

Float Holders Significantly Reduce Dissolved Oxygen Sensor Maintenance Workload (at Oxidation Ditch Type Sewage Treatment Plants)

Industry: Wastewater
Product: Dissolved Oxygen Analyzer

Introduction

The detectors used to perform dissolved oxygen (DO) measurement in oxidation ditch type sewage treatment plants tend to become dirty quickly and require frequent cleaning. It has been difficult to remedy this problem inexpensively. One solution that significantly reduces the sensor maintenance workload is the use of float holders. A field test using float holders on the detectors in the DO402 dissolved oxygen analyzer system has demonstrated that the sensors could be kept free of heavy

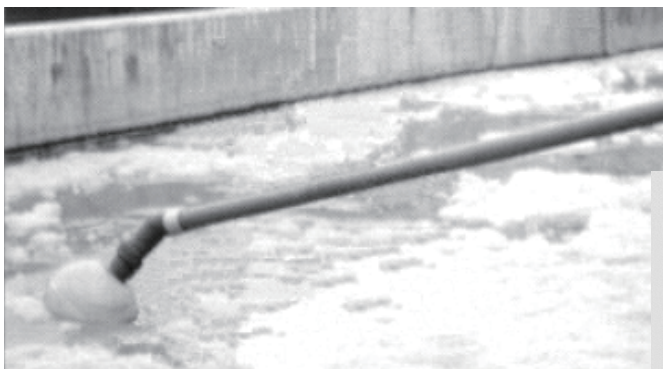
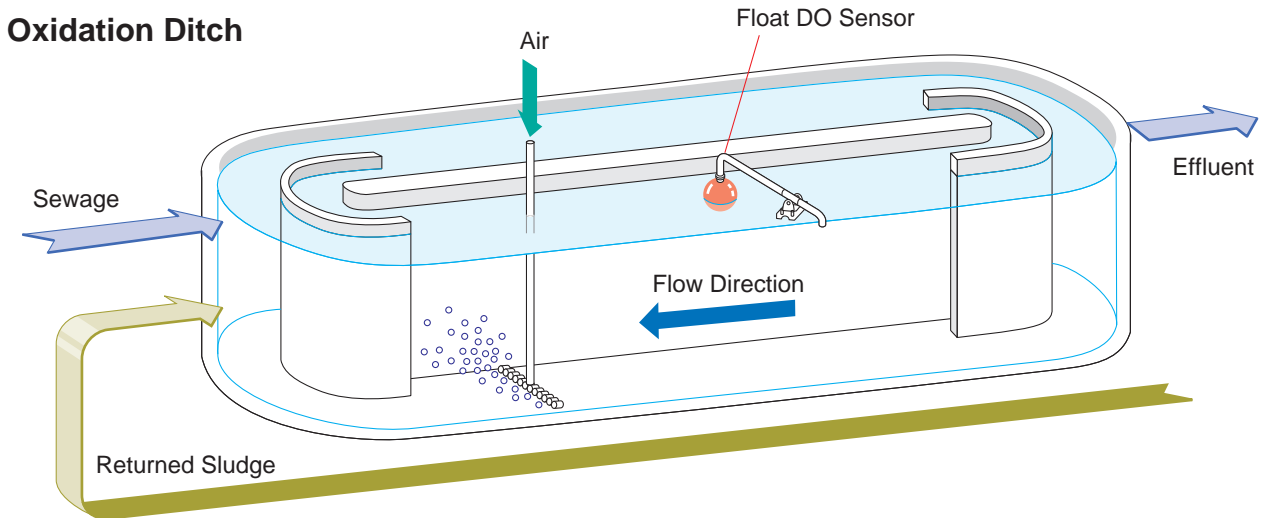
dirt accumulation, eliminating the need for maintenance and enabling continuous measurement for long periods of time.

Expected Benefits

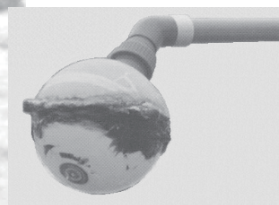
- Ensures stable, continuous dissolved oxygen measurement
- Reduces operating cost
- Eliminates the need for manual cleaning

Process Overview

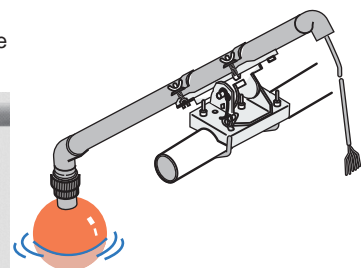
An oxidation ditch is a large circular basin equipped with aerators that is used to remove organic matter and pollutants from sewage through the processes of adsorption, oxidation, and decomposition.



The sensor head is free from dirt even through a large amount of dirt floats on the surface of the sewage.



Angled Float Holder



Solution Details

Measurement System

Detector: DO30G-NN-50-□□/PN

Float holders

Angled type: PB350G-PV-25-NN

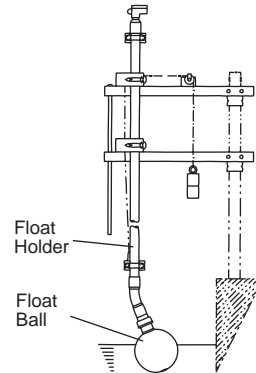
Vertical type: PB360G-PV-□5-NN

Converter: DO402G-1-□-E/□

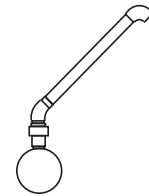
Terminal box (as needed): WTB10-DO3-NN-□□/□

With the WTB10 terminal box, the sensors and the converter can be up to 50 meters apart.

Vertical type



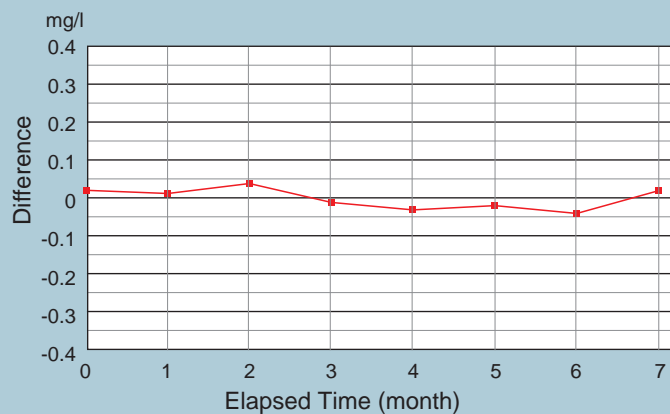
Angled type



Field Data

For the field test, two detectors were mounted in PB350G angled float holders. One sensor received no maintenance and the other was cleaned every two weeks and calibrated once a month. This test showed that the readings from the two sensors were nearly identical over a six month period.

Difference of Readings (Detector A – Detector B)



Comparison of Readings in Continuous Operation

