

Title (en)  
COOLANT TEMPERATURE CONTROL APPARATUS FOR INTERNAL COMBUSTION ENGINE

Title (de)  
STEUERUNGSVORRICHTUNG FÜR DIE KÜHLTEMPERATUR EINES VERBRENNUNGSMOTORS

Title (fr)  
APPAREIL DE RÉGULATION DE TEMPÉRATURE DE FLUIDE CALOPORTEUR POUR MOTEUR À COMBUSTION INTERNE

Publication  
**EP 2703617 A4 20150624 (EN)**

Application  
**EP 11864411 A 20110428**

Priority  
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Abstract (en)  
[origin: EP2703617A1] The present invention is intended to provide a technique which makes effective use of a phase transition temperature zone of cooling water by controlling a control valve for changing the temperature of the cooling water in an appropriate manner. The present invention resides in a cooling water temperature control apparatus for an internal combustion engine in which cooling water is caused to circulate, said cooling water having variable specific heat, said apparatus comprising: a received heat amount calculation unit configured to calculate an amount of received heat which is received by said cooling water, a control valve that is controlled to open and close according to a command so as to change a circulation route or an amount of circulation of said cooling water and to change the temperature of said cooling water, and a control unit configured to control said control valve based on the amount of received heat which is calculated by said received heat amount calculation unit.

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Citation (search report)

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- [A] WO 2004009728 A1 20040129 - DAIMLER CHRYSLER CORP [US], et al
- [A] JP 2006017436 A 20060119 - HONDA MOTOR CO LTD
- [A] US 4768484 A 19880906 - SCARSELLETTA LOUIS [US]
- See references of WO 2012147202A1

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

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**EP 11864411 A 20110428**; CN 201180070468 A 20110428; JP 2011060443 W 20110428; JP 2013511855 A 20110428; US 201114114355 A 20110428