

Accepted Manuscript

Title: Performance evaluation of a combined variable refrigerant volume and cool thermal energy storage system for air conditioning applications

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PII: S0140-7007(17)30060-9

DOI: <http://dx.doi.org/doi: 10.1016/j.ijrefrig.2017.02.008>

Reference: IJIR 3552

To appear in: *International Journal of Refrigeration*

Received date: 16-10-2016

Revised date: 9-1-2017

Accepted date: 11-2-2017

Please cite this article as: Bader Al-Aifan, R. Parameshwaran, Kushagra Mehta, R. Karunakaran, Performance evaluation of a combined variable refrigerant volume and cool thermal energy storage system for air conditioning applications, *International Journal of Refrigeration* (2017), <http://dx.doi.org/doi: 10.1016/j.ijrefrig.2017.02.008>.

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Performance evaluation of a combined variable refrigerant volume and cool thermal energy storage system for air conditioning applications

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Highlights of the research work

- Performance analysis of a proposed new combined VRV-CTES A/C system is presented.
- Integration of VRV with CTES improved the operational performance of the system.
- High latent heat ($160.81 \text{ kJ kg}^{-1}$) of PCM attributed for CTES energetic performance.
- Reduction of cooling capacity and combined power consumption are quite promising.
- Yearly energy-cost savings of 17.7 % is expected from proposed VRV-CTES A/C system.

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