

Title (en)
REFRIGERATING APPARATUS USING NON-AZEOTROPIC MIXED REFRIGERANT

Title (de)
KÄLTEGERÄT MIT NICHTAZEOTROPEM GEMISCHTEM KÄLTEMITTEL

Title (fr)
APPAREIL DE RÉFRIGÉRATION UTILISANT UN FLUIDE FRIGORIGÈNE MÉLANGÉ NON AZÉOTROPE

Publication
EP 4018133 A4 20240110 (EN)

Application
EP 20853690 A 20200820

Priority
• KR 20190102338 A 20190821
• KR 2020011141 W 20200820

Abstract (en)
[origin: WO2021034135A1] A refrigerating apparatus using a non-azeotropic mixed refrigerant may include a compressor operable in a continuous operation mode and configured to compress the non-azeotropic mixed refrigerant, a condenser configured to condense the refrigerant compressed by the compressor, an expander configured to expand the refrigerant condensed by the condenser, and an evaporator configured to evaporate the refrigerant expanded by the expander. A pressure difference (ΔP) of the non-azeotropic mixed refrigerant has a value included in a range of 340 kPa < ΔP < 624.7 kPa. Therefore, reliability of components, such as a piston, in the refrigerating apparatus using the non-azeotropic mixed refrigerant may be further improved.

IPC 8 full level
F25B 9/00 (2006.01); **F04B 39/02** (2006.01); **F04B 39/12** (2006.01); **F25B 1/02** (2006.01)

CPC (source: CN EP KR US)
F04B 35/045 (2013.01 - EP); **F04B 39/0238** (2013.01 - KR); **F04B 39/0276** (2013.01 - EP); **F04B 39/12** (2013.01 - EP KR); **F04B 39/121** (2013.01 - EP US); **F25B 1/02** (2013.01 - EP); **F25B 5/04** (2013.01 - US); **F25B 9/006** (2013.01 - CN KR US); **F25B 31/002** (2013.01 - US); **F25B 31/023** (2013.01 - EP US); **F25B 41/30** (2021.01 - CN); **F25B 5/04** (2013.01 - EP); **F25B 2400/073** (2013.01 - EP US)

Citation (search report)
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• [Y] US 2013248165 A1 20130926 - KANDASAMY VAITHEESWARAN [ES]
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• [XYI] PILLA TEJASWI SARAN ET AL: "Experimental Evaluation Mechanical Performance of the Compressor with Mixed Refrigerants R-290 and R-600a", ENERGY PROCEDIA, ELSEVIER, NL, vol. 109, 18 March 2017 (2017-03-18), pages 113 - 121, XP029946424, ISSN: 1876-6102, DOI: 10.1016/J.EGYPRO.2017.03.065
• See also references of WO 2021034135A1

Designated contracting state (EPC)
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KR 2020011141 W 20200820; CN 202080056220 A 20200820; EP 20853690 A 20200820; KR 20190102338 A 20190821; US 202017633907 A 20200820