

Title (en)

Exhaust gas cooler and exhaust gas recirculation system for internal combustion engine

Title (de)

Abgaskühlsystem und Abgasrückführungssystem für Verbrennungsmotor

Title (fr)

Refroidisseur de gaz d'échappement et système de recirculation de gaz d'échappement pour moteur à combustion interne

Publication

EP 2336539 A3 20120328 (EN)

Application

EP 10192647 A 20101125

Priority

JP 2009287883 A 20091218

Abstract (en)

[origin: EP2336539A2] An EGR cooler (23) that cools EGR gas flowing through an EGR gas passage of an engine by heat exchange between the EGR gas and coolant flowing through a coolant outlet passage (32). The EGR cooler (23) includes: a housing (31) that is attached to one end of the engine and forms the coolant outlet passage (32); an exhaust gas recirculation pipe (33) that forms therein a part of an EGR gas passage of the engine in an inner periphery thereof and is supported by the housing (31) in which EGR gas flowing through the exhaust gas recirculation pipe (33) exchanges heat with coolant flowing through the coolant outlet passage (32); and an expansion joint (35) that is fixes the exhaust gas recirculation pipe (33) to the housing (31) and is elastically deformed to compensate for expansion/contraction of the exhaust gas recirculation pipe (33) with respect to the housing (31).

IPC 8 full level

F02M 25/07 (2006.01); **F28F 9/02** (2006.01)

CPC (source: EP)

F02M 26/30 (2016.02); **F02M 26/32** (2016.02); **F02M 26/41** (2016.02); **F28F 9/0219** (2013.01); **F28D 21/0003** (2013.01); **F28F 2265/26** (2013.01)

Citation (search report)

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- [XA] EP 0930429 A2 19990721 - STEYR NUTZFAHRZEUGE [AT]
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- [XA] WO 2007082774 A2 20070726 - BEHR GMBH & CO KG [DE], et al
- [XA] JP 2008215161 A 20080918 - NISSAN DIESEL MOTOR CO
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KR20190014213A; WO2017108615A1

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 2336539 A2 20110622; **EP 2336539 A3 20120328**; **EP 2336539 B1 20150408**; JP 2011127537 A 20110630; JP 5051212 B2 20121017

DOCDB simple family (application)

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