unit itself can be reduced, and the number of pipes coupled to the heating unit can also be reduced. As a result, the installation space required in the sub-fab area can be further reduced.

In addition, a time required to heat each processing chamber during the processing cycle performed in the processing chamber is relatively short. Therefore, the heating apparatus with a low heating capacity (i.e., low power consumption) can be used to heat the multiple processing chambers by adjusting the processing cycles of the processing chambers so as not to overlap the heating times of the multiple processing chambers.

Furthermore, since the single heating-side buffer tank is provided, even if variations in temperature of the heating liquid returned from the processing chambers occur, the heating-side buffer tank functions as a thermal buffer to make the temperature of the heating liquid uniform. As a result, fluctuations in the temperature of the heated liquid flowing through the heating apparatus can be reduced.

[0017] In an embodiment, there is provided a semiconductor manufacturing system comprising: semiconductor manufacturing equipment having multiple processing chambers for performing a semiconductor manufacturing process; a temperature regulator configured to regulate temperature of the multiple processing chambers; a cooling-liquid line extending between the temperature regulator and a heat-exchanging unit; a temperature-regulating-liquid line extending between the temperature regulator and the multiple processing chambers; and the above-mentioned cooling system for cooling the multiple processing chambers.

Advantageous Effects of Invention

[0018] According to the present invention, the heat-exchanging unit(s) does not have components, such as a compressor, a condenser, and an evaporator, unlike a refrigeration cycle of each of conventional chillers. Therefore, the heat-exchanging unit(s) does not require a large installation space in a sub-fab area, and is capable of cooling the multiple processing chambers for use in the semiconductor manufacturing equipment.