

Title (en)
COOLANT CIRCUIT FOR AN INTERNAL COMBUSTION ENGINE

Title (de)
KÜHLMITTELKREISLAUF FÜR EINE BRENNKRAFTMASCHINE

Title (fr)
CIRCUIT DE LIQUIDE DE REFROIDISSEMENT POUR UN MOTEUR À COMBUSTION INTERNE

Publication
EP 2616650 B1 20180718 (DE)

Application
EP 11740569 A 20110728

Priority
• DE 102010045217 A 20100913
• EP 2011003780 W 20110728

Abstract (en)
[origin: WO2012034617A1] The invention relates to a coolant circuit (1) for an internal combustion engine (2), which has a cylinder crankcase (3) having at least two cylinder banks (3a), and associated cylinder heads (4), wherein the cylinder crankcase (3) and the cylinder heads (4) can be supplied with coolant by a coolant pump (7) by means of separate sub-circuits (5) and (6) of the coolant circuit (1) extending parallel to each other, wherein a first control valve (10) having at least two synchronously switchable first connections (9a) and a second connection (9b) is arranged in a cylinder crankcase sub-circuit (5) and wherein the first connections (9a) each have a flow connection with one of the cylinder banks (3a) in pairs.

IPC 8 full level
F01P 3/02 (2006.01); **F01P 7/16** (2006.01); **F02F 7/00** (2006.01)

CPC (source: EP)
F01P 3/02 (2013.01); **F01P 7/165** (2013.01); **F02F 7/0012** (2013.01); **F01P 2003/027** (2013.01); **F01P 2060/08** (2013.01)

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)
DE 102010045217 A1 20120315; EP 2616650 A1 20130724; EP 2616650 B1 20180718; WO 2012034617 A1 20120322

DOCDB simple family (application)
DE 102010045217 A 20100913; EP 11740569 A 20110728; EP 2011003780 W 20110728