

CLAIMS

[Claim 1] A substrate processing apparatus comprising:

a polishing section including a plurality of polishing units each for polishing a substrate;

5 a cleaning section including a first cleaning lane including a plurality of first cleaning units each for cleaning a substrate, which has been polished in the polishing section, while supplying pure water to the substrate, a second cleaning lane including a plurality of second cleaning units each for cleaning a substrate, which has been polished in the polishing section, while supplying pure water to the substrate, and a transfer robot for transferring the polished substrate from the polishing section to the first cleaning lane or the second cleaning lane, the first cleaning lane and the second cleaning lane cleaning a plurality of the polished wafers in parallel;

10 a first pure-water supply pipe for supplying the pure water to the first cleaning lane;

a second pure-water supply pipe for supplying the pure water to the second cleaning lane;

a first pressure regulating valve with which the first pure-water supply pipe is equipped; and

a second pressure regulating valve with which the second pure-water supply pipe is equipped;

15 wherein a supply of the pure water to the first cleaning lane and a supply of the pure water to the second cleaning lane are performed independently from each other.

[Claim 2] The substrate processing apparatus according to claim 1, further comprising:

a first introduction port and a second introduction port for introducing a hydrogen peroxide solution into the first pure-water supply pipe and the second pure-water supply pipe, respectively.

20 [Claim 3] The substrate processing apparatus according to claim 1:

wherein each of the first cleaning units includes a first pure-water supply nozzle for supplying pure water to the substrate, and a first liquid-chemical supply nozzle for supplying a mixture of pure water and a liquid chemical to the substrate; and

25 wherein the first pure-water supply pipe includes a first pure-water supply line coupled to the first pure-water supply nozzle, and a first pure-water mixing line coupled to the first liquid-chemical supply nozzle.

[Claim 4] The substrate processing apparatus according to claim 3, wherein the first pure-water mixing line extends to the first liquid-chemical supply nozzle via a mixer for mixing the pure water and the liquid chemical.

[Claim 5] The substrate processing apparatus according to claim 1:

 wherein each of the second cleaning units includes a second pure-water supply nozzle for supplying pure water to the substrate, and a second liquid-chemical supply nozzle for supplying a mixture of pure water and a liquid chemical to the substrate; and

5 wherein the second pure-water supply pipe includes a second pure-water supply line coupled to the second pure-water supply nozzle, and a second pure-water mixing line coupled to the second liquid-chemical supply nozzle.

[Claim 6] The substrate processing apparatus according to claim 5, wherein the

10 second pure-water mixing line extends to the second liquid-chemical supply nozzle via a mixer for mixing the pure water and the liquid chemical.

[Claim 7] The substrate processing apparatus according to claim 1, wherein:

 the first cleaning lane further includes a first drying unit for supplying pure water
15 to the substrate and then drying the substrate; and

 the second cleaning lane further includes a second drying unit for supplying pure water to the substrate and then drying the substrate.

[Claim 8] A pipe cleaning method for a substrate processing apparatus which

20 includes a first cleaning lane including a plurality of first cleaning units each for cleaning a substrate while supplying pure water to the substrate, a second cleaning lane including a plurality of second cleaning units each for cleaning a substrate while supplying pure water to the substrate, a first pure-water supply pipe for supplying the pure water to the first cleaning lane, and a second pure-water supply pipe for supplying the pure water to the
25 second cleaning lane, said method comprising:

 supplying a hydrogen peroxide solution into the first pure-water supply pipe to

fill the first pure-water supply pipe with the hydrogen peroxide solution;

leaving the first pure-water supply pipe, filled with the hydrogen peroxide solution, as it is for a predetermined time, while cleaning a substrate in the second cleaning lane; and thereafter

5 supplying pure water into the first pure-water supply pipe to clean the first pure-water supply pipe.

[Claim 9] The pipe cleaning method according to claim 8, wherein a flow rate of the pure water when cleaning the first pure-water supply pipe is higher than a flow rate of
10 the pure water when cleaning the substrate.

[Claim 10] The pipe cleaning method according to claim 9, wherein a concentration of hydrogen peroxide in the hydrogen peroxide solution is in a range of 5 to 6%.

15 [Claim 11] The pipe cleaning method according to claim 8, wherein the predetermined time is not less than four hours.

[Claim 12] The pipe cleaning method according to claim 8, wherein a time for supplying the pure water into the first pure-water supply pipe to clean the interior of the
20 first pure-water supply pipe is not less than one hour.

[Claim 13] The pipe cleaning method according to claim 8, further comprising:
after the cleaning of the interior of the first pure-water supply pipe by supplying the pure water into the first pure-water supply pipe, supplying a hydrogen peroxide
25 solution into the second pure-water supply pipe to fill the second pure-water supply pipe with the hydrogen peroxide solution;

leaving the second pure-water supply pipe, filled with the hydrogen peroxide

solution, as it is for a predetermined time, while cleaning a substrate in the first cleaning lane; and thereafter

supplying pure water into the second pure-water supply pipe to clean the second pure-water supply pipe.

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[Claim 14] The substrate processing apparatus according to claim 1, wherein each of the first pure-water supply pipe and the second pure-water supply pipe is individually connected to a separate factory pure-water line.