Title (en)

HEAT PUMP

Title (de)

WÄRMEPUMPE

Title (fr)

POMPE À CHALEUR

Publication

EP 3705809 A1 20200909 (EN)

Application

EP 18877203 A 20181108

Priority

- JP 2017215657 A 20171108
- JP 2018041492 W 20181108

Abstract (en)

Provided is a heat pump that includes: a low-stage compressor (3); a high-stage compressor (4) connected in series to a downstream side of the low-stage compressor (3); a condenser (5) connected to a downstream side of the high-stage compressor (4); expansion elements (6) each connected to a downstream side of the condenser (5); an evaporator (10) connected to downstream sides of the expansion elements (6); a second valve (18) and a third valve (19) allowing a refrigerant (R) to be selectively introduced into either the low-stage compressor (3) or the high-stage compressor (4) from the evaporator (10); a low-stage gas-liquid separator (21) installed at an inlet of the low-stage compressor (3) and configured to separate a liquid phase of the refrigerant (R) and to allow a gas phase to be introduced into the low-stage compressor (3); and a high-stage gas-liquid separator (22) installed at an inlet of the high-stage compressor (4) and configured to separate the liquid phase of the refrigerant (R) and to allow the gas phase to be introduced into the high-stage compressor (4).

IPC 8 full level

F25B 1/10 (2006.01); **F25B 1/00** (2006.01); **F25B 43/00** (2006.01)

CPC (source: EP)

F25B 1/00 (2013.01); **F25B 1/10** (2013.01); **F25B 43/00** (2013.01)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 3705809 A1 20200909; CN 111316048 A 20200619; JP 2019086237 A 20190606; WO 2019093422 A1 20190516

DOCDB simple family (application)

EP 18877203 A 20181108; CN 201880072404 A 20181108; JP 2017215657 A 20171108; JP 2018041492 W 20181108