

ABSTRACT

METHOD FOR TREATING A WASTEWATER EFFLUENT BY DENSIFYING SLUDGE IN A SEQUENCING BATCH REACTOR

The invention relates to a method for treating a wastewater effluent (20) comprising carbon pollution, nitrogen pollution and phosphorus pollution, in a sequencing batch reactor (SBR), said SBR comprising:

- a chamber capable of containing a wastewater-sludge mixture comprising various levels;
- a sludge bed, comprising PAOs, located at the bottom of the chamber, above which a sludge blanket level is defined;
- means for determining a minimum level and a maximum level for extracting sludge in the chamber;
- extraction means capable of extracting sludge at variable levels between the minimum extraction level and the maximum extraction level;

said method comprising:

- a step (101) of supplying the SBR, during which an amount of effluent (20) to be treated is introduced near the bottom of the chamber, in the sludge bed;
- a reaction sequence (102) comprising:
 - o at least a first anaerobic step (103), during which the PAOs capture the carbon pollution and release phosphorus compounds;
 - o optionally, a second step (104) of anoxic denitrification;
 - o a third aeration step (105), allowing the dephosphatation of the effluent by the PAOs to be carried out;
- a decanting step (106), during which sludge is deposited at the bottom of the chamber and the content of the chamber clarifies in the vicinity of its surface;
- a recovery step (107), during which a clarified fraction is drawn off from the content of the chamber, with said recovery (107) and supply (101) steps taking place simultaneously; and
- a step (108) of extracting at least a portion of the light sludge at a predetermined level.

Figure for the abstract: Fig. 2