

(19) World Intellectual Property
Organization
International Bureau



WIPO | PCT



(10) International Publication Number

WO 2021/163184 A9

(43) International Publication Date
19 August 2021 (19.08.2021)

(51) International Patent Classification:

C02F 3/10 (2006.01) C02F 3/30 (2006.01)

(21) International Application Number:

PCT/US2021/017447

(22) International Filing Date:

10 February 2021 (10.02.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

62/972,719 11 February 2020 (11.02.2020) US

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, IT, JO, JP, KE, KG, KH, KN,
KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD,
ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO,
NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW,

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

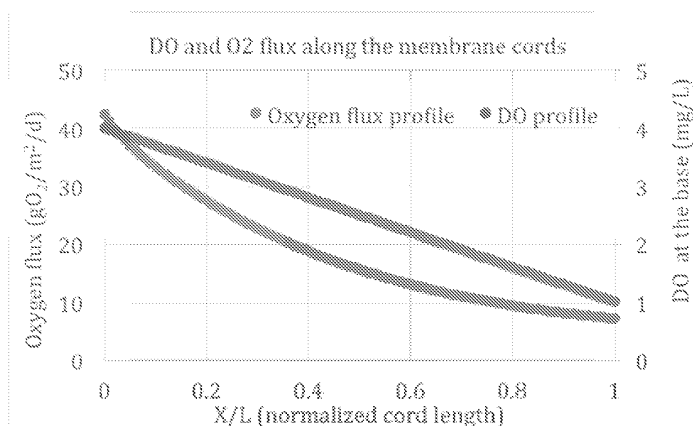


FIGURE 1

(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]

SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(48) Date of publication of this corrected version:

30 September 2021 (30.09.2021)

(15) Information about Correction:

see Notice of 30 September 2021 (30.09.2021)