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1 Thermodynamic analysis of a novel heat pump water heater with
2 two-stage heating for a great rise of water temperature

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10 Highlights

- 11 1. Introduction of a novel two stage compression cycle and its compressor
- 12 2. Thermodynamic analysis of the novel two stage cycle
- 13 3. Optimization of condensing temperature of first stage for COP and heating
14 capacity in the novel two stage cycle
- 15 4. Investigation of the effect of relative liquid injection mass and evaporating
16 temperature on performance
- 17 5. Higher COP than conventional two stage compression cycle for a great rise of
18 water temperature

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