

[ABSTRACT]

An object of the present invention is to enhance heat exchange efficiency in a heat exchanger and to gasify a gasification feedstock efficiently.

5 A gasification system 100 including a countercurrent type heat exchanger 30 configured to include a low-temperature side flow channel 36 through which a gasification feedstock flows, and a high-temperature side flow channel 37 to which treated water in a supercritical state is introduced, the treated water
10 raising a temperature of the gasification feedstock, a gasification reactor 50 configured to gasify the gasification feedstock, whose temperature has been raised by the countercurrent type heat exchanger 30, by heating and pressurizing the gasification feedstock to be in a
15 supercritical state, the gasification reactor 50 being configured to discharge the gasification feedstock as treated water in the supercritical state, and a treated water flow channel 55 configured to introduce, to the countercurrent type heat exchanger 30, the treated water that has been discharged
20 from the gasification reactor 50, the gasification feedstock being introduced to the low-temperature side flow channel 36, the gasification system including an external heating means 35 configured to extract the introduced gasification feedstock from the middle of the low-temperature side flow channel 36,
25 heat the extracted gasification feedstock, and return the heated gasification feedstock to a middle position on a feedstock downstream side of the extracted position.