CLAIMS

[Claim 1]

A refrigerator comprising a refrigeration cycle including a compressor, a condensation pipe, a pressure reducing device, a dew prevention pipe, a capillary tube, and a cooling device each of the components is sequentially connected,

wherein the pressure reducing device is configured to control a flow resistance of a refrigerant in two stages between a first flow resistance and a second flow resistance lower than the first flow resistance, and

wherein the first flow resistance is controlled so as to set a refrigerant saturation temperature in the dew prevention pipe to a saturation pressure corresponding to a temperature equal to or higher than an outside air temperature, when the refrigerator is in a stable operation.

[Claim 2]

The refrigerator of claim 1,

wherein the first flow resistance is selected when the refrigerator is in a stable operation, and

the second flow resistance is selected when the refrigerator is in a transitional operation.

~~[Claim 3]~~

~~The refrigerator of claim 1,~~

~~wherein the first flow resistance is controlled so as to set a refrigerant saturation temperature in the dew prevention pipe to a saturation pressure corresponding to a temperature lower than an outside air temperature by a predetermined temperature, when the refrigerator is in a stable operation.~~

[Claim ~~4~~ 3]

The refrigerator of claim 1,

wherein the first flow resistance is controlled so as to set a refrigerant saturation temperature in the dew prevention pipe to a saturation pressure corresponding to a temperature substantially the same as an outside air temperature, when the refrigerator is in a stable operation.

[Claim ~~5~~ 4]

The refrigerator of any one of claims 1 to 3 ~~4~~,

wherein the second flow resistance is determined on the basis of a refrigerant pressure loss between the condensation pipe and the dew prevention pipe, when the refrigerator is in the transitional operation.

[Claim 5 ~~6~~]

The refrigerator of any one of claims 1 to 4 ~~5~~,

wherein the first flow resistance is generated by an opening degree narrower than substantially a half of a fully opened state of the pressure reducing device, and

the second flow resistance is generated by an opening degree larger than substantially a half of the fully opened state of the pressure reducing device.

[Claim 6 ~~7~~]

The refrigerator of any one of claims 1 to 5 ~~6~~,

wherein the pressure reducing device is constituted of an electronic expansion valve.

[Claim 7 ~~8~~]

The refrigerator of any one of claims 1 to 6 ~~7~~,

wherein the pressure reducing device includes a capillary tube configured to depressurize the refrigerant, and a switching valve configured to switch a flow of the refrigerant.

[Claim 8 ~~9~~]

The refrigerator of any one of claims 1 to 7 ~~8~~, comprising:

two capillary tubes different in flow resistance from one another; and a flow switching device located upstream of the capillary tubes and configured to select between a refrigerant flow path for supplying the refrigerant to one of the capillary

tubes and a refrigerant flow path for supplying the refrigerant to both of the capillary tubes,

wherein the flow switching device is controlled according to the compressor and the pressure reducing device. ~~each of the compressor, the pressure reducing device, and the flow switching device is individually controlled according to a refrigerant flow rate.~~

[Claim 9 ~~10~~]

The refrigerator of claim 8 ~~9~~,

wherein, when the refrigerant flow rate is to be increased, a frequency of the compressor is increased and the flow resistance of the pressure reducing device is reduced, and the flow switching device selects one of the capillary tube having a lower flow resistance and both of the pair of capillary tubes.

[Claim 10 ~~11~~]

The refrigerator of claim 8 ~~9~~,

wherein, when the refrigerant flow rate is to be reduced, a frequency of the compressor is reduced and the flow resistance of the pressure reducing device is increased, and the flow switching device selects the capillary tube having a higher flow resistance.

[Claim 11 ~~12~~]

The refrigerator of claim 8 ~~9~~,

wherein, when outside humidity is high or when dew condensation is to be avoided, the flow resistance of the pressure reducing device is reduced, and the flow switching device selects the capillary tube having the higher flow resistance.

[Claim 12 ~~13~~]

The refrigerator of claim 8 ~~9~~,

wherein, when the power consumption is to be reduced, the flow resistance of the pressure reducing device is increased, and the flow switching device selects the capillary tube having the lower flow resistance.