

Title (en)

Orientation insensitive refrigerant distributor tube

Title (de)

Ausrichtungsunabhängiges Kühlmittelverteilerrohr

Title (fr)

Tube de distributeur réfrigérant insensible à l'orientation

Publication

EP 2392886 A3 20140702 (EN)

Application

EP 11167680 A 20110526

Priority

- US 35012310 P 20100601
- US 201113114405 A 20110524

Abstract (en)

[origin: EP2392886A2] A heat exchanger assembly (10) having an inlet header (12a), an outlet header (12b) spaced from the inlet header (12a), a plurality of refrigerant tubes (14) hydraulically connecting the inlet header (12a) with the outlet header (12b). A distributor tube (20) having a plurality of orifices (22) disposed in the inlet header (12a), wherein the orifices (22) are arranged along the distributor tube (20) such that at least one orifice is oriented in the liquid phase (24) of the refrigerant pressed against the internal surface of the distributor tube (20) regardless of orientation of the evaporator. The orifices(22) may be arranged in a random order about the distributor tube (20), positioned in groups of at least two at predetermined locations, or spiraled along the distributor tube (20).

IPC 8 full level

F28F 9/02 (2006.01); **F28D 1/02** (2006.01); **F28D 21/00** (2006.01); **F28D 1/053** (2006.01)

CPC (source: EP KR US)

F28D 1/05383 (2013.01 - KR); **F28F 9/0273** (2013.01 - EP KR US); **F28D 1/05383** (2013.01 - EP US); **F28D 2001/0273** (2013.01 - EP KR US); **F28D 2021/0071** (2013.01 - EP KR US)

Citation (search report)

- [X] JP 2004278935 A 20041007 - CALSONIC KANSEI CORP
- [X] US 2006102331 A1 20060518 - TARAS MICHAEL F [US], et al
- [X] WO 2008060270 A1 20080522 - CARRIER CORP [US], et al
- [X] WO 2010005676 A2 20100114 - CARRIER CORP [US], et al
- [A] US 2002174978 A1 20021128 - BEDDOME DAVID W [US], et al

Cited by

CN104981674A; WO2018100301A1; WO2018100300A1; WO2019121565A1; WO2018100304A1; WO2018100307A1; US11614260B2; WO2018100303A1; WO2014124312A1; WO2019121699A1; US11441851B2; WO2019121557A1; US11774193B2; EP2784428B1

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

DOCDB simple family (publication)

EP 2392886 A2 20111207; EP 2392886 A3 20140702; EP 2392886 B1 20160824; BR PI1102318 A2 20121120; BR PI1102318 A8 20171024; CN 202216453 U 20120509; KR 20110132273 A 20111207; US 2011290465 A1 20111201

DOCDB simple family (application)

EP 11167680 A 20110526; BR PI1102318 A 20110530; CN 201120258471 U 20110530; KR 20110051898 A 20110531; US 201113114405 A 20110524