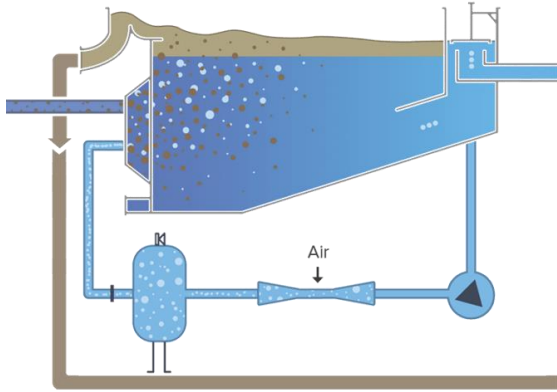


Validating particle removal models of a DAF unit in real applications



Introduction

Dissolved air flotation (DAF) is a method that enables the separation of the solids from the liquid by using bubbles (Figure on the left). It has been regularly used in wastewater treatment due to its high efficiency, high loading rate, and compact unit size. However, the DAF performance is influenced by several physicochemical parameters, including the air saturator, the particle & bubble size distribution, and the rise velocity of air bubbles. Therefore, understanding the effects of these parameters on DAF performance is important, as these parameters have to be compensated during the design and operational stages.

Different modeling studies are available in the literature to predict the influence of the parameters above on the process performance; however, validation of those models in the real condition is very limited. Thus, it will be valuable to evaluate model(s) in real cases to apply them in designing and optimizing future DAF units.

Objective

This internship aims to compare the model outcome with real removal in the field.

The activities in this internship are:

- Select 2 to 3 models available in the literature
- Identify the key parameters
- Measured the parameters of the existing DAF units
- Compare the particle removal efficiency between the model and the real unit

#missionwater



Internship specifications

Type of education: BSc or MSc Chemical, (Bio)Process or Environmental Engineering

Supervisor: Pradip Saha

Location: Doetinchem

Duration: 4 – 6 months

Application

If you are interested in this internship at Nijhuis Saur Industries please send the following to Pradip Saha at Internship.NWT@nijhuisindustries.com:

- your motivation
- CV
- the period and duration of your internship