CLAIMS:

1.A substrate processing apparatus, comprising:

a processing chamber, having a liquid inlet and a liquid outlet;

a liquid supply tank, having a first liquid inlet, a second liquid inlet and a liquid outlet;

a recovery tank, having a first liquid inlet, a second liquid inlet and a liquid outlet;

a first pipeline, configured to connect the first liquid inlet and the liquid outlet of the liquid supply tank, so as to circulate the chemical liquid inside the liquid supply tank;

a second pipeline, configured to connect the first pipeline and the liquid inlet of the processing chamber, so as to transfer the chemical liquid in the liquid supply tank to the processing chamber;

a third pipeline, configured to connect the first pipeline and the first liquid inlet of the recovery tank, so as to transfer the chemical liquid in the liquid supply tank to the recovery tank;

a fourth pipeline, configured to connect the liquid outlet of the processing chamber and the second liquid inlet of the recovery tank, so as to return the used chemical liquid in the processing chamber to the recovery tank;

a fifth pipeline, configured to connect the liquid outlet of the recovery tank and the second liquid inlet of the liquid supply tank, so as to transfer the chemical liquid in the recovery tank back to the liquid supply tank;

wherein, the temperature of the chemical liquid transferred to the recovery tank through the third pipeline is higher than that of the chemical liquid transferred to the recovery tank through the fourth pipeline; and

wherein the substrate processing apparatus further comprises:

a temperature alarm disposed on the fifth pipeline, the temperature alarm being set with a safe temperature, when the temperature alarm detects that the temperature

of the chemical liquid in the fifth pipeline exceeds the safe temperature, the temperature alarm sends out an alarm, and the substrate processing apparatus stops operating, and the safety temperature is set with an upper limit value and a lower limit value, the upper limit value is the substrate processing temperature, the lower limit value is the critical temperature at which particle aggregation occurs in the chemical liquid, and when the temperature alarm detects that the temperature of the chemical liquid in the fifth pipeline is higher than the upper limit value or lower than the lower limit value, the temperature alarm sends out an alarm to remind the substrate processing apparatus to stop operation.

2.The substrate processing apparatus according to claim 1, further comprising a first circulating pump, a first heater and a first temperature controller, sequentially arranged on the first pipeline; wherein,

the first circulating pump is configured to make the chemical liquid flow from the liquid supply tank back to the liquid supply tank through the first pipeline, so that the chemical liquid circulates inside the liquid supply tank;

the first heater is configured to heat the chemical liquid flowing through the first pipeline;

the first temperature controller is configured to detect the temperature of the chemical liquid and control the start/stop of the first heater, so that the temperature of the chemical liquid in the liquid supply tank is maintained at a preset temperature.

3.The substrate processing apparatus according to claim 1, wherein the flow rate of the chemical liquid transferred to the recovery tank through the third pipeline is not less than the flow rate of the chemical liquid transferred to the recovery tank through the fourth pipeline.

4.The substrate processing apparatus according to claim 1, further comprising a heating jacket disposed outside the fourth pipeline.

5.The substrate processing apparatus according to claim 1, further comprising a second heater and a second temperature controller disposed in the recovery tank, the second temperature controller controlling the start/stop of the second heater so that the temperature of the chemical liquid in the recovery tank does not exceed a preset temperature.

6.The substrate processing apparatus according to claim 1, wherein the liquid outlet of the recovery tank is located at the bottom of the recovery tank.

7.The substrate processing apparatus according to claim 1, further comprising a liquid level controller disposed in the recovery tank, a second circulating pump disposed on the fifth pipeline, the liquid level controller controlling the start/stop of the second circulating pump so that the liquid level in the recovery tank does not exceed a preset liquid level.

8.The substrate processing apparatus according to claim 7, wherein the liquid level controller is set with a first liquid level value and a second liquid level value, and when the liquid level controller detects that the liquid level in the recovery tank exceeds the first liquid level value, the liquid level controller sends a command to turn on the second circulating pump to pump the chemical liquid in the recovery tank back to the liquid supply tank;

when the liquid level controller detects that the liquid level in the recovery tank is lower than the second liquid level value, the liquid level controller sends a command to turn off the second circulating pump to stop pumping the chemical liquid in the recovery tank back to the liquid supply tank.