

Title (en)

Cylinder head, core for manufacturing such a cylinder head, method for manufacturing said cylinder head and vehicle

Title (de)

Zylinderkopf, Kern für die Herstellung eines solchen Zylinderkopfs, Herstellungsverfahren eines solchen Zylinderkopfs und entsprechendes Fahrzeug

Title (fr)

Culasse, noyau pour la fabrication de cette culasse, procédé de fabrication de cette culasse, et véhicule

Publication

EP 2392813 A1 20111207 (FR)

Application

EP 11167499 A 20110525

Priority

FR 1054341 A 20100603

Abstract (en)

The cylinder head comprises an exhaust manifold (22), and a cooling circuit (40) fitted to inner side of the cylinder head by liquid coolant. The cooling circuit comprises a concave cooling chamber (52) laid between walls of the exhaust manifold to collect gas trapped in the cooling circuit, an outlet cavity (44) to collect the coolant flowing in the cooling circuit, a degazing groove connecting tip of the chamber for cooling at the cavity. The groove is inclined and shaped so that gas moves from the tip towards the cavity of the outlet. The cylinder head comprises an exhaust manifold (22), and a cooling circuit (40) fitted to inner side of the cylinder head by liquid coolant. The cooling circuit comprises a concave cooling chamber (52) laid between walls of the exhaust manifold to collect gas trapped in the cooling circuit, an outlet cavity (44) to collect the coolant flowing in the cooling circuit, a degazing groove connecting tip of the chamber for cooling at the cavity. The groove is inclined and shaped so that gas move from the tip towards the cavity of the outlet, and increases or extends horizontally in the operating position of the cylinder head. Independent claims are included for: (1) a core for manufacturing a cylinder head for an internal combustion engine; and (2) a process for manufacturing the cylinder head by molding.

Abstract (fr)

L'invention concerne une culasse pour un moteur à combustion interne, cette culasse comportant : - un collecteur d'échappement (38), - un circuit (40) de refroidissement aménagé à l'intérieur de la culasse (22) par liquide caloporteur, ce circuit (40) comprenant une chambre (52) concave de refroidissement disposée entre des parois du collecteur (38) d'échappement apte à recueillir des gaz piégés dans le circuit (40) de refroidissement" et - une cavité (44) de sortie de liquide caloporteur apte à collecter le liquide caloporteur circulant dans ce circuit (40) de refroidissement, caractérisé en ce que le circuit (40) de refroidissement comprend une rainure (56) de dégazage reliant fluidiquement un sommet (54) de la chambre (52) de refroidissement à la cavité (44), cette rainure (56) étant inclinée de manière à ce que les gaz se déplacent de ce sommet (54) vers la cavité (44) de sortie.

IPC 8 full level

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CPC (source: EP)

B22C 9/10 (2013.01); **B22D 19/0009** (2013.01); **F01P 11/0285** (2013.01); **F02F 1/243** (2013.01); **F02F 1/40** (2013.01)

Citation (search report)

- [X] EP 0984149 A2 20000308 - HONDA MOTOR CO LTD [JP]
- [X] EP 1052394 A2 20001115 - BAYERISCHE MOTOREN WERKE AG [DE]
- [X] JP 2004044465 A 20040212 - HONDA MOTOR CO LTD
- [X] EP 1538327 A1 20050608 - FORD GLOBAL TECH LLC [US]
- [X] EP 0134579 A1 19850320 - NISSAN MOTOR [JP]
- [A] GB 2142977 A 19850130 - NISSAN MOTOR
- [A] FR 2899501 A1 20071012 - RENAULT SAS [FR]

Cited by

DE102012015328A1; FR3058473A1; WO2019073137A1

Designated contracting state (EPC)

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