

Title (en)

Reciprocating external-combustion engine and method of operating the same.

Title (de)

Hubkolbenmaschine mit äusserer Verbrennung sowie Verfahren zu deren Betrieb.

Title (fr)

Machine motrice à combustion externe à piston alternatif et méthode pour faire fonctionner cette machine.

Publication

**EP 0043879 A2 19820120 (EN)**

Application

**EP 80304648 A 19801219**

Priority

- AU 455480 A 19800716
- US 21586780 A 19801212

Abstract (en)

A reciprocating external combustion engine wherein energy is transferred to air acting as a working gas by injection into the air of liquid water at a high temperature and pressure. The liquid water is injected either directly into the cylinder or into a preliminary mixing chamber. The water acts as a heat-transfer medium for heating the air. Spontaneous vaporization of the liquid water on injection increases the pressure of the air which drives the piston before being exhausted. The exhaust water is recovered and recycled. The cylinder is scavenged and refilled with a fresh charge of air.

IPC 1-7

**F01K 21/04**; F01K 21/02; F01B 29/12

IPC 8 full level

**F01K 21/02** (2006.01); **F01K 21/04** (2006.01); **F02G 1/04** (2006.01)

CPC (source: EP)

**F01K 21/02** (2013.01); **F01K 21/04** (2013.01); **F02G 1/04** (2013.01); **F02G 2244/50** (2013.01); **F02G 2258/10** (2013.01); **F02G 2270/50** (2013.01)

Cited by

CN100412346C; FR3114349A1; GB2376507A; EP0896140A1; CN109869194A; GB2283543A; US5771693A; FR2952404A1; FR2952405A1; USRE37603E; US6564551B1; US7506509B2; WO2004022962A1; WO2022064152A1; WO2005071232A1; WO0053898A1; WO0079104A1; WO2007003929A1; WO9324754A3; WO9816741A1; US6206660B1

Designated contracting state (EPC)

AT BE CH DE FR IT LI LU NL SE

DOCDB simple family (publication)

**EP 0043879 A2 19820120**; **EP 0043879 A3 19820811**; GB 2080431 A 19820203; GB 2080431 B 19840307

DOCDB simple family (application)

**EP 80304648 A 19801219**; GB 8040718 A 19801219