

Title (en)

Cooling water channel structure of a cylinder head and method of manufacturing a cylinder head

Title (de)

Zylinderkopfkühlwasserstruktur und Verfahren zur Herstellung

Title (fr)

Structure des conduits de refroidissement pour une culasse et procédé de fabrication

Publication

EP 1143135 A3 20021127 (EN)

Application

EP 01107296 A 20010323

Priority

JP 2000105248 A 20000406

Abstract (en)

[origin: EP1143135A2] A cooling water channel of a cylinder head (1) has two parallel channels: an intake side channel (2) extending along the periphery of an intake port (5) in a longitudinal direction and an exhaust side channel (3) extending along the periphery of an exhaust port (6) in a longitudinal direction. Furthermore, a central channel (4) defined between the intake port (5) and the exhaust port (6) is divided into upper and lower sides, and the central channel (4a) on the upper side is communicated with the exhaust side channel (3), and the central channel (4b) on the lower side is communicated with the intake side channel (2). <IMAGE>

IPC 1-7

F02F 1/42; **F02F 1/40**; **F01P 3/14**

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

- [A] FR 2774128 A1 19990730 - RENAULT [FR]
- [A] US 1845521 A 19320216 - ROSS CARL A
- [A] PATENT ABSTRACTS OF JAPAN vol. 1997, no. 12 25 December 1997 (1997-12-25)
- [A] PATENT ABSTRACTS OF JAPAN vol. 010, no. 385 (M - 548) 24 December 1986 (1986-12-24)

Cited by

DE102004050923B4; EP1445447A1; CN109441656A; US6981473B2

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