

Title (en)

Recirculated exhaust gas cooling device for internal combustion engine

Title (de)

Kühlvorrichtung für rückgeführtes Abgas einer Brennkraftmaschine

Title (fr)

Système de refroidissement de gaz d'échappement recirculé pour moteur à combustion interne

Publication

**EP 1233170 A2 20020821 (EN)**

Application

**EP 02000973 A 20020116**

Priority

JP 2001042846 A 20010220

Abstract (en)

A part of the exhaust gas of an exhaust manifold (3) of an internal combustion engine is recirculated to an intake manifold (4) through an exhaust gas recirculation passage (18) passing through a cooling box (12). An exhaust gas recirculation valve (31) to regulate the flow rate of the recirculated exhaust gas is provided in the middle of the exhaust gas recirculation passage (18) in the cooling box (12). A water jacket (16) communicating with a water jacket in the cylinder head (2) is formed in the cooling box (12). By cooling the exhaust gas passage (18) and exhaust gas recirculation valve (31) with coolant in the water jacket (16), temperature of the recirculated exhaust gas efficiently lowers. With this construction, the cooling box (12) can be molded independently from the cylinder head (2), and complicated core molding is unnecessary.

IPC 1-7

**F02M 25/07**

IPC 8 full level

**F01P 3/02** (2006.01); **F01P 3/12** (2006.01); **F02F 1/36** (2006.01); **F02M 25/07** (2006.01)

CPC (source: EP)

**F02M 26/30** (2016.02); **F02M 26/41** (2016.02); **F02M 26/32** (2016.02)

Citation (applicant)

JP H1182185 A 19990326 - HONDA MOTOR CO LTD

Cited by

FR2954956A1; FR2991393A1; FR2954957A1; FR2935436A1; ES2299405A1; DE102005059006A1; DE102005031300B4; FR2954955A1; CN104251170A; CN102400819A; CN103912411A; NL1031231C2; FR2954954A1; FR2917132A1; KR101401819B1; EP3085943A1; EP2077387A1; US9828894B2; US7516737B2; US11242819B2; US8464669B2; WO2007003303A1

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

**EP 1233170 A2 20020821**; **EP 1233170 A3 20060503**; JP 2002242767 A 20020828; JP 3669275 B2 20050706

DOCDB simple family (application)

**EP 02000973 A 20020116**; JP 2001042846 A 20010220