[CLAIMS]

[Claim 1]

A gasification system including

a countercurrent type heat exchanger configured to include a low-temperature side flow channel through which a gasification feedstock flows, and a high-temperature side flow channel to which treated water in a supercritical state is introduced, the treated water raising a temperature of the gasification feedstock by exchanging heat with the gasification feedstock,

a gasification reactor configured to gasify the gasification feedstock, whose temperature has been raised by the countercurrent type heat exchanger, by heating and pressurizing the gasification feedstock to be in a supercritical state, the gasification reactor being configured to discharge the gasification feedstock as treated water in the supercritical state, and

a treated water flow channel configured to introduce, to the countercurrent type heat exchanger, the treated water that has been discharged from the gasification reactor,

the gasification system comprising:

a feedstock introducing means configured to introduce the gasification feedstock to the low-temperature side flow channel; and

an external heating means configured to extract, from the middle of the low-temperature side flow channel, the gasification feedstock that has been introduced by the feedstock introducing means, heat the extracted gasification feedstock, and return the heated gasification feedstock to a middle position in the low-temperature side flow channel on a feedstock downstream side of a position in which the gasification feedstock has been extracted.

[Claim 2]

The gasification system according to claim 1, wherein

a position in which the extraction is performed is determined based on a value of specific heat at constant

pressure of the gasification feedstock, and the gasification feedstock is extracted from the position that has been determined.

[Claim 3]

The gasification system according to any one of claims 1 or 2, wherein

specific heat at constant pressure of the water at the position in which the extraction is performed is 10kJ/kg·K or greater.

[Claim 4]

The gasification system according to any one of claims 1 to 3, wherein

the low-temperature side flow channel is configured to include a low-temperature zone in which a temperature of the gasification feedstock introduced by the gasification feedstock introducing means is raised, and a high-temperature zone in which a temperature of the gasification feedstock that has passed through the low-temperature zone is raised again, and

the external heating means extracts the gasification feedstock from a high temperature end of the low-temperature zone and returns the gasification feedstock to a low temperature end of the high-temperature zone.

[Claim 5]

The gasification system according to any one of claims 1 to 4, wherein

heating by the external heating means is performed in a preheater that preheats the gasification feedstock whose temperature has been raised by the countercurrent type heat exchanger.