

Magnetic Heat Pump to Use Multi-layered Magnetic Materials

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Present air conditioner systems are based on traditional vapor compression technology. However, since the refrigerants are greenhouse gases, a lot of efforts have been made to reduce the use of the conventional refrigerant from the viewpoint of global warming. Magnetic heat pump (MHP) technology which has the potential for high efficiency without greenhouse gas emissions has attracted attention. The purpose of this study is to examine how to design a multi-layered active magnetic regenerator. Some experiments and, as a result the numerical analysis of the multi-layered AMR were carried out and the relationship among the number of the layered materials of the AMR, the difference of the Curie temperature and the AMR dimensions is presented in this paper.