

Title (en)

MOTOR VEHICLE ELECTRIC COOLANT PUMP

Title (de)

ELEKTRISCHE KFZ-KÜHLMITTELPUMPE

Title (fr)

POMPE DE REFROIDISSEMENT ÉLECTRIQUE POUR VÉHICULE À MOTEUR

Publication

EP 3545196 B1 20220413 (DE)

Application

EP 17768126 A 20170918

Priority

- DE 102016122784 A 20161125
- EP 2017073387 W 20170918

Abstract (en)

[origin: WO2018095607A1] The invention relates to an electric motor-vehicle coolant pump, comprising a housing (4), which has a pump unit (8) and a motor unit (6), wherein the motor unit (6) has a motor rotor (22), which is mounted in the housing (4) by means of bearing elements (24), and has a motor stator (28), wherein the motor rotor (22) has an impeller element (9) and a drive element (20), which extends in the axial direction and which has an axis of rotation (10), wherein blade elements (12) of the pump unit (8) are arranged on the impeller element (9), wherein inlet and outlet openings (30, 33) having respective center axes (34) are provided, which allow a cooling fluid of the pump unit to flow through the motor unit (6), wherein the outlet openings (33) of the pump unit (8) are provided in the impeller element (9), wherein the outlet openings (33) are provided in the motor rotor (22), wherein, viewed in the outlet direction, the center axis (34) of each outlet opening (33) includes an angle between $\alpha = 10^\circ$ and $\alpha = 135^\circ$ with a projection of the axis of rotation (10) into said outlet opening (33).

IPC 8 full level

F04D 13/06 (2006.01); **F01P 5/12** (2006.01); **F04D 29/58** (2006.01); **F04D 29/70** (2006.01)

CPC (source: EP US)

F01P 5/12 (2013.01 - EP); **F04D 13/0673** (2013.01 - EP US); **F04D 29/5806** (2013.01 - EP US); **F04D 29/708** (2013.01 - EP);
F04D 13/064 (2013.01 - US)

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 102016122784 A1 20180530; CN 109983232 A 20190705; CN 109983232 B 20211214; EP 3545196 A1 20191002;
EP 3545196 B1 20220413; US 11162511 B2 20211102; US 2019353166 A1 20191121; WO 2018095607 A1 20180531

DOCDB simple family (application)

DE 102016122784 A 20161125; CN 201780072247 A 20170918; EP 17768126 A 20170918; EP 2017073387 W 20170918;
US 201716463373 A 20170918