

## Sequential bioreactor

Eco Equipment FEP Inc. of Quebec, Canada, has developed a sequential bioreactor called BioSequencer. It reduces biodegradable organic load (C) and removes nutrients (TKN,  $\text{NH}_4$ , N, P) from wastewater or filtrates. The reactor operates in batch mode and can significantly reduce the load in the affluent water by an appropriate selection of automatically controlled sequences. The size of the unit depends on the mass characteristic and biokinetic constants of the various type of wastewater. The BioSequencer includes a hybrid aeration system, as well as static or floating settling tank.

This type of reactor runs in fast-feed mode, creating a biological selector that promotes contact between the substrate and micro-organisms as well as the growth of specific bacteria, particularly agglutinating bacteria. Successive use of the anoxic, anaerobic and aerobic modes removes organic matter and nutrients. The BioSequencer simultaneously allows dynamic sedimentation of sludge, inflow of wastewater and outflow of treated water while maintaining a thin layer of biomass in the reactor. The standard BioSequencer can treat flows of 20,000 to 40,000 m<sup>3</sup>/day, while the dynamic BioSequencer has no limit. The percentage of organic matter removed can be as high as 95 per cent. *Contact: Eco Equipment FEP Inc., Terrebone, Quebec, Canada.*  
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