Title (en)

MACHINE SYSTEM WITH A THERMO-SYPHON COOLED SUPERCONDUCTOR ROTOR WINDING

Title (de)

MASCHINENANLAGE MIT THERMOSYPHON-KÜHLUNG IHRER SUPRALEITENDEN ROTORWICKLUNG

Title (fr)

INSTALLATION MOTRICE A REFROIDISSEMENT PAR THERMOSIPHON DE SON ENROULEMENT ROTORIQUE SUPRACONDUCTRICE

Publication

EP 1844538 A1 20071017 (DE)

Application

EP 06724830 A 20060201

Priority

- EP 2006050575 W 20060201
- DE 102005005283 A 20050204

Abstract (en)

[origin: WO2006082194A1] The machine system comprises a machine (2) provided with a rotor that can be rotated about an axis (A), with a superconductor winding (10) that is coupled in a heat-conducting manner to a central coolant area (31) of a fixed heat conducting body (30) protruding into a hollow (12) of the rotor by means of a winding carrier (9) and a heat contact gas (g). The coolant area (31a) forms a line system with the line parts (22) thereof, that are laterally connected thereto, and a condenser area (18) of a cold unit (13), wherein a coolant (k,k') circulates in said line system on the basis of a thermo syphon effect. In order to maintain the supply of coolant to the central coolant area (31), even when the rotor (5) encounters difficulties, the coolant area is provided with a lining (25) that is made of a porous material, preferably a sinter material, having higher thermal conductivity.

IPC 8 full level

H02K 55/04 (2006.01); **F28D 17/02** (2006.01); **H02K 9/20** (2006.01)

CPC (source: EP US)

H02K 55/04 (2013.01 - EP US); F28D 15/02 (2013.01 - EP US); Y02E 40/60 (2013.01 - EP US)

Citation (search report)

See references of WO 2006082194A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2006082194 A1 20060810; CN 101116238 A 20080130; CN 101116238 B 20100616; DE 102005005283 A1 20060817; EP 1844538 A1 20071017; US 2009121561 A1 20090514; US 7816826 B2 20101019

DOCDB simple family (application)

EP 2006050575 W 20060201; CN 200680004016 A 20060201; DE 102005005283 A 20050204; EP 06724830 A 20060201; US 88374406 A 20060201