

What is claimed is:

1. A substrate washing device comprising:

a substrate holding mechanism that holds a substrate;

a substrate rotating mechanism that rotates the substrate held by the substrate holding mechanism; and

a two-fluid nozzle that ejects a two-fluid jet toward a surface of the rotating substrate, wherein

the two-fluid nozzle is formed of a conductive material, wherein

the two-fluid nozzle has a nozzle leading end formed of the conductive material and a nozzle base end formed of a non-conductive material, wherein

carrier gas and a washing liquid are mixed to form droplets inside the two-fluid nozzle;

the two-fluid nozzle eject the droplets together with carrier gas, and the droplets being positively electrified, while ejecting the two-fluid jet toward the substrate from the two-fluid nozzle; and

the nozzle leading end formed of the conductive material is an end for discharging liquid to at least the outside of the nozzle.

2. The substrate washing device according to claim 1,
wherein the conductive material is conductive carbon PEEK
or conductive carbon PTFE.

3. The substrate washing device according to claim 1,
wherein the ejection speed of the two-fluid jet is at
lowest 200 m/sec or higher, and preferably, 250 m/sec or
higher.

4. The substrate washing device according to claim 1, further comprising an oscillation arm having the two-fluid nozzle on its leading end, the two-fluid nozzle being moved by the oscillation arm and facing the substrate.
5. The substrate washing device according to claim 4, wherein the oscillation arm further comprising a pencil-type washing tool on its base end.

6. The substrate washing device according to claim 1, further comprising a control unit which controls the substrate washing device.