

Title (en)  
EVAPORATOR HEAT EXCHANGER FOR PREVENTING ICE BUILD-UP

Title (de)  
VERDAMPFERWÄRMETAUSCHER ZUR VERHINDERUNG VON EISBILDUNG

Title (fr)  
ÉCHANGEUR DE CHALEUR D'ÉVAPORATEUR POUR ÉVITER L'ACCUMULATION DE GLACE

Publication  
**EP 4166868 A1 20230419 (EN)**

Application  
**EP 21203005 A 20211015**

Priority  
EP 21203005 A 20211015

Abstract (en)  
An air-to-water heat pump system is provided. The system includes a compressor (22) for increasing the pressure of a refrigerant; a condenser heat exchanger (24) arranged downstream of the compressor for receiving a high pressure refrigerant output from the compressor and for transferring heat from the high pressure refrigerant to a source of water; an expansion device (28) for reducing the pressure of a refrigerant; and an evaporator heat exchanger (26) for extracting heat from ambient air. The evaporator heat exchanger comprises a first tube bank (34) having a first inlet arranged to receive a high pressure refrigerant output from the condenser and a first outlet fluidly coupled to the expansion device; and a second tube bank (36) having a second inlet arranged to receive a low pressure refrigerant output from the expansion device, and a second outlet fluidly coupled to an inlet of the compressor. The first and second tube banks are arranged in close proximity to one another such that, in use, heat from the high pressure refrigerant passing through the first tube bank is transferred to the second tube bank in order to limit and/or prevent ice build-up on an external surface of the second tube bank.

IPC 8 full level  
**F25B 6/04** (2006.01); **F25B 30/02** (2006.01); **F25B 39/02** (2006.01); **F25B 47/00** (2006.01)

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**F25B 6/04** (2013.01 - EP); **F25B 9/002** (2013.01 - US); **F25B 30/02** (2013.01 - EP US); **F25B 39/02** (2013.01 - EP); **F25B 40/00** (2013.01 - US); **F25B 47/006** (2013.01 - EP US); **F25B 2339/047** (2013.01 - EP); **F25B 2400/05** (2013.01 - US)

Citation (search report)

- [X] DE 2954402 C2 19880128
- [I] WO 2020194677 A1 20201001 - MITSUBISHI ELECTRIC CORP [JP] & EP 3951287 A1 20220209 - MITSUBISHI ELECTRIC CORP [JP]
- [I] EP 2865967 A1 20150429 - LG ELECTRONICS INC [KR]
- [I] EP 3477227 A1 20190501 - MITSUBISHI ELECTRIC CORP [JP]

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

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