

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

(19) World Intellectual Property  
Organization  
International Bureau

(43) International Publication Date  
07 October 2021 (07.10.2021)



(10) International Publication Number  
**WO 2021/198646 A1**

(51) International Patent Classification:

*B01D 53/46* (2006.01)      *B01D 53/78* (2006.01)  
*B01D 47/06* (2006.01)      *F23G 7/06* (2006.01)  
*B01D 47/12* (2006.01)      *F23J 15/00* (2006.01)  
*B01D 47/14* (2006.01)      *F23J 15/02* (2006.01)  
*B01D 53/68* (2006.01)      *F23J 15/04* (2006.01)  
*B01D 53/75* (2006.01)      *B01D 53/14* (2006.01)

(21) International Application Number:

PCT/GB2021/050716

(22) International Filing Date:

24 March 2021 (24.03.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2004688.4      31 March 2020 (31.03.2020)      GB

(71) Applicant: **EDWARDS LIMITED** [GB/GB]; Innovation Drive, Burgess Hill, Sussex RH15 9TW (GB).

(72) Inventors: **ELANGANATHAN, Arani**; Edwards Limited, Kenn Business Park, Kenn Road, Clevedon, Somerset BS21 6TH (GB). **WILLIAMS, Christopher Paul**; Edwards Limited, Kenn Business Park, Kenn Road, Clevedon, Somerset BS21 6TH (GB). **HOWBROOK, Anna Victo-**

**ria**; Edwards Limited, Kenn Business Park, Kenn Road, Clevedon, Somerset BS21 6TH (GB). **STANTON, Gareth David**; Edwards Limited, Kenn Business Park, Kenn Road, Clevedon, Somerset BS21 6TH (GB).

(74) Agent: **NORTON, Ian**; Edwards Limited, Innovation Drive, Burgess Hill, Sussex RH15 9TW (GB).

(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: EFFLUENT GAS TREATMENT APPARATUS

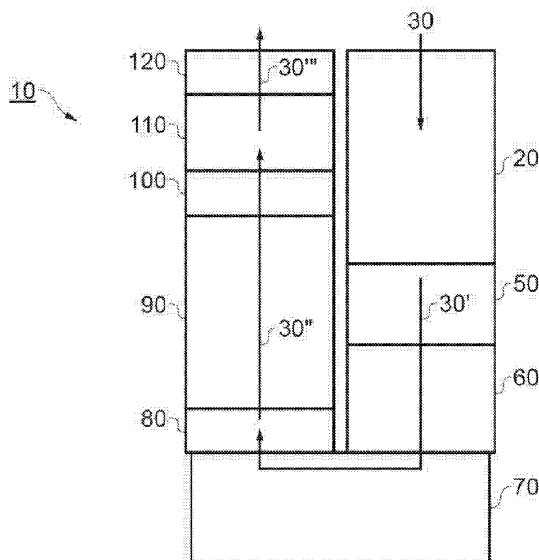


FIG. 1

(57) Abstract: Apparatus and methods are disclosed. The apparatus comprises: an abatement chamber of an abatement apparatus which treats an effluent stream from a semiconductor processing tool to provide a combusted effluent stream having effluent particles; and a first atomiser located downstream of the abatement chamber, the first atomiser being configured to produce droplets having a droplet size based on a particle size of the effluent particles to be removed from the combusted effluent stream. In this way, the atomizer may produce droplets which combine with or adhere to the effluent particles which assists in the removal of the effluent particles from the combusted effluent stream.

WO 2021/198646 A1

[Continued on next page]

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))*