

Title (en)

EXPANDER AND HEAT PUMP USING THE SAME

Title (de)

EXPANSIONSVORRICHTUNG UND DIESE VERWENDENDE WÄRMEPUMPE

Title (fr)

EXPANSEUR ET POMPE DE CHALEUR L'UTILISANT

Publication

**EP 1953338 A4 20110629 (EN)**

Application

**EP 06822222 A 20061025**

Priority

- JP 2006321245 W 20061025
- JP 2005317689 A 20051031

Abstract (en)

[origin: EP1953338A1] An expander of the present invention includes a plurality of suction ports for guiding a working fluid to a working chamber, and the plurality of suction ports includes a first suction port (71) and a second suction port (73) with a differential pressure valve (72). The ratio R2 of time length of an expansion process of expanding the working fluid in the working chamber to time length of a suction process in which the working fluid is sucked into the working chamber (55a) from the first suction port (71) and the second suction port (73) by opening the differential pressure valve (72) is smaller than the ratio R1 of the time length of the expansion process to a suction process in which the working fluid is sucked into the working chamber (55a) only from the first suction port (71) by closing the differential pressure valve (72).

IPC 8 full level

**F01C 13/04** (2006.01); **F01C 21/18** (2006.01); **F25B 1/00** (2006.01); **F25B 11/02** (2006.01)

CPC (source: EP US)

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Citation (search report)

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Designated contracting state (EPC)

DE FR GB

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**EP 1953338 A1 20080806**; **EP 1953338 A4 20110629**; **EP 1953338 B1 20160907**; JP 4065315 B2 20080326; JP WO2007052510 A1 20090430; US 2009241581 A1 20091001; WO 2007052510 A1 20070510

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