

# Accepted Manuscript

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PII: S0140-7007(16)00018-9

DOI: <http://dx.doi.org/doi: 10.1016/j.ijrefrig.2016.01.012>

Reference: IJR 3241

To appear in: *International Journal of Refrigeration*

Received date: 16-6-2015

Revised date: 28-12-2015

Accepted date: 12-1-2016

Please cite this article as: Mohamed Ghazy, K. Harby, Ahmed A. Askalany, Bidyut B. Saha, Adsorption isotherms and kinetics of activated carbon/difluoroethane adsorption pair: theory and experiments, *International Journal of Refrigeration* (2016), <http://dx.doi.org/doi: 10.1016/j.ijrefrig.2016.01.012>.

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## Adsorption isotherms and kinetics of activated carbon/Difluoroethane adsorption pair: theory and experiments

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### Highlights

- Experimental adsorption isotherms of Maxsorb III/HFC-152a have been investigated.
- Adsorption isotherms of Maxsorb III/HFC-152a have been fitted with D-A and Tóth models.
- Isosteric heat of adsorption has been presented.
- Adsorption kinetics have been investigated experimentally and theoretically.

### Abstract

This study introduces a new adsorbent/refrigerant pair to be used in adsorption cooling applications. Adsorption isotherms and kinetics of Difluoroethane (HFC-152a) onto highly porous activated carbon Maxsorb III at temperatures ranging from 25 to 75°C have

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