

Title (en)

DOUBLE TUBE FOR HEAT EXCHANGE

Title (de)

DOPPELROHR FÜR EINEN WÄRMETAUSCHER

Title (fr)

TUBE DOUBLE POUR ÉCHANGE DE CHALEUR

Publication

EP 3679312 A4 20210331 (EN)

Application

EP 18854722 A 20180904

Priority

- KR 20170114094 A 20170906
- KR 2018010315 W 20180904

Abstract (en)

[origin: WO2019050258A1] Disclosed herein is a double tube for heat exchange. The double tube for heat exchange includes: a spiral pipe having ridges and valleys alternately formed on a circumferential surface thereof along a spiral track thereof and guiding a first fluid to flow therethrough; and an outer pipe receiving the spiral pipe axially inserted thereinto and guiding a second fluid to flow along the circumferential surface of the spiral pipe such that the second fluid exchanges heat with the first fluid, wherein the ridges contact with an inner surface of the outer pipe such that no gap is formed between the ridges and the inner surface of the outer pipe.

IPC 8 full level

F16L 9/18 (2006.01); **F28D 7/10** (2006.01); **F28F 1/06** (2006.01)

CPC (source: EP KR)

F16L 9/18 (2013.01 - KR); **F16L 53/32** (2017.12 - EP); **F28D 7/106** (2013.01 - EP KR); **F28F 1/06** (2013.01 - KR); **F28F 1/426** (2013.01 - EP); **F28F 9/0248** (2013.01 - EP); **F28F 2210/06** (2013.01 - EP)

Citation (search report)

- [X] EP 2551622 A2 20130130 - CHOI GUN SHIK [KR]
- [X] US 2013192804 A1 20130801 - MATSUDA SHINICHI [JP], et al
- [X] JP 2008232449 A 20081002 - SUMITOMO LIGHT METAL IND, et al
- [X] JP 2011163655 A 20110825 - MITSUBISHI ELECTRIC CORP
- [XY] KR 20110104141 A 20110922 - JEONG HYUN HO [KR]
- [X] EP 2420790 A2 20120222 - HALLA CLIMATE CONTROL CORP [KR]
- [X] DE 102008062486 A1 20090702 - SHOWA DENKO KK [JP]
- [X] WO 2011162170 A1 20111229 - SUMITOMO LIGHT METAL IND [JP], et al
- [A] KR 101415738 B1 20140709 - DOOWON CLIMATE CONTROL CO LTD [KR]
- [Y] DE 102006057312 A1 20070628 - DENSO CORP [JP], et al
- [A] US 2010326640 A1 20101230 - HIGASHIYAMA NAOHISA [JP], et al
- See references of WO 2019050258A1

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

DOCDB simple family (publication)

WO 2019050258 A1 20190314; EP 3679312 A1 20200715; EP 3679312 A4 20210331; JP 2020531790 A 20201105;
KR 20200027061 A 20200311

DOCDB simple family (application)

KR 2018010315 W 20180904; EP 18854722 A 20180904; JP 2020531412 A 20180904; KR 20207006575 A 20180904