

Title (en)
Vacuum pump

Title (de)
Vakuumpumpe

Title (fr)
Pompe à vide

Publication
EP 1408234 B1 20061122 (DE)

Application
EP 03022427 A 20031007

Priority
DE 10247336 A 20021010

Abstract (en)
[origin: EP1408234A1] Piston engine for conveying gases comprises a piston-swept volume (1) defined by a piston cylinder wall (2) and having gas inlet openings (5), a gas outlet valve (7), and a piston (3) with a piston base (12) oscillating in the piston-swept volume. The piston base is simultaneously designed as a valve consisting of openings (14) in the piston base and a force-locking device. The openings are held in an open or closed state by the force-locking device as a function of gas flow. Preferred Features: The force-locking connection consists of a magnetic arrangement (21) and a plastic membrane (16) interspersed with ferromagnetic particles, or of a metal plate and a magnetic plastic membrane.

IPC 8 full level
F04B 39/00 (2006.01); **F04B 39/10** (2006.01); **F04B 53/12** (2006.01)

CPC (source: EP US)
F04B 39/0016 (2013.01 - EP US); **F04B 53/12** (2013.01 - EP US); **F04B 53/123** (2013.01 - EP US)

Cited by
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Designated contracting state (EPC)
CH DE FR GB IT LI NL

DOCDB simple family (publication)
EP 1408234 A1 20040414; EP 1408234 B1 20061122; EP 1408234 B2 20100825; DE 10247336 A1 20040422; DE 50305737 D1 20070104; JP 2004132371 A 20040430; JP 4397664 B2 20100113; US 2004071574 A1 20040415; US 7241120 B2 20070710

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EP 03022427 A 20031007; DE 10247336 A 20021010; DE 50305737 T 20031007; JP 2003333323 A 20030925; US 68099203 A 20031008