

WHAT IS CLAIMED IS:

1. An apparatus for treating a substrate, the apparatus comprising:
a chamber having a treating space;
a support unit configured to support a substrate in the treating space; and
a power supply unit configured to generate an electric field in the treating space and generate plasma from process gas or a treatment fluid supplied to the treating space,

wherein the support unit includes:

a chuck configured to support a lower surface of the substrate;
a moving plate provided to surround the chuck when viewed from above; and
a lifting member configured to change an exposed area of an edge region of the substrate supported by the chuck for the treating space by relatively moving the moving plate in an upper or lower direction with respect to the chuck,

wherein a guide part to which a guide member provided to the moving plate is inserted and which guides a vertical movement of the moving plate is formed on a lateral surface of the chuck,

wherein the guide part includes recess part to which the guide member is inserted.

2. The apparatus of claim 1, wherein when viewed from above, a diameter of the chuck is smaller than a diameter of the substrate placed on the chuck.

3. The apparatus of claim 2, wherein the moving plate has a ring shape when viewed from above, and has a stepped shape in which a height of an inner upper

surface is lower than a height of an outer upper surface.

4. The apparatus of claim 3, wherein the edge region of the substrate placed on the support unit overlaps the inner upper surface of the moving plate when viewed from above.

~~5. The apparatus of any one of claims 1 to 4, wherein a guide part to which a guide member provided to the moving plate is inserted and which guides a vertical movement of the moving plate is formed on a lateral surface of the chuck.~~

6.5. The apparatus of claim 51, wherein the guide member has a shape in which back portions of one pair of guide components shaped like “ $\neg$ ” face each other.

7.6. The apparatus of any one of claims 1 to 4, further comprising:
a control unit,
wherein the control unit controls the lifting member so as to move the moving plate in the lower direction, in order to improve efficiency of a treatment of the lower surface of the edge region of the substrate supported by the support unit.

8.7. The apparatus of claim 76, wherein the lifting member includes:
a first lifting member which moves the chuck in the vertical direction; and
a second lifting member which moves the moving in the vertical direction.

89. The apparatus of claim 87, wherein the control unit is configured to:
decreases a gap between the substrate and a baffle disposed on an upper

portion of the chuck by moving the chuck and the moving plate in the upper direction after the substrate is placed on the chuck, and

controls the first lifting member and the second lifting member so as to move the moving plate in the lower direction in order to remove a membrane attached to the lower surface of the edge region of the substrate and a lateral surface of the substrate caused due to inflow of the plasma to the lower surface of the edge region of the substrate.

910. A support unit included in an apparatus for treating a substrate by using plasma, the support unit comprising:

a chuck configured to support a lower surface of a substrate;

a moving plate provided to surround the chuck when viewed from above; and

a lifting member configured to change an exposed area of an edge region of the substrate supported by the chuck for a treating space by relatively moving the moving plate in an upper or lower direction with respect to the chuck,

wherein a guide part to which a guide member provided to the moving plate is inserted and which guides a vertical movement of the moving plate is formed on a lateral surface of the chuck,

wherein the guide part includes recess part to which the guide member is inserted.

101. The support unit of claim 910, wherein when viewed from above, a diameter of the chuck is smaller than a diameter of the substrate placed on the chuck.

112. The support unit of claim 101, wherein the moving plate has a ring

shape when viewed from above, and has a stepped shape in which a height of an inner upper surface is lower than a height of an outer upper surface so as to prevent the substrate placed on the chuck from sliding.

~~123.~~ The support unit of claim ~~112~~, wherein the inner upper surface overlaps the edge region of the substrate when viewed from above.

~~14.—The support unit of any one of claims 10 to 13, wherein a guide part to which a guide member provided to the moving plate is inserted and which guides a vertical movement of the moving plate is formed on a lateral surface of the chuck.~~

~~15.~~~~13.~~ The support unit of claim ~~149~~, wherein the guide member has a shape in which back portions of one pair of guide components shaped like “⌋” face each other.

~~16.~~~~14.~~ A method of substrate treatment comprising:
supporting ~~a the~~ lower surface of ~~a the~~ substrate with a chuck in ~~the a~~ treating space;
generating an electric field in the treating space to generate plasma from ~~a the~~ process gas or ~~a the~~ treatment fluid supplied to the treating space to treat the substrate; and
vertically moving ~~a the~~ moving plate provided to surround the chuck during the treating of the substrate with plasma to adjust a gap between a lower surface of an edge region of the substrate and an upper surface of a moving plate; ~~and~~

~~wherein a film provided on either an upper surface of the substrate or the lower surface of an edge region of the substrate is removed with plasma and then vertically moving the moving plate, thereafter removing the film provided on the other~~

of the upper surface of the substrate or the lower surface of an edge region of the substrate,

wherein removal of the film attached to the lower surface of an edge region of the substrate with plasma is performed with a spacing between the lower surface of the substrate from the upper surface of the moving plate.

~~17. The method for treating the substrate of claim 16, wherein the film provided on the upper surface of the substrate is removed with plasma and then the moving plate is moved downwardly to space apart the lower surface of the substrate from the upper surface of the moving plate so as to remove the film attached to the lower surface of an edge region of the substrate with plasma.~~

~~18.~~15. The method for treating the substrate of claim 14 ~~16 or claim 17~~, wherein the vertically moving a moving plate comprises vertically moving a moving plate having upper surface of the moving plate has an inner upper surface and an outer upper surface, wherein the height of the inner upper surface is ~~provided to be~~ lower than the height of the outer upper surface, and the spacing is a gap between a lower surface of the substrate and an inner upper surface of the moving plate.

~~19.~~16. The method for treating the substrate of claim ~~15~~19, comprising overlapping wherein the inner upper surface ~~overlaps with~~ the edge region of the substrate ~~when viewed from above~~.

17.~~20.~~ The method for treating the substrate of claim 14 ~~16 or claim 17~~, wherein the film ~~material~~ provided on the upper surface of the substrate is a hard mask.