Title (en)

DEVICE FOR CONTROLLING A CROSS-SECTION OF AN OPENING IN THE COMBUSTION CYLINDER OF AN INTERNAL COMBUSTION ENGINE

Title (de)

VORRICHTUNG ZUR STEUERUNG EINES ÖFFNUNGSQUERSCHNITTS IN EINEM VERBRENNUNGSZYLINDER EINER BRENNKRAFTMASCHINE

Title (fr)

DISPOSITIF POUR COMMANDER UNE SECTION D'OUVERTURE D'UN CYLINDRE DE COMBUSTION D'UN MOTEUR A COMBUSTION INTERNE

Publication

EP 1468171 A1 20041020 (DE)

Application

EP 02806309 A 20021128

Priority

- DE 0204369 W 20021128
- DE 10201167 A 20020115

Abstract (en)

[origin: US2004083995A1] A device for controlling an opening cross section in the combustion cylinder of an internal combustion engine is provided, the device having a gas exchange valve integrated into the combustion cylinder and having an actuator which drives the valve element to execute a closing stroke and an opening stroke. A valve brake which is active during a residual closing stroke of the valve element is provided for the purpose of reducing the impact velocity of the valve closure member of the valve element on the valve seat in the closing stroke of the valve element. The valve brake has a hydraulic damping element with a fluid displacement volume which flows out through a throttle cross section of a throttle opening, and a control unit for controlling the throttle cross section as a function of the viscosity of the displacement volume.

IPC 1-7

F01L 9/02

IPC 8 full level

F01L 9/02 (2006.01); **F01L 9/10** (2021.01)

CPC (source: EP KR US)

F01L 1/34 (2013.01 - KR); **F01L 9/10** (2021.01 - EP US); F01L 2001/34446 (2013.01 - EP US)

Citation (search report)

See references of WO 03060293A1

Designated contracting state (EPC)

DE FR IT

DOCDB simple family (publication)

US 2004083995 A1 20040506; **US 6918361 B2 20050719**; EP 1468171 A1 20041020; JP 2005515342 A 20050526; JP 4436681 B2 20100324; KR 20040071316 A 20040811; WO 03060293 A1 20030724

DOCDB simple family (application)

US 45128603 A 20031205; DE 0204369 W 20021128; EP 02806309 A 20021128; JP 2003560362 A 20021128; KR 20047010918 A 20021128