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C2C2/(2006.01) F23D 14/22 (2006.01) 大兴区北京经济技术开发区文昌大道8号 100176 (CN)。
- (21) 国际申请号: PCT/CN2024/126335 (72) 发明人: 孔祥天(KONG, Xiangtian); 中国北京市大兴区北京经济技术开发区文昌大道8号 100176 (CN)。王立卡(WANG, Lika); 中国北京市大兴区北京经济技术开发区文昌大道8号 100176 (CN)。
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- (74) 代理人: 北京天昊联合知识产权代理有限公司(TEE & HOWE INTELLECTUAL PROPERTY ATTORNEYS); 中国北京市东城区东长安街1号东方广场东方经贸城西一办公楼5层1, 6-12室 100738 (CN)。
- (71) 申请人: 北京北方华创微电子装备有限公司(BEIJING NAURA MICROELECTRONICS EQUIPMENT CO., LTD.) [CN/CN]; 中国北京市
- (81) 指定国(除另有指明, 要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU,

(54) Title: SEMICONDUCTOR PROCESS APPARATUS AND IGNITION CHAMBER THEREOF

(54) 发明名称: 半导体工艺设备及其点火腔室

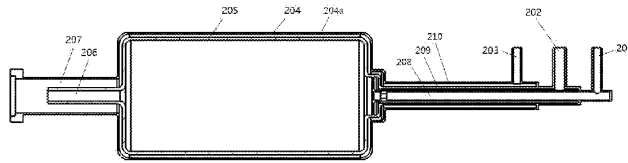


图 2

(57) Abstract: Provided in the present application are a semiconductor process apparatus and an ignition chamber thereof. The ignition chamber comprises a chamber body and a conveying line. The chamber body comprises an inner combustion-chamber wall and an outer combustion-chamber wall that surrounds the inner combustion-chamber wall, wherein a diluent gas channel is formed between the inner combustion-chamber wall and the outer combustion-chamber wall; a diluent gas line is connected to the outer combustion-chamber wall and is in communication with the diluent gas channel; and a fuel gas line and a combustion-supporting gas line are connected to the inner combustion-chamber wall and are both in communication with the interior of a combustion chamber. The conveying line is configured to connect to a process chamber of a semiconductor process apparatus, and the conveying line is connected to the outer combustion-chamber wall and is in communication with the diluent gas channel; and an output port is provided in the inner combustion-chamber wall and connects the interior of the combustion chamber to the interior of the conveying line. A fuel gas and a combustion-supporting gas react in the combustion chamber to generate a reaction product. Heat produced during the reaction can heat a diluent gas, and the temperature of the heated diluent gas is higher than the dew-point temperature of the reaction product, thereby avoiding condensation of the reaction product, and also avoiding the problem of particles exceeding the standard.

(57) 摘要: 本申请提供一种半导体工艺设备及其点火腔室, 点火腔室包括腔室本体和输送管线, 腔室本体包括燃烧室内壁和包围燃烧室内壁的燃烧室外壁, 二者之间形成稀释气通道, 燃烧室外壁连有稀释气管线, 稀释气管线与稀释气通道连通, 燃烧室内壁连有燃料气管线和助燃气管线, 二者均与燃烧室内部连通; 输送管线用于连接半导体工艺设备的工艺腔室, 输送管线与燃烧室外壁相连, 并与稀释气通道连通, 燃烧室内壁设有输出口, 输出口连通燃烧室内部与输送管线内部。燃料气和助燃气在燃烧室内反应生成反应产物。反应过程中产生的热量能够加热稀释气体, 经过加热的稀释气体温度高于反应产物的露点温度, 能够避免反应产物凝结, 避免了颗粒超标的问题。

[见续页]

CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, 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) 指定国(除另有指明，要求每一种可提供的地区保护): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), 欧亚 (AM, AZ, BY, KG, KZ, RU, TJ, TM), 欧洲 (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, 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)。

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