

Design and optimization of a chemical reaction heat pump in a heat exchange network of an Eco-industrial Park

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These days, global warming and energy resource depletion show us that energy saving and development of alternative energy are critical issues. In addition, sharp rise of international crude oil price has made economical reuse skill of energy resource more urgent in recent years.

And Eco-industrial Park has emerged as an effective network system connecting factories in an industrial park, exchanging their waste stream for better use.

In this context we design and optimize the heat pump, which increases the temperature of industrial waste heat from middle (50°C) to high (100°C) temperature, to utilize the middle-temperature waste heat more effectively.

It is expected to minimize a heat loss in the whole process, so that we will be able to maximize usefulness of waste heat recovery by adding the optimized heat pump to the network of pipes connecting all factories in an industrial park.

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