

Title (en)

MULTI-PART, COOLED PISTON FOR AN INTERNAL COMBUSTION ENGINE

Title (de)

MEHRTEILIGER GEKÜHLTER KOLBEN FÜR EINEN VERBRENNUNGSMOTOR

Title (fr)

PISTON REFROIDI CONSTITUE DE PLUSIEURS PIECES CONCU POUR UN MOTEUR A COMBUSTION INTERNE

Publication

EP 1483493 B1 20050615 (DE)

Application

EP 02772020 A 20020813

Priority

- DE 0202960 W 20020813
- DE 10210570 A 20020309

Abstract (en)

[origin: US2003167918A1] A multi-part cooled piston for an internal combustion engine comprises a one-piece piston upper part having a combustion bowl and an annular wall with a piston-ring part, and a one-piece piston lower part having a box-like piston skirt, and bosses to receive the piston pins joining the piston to the connecting rod and boss supports, which are joined to the piston skirt. A cooling channel is formed through the piston upper part and also the piston lower part and is limited thereby in its cross section. A reduction of the compression height and an increase of the heat load can be achieved with this piston despite increasing engine power. The piston can also be assembled without microstructural change. The piston upper part and the piston lower part are provided with support elements having seating faces, which form a first and a second seat. The support element comprising the first seat is provided with threads for screwing the two piston parts together, and in the screwed together condition of the piston upper part and piston lower part, the two piston parts are braced exclusively via the first and second seats.

IPC 1-7

F02F 3/00; **F02F 3/22**

IPC 8 full level

F02F 3/00 (2006.01); **F02F 3/22** (2006.01); **F16J 1/09** (2006.01)

CPC (source: EP KR US)

F02F 3/00 (2013.01 - KR); **F02F 3/0023** (2013.01 - EP US); **F02F 3/22** (2013.01 - EP KR US)

Cited by

US7533601B2; US7628135B2; DE102009032941A1; WO2011006469A1; US8991046B2; DE102008056203A1; DE102009015820A1; DE102009032912A1; US8161935B2

Designated contracting state (EPC)

DE FR GB IT SE

DOCDB simple family (publication)

US 2003167918 A1 20030911; **US 6763758 B2 20040720**; BR 0215633 A 20041221; BR 0215633 B1 20110222; DE 10210570 A1 20030918; DE 50203435 D1 20050721; EP 1483493 A1 20041208; EP 1483493 B1 20050615; JP 2005527725 A 20050915; KR 100893015 B1 20090415; KR 20040088582 A 20041016; WO 03076786 A1 20030918

DOCDB simple family (application)

US 24613502 A 20020918; BR 0215633 A 20020813; DE 0202960 W 20020813; DE 10210570 A 20020309; DE 50203435 T 20020813; EP 02772020 A 20020813; JP 2003574975 A 20020813; KR 20047014091 A 20020813