

Title (en)

METHOD FOR GENERATING A THERMAL FLOW, AND MAGNETOCALORIC THERMAL GENERATOR

Title (de)

VERFAHREN ZUR ERZEUGUNG EINES WÄRMEFLUSSES UND MAGNETOKALORISCHER WÄRMEGENERATOR

Title (fr)

PROCEDE DE GENERATION D'UN FLUX THERMIQUE ET GENERATEUR THERMIQUE MAGNETOCALORIQUE

Publication

EP 2564132 A1 20130306 (FR)

Application

EP 11722844 A 20110427

Priority

- FR 1053253 A 20100428
- FR 2011000255 W 20110427

Abstract (en)

[origin: WO2011135205A1] The present invention relates to a method for generating a thermal flow from at least one thermal module (1) comprising at least two magnetocaloric elements (21, 22, 23, 24) which are connected two-by-two, through which a heat transfer fluid flows, and which are exposed to a variable magnetic field, wherein the heat transfer fluid circulates simultaneously through said elements (21, 22, 23, 24) in a manner synchronized with the variation in the magnetic field. Said method is characterized in that it consists, in addition, in exposing alternating elements of said elements (21, 22, 23, 24) to an opposite variation in the magnetic field, in causing the heat transfer fluid to circulate simultaneously and in opposite directions in said elements (21, 22, 23, 24), in such a manner that the fluid flowing out of one of said elements (21, 23; 22) at the end of a heating phase is circulated during the following phase in the following element (22, 24; 23) exposed to heating, as well as in that the fluid flowing out of one of said elements (22, 24; 23) at the end of a cooling phase is circulated during the following phase in the following element (21, 23; 22) exposed to cooling, and conversely, and in storing, between two magnetically opposite phases, the heat transfer fluid in an intermediate receiving area (81, 82, 83, 91, 92, 93). The invention also relates to a thermal generator implementing said method.

IPC 8 full level

F25B 21/00 (2006.01); **H10N 15/20** (2023.01)

CPC (source: EP US)

F25B 21/00 (2013.01 - EP US); **F25B 2321/002** (2013.01 - EP US); **Y02B 30/00** (2013.01 - EP US)

Citation (examination)

WO 2007026062 A1 20070308 - COOLTECH APPLICATIONS SAS [FR], et al

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)

WO 2011135205 A1 20111103; BR 112012027449 A2 20160719; CA 2833100 A1 20111103; CN 102859297 A 20130102; CN 102859297 B 20150603; EP 2564132 A1 20130306; FR 2959602 A1 20111104; FR 2959602 B1 20131115; HK 1180031 A1 20131011; JP 2013525738 A 20130620; JP 6136054 B2 20170531; US 2013042632 A1 20130221; US 8978391 B2 20150317

DOCDB simple family (application)

FR 2011000255 W 20110427; BR 112012027449 A 20110427; CA 2833100 A 20110427; CN 201180020955 A 20110427; EP 11722844 A 20110427; FR 1053253 A 20100428; HK 13107268 A 20130621; JP 2013506706 A 20110427; US 201113643154 A 20110427