Title (en)

MINIATURISED DEVICE THAT CAN OPERATE AS AN ENGINE OR A COOLER ACCORDING TO A STIRLING THERMODYNAMIC CYCLE

Title (de)

MINIATURVORRICHTUNG, DIE ENTSPRECHEND EINEM THERMODYNAMISCHEN STIRLING-ZYKLUS ALS MOTOR ODER KÜHLGERÄT BETRIEBEN WERDEN KANN

Title (fr)

DISPOSITIF MINIATURISÉ APTE À FONCTIONNER COMME MOTEUR OU REFROIDISSEUR SELON UN CYCLE THERMODYNAMIQUE DE STIRLING

Publication

EP 2019919 B1 20170607 (FR)

Application

EP 07766056 A 20070516

Priority

- FR 2007051282 W 20070516
- FR 0651785 A 20060517

Abstract (en)

[origin: WO2007132130A1] The invention relates to a miniaturised device (1) which can operate as an engine or a cooler according to a Stirling thermodynamic cycle, said device comprising an expansion chamber (2) and a compression chamber (3) which are interconnected by means of a regenerator (4) enabling the working fluid to flow through from the expansion chamber (2) to the compression chamber (3), and vice versa, under the effect of the movement of a displacing mechanism (6), a fraction (8) of the compression chamber being mobile and operating as a piston in order to modify the volume of the compression chamber. The inventive device is characterised in that it also comprises a complementary chamber (5) which is connected to the compression chamber (3) by means of a complementary connection channel (7), said complementary chamber being at an intermediate temperature between the temperature of the compression chamber and the temperature of the expansion chamber, the complementary chamber being separated from the expansion chamber (2) by means of the displacing mechanism (6).

IPC 8 full level

F02G 1/043 (2006.01); **F25B 9/14** (2006.01)

CPC (source: EP US)

F02G 1/043 (2013.01 - EP US); **F25B 9/14** (2013.01 - EP US); F02G 2250/31 (2013.01 - EP US); F25B 2400/15 (2013.01 - EP US)

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 MT NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2007132130 A1 20071122; EP 2019919 A1 20090204; EP 2019919 B1 20170607; FR 2901320 A1 20071123; FR 2901320 B1 20080704; JP 2009537783 A 20091029; JP 5368297 B2 20131218; US 2009056330 A1 20090305; US 7832209 B2 20101116

DOCDB simple family (application)

FR 2007051282 W 20070516; EP 07766056 A 20070516; FR 0651785 A 20060517; JP 2009510517 A 20070516; US 26768608 A 20081110