

Title (en)  
HEAT MEDIUM CIRCULATION SYSTEM

Title (de)  
ZIRKULATIONSSYSTEM FÜR EIN HEIZMEDIUM

Title (fr)  
SYSTÈME DE CIRCULATION DE MILIEU CALOPORTEUR

Publication  
**EP 4148330 A1 20230315 (EN)**

Application  
**EP 22194787 A 20220909**

Priority  
JP 2021148319 A 20210913

Abstract (en)  
[Object] It is an object of the present invention to provide a safe heat medium circulation system capable of detecting initial leakage of refrigerant early when trial operation is completed, and capable of reducing erroneous detection of leakage of refrigerant and according to this, it is possible to early find leakage of refrigerant.[Solving Means] The heat medium circulation system of the invention includes a heat pump cycle 24 through which refrigerant circulates, a heating cycle 50 through which heat medium heated by the heat pump cycle 24 circulates between the heat pump cycle 24 and a heating terminal 37, a pressure sensor 27 for detecting pressure of heat medium in the heating cycle 50, and a control device 35. The control device 35 determines that the refrigerant leaks from the heat pump cycle 24 to the heating cycle 50 based on a detected value of the pressure sensor 27 which is detected after a trial operation for operating the heat pump cycle 24 and the heating cycle 50 is completed after water is poured to the heating cycle 50.

IPC 8 full level  
**F24D 3/18** (2006.01); **F24D 19/10** (2006.01); **F24F 11/36** (2018.01); **F24H 15/104** (2022.01); **F24H 15/12** (2022.01); **F24H 15/242** (2022.01); **F24H 15/395** (2022.01); **F24H 15/421** (2022.01); **F24H 15/45** (2022.01); **F24H 15/457** (2022.01)

CPC (source: EP)  
**F24D 3/18** (2013.01); **F24D 19/1039** (2013.01); **F24F 11/36** (2017.12); **F24H 15/104** (2022.01); **F24H 15/12** (2022.01); **F24H 15/242** (2022.01); **F24H 15/395** (2022.01); **F24H 15/421** (2022.01); **F24H 15/45** (2022.01); **F24H 15/457** (2022.01)

Citation (applicant)  
JP 2013185803 A 20130919 - PANASONIC CORP

Citation (search report)  
• [X] EP 2759787 A1 20140730 - MITSUBISHI ELECTRIC CORP [JP]  
• [A] EP 3822545 A1 20210519 - VISSMANN WERKE KG [DE]  
• [A] EP 3647687 A1 20200506 - MITSUBISHI ELECTRIC CORP [JP]  
• [A] JP 2009236425 A 20091015 - DENSO CORP

Cited by  
CN117739532A

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 4148330 A1 20230315**; JP 2023041134 A 20230324

DOCDB simple family (application)  
**EP 22194787 A 20220909**; JP 2021148319 A 20210913