viewpoint of preventing global warming.

[0005]

Here, from the viewpoint of preventing global warming, as a refrigerant having a low GWP, for example, R1123 (1,1,2-trifluoroethylene) and R1132 (1,2-difluoroethylene) have been suggested (for example, refer to PTL 1 or PTL 2).

[0006]

However, the stability of R1123 (1,1,2-trifluoroethylene) and R1132 (1,2-difluoroethylene) is low compared to that of refrigerants of the related art, such as R410A, and in a case where radicals are generated, there is a concern that the refrigerant may change into another compound due to a disproportionation reaction. Since a disproportionation reaction is accompanied by large thermal emission, there is a concern that the reliability of the compressor and the refrigeration cycle device may deteriorate. Therefore, in a case where R1123 or R1132 is used in the compressor and the refrigeration cycle device, it is necessary to suppress a disproportionation reaction.

Citation List

Patent Literature

[0007]

PTL 1: International Publication No. 2012-157764

PTL 2: International Publication No. 2012-157765

SUMMARY ~~OF THE INVENTION~~

[0008]

Considering the above-described problem of the related art, for example, in a compressor which is used for an air conditioner or the like, ~~the~~

embodiments of present invention specifies ~~an aspect of~~ a more appropriate compressor in using a working fluid containing R1123. In addition, the present invention provides a more appropriate refrigeration cycle device in using a working fluid containing R1123.

[0009]

According to ~~the present invention~~an aspect of the present invention, there is provided a compressor which uses a refrigerant containing 1,1,2-trifluoroethylene as a working fluid, and uses a polyvinyl ether oil as a compressor lubricating oil. In addition, a fixed scroll and a revolving scroll each having a spiral lap rising from an end plate; and a compression chamber which is formed by meshing the fixed scroll and the revolving scroll, are provided. Furthermore, a discharge hole which is provided at a center position of the end plate of the fixed scroll, and is open to a discharge chamber; and a bypass hole which is provided in the end plate of the fixed scroll, and communicates with the compression chamber and the discharge chamber at a timing different from a timing at which the compression chamber communicates with the discharge hole, are provided. In addition, a check valve which is provided in the bypass hole, and allows a flow from the compression chamber side to the discharge chamber side, is provided.

[0010]

In addition, according to an aspect of the present invention, there is provided a compressor which uses a refrigerant containing 1,1,2-trifluoroethylene as a working fluid, and uses a polyvinyl ether oil as a compressor lubricating oil. In addition, a fixed scroll and a revolving scroll each having a spiral lap rising from an end plate; a compression chamber which is formed by engaging the fixed scroll and the revolving scroll; a first compression chamber which is formed on an outer wall side of the lap of the

revolving scroll; and a second compression chamber which is formed on an inner wall side of the lap of the

revolving scroll, are provided. In addition, a suction volume of the first compression chamber is greater than a suction volume of the second compression chamber.

[0011]

According to an aspect of the present invention, there is provided a refrigeration cycle device including: the above-described compressor; a condenser which cools a refrigerant gas that is compressed by the compressor and has a high pressure; a throttle mechanism which reduces the pressure of the high-pressure refrigerant which is liquefied by the condenser; an evaporator which gasifies the refrigerant of which the pressure is reduced by the throttle mechanism; and piping which links the compressor, the condenser, the throttle mechanism, and the evaporator to each other.

[0012]

As described above, according to embodiments of the present invention, it is possible to obtain a compressor which is more appropriate in using a working fluid containing R1123, and a refrigeration cycle device.

BRIEF DESCRIPTION OF DRAWINGS

[0013]

FIG. 1 is a system configuration view of a refrigeration cycle device which uses a compressor according to a first embodiment of the present invention.

FIG. 2 is a view comparing R410A and R1123 with each other by computing a refrigeration performance in a case where a pressure and a temperature in the refrigeration cycle, and a displacement volume of the compressor are the same, and cycle efficiency (COP), at proportions of 30% by

weight to 60% by weight of R32, in a mixed working fluid of R1123 and R32 in