

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
22 September 2022 (22.09.2022)



(10) International Publication Number
WO 2022/197733 A1

(51) International Patent Classification:

B01D 15/22 (2006.01) **G01N 30/60** (2006.01)
B01D 15/08 (2006.01) **G01N 30/02** (2006.01)

(21) International Application Number:

PCT/US2022/020426

(22) International Filing Date:

15 March 2022 (15.03.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/161,823 16 March 2021 (16.03.2021) US
63/181,133 28 April 2021 (28.04.2021) US

(71) Applicant: **BIO-RAD LABORATORIES, INC.**
[US/US]; 1000 Alfred Nobel Drive, Hercules, California
94547 (US).

(72) Inventors: **BELISLE, Christopher**; c/o Bio-Rad Laboratories, Inc., 1000 Alfred Nobel Drive, Hercules, California 94547 (US). **SNYDER, Mark A.**; c/o Bio-Rad Laboratories, Inc., 1000 Alfred Nobel Drive, Hercules, California 94547 (US).

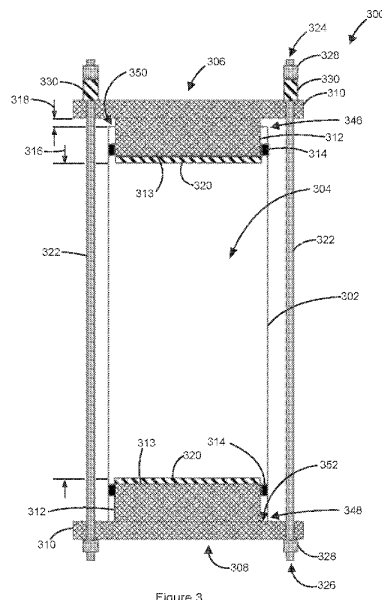
(74) Agent: **CHRISTIANSEN, Richard B.** et al.; Kilpatrick, Townsend & Stockton LLP, Mailstop: IP Docketing- 22,

Suite 2800, 1100 Peachtree Street NE, Atlanta, Georgia
30309-4528 (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, 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, JM, 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, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

(54) Title: DYNAMIC AXIAL COMPRESSION FOR PREPARATIVE COLUMNS USING EXTERNAL COMPRESSION



(57) Abstract: A dynamic axial compression column is disclosed herein. This dynamic axial column utilized external compression to prevent the creation of end plate space in the column. The dynamic axial column can include a tube defining a first opening, a second opening, and a lumen extending there between. The dynamic axial column can include a first end plate assembly sealing the first opening and movably extending at least partially into the lumen via the first opening, a second end plate assembly sealing the second opening, a plurality of rods extending along the outside of the tube and connecting the first end plate assembly and the second end plate assembly, and a first plurality of compression devices external to the tube and engaging one of the plurality of rods to bias the first end plate assembly towards the second end plate assembly.

WO 2022/197733 A1

[Continued on next page]

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

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