

Title (en)

COUNTER-CURRENT FLOW IN BOTH AC AND HP MODES FOR PART LOAD OPTIMIZATION

Title (de)

GEGENSTROM-DURCHFLUSS IN BEIDEN WECHSELSTROM- UND HP-MODI ZUR TEILLASTOPTIMIERUNG

Title (fr)

FLUX DE CONTRE-COURANT EN MODE CA ET HP POUR OPTIMISATION DE LA CHARGE DE PIÈCE

Publication

**EP 4102152 A1 20221214 (EN)**

Application

**EP 22175454 A 20220525**

Priority

US 202117342657 A 20210609

Abstract (en)

An HVAC system (100) having an indoor heat exchanger (310) having a first refrigerant passage (110) extending in a first direction and a second refrigerant passage (210) extending in a second direction opposite from the first direction, a first refrigerant circuit (102) comprising a first compressor (104), a first expansion valve (106), a first outdoor heat exchanger (108), the first refrigerant passage (110), and a first reversing valve (112) operable to control a direction of first refrigerant (114) in the first refrigerant circuit (102), and a second refrigerant circuit (202) comprising a second compressor (204), a second expansion valve (206), a second outdoor heat exchanger (208), the second refrigerant passage (210), and a second reversing valve (212) operable to control a direction of second refrigerant (214) in the second refrigerant circuit (202).

IPC 8 full level

**F25B 7/00** (2006.01); **F25B 13/00** (2006.01)

CPC (source: EP US)

**F25B 7/00** (2013.01 - EP); **F25B 13/00** (2013.01 - EP US); **F25B 41/26** (2021.01 - US); **F25B 41/31** (2021.01 - US); **F25B 2313/02742** (2013.01 - US); **F25B 2400/06** (2013.01 - EP); **F25B 2400/075** (2013.01 - US)

Citation (search report)

- [X] US 2016025384 A1 20160128 - KIMURA KEIICHI [JP], et al
- [XI] US 4676072 A 19870630 - HIGUCHI ITSUO [JP]
- [XI] US 2004134218 A1 20040715 - ALEXANDRE ALEX [CA]
- [XI] US 3995809 A 19761207 - KARLSSON TORD HERLOG INGEMAR

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

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

**EP 4102152 A1 20221214**; CA 3161909 A1 20221209; US 2022397312 A1 20221215

DOCDB simple family (application)

**EP 22175454 A 20220525**; CA 3161909 A 20220608; US 202117342657 A 20210609