

Title (en)
HEAT EXCHANGER AND HEAT EXCHANGE METHOD

Title (de)
WÄRMETAUSCHER UND WÄRMETAUSCHVERFAHREN

Title (fr)
ÉCHANGEUR DE CHALEUR ET PROCÉDÉ D'ÉCHANGE DE CHALEUR

Publication
EP 3199903 A1 20170802 (EN)

Application
EP 16200003 A 20161122

Priority
JP 2016010670 A 20160122

Abstract (en)
A heat exchanger includes a channel structure including a first substrate in which a first channel is arrayed, and a second substrate stacked on the first substrate, in which a second channel is arrayed. The first channel has an effective area overlapping a range where the second channel is provided, when viewed in a lamination direction of the first and second substrates. The effective area includes a standard heat transfer channel part including a high temperature end, and a high heat transfer channel part including a low temperature end, which is a part of the effective area other than the standard heat transfer channel part. The high heat transfer channel part has a bent shape so that a channel length thereof per unit distance of an end-to-end distance thereof is greater than a channel length of the standard heat transfer channel part per unit distance of an end-to-end distance thereof.

IPC 8 full level
F28F 13/12 (2006.01); **F28D 9/00** (2006.01)

CPC (source: CN EP KR US)
F28D 9/0037 (2013.01 - CN EP US); **F28D 9/0062** (2013.01 - KR); **F28F 3/048** (2013.01 - KR US); **F28F 3/08** (2013.01 - US); **F28F 13/08** (2013.01 - KR); **F28F 13/12** (2013.01 - EP US); **F28F 2210/10** (2013.01 - US); **F28F 2255/00** (2013.01 - EP US); **F28F 2260/02** (2013.01 - EP KR US)

Citation (applicant)
JP 2010286229 A 20101224 - RES INST OF NATL DEFENCE

Citation (search report)
• [X1] US 2010314088 A1 20101216 - YOO YOUNG JUNE [KR], et al
• [X1] EP 1653185 A2 20060503 - TOKYO INST TECH [JP], et al
• [X1] WO 2015056906 A1 20150423 - KOREA ATOMIC ENERGY RES [KR]
• [X1] EP 2110635 A1 20091021 - TOSHIBA KK [JP]
• [X1] WO 2014181297 A1 20141113 - COMMISSARIAT ENERGIE ATOMIQUE [FR]
• [XD1] JP 2010286229 A 20101224 - RES INST OF NATL DEFENCE

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 3199903 A1 20170802; **EP 3199903 B1 20191016**; CN 106996708 A 20170801; CN 106996708 B 20191126; JP 2017129335 A 20170727; JP 6659374 B2 20200304; KR 101991560 B1 20190620; KR 20170088298 A 20170801; US 2017211893 A1 20170727

DOCDB simple family (application)
EP 16200003 A 20161122; CN 201710042327 A 20170120; JP 2016010670 A 20160122; KR 20170008429 A 20170118; US 201615366968 A 20161201