# **Accepted Manuscript**

Variable speed liquid chiller drop-in modeling for predicting energy performance of R1234yf as low-GWP refrigerant

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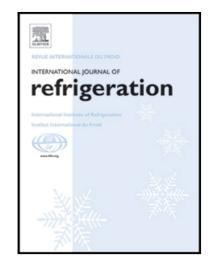
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PII: S0140-7007(18)30222-6 DOI: 10.1016/j.ijrefrig.2018.06.016

Reference: JIJR 4025

To appear in: International Journal of Refrigeration

Received date: 3 March 2018 Revised date: 17 June 2018 Accepted date: 26 June 2018



Please cite this article as: J.M. Mendoza-Miranda, C. Salazar-Hernández, R. Carrera-Cerritos, J.J. Ramírez-Minguela, M. Salazar-Hernández, J. Navarro-Esbrí, A. Mota-Babiloni, Variable speed liquid chiller drop-in modeling for predicting energy performance of R1234yf as low-GWP refrigerant, *International Journal of Refrigeration* (2018), doi: 10.1016/j.ijrefrig.2018.06.016

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### ACCEPTED MANUSCRIPT

## **Highlights**

- The energy performance of liquid chiller is compared using R1234yf and R134a.
- The Buckingham  $\pi$ -theorem was applied to modeling drop-in.
- The predicted and experimental data are correlated in order to study the accuracy of the model.
- R1234yf shows that COP reduces about 2% -11.3% taking R134a as baseline.
- Indirect emissions are similar for R1234yf and R134a using several energy sources



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