Title (en)

LIQUID-COOLED ASSEMBLED PISTON

Title (de)

GEBAUTER, FLÜSSIGKEITSGEKÜHLTER KOLBEN

Title (fr)

PISTON EN PLUSIEURS PARTIES, REFROIDI PAR LIQUIDE

Publication

EP 1922478 B1 20130327 (DE)

Application

EP 06775919 A 20060902

Priority

- DE 2006001548 W 20060902
- DE 102005042003 A 20050905

Abstract (en)

[origin: WO2007028364A1] The invention proposes a liquid-cooled assembled piston (1) having an upper part (2) and a lower part (3), wherein the upper part (2) and the lower part (3) are connected to one another by means of a radially outer annular support (12) and by means of a radially inner annular support (11). An outer cooling duct (13) is arranged between the outer support (12) and the inner support (11), and an inner cooling duct (18) is arranged radially within the inner support (11). Here, the outer cooling duct (13) is connected to the inner cooling duct (18) by means of at least one overflow duct (22, 22'). According to the invention, in order to reduce the compression height and therefore the axial dimensions of the piston, and in order to ensure an unimpeded discharge of cooling oil situated in the inner cooling duct (18) with little design expenditure, a bolt (20) with an outer thread (23) is arranged coaxially with respect to the piston axis (17) on the underside, which faces away from the piston head, of the piston head (4); the upper part (2) and the lower part (3) of the piston (1) are screwed to one another by means of a hexagonal nut (19) which can be screwed onto the outer thread (23) of the bolt (20); and the hexagonal nut (19) has, at the piston head side, a collar (25) with at least one radially arranged bore or milled portion (26, 27) which connects the inner cooling duct (18) to the piston interior space (28).

IPC 8 full level

F02F 3/00 (2006.01); **F02F 3/22** (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)

Designated contracting state (EPC)

DE ES FI FR GB IT

DOCDB simple family (publication)

DE 102005042003 A1 20070308; CN 100572784 C 20091223; CN 101258319 A 20080903; EP 1922478 A1 20080521; EP 1922478 B1 20130327; JP 2009507171 A 20090219; JP 4838848 B2 20111214; KR 101279843 B1 20130628; KR 20080043360 A 20080516; US 2009139481 A1 20090604; US 7934482 B2 20110503; WO 2007028364 A1 20070315

DOCDB simple family (application)

DE 102005042003 A 20050905; CN 200680032316 A 20060902; DE 2006001548 W 20060902; EP 06775919 A 20060902; JP 2008529461 A 20060902; KR 20087006566 A 20060902; US 99152206 A 20060902