

Title (en)  
AIR CONDITIONER

Title (de)  
KLIMAANLAGE

Title (fr)  
CLIMATISEUR

Publication  
**EP 2290304 A4 20130605 (EN)**

Application  
**EP 09729048 A 20090331**

Priority  
• JP 2009056655 W 20090331  
• JP 2008056370 W 20080331

Abstract (en)  
[origin: EP2290304A1] Provided is an air conditioner capable of improving a COP in simultaneous heating and cooling operation. The air conditioner is an air conditioning system in which an outdoor unit (100) and a plurality of indoor units (301 to 303) are connected through a branch controller (200), and a supercritical fluid is used, to thereby establish a single refrigerating cycle. The outdoor unit (100) and the branch controller (200) are connected through two pipes of a high-pressure pipe (400) and a low-pressure pipe (500). The branch controller (200) and each of the plurality of indoor units (301 to 303) are connected through two pipes of a high-pressure pipe (700) and a low-pressure pipe (800). The branch controller (200) includes a double-pipe heat exchanger (240) for heat exchange between a medium-pressure two-phase refrigerant and a low-pressure two-phase refrigerant. The medium-pressure two-phase refrigerant is relatively high in temperature and flows into the double-pipe heat exchanger after branching a refrigerant flowing from the outdoor unit toward the plurality of indoor units, and joining together a refrigerant decompressed by a first expansion valve (211) and a refrigerant flowing from the plurality of indoor units. The low-pressure two-phase refrigerant is relatively low in temperature and flows out of the double-pipe heat exchanger toward the outdoor unit after branching a refrigerant flowing out of the double-pipe heat exchanger toward the plurality of indoor units, and decompressing a part of the branched refrigerant by a second expansion valve (212).

IPC 8 full level  
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Citation (search report)  
• No further relevant documents disclosed  
• See references of WO 2009123190A1

Citation (examination)  
JP 2008002743 A 20080110 - DAIKIN IND LTD

Cited by  
CN109445494A; EP4379288A1; JP2014510895A; EP2833086A4; US9915247B2; WO2016173497A1; US9360236B2; WO2012120097A3; US9556856B2; US10309693B2; US10921030B2

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