS process, improve the quality of treated effluent depending on the fewer inflow amount
- Can be installed in the existing CAS facilities
- Fewer pieces of maintenance items and equipment make O&M easy

DHS carrier bed



*DHS: Down-flow Hanging Sponge

Treatment flow diagram of the demonstration technology



Achievements

- Quality of treated water: **less than 15mg/L BOD**
- Power consumption for wastewater treatment can be reduced according to the inflow reduction
- Sludge generation rate per inflowing SS: **0.4 (CAS:1.0)**
- Maintainability: **Visual inspection of twice a week** can keep a good condition of facilities
- LCC: Reduce by **37%** compared to CAS when downsizing treatment capacity by 1/3