

Title (en)

ELECTRICAL MACHINE WITH MULTIPLE COOLING FLOWS AND COOLING METHOD

Title (de)

ELEKTRISCHE MASCHINE MIT MEHREREN KÜHLSTRÖMEN UND KÜHLVERFAHREN

Title (fr)

MACHINE ÉLECTRIQUE À PLUSIEURS COURANTS DE REFROIDISSEMENT, ET PROCÉDÉ DE REFROIDISSEMENT CORRESPONDANT

Publication

EP 2368310 A2 20110928 (DE)

Application

EP 09771522 A 20091124

Priority

- EP 2009065737 W 20091124
- DE 102008064495 A 20081223

Abstract (en)

[origin: WO2010072499A2] The assembly of an electrical machine and, in particular, a permanent magnet generator is to be simplified without sacrificing cooling quality. Proposed for this purpose is an electrical machine with a stator (12), which has a winding support (22), which has at least one radial cooling slot (23), and a rotor (11), which likewise has at least one radial cooling slot (16). The winding support (22) of the stator (12) has on its outer shell a number of axially running cooling ribs (24), along which an axially running first cooling flow (25) can be directed. Furthermore, the rotor (11) has axially running first cooling ducts (17), which open out into its at least one radial cooling slot (16), and so a second cooling flow (26) through the axial first cooling ducts (17) of the rotor (11), the at least one radial cooling slot (16) of the rotor (11), the air gap (27) between the rotor and the stator and the at least one radial cooling slot (23) can be directed in the axial direction along the axial cooling ribs (24) of the stator. In this way, the stator can be cooled by two different cooling flows and, in particular, the number of radial cooling slots in the rotor (11) can be reduced, particularly to one, which simplifies production significantly.

IPC 8 full level

H02K 9/04 (2006.01); **H02K 1/30** (2006.01); **H02K 1/32** (2006.01); **H02K 9/16** (2006.01); **H02K 9/18** (2006.01)

CPC (source: EP US)

H02K 9/10 (2013.01 - EP US)

Citation (search report)

See references of WO 2010072499A2

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

DOCDB simple family (publication)

WO 2010072499 A2 20100701; WO 2010072499 A3 20110407; CN 102265487 A 20111130; CN 102265487 B 20131016; DE 102008064495 B3 20101021; EP 2368310 A2 20110928; RU 2011130908 A 20130127; RU 2510560 C2 20140327; US 2011278969 A1 20111117; US 8648505 B2 20140211

DOCDB simple family (application)

EP 2009065737 W 20091124; CN 200980152268 A 20091124; DE 102008064495 A 20081223; EP 09771522 A 20091124; RU 2011130908 A 20091124; US 200913141538 A 20091124