

Title (en)
COOLANT CIRCUIT OF AN INTERNAL COMBUSTION ENGINE, AND COMPENSATING VESSEL DESIGNED FOR SAID COOLANT CIRCUIT

Title (de)
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Title (fr)
CIRCUIT DE REFROIDISSEMENT D'UN MOTEUR À COMBUSTION INTERNE AINSI QUE RÉSERVOIR DE COMPENSATION DESTINÉ À CE CIRCUIT DE REFROIDISSEMENT

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Application
EP 12780091 A 20121010

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Abstract (en)
[origin: WO2013071997A1] The invention relates to a coolant circuit (1) of an internal combustion engine, having a compensating vessel (2) and having a heat exchanger (4). The coolant passes into the exchanger (4) through a feed line (3). In an upper region of the heat exchanger (4) there is situated an outlet opening (6) for the coolant, having a branch through which, at one side, a main volume flow is supplied to a low-temperature region and through which, at the other side, a secondary volume flow is recirculated through a ventilation line (7) into the compensating vessel (2). Owing to the high flow speeds in the ventilation line (7), the air present in the heat exchanger (4) is supplied to the compensating vessel (2), which is positioned at a lower level. The ventilation line (7) is continued in the interior of the compensating vessel (2) as a vertical, hollow cylindrical tube portion (10) which therefore runs at least in sections below a water level (11) of the compensating volume (8) of the coolant in the compensating vessel (2). According to the invention, an arrangement of the compensating vessel (2) is attained in which the fill level (11) in the compensating vessel (2) is situated below the heat exchanger (4) during operation. By virtue of the ventilation line (7) being situated in sections below the fill level (11), pressure equalization between the heat exchanger (4) and the compensating vessel (2) is prevented. The negative pressure generated as a result of the extraction of the air present in the heat exchanger (4) is thus maintained, such that, despite the gradient existing within the coolant circuit (1), the coolant volume present in the heat exchanger (4) does not flow into those regions of the coolant circuit (1) which are situated at a lower level.

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Citation (search report)
See references of WO 2013071997A1

Citation (examination)
• DE 102008060088 A1 20090625 - FORD GLOBAL TECH LLC [US], et al
• EP 1792766 A1 20070606 - MAZDA MOTOR [JP]

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