

Title (en)

USE OF HIGHLY EFFICIENT WORKING MEDIA FOR HEAT ENGINES

Title (de)

VERWENDUNG VON HOCH EFFIZIENTEN ARBEITSMEDIEN FÜR WÄRMEKRAFTMASCHINEN

Title (fr)

UTILISATION DE FLUIDES DE TRAVAIL À HAUT RENDEMENT POUR DES MACHINES THERMODYNAMIQUES

Publication

**EP 3017153 A2 20160511 (DE)**

Application

**EP 14730880 A 20140616**

Priority

- DE 102013212805 A 20130701
- EP 2014062516 W 20140616

Abstract (en)

[origin: CA2917085A1] The invention relates to a heat engine for performing an organic Rankine cycle (ORC), comprising an evaporator, a motor, a condenser, and a circuit containing a fluid working medium, wherein the working medium has a critical pressure (pc) between 4000 kPa and 6500 kPa, preferably between 4200 kPa and 6300 kPa, the working medium has a critical temperature (Tc) between 450 K and 650 K, preferably between 460 K and 600 K, the working medium has a molar mass between 50 g/mol and 80 g/mol, preferably between 60 g/mol and 75 g/mol, and the gaseous working medium partially condenses out during an adiabatic expansion. The invention further relates to the use of a working medium having a critical pressure (pc) between 4000 kPa and 6500 kPa, preferably between 4200 kPa and 6300 kPa, having a critical temperature (Tc) between 450 K and 650 K, preferably between 460 K and 600 K, and having a molar mass between 50 g/mol and 80 g/mol, preferably between 60 g/mol and 75 g/mol, in a heat engine, wherein the gaseous working medium partially condenses out during an adiabatic expansion of an organic Rankine cycle (ORC).

IPC 8 full level

**F01K 25/10** (2006.01); **C09K 5/04** (2006.01)

CPC (source: EP RU US)

**C09K 5/04** (2013.01 - EP US); **F01K 25/08** (2013.01 - EP US); **F01K 25/10** (2013.01 - RU); **Y02E 20/14** (2013.01 - EP US)

Citation (search report)

See references of WO 2015000678A2

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 102013212805 A1 20150108**; CA 2917085 A1 20150108; CN 105473827 A 20160406; EP 3017153 A2 20160511; MX 2015018034 A 20160624; RU 2016103031 A 20170807; RU 2630949 C2 20170914; US 2016153318 A1 20160602; WO 2015000678 A2 20150108; WO 2015000678 A3 20150528

DOCDB simple family (application)

**DE 102013212805 A 20130701**; CA 2917085 A 20140616; CN 201480048246 A 20140616; EP 14730880 A 20140616; EP 2014062516 W 20140616; MX 2015018034 A 20140616; RU 2016103031 A 20140616; US 201414902224 A 20140616