

Title (en)  
Heat exchanger and air-conditioning apparatus having the same

Title (de)  
Wärmetauscher und Klimaanlagevorrichtung damit

Title (fr)  
Échangeur thermique et appareil de climatisation doté de celui-ci

Publication  
**EP 2620736 B1 20191023 (EN)**

Application  
**EP 12182717 A 20120903**

Priority  
JP 2012014875 A 20120127

Abstract (en)  
[origin: EP2620736A2] It is an objective to achieve suppressing progress of electrolytic corrosion (galvanic corrosion) by aluminum or an aluminum alloy caused by diffusion of copper ions to a connection pipe formed of aluminum or an aluminum alloy. The copper ions are diffused through water having condensed and staying in a small gap between the thermally insulating material and the connection pipe. In a gas pipe 30 and a liquid pipe 40 of a connection pipe unit 20, connection portions 37 and 47, in which aluminum pipes 31 and 41 (first refrigerant pipes: refrigerant pipes formed of aluminum or an aluminum alloy) and copper pipes 32 and 42 (second refrigerant pipes: refrigerant pipes formed of copper or a copper alloy) are respectively connected to each other, are disposed in fall portions of the aluminum pipes 31 and 41. The connection pipe unit 20 is covered with a thermally insulating material 60. An anti-corrosion treatment is applied to the aluminum pipes 31 and 41 covered with the thermally insulating material 60.

IPC 8 full level  
**F28F 9/02** (2006.01); **F24F 1/0071** (2019.01); **F24F 13/30** (2006.01); **F28F 19/00** (2006.01); **F28F 19/02** (2006.01); **F28F 21/08** (2006.01)

CPC (source: EP US)  
**F24F 1/0068** (2019.01 - EP); **F24F 1/0071** (2019.01 - EP US); **F28F 9/0256** (2013.01 - EP); **F28F 19/00** (2013.01 - EP); **F28F 19/02** (2013.01 - EP); **F28F 21/081** (2013.01 - EP); **F24F 1/0057** (2019.01 - EP); **F24F 13/30** (2013.01 - EP); **F28D 2021/0068** (2013.01 - EP); **F28F 21/084** (2013.01 - EP); **F28F 21/085** (2013.01 - EP)

Cited by  
EP3101353A4; EP3705792A4; EP3722686A4; US2021231343A1; US11549695B2; US11506425B2; US11492527B2; US11466891B2; US11441802B2; US11549041B2; US11493244B2; WO2021064442A1; US11365335B2; US11820933B2; US11435118B2; US11906207B2; US11441819B2; US11535781B2

Designated contracting state (EPC)  
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DOCDB simple family (publication)  
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DOCDB simple family (application)  
**EP 12182717 A 20120903**; CN 201210351648 A 20120920; ES 12182717 T 20120903; JP 2012014875 A 20120127; MY PI2012004114 A 20120918; RU 2012140170 A 20120919; SG 2012064432 A 20120830