

Accepted Manuscript

Efficient configurations for desiccant wheel cooling systems using different heat sources for regeneration

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PII: S0140-7007(17)30499-1
DOI: [10.1016/j.ijrefrig.2017.12.001](https://doi.org/10.1016/j.ijrefrig.2017.12.001)
Reference: IJIR 3843



To appear in: *International Journal of Refrigeration*

Received date: 24 August 2017
Revised date: 22 November 2017
Accepted date: 3 December 2017

Please cite this article as: Rang Tu , Yunho Hwang , Efficient configurations for desiccant wheel cooling systems using different heat sources for regeneration, *International Journal of Refrigeration* (2017), doi: [10.1016/j.ijrefrig.2017.12.001](https://doi.org/10.1016/j.ijrefrig.2017.12.001)

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Highlights

- Area ratio of desiccant wheel (A_{ratio}) and number of stages (SN) are investigated
- $A_{ratio}=1$ and $SN=3\sim 4$ are preferred for systems with vapor compression cycle
- $A_{ratio}=2$ and $SN=1$ are preferred for systems with electric heater/ natural gas burner
- $A_{ratio}=1$ and $NTU \geq 2$ are preferred for single stage systems with heat recovery
- Efficient desiccant wheel systems with low primary energy cost are proposed

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