

CLAIMS

1. An edge coupling ring configured to be raised and lowered relative to a pedestal, via one or more lift pins, in a processing chamber of a substrate processing system, the edge coupling ring comprising:

an upper surface;

an annular inner ~~diameter~~ surface;

an annular outer ~~diameter~~ surface;

a lower surface; and

a self-centering feature on the edge coupling ring, wherein the self-centering feature is an inclined plane,

wherein the self-centering feature on the edge coupling ring is configured to self-center the edge coupling ring relative to the pedestal, and

wherein the inclined plane is on the lower surface of the edge coupling ring at the annular inner surface of the edge coupling ring.

~~2. The edge ring of claim 1, wherein the self-centering feature on the edge ring is arranged to self-center the edge ring relative to the pedestal.~~

~~3. The edge ring of claim 1, wherein the inclined plane is a sloped surface on the lower surface of the edge ring.~~

~~4. The edge ring of claim 1, wherein the inclined plane is on the lower surface of the edge ring adjacent to the annular inner diameter of the edge ring.~~

52. The edge coupling ring of claim 1, further comprising at least one second self-centering feature on the edge coupling ring, wherein ~~the inclined plane is on the lower surface of the edge ring adjacent to the annular inner diameter of the edge ring and the~~ at least one second self-centering feature is a second inclined plane adjacent to the annular outer ~~diameter~~surface of the edge coupling ring.

6. ~~The edge ring of claim 1, wherein the inclined plane is on the lower surface of the edge ring adjacent to the annular outer diameter of the edge ring.~~

7. ~~The edge ring of claim 1, further comprising at least one second self-centering feature on the edge ring, wherein the inclined plane is on the lower surface of the edge ring adjacent to the annular outer diameter of the edge ring and the at least one second self-centering feature is a second inclined plane adjacent to the annular inner diameter of the edge ring.~~

83. The edge coupling ring of claim 1, further comprising at least one second self-centering feature on the edge coupling ring, wherein ~~the inclined plane is on the lower surface of the edge ring adjacent to the annular outer diameter of the edge ring and the~~ at least one second self-centering feature is arranged in the lower surface of the edge coupling ring.

94. The edge coupling ring of claim 83, wherein at least one inner surface of the at least one second self-centering feature has a linear slope.

105. The edge coupling ring of claim 83, wherein at least two inner surfaces of the at least one second self-centering feature have a linear slope.

116. The edge coupling ring of claim 83, wherein the at least one second self-centering feature is triangular in at least one cross-sectional view.

127. The edge coupling ring of claim 1, wherein the lower surface of the edge coupling ring is arranged to receive the one or more lift pins.

138. The edge coupling ring of claim 1, wherein the annular inner ~~diameter~~surface includes a ledge.

149. A system comprising a pedestal and further comprising the edge coupling ring of claim 1.

1510. The ~~pedestal~~system of claim 149, wherein the annular inner ~~diameter~~surface of the edge coupling ring overlaps an upper plate of the pedestal.

1611. A substrate processing system comprising the ~~pedestal~~system of claim 269 and further comprising an actuator configured to raise and lower the one or more lift pins to raise and lower the edge coupling ring.