CLAIMS

1. A substrate processing apparatus comprising:

a table on which a polishing surface for polishing a substrate is provided; and

a discharge suction section which includes a discharge port which communicates with a fluid supply source and through which a fluid is discharged to the polishing surface and a suction opening which communicates with a vacuum source and through which the fluid existing on the polishing surface is sucked.

2. The substrate processing apparatus according to claim 1, wherein

a gas is discharged from the discharge port, and a liquid on the polishing surface is vibrated or disturbed.

3. The substrate processing apparatus according to claim 1, wherein

the table is rotatable,

the discharge port is disposed on a downstream side of the suction opening in a rotation direction of the table, and

a liquid is supplied from the discharge port.

4. The substrate processing apparatus according to claim 3, wherein

the liquid discharged from the discharge port is a processing solution for processing a substrate.

5. The substrate processing apparatus according to claim 1, wherein

the table is rotatable,

the discharge port is disposed on an upstream side of the suction opening in a rotation direction of the table, and

a liquid is supplied from the discharge port.

6. The substrate processing apparatus according to any one of claims 1 to 5, wherein

a flow path leading to the discharge port is inclined in a direction opposite to a direction of the suction opening.

7. The substrate processing apparatus according to any one of claims 1 to 6, wherein

a distance between the discharge port and the suction opening is equal to or more than a lower limit distance within which a range of a thin liquid film on the polishing surface can be expanded by a fluid flow supplied from the discharge port.

8. The substrate processing apparatus according to any one of claims 1 to 5, wherein

a flow path leading to the discharge port is inclined in a direction of the suction opening.

9. The substrate processing apparatus according to any one of claims 1 to 5 and 8, wherein

a distance between the discharge port and the suction opening is equal to or less than an upper limit distance at which the polishing surface is hit by the fluid discharged from the discharge port to cause the dust and/or debris to float and then the floated dust and/or debris can be sucked from the suction opening.

10. The substrate processing apparatus according to any one of claims 1 to 9, wherein

the discharge port and the suction opening are positioned on an approximately identical plane.

11. The substrate processing apparatus according to any one of claims 1 to 10, wherein

a plurality of the discharge ports are disposed in a radial direction of the table.

12. The substrate processing apparatus according to any one of claims 1 to 11, further comprising:

a polishing liquid supply section which supplies a polishing liquid to the polishing surface; and

a substrate holding section which holds the substrate, wherein

the discharge suction section is disposed on a downstream side of a polishing liquid supply nozzle in the rotation direction of the table and is disposed on an upstream side of the substrate holding section in the rotation direction of the table.

13. The substrate processing apparatus according to any one of claims 1 to 11, further comprising:

a dresser for performing dressing of the polishing surface; and

a polishing liquid supply section which supplies a polishing liquid to the polishing surface, wherein

the discharge suction section is disposed on a downstream side of the dresser in the rotation direction of the table and is disposed on an upstream side of the polishing liquid supply section in the rotation direction of the table.

14. The substrate processing apparatus according to any one of claims 1 to 11, further comprising:

a substrate holding section which holds the substrate; and

a dresser for performing dressing of the polishing surface, wherein

the discharge suction section is disposed on a downstream side of the substrate holding section in the rotation direction of the table and is disposed on an upstream side of the dresser in the rotation direction of the table.

15. The substrate processing apparatus according to claim 1, wherein

the discharge port is respectively provided on the rotation upstream side and the rotation downstream side of the table, and the suction port is provided therebetween.

16. The substrate processing apparatus according to claim 15, wherein

the discharge ports on the rotation upstream side of the table are provided in plurality.

17. The substrate processing apparatus according to claim 16, wherein

the discharge ports on the rotation upstream side of the table are provided in plurality,

the liquid is discharged to the polishing surface from the discharge port at the outermost periphery, and the gas is discharged to the polishing surface from the discharge port between the discharge port at the outermost periphery and the suction port.

18. The substrate processing apparatus according to claim 16, wherein

the discharge ports on the rotation downstream side of the table are provided in plurality.

19. The substrate processing apparatus according to claim 18, wherein

the discharge ports on the rotation upstream side of the table are provided in plurality,

liquid is discharged to the polishing surface from the discharge ports on the outermost periphery of each of the rotation upstream side and the rotation downstream side, and gas is discharged to the polishing surface from the discharge port between the discharge port on the outermost periphery and the suction port.

20. The substrate processing apparatus according to any one of claims 1 to 19, wherein

the size of each of the discharge ports is smaller than that of the suction port.

21. The substrate processing apparatus according to claim 1, wherein

the discharge ports on the rotation upstream side of the table are provided in plurality, and the suction port is provided on the rotation downstream side of the table.

22. The substrate processing apparatus according to claim 1, wherein

the suction ports are respectively provided on the rotation upstream side and the rotation downstream side of the table, and the discharge port is provided therebetween.

23. The substrate processing apparatus according to any one of claims 1 to 22, wherein

the discharge suction unit has a fan-like shape when the table is viewed from above, and the arc of the discharge suction unit has a length proportional to the radius or the outer circumference of the table.

24. The substrate processing apparatus according to any one of claims 1 to 23, wherein

the discharge suction unit is provided in plurality.

25. The substrate processing apparatus according to claim 24, further comprising:

a dresser; and

a substrate holding unit,

wherein the plurality of discharge suction units are both provided downstream of the dresser in the table rotation direction and upstream of the substrate holding unit in the table rotation direction.

26. The substrate processing apparatus according to claim 24, further comprising:

a dresser; and

a substrate holding unit,

wherein at least one of the plurality of discharge suction units is provided upstream of the dresser in the direction of rotation of the table and downstream of the substrate holding unit in the direction of rotation of the table, and at least one of the plurality of discharge suction units is provided downstream of the dresser in the direction of rotation of the table and upstream of the substrate holder in the direction of rotation of the table.