

Title (en)

FLAP DEVICE FOR AN INTERNAL COMBUSTION ENGINE

Title (de)

KLAPPENVORRICHTUNG FÜR EINE VERBRENNUNGSKRAFTMASCHINE

Title (fr)

SYSTÈME DE VOLET POUR MOTEUR À COMBUSTION INTERNE

Publication

EP 3227540 A1 20171011 (DE)

Application

EP 15781659 A 20151019

Priority

- DE 102014117987 A 20141205
- EP 2015074123 W 20151019

Abstract (en)

[origin: WO2016087109A1] Flap devices for internal combustion engines having a flow housing (10) which delimits a flow channel (12), a flap element (14) which is rotatably arranged in the flow channel (12), a flap shaft (16) which is fastened to the flap element (14), an actuator (18) having an actuator output shaft (28) which is arranged on a common rotation axis (50) together with the flap shaft (16) and is coupled to the flap shaft (16) in a rotationally fixed manner, and an actuator housing (20) in which the actuator (18) is arranged, are known. The problem addressed by the invention is that of reducing heat input into the actuator housing and of enabling pre-assembly of the actuator and the flow housing having the flap element and flap shaft. This problem is solved in that the actuator output shaft (28) and the flap shaft (16) protrude into each other in sections, wherein, axially within the section (75) protruding into each other, the flap shaft (16) and the actuator output shaft (28) are radially enclosed by a carrier (76), on the inner circumference of which a profiled carrier surface (78) is designed, which interlockingly encompasses a profiled shaft section surface (77) designed corresponding to the profiled carrier surface (78) on the outside circumference of the section (75) protruding into each other of the flap shaft (16) and the output shaft (28).

IPC 8 full level

F02D 9/06 (2006.01); **F02M 26/00** (2016.01)

CPC (source: EP)

F02D 9/06 (2013.01); **F02M 26/54** (2016.02); **F02M 26/70** (2016.02); **F02M 26/72** (2016.02); **F02M 26/74** (2016.02)

Citation (search report)

See references of WO 2016087109A1

Cited by

WO2019238490A1

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)

WO 2016087109 A1 20160609; DE 102014117987 A1 20160609; DE 102014117987 B4 20171026; EP 3227540 A1 20171011; EP 3227540 B1 20180711

DOCDB simple family (application)

EP 2015074123 W 20151019; DE 102014117987 A 20141205; EP 15781659 A 20151019