

Title (en)

COOLING CIRCUIT OF AN INTERNAL COMBUSTION ENGINE COMPRISING A LOW-TEMPERATURE RADIATOR

Title (de)

KÜHLKREISLAUF EINER BRENNKRAFTMASCHINE MIT NIEDERTEMPERATURKÜHLER

Title (fr)

CIRCUIT DE REFROIDISSEMENT D'UN MOTEUR A COMBUSTION INTERNE AVEC RADIATEUR BASSE TEMPERATURE

Publication

**EP 1588034 B1 20130522 (DE)**

Application

**EP 04701951 A 20040114**

Priority

- EP 2004000202 W 20040114
- DE 10301564 A 20030116

Abstract (en)

[origin: WO2004063543A2] The invention relates to a cooling circuit of an internal combustion engine of motor vehicles, comprising a main cooling circuit that encompasses a section located upstream of the radiator, a main radiator, a radiator return path, a coolant pump, a main thermostat, and a bypass or short circuit which is disposed between the main thermostat and the coolant pump. Said cooling circuit further comprises a low-temperature circuit encompassing a low-temperature radiator, a low-temperature radiator return path, a valve unit, and an additional heat exchanger.

IPC 8 full level

**F01P 1/00** (2006.01); **F01P 3/20** (2006.01); **F01P 7/16** (2006.01); **F28F 9/02** (2006.01); **F01P 3/18** (2006.01)

CPC (source: EP US)

**F01P 3/20** (2013.01 - EP US); **F01P 7/165** (2013.01 - EP US); **F28F 9/0234** (2013.01 - EP US); **F01P 3/18** (2013.01 - EP US); **F01P 2003/185** (2013.01 - EP US); **F01P 2007/168** (2013.01 - EP US); **F01P 2050/06** (2013.01 - EP US); **F01P 2060/045** (2013.01 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

**WO 2004063543 A2 20040729**; **WO 2004063543 A3 20041028**; DE 10301564 A1 20040812; EP 1588034 A2 20051026; EP 1588034 B1 20130522; EP 2573354 A1 20130327; JP 2006515658 A 20060601; JP 4644182 B2 20110302; US 2006254538 A1 20061116; US 7406929 B2 20080805

DOCDB simple family (application)

**EP 2004000202 W 20040114**; DE 10301564 A 20030116; EP 04701951 A 20040114; EP 12194138 A 20040114; JP 2006500562 A 20040114; US 54237104 A 20040114