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 surface;

an annular outer 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 and adjacent to the annular inner surface of the edge coupling ring,

wherein an innermost edge of the annular inner surface of the edge coupling ring is configured to overlap and be supported upon an upper plate of the pedestal, and

wherein the self-centering feature is arranged in a portion of the lower surface of the edge coupling ring overlapping the upper plate of the pedestal.

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

3. The edge coupling ring of claim 1, further comprising at least one second self-centering feature on the edge coupling ring, wherein the at least one second self-centering feature is arranged in the lower surface of the edge coupling ring.

4. The edge coupling ring of claim 3, wherein at least one inner surface of the at least one second self-centering feature has a linear slope.

5. The edge coupling ring of claim 3, wherein at least two inner surfaces of the at least one second self-centering feature have a linear slope.

6. The edge coupling ring of claim 3, wherein the at least one second self-centering feature is triangular in at least one cross-sectional view.

7. 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.

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

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

10. The system of claim 9, wherein the annular inner surface of the edge coupling ring overlaps the upper plate of the pedestal.

11. A substrate processing system comprising the system of claim 1 and further comprising an actuator configured to raise and lower the one or more lift pins to raise and lower the edge coupling ring.