



(43) International Publication Date
7 July 2016 (07.07.2016)

(10) International Publication Number
WO 2016/108227 A1

- (51) International Patent Classification:
C02F 3/10 (2006.01) *C02F 3/20* (2006.01)
- (21) International Application Number:
PCT/IL2015/051256
- (22) International Filing Date:
28 December 2015 (28.12.2015)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
62/097,089 28 December 2014 (28.12.2014) US
- (71) Applicant: EMEFCY LTD. [IL/IL]; 7 Ha'eshel St,
Caesarea Industrial Park, P.O. Box 3171, 3088900
Caesarea (IL).
- (72) Inventors: SHECHTER, Ronen-Itzhak; 25 Hatamar St.,
3653058 Kiryat Tivon (IL). KLOOS, Steven D.; 1448 Bri-
ergate Dr., Naperville, Illinois 60563 (US).
- (74) Agent: MORAG, Tamar; Reinhold Cohn And Partners,
26A HaBarzel St., 6971037 Tel Aviv (IL).
- (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, DK, DM,
DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT,
HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR,
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, SA, SC,
SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, 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))

(54) Title: MEMBRANE AERATED BIOFILM REACTOR

(57) Abstract: The present disclosure provides a water treatment module comprising a bundle of hollow fiber membranes that comprises a treatment portion extending between bottom and top ends and comprising at least one gas diffuser, the membranes being gas permeable and water impermeable; at least in one end of the hollow fiber membranes being linked to a source of biofilm growth-supporting gas (BGSG) and configured to permit inlet of said BGSG into the hollow fiber membranes; and the at least one gas diffuser being associated with the bundle's bottom end and configured for discharging gas bubbles within the bundle's confines such that gas bubbles rise through the treatment portion between the fibers. Also disclosed herein are devices, systems and methods making use of this module.



WO 2016/108227 A1