

عنوان مقاله:

(Hydrodynamics characterization of an airlift oxidation ditch membrane bioreactor (AOXMBR

محل انتشار:

دومین همایش ملی غشا و فرایندهای غشایی (سال: 1394)

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خلاصه مقاله:

In this work, gas holdup as the hydrodynamic characteristics of a novel airlift oxidation ditch membrane bioreactor (AOXMBR) for wastewater treatment were studied. A new type of oxidation ditch which is proposed in this study consists of three different sections called as airlift, membranes unit (riser section) and down comer (channel section). It was found that the gas holdup values continuously increased with increase in superficial gas velocity and decrease in distance from sparger. Further, gas holdup in downcomer (liquid down flow channel) did not show any significant variations with changing the top clearance. The results show that the superficial gas velocity and top to bottom clearance ratio are the main design variables for gas holdup in the AOXMBR. Empirical correlations are presented which accurately predict gas holdup as a function of top and bottom clearances, distance from aeration zone and gas velocity.

کلمات کلیدی:

Airlift oxidation ditch membrane bioreactor (AOXMBR), Total gas holdup, Local gas holdup, Airlift, Membrane Bioreactor

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