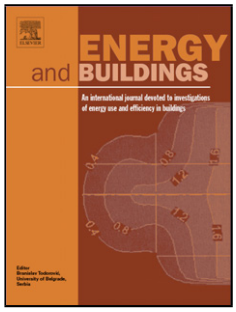

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Experimental evaluation and simulation of a variable refrigerant-flow (VRF) air-conditioning system with outdoor air processing unit

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Highlights

- > The objective of this study is to analyze the measured energy use of a VRF system and compare it with dynamic energy simulation data.
- > Also, when combining the VRF system (base case), which has poor ventilation performance, with the ERV and DOAS ventilation systems, the energy and thermal comfort results are studied.
- > The mean value of the difference between simulation and measured data in monthly power use in summer and winter was 3.3% and 3.6%, respectively.
- > In the case of the base and cases 1~10, the annual primary energy use satisfied the Korean building energy efficiency grades 1~2 (200 kWh/m^2.a ~ 320 kWh/m^2.a).