

Title (en)

Cooling duct variant for pistons

Title (de)

Kühlkanalvarianten für Kolben

Title (fr)

Variantes de canal de ventilation pour piston

Publication

EP 1930578 B1 20190925 (DE)

Application

EP 07022821 A 20071124

Priority

DE 102006056011 A 20061128

Abstract (en)

[origin: EP1930578A2] The piston (1) has a radially circulating cooling channel (6a) arranged at a distance to a piston head (2), where the piston is made of light-metal e.g. steel. Lubricating oil is injected into inlet openings (13, 14) as a cooling medium over a free jet of injection nozzles (11, 12). The channel is designed in a divided or undivided manner, and the nozzles are provided for loading the openings or a connection of the channel. The medium in the free jet enters into the openings, where the jet is directed parallel to a longitudinal axis. A lower side (20) is loaded with the medium by the jet.

IPC 8 full level

F02F 3/22 (2006.01); **F01P 3/08** (2006.01)

CPC (source: EP)

F01P 3/08 (2013.01); **F02F 3/22** (2013.01)

Citation (examination)

JP 2003301744 A 20031024 - TOYOTA MOTOR CORP

Citation (opposition)

Opponent : MAHLE International GmbH

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- JP 2003301744 A 20031024 - TOYOTA MOTOR CORP
- WO 8202575 A1 19820805 - CATERPILLAR TRACTOR CO [US], et al
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WO2010020231A3; US10655561B2; JP2012500354A; WO2013131937A1; EP1930578B1

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