

Title (en)
VALVE FOR AN INTERNAL COMBUSTION ENGINE

Title (de)
REGELVORRICHTUNG FÜR EINE VERBRENNUNGSKRAFTMASCHINE

Title (fr)
VANNE POUR UN MOTEUR À COMBUSTION INTERNE

Publication
EP 3615787 B1 20230712 (DE)

Application
EP 18718435 A 20180417

Priority
• DE 102017109062 A 20170427
• EP 2018059749 W 20180417

Abstract (en)
[origin: WO2018197262A1] Control devices for internal combustion engines are known, comprising an intake channel (12) having an inlet (14) and an outlet (20), an exhaust gas return channel (16) which feeds into the intake channel (12), a control element (46), an opening (18) of the exhaust gas return channel (16) which functions as a fixed valve seat (58) for the control element (46) in the state closing the exhaust gas return channel (16), and a shaft (42) functioning as the axis of rotation (44) of the control element (46), on which the control element (46) is eccentrically secured, wherein the control element (46) can be moved, by rotating the shaft (42), between a first end position in which the control element (46) at least throttles the intake channel (12), and a second end position in which the control element (46) is in contact with the valve seat (58) at the opening (18) of the exhaust gas return channel (16). According to the invention, in order to reduce the wear in the region of the valve seat, the axis of rotation (44) of the shaft (42) is arranged in a plane (60) passing through the valve seat (58) at the opening (18) of the exhaust gas return channel (16).

IPC 8 full level
F02M 26/21 (2016.01); **F02D 9/02** (2006.01); **F02D 9/10** (2006.01); **F02M 26/64** (2016.01); **F02M 26/70** (2016.01)

CPC (source: EP US)
F02D 9/02 (2013.01 - US); **F02D 9/102** (2013.01 - US); **F02D 9/103** (2013.01 - EP); **F02M 26/21** (2016.02 - EP US); **F02M 26/64** (2016.02 - EP US); **F02M 26/70** (2016.02 - EP US); **F02D 2009/0276** (2013.01 - EP US)

Citation (examination)
EP 3452716 A1 20190313 - PIERBURG GMBH [DE]

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

DOCDB simple family (publication)
DE 102017109062 A1 20181031; CN 110546372 A 20191206; CN 110546372 B 20221101; EP 3615787 A1 20200304; EP 3615787 B1 20230712; US 10871111 B2 20201222; US 2020131998 A1 20200430; WO 2018197262 A1 20181101

DOCDB simple family (application)
DE 102017109062 A 20170427; CN 201880026568 A 20180417; EP 18718435 A 20180417; EP 2018059749 W 20180417; US 201816607364 A 20180417