

Title (en)
EXHAUST GAS RECIRCULATION VALVE AND METHOD OF COOLING

Title (de)
ABGASRÜCKFÜHRUNGSVENTIL UND KÜHLVERFAHREN DAFÜR

Title (fr)
SOUPAPE DE RECIRCULATION DES GAZ D'ÉCHAPPEMENT ET PROCÉDÉ DE REFOIDISSEMENT

Publication
EP 2422069 A4 20131016 (EN)

Application
EP 10767639 A 20100420

Priority

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- US 31734810 P 20100325

Abstract (en)
[origin: WO2010123899A1] An exhaust gas recirculation valve has a cast metal body having at least one cooling circuit that is cast in to the cast metal body. The cooling circuit includes a coolant inlet, a coolant outlet, and passage between the inlet and the outlet. Another device has a cast metal body, and electronics cooling circuit cast into the metal body, and a valve cooling circuit cast into the metal body. The electronics cooling circuit cools at least one of a circuit board and a motor. The valve cooling circuit cools at least one of a valve shaft and a gear train. A method of manufacturing an exhaust gas recirculation valve includes providing a mold having a cast pattern comprising at least one cooling circuit in the mold. The cooling circuit includes a coolant inlet, a coolant outlet, and a coolant passage between the inlet and outlet. The method further involves introducing molten metal or alloy to the mold, and cooling the molten metal or alloy, to form a cast metal device having the pattern of the mold including the cooling circuit.

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Citation (search report)

- [XYI] EP 1420158 A2 20040519 - DENSO CORP [JP]
- [XI] JP H07233762 A 19950905 - UNISIA JECS CORP
- [XI] DE 10344218 A1 20050414 - MAHLE FILTERSYSTEME GMBH [DE]
- [XA] EP 0908615 A2 19990414 - VOLKSWAGEN AG [DE]
- [XA] EP 1426603 A1 20040609 - RENAULT SA [FR]
- [Y] US 5372176 A 19941213 - BROWN PETER W [US], et al
- See references of WO 2010123899A1

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