

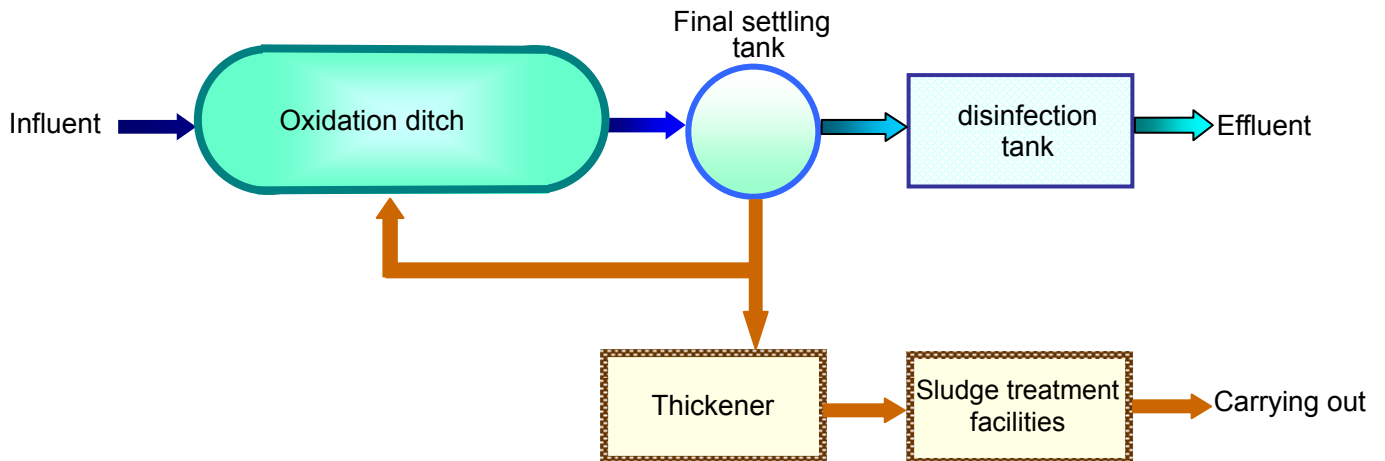
Oxidation Ditch (OD) Process for Nitrogen Removal

What is the OD Process?

The OD process is a low-loaded activated sludge process for wastewater treatment. Mechanical aeration equipment ensures circulation of the mixed liquor along the ditch, as well as oxygen supply for biological treatment. Typically, primary sedimentation tank is not installed.

Features of the OD Process

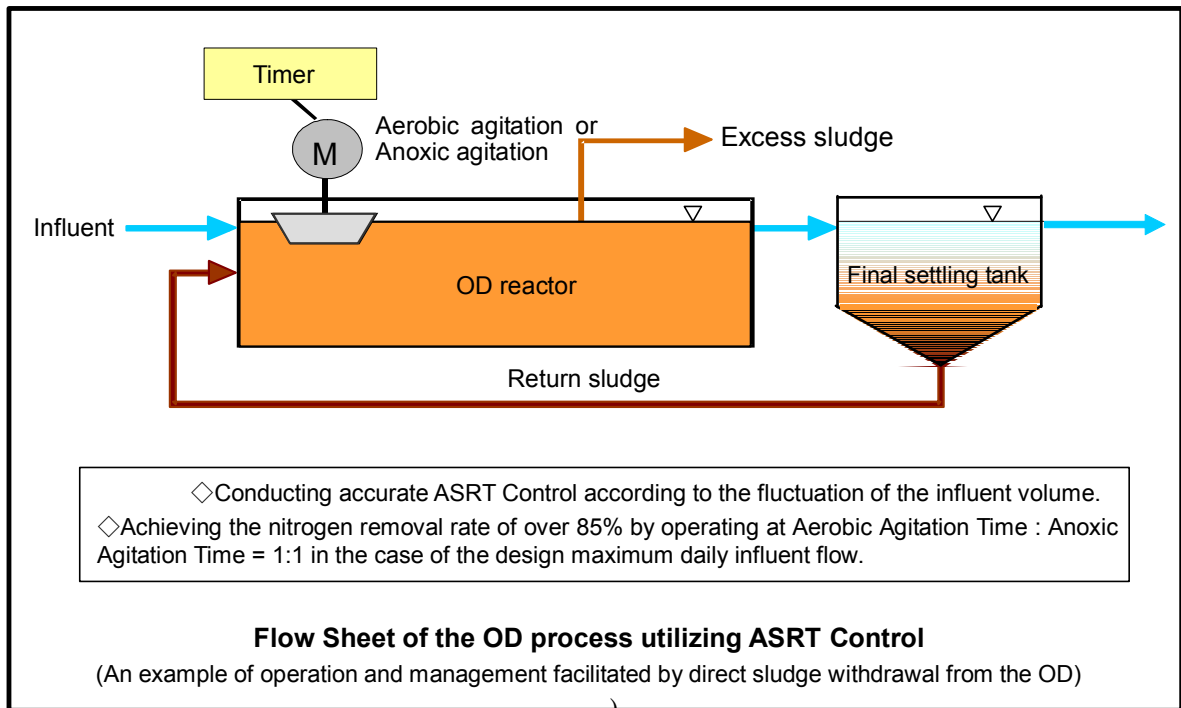
- 1) Easy to operate and manage.
- 2) Stable removal of organic matters and nitrogen in spite of fluctuation of the quality and quantity of influent wastewater.
- 3) Smaller sludge production compared with the conventional activated sludge process.



Nitrogen Removal by ASRT Control

The OD process can steadily remove nitrogen, as well as organic matters, under influent fluctuation by introducing the Aerobic Solids Retention Time (ASRT) Control strategy. This can also reduce operation and maintenance costs by reducing unnecessary aeration.

By incorporating the ASRT Control, it is possible to achieve the nitrogen removal efficiency of more than 85%.



The ASRT Control is the following control strategy to keep the minimum ASRT required for nitrifiers' growth, irrespective of the fluctuation of the influent flow:

- 1) In order to keep a sufficient amount of nitrifying bacteria and other microorganisms in the system, the amount of sludge withdrawal is controlled according to the influent load.
- 2) In order to ensure high activity of nitrifiers, aeration time is controlled according to the influent load.