Title (en)

Exhaust gas recirculation device of internal combustion engine

Title (de)

Abgasrückführeinrichtung einer Brennkraftmaschine

Title (fr)

Dispositif de recirculation de gaz d'échappement d'un moteur à combustion interne

Publication

EP 1555421 A3 20110817 (EN)

Application

EP 05000942 A 20050118

Priority

JP 2004009960 A 20040119

Abstract (en)

[origin: EP1555421A2] A first elongate casing (1) has gas inlet (2) and outlet ports (3) at axially opposed ends. A second elongate casing (5) is received in the first elongate casing (1) to define therebetween an axially extending space. The second elongate casing (5) includes a first gas flow passage (11) and a water flow passage (6) that surrounds the first gas flow passage (11). The first gas flow passage has an inlet part (2) exposed to the gas inlet port and an outlet part (3) exposed to the gas outlet port. A third elongate casing (9) is received in the axially extending space to define between the first elongate casing and the third elongate casing a bypass passage (10) and between the third elongate casing and the second elongate casing a second gas flow passage (12). The bypass passage (10) and the second gas flow (12) passage have each an inlet part exposed to the gas inlet port and an outlet part exposed to the gas outlet port. A gas flow rate controller (15) is installed in either one of the gas inlet (2) and outlet (3) ports of the first elongate casing (1) to control a gas flow rate among the bypass passage (10), the first gas flow passage (11) and the second gas flow passage (12).

IPC 8 full level

F02M 25/07 (2006.01); **F28D 7/10** (2006.01); **F28F 9/02** (2006.01); **F28F 9/22** (2006.01)

CPC (source: EP)

F02M 26/26 (2016.02); **F02M 26/32** (2016.02); **F28D 7/10** (2013.01); **F28D 21/0003** (2013.01); **F28F 27/02** (2013.01); F28F 2255/04 (2013.01)

Citation (search report)

- [A] WO 03098026 A1 20031127 - BEHR GMBH & CO KG [DE], et al
- [A] WO 03062625 A1 20030731 - BEHR GMBH & CO KG [DE], et al
- [AP] US 2004107949 A1 20040610 - MIYOSHI SOTSUO [JP], et al

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DE102012107908B4; DE102012215221B4; DE102008005591A1; FR2902151A1; FR2891591A1; GB2490572A; GB2490572B; EP2570646A1; US7661415B2; EP1672209A3; GB2532177A; US7770563B2; US8065992B2; US7654078B2; WO2007039701A1; WO2007064949A1; WO2007141435A1; WO2009022113A1; WO2006099965A1; US7621128B2; US7198037B2; WO2009115975A3; WO2015155528A1; US7669645B2; US7694728B2; US7854255B2; DE102012107908A1; WO2014033075A1; US9394813B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR LV MK YU

DOCDB simple family (publication)

EP 1555421 A2 20050720; **EP 1555421 A3 20110817**; **EP 1555421 B1 20130313**; CN 100439694 C 20081203; CN 1654807 A 20050817; JP 2005201578 A 20050728; JP 4323333 B2 20090902

DOCDB simple family (application)

EP 05000942 A 20050118; CN 200510001798 A 20050119; JP 2004009960 A 20040119