

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 1953337 A1 20080806 (EN)

Application
EP 06822522 A 20061027

Priority

- JP 2006321561 W 20061027
- JP 2005317688 A 20051031
- JP 2005317690 A 20051031

Abstract (en)
An expander of the invention includes: n-number of rotary type fluid mechanisms (where n is an integer equal to or greater than 2), a first suction port (41b) for sucking a working fluid into a suction-side space (55a) of a first fluid mechanism (41), a communication port (43a) connecting a discharge-side space (55b) of a k-th fluid mechanism (where k is an integer from 1 to n-1) and a (k + 1)-th suction-side space (56a) to form a single space, and a discharge port (51a) for discharging the working fluid from the discharge-side space of an n-th fluid mechanism. The expander further includes a second suction port (72f) being capable of changing its connecting position to the suction-side space (55a) of the first fluid mechanism (41), for sucking the working fluid into the suction-side space (55a).

IPC 8 full level
F01C 20/14 (2006.01); **F01C 1/356** (2006.01); **F25B 11/02** (2006.01)

CPC (source: EP US)
F01C 1/3564 (2013.01 - EP US); **F01C 11/002** (2013.01 - EP US); **F01C 11/008** (2013.01 - EP US); **F01C 13/04** (2013.01 - EP US); **F01C 20/16** (2013.01 - EP US); **F01C 21/18** (2013.01 - EP US); **F04C 18/0215** (2013.01 - EP US); **F04C 23/006** (2013.01 - EP US); **F04C 23/008** (2013.01 - EP US); **F25B 9/06** (2013.01 - EP US); **F25B 1/04** (2013.01 - EP US); **F25B 9/008** (2013.01 - EP US); **F25B 2309/061** (2013.01 - EP US)

Cited by
DE102013218430A1

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
EP 1953337 A1 20080806; **EP 1953337 A4 20110330**; **EP 1953337 A8 20081015**; JP 4065316 B2 20080326; JP WO2007052569 A1 20090430; US 2009282845 A1 20091119; WO 2007052569 A1 20070510

DOCDB simple family (application)
EP 06822522 A 20061027; JP 2006321561 W 20061027; JP 2007542705 A 20061027; US 9200806 A 20061027