

Title (en)

Mixing device for a low pressure EGR system of an internal combustion engine

Title (de)

Mischvorrichtung für ein Niederdruck-AGR-System einer Brennkraftmaschine

Title (fr)

Dispositif de mélange pour un système d'EGR à basse pression d'un moteur à combustion interne

Publication

**EP 2317111 A1 20110504 (EN)**

Application

**EP 10189227 A 20101028**

Priority

IT BO20090702 A 20091028

Abstract (en)

A mixing device (23) for a low pressure EGR system (21) of an internal combustion engine (1); the mixing device (23) has: a first inlet conduit (25), which can be connected to an EGR conduit (22); a second inlet conduit (26), which can be connected to an intake of fresh air from outside; an outlet conduit (27), which can be connected to an intake conduit (6); a main butterfly valve (28), which is arranged within the first inlet conduit (25) to vary the section of the first inlet conduit (25) itself; and a secondary butterfly valve (29), which is arranged within the second inlet conduit (26) to vary the section of the second inlet conduit (26).

IPC 8 full level

**F02M 25/07** (2006.01)

CPC (source: EP)

**F02M 26/06** (2016.02); **F02M 26/21** (2016.02); **F02M 26/64** (2016.02); **F02M 26/70** (2016.02); **F02M 26/73** (2016.02); **F02M 26/74** (2016.02); **F02M 26/10** (2016.02); **F02M 26/15** (2016.02); **F02M 26/31** (2016.02); **F02M 26/54** (2016.02)

Citation (applicant)

US 2005145229 A1 20050707 - ERIKSSON INGEMAR [SE], et al

Citation (search report)

- [A] US 2005145229 A1 20050707 - ERIKSSON INGEMAR [SE], et al
- [A] US 2722927 A 19551108 - CORNELIUS GEORGE W
- [A] US 4960096 A 19901002 - SUKIMOTO MINOBU [JP], et al
- [A] US 2005241702 A1 20051103 - BLOMQUIST MICAEL [SE], et al
- [A] EP 2085601 A1 20090805 - KAMTEC INC [KR]
- [A] FR 2926114 A1 20090710 - VALEO SYS CONTROLE MOTEUR SAS [FR]
- [A] JP 2006214405 A 20060817 - HITACHI LTD
- [A] EP 1270905 A2 20030102 - DELPHI TECH INC [US]
- [A] JP S5252028 A 19770426 - TOYOTA MOTOR CO LTD
- [A] US 7320220 B1 20080122 - ATKINSON DAVID CONWAY [US]

Cited by

FR3007071A1; FR3067062A1; EP2497921A1; RU2686601C2; DE102012101767A1; DE102012101767B4; CN104136759A; KR20140134654A; EP2662556A1; FR2990726A1; JP2015523492A; CN104884781A; US9080506B2; US10018157B2; US9765732B2; EP3569847A4; RU2721070C1; KR20180039143A; EP3348818A4; WO2013127763A1; WO2016012401A1; WO2012119797A1; US9151219B2; US9261051B2; US9091202B2; US9682685B2; JP2015510980A; US9759135B2; US10677172B2; US9174637B2; US9303557B2; US9309837B2; US9109505B2; US9689308B2; US9279374B2; US10634075B2; WO2013167423A1; WO2013171413A1; WO2014095520A1; US9309836B2; US9771898B2; US9777848B2; EP3140529B1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**EP 2317111 A1 20110504**; **EP 2317111 B1 20120321**; AT E550541 T1 20120415; IT BO20090702 A1 20110428

DOCDB simple family (application)

**EP 10189227 A 20101028**; AT 10189227 T 20101028; IT BO20090702 A 20091028