



ABSTRACT

A system for controlling operation of a refrigerating device which includes a refrigerant circuit (9) in which a compressor (1), a condenser (6), a receiver (4) for storing liquid refrigerant, a pressure-reducing valve (5), and an evaporator (9) are connected together, and a cycle change-over mechanism (2) for changing a refrigeration cycle of the refrigerant circuit (9) between forward operation and reverse operation, the refrigerating device being of such arrangement that the pressure-reducing valve (5) is positioned downstream of the receiver (4) during either one of the refrigerating cycles. The system prevents liquid back-flow to the compressor at the time of a cycle change-over, while allowing the refrigerating device to have accumulatorless construction. The top portion of the receiver (4) is connected to a liquid line on the downstream side of the pressure-reducing valve (5) through a bypass path (4a), and an on-off valve (SV) is provided in this bypass path (4a). The on-off valve (SV) is controlled to be opened for a predetermined time before the cycle is switched to a reverse cycle defrost operation. With this arrangement, a liquid refrigerant is recovered by the receiver (4) to prevent liquid back-flow. The on-off valve (SV) of the bypass path (4a) is opened during the reverse cycle defrost operation, but only from the time at which

defrost has already progressed to a certain extent until the completion of defrost. With this arrangement, an excessive reduction of the low pressure and the liquid back-flow are prevented. After an electric expansion valve (5) being the pressure-reducing valve and the on-off valve (SV) are closed for a predetermined time upon completion of the defrost, the electric expansion valve (5) is opened to a small degree and the on-off valve (SV) is opened for a predetermined time. With this arrangement, the rise of the high pressure is controlled and the liquid back-flow is prevented.

This Sheet Has Been Replaced

