Claims

1. Device for processing wafer-shaped articles, comprising a closed process chamber, a ring chuck located within said closed process chamber, and at least one process fluid collector in fluid communication through a bottom wall of the closed process chamber to the outside of the closed process chamber, wherein said ring chuck is adapted to be driven without physical contact through a magnetic bearing, wherein said ring chuck and said at least one process fluid collector are vertically movable relative to each other, wherein the at least one process fluid collector comprises a vertically movable splash guard, and

wherein the ring chuck includes a trailing edge which is oriented at a downward angle directed radially outward from the rotational axis of the ring chuck.

2. The device according to claim 1, wherein the ring chuck is fixed in the vertical direction.

3. The device according to claim 2, comprising a plurality of process fluid collectors, each process fluid collector comprising a vertically movable splash guard.

4. The device according to claim 3, further comprising lifting mechanisms mounted outside the closed process chamber and configured to drive each vertically movable splash guard selectively to a predefined vertical position.

5. The device according to claim 4, wherein each vertically movable splash guard is selectively positionable so as to capture a preselected process fluid emanating from a spinning wafer carried by said ring chuck.

6. The device according to claim 5, further comprising a vertical movement actuator operatively associated with each vertically movable splash guard.

7. The device according to claim 6, wherein said actuator is coupled with said vertically movable splash guard through a magnetic couple.

8. The device according to claim 1, wherein the magnetic bearing is an active magnetic bearing.

9. The device according to claim 1, wherein said closed process chamber comprises a wafer loading and unloading access door provided in a sidewall of said closed process chamber at a vertical position lower than a vertical position of said ring chuck.

10. The device according to claim 3, wherein said plurality of process fluid collectors comprises an annular inner splash guard and a radially outer annular splash guard that is concentric to said annular inner splash guard.

11. The device according to claim 3, wherein said plurality of process fluid collectors comprises an inner process fluid collector having an inner splash guard and an outer process fluid collector having an

outer splash guard, and wherein said outer splash guard comprises an inwardly extending upper surface which overlies and engages an upper edge of said inner splash guard when said inner splash guard is elevated, thereby essentially to seal said outer process fluid collector by said inner splash guard when said inner process fluid collector is in use.

12. The device according to claim 1, wherein said vertically movable splash guard comprises an inwardly facing upper lip that is seated against an interior surface of said closed process chamber in an uppermost position of said vertically movable splash guard.

13. The device according to claim 1, wherein said vertically movable splash guard comprises an inwardly facing upper lip that is seated against a trailing edge of said ring chuck in an uppermost position of said vertically movable splash guard.

Claims

[Claim 0001] Device for processing wafer-shaped articles, comprising a closed process chamber, a ring chuck located within said closed process chamber, and at least one process fluid collector in fluid communication through a bottom wall of the closed process chamber to the outside of the closed process chamber, wherein said ring chuck is adapted to be driven without physical contact through a magnetic bearing, and wherein said ring chuck and said at least one fluid collector are vertically movable relative to each other.

[Claim 0002] The device according to claim 1, wherein the ring chuck is fixed in the vertical direction and the at least one process fluid collector comprises a vertically movable splash guard.

[Claim 0003] The device according to claim 2, comprising a plurality of fluid collectors, each fluid collector comprising a vertically movable splash guard.

[Claim 0004] The device according to claim 3, wherein each vertically movable splash guard is selectively driven from outside the closed process chamber to a predefined vertical position.

[Claim 0005] The device according to claim 4, wherein each vertically movable splash guard is selectively positionable so as to capture a preselected process fluid emanating from a spinning wafer carried by said ring chuck.

[Claim 0006] The device according to claim 5, further comprising a vertical movement actuator operatively associated with each vertically movable splash guard.

[Claim 0007] The device according to claim 6, wherein said actuator is operatively associated with said vertically movable splash guard through a magnetic couple.

[Claim 0008] The device according to claim 1, wherein the at least one process fluid collector is fixed in the vertical direction and the ring chuck comprises a vertically movable active magnetic bearing.

[Claim 0009] The device according to claim 8, comprising a plurality of fluid collectors, said vertically movable active magnetic bearing comprising a vertically movable stator located outside the closed process chamber.

[Claim 0010] The device according to claim 9, wherein said vertically movable active magnetic bearing is selectively positionable such that a preselected process fluid emanating from a spinning wafer carried by said ring

chuck is directed to a preselected fluid collector.

[Claim 0011] The device according to claim 10, further comprising a vertical movement actuator operatively associated said stator.

[Claim 0012] The device according to claim 11, wherein said vertical movement actuator is operatively associated with said stator through a magnetic couple.

[Claim 0013] The device according to claim 1, wherein the magnetic bearing is an active magnetic bearing.