

Title (en)

LIQUID HEATING DEVICE WITH TWO FLOW PATHS FOR AN AUTOMOBILE

Title (de)

FLÜSSIGKEITSERHITZUNGSVORRICHTUNG MIT ZWEI FLUSSWEGEN FÜR EIN AUTOMOBIL

Title (fr)

DISPOSITIF DE CHAUFFAGE DE LIQUIDE A DEUX CHEMINS D'ECOULEMENT POUR VEHICULE AUTOMOBILE

Publication

EP 2324298 A1 20110525 (FR)

Application

EP 09811087 A 20090907

Priority

- EP 2009006486 W 20090907
- FR 0804902 A 20080905

Abstract (en)

[origin: WO2010025957A1] The invention relates to a liquid heating device for an automobile that comprises two independent liquid flow paths (10a, 10b) integrally formed in at least one part (1a) made of a heat-conducting material, each liquid flow path (10a) being capable of enabling a flow of liquid between a connection terminal defining an inlet and a connection terminal defining an outlet (12a, 12b), each of the connection terminals being capable of sealingly receiving a liquid supply duct or tube, and a heating means (14) thermally coupled with said part (1a) and capable of heating said part (1a) so that the liquid flowing through said flow paths can absorb the heat of said part (1a). The invention advantageously enables the very flexible use thereof for one or more systems requiring heated liquid inside a single vehicle.

IPC 8 full level

F24H 1/12 (2006.01); **B60S 1/48** (2006.01)

CPC (source: EP US)

B60S 1/488 (2013.01 - EP US); **B60S 1/524** (2013.01 - EP US); **B60S 1/603** (2013.01 - EP US); **F24H 1/009** (2013.01 - EP US); **F24H 1/121** (2013.01 - EP US); **F24H 9/1827** (2013.01 - EP US)

Citation (search report)

See references of WO 2010025957A1

Designated contracting state (EPC)

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 SE SI SK SM TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

WO 2010025957 A1 20100311; CN 102203518 A 20110928; CN 102203518 B 20140618; EP 2324298 A1 20110525; FR 2938634 A1 20100521; FR 2938634 B1 20121207; US 2011197384 A1 20110818; US 8938845 B2 20150127

DOCDB simple family (application)

EP 2009006486 W 20090907; CN 200980144010 A 20090907; EP 09811087 A 20090907; FR 0804902 A 20080905; US 200913061528 A 20090907