

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau

(43) International Publication Date  
30 September 2021 (30.09.2021)



(10) International Publication Number  
**WO 2021/191429 A1**

(51) International Patent Classification:

A61M 1/16 (2006.01) A61B 5/145 (2006.01)  
A61M 1/36 (2006.01)

(21) International Application Number:

PCT/EP2021/057962

(22) International Filing Date:

26 March 2021 (26.03.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20166350.7 27 March 2020 (27.03.2020) EP

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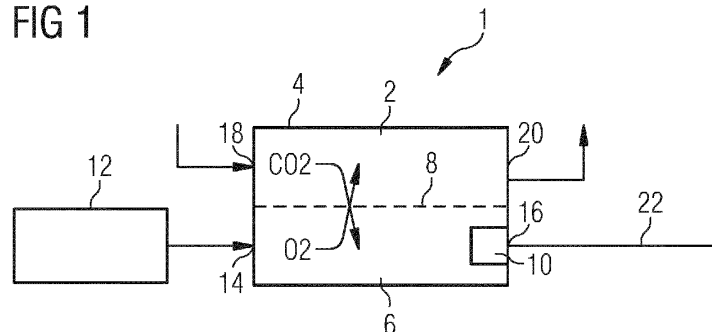
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(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ,  
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,  
DZ, EC, EE, EG, ES, 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,  
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,

(54) Title: DEVICE AND METHOD FOR DETERMINATION OF A CO<sub>2</sub> PARTIAL PRESSURE VALUE ON A BLOOD SIDE  
OF AN OXYGENATOR

FIG 1



(57) Abstract: Device (1) for determination of a CO<sub>2</sub> partial pressure value on a blood side (2) of an oxygenator (4), comprising: - an oxygenator (4) with a blood side (2), a gas side (6) and a semipermeable membrane (8), wherein the membrane (8) separates the blood side (2) from the gas side (6), the gas side (6) has an inlet (14) and an outlet (16) and, during operation of the oxygenator (4), a gas flow flows into the inlet (14) to the outlet (16) at a flow rate; - a first sensor (10) configured to measure CO<sub>2</sub> partial pressure values of the gas side (6); - a control unit (12) configured to process the measured CO<sub>2</sub> partial pressure values of the gas side (6) and to determine a CO<sub>2</sub> partial pressure value on the blood side (2) based on the measured CO<sub>2</sub> partial pressure values of the gas side (6), wherein the control unit (12) determines the CO<sub>2</sub> partial pressure value on the blood side (2) during operation of the oxygenator (4) by calculating a change rate of the measured CO<sub>2</sub> partial pressure values of the gas side (6), and, when or after the calculated change rate equals a predetermined change rate value or falls within a predetermined change rate range at a predetermined measuring distance, deducing the CO<sub>2</sub> partial pressure value on the blood side (2) from the CO<sub>2</sub> partial pressure values of the gas side (6) which are measured when or after the calculated change rate equals the predetermined change rate value or falls within the predetermined change rate range at the predetermined measuring distance.

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TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
KM, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a  
patent (Rule 4.17(ii))*
- *of inventorship (Rule 4.17(iv))*

**Published:**

- *with international search report (Art. 21(3))*