

Title (en)

DEVICE FOR VARIABLY ADJUSTING THE CONTROL TIMES OF GAS EXCHANGE VALVES OF AN INTERNAL COMBUSTION ENGINE

Title (de)

VORRICHTUNG ZUR VARIABLEN EINSTELLUNG DER STEUERZEITEN VON GASWECHSELVENTILEN EINER BRENNKRAFTMASCHINE

Title (fr)

DISPOSITIF DE RÉGLAGE VARIABLE DE LA DISTRIBUTION DES SOUPAPES DE RENOUVELLEMENT DES GAZ D'UN MOTEUR À COMBUSTION INTERNE

Publication

**EP 2220346 A2 20100825 (DE)**

Application

**EP 08856902 A 20081124**

Priority

- EP 2008066069 W 20081124
- DE 102007058490 A 20071205

Abstract (en)

[origin: US2011005482A1] A device for variably adjusting control times of gas exchange valves of an internal combustion engine. The device has a drive element, an output element, a rotation angle limiting device, a control valve and counter-working pressure chambers. Phase adjustment between the output and drive element is initiated by applying pressure to one of the pressure chambers while discharging the other pressure chamber. The rotation angle limiting device, which can be transferred from a locked state into an unlocked state due to pressure, prevents phasing when locked and allows phasing when unlocked. The control valve has a valve housing and a control piston. An inflow connection, an outflow connection, a first and a second working connection and a third working connection are embodied on the valve housing. The working connections are offset in relation to other and do not overlap on the valve housing.

IPC 8 full level

**F01L 1/344** (2006.01)

CPC (source: EP US)

**F01L 1/3442** (2013.01 - EP US); **F01L 2001/34426** (2013.01 - EP US); **F01L 2001/34453** (2013.01 - EP US)

Citation (search report)

See references of WO 2009071458A2

Designated contracting state (EPC)

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

Designated extension state (EPC)

AL BA MK RS

DOCDB simple family (publication)

**US 2011005482 A1 20110113; US 8297244 B2 20121030**; AT E513983 T1 20110715; CN 101883915 A 20101110; CN 101883915 B 20120801; DE 102007058490 A1 20090610; EP 2220346 A2 20100825; EP 2220346 B1 20110622; KR 101530738 B1 20150622; KR 20100098618 A 20100908; WO 2009071458 A2 20090611; WO 2009071458 A3 20090813

DOCDB simple family (application)

**US 74634908 A 20081124**; AT 08856902 T 20081124; CN 200880119044 A 20081124; DE 102007058490 A 20071205; EP 08856902 A 20081124; EP 2008066069 W 20081124; KR 20107012276 A 20081124