

Title (en)
ELECTRICAL MACHINE WITH COOLED BUSBARS

Title (de)
ELEKTRISCHE MASCHINE MIT GEKÜHLTEN STROMSCHIENEN

Title (fr)
MACHINE ÉLECTRIQUE COMPRENANT DES RAILS CONDUCTEURS REFROIDIS

Publication
EP 3997781 A1 20220518 (DE)

Application
EP 20729736 A 20200529

Priority
• DE 102019210308 A 20190711
• EP 2020064997 W 20200529

Abstract (en)
[origin: WO2021004693A1] The present invention relates to an electrical machine (1) having a rotor (2) and a stator (3) which are at least partially arranged in a machine housing (4), and also having a cooling jacket (5) for cooling the stator (3), a plurality of first cooling ducts (6), which run parallel in relation to one another, in particular in an axial direction with respect to the stator axis, for guiding a cooling medium run through said cooling jacket, wherein the machine housing (4) has at least one end plate (7), which is connected to the cooling jacket (5), for supporting a rotor shaft (8) of the rotor (2), wherein a plurality of second cooling ducts (9) which each connect two, in particular adjacent, first cooling ducts (6) to one another in terms of flow are formed on the end plate (7), wherein the second cooling ducts (9) together with the first cooling ducts (6) produce a coolant path, which is in particular of meandering or serpentine design, through the electrical machine (1), and wherein at least one busbar (10) which is electrically connected to a stator winding (14) of the stator (3) runs on the end plate (7), characterized in that the busbar (10) has a main section (11) and at least one cooling lug (12) which extends from the main section (11), wherein the cooling lug (12) engages into a housing recess (13) of the end plate (7), which housing recess is formed directly adjacent to one of the second cooling ducts (9).

IPC 8 full level
H02K 9/22 (2006.01); **H02K 3/52** (2006.01); **H02K 5/173** (2006.01); **H02K 5/20** (2006.01); **H02K 9/19** (2006.01)

CPC (source: EP US)
H02K 3/50 (2013.01 - US); **H02K 3/522** (2013.01 - EP); **H02K 5/15** (2013.01 - US); **H02K 5/203** (2021.01 - US); **H02K 9/227** (2021.01 - EP US); **H02K 5/1732** (2013.01 - EP); **H02K 5/203** (2021.01 - EP); **H02K 2203/09** (2013.01 - EP US)

Citation (search report)
See references of WO 2021004693A1

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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
DE 102019210308 A1 20210114; CN 114041261 A 20220211; EP 3997781 A1 20220518; US 2022271609 A1 20220825; WO 2021004693 A1 20210114

DOCDB simple family (application)
DE 102019210308 A 20190711; CN 202080050194 A 20200529; EP 2020064997 W 20200529; EP 20729736 A 20200529; US 202017625530 A 20200529