



(51) International Patent Classification:

G01N 21/64 (2006.01) *G01N 21/85* (2006.01)
G01N 21/77 (2006.01) *H01L 21/66* (2006.01)

(21) International Application Number:

PCT/US2014/063329

(22) International Filing Date:

31 October 2014 (31.10.2014)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/898,906 1 November 2013 (01.11.2013) US
61/899,605 4 November 2013 (04.11.2013) US
61/955,966 20 March 2014 (20.03.2014) US

(71) Applicant: ENTEGRIS-JETALON SOLUTIONS, INC.
[US/US]; 129 Concord Road, Billerica, MA 01821-4600 (US).

(72) Inventors: MACHUCA, Francisco, Javier; 4159 Midvale Ave., Oakland, CA 94602 (US). CHIARELLO, Ronald,

Phillip; 660 Glenside Drive, Lafayette, CA 94549 (US).
MONTGOMERY, Kyle, William; 3107 Montpelier Court, Pleasanton, CA 94588 (US).

(74) Agent: AKMAL, Ari, G.; Sprinkle Ip Law Group, 1301 W. 25th Street, Suite 408, Austin, TX 78705 (US).

(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,

[Continued on next page]

(54) Title: DISSOLVED OXYGEN SENSOR

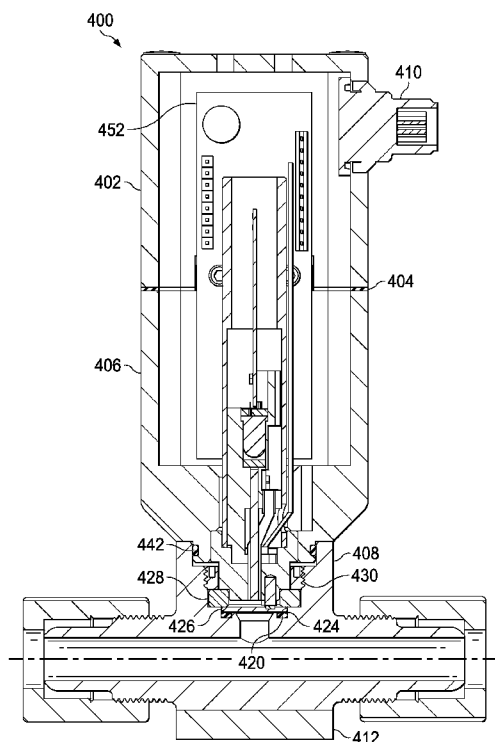


FIG. 4B

(57) Abstract: Embodiments of a dissolved oxygen sensor are disclosed herein. Embodiments as disclosed herein may include a window of optically transparent material disposed in an opening in a fluid flow path, where a luminophor is attached to the side of the window exposed to the fluid in the flow path. An optical probe may be disposed opposite the window from the fluid flow path on an axis at an angle to the window fluid flow path. The optical probe includes an excitation light source for illumination of the luminophor and a reference light source. An optical reception guide is configured to conduct light from the luminophor to a photodiode adjacent to the end of the optical reception guide distal the window when the luminophor is illuminated by the excitation light source. The optical probe is configured to determine a measure of oxygen concentration of the fluid in the flow path. The optical reception guide and photodiode may be aligned on axis, where the axis may be substantially parallel with the axis on which the optical probe is aligned.



DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, **Published:**

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).

— with international search report (Art. 21(3))