Title (en)
  COOLING CIRCUIT

Title (de)
  KÜHLKREISLAUF

Title (fr)
  CIRCUIT DE REFROIDISSEMENT

Publication
  EP 1272747 B1 20060621 (DE)

Application
  EP 01913686 A 20010221

Priority
  • DE 0100637 W 20010221
  • DE 10016405 A 20000401

Abstract (en)
  [origin: WO0175281A1] The invention relates to a cooling circuit (10), comprising at least one heat source (12), a radiator (14) and a by-pass line (22), which connects a coolant inlet (18) with a coolant return (20), with a control valve (26) arranged on the junction (24) thereof. The throttling body (58) of said valve may be controlled electrically, dependent upon operating parameters and environmental parameters, by means of at least one control unit (40, 42) and divides the coolant flow between the coolant inlet (18) and the bypass line (22). According to the invention, the control unit (40, 42) determines a set value (50), for the position of the throttling body (58), using a characteristic curve for the control valve (26), which sets the ratio of the radiator volume flow to the total coolant flow at the control valve (26) and which is equal to the ratio of the difference of a temperature at the outlet (36) of the bypass line (22) minus a set temperature at the input of the heat source (12) and the difference of the temperature at the outlet (36) of the bypass line (22) minus a temperature at the outlet of the radiator (14), whereby the ratio of the radiator volume flow to the total coolant flow is set to zero for a negative value and limited to one for a value greater than one.

IPC 8 full level
  F01P 7/16 (2006.01); **F01P 11/16** (2006.01)

CPC (source: EP KR US)
  F01P 7/14 (2013.01 - KR); **F01P 7/167** (2013.01 - EP US); F01P 2023/00 (2013.01 - EP US); F01P 2025/30 (2013.01 - EP US);
  F01P 2025/32 (2013.01 - EP US); F01P 2025/36 (2013.01 - EP US); F01P 2031/34 (2013.01 - EP US)

Cited by
  DE102023003249A1; WO2024074557A1

Designated contracting state (EPC)
  DE ES FR GB IT

DOCDB simple family (publication)
  WO 0175281 A1 20011011; AU 3918601 A 20011015; AU 772216 B2 20040422; DE 10016405 A1 20011011; DE 50110260 D1 20060803;
  EP 1272747 A1 20030108; EP 1272747 B1 20060621; JP 2003529709 A 20031007; KR 20020079361 A 20021019;
  US 2002189557 A1 20021219; US 6796375 B2 20040928

DOCDB simple family (application)
  DE 0100637 W 20010221; AU 3918601 A 20010221; DE 10016405 A 20000401; DE 50110260 T 20010221; EP 01913686 A 20010221;
  JP 2001572738 A 20010221; KR 20017015400 A 20011130; US 98013902 A 20020502