

Title (en)  
AIR CONDITIONER

Title (de)  
KLIMAANLAGE

Title (fr)  
CONDITIONNEUR D'AIR

Publication  
**EP 3978831 B1 20230809 (EN)**

Application  
**EP 20822547 A 20200610**

Priority  
• JP 2019109592 A 20190612  
• JP 2020022922 W 20200610

Abstract (en)  
[origin: EP3978831A1] A refrigerant cycle system (100) includes a primary-side cycle (20) that circulates a first refrigerant, a secondary-side cycle (40) that the second refrigerant, and a cascade heat exchanger (35) that exchanges heat between the first refrigerant and the second refrigerant. The primary-side cycle (20) includes a primary-side connection pipe. The secondary-side cycle (40) includes a secondary-side connection pipe. The primary-side connection pipe includes a primary-side gas connection pipe (22) and a primary-side liquid connection pipe (21). The secondary-side connection pipe includes a secondary-side gas connection pipe (42) and a secondary-side liquid connection pipe (41). The pipe diameter of the secondary-side gas connection pipe (42) is smaller than the pipe diameter of the primary-side gas connection pipe (22), or the pipe diameter of the secondary-side liquid connection pipe (41) is smaller than the pipe diameter of the primary-side liquid connection pipe (21).

IPC 8 full level  
**F25B 7/00** (2006.01); **F25B 1/00** (2006.01); **F25B 9/00** (2006.01); **F25B 41/00** (2021.01)

CPC (source: CN EP US)  
**F25B 7/00** (2013.01 - CN EP); **F25B 9/008** (2013.01 - EP US); **F25B 9/10** (2013.01 - US); **F25B 13/00** (2013.01 - CN EP); **F25B 31/004** (2013.01 - US); **F25B 41/40** (2021.01 - EP US); **F25B 41/42** (2021.01 - CN); **F25B 2400/13** (2013.01 - EP); **F25B 2500/01** (2013.01 - EP); **F25B 2500/16** (2013.01 - EP US)

Designated contracting state (EPC)  
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**EP 3978831 A1 20220406**; **EP 3978831 A4 20220803**; **EP 3978831 B1 20230809**; CN 113950602 A 20220118; CN 113950602 B 20230804; ES 2961904 T3 20240314; JP 2020201011 A 20201217; PL 3978831 T3 20240408; US 2022316767 A1 20221006; WO 2020250952 A1 20201217

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