

Claims:

1. An apparatus for processing wafer-shaped articles, comprising:
 - a vacuum transfer module;
 - an atmospheric transfer module;
 - a first airlock interconnecting said vacuum transfer module and said atmospheric transfer module;
 - an atmospheric process module connected to said atmospheric transfer module; and
 - a gas supply system configured to supply gas separately and at different controlled flows to each of said atmospheric transfer module, said first airlock and said atmospheric process module, so as to cause:
 - (i) a flow of gas from said first airlock to said atmospheric transfer module when said first airlock and said atmospheric transfer module are open to one another, and
 - (ii) a flow of gas from said atmospheric transfer module to said atmospheric process module when said atmospheric transfer module and said atmospheric process module are open to one another,
- wherein the gas supply system includes
- a first gas showerhead positioned in an upper region of said first airlock and configured to dispense gas downwardly within said first airlock,

a second gas showerhead positioned in an upper region of said atmospheric transfer module and configured to dispense gas downwardly within said atmospheric transfer module, and
a third gas showerhead positioned in an upper region of said atmospheric process module and configured to dispense gas downwardly within said atmospheric process module, and
wherein the gas supply system is configured to separately control respective flows of the first gas showerhead, the second gas showerhead, and the third gas showerhead.

2. The apparatus according to claim 1, wherein said first airlock is configured to accommodate at least one wafer-shaped article of a predetermined diameter, and wherein said first gas showerhead comprises downwardly directed gas discharge openings positioned radially outwardly of a wafer-shaped article of said predetermined diameter when positioned in said first airlock.

3. The apparatus according to claim 1, wherein said atmospheric transfer module is configured to accommodate at least one wafer-shaped article of a predetermined diameter, and wherein said second gas showerhead comprises downwardly directed gas discharge openings positioned radially outwardly of a wafer-

shaped article of said predetermined diameter when positioned in said atmospheric transfer module.

4. The apparatus according to claim 1, wherein said gas supply system comprises a first exhaust positioned in a lower region of said atmospheric transfer module, and configured to exhaust at least a part of the gas discharged from said second gas showerhead, away from each of said atmospheric transfer module, said first airlock and said atmospheric process module.

5. The apparatus according to claim 1, wherein said atmospheric transfer module is not equipped with a vacuum pump.

6. The apparatus according to claim 1, wherein said third gas showerhead is positioned adjacent an inlet opening from said atmospheric transfer module.

7. The apparatus according to claim 1, wherein said gas supply system comprises a first exhaust positioned in said atmospheric process module, and configured to exhaust at least a part of the gas discharged from said third gas showerhead, away from each of said atmospheric transfer module and said atmospheric process module.

8. The apparatus according to claim 1, wherein said atmospheric process module is not equipped with a vacuum pump.

9. The apparatus according to claim 1, wherein said atmospheric process module comprises an outer chamber connected to said atmospheric transfer module, and an inner chamber configured to perform wet processing of a wafer-shaped article.

10. The apparatus according to claim 9, wherein the inner chamber comprises a lower bowl and an upper lid, wherein the lower bowl and the upper lid are vertically movable relative to one other.

11. The apparatus according to claim 9, wherein the inner chamber accommodates a spin chuck for holding and rotating the wafer-shaped article whilst being processed.

12. The apparatus according to claim 11, wherein the spin chuck is a levitating chuck.

13. The apparatus according to claim 1, wherein said atmospheric process module comprises an outer chamber connected to said atmospheric transfer module, and an inner chamber configured to perform wet processing of a wafer-shaped article, and wherein said third gas showerhead is positioned within said outer chamber and outside of said inner chamber.

14. The apparatus according to claim 1, further comprising at least one vacuum process module attached to said vacuum transfer module independently of said first airlock.

15. The apparatus according to claim 1, further comprising an equipment front end module connected to said vacuum transfer module via at least one second airlock, said equipment front end module comprising at least one front-opening unified pod for introducing a wafer-shaped article into said equipment front end module and for removing a wafer-shaped article therefrom.

16. The apparatus according to claim 1, wherein a wafer-shaped article may be introduced into and removed from said atmospheric process module only by passing through said atmospheric transfer module, said first airlock and said vacuum transfer module.

17. The apparatus according to claim 1, further comprising a heater positioned in at least one of said atmospheric transfer module and said first airlock, said heater being configured to evaporate any residual moisture present on a wafer-shaped article being returned from said atmospheric process module to said vacuum transfer module.

18. The apparatus according to claim 1, wherein said vacuum transfer module comprises a vacuum transfer robot that is operable to transfer a wafer-shaped article from said vacuum transfer module to said first airlock.

19. The apparatus according to claim 15, wherein said vacuum transfer module comprises a vacuum transfer robot that is operable to transfer a wafer-shaped article from said at least one second airlock to said vacuum transfer module, and from said vacuum transfer module to said first airlock.

20. The apparatus according to claim 1, wherein said atmospheric transfer module comprises an atmospheric transfer robot that is operable to transfer a wafer-shaped article from said first airlock to said atmospheric transfer module, and from said atmospheric transfer module to said atmospheric process module.