

Title (en)
Valve timing controller of an internal combustion engine

Title (de)
Ventilverstelleinrichtung einer Brennkraftmaschine

Title (fr)
Système déphaseur d'un moteur à combustion interne

Publication
EP 1505267 A1 20050209 (EN)

Application
EP 04018491 A 20040804

Priority
JP 2003205822 A 20030804

Abstract (en)
Valve timing controller of an engine comprising internal and external rotors (26,28), being rotatable relative to each other, and at least one hydraulic chamber (43), which is arranged between the rotors and is divided into a timing-advance-side hydraulic chamber (44) and a timing-retard-side hydraulic chamber (45), wherein a timing-advance path (48) of a timing-advance-side oil path communicating with the timing-advance-side hydraulic chamber and a timing-retard path (49) of a timing-retard-side oil path communicating with the timing-retard-side hydraulic chamber are respectively provided on both sides relative to a layout position of the internal rotor and the external rotor. <IMAGE>

IPC 1-7
F01L 1/053; F01L 1/344; F01L 1/047

IPC 8 full level
F01M 1/06 (2006.01); **F01L 1/053** (2006.01); **F01L 1/34** (2006.01); **F01L 1/344** (2006.01); **F01M 9/10** (2006.01); **F02D 13/02** (2006.01)

CPC (source: EP)
F01L 1/022 (2013.01); **F01L 1/0532** (2013.01); **F01L 1/3442** (2013.01); **F01L 1/024** (2013.01); **F01L 1/026** (2013.01); **F01L 2001/0475** (2013.01); **F01L 2001/0537** (2013.01); **F01L 2001/3443** (2013.01); **F01L 2001/34433** (2013.01)

Citation (search report)
• [X] US 2002104497 A1 20020808 - SCHREECK NICO [DE], et al
• [X] EP 1113153 A2 20010704 - BORGWARNER INC [US]
• [X] EP 0857859 A1 19980812 - AISIN SEIKI [JP]
• [X] EP 0777037 A1 19970604 - AISIN SEIKI [JP]

Cited by
EP1605141A3; US9316127B2; WO2015180897A1; WO2013083789A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
EP 1505267 A1 20050209; **EP 1505267 B1 20090610**; AT E433535 T1 20090615; DE 602004021458 D1 20090723; ES 2327043 T3 20091023; JP 2005054590 A 20050303; JP 4165749 B2 20081015

DOCDB simple family (application)
EP 04018491 A 20040804; AT 04018491 T 20040804; DE 602004021458 T 20040804; ES 04018491 T 20040804; JP 2003205822 A 20030804