

Title (en)

THROTTLE VALVE ARRANGEMENT FOR AN INTERNAL COMBUSTION ENGINE

Title (de)

DROSSELKLAPPENANORDNUNG EINER VERBRENNUNGSKRAFTMASCHINE

Title (fr)

AGENCEMENT DE CLAPET D'ETRANGLEMENT POUR UN MOTEUR A COMBUSTION INTERNE

Publication

**EP 0937197 B1 20020508 (DE)**

Application

**EP 97944676 A 19971027**

Priority

- EP 97944676 A 19971027
- CH 9700407 W 19971027
- EP 96810757 A 19961108

Abstract (en)

[origin: EP0841477A1] The device consists of a throttle (1) of mainly light metal in a cast housing (2), mainly of light metal. The metals of both housing and throttle have a comparable thermal length expansion coefficient, with a differential of maximum 5% relative to the smaller expansion coefficient. Within a temperature of range of 20-100 degrees C, preferably from -40 degrees C to 140 degrees C, the differential is maximum 5%, functionally maximum 5% and preferably maximum 2%. The light metal is an aluminium alloy, e.g. AlSi, AlSiMg, or AlSiCu.

IPC 1-7

**F02D 9/10**; F02M 35/10

IPC 8 full level

**F02D 9/02** (2006.01); **F02D 9/10** (2006.01); **F02M 35/10** (2006.01)

CPC (source: EP)

**F02D 9/02** (2013.01); **F02D 9/1035** (2013.01); **F02D 9/107** (2013.01); **F02D 9/1085** (2013.01); **F02M 35/10255** (2013.01); **F02M 35/10327** (2013.01); **F02M 35/10137** (2013.01); **F02M 35/1038** (2013.01); **F02M 35/10386** (2013.01); **F05C 2201/021** (2013.01); **F05C 2225/08** (2013.01)

Designated contracting state (EPC)

CH DE ES FR GB IT LI SE

DOCDB simple family (publication)

**EP 0841477 A1 19980513**; DE 59707234 D1 20020613; EP 0937197 A1 19990825; EP 0937197 B1 20020508; ES 2174295 T3 20021101; WO 9821460 A1 19980522

DOCDB simple family (application)

**EP 96810757 A 19961108**; CH 9700407 W 19971027; DE 59707234 T 19971027; EP 97944676 A 19971027; ES 97944676 T 19971027