

CLAIMS

1. A cleaning unit comprising:
 - a cleaning device; and
 - a cleaning liquid supply device for supplying a cleaning device with chemical liquid for cleaning, the cleaning device connected to the cleaning liquid supply device, the cleaning liquid supply device comprising:
 - a chemical liquid inlet portion and a dilution water inlet portion;
 - a first chemical liquid control unit fluidically connected to the chemical liquid inlet portion and the dilution water inlet portion; and
 - a second chemical liquid control unit fluidically connected to the chemical liquid inlet portion and the dilution water inlet portion, wherein the first chemical liquid control unit includes:
 - a first chemical-liquid-flow-rate control unit configured to receive a supply of chemical liquid from the chemical liquid inlet portion to control a flow rate of the chemical liquid;
 - a first dilution-water-flow-rate control unit configured to receive a supply of a dilution water from the dilution water inlet portion to control a flow rate of the dilution water; and
 - a first mixing portion that mixes the chemical liquid and the dilution water from the first chemical-liquid-flow-rate control unit and the first dilution-water-flow-rate control unit, and
 - the second chemical liquid control unit includes:
 - a second chemical-liquid-flow-rate control unit configured to receive a supply of the chemical liquid from the chemical liquid inlet portion to control a flow rate of the chemical liquid;
 - a second dilution-water-flow-rate control unit configured to receive a

supply of the dilution water from the dilution water inlet portion to control a flow rate of the dilution water; and

a second mixing portion configured to mix the chemical liquid and the dilution water from the second chemical-liquid-flow-rate control unit and the second dilution-water-flow-rate control unit,

wherein the first and second chemical liquid control units are configured to supply each of a first surface and a second surface of an identical substrate installed in the cleaning device with the chemical liquid after dilution.

2. The cleaning unit according to claim 1, wherein
the first and second chemical-liquid-flow-rate control units and the first and second dilution-water-flow-rate control units each include:

a flowmeter configured to detect the flow rate of the chemical liquid or the dilution water; and

a flow rate control valve configured to perform a feedback control on the flow rate of the chemical liquid or the dilution water based on a detected value of the flowmeter.

3. The cleaning unit according to claim 2, wherein
at least one of the first and second chemical-liquid-flow-rate control units and the first and second dilution-water-flow-rate control units includes an ultrasonic flowmeter as the flowmeter.

4. The cleaning unit according to claim 2 or 3, wherein
in at least one of the first and second chemical-liquid-flow-rate control units and the first and second dilution-water-flow-rate control units, the flow rate control valve is a motor valve whose degree of opening is changed by a motor.

5. The cleaning unit according to any one of claims 1 to 4, wherein
the first chemical liquid control unit further includes a suck back valve unit on a downstream side of the first mixing portion.

6. The cleaning unit according to any one of claims 1 to 5, wherein
the second chemical liquid control unit is further configured to supply a substrate waiting for cleaning in the cleaning device with the chemical liquid after dilution.
7. A storage medium that stores a program to cause a computer to execute a method for controlling a cleaning unit having a cleaning device and a cleaning liquid supply device, the cleaning device connected to the cleaning liquid supply device, the program causing the computer to execute:
 - receiving a supply of chemical liquid from a chemical liquid inlet portion to control flow rates of the chemical liquid independently by first and second chemical-liquid-flow-rate control units;
 - receiving a supply of a dilution water from a dilution water inlet portion to control flow rates of the dilution water independently by first and second dilution-water-flow-rate control units;
 - mixing the chemical liquid and the dilution water having the flow rates controlled by the first chemical-liquid-flow-rate control unit and the first dilution-water-flow-rate control unit in a first mixing portion to output the chemical liquid after dilution to the cleaning device; and
 - mixing the chemical liquid and the dilution water having the flow rates controlled by the second chemical-liquid-flow-rate control unit and the second dilution-water-flow-rate control unit in a second mixing portion to output the chemical liquid after dilution to the cleaning device,wherein the first and second chemical mixing portions supply each of a first surface and a second surface of an identical substrate installed in the cleaning device with the chemical liquid after dilution.
8. A cleaning unit comprising:
 - a cleaning device; and
 - a cleaning liquid supply device for supplying a cleaning device with chemical liquid

for cleaning,

the cleaning device connected to the cleaning liquid supply device,

the cleaning liquid supply device comprising:

a chemical liquid inlet portion;

a first chemical liquid control unit fluidically connected to the chemical liquid inlet portion; and

a second chemical liquid control unit fluidically connected to the chemical liquid inlet portion, wherein

the first chemical liquid control unit includes:

a first chemical-liquid-flow-rate control unit configured to receive a supply of chemical liquid from the chemical liquid inlet portion to control a flow rate of the chemical liquid;

a first mixing portion that mixes the chemical liquid and a dilution water, and

the second chemical liquid control unit includes:

a second chemical-liquid-flow-rate control unit configured to receive a supply of the chemical liquid from the chemical liquid inlet portion to control a flow rate of the chemical liquid;

a second mixing portion configured to mix the chemical liquid and the dilution water,

wherein the first and second chemical liquid control units are configured to supply each of a first surface and a second surface of an identical substrate installed in the cleaning device with the chemical liquid after dilution.

9. The cleaning unit according to claim 8, wherein

the first chemical liquid control unit further includes therein a first dilution-water-flow-rate control unit configured to control a flow rate of the dilution water, and

the second chemical liquid control unit further includes therein a second dilution-water-flow-rate control unit configured to control a flow rate of the dilution water.