

Title (en)

HEAT PUMP WITH PRE-HEATING / PRE-COOLING OF HEAT / COLD SOURCE

Title (de)

WÄRMEPUMPE MIT VORWÄRMUNG / VORKÜHLUNG DER WÄRME- / KÄLTEQUELLE

Title (fr)

POMPE À CHALEUR AVEC PRÉ-CHAUFFAGE / PRÉ-REFROIDISSEMENT DE LA SOURCE DE CHALEUR / FROID

Publication

EP 3623724 A1 20200318 (EN)

Application

EP 19196921 A 20190912

Priority

NL 2021626 A 20180913

Abstract (en)

A heat pump has a compressor 1, a first heat exchanger 3 (evaporator), an expansion valve 2 and a second heat exchanger 5 (condenser). The first heat exchanger 3 exchanges energy with the air to be cooled and is provided with a fan 6. The second heat exchanger 5 exchanges energy with tap water and for this purpose is connected to a water pipe 15, 16. The heat pump also has a third heat exchanger 4 for preheating or pre-cooling the tap water through the heat transfer medium to save tap water if it is hot in the summer or cold in the winter. The flow of the heat transfer medium through the third heat exchanger 4 can be controlled by a control valve 7 and the supply line 15 of the tap water can first be led through the third heat exchanger 4 by means of shut-off valves 9 and 12 before being sent to the second heat exchanger 5.

IPC 8 full level

F25B 13/00 (2006.01); **F25B 30/02** (2006.01); **F24F 5/00** (2006.01)

CPC (source: EP)

F25B 13/00 (2013.01); **F25B 30/02** (2013.01); **F24F 2005/006** (2013.01); **F25B 2313/003** (2013.01); **F25B 2313/004** (2013.01); **F25B 2313/0233** (2013.01); **F25B 2700/195** (2013.01)

Citation (applicant)

US 2014000308 A1 20140102 - KOMORI KOU [JP], et al

Citation (search report)

- [IA] EP 1965145 A1 20080903 - SHARP KK [JP]
- [IA] WO 2010143373 A1 20101216 - PANASONIC CORP [JP], et al
- [A] US 2014109611 A1 20140424 - UCHINO SHINICHI [JP]
- [A] KR 101716320 B1 20170314 - ACE R & A CO LTD [KR]

Cited by

CN111486531A

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)

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DOCDB simple family (application)

EP 19196921 A 20190912; NL 2021626 A 20180913