

Title (en)

Method and apparatus of converting heat to useful energy

Title (de)

Verfahren und Vorrichtung zur Umwandlung von Wärme in Nutzenergie

Title (fr)

Procédé et appareil de conversion de la chaleur en énergie utile

Publication

EP 1936129 B1 20190102 (EN)

Application

EP 07110803 A 19990723

Priority

- EP 07110803 A 19990723
- EP 99305850 A 19990723
- AU 4110899 A 19990723
- BR 9903020 A 19990728
- CA 2278393 A 19990722
- CN 99110991 A 19990727
- CZ 263199 A 19990726
- HU P9902503 A 19990723
- JP 22380299 A 19990806
- NO 993596 A 19990723
- US 1947698 A 19980205
- ZA 994752 A 19990723

Abstract (en)

[origin: EP1936129A2] A method and apparatus for implementing a thermodynamic cycle. A heated gaseous working stream including a low boiling point component and a higher boiling point component is separated (S), and the low boiling point component is expanded (T) to transform the energy of the stream into useable form and to provide an expanded relatively rich stream (31). This expanded rich stream (31) is then split into two streams, one (33) of which is expanded further to obtain further energy, resulting in a spent stream (34), the other (32) of which is extracted. The lean unexpanded stream (7) and the spent rich stream (34) are then combined in a regenerating subsystem with the extracted stream (32) to reproduce the working stream, which is then efficiently heated in a heater (HE-5) to provide the heated gaseous working stream that is separated.

IPC 8 full level

F01K 25/06 (2006.01)

CPC (source: EP)

F01K 25/065 (2013.01)

Cited by

EP1998013A3; EP3835556A1; IT201900023364A1; WO2011035273A3

Designated contracting state (EPC)

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

Designated extension state (EPC)

AL MK

DOCDB simple family (publication)

EP 1936129 A2 20080625; EP 1936129 A3 20080702; EP 1936129 B1 20190102; DE 69938039 D1 20080313; DE 69938039 T2 20090122; DK 1936129 T3 20190304; ES 2301229 T3 20080616; PT 1070830 E 20080428; SI 1070830 T1 20080630

DOCDB simple family (application)

EP 07110803 A 19990723; DE 69938039 T 19990723; DK 07110803 T 19990723; ES 99305850 T 19990723; PT 99305850 T 19990723; SI 9931005 T 19990723