

Title (en)
COOLING STRUCTURE FOR CYLINDER BLOCK AND SWASH PLATE-TYPE HYDRAULIC DEVICE EQUIPPED WITH SAME

Title (de)
KÜHLSTRUKTUR FÜR EINEN ZYLINDERBLOCK UND HYDRAULISCHE TAUMELSCHEIBENVORRICHTUNG DAMIT

Title (fr)
STRUCTURE DE REFOIDISSEMENT POUR BLOC-CYLINDRES ET DISPOSITIF HYDRAULIQUE DU TYPE À PLATEAU OSCILLANT ÉQUIPÉ DE CETTE DERNIÈRE

Publication
EP 2642123 A1 20130925 (EN)

Application
EP 10859806 A 20101116

Priority
JP 2010006721 W 20101116

Abstract (en)
The present invention provides a cooling structure of a cylinder block, the cooling structure being capable of improving a cooling performance of sliding surfaces. A cylinder block 12 includes a plurality of cylinders 20, and pistons 13 are respectively inserted into the cylinders 20 through openings. Each of the pistons 13 performs reciprocating sliding on a sliding surface 12b which defines the cylinder 20. A plurality of cooling depressions 31 are formed on an outer peripheral surface 12a of the cylinder block 12. Each of the cooling depressions 31 extends from a front end surface of the cylinder block 12 on a dividing wall 32 located between the two adjacent cylinders 20 and is formed by reducing the thickness of the dividing wall 32 so as to reduce a thickness t of a portion between the sliding surface 12b and the outer peripheral surface 12a.

IPC 8 full level
F04B 53/08 (2006.01); **F03C 1/253** (2006.01); **F04B 1/22** (2006.01); **F04B 53/16** (2006.01)

CPC (source: EP KR US)
F01B 3/0035 (2013.01 - EP US); **F01P 3/00** (2013.01 - US); **F02F 1/02** (2013.01 - EP US); **F02F 1/26** (2013.01 - EP US); **F04B 1/20** (2013.01 - EP US); **F04B 1/22** (2013.01 - EP US); **F04B 25/04** (2013.01 - KR); **F04B 27/08** (2013.01 - KR); **F04B 39/06** (2013.01 - EP US); **F04B 39/066** (2013.01 - EP US); **F04B 53/08** (2013.01 - EP KR US)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
US 2013000481 A1 20130103; CN 102630279 A 20120808; EP 2642123 A1 20130925; EP 2642123 A4 20171004; JP 5444462 B2 20140319; JP WO2012066593 A1 20140512; KR 101330768 B1 20131118; KR 20120083876 A 20120726; WO 2012066593 A1 20120524

DOCDB simple family (application)
US 201013635151 A 20101116; CN 201080036142 A 20101116; EP 10859806 A 20101116; JP 2010006721 W 20101116; JP 2012516416 A 20101116; KR 20127005007 A 20101116