

ABSTRACT

REGENERATIVE AIR CONDITIONER

To avoid decline in the efficiency of a compressor at a low load, a thermal storage air conditioner has a refrigerant circuit (11) which has a compressor (22), an outdoor heat exchanger (23), and an indoor heat exchanger (72) and performs a refrigeration cycle, and a thermal storage section (60) which has a thermal storage medium and exchanges heat between the thermal storage medium and a refrigerant of the refrigerant circuit (11). The thermal storage air conditioner performs a simple cooling operation in which in the refrigerant circuit (11), the refrigerant is condensed in the outdoor heat exchanger (23) and evaporates in the indoor heat exchanger (72), and a cooling and cold thermal energy storage operation in which in the refrigerant circuit (11), the refrigerant is condensed in the outdoor heat exchanger (23) and evaporates in the indoor heat exchanger (72), and in which the thermal storage medium in the thermal storage section (60) is cooled by the refrigerant. The thermal storage air conditioner has an operation control section (100) which, if a rotational speed of the compressor (22) is slowed down to a predetermined lower reference value in the simple cooling operation, switches an operation of the thermal storage air conditioner from the simple cooling operation to the cooling and cold thermal energy storage operation to increase the rotational speed of the compressor (22).

FIG. 1