

Title (en)
Liquid cooled cylinder head for a multi-cylinder internal combustion engine

Title (de)
Flüssigkeitsgekühlter Zylinderkopf einer mehrzylindrigen Brennkraftmaschine

Title (fr)
Culasse refroidie par un liquide pour un moteur à combustion interne

Publication
EP 0899445 A3 20000112 (DE)

Application
EP 98114792 A 19980806

Priority
DE 19737492 A 19970828

Abstract (en)
[origin: DE19737492C1] The liquid cooled cylinder head has a cooling water space extending parallel to the gas flow and transversely to the axis of the motor. The cylinder head has spark plug seatings, injector positions and head bolt bores. The lower face of the cylinder head has a gasket. The cylinder head wall section (12) adjacent to the gas flow ducts (5), in the area of the cylinder head bolts (8), has a thickened surface provided by ribbing (13) which forms part of the bolt bores.

IPC 1-7
F02F 1/38; **F02F 1/40**

IPC 8 full level
F02F 1/38 (2006.01); **F02F 1/40** (2006.01)

CPC (source: EP US)
F02F 1/38 (2013.01 - EP US); **F02F 1/40** (2013.01 - EP US)

Citation (search report)
• [A] US 4530323 A 19850723 - WAKASA AKINORI [JP]
• [PA] DE 19644530 C1 19980212 - DAIMLER BENZ AG [DE]
• [A] EP 0579918 A1 19940126 - BAYERISCHE MOTOREN WERKE AG [DE]
• [A] DE 3228922 A1 19840209 - MASCHF AUGSBURG NUERNBERG AG [DE]
• [A] US 4658763 A 19870421 - GOBIEN ERNST [DE], et al
• [A] US 5069176 A 19911203 - RUF MAX [DE], et al

Cited by
DE102009041708A1

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

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DE 19737492 C1 19981029; EP 0899445 A2 19990303; EP 0899445 A3 20000112; EP 0899445 B1 20030226; US 6129064 A 20001010

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