

Title (en)

Multi-unit air conditioner and method for controlling operation of outdoor unit fan thereof

Title (de)

Mehrzonenklimaanlage und Verfahren zur Regelung des Aussenlüfters dieser Klimaanlage

Title (fr)

Système de climatisation à plusieurs unités et procédé de commande du ventilateur d'extérieur d'un tel système

Publication

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Application

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Abstract (en)

The invention provides a multi-unit air conditioner for independent cooling/heating of rooms, including a system in which, depending on operation conditions, gas refrigerant discharged from a compressor 1 in an outdoor unit A is introduced into a distributor B through a first bypass pipe 11 directly, or via an outdoor unit heat exchanger 2 and a gas-liquid separator 3 with the refrigerant separated into gas and liquid refrigerant indirectly, wherefrom the liquid refrigerant is introduced into the compressor 1 after passed through an electric expansion valve 61a,61b,61c for an indoor unit C which cools the room, an indoor unit heat exchanger 62a,62b,62c, and a distributor B, and the gas refrigerant is introduced into the compressor 1 through a second bypass pipe 12 after passed through an indoor unit heat exchanger 62a,62b,62c and an electric expansion valve 61a,61b,61c for the indoor unit C which heats the room, the distributor B, the gas-liquid separator 3, the outdoor unit electric expansion valve 13a, and the outdoor unit heat exchanger 2. Further, the invention provides a method for controlling operation of an outdoor unit fan 2a in a multi-unit air conditioner including the steps of measuring a temperature of gas-liquid mixture refrigerant discharged from an outdoor unit heat exchanger 2, comparing a measured refrigerant temperature to a preset refrigerant temperature, to detect a gas-liquid mixture ratio, and varying a rotational speed of the outdoor unit fan 2a so that a detected gas-liquid mixture ratio becomes identical to a preset mixture ratio required for an intended operation condition. <IMAGE>

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