

RHS100 Typical set of training equipment "Study of methods for water treatment from suspended particles"

EXPERIMENT SET



The activated sludge process is the most important biological treatment in water treatment. this set enables this process to be displayed.

Specification

- biological wastewater treatment
- aeration tank with 3 stirring machines
- secondary clarifier
- nitrification and pre-denitrification
- separate supply unit with 2 stirring machines
- all relevant flow rates adjustable
- control of temperature, pH value and oxygen concentration
- measurement of flow rate, temperature, pH value and oxygen concentration
- software for data acquisition via USB under Windows 7, 8.1, 10
- software with display of the operation states

Technical Data

Aeration tank

- capacity nitrification zone: approx. 34L
- capacity denitrification zone: approx. 17L

Tanks

- secondary clarifier: 30L
- raw water tank: 200L
- treated water tank: 80L

Flow rates

- raw water pump: max. 25L/h
- return sludge pump: max. 25L/h
- circulation pump: max. 25L/h

Speeds (stirring machines)

- secondary clarifier: max. 45min^{-1}
- all others: each max. 600min^{-1}

Measuring ranges

- flow rate:
 - 2...25L/h (raw water)
 - 50...550L/h (compressed air)
- temperature: 0...40°C
- pH value: 0...14
- oxygen concentration: 0...10mg/L

The students can make with this experiment set:

- learning the fundamental principle of the activated sludge process
- functional principle of nitrification and pre-denitrification
- creation of a stable operating state
- identification of the following influencing factors
 - return sludge ratio
 - reflux ratio of the internal recirculation
 - sludge age
 - sludge loading
 - volumetric loading
 - oxygen concentration, pH value and temperature
- efficiency of the pre-denitrification

The equipment comply with applicable standards.

The equipment is convenient in operation and ensure safety of the maintenance personnel during operation.

Operating conditions: Indoors only at ambient temperatures from +10 to +30°C; relative humidity is up to 80% (non-condensing).

The equipment is provided with a technical description and operation manual in Uzbek and Russian.