

Effect of Advanced Energy Saving Strategies on VRF system in Exemplary Office Buildings

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The purpose of this study is to investigate the control method of energy consumption saving for a real office building using energy solution("Zensys") for Variable Refrigerant Flow(VRF) systems. The VRF system is one of suitable products for the changes in industrial environments with reduction of CO₂. Even though VRF system has a good performance, it is needed to develop an intelligent control algorithm and its related system solution. Zensys is a control solution which is developed by Samsung Electronics for handling the VRF system individually in the office.

From the field test evaluation of Comfort Control Method(CCM) strategy, it has been showed that maximum 30.2% air-conditioning energy saving is obtained in the summer season climate condition. It is also revealed that the 10% energy cost reduction could be possible with the comparison of former year energy cost in summer season. In addition, it has been obtained that user's comfortness is met with the international guideline of human comfortability through PMV and TSV analysis.