27/12/02
200207925 9

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

(19) World Intellectual Property Organization
International Bureau

ACTION

(43) International Publication Date
10 January 2002 (10.01.2002)

PCT

(10) International Publication Number
WO 02/003763 A3

(51) International Patent Classification[7]: H01J 37/32

(21) International Application Number: PCT/US01/20263

(22) International Filing Date: 26 June 2001 (26.06.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/607,326 30 June 2000 (30.06.2000) US

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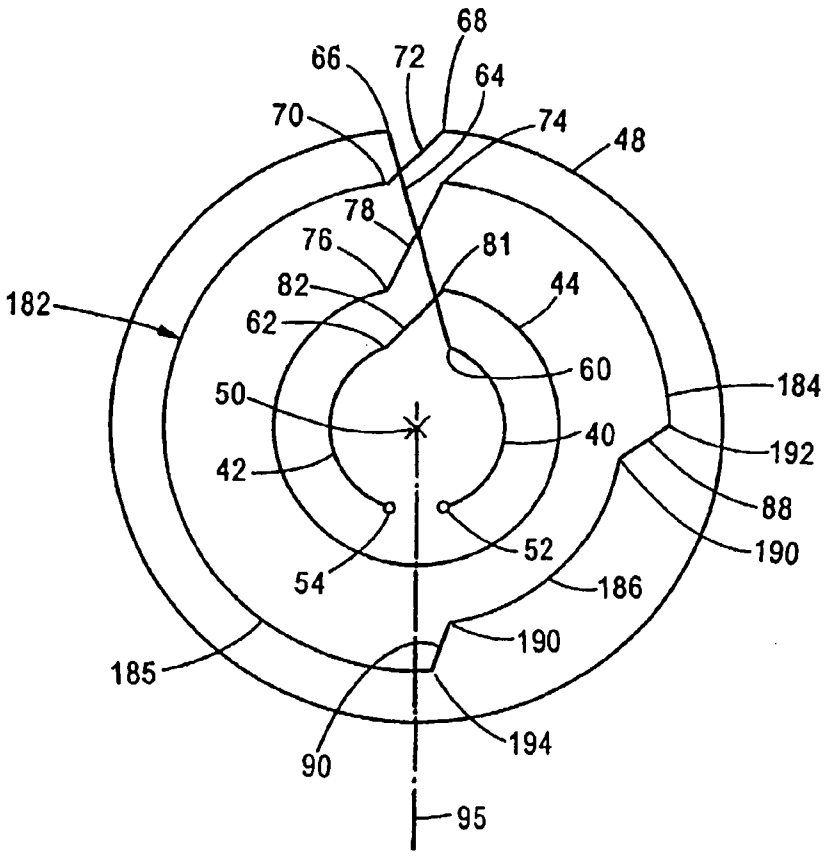
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(81) Designated States *(national)*: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian

[Continued on next page]

(54) Title: VACUUM PLASMA PROCESSOR APPARATUS AND METHOD



(57) Abstract: 200 mm and 300 mm wafers are processed in vacuum plasma processing chambers that are the same or have the same geometry. Substantially planar excitation coils having different geometries for the wafers of different sizes excite ionizable gas in the chamber to a plasma by supplying electromagnetic fields to the plasma through a dielectric window at the top of the chamber. Both coils include plural symmetrical, substantially circular turns coaxial with a center point of the coil and at least one turn that is asymmetrical with respect to the coil center point. Both coils include four turns, with r.f. excitation being applied to the turn that is closest to the coil center point. The turn that is third farthest from the center point is asymmetric in the coil used for 200 mm wafers. The two turns closest to the coil center point are asymmetric in the coil used for 300 mm wafers.

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patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*
— *with amended claims*

(88) Date of publication of the international search report:
27 December 2002

Date of publication of the amended claims: 13 March 2003

(15) Information about Correction:
Previous Correction:
see PCT Gazette No. 14/2002 of 4 April 2002, Section II

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.