

Title (en)  
Hydraulic valve

Title (de)  
Hydraulikventil

Title (fr)  
Soupape hydraulique

Publication  
**EP 2386731 B1 20160720 (DE)**

Application  
**EP 11159294 A 20110322**

Priority  
DE 102010019005 A 20100503

Abstract (en)  
[origin: EP2386731A1] The valve has a hollow piston with a piston bottom on which an actuator is applied. The piston is axially moved in the bush by the actuator against force of a screw-type pressure spring. A sleeve is provided in the piston and secured in the bush for movement relative to the piston. A wall of the sleeve includes a through-opening that leads to an opening of the piston. The opening leads a supply pressure that is applied inside the sleeve to two sets of pressure chambers (9, 10) of an oscillating-motor camshaft adjuster (14). A sleeve bottom of the sleeve closes an inner space of the piston.

IPC 8 full level  
**F01L 1/344** (2006.01); **F16K 27/02** (2006.01)

CPC (source: EP US)  
**F01L 1/3442** (2013.01 - EP US); **F01L 2001/34426** (2013.01 - EP US); **F01L 2001/34433** (2013.01 - EP US); **Y10T 137/86702** (2015.04 - EP US)

Cited by  
CN106968743A; EP3321479A3; EP3073095A3; US10378395B2; US9964031B2; WO2015198085A1; WO2013079693A1; WO2013174533A1

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)  
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DE 102010019005 A9 20130529; DE 102010019005 B4 20170323; JP 2011241823 A 20111201; JP 5759654 B2 20150805;  
US 2011266479 A1 20111103; US 8505582 B2 20130813

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US 201113066990 A 20110428