

Title (en)
SWITCHING APPARATUS AND AIR CONDITIONING APPARATUS

Title (de)
SCHALTVORRICHTUNG UND KLIMAANLAGE

Title (fr)
APPAREIL DE COMMANDE ET APPAREIL DE CLIMATISATION

Publication
EP 2570740 A4 20171213 (EN)

Application
EP 10851347 A 20100512

Priority
JP 2010003207 W 20100512

Abstract (en)
[origin: US2013014525A1] A switching device or the like efficiently performs operations such as the cutting off of a refrigerant and is easy to maintain, design, and manufacture at low cost even if the switching device is included in, for example, an air-conditioning apparatus including a plurality of indoor units. A plurality of shut-off valves for individually stopping the flow of a refrigerant are provided in a plurality of pipes for making a refrigerant circulate between a heat source unit and a plurality of indoor units. The shut-off valves are integrated into pairs. A number of pairs of the shut-off valves corresponding to the number of indoor units are grouped together.

IPC 8 full level
F24F 1/00 (2011.01); **F24F 1/32** (2011.01); **F25B 13/00** (2006.01); **F25B 41/00** (2006.01)

CPC (source: EP US)
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Citation (search report)

- [A] EP 2051028 A1 20090422 - DAIKIN IND LTD [JP]
- [A] EP 2056044 A1 20090506 - DAIKIN IND LTD [JP]
- [A] EP 1418390 A1 20040512 - DAIKIN IND LTD [JP]
- [A] EP 0976994 A1 20000202 - DAIKIN IND LTD [JP]
- See references of WO 2011141959A1

Cited by
WO2019115555A1; WO2023161249A1; EP3499101A1; BE1030293B1; EP3091313A4; BE1030289B1; BE1030293A1; WO2023161248A1

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DOCDB simple family (application)
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