

Title (en)

BRAYTON CYCLE DEVICE AND EXHAUST HEAT ENERGY RECOVERY DEVICE FOR INTERNAL COMBUSTION ENGINE

Title (de)

BRAYTON-ZYKLUS-VORRICHTUNG UND VORRICHTUNG ZUR RÜCKGEWINNUNG VON ABGASWÄRME FÜR VERBRENNUNGSMOTOR

Title (fr)

DISPOSITIF A CYCLE BRAYTON ET DISPOSITIF DE RECUPERATION D E L'ENERGIE THERMIQUE DE GAZ D'ECHAPPEMENT POUR MOTEUR A COMBUSTION INTERNE

Publication

EP 1717413 A4 20080423 (EN)

Application

EP 05704295 A 20050125

Priority

- JP 2005001299 W 20050125
- JP 2004044967 A 20040220

Abstract (en)

[origin: EP1717413A1] An exhaust heat energy recovery apparatus for an internal combustion engine that efficiently recovers exhaust heat energy without increasing engine exhaust back pressure, and a Brayton cycle apparatus applicable to the exhaust heat energy recovery apparatus. A Brayton cycle apparatus 1 using a scroll compressor 4 and a scroll expander 6 has a simplified and downsized structure. A working fluid is compressed inside a scroll compressor 4 and expanded inside a scroll expander 6 in spaces partitioned and sealed by combinations of fixed scrolls and orbital scrolls. The conversion efficiency from heat energy to kinetic energy is high. Heat is transferred from the exhaust to the working fluid through a pipe wall of a flow passage 30a and an expander case 12 of the scroll expander 6. This further downsizes the Brayton cycle apparatus 1. The back pressure of the energy source including the exhaust is unaffected.

IPC 8 full level

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CPC (source: EP US)

F01C 1/0223 (2013.01 - EP US); **F01C 11/004** (2013.01 - EP US); **F01C 11/008** (2013.01 - EP US); **F04C 18/0207** (2013.01 - EP US)

Citation (search report)

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