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(54) **Title:** PROCESS AND APPARATUS FOR NITRITATION USING MEMBRANE AERATED BIOFILM REACTOR

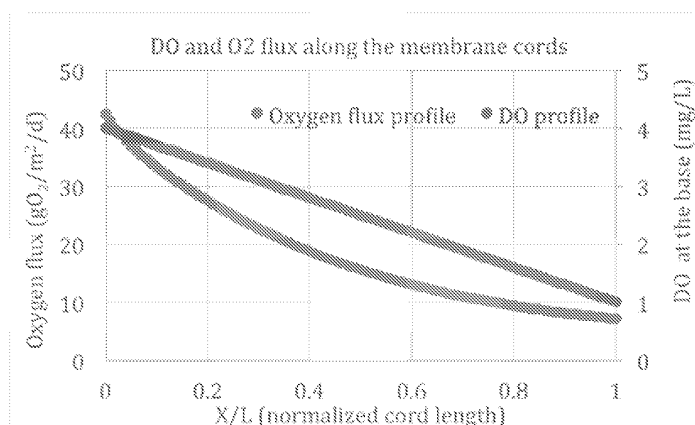


FIGURE 1

(57) **Abstract:** This specification describes a membrane aerated biofilm reactor (MABR) and processes for nitrification, nitrification-denitrification or deammonification. The supply of oxygen through the gas-transfer membrane is limited to suppress the growth of nitrite oxidizing bacteria (NOB). Exhaust gas from an MABR unit may have an oxygen concentration of 4% or less. The process can optionally include one or more of: intermittent (batch) feed of process air; process air modulation; process air direction reversal; process air recycle; and, process air cascade flow. The process can optionally include adding a seed sludge containing anammox to a reactor, optionally after pre-treatment and selection. The process can optionally include pre-seeding an MABR media.

[Continued on next page]

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