

Title (en)

INTERNAL COMBUSTION ENGINE PROVIDED WITH A PISTON COOLING SYSTEM

Title (de)

VERBRENNUNGSMOTOR MIT KOLBENKÜHLSYSTEM

Title (fr)

MOTEUR À COMBUSTION INTERNE ÉQUIPÉ D'UN SYSTÈME DE REFROIDISSEMENT DE PISTON

Publication

EP 3150821 A1 20170405 (EN)

Application

EP 16191620 A 20160929

Priority

IT UB20154005 A 20150929

Abstract (en)

Lubricating and cooling system for an internal combustion engine, the combustion engine comprising a piston reciprocated with a respective cylinder, the piston comprising an inner cooling passage (C) having at least an inlet (IP) and an outlet (OP), the system comprising an auxiliary oil circuit with an auxiliary pump (AP) sucking oil from said oil sump to feed at least one piston nozzle(s) (NZ), a main oil circuit with a respective main pump (MP) for sucking oil from said oil sump to feed oil to remaining engine oil consumers (CB-RA, CM, CR). The main circuit comprises a main cooler (MC) and the auxiliary circuit comprises an auxiliary cooler (AC) separated and thermally independent from the main cooler.

IPC 8 full level

F01P 3/10 (2006.01); **F01M 1/02** (2006.01); **F01M 1/08** (2006.01); **F01M 5/00** (2006.01)

CPC (source: EP)

F01M 1/02 (2013.01); **F01M 1/08** (2013.01); **F01M 5/002** (2013.01); **F01P 3/10** (2013.01); **F01M 1/10** (2013.01); **F01M 1/16** (2013.01); **F01M 11/004** (2013.01); **F01M 2001/1057** (2013.01); **F01M 2001/123** (2013.01); **F01P 3/08** (2013.01); **F01P 2060/04** (2013.01); **F02F 3/22** (2013.01)

Citation (applicant)

- WO 2010002293 A1 20100107 - VOLVO LASTVAGNAR AB [SE], et al
- US 2008017139 A1 20080124 - ISSLER WOLFGANG [DE]
- US 2004040520 A1 20040304 - BONTAZ CHRISTOPHE [FR], et al

Citation (search report)

- [Y] DE 102009018009 A1 20101021 - DAIMLER AG [DE]
- [Y] US 4854276 A 19890808 - ELSBETT LUDWIG [DE], et al
- [A] US 3065743 A 19621127 - BREHM RICHARD J, et al
- [AD] WO 2010002293 A1 20100107 - VOLVO LASTVAGNAR AB [SE], et al
- [A] DE 10322304 A1 20041202 - DAIMLER CHRYSLER AG [DE]

Cited by

CN113356991A; CN109882285A; CN110621854A; CN111441842A; WO2018217634A1; US11220950B2; DE102022109301B3

Designated contracting state (EPC)

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