ABSTRACT FREEZING APPARATUS

The object of the present invention is to increase the subcooling degree of the refrigerant flowing through the main refrigerant circuit in a refrigeration system configured such that a portion of the refrigerant flowing through a main refrigerant circuit can be made to bypass the remainder of the main refrigerant circuit so as to return to the intake side of a compressor and used to cool the refrigerant flowing through the main refrigerant circuit to a subcooled state. The air conditioner (1) is provided with the following: a main refrigerant circuit (10); a temperature sensor (Td) arranged and configured to detect the discharge temperature of a compressor (21); a bypass refrigerant circuit (41) arranged and configured to divert a portion of the refrigerant flowing through the main refrigerant circuit (10) away from the main refrigerant circuit (10) and return it to the intake side of the compressor (21); a bypass expansion valve (42) arranged and configured to regulate the flow rate of the refrigerant flowing through the bypass refrigerant circuit (41); a cooling device (27) arranged and configured to cool the refrigerant flowing through the main refrigerant circuit (10) using the refrigerant flowing through the bypass refrigerant circuit (41); a temperature sensor (Tsh) arranged and configured to detect the superheating degree of the refrigerant at the outlet of the cooling device (27); and a control unit (60) configured to control the bypass expansion valve (42) based on the superheating degree detected by the temperature sensor (Tsh) such that the superheating degree of the refrigerant flowing through the bypass refrigerant circuit (41) is substantially equal to a prescribed value. The prescribed value of is set based on the discharge temperature detected by the temperature sensor (Td) such that wet compression does not occur in the compressor (21).