

Title (en)  
HEAT EXCHANGER

Title (de)  
WÄRMETAUSCHER

Title (fr)  
ÉCHANGEUR DE CHALEUR

Publication  
**EP 2913616 A4 20151202 (EN)**

Application  
**EP 12886912 A 20121025**

Priority  
JP 2012077641 W 20121025

Abstract (en)  
[origin: EP2913616A1] A heat exchanger includes: a heat exchange body through which a fluid serving as a cooled object passes; and a coolant passage which is provided in at least one of a central portion and an outer circumferential portion of the heat exchange body, and through which a coolant exchanging heat with the heat exchange body flows, wherein the heat exchange body includes: a first heat transfer means which extends from a central portion to an outer circumferential portion; and a second heat transfer means which extends in a circumferential direction, and which intersects the first heat transfer means, a heat transfer efficiency of the first heat transfer means is greater than that of the second heat transfer means. It is thus possible to effectively transfer heat to the coolant passage provided in the outer circumferential portion or the central portion, and the good heat conductive property is ensured in the heat exchanger, which enables the improvement of the cool efficiency.

IPC 8 full level  
**F28F 1/40** (2006.01); **F02M 25/07** (2006.01); **F28D 7/10** (2006.01); **F28D 21/00** (2006.01); **F28F 13/00** (2006.01); **F28F 13/12** (2006.01); **F28F 21/04** (2006.01)

CPC (source: EP US)  
**F02M 26/32** (2016.02 - EP US); **F28D 7/106** (2013.01 - EP US); **F28D 21/0003** (2013.01 - EP US); **F28F 1/00** (2013.01 - US); **F28F 1/40** (2013.01 - EP US); **F28F 13/003** (2013.01 - EP US); **F28F 13/12** (2013.01 - EP US); **F28F 21/04** (2013.01 - EP US)

Citation (search report)

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- [XI] US 2012199326 A1 20120809 - SHELDON DANIEL FRANK [US], et al
- [XI] GB 911987 A 19621205 - ALFA ROMEO SPA
- [XYI] JP 2012189229 A 20121004 - NGK INSULATORS LTD
- [YD] WO 2011071161 A1 20110616 - NGK INSULATORS LTD [JP], et al
- See references of WO 2014064812A1

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)  
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DOCDB simple family (application)  
**EP 12886912 A 20121025**; CN 201280076564 A 20121025; JP 2012077641 W 20121025; JP 2014543086 A 20121025; US 201214437956 A 20121025