

Title (en)  
INTERNAL COMBUSTION ENGINE

Title (de)  
VERBRENNUNGSKRAFTMASCHINE

Title (fr)  
MOTEUR A COMBUSTION INTERNE

Publication  
**EP 1044319 B1 20041103 (DE)**

Application  
**EP 99952363 A 19990811**

Priority  
• DE 9902510 W 19990811  
• DE 19836902 A 19980814

Abstract (en)  
[origin: DE19836902A1] The valve assembly, for an internal combustion motor, has at least one valve (4) with a hydraulic or pneumatic operation to move in a valve guide (3) at a cylinder combustion zone (5), such as the inlet valve for fuel or a fuel/air mixture before combustion, and an outlet valve for the exhaust gas after combustion. The valve has at least one electrically operated mounting as a clamping ring (11) with a piezo-electric actuator (13).

IPC 1-7  
**F01L 9/02**

IPC 8 full level  
**F01L 9/16** (2021.01); **F01L 9/10** (2021.01)

CPC (source: EP US)  
**F01L 9/10** (2021.01 - EP US); **F01L 9/16** (2021.01 - EP US); **F01L 2013/0094** (2013.01 - EP US); **F01L 2820/031** (2013.01 - EP US)

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DE FR GB IT

DOCDB simple family (publication)  
**DE 19836902 A1 20000217**; DE 59910990 D1 20041209; EP 1044319 A1 20001018; EP 1044319 B1 20041103; JP 2002522702 A 20020723; US 6340009 B1 20020122; WO 0009866 A1 20000224

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