

An experimental investigation into the effect of thermostat settings on the energy consumption of household refrigerators

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=9999920522106&lokasi=lokal>

Abstrak

Many household refrigerator owners do not control their thermostat settings. However, doing this could save energy consumption and also maintain the quality of stored food. This study presents the effect of regulated thermostat settings on household refrigerator energy consumption. The experiment was performed in a room chamber conditioned to temperature control at 25oC. A household refrigerator was used as a test unit, with a cooling load placed inside the freezer component. The cooling load used was an M-package, in accordance with SNI IEC 15502: 2008. The test results reveal that household refrigerator energy consumption increases with higher thermostat settings. Increases in energy consumption range from 17.10% to 18.65%, depending on the thermostat setting.