

Technology Trends of Magnetic Refrigerators

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Magnetic refrigerator systems should be a high-efficient and environmentally safe refrigerator. The magnetic refrigeration is based on the magnetocaloric effect. Magnetic refrigerators have been developed as a technology in the region of extremely low temperature. However in the 1980s, the focus of development has shifted to developing magnetic materials and systems in the region of room temperature because an active magnetic regenerator has been developed. Furthermore recently magnetic materials with a large magnetocaloric effect have been attracting attention. This article describes magnetic materials, system technologies of the magnetic refrigerators and technical trends in their development.